

INTERNATIONAL HYDROGRAPHIC ORGANIZATION



**1st SESSION
OF THE IHO ASSEMBLY**

24 – 28 April

**2017
M O N A C O**

**REPORT of PROCEEDINGS
VOLUME 1**

INTERNATIONAL HYDROGRAPHIC ORGANIZATION



1st SESSION OF THE IHO ASSEMBLY

Monaco, 24 - 28 April 2017

REPORT OF PROCEEDINGS

VOLUME 1

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INTERNATIONAL HYDROGRAPHIC ORGANIZATION

LIST OF MEMBER STATES (2017)

ALGERIA	MONACO
ARGENTINA	MONTENEGRO
AUSTRALIA	MOROCCO
BAHRAIN	MOZAMBIQUE
BANGLADESH	MYANMAR
BELGIUM	NETHERLANDS
BRAZIL	NEW ZEALAND
BRUNEI DARUSSALAM	NIGERIA
CAMEROON	NORWAY
CANADA	OMAN
CHILE	PAKISTAN
CHINA	PAPUA NEW GUINEA
COLOMBIA	PERU
CROATIA	PHILIPPINES
CUBA	POLAND
CYPRUS	PORTUGAL
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	QATAR
DEMOCRATIC REPUBLIC OF THE CONGO*	REPUBLIC OF KOREA
DENMARK	ROMANIA
DOMINICAN REPUBLIC*	RUSSIAN FEDERATION
ECUADOR	SAUDI ARABIA
EGYPT	SERBIA*
ESTONIA	SINGAPORE
FIJI	SLOVENIA
FINLAND	SOUTH AFRICA
FRANCE	SPAIN
GEORGIA	SRI LANKA
GERMANY	SURINAME
GREECE	SWEDEN
GUATEMALA	SYRIAN ARAB REPUBLIC
ICELAND	THAILAND
INDIA	TONGA
INDONESIA	TRINIDAD & TOBAGO
IRAN (ISLAMIC REPUBLIC OF)	TUNISIA
IRELAND	TURKEY
ITALY	UKRAINE
JAMAICA	UNITED ARAB EMIRATES
JAPAN	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND
KUWAIT	UNITED STATES OF AMERICA
LATVIA	URUGUAY
MALAYSIA	VANUATU
MALTA	VENEZUELA (BOLIVARIAN REPUBLIC OF)
MAURITIUS	VIET NAM
MEXICO	

* *Rights of membership suspended*

STATE *Not represented at the 1st IHO Assembly*



1st SESSION OF THE IHO ASSEMBLY (24 - 28 April 2017)
1ère SESSION DE L'ASSEMBLÉE DE L'OHI (24 - 28 Avril 2017)



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GENERAL INFORMATION

General Information

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GENERAL DESCRIPTION OF THE FIRST SESSION OF THE ASSEMBLY OF THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION

In accordance with the revised governance structure that entered into force on 8 November 2016, the first session of the Assembly of the International Hydrographic Organization was held in the Rainier III Auditorium in Monaco, from 24 to 28 April 2017. The Assembly replaces the International Hydrographic Conference that met previously every five years. The session was attended by just under 350 representatives from 77 of the 87 Member States of the IHO, together with 12 non-Member States. In addition, 28 representatives from observer international, regional or national organizations took part in the discussions. A meeting of the Finance Committee was held immediately before the Assembly on 23 April. Two exhibitions, one illustrating the work of the IHO Member States and another provided by 30 commercial exhibitors, ran from 24 to 28 April.

Dr Parry Oei, the Hydrographer of Singapore, and Captain Brian Connon, USN, representative of the United States of America, were elected as Chair and Vice-Chair of the Assembly respectively.

The IHO was honoured by the presence of HSH Prince Albert II of Monaco who formally opened the Assembly and the exhibitions on Monday 24 April. In addition HSH Prince Albert II of Monaco presented the Prince Albert I Medal for Hydrography to Mr Juha Korhonen of Finland in recognition of his long-standing contribution to world hydrography and to the work of the IHO.

The Secretary-General, Robert Ward, and the Chair of the Assembly delivered welcoming addresses. The keynote speakers were Mr Kitack Lim, Secretary-General of the International Maritime Organization; Professor Petteri Talaas, Secretary-General of the World Meteorological Organization; and Mr Michael Lodge, Secretary-General of the International Seabed Authority. During the opening ceremony representatives of Cameroon, Georgia, Viet Nam, Brunei Darussalam and Malta presented their flags to the Organization in recognition of joining the Organization since its last Conference in 2012.

The Assembly examined 13 proposals and several reports tabled by Member States, by subordinate organs and by the Secretary-General. The Assembly agreed 30 decisions including the approval of the Work Programme and Budget of the Organization for the next three-year period.

An important item on the Agenda of the Assembly was the election of the Secretary-General and Directors for the forthcoming period. The elections took place on Friday 28 April: Dr Mathias Jonas (Germany) was elected as the next Secretary-General and Captain Abraham Kampfner (South Africa) was elected as a Director for the period 2017-2023. Director Mustafa Iptes (Turkey) was re-elected as a Director for the period 2017-2020. All will take up their posts on 1 September 2017.

The Assembly unanimously adopted a Resolution expressing the IHO's appreciation to HSH Prince Albert of Monaco and his Government for the support provided for the important event.

General Information

One warship, FNS *Commandant Bouan*, from France, and three survey ships, NPqHo *Vital de Oliveira* from Brazil, INS *Aretusa* from Italy, and HMS *Echo* from the United Kingdom, called at Monaco on the occasion of the Assembly and delegates had the opportunity to visit them.

The Assembly agreed in principle to host its second session from 19 to 25 April 2020 in Monaco, subject to confirmation in due course by the Secretary-General, in liaison with the Government of His Serene Highness the Prince of Monaco.

General Information

LIST OF PARTICIPANTS LISTE DES PARTICIPANTS

DELEGATES FROM MEMBER STATES DELEGUES DES ETATS MEMBRES

ALGERIA / ALGERIE

Abdelkader Menasri	Head of delegation / Chef de délégation
Omar Kheddaoui	Alternate and Advisor / Adjoint et conseiller
Aissa Zaabat	Alternate and Advisor / Adjoint et conseiller

ARGENTINA / ARGENTINE

Valentin Sanz Rodriguez	Head of delegation / Chef de délégation
Fabian Vetere	Alternate and Advisor / Adjoint et conseiller

AUSTRALIA / AUSTRALIE

Brett Brace	Head of delegation / Chef de délégation
Rod Nairn	Alternate and Advisor / Adjoint et conseiller
Jasbir Randhawa	Alternate and Advisor / Adjoint et conseiller
Mike Prince	Alternate and Advisor / Adjoint et conseiller

BAHRAIN / BAHREÏN

Rashid Alsuwaidi	Head of delegation / Chef de délégation
Suni Erattupuzha John	Alternate and Advisor / Adjoint et conseiller

BANGLADESH / BANGLADESH

M. Makbul Hossain	Head of delegation / Chef de délégation
Imdadul Haque Mir	Alternate and Advisor / Adjoint et conseiller

BELGIUM / BELGIQUE

Virginie Debuck	Head of delegation / Chef de délégation
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BRAZIL / BRESIL

Marcos Sampaio Olsen	Head of delegation / Chef de délégation
Bruno Arruda	Alternate and Advisor / Adjoint et conseiller
Paulo Campos	Alternate and Advisor / Adjoint et conseiller
Maximo Eduardo Egger	Alternate and Advisor / Adjoint et conseiller
Luis Fernando Palmer Fonseca	Alternate and Advisor / Adjoint et conseiller
Paulo Pereira Oliveira Matos	Alternate and Advisor / Adjoint et conseiller
Nickolas de Andrade Roscher	Alternate and Advisor / Adjoint et conseiller
Carlos Augusto Chaves Leal Silva	Alternate and Advisor / Adjoint et conseiller
Carlos Augusto Medeiros de Albuquerque	Alternate and Advisor / Adjoint et conseiller

BRUNEI DARUSSALAM / BRUNEI DARUSSALAM

Arefin Haji Jaya	Head of delegation / Chef de délégation
Abdul Malik Haji Abd Hamid	Alternate and Advisor / Adjoint et conseiller

General Information

CAMEROON / CAMEROUN

Cyrus Ngo'o	Head of delegation / Chef de délégation
Faustin Dingana	Alternate and Advisor / Adjoint et conseiller
Clarence Akambor	Alternate and Advisor / Adjoint et conseiller
Edward Chuyeh Mbunkur	Alternate and Advisor / Adjoint et conseiller
George Menye	Alternate and Advisor / Adjoint et conseiller

CANADA / CANADA

Denis Hains	Head of delegation / Chef de délégation
Serge Gosselin	Alternate and Advisor / Adjoint et conseiller
Paul Brett	Alternate and Advisor / Adjoint et conseiller
Douglas Brunt	Alternate and Advisor / Adjoint et conseiller

CHILE / CHILI

Enrique Silva	Head of delegation / Chef de délégation
Matias Sifon	Alternate and Advisor / Adjoint et conseiller

CHINA / CHINE

Ruqing Xu	Head of delegation / Chef de délégation
Simei Fong	Alternate and Advisor / Adjoint et conseiller
Lichen Bai	Alternate and Advisor / Adjoint et conseiller
Jiansheng Yuan	Alternate and Advisor / Adjoint et conseiller
Chunming Xu	Alternate and Advisor / Adjoint et conseiller
Rui Wang	Alternate and Advisor / Adjoint et conseiller
Tao Li	Alternate and Advisor / Adjoint et conseiller
Yan Xu	Alternate and Advisor / Adjoint et conseiller
Tingting Jia	Alternate and Advisor / Adjoint et conseiller
Bing Sun	Alternate and Advisor / Adjoint et conseiller
Hui Xie	Alternate and Advisor / Adjoint et conseiller
Chun Ming Chau	Alternate and Advisor / Adjoint et conseiller
Chun Kuen Stephen Wong	Alternate and Advisor / Adjoint et conseiller

COLOMBIA / COLOMBIE

Guevara Paulo	Head of delegation / Chef de délégation
Natalia Otalora	Alternate and Advisor / Adjoint et conseiller
Ricardo Torres	Alternate and Advisor / Adjoint et conseiller
Osman Eduardo Gonzales Ortiz	Alternate and Advisor / Adjoint et conseiller

CROATIA / CROATIE

Leder Nenad	Head of delegation / Chef de délégation
Zeljko Bradaric	Alternate and Advisor / Adjoint et conseiller

CYPRUS / CHYPRE

Georgia Papatoma Economidou	Head of delegation / Chef de délégation
Georgios Kokosis	Alternate and Advisor / Adjoint et conseiller

General Information

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA / REPUBLIQUE POPULAIRE DEMOCRATIQUE DE COREE

Ree In sop	Head of delegation / Chef de délégation
Ryu Kyong jin	Alternate and Advisor / Adjoint et conseiller
Ju Kwon yol	Alternate and Advisor / Adjoint et conseiller
O Myong chol	Alternate and Advisor / Adjoint et conseiller

DENMARK / DANEMARK

Pia Dahl Hojgaard	Head of delegation / Chef de délégation
Elizabeth Hagemann	Alternate and Advisor / Adjoint et conseiller
Rune Carbuhn Andersen	Alternate and Advisor / Adjoint et conseiller
Lars Hansen	Alternate and Advisor / Adjoint et conseiller
Jens Peter Weiss Hartmann	Alternate and Advisor / Adjoint et conseiller

ECUADOR / EQUATEUR

Humberto Gomez	Head of delegation / Chef de délégation
Giorgio De La Torre	Alternate and Advisor / Adjoint et conseiller

EGYPT / EGYPTE

Ashraf El-assal	Head of delegation / Chef de délégation
Mohamed Yahya	Alternate and Advisor / Adjoint et conseiller
Ahmed Azab	Alternate and Advisor / Adjoint et conseiller

ESTONIA / ESTONIE

Taivo Kivimäe	Head of delegation / Chef de délégation
Olavi Heinlo	Alternate and Advisor / Adjoint et conseiller
Tõnis Siilannarusk	Alternate and Advisor / Adjoint et conseiller
Peeter Väling	Alternate and Advisor / Adjoint et conseiller

FIJI / FIDJI

Gerard Rokoua	Head of delegation / Chef de délégation
Marika Vosawale	Alternate and Advisor / Adjoint et conseiller

FINLAND / FINLANDE

Rainer Mustaniemi	Head of delegation / Chef de délégation
Jarmo Mäkinen	Alternate and Advisor / Adjoint et conseiller
Maarit Mikkelsso	Alternate and Advisor / Adjoint et conseiller
Mikko Hovi	Alternate and Advisor / Adjoint et conseiller
Juha Korhonen	Member

FRANCE / FRANCE

Bruno Frachon	Head of delegation / Chef de délégation
Jean Laporte	Alternate and Advisor / Adjoint et conseiller
Corine Locht	Alternate and Advisor / Adjoint et conseiller
Thierry Schmitt	Alternate and Advisor / Adjoint et conseiller
Rémy Roquefort	Alternate and Advisor / Adjoint et conseiller
Hélène Lecornu	Alternate and Advisor / Adjoint et conseiller
Henri Dolou	Alternate and Advisor / Adjoint et conseiller
Florian Chardes	Alternate and Advisor / Adjoint et conseiller

General Information

Laurent Kerléguer	Alternate and Advisor / Adjoint et conseiller
Eric Langlois	Alternate and Advisor / Adjoint et conseiller
Eric Duporte	Alternate and Advisor / Adjoint et conseiller

GEORGIA / GEORGIE

Revaz Babilua	Head of delegation / Chef de délégation
Manana Kirtadze	Alternate and Advisor / Adjoint et conseiller
Giorgi Kartvelishvili	Alternate and Advisor / Adjoint et conseiller
Shonia Miranda	Alternate and Advisor / Adjoint et conseiller

GERMANY / ALLEMAGNE

Mathias Jonas	Head of delegation / Chef de délégation
Monika Breuch-Moritz	Alternate and Advisor / Adjoint et conseiller
Thomas Dehling	Alternate and Advisor / Adjoint et conseiller

GREECE / GRECE

Dimitrios Evangelidis	Head of delegation / Chef de délégation
Konstantinos Karagkounis	Alternate and Advisor / Adjoint et conseiller

ICELAND / ISLANDE

Georg Larusson	Head of delegation / Chef de délégation
Hilmar Helgason	Alternate and Advisor / Adjoint et conseiller

INDIA / INDE

Vinay Badhwar	Head of delegation / Chef de délégation
Rh Bhatt	Alternate and Advisor / Adjoint et conseiller

INDONESIA / INDONESIE

Harjo Susmoro	Head of delegation / Chef de délégation
Samuel Hein Hermanus Kowaas	Alternate and Advisor / Adjoint et conseiller
Yanuar Handiwiono	Alternate and Advisor / Adjoint et conseiller
Arif Havas Oegroseno	Alternate and Advisor / Adjoint et conseiller
Mochamad Andri Wahyu Sudrajat	Alternate and Advisor / Adjoint et conseiller

IRAN (ISLAMIC REPUBLIC OF) / IRAN (REPUBLIQUE ISLAMIQUE D')

Mohammad Rastad	Head of delegation / Chef de délégation
Nahdy Khodam Kohaki	Alternate and Advisor / Adjoint et conseiller
Hamid Reza Afshar Borji	Alternate and Advisor / Adjoint et conseiller
Mohammad Mashhadi Meighani	Alternate and Advisor / Adjoint et conseiller
Ali Soltan Pour	Alternate and Advisor / Adjoint et conseiller
Akbar Rostami	Alternate and Advisor / Adjoint et conseiller
Alireza Khojasteh	Alternate and Advisor / Adjoint et conseiller

IRELAND / IRLANDE

Declan Black	Head of delegation / Chef de délégation
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ITALY / ITALIE

Luigi Sinapi	Head of delegation / Chef de délégation
Massimiliano Nannini	Alternate and Advisor / Adjoint et conseiller
Roberta Ivaldi	Alternate and Advisor / Adjoint et conseiller

General Information

Carlo Marchi	Alternate and Advisor / Adjoint et conseiller
Marco Grassi	Alternate and Advisor / Adjoint et conseiller
Anna Maria Biavasco	Alternate and Advisor / Adjoint et conseiller
Paolo Lusiani	Alternate and Advisor / Adjoint et conseiller
Matteo Parmeggiani	Alternate and Advisor / Adjoint et conseiller

JAPAN / JAPON

Arata Sengoku	Head of delegation / Chef de délégation
M. Sato	Alternate and Advisor / Adjoint et conseiller
Hiroaki Saito	Alternate and Advisor / Adjoint et conseiller
Naohiko Nagasaka	Alternate and Advisor / Adjoint et conseiller
Satoshi Yamao	Alternate and Advisor / Adjoint et conseiller
Yukihiro Kato	Alternate and Advisor / Adjoint et conseiller
Masayuki Takeuchi	Alternate and Advisor / Adjoint et conseiller
Koichi Aiboshi	Alternate and Advisor / Adjoint et conseiller

KUWAIT / KOWEIT

Abdullah Fadel	Head of delegation / Chef de délégation
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LATVIA / LETTONIE

Janis Krastins	Head of delegation / Chef de délégation
Ansis Zeltins	Alternate and Advisor / Adjoint et conseiller
Aigars Gailis	Alternate and Advisor / Adjoint et conseiller

MALAYSIA / MALAISIE

Fadzilah Mohd Salleh	Head of delegation / Chef de délégation
Mohd Syahir Eleas	Alternate and Advisor / Adjoint et conseiller

MALTA / MALTE

David Bugeja	Head of delegation / Chef de délégation
Joseph Bianco	Alternate and Advisor / Adjoint et conseiller

MAURITIUS / MAURICE

Dalida Allagapen	Head of delegation / Chef de délégation
Hembal Teckmun	Alternate and Advisor / Adjoint et conseiller
Michel Gramaglia	Alternate and Advisor / Adjoint et conseiller

MEXICO / MEXICO

Fernando Angli	Head of delegation / Chef de délégation
Rafael Ponce	Alternate and Advisor / Adjoint et conseiller

MONACO / MONACO

Armelle Roudaut-Lafon	Head of delegation / Chef de délégation
Bruno Philipponnat	Alternate and Advisor / Adjoint et conseiller
Tidiani Couma	Alternate and Advisor / Adjoint et conseiller
Elisabeth Lanteri-Minet	Alternate and Advisor / Adjoint et conseiller
Pierre Bouchet	Alternate and Advisor / Adjoint et conseiller
Muriel Natali-Laure	Alternate and Advisor / Adjoint et conseiller

General Information

MONTENEGRO / MONTENEGRO

Luka Mitrovic	Head of delegation / Chef de délégation
Branislav Gloginja	Alternate and Advisor / Adjoint et conseiller

MOROCCO / MAROC

Khalid Loudiyi	Head of delegation / Chef de délégation
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MOZAMBIQUE / MOZAMBIQUE

Simiao Munguambe	Head of delegation / Chef de délégation
Humberto Mutevuie	Alternate and Advisor / Adjoint et conseiller

MYANMAR / MYANMAR

Min Thein Tint Min	Head of delegation / Chef de délégation
Soe Nyunt Thaw	Alternate and Advisor / Adjoint et conseiller

NETHERLANDS / PAYS-BAS

Marc Van der Donck	Head of delegation / Chef de délégation
Leendert Dorst	Alternate and Advisor / Adjoint et conseiller

NEW ZEALAND / NOUVELLE-ZELANDE

Jan Pierce	Head of delegation / Chef de délégation
Rebecca McAtamney	Alternate and Advisor / Adjoint et conseiller

NIGERIA / NIGERIA

Chukwuemeka Okafor	Head of delegation / Chef de délégation
Dikko Tahir Bala	Alternate and Advisor / Adjoint et conseiller
Gloria Dakwak	Alternate and Advisor / Adjoint et conseiller
Olumide Fadahunsi	Alternate and Advisor / Adjoint et conseiller

NORWAY / NORVEGE

Birte Noer Borrevik	Head of delegation / Chef de délégation
Jorgen Svendsen	Alternate and Advisor / Adjoint et conseiller
Evert Flier	Alternate and Advisor / Adjoint et conseiller
Robert Sandvik	Alternate and Advisor / Adjoint et conseiller

OMAN / OMAN

Rashid Al Kayumi	Head of delegation / Chef de délégation
Khalid Al Jabri	Alternate and Advisor / Adjoint et conseiller
Juma Al Busaidi	Alternate and Advisor / Adjoint et conseiller

PAKISTAN / PAKISTAN

Haroon Muhammad	Head of delegation / Chef de délégation
Salman Ahmed Khan Salman	Alternate and Advisor / Adjoint et conseiller

PERU / PEROU

David Portilla	Head of delegation / Chef de délégation
Diego Gago	Alternate and Advisor / Adjoint et conseiller

General Information

PHILIPPINES / PHILIPPINES

Sheilon Cadaoas	Head of delegation / Chef de délégation
Rogelio Villanueva	Alternate and Advisor / Adjoint et conseiller

POLAND / POLOGNE

Andrzej Kowalski	Head of delegation / Chef de délégation
Dariusz Kolator	Alternate and Advisor / Adjoint et conseiller
Henryk Nitner	Alternate and Advisor / Adjoint et conseiller

PORTUGAL / PORTUGAL

António Cândido	Head of delegation / Chef de délégation
Jose Onofre	Alternate and Advisor / Adjoint et conseiller
Paula Sanches	Alternate and Advisor / Adjoint et conseiller
Miguel Arenga	Alternate and Advisor / Adjoint et conseiller

QATAR / QATAR

Fahad Mohammed Al Qahtani	Head of delegation / Chef de délégation
Hilal Saad Al Naimi	Alternate and Advisor / Adjoint et conseiller
Ahmad Musaid Al Mohannadi	Alternate and Advisor / Adjoint et conseiller
Vladan Jankovic	Alternate and Advisor / Adjoint et conseiller

REPUBLIC OF KOREA / REPUBLIQUE DE COREE

Chull-joo Park	Head of delegation / Chef de délégation
Woo-sic Shim	Alternate and Advisor / Adjoint et conseiller
Nae-chun Park	Alternate and Advisor / Adjoint et conseiller
Seung-hye Shin	Alternate and Advisor / Adjoint et conseiller
Yeon-taek Ryu	Alternate and Advisor / Adjoint et conseiller
Euilim Jin	Alternate and Advisor / Adjoint et conseiller
Sung-jae Choo	Alternate and Advisor / Adjoint et conseiller
Euy-sang Yoo	Alternate and Advisor / Adjoint et conseiller
Namho Kim	Alternate and Advisor / Adjoint et conseiller
Joonseok Wee	Alternate and Advisor / Adjoint et conseiller
Changwoo Lee	Alternate and Advisor / Adjoint et conseiller
Jong-moon Choi	Alternate and Advisor / Adjoint et conseiller
Hee Yoon Park	Alternate and Advisor / Adjoint et conseiller
Daesong Hyun	Alternate and Advisor / Adjoint et conseiller
Sang Hyun Suh	Alternate and Advisor / Adjoint et conseiller
Ji-hong Kim	Alternate and Advisor / Adjoint et conseiller
An Ho Lee	Alternate and Advisor / Adjoint et conseiller
Eui Sung Seo	Alternate and Advisor / Adjoint et conseiller
Hyunju Nam	Alternate and Advisor / Adjoint et conseiller
Jaeyoung Ryu	Alternate and Advisor / Adjoint et conseiller
Yeon Ju Cho	Alternate and Advisor / Adjoint et conseiller
Eun Mi Chang	Alternate and Advisor / Adjoint et conseiller
Ji Min Ko	Alternate and Advisor / Adjoint et conseiller
Jang Hyun An	Alternate and Advisor / Adjoint et conseiller
Aeri Yu	Alternate and Advisor / Adjoint et conseiller
Baek Soo Kim	Alternate and Advisor / Adjoint et conseiller
Hak Yoel You	Alternate and Advisor / Adjoint et conseiller
Dong-jae Lee	Alternate and Advisor / Adjoint et conseiller

General Information

Yong Baek	Alternate and Advisor / Adjoint et conseiller
Junshik Lee	Alternate and Advisor / Adjoint et conseiller
Chaeho Lim	Alternate and Advisor / Adjoint et conseiller
Yoo Euy-Sang	Alternate and Advisor / Adjoint et conseiller
Park Nae-Chun	Alternate and Advisor / Adjoint et conseiller
Ryu Yeon-Taek	Alternate and Advisor / Adjoint et conseiller
Shin Woo-Sic	Alternate and Advisor / Adjoint et conseiller
Kim Namho	Alternate and Advisor / Adjoint et conseiller

ROMANIA / ROUMANIE

Nicolae Vatu	Head of delegation / Chef de délégation
Lucin Dumitrache	Alternate and Advisor / Adjoint et conseiller

RUSSIAN FEDERATION / FEDERATION DE RUSSIE

Sergey Travin	Head of delegation / Chef de délégation
Dmitry Travin	Alternate and Advisor / Adjoint et conseiller
Anatolii Massaniuk	Alternate and Advisor / Adjoint et conseiller
Yury Mikhov	Alternate and Advisor / Adjoint et conseiller
Denis Bukhov	Alternate and Advisor / Adjoint et conseiller
Oleg Dogaev	Alternate and Advisor / Adjoint et conseiller
Anna Knyazeva	Alternate and Advisor / Adjoint et conseiller
Sergey Egorov	Alternate and Advisor / Adjoint et conseiller
Dmitrii Shmelev	Alternate and Advisor / Adjoint et conseiller
Leonid Shalnov	Alternate and Advisor / Adjoint et conseiller

SAUDI ARABIA / ARABIE SAOUDITE

Amer Abdulhamid Fauzan Al-Dlijan	Head of delegation / Chef de délégation
Zaher Al-Shehri	Alternate and Advisor / Adjoint et conseiller
Faisal Al-Zahrani	Alternate and Advisor / Adjoint et conseiller

SINGAPORE / SINGAPOUR

Jamie Chen	Head of delegation / Chef de délégation
Kabeer Ahmed Bin Mohamed Ismail	Alternate and Advisor / Adjoint et conseiller
Ying-huang Thai Low	Alternate and Advisor / Adjoint et conseiller

Parry Oei ***Assembly Chair / Président de l'Assemblée***

SLOVENIA / SLOVENIE

Igor Karnicnik	Head of delegation / Chef de délégation
Vesna Dezman Kete	Alternate and Advisor / Adjoint et conseiller

SOUTH AFRICA / AFRIQUE DU SUD

A. Van Craeynest	Head of delegation / Chef de délégation
Abri Kampfer	Alternate and Advisor / Adjoint et conseiller
P. Leshage	Alternate and Advisor / Adjoint et conseiller

SPAIN / ESPAGNE

Juan Antonio Aguilar	Head of delegation / Chef de délégation
José María Bustamante	Alternate and Advisor / Adjoint et conseiller

General Information

SRI LANKA / SRI LANKA

Sisira Jayakody	Head of delegation / Chef de délégation
Nihal Perera	Alternate and Advisor / Adjoint et conseiller
Abeywardana Bandara	Alternate and Advisor / Adjoint et conseiller
Sudantha Perera	Alternate and Advisor / Adjoint et conseiller

SURINAME / SURINAME

Michel Amafo	Head of delegation / Chef de délégation
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SWEDEN / SUEDE

Patrik Wiberg	Head of delegation / Chef de délégation
Magnus Wallhagen	Alternate and Advisor / Adjoint et conseiller
Annika Kindeberg	Alternate and Advisor / Adjoint et conseiller

SYRIAN ARAB REPUBLIC / REPUBLIQUE ARABE SYRIENNE

Iman Hassan	Head of delegation / Chef de délégation
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THAILAND / THAILANDE

Charin Boonmoh	Head of delegation / Chef de délégation
Thanakorn Najarn	Alternate and Advisor / Adjoint et conseiller
Bongkoch Samosorn	Alternate and Advisor / Adjoint et conseiller
Samharn Dairairam	Alternate and Advisor / Adjoint et conseiller

TUNISIA / TUNISIE

Karim Taga	Head of delegation / Chef de délégation
Hatem Bchir	Alternate and Advisor / Adjoint et conseiller
Mohamed Fadhel Ben Hamed	Alternate and Advisor / Adjoint et conseiller

TURKEY / TURQUIE

Hakan Kuslaroglu	Head of delegation / Chef de délégation
Feriba Duygu Hokkaci	Alternate and Advisor / Adjoint et conseiller
Hikmet Ulusal	Alternate and Advisor / Adjoint et conseiller
Ilhami Aygun	Alternate and Advisor / Adjoint et conseiller
Esref Gunsay	Alternate and Advisor / Adjoint et conseiller

UKRAINE / UKRAINE

Sergii Osypchuk	Head of delegation / Chef de délégation
Olesia Zaiets	Alternate and Advisor / Adjoint et conseiller
Viktor Belinskyi	Alternate and Advisor / Adjoint et conseiller
Oleg Marchenko	Alternate and Advisor / Adjoint et conseiller

UNITED ARAB EMIRATES / EMIRATS ARABES UNIS

Hazaa Al Kaabi	Head of delegation / Chef de délégation
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General Information

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND /

ROYAUME UNI DE GRANDE BRETAGNE ET D'IRLANDE DU NORD

Tim Lowe	Head of delegation / Chef de délégation
John Humphrey	Alternate and Advisor / Adjoint et conseiller
Chris Thorne	Alternate and Advisor / Adjoint et conseiller
Nigel Sutton	Alternate and Advisor / Adjoint et conseiller
Andrew Millard	Alternate and Advisor / Adjoint et conseiller
Bob Hooton	Alternate and Advisor / Adjoint et conseiller
Jackie Sydenham	Alternate and Advisor / Adjoint et conseiller
Jamie McMichael-Phillips	Alternate and Advisor / Adjoint et conseiller
Jeffrey Bryant	Alternate and Advisor / Adjoint et conseiller

UNITED STATES OF AMERICA / ETATS UNIS D'AMERIQUE

John Lowell	Head of delegation / Chef de délégation
Jennifer Jencks	Alternate and Advisor / Adjoint et conseiller
Mikan Stanemkovich	Alternate and Advisor / Adjoint et conseiller
Peter M. Richards	Alternate and Advisor / Adjoint et conseiller
Robert Greer	Alternate and Advisor / Adjoint et conseiller
Shepard Smith	Alternate and Advisor / Adjoint et conseiller
Dave Barnes	Alternate and Advisor / Adjoint et conseiller
Timothy Gallaudet	Alternate and Advisor / Adjoint et conseiller
Vanessa Miller	Alternate and Advisor / Adjoint et conseiller
Tara Elliott	Alternate and Advisor / Adjoint et conseiller
Julia Powell	Alternate and Advisor / Adjoint et conseiller
Carrie Lacrosse	Alternate and Advisor / Adjoint et conseiller
Erich Frey	Alternate and Advisor / Adjoint et conseiller
Stanley Harvey	Alternate and Advisor / Adjoint et conseiller
Rodney Ladner	Alternate and Advisor / Adjoint et conseiller
Jonathan Justi	Alternate and Advisor / Adjoint et conseiller
Peter Doherty	Alternate and Advisor / Adjoint et conseiller

Brian Connon

Assembly Vice Chair / Vice-président de l'Assemblée

URUGUAY / URUGUAY

Otto Gossweiler	Head of delegation / Chef de délégation
Gustavo Musso	Alternate and Advisor / Adjoint et conseiller
Niki Silvera	Alternate and Advisor / Adjoint et conseiller

VENEZUELA (BOLIVARIAN REPUBLIC OF) / VENEZUELA (REPUBLIQUE BOLIVARIENNE DU)

Carlos Tacoa Garrido	Head of delegation / Chef de délégation
Sugerlys Coromoto Palacios Rebolledo	Alternate and Advisor / Adjoint et conseiller

VIET NAM / VIET-NAM

Minh Pham Ngoc	Head of delegation / Chef de délégation
Hoang Huy Chung	Alternate and Advisor / Adjoint et conseiller
Hung Phan Tuan	Alternate and Advisor / Adjoint et conseiller

General Information

OBSERVERS *OBSERVATEURS*

OBSERVERS FROM NON-MEMBER STATES <i>OBSERVATEURS DES ETATS NON MEMBRES</i>
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ALBANIA / ALBANIE

Alfred Velaj, Albanian Hydrographic Office

AZERBAIJAN / AZERBAIDJAN

Farhad Mammadov, The State Maritime Authority

Ahmad Ismaylov, The State Maritime Authority

Davud Bagirli, Azerbaijan Hydrographic Office

COTE D'IVOIRE / COTE D'IVOIRE

Seydou Sangare

Kouadio Andre N'Doli

GHANA / GHANA

Marilyn Eghan, Ghana Ports and Harbours Authority

Peter Azuma, Ghana Ports and Harbours Authority

GUINEA / GUINEE

Souleymane Bah, Port Autonome de Conakry

Kabara Mansare, Port Autonome de Conakry

GUYANA / GUYANA

Claudette Roger

Troy Clarke

ISRAEL / ISRAEL

Baruch Peretzman, Survey of Israel

LIBERIA / LIBERIA

Isaac Whiekonblo Jackson Jr, Liberia Maritime Authority

MADAGASCAR / MADAGASCAR

Franck Thierry Razafindrabe, Institut géographique et hydrographique de Madagascar

TIMOR-LESTE / TIMOR-LESTE

Justiano Rodrigues De Jesus, Ministry of Public Works, Transport and Communications

Gastao Francisco De Sousa, Ministry of Public Works, Transport and Communications

TOGO / TOGO

Piyalo Abiré Bilabina, Port Autonome de Lomé

Ibraima Sam, Port Autonome de Lomé

Atchou Gnahouame, Port Autonome de Lomé

Adoté Blim Blivi, Université de Lomé

ZAMBIA / ZAMBIE

Jonathan Kampata, Water Ressources Management Authority

General Information

<p style="text-align: center;">OBSERVERS FROM INTERGOVERNMENTAL AND NON-GOVERNMENTAL ORGANIZATIONS <i>OBSERVATEURS D'ORGANISATIONS INTERGOUVERNEMENTALES ET NON GOUVERNEMENTALES</i></p>

Julian Barbière Peter Haugan	Intergovernmental Oceanographic Commission of UNESCO <i>Commission océanographique intergouvernementale de l'UNESCO</i>
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Kitack Lim Ashok Mahapatra	International Maritime Organization <i>Organisation maritime internationale</i>
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Michael Lodge Alfonso Ascencio-Herrera	International Seabed Authority <i>Autorité internationale des fonds marins</i>
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Paul Cooper	Pan American Institute of Geography and History <i>Institut panaméricain de géographie et d'histoire</i>
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Petteri Taalas	World Meteorological Organization <i>Organisation météorologique mondiale</i>
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Simon Jackson Yiorgos Palierakis	Chart and Nautical Instrument Trade Association <i>Association professionnelle des cartes et instruments nautiques</i>
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Angela Etuonovbe	International Federation of Surveyors <i>Fédération internationale des géomètres</i>
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David Loosley Charlotte Lord Ben Lynch	Institute of Marine Engineering, Science and Technology <i>Institut d'ingénierie, science et technologie marines</i>
--	--

Francis Zachariae	International Association of Marine Aids to Navigation and Lighthouse Authorities <i>Association internationale de signalization maritime</i>
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Menno-Jan Kraak	International Cartographic Association <i>Association cartographique internationale</i>
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John Murray	International Chamber of Shipping <i>Chambre internationale de la marine marchande</i>
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General Information

Ingrid Römers **International Harbour Masters' Association**
Association internationale des capitaines de port

Scott Simmons **Open Geospatial Consortium**
Consortium géospatial ouvert

Brian Busey **The Hydrographic Society of America**
Société hydrographique d'Amérique

Paul Holthus **World Ocean Council**
Conseil mondial des océans

Shigeru Kato
Shigeru Kasuga
Shin Tani
Hideo Nishida **Japan Hydrographic Association**
Association hydrographique du Japon

Yunsoo Choi
Hyun Soo Kim **Hydrographic Society of Korea**
Société hydrographique de Corée

Shinho Choi **Korean Hydrography and Research Association**
Association coréenne de recherche et d'hydrographie

FORMER IHO DIRECTORS <i>ANCIENS DIRECTEURS DE L'OHI</i>

Chris Andreasen **United States of America / Etats-Unis d'Amérique**

Giuseppe Angrisano **Italy / Italie**

General Information

LIST OF EXHIBITORS

Stand N°	Company Name
Stand 1	Esri + QPS
Stand 2	Knudsen Engineering
Stand 3	TeamSurv
Stand 4	HYPACK
Stand 5	SevenCs
Stand 6	IIC Technologies Inc
Stand 7	iXblue SAS
Stand 8	Navtor
Stand 9	EOMap
Stand 10	PRIMAR + ECC
Stand 10bis	ARGANS
Stand 11	IC-ENC
Stand 12	Kongsberg Maritime
Stand 13	Teledyne Marine
Stand 14	Teledyne CARIS
Stand 15	Seafloor Systems
Stand 16	NV Verlag
Stand 17	Oceanwise
Stand 18	Fugro
Stand 19	Wärtsilä ELAC Nautik
Stand 20	C-Map
Stand 21	IMarEST
Stand 22	Clinton Marine Survey
Stand 23	Sonardyne
Stand 24	ASV Global
Stand 25	EdgeTech
Stand 26	Gardline Geosurvey
Stand 27	NTOU
Stand 28	NORBIT Subsea

AGENDA

***Note:** all events take place at the Assembly Auditorium Rainier III
except where indicated otherwise*

Item	Time	Date / Description	Document
		Sunday 23 April	
	All day	Registration of Delegates	
	All day	Preparation for Industry Exhibition and Member States' Exhibitions	
	14:00-17:30	Finance Committee Meeting (at the IHO Secretariat)	
FC-1	14:00-14:15	<i>Opening of the meeting</i>	
FC-2		<i>Adoption of the Agenda</i>	A.1/FC/02
FC-3		<i>Election of the Chair and Vice-Chair</i>	
FC-4	14:15-14:45	<i>Revision of Article 13 (c) of the IHO Financial Regulations (PRO-10)</i>	A.1/G/02
FC-5	14:45-15:00	<i>Appointment of the external Auditor</i>	A.1/F/03
FC-6	15:00-15:15	<i>Amendment to the Rules of Procedure of the Finance Committee</i>	A.1/FC/06
FC-7	15:15-16:00	<i>Financial statements for 2012-2016</i>	A.1/F/01
		<i>Consideration of the financial statements for 2016 and recommendations</i>	A.1/F/04 & Add.1
FC-8	16:00-16:15	<i>Implementation of the budget for 2017</i>	
FC-9	16:15-17:00	<i>Proposed budget for 2018-2020 (including the proposed Table of Tonnages)</i>	A.1/F/02 & Add.1 A.1/G/03
FC-10	17:00-17:20	<i>Report to the Assembly</i>	
FC-11	17:20-17:30	<i>Any other business</i>	
FC-12		<i>Closure of the meeting</i>	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
	18:00-19:00	Meeting of Heads of Delegations (at the IHO Secretariat)	
		<i>Welcome</i>	
		<i>Review of the main changes from Conference to Assembly</i>	
		<i>Introduction of the Chair of the Assembly</i>	ACL 14
		<i>Designation of the Vice-Chair of the Assembly</i>	
		<i>General overview of the Agenda</i>	
		<i>Conduct of the Session and protocol for speaking</i>	
		<i>Records of the Session, circulation of documents, role of Rapporteurs</i>	
		<i>Procedures for the election</i>	
		<i>Designation of Rapporteurs</i>	
		<i>Designation of Scrutineers</i>	
		<i>Any other business</i>	
	19:00-20:00	Icebreaker Reception for Heads of Delegation and Spouses (IHO Terrace)	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
	Day 1	Monday 24 April	
	All day	Registration of Delegates (continued)	
1	09:00-09:35	Assembly Administration	
		<i>Welcoming Remarks by the Secretary-General</i>	
		<i>Confirmation of the Election of the Chair of the Assembly</i>	ACL 14
		<i>Election of the Vice-Chair of the Assembly</i>	
		<i>Appointment of the Scrutineers</i>	
		<i>Appointment of Rapporteurs</i>	
		<i>Adoption of the Agenda</i>	A.1/G/01
	09:35-09:45	Recess <i>Invited guests take their seat</i>	
	10:00	Arrival of HSH Prince Albert II	
2	10:00-11:30	Opening Ceremony	
		<i>Address by the Secretary-General</i>	
		<i>Address by the Chair of the Assembly</i>	
		<i>Keynote address by Mr Kitack Lim, Secretary-General of the International Maritime Organization</i>	
		<i>Keynote address by Prof. Petteri Taalas, Secretary-General of the World Meteorological Organization</i>	
		<i>Keynote address by Mr Michael Lodge, Secretary-General of the International Seabed Authority</i>	
		<i>Assembly Opening Address by HSH Prince Albert II of Monaco</i>	
		<i>Presentation of the Prince Albert Ist Medal</i>	CL 24/2017
		<i>Signature of the revised Host Agreement</i>	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
	11:30-12:00	HSH Prince Albert II Opens and Visits the Hydrographic Industry Exhibition and Member States' Exhibition	
	11:45-12:15	Hydrographic Industry Exhibition and Member States' Exhibition open to delegates and guests	
	12:15-12:30	Official Photograph	
	12:30-14:00	<i>Lunch Break</i>	
	14:00-14:20	Presentation of New Member States' Flags: Cameroon, Georgia, Viet Nam, Brunei Darussalam, Malta	
3	14:20-15:30	Consideration of Reports and Proposals (Work Programme 1)	
		<i>Presentation of the Report on Work Programme 1 and related documents</i>	A.1/WP1/01 A.1/WP1/03 A.1/WP1/04
		<i>Discussion</i>	
		<i>Consideration of Proposals: Proposed revision of IHO Resolution 12/2002 Proposed revised IHO Strategic Plan PRO-4: Rewrite of the IHO Strategic Plan</i>	A.1/WP1/04 A.1/WP1/03 A.1/G/02
	15:30-16:00	<i>Coffee Break</i>	
	16:00-17:30	Consideration of Reports and Proposals (Work Programme 1) (continued)	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
		<p><i>Consideration of Proposals:</i></p> <p><i>PRO-1: Discuss a way forward for the publication of a 4th Edition of IHO Publication S-23 and include it in the next “3-Year Work Programme”</i></p> <p><i>PRO-13: Discuss the future of the outdated IHO Special Publication S-23, taking into account the Report on Work to revise IHO Publication S-23 (April 2012)</i></p>	A.1/G/02
	18:30-20:30	<p><i>Exhibitors’ Reception in Exhibition area</i></p> <p><i>(All Assembly Participants and Spouses)</i></p>	
	20:00-22:00	<p><i>Reception offered by Brazil on board NPqHo Vital de Oliveira (by invitation)</i></p>	
	Day 2	Tuesday 25 April	
	09:00-10:30	Consideration of Reports and Proposals (Work Programme 1) (continued)	
		<p><i>Consideration of Proposals:</i></p> <p><i>PRO-9: Revise IHO Publication M-3 - Repertory of IHO Resolutions</i></p>	A.1/G/02
		<i>Consideration of outstanding issues if any</i>	
	10:30-11:00	<i>Coffee Break</i>	
4	11:00-12:30	Consideration of Reports and Proposals (Work Programme 2)	
		<i>Presentation of the Report on Work Programme 2</i>	A.1/WP2/01
		<i>Discussion</i>	
	12:30-14:00	<i>Lunch Break</i>	
		<i>INS Aretusa open to Assembly Delegates</i>	
	14:00-15:30	Consideration of Reports and Proposals (Work Programme 2) (continued)	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
		<p><i>Consideration of Proposals:</i></p> <p><i>PRO-6: Proposed Amendment to the IHO Resolution 2/2007 for Improving the Validation Procedure of Making Changes to Specifications Based on S-100</i></p> <p><i>PRO-12: Revise the IHO Resolution 4/1967 as amended - Submarine Cables</i></p>	A.1/G/02
	15:30-16:00	<i>Coffee Break</i>	
	16:00-17:30	Consideration of Reports and Proposals (Work Programme 2) (continued)	
		<i>Consideration of outstanding issues if any</i>	
	15:00-18:00	INS Aretusa open to the public	
	Day 3	Wednesday 26 April	
5	09:00-10:30	Consideration of Reports and Proposals (Work Programme 3)	
		<i>Presentation of the Report on Work Programme 3</i>	A.1/WP3/01
		<i>Presentation of the Report of the RHCs and the HCA</i>	A.1/WP3/01 - Annex E
	10:30-11:00	<i>Coffee Break</i>	
	11:00-12:30	Consideration of Reports and Proposals (Work Programme 3) (continued)	
		<i>Discussion</i>	
	12:30-14:00	<i>Lunch Break</i>	
	12:30-13:15	<i>TeamSurv / EOMap presentation / workshop on crowdsourced and satellite derived bathymetry</i>	
	14:00-15:30	Consideration of Reports and Proposals (Work Programme 3) (continued)	
		<p><i>Consideration of Proposals:</i></p> <p><i>PRO-2: Development of IHO E-Learning Capacity</i></p>	A.1/G/02

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
		<i>Consideration of Proposals:</i> <i>PRO-8: Revise the Standards of Competence for Hydrographic Surveyors</i>	A.1/G/02
		<i>Consideration of Proposals:</i> <i>PRO-5: Development of an IHO Satellite-Derived Bathymetry Assessment and Charting Programme for as yet Uncharted or Poorly Charted Areas</i>	A.1/G/02
	15:30-16:00	<i>Coffee Break</i>	
	16:00-17:30	Consideration of Reports and Proposals (Work Programme 3) (continued)	
		<i>Consideration of Proposals:</i> <i>PRO-3: Revision of the Resolution on IHO Response to Disasters</i>	A.1/G/02
	16:00-18:00	<i>INS Aretusa open to the public</i>	
	18:30-20:30	<i>Reception offered by the Government of Monaco and the IHO Secretariat (Hotel Le Méridien)</i>	
	20:00-22:00	<i>Reception offered by the United Kingdom on board HMS Echo (by invitation)</i>	
	Day 4	Thursday 27 April	
	09:00-10:30	Consideration of Reports and Proposals (Work Programme 3) (continued)	
		<i>Consideration of Proposals:</i> <i>PRO-11: Adopt a Resolution on improving the availability of Bathymetric Data Worldwide</i>	A.1/G/02
	10:30-11:00	<i>Coffee Break</i>	
	11:00-12:30	Consideration of Reports and Proposals (Work Programme 3) (continued)	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
		<i>Consideration of Proposals:</i> <i>PRO-7: National Hydrographic Office implications regarding the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Shared Guiding Principles for Geospatial Information Management</i>	A.1/G/02
		<i>Consideration of outstanding issues if any</i>	
	12:30-14:00	<i>Lunch Break</i>	
		<i>Reception offered by France on board FNS Commandant Bouan (by invitation)</i>	
		<i>INS Aretusa open to Assembly Delegates</i>	
6	14:00-14:30	Approval of the Proposed IHO Work Programme 2018-2020	
		<i>Introduction by the Secretary-General</i> <i>Consideration and approval of the proposed IHO Work Programme 2018-2020</i>	A.1/WP1/02
7	14:30-15:30	Finance Committee Report	
		<i>Presentation of the Finance Committee Report</i> <i>Approval of the IHO Finance Report 2012-2016</i> <i>Consideration of the financial statements for 2016 and recommendations</i>	A.1/F/05 A.1/F/01 A.1/F/04 & Add.1
	15:30-16:00	<i>Coffee Break</i>	
	16:00-17:30	Finance Committee Report (continued)	
		<i>Approval of the proposed Table of Tonnages</i> <i>Approval of the proposed IHO 3-year Budget 2018-2020</i> <i>Appointment of the External Auditor</i>	A.1/G/03 A.1/F/02 & Add.1 A.1/F/03

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
		<i>Consideration of Proposals:</i> <i>PRO-10: Revision of Article 13 (c) of the IHO Financial Regulations</i>	A.1G/02
	18:00	Deadline for Chairs of RHCs to identify the States selected to occupy seats on the Council allocated to their RHC	
	1500-18:00	INS Aretusa open to the public	
	18:30-20:30	<i>Reception hosted by the candidates standing for election (Heads of Delegations and one delegate from each Member State) (Yacht Club of Monaco)</i>	
	Day 5	Friday 28 April	
8	09:00-11:30	Election of the Secretary-General and Directors	A.1/E/01 A.1/E/02
	11:30	Hydrographic Industry Exhibition and Member States' Exhibitions close	
9	11:30-12:00	Consider and endorse the selection of the Members of the Council	A.1/WP1/05
10	12:00-13:00	Closing Ceremony	
		<i>Date of the 2nd Session of the Assembly (A-2)</i>	
		<i>Seating Order at A-2</i>	
		<i>Any other business:</i> <i>- Approval of the revised Host Agreement</i> <i>- Presentation of the Prize for the Member States' Exhibition</i> <i>- Resolution expressing gratitude to the Host Country</i> <i>- Statements by outgoing and incoming Secretaries-General / Directors</i>	
		<i>Closing Remarks by the Chair of the Assembly</i>	

General Information – A.1/G/01/Rev.3

Item	Time	Date / Description	Document
	13:00	END OF 1st SESSION OF THE ASSEMBLY	
	pm	Supplementary Meetings (as required)	
	18:00-20:00	<i>Closing Reception offered by the Secretariat and the Chair of the Assembly (IHO Terrace - by invitation)</i>	

**OFFICERS OF THE
1st SESSION OF THE IHO ASSEMBLY**

Chair of the Assembly Dr Parry OEI (Singapore)

Vice-Chair of the Assembly Captain Brian Connon (United States)

**RAPORTEURS
TO THE 1st SESSION OF THE IHO ASSEMBLY**

Date	Event	Rapporteur
24 April a.m.	Opening	Nickolas Roscher (Brazil)
24 April p.m.	WP1	Vanessa Miller (United States of America)
25 April a.m.	WP1/WP2	Douglas Brunt (Canada)
25 April p.m.	WP2	Jørgen Svendsen (Norway)
26 April a.m.	WP3	Mike Prince (Australia)
26 April p.m.	WP3	Rodney Ladner (United States of America)
27 April a.m.	WP3	Thai Low Ying-Huang (Singapore)
27 April p.m.	WP & Finance Report	Eric Langlois (France)
28 April a.m.	Closing	Anna Maria Biavasco (Italy)

**OPENING AND KEYNOTE
ADDRESSES**

Opening and Keynote Addresses

OPENING AND KEYNOTE ADDRESSES

1. The Secretary-General of the IHO, Mr Robert Ward
 2. The Chair of the Assembly, Dr Parry Oei
 3. The Secretary-General of the International Maritime Organization, Mr Kitack Lim
 4. The Secretary-General of the World Meteorological Organization, Prof. Petteri Taalas
 5. The Secretary-General of the International Seabed Authority, Mr Michael Lodge
 6. His Serene Highness Prince Albert II of Monaco
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Opening and Keynote Addresses

Opening and Keynote Addresses

ADDRESS BY THE SECRETARY-GENERAL OF THE INTERNATIONAL HYDROGRAPHIC ORGANIZATION

Mr Robert Ward

Monseigneur,

Your Excellencies,

Honourable Ministers,

Distinguished Guests,

Distinguished Delegates and Colleagues

Observers,

Ladies and Gentlemen,

Your Serene Highness, all of us present at this Opening Ceremony are extremely privileged and grateful that you have honoured us, once again, with your presence.

May I, on behalf of the International Hydrographic Organization, thank you, Your Serene Highness, and your Government, for your continuing interest in and significant support of our Organization and also praise your personal efforts in tackling environmental issues that the world faces today. You are acknowledged as one of the leaders in pursuing global initiatives for the protection of the environment, especially in the oceans and the Polar Regions, where hydrography plays an important role in maritime safety, the protection of the marine environment and mankind's increasing dependence on safe and healthy seas and oceans. This will be highlighted in the forthcoming UN Ocean Conference in June, where the IHO Secretariat will represent the IHO, together with national hydrographic services which should be part of their respective delegations at the Conference.

In that regard, we all look forward to supporting You in Your efforts at the Conference, where we hope that hydrography and the measurement of the depth and shape of the seafloor will be further recognised for the fundamental role that it plays in the sustainable use of the world's seas, oceans and navigable waterways.

On behalf of the Secretariat, I would like to extend a warm welcome to nearly 250 delegates representing 77 of our 87 Member States and particularly to those who are here for the first time; also to the Observers from those countries not yet Members of the Organization; to the Observers from many important International Organizations with whom we have fruitful and mutually beneficial cooperation, also to the Non-Governmental Organizations, to Members of past Directing Committees of the Organization and to the representatives of the companies that are exhibiting their latest products and services for use in hydrography, oceanography, cartography, and related data management and training, and, I am sure, are keen to meet all of the distinguished delegates during this week.

I would especially like to welcome the Secretaries-General of the International Maritime Organization, the World Meteorological Organization and the International Seabed Authority, that represent three intergovernmental agencies with which the IHO has recently concluded or renewed our commitment to cooperate and collaborate on addressing issues that are of common interest to all of our organizations. I am pleased to say that they have all agreed to address us shortly.

But first, it is my pleasure to invite your Chair of the Assembly, Dr Parry Oei, to speak.

Opening and Keynote Addresses

Opening and Keynote Addresses

ADDRESS BY THE CHAIR OF THE ASSEMBLY

Dr Parry Oei

Good morning, Your Serene Highness, Excellencies, Secretaries-General, Distinguished Delegates, ladies and gentlemen.

It is my pleasure and honour to be addressing the 1st Assembly of the International Hydrographic Organization.

This year, the IHO has made a bold change in structuring to improve the effectiveness and efficiency of this organization. The aim is to better respond to ever-changing needs of Member States, stakeholders, and technology. I will talk more about changes in a moment.

In the last 96 years, since establishment of the IHO, one main thing has remained unchanged. This is the loyal, steadfast, generous support of four generations of the Princely Family. This is something the IHO is forever grateful. Thank you, Your Serene Highness.

What else has remained unchanged? Very confidently, I say that's our commitment to the safety of navigation that has and must remain our primary focus as hydrographers and cartographers. For many years of my interaction with my fellow colleagues in the various bodies of the IHO, and most recently as chair of the Interregional Coordination Committee, I have seen our national hydrographers providing services delivering the best quality of official products and services.

I have also seen a strong bond among Member States who share knowledge, experience, and expertise across boundaries, language, and age. And speaking of age, I first attended the IHO conference in 1992, young and eager as a hydrographer. Never have I imagined one day I would be here chairing the 1st Assembly, just as eager, but not so young. Times have changed. In fact, much has changed since 1992. Personally, look at me, at my hair, my waistline. Those who have known me since then have watched all this.

But more than that, from the early 1990s, the IHO was proactively supporting the implementation of ECDIS carriage for SOLAS vessels. We paved the way towards e-Navigation when the International Maritime Organization adopted the ECDIS performance standards in July 2012. Like our mobile phones, which is now more than just a calling device. The ECDIS is more than just a chart display. The "I" in ECDIS, which stands for information, has grown in significance with automatic identification system and weather chart overlays.

Cliché though it may sound, but the only constant is change. We have seen constant increase in the IHO membership from 58 Member States to 87 today. This increase demonstrates countries' recognition of importance of hydrography and ensuring navigational safety. As ships get larger and deeper in draft and sea trade increases in volume, so too has environmental sustainability growing concern.

Amidst these changes, the IHO must look even more to its enhancing technical capabilities and cooperation among Member States through capacity building programmes, incorporating multibeam system survey, LIDAR, the adoption of GPS positioning and other innovative solutions including satellite-derived bathymetry.

We have also seen a role as hydrographers evolve as we play an increasing important part in protecting and ensuring sustainable use of our marine environment. Our collection and sharing of hydrographic data was used by coastal zone managers, marine scientists, other agencies, and the commercial sector for feasibility studies and environmental monitoring,

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assessing damage to the marine environment after natural disasters and coastal zone development. These are just some examples where we can and have helped ensure cost-effectiveness and sustainable use of our seas and ocean.

This June, as the Secretary-General has said, global leaders will head to New York for the United Nations Ocean Conference where countries will discuss steps to address UN Sustainable Development Goal 14 of preserving our oceans. It is our hope that our hydrographic data will be able to increase public and political awareness to help achieve this important goal. Particularly we hope to expand our participation in developing the role of the UN committee of experts on Global Geospatial Information Management, the UN-GGIM.

As Chair of this Assembly, I will do my utmost to help bring about the changes necessary to ensure that IHO vision is realized, the vision of actively engaging all coastal and interested States to advance maritime safety and efficiency and to support the protection and sustainable use of the marine environment.

Together we shall explore new areas in hydrography such as crowdsourcing, satellite-derived bathymetry, and marine database infrastructures. We need to harness the strength of our community to bring about the necessary changes.

As we respond to these changes, cooperation is more important than ever. Where there are differences, we must find common ground and build consensus. Where we have common objectives, we must capitalize on them. It will not be easy, but let's find a will, the strength, and the spirit in this Assembly to foster close and strong bond and build and chart our future.

**KEYNOTE ADDRESS BY THE SECRETARY-GENERAL
OF THE INTERNATIONAL MARITIME ORGANIZATION**

Mr Kitack Lim

Ladies and gentlemen,

I am delighted to be here in Monaco for this important occasion which is the 1st IHO Assembly.

Hydrographic services are absolutely central to maritime safety, which also remains rock-solid as one of the core objectives of IMO. That is why I am pleased to have this opportunity to represent IMO, to cement the solidarity that exists between our two Organizations, and to recognise the valuable contribution IHO makes to the work of IMO.

There is an old saying that “all ships should avoid hitting the sides of the ocean, particularly the bottom side.” Any ship that doesn’t know how deep the water under its keel is has the potential to find itself in trouble. But not only is hydrography vital for supporting safe and efficient navigation of ships, it also plays a role in so many other areas of maritime activity. From fishing to mineral exploration, from marine science to tourism, from tsunami modelling to recreational boating – all these and more are reliant on good, accurate and up-to-date hydrographic data.

In addition to the obvious economic, social and environmental impact of ships encountering uncharted hazards, a lack of knowledge of the depth and nature of the seafloor impacts on many other areas – mostly with significant, negative, economic and environmental impacts. And, in most cases, the closer inshore you are, the more critical the situation becomes.

Indeed, hydrographic data is deemed to be so crucial that, since 2002, contracting governments to the International Convention on the Safety of Life at Sea, SOLAS, are required to provide and maintain hydrographic services and products. New generations of ships with exceptionally deep draughts, new ports and coastal zone management plans are being developed due to changing trade patterns. This, coupled with the global mandate to protect the marine environment all combine to emphasise the importance of this obligation under SOLAS.

And yet, I think it would surprise many outside the profession to learn that around 90 per cent of the world’s oceans and 50 per cent of coastal waters have never had their depth measured... Of course, technology enables depths to be estimated with a reasonable degree of accuracy and confidence; but according to IHO’s own website, there are higher resolution maps of the Moon, Mars and Venus than for most of the world’s maritime areas. Almost all areas of the world are affected to some degree, including the waters of many developed countries.

In this context, the Polar Regions are becoming an increasing focus of hydrographic attention due to the intensified activity in these areas from shipping, tourism as well as other activities, such as energy exploration and extraction. Statistics show a lack of adequate hydrographic surveys for the majority of the Polar Regions. This has obvious implications, not only for the safe operation of an increasing number of ships, but also for the continued protection of the environment and for the sustainable management of the Polar Regions in general.

As you know, IMO has developed the Polar Code, which is a mandatory international code for ships operating in polar waters. The IHO contributed to the safety considerations contained within the Polar Code, related specifically to the generally unsatisfactory state of the hydrographic surveys from which existing nautical charts in the Polar Regions are

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derived. So I would like to thank you for that valuable contribution to what I believe is already proving to be an important step forward for safety and environmental protection.

Indeed, our Organizations generally have a great deal in common, from our shared pursuit of safer seas and more reliable navigation to the fact that most, if not all of your Member Governments are also members of IMO.

Given that your aim, and your mission, are to ensure that all the world's seas, oceans and navigable waters are surveyed and charted and to create a global environment in which States provide adequate and timely hydrographic data, products and services and ensure their widest possible use – it is no surprise that we also share a long history of cooperation and working together. Indeed, cooperation arrangements between IMO and IHO go back more than 50 years.

Our Secretariats attend and contribute to each other's meetings. In particular, IHO's World-Wide Navigational Warning Service Sub-Committee has been very important in relation to dissemination of Maritime Safety Information.

In recent years, our collaboration has been truly vital in a number of areas – one thinks, for example, of the development of electronic navigation charts and ECDIS. This technology, which seafarers all over the world now rely on every day, may have been driven by equipment manufacturers; but it was the development of standards, the push for harmonization and the adoption of a regulatory framework – by IHO and IMO – that turned an exciting technology into a reliable tool.

Today, we see a similar valuable collaboration in the development of e-navigation. As I have said on several occasions, e-navigation is the future; but it has been “the future” for a long time. The challenge now is to turn “the future” into “the present” so that all the benefits and advantages of e-navigation can be fully realised. IMO, IHO and other stakeholders are working under the e-navigation Strategy Implementation Plan (SIP) to make this happen.

In this context, particularly important is IHO's work to support the e-navigation concept through the availability, development and extension of IHO standard S-100, which will be the basis for future ECDIS and e-navigation, together with the development of the format and structure of Maritime Service Portfolios such as VTS services.

Capacity building is another vital component of the joint efforts made by IMO and IHO to support our common objectives. Development of hydrographic surveying and nautical charting capability is of fundamental importance and we have been delivering joint capacity-building activities over many years.

I firmly believe that helping states achieve the capacity required to participate effectively in maritime activities makes an important contribution towards the sustainable maritime transport system that we are all striving to realise.

Looking further afield, one of the most significant areas in which IMO and IHO share a common objective is in our support of the Sustainable Development Goals. These 17 goals, adopted in 2015, have been hailed as the mechanism to transform our world – ending poverty, reducing inequality and tackling climate change; building a better world in which no-one gets left behind. There can be few more noble yet ambitious objectives.

A sustainable shipping industry will be essential for the delivery of almost all of the 17 individual goals. But, for IMO and IHO, Goal 14 – to conserve and sustainably use the oceans, seas and marine resources for sustainable development – has a particular resonance.

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As I mentioned a few moments ago, hydrography and the detailed knowledge of the shape and depth of the seafloor underpin the proper, safe, sustainable and cost-effective use of the world's seas, oceans and waterways. The work of hydrographers, whether in support of navigational safety, protection of the marine environment, coastal zone management, defence and security, resource exploration, or any other component of the blue economy, makes a valuable contribution to the delivery of SGD 14.

The IHO, or its predecessor, the IHB, is nearly 100 years old – indeed, international cooperation in the field of hydrography goes back as far as the 19th century. But everything I have said so far only serves to emphasise how important and relevant IHO is today – and will continue to be, as we move into a future driven by the potential of digital technology.

I wish you a successful and fruitful first IHO Assembly, and I look forward to our joint efforts growing and strengthening in the years to come.

Thank you.

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KEYNOTE ADDRESS BY THE SECRETARY-GENERAL OF THE WORLD METEOROLOGICAL ORGANIZATION

Prof. Petteri Taalas

Your Serene Highness, Prince Albert II,

Capt. Ward, Secretary-General of the IHO,

Mr Lim, Secretary-General of the IMO,

Mr Lodge, Secretary-General of the ISA,

It is my great honour and pleasure to be here today: this is the first Assembly of the IHO and the first time I come to IHO.

I feel to be among friends given my experience in the Finnish Navy before my career as a meteorologist.

With this background, I fully appreciate the connections between meteorology, oceanography and hydrography.

Especially coming from the Nordic region, I have experienced first-hand the importance of ensuring safety of people at sea and on the coast, particularly in these times of changing climate and its impacts on the polar areas.

With 90% of world trade being carried by international shipping and new northern shipping routes being opened, the time is critical for enhancing the services to ensure the safety of people and the sustainability of the blue economy.

I wish to acknowledge the great support provided by Prince Albert to IPCC for the preparation of the special report on climate change, the ocean and the cryosphere.

The relationship of WMO with IHO and IMO are among the oldest partnerships of our Organization.

Marine services have been an important aspect of the global meteorological community since the inception of the concept of meteorological services in the mid-1800s.

The precursor of WMO, the International Meteorological Organization, was established as a direct result of the international maritime conference in Brussels in 1853, albeit some decades later, and engaged in supporting the provision of weather safety information to shipping.

In 2015, IHO and WMO signed an agreement to reinforce their cooperation.

There are long-standing, demonstrable benefits that have accrued through cooperation and coordination of our activities that seek to address our mutual interests.

Let me mention the following collaborations between our two organizations:

- Ensuring the fulfilment of several of the fundamental obligations stipulated in SOLAS;

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- Supporting the e-Navigation concept through the availability, development and extension of IHO standard S-100, in particular for the Sea Ice Catalogue (S-411) and the Met-Ocean Catalogue (S-412) together with the development of the relevant Maritime Service Portfolios;
- Disseminating maritime safety information through the Worldwide Met-Ocean Information and Warning Services (WWMIWS) with IMO in coordination with the IMO/IHO Worldwide Navigational Warning Services (WWNWS);
- Setting standards and performance characteristics for the Global Maritime Distress Safety System (GMDSS) modernization process.

There are other areas where we could further strengthen our cooperation:

- Coordinated capacity building to improve the governance and administration of maritime affairs and the implementation of SOLAS obligations in coastal States, taking into account the UN concept of “Delivering as One”.
- Relating to that, there is an opportunity for WMO to collaborate with IHO in the interest of strengthening the capacity of METAREA/NAVAREA coordinators and National Meteorological and Hydrological Services to deliver better maritime safety services.
- The implementation of the 2030 Agenda for Sustainable Development in relation to SDG 14, especially the target on increasing scientific knowledge, develop research capacity and transfer of marine technology.
- With this, there is a need for WMO and IHO to collaborate for improved production of coastal and bathymetric data to support modelling and forecasting of coastal inundation events and marine hazards affecting ships at sea and in ports.
- This can be done by including collection of these data in a standardized way in all ocean observation programmes, especially through the Joint WMO-IOC Technical Commission for Marine Meteorology and Oceanography.
- There is also an opportunity this June with the Ocean Conference, where our communities could join forces to advocate the need for bathymetric mapping to the countries attending the Conference.
- I thank you again for the opportunity to deliver this address to the IHO Assembly and I also express congratulations to the Secretary-General for his accomplishments and the best wishes for his retirement.

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KEYNOTE ADDRESS BY THE SECRETARY-GENERAL OF THE INTERNATIONAL SEABED AUTHORITY Mr Michael Lodge

Your Serene Highness, Prince Albert II of Monaco,

Chairman of the IHO Assembly,

Secretary-General of IHO, Capt. Robert Ward,

Your Excellency, Mr Kitack Lim, Secretary-General of IMO,

Professor Taalas, Secretary-General of WMO,

Distinguished delegates, ladies and gentlemen,

Good morning.

On behalf of the International Seabed Authority I am delighted to be in Monaco at this very important meeting. I am equally delighted as this is my first participation in this plenary body during my tenure as Secretary-General of the Authority, which began on 1 January of this year.

Mr Chairman,

14 July of last year marked an important and historical date for both the International Seabed Authority and the International Hydrographic Organization. On that day, nine months ago, the Authority and IHO concluded an Agreement of Cooperation the main purpose of which is to consult each other on matters of common interest with a view to ensuring maximum coordination of both organizations' work and activities.

In light of that, it seems convenient that I provide you with a brief background to the Authority's work and activities, particularly those that may be of interest to IHO so as to promote the identification of potential areas of consultation and cooperation between the two organizations.

The Authority is 23 years old this year, having been established in 1994. However, its history goes back almost 50 years to the beginning of the discussions that led to the negotiation of a comprehensive United Nations Convention on the Law of the Sea. It was the dream of many countries at that time that there should be an international agreement to ensure that the mineral wealth of the deep seabed beyond the outermost limits of the continental shelf would not be appropriated by a few technologically advanced countries, but would be shared between all countries, including the landlocked and disadvantaged countries.

The end result of these negotiations was Part XI of the UN Convention on the Law of the Sea, which establishes the Authority as the international organization through which States Parties are to organize and control activities in the international seabed area, also known as the Area. All States Parties to the Law of the Sea Convention are automatically members of the Authority, which means that as of 2017 the Authority has 168 members. Part XI gives the Authority a very specific and limited mandate. Nonetheless, while the Authority's mandate is primarily focused on managing mineral resources and regulating the exploration and exploitation phases of deep seabed mining, its mandate also covers matters relating to the promotion of marine scientific research in the Area.

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In relation to that matter, Mr Chairman, with your permission, the rest of my intervention will concentrate on three points:

First, current exploration activities in the Area.

Exploration for deep seabed minerals has been taking place for many years. Even before the Convention was adopted, consortia from the United States and several other developed economies, had been conducting extensive exploration campaigns for polymetallic nodules deposits. Since the entry into force of the Convention, deep seabed exploration may take place only under contract to the Authority, in accordance with strict conditions, including requirements to collect geological, oceanographic and environmental data.

As of today the Authority has approved 28 contracts for exploration covering more than 1.3 million square kilometres of the seabed. Contractors include States, state entities and private corporations sponsored both by developed and developing States.

Exploration work is taking place simultaneously in the Pacific, Indian and Atlantic oceans. By far the area of most intense activity remains the Clarion-Clipperton Fracture Zone in the Central Pacific Ocean where 14 contractors are exploring for polymetallic nodules.

These efforts represent more than 30 years of intense scientific research on the deep seabed. In fact, the acquired non-proprietary data and information provided by contractors, including detailed bathymetry, are of potential interest for the work of the IHO and relevant for the cooperation Agreement between the two organizations. The Agreement emphasizes the importance of collecting and exchanging standardized data and information, which may include the bathymetric survey data collected by contractors. At the same time, IHO can help the ISA and our contractors by establishing procedures and standardized protocols for survey equipment and metadata characterization, as well as access to its global databases.

This brings me to my second point.

The role of the Authority in promoting and encouraging marine scientific research in the Area.

According to the Convention, marine scientific research in the international seabed area shall be carried out for the benefit of mankind as a whole. The Authority's mandate is to promote and encourage this research and to help ensure that the results are coordinated and disseminated for the benefit of all, particularly the developing countries.

The various activities of the Authority concerning marine scientific research are currently centred on the organization of workshops on different topics ranging from technical issues related to the minerals of the deep seabed to environmental matters. Additionally, the Authority promotes at-sea research and training through seminars and postgraduate courses for scientists from developing countries.

Such a role creates excellent opportunities for collaboration and partnership-building. This is the more so, when there is in place a legal structure which facilitates inter-agency cooperation, like the ISA-IHO Cooperation Agreement. This takes me to my third and last point.

Third, opportunities for enhancing cooperation between the Authority and IHO.

An important feature of the consultation and cooperation aspects under the ISA-IHO Cooperation Agreement relates to the situation when either organization proposes to initiate a programme or activity on a subject in which the other has a substantial interest,

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consultation will be initiated between the two, with a view to harmonizing their efforts as much as possible

In light of that, good opportunities may arise to put the Cooperation Agreement into practice in the context of the proposed IOC and IHO, GEBCO global program entitled “Seabed 2030 - Roadmap for Future Ocean Floor Mapping”, with the goal of compiling a high-resolution map of the seabed from the coast to the deepest trenches by the year 2030. As I already mentioned, the non-proprietary and non-confidential data collected by the Authority and its contractors could be of potential value to the project, whilst improved seafloor mapping is indispensable to mineral prospecting and exploration, as well as environmental management. The Authority is ready to consult, cooperate and exchange information in this regard.

Concluding remarks

In conclusion, Mr Chairman.

I am firmly convinced that the mandate, experience and field of current work of activities of the two organizations are of common interest. The ISA-IHO Cooperation Agreement provides splendid and optimal opportunities to enhance mutual consultation, cross-sectoral cooperation, communication and exchange of information. The proposed IHO/IOC/GEBCO project is just one illustration how the Authority could contribute and join efforts in partnership so as to enhance ocean management and deep ocean science for the benefit of mankind.

I wish the Assembly success in this first meeting of the IHO Assembly, and I thank you all for your attention.

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OPENING ADDRESS BY HIS SERENE HIGHNESS PRINCE ALBERT II OF MONACO

Minister of State,

Ladies and Gentlemen Counsellors and Ministers of the Government,

Excellencies,

Secretaries General,

President of the Assembly,

Distinguished Delegates,

Ladies and Gentlemen,

Dear Friends,

I am particularly pleased to welcome you to the Principality for this important new stage in the development of the Organization. Today you are holding the 1st session of the Assembly of the International Hydrographic Organization which takes the place of what would have been the 19th Hydrographic Conference.

This new stage in the Organization's life provides an opportunity for a retrospective look at its history and a chance to measure the progress it has made since the International Maritime Conference held in Washington DC in 1889, which recognised the need for international cooperation regarding hydrographic matters.

30 years later, in 1919, the 1st International Hydrographic Conference met in London and decided to establish the International Hydrographic Bureau (IHB). At the invitation of my great-great-grandfather, Prince Albert I, the IHB "Hydrographic Club" was established in Monaco two years later in 1921 by 18 Member States.

The first major modernisation of the Organization was decided upon at the 9th International Hydrographic Conference here in Monaco in 1967.

At the time the Conference only had 41 member states and it took just 3 years to ratify the new inter-governmental Convention relating to the International Hydrographic Organization, which entered into force in 1970.

In the 1990s a new step was taken to adapt the Organization for the 21st century. During the 3rd Extraordinary Conference in 2005, approval was given to the Protocol to amend the Convention relating to the IHO. The Organization then included 75 member states. The Protocol came into force last November and this first session of the new Assembly will give full effect to its provisions, particularly regarding the establishment of the IHO Council which will supervise the Organization's activities between two successive triennial sessions of the Assembly.

As depositary government of the Convention and host government to the Organization, the Principality welcomes the new provisions which will enhance the effectiveness of the Organization and ensure its relevance in the face of current and future challenges.

This effectiveness and relevance are more important than ever today when the need to understand, save and protect the oceans is more crucial than ever.

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In my opinion ensuring relevance requires taking part as broadly as possible in actions. I therefore particularly welcome the simplification of the membership process introduced by the revised Convention. I would also like to congratulate the new member states who have just joined the Organization: Georgia, Vietnam, Brunei Darussalam, Malta and Vanuatu.

You know of my commitment to the preservation of the environment and especially the seas and oceans. This is why Monaco has for many years played a leading role in the defence and promotion of healthy oceans. It was therefore with immense satisfaction that I welcomed the UN's adoption, at the end of 2015, of the Sustainable Development Goals of Agenda 2030 and in particular Sustainable Development Goal 14 on the conservation and sustainable use of the oceans, seas and marine resources.

I have no doubt that the IHO will play its part fully in achieving this goal and will make a significant contribution to its implementation.

This is why I would like to commend and encourage the continuing efforts of the Organization and its Secretariat in raising awareness that scientific knowledge of the oceans is currently fragmentary and therefore often insufficient for a good understanding of the mechanisms that influence ocean health, climate change and the sustainable use of marine resources.

As you know, about 50% of the depth of the world's coastal waters and more than 85% of deeper ocean areas has never been measured directly. However, mapping our seas, oceans and waterways is undoubtedly more important than ever, as highlighted by the theme of this year's World Hydrography Day.

I am pleased to see the importance given to the points relating to these fundamental questions on the Assembly's programme and in particular the examination of results and propositions concerning:

- The promotion of alternative methods for collecting and assessing data from areas that are not mapped or are badly mapped, such as the use of satellite derived bathymetry and crowd sourcing methods;
- The promotion of the development of the maritime element in spatial data infrastructures both regionally and internationally;
- Improved availability of bathymetric data on a global scale;
- Consolidation of programmes to improve capability.

On these subjects I think that it is important for hydrographic services to focus less on the compilation and provision of marine charts solely for safe navigation and to focus more on providing information to geo-spatial data infrastructures. In this way information will be provided not only for navigation purposes but also for the protection of the marine environment, prevention of maritime disaster risks, marine area management, integrated management of coastal zones and maritime boundaries.

I would also invite the Organization to strengthen and widen its cooperation with the relevant international and regional organizations.

With this in mind I am pleased to welcome the presence of important partner leaders and especially Mr Kitack Lim, Secretary-General of the International Maritime Organization, Prof. Petteri Taalas, Secretary-General of the World Meteorological Organization, Mr Michael Lodge, Secretary-General of the International Seabed Authority, as well as the other organizations represented at this Assembly.

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I am also delighted by the exceptional level of participation by the delegates, Member States and other States and accredited organizations as observers as well as representatives from industry.

It is with great pleasure that I declare the first session of the Assembly open. I encourage the Assembly to conduct its work in the same constructive and friendly tradition initiated by the «Hydrographic Club» and to continue its contribution to the sustainable management of the oceans, seas and navigable waters.

Thank you.

**PROPOSALS SUBMITTED
TO THE 1st SESSION OF THE IHO ASSEMBLY**

**PROPOSALS SUBMITTED FOR CONSIDERATION BY
THE 1st SESSION OF THE IHO ASSEMBLY**

PROPOSAL No.	OBJECT OF THE PROPOSAL	SUBMITTED BY	WORK PROGRAMME
1	Discuss a way forward for the publication of a 4 th Edition of IHO Publication S-23 and include it in the next "3-Year Work Programme"	Democratic People's Republic of Korea	1
2	Development of IHO E-Learning Capacity	France	3
3	Revision of the Resolution on Response to Disasters	Japan	3
4	Rewrite of the IHO Strategic Plan	United Kingdom	1
5	Development of an IHO Satellite-Derived Bathymetry Assessment and Charting Programme for as yet Uncharted or Poorly Charted Areas	Canada, France, United States of America	3
6	Proposed Amendment to the IHO Resolution 2/2007 for Improving the Validation Procedure of Making Changes to Specifications Based on S-100	Republic of Korea	2
7	National Hydrographic Office implications regarding the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM) Shared Guiding Principles for Geospatial Information Management	United States of America	3
8	Revise the Standards of Competence for Hydrographic Surveyors	Italy	3
9	Revise IHO Publication M-3 – Repertory of IHO Resolutions	IHO Secretariat	1
10	Revise Article 13 (c) of the IHO Financial Regulations	Syrian Arab Republic	1
11	Adopt a Resolution on improving the availability of Bathymetric Data Worldwide	IHO Secretariat	3
12	Revise the IHO Resolution 4/1967 as amended – Submarine Cables	Germany	2
13	Discuss the future of the outdated IHO Special Publication S-23, taking into account the Report on Work to revise IHO Publication S-23 (April 2012)	Republic of Korea	1

PRO-1 - DISCUSS A WAY FORWARD FOR THE PUBLICATION OF A 4th EDITION OF IHO PUBLICATION S-23 AND INCLUDE IT IN THE NEXT “3-YEAR WORK PROGRAMME”

Submitted by: Democratic People’s Republic of Korea

PROPOSAL:

The Assembly is requested to discuss a way forward for the publication of a 4th Edition of IHO Publication S-23 and include it in the next “3-Year Work Programme”.

EXPLANATORY NOTE:

-We consider that IHO Publication S-23 is a vital and fundamental publication for the activities of not only mariners and cartographers but also non-experts, which provides them with correct knowledge about the names and limits of the oceans and seas.

-As a result of efforts made by IHO Member States over several decades for the publication of 4th edition of S-23, IHO gained a wealth of practical experience.

-There were many twists and turns in the process for the publication of 4th edition of S-23 but we recognize the value for being of S-23 and its positive role to international community, as the authoritative publication of IHO.

-Considering that the publication of 4th edition of S-23 is raised as the task that should not be delayed anymore for IHO,

Reminding the decision of 5th EIHC in October 2014 which stated that “The Conference agreed that the matter could be discussed again at the next Ordinary Conference/Assembly in 2017 if a proposal on the matter is made by any Member States”,

Democratic People’s Republic of Korea proposes to discuss the above mentioned proposal at the 1st session of the IHO Assembly.

MEMBER STATES’ COMMENTS

BRUNEI DARUSSALAM:

The proposed publication of the 4th Edition, IHO S-23 is obviously to update the long overdue 3rd Edition published in 1953. It is an important document to all member states to refer to.

CROATIA:

Croatia is unwilling to comment on this proposal. Croatia has already declared that the problem of IHO pub. S-23 is a technical issue, and that dispute over the names of the sea between the parties is primarily a political issue, therefore it should be addressed in that order.

JAPAN:

S-23 is a valuable document for all stakeholders, including the IHO and its Member States. However, the proposals submitted in the past to revise S-23 have been overly-politicized. Therefore, the IHO has not reached any agreement and the S-23 issue is not included in the present work programme of the IHO. Against this background, Japan has strong concerns that the past overly-politicized discussions on S-23 might be repeated if the S-23 issue were to be included in the next IHO work programme. Recalling the consultative and technical nature of the IHO, Japan believes that the S-23 issue should not be included in the work programme.

PAPUA NEW GUINEA:

Papua New Guinea is of the view that the current S-23 (3rd edition) is almost 60 years old (introduced in 1953) and seriously needs revisiting to include all the changes that have occurred during this period. The revision of the S-23 will help update the publication for good use of its intended users including international shipping.

Papua New Guinea strongly believes that the upcoming 1st Session of the IHO Assembly shall provide a great opportunity for holding a constructive and positive discussion on the future of S-23. This Member State has provided similar requests to the IHO via its letter to the IHB President on 16 March 2012.

The National Maritime Safety Authority of the Government of Papua New Guinea thanks the International Hydrographic Organization for its kind consideration of the above matter and fully supports the proposal submitted by the Member State (Republic of Korea).

RUSSIAN FEDERATION:

Russia does not support discussions on S- 23 during the Assembly

COMMENT OF THE IHO SECRETARIAT

See also PRO-13.

PRO-2 - DEVELOPMENT OF IHO E-LEARNING CAPACITY

Submitted by: France

Reference: IHO Capacity Building Strategy

PROPOSAL:

The Assembly is invited to examine and approve the following provisions:

- a. That the IRCC defines a strategy regarding on-line training,**
- b. That the IRCC pilots the implementation of this strategy in the capacity building programme.**

EXPLANATORY NOTE:

An increasing number of bodies propose on-line training (e-learning) for hydrography (for example: IMarEST and the University of Plymouth, Skilltrade) without any involvement or screening from the IHO. The IHO has not defined any policy in this area although it could provide a very interesting leverage for the capacity building programme. The necessary initial investment to develop a high-quality course could be rather quickly balanced by the savings gained compared to face-to-face training which generates significant traveling costs and time. The relatively moderate cost of an on-line training course would allow an increase in the number of proposed courses, thus responding to the increasing demands of training in certain sectors. Finally, for a modest additional initial investment, on-line training could be delivered in several languages, facilitating the availability of the education to a wider audience, which has to be an important objective of the capacity building programme.

Following the example of the Intergovernmental Oceanographic Commission which launched its portal "Ocean Teacher" the IHO could lead a deliberate action to develop a portal "Hydrography Teacher".

MEMBER STATES' COMMENTS**BRUNEI DARUSSALAM:**

Generally online training and face to face training in hydrography have their pros and cons. But as the nature of Hydrography like other kind of professions, it requires hands-on work. Therefore this limits (E-Learning) and the delivery of training to meet the objectives.

CROATIA:

Croatia supports this proposal.

DENMARK:

Denmark supports this proposal. It is suggested the strategy also takes into consideration the possibilities to include Spanish and French in the on-line training, and how to prioritise the different topics that could be included in on-line training.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA:

We consider that France raises an important issue in the IHO Capacity Building work.

It is considered that on-line training is an important task which benefits actually the IHO Capacity Building programme through a decrease in the number of one-to-one trainings, availability of education to more trainees and savings of travel costs.

We express our thanks to SHOM for the submission of such a useful proposal and fully support the consideration of this proposal at the first session of IHO Assembly.

FINLAND:

Finland is in favour.

FRANCE:

Proposal presented by France.

ITALY:

Italy supports the proposal. However, Italy wishes to note that practical, hands-on training is crucial for future hydrographers. This aspect must be carefully taken into account when developing e-learning solutions.

JAPAN:

Japan supports this proposal.

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

The UK supports implementing an online learning strategy and suggests a blended approach should be championed as an alternative to single source e-learning materiel.

IBSC CHAIR COMMENTS

The Board notes PRO-2 and awaits the decision of the Assembly.

PRO-3 - REVISION OF THE RESOLUTION ON RESPONSE TO DISASTERS

Submitted by: Japan

Reference: IHO Resolution 1/2005 as amended - *IHO Response to Marine Disasters, and Contribution to Prevention and Alert Systems (former K4.5)*

PROPOSAL:

It is proposed that IHO Resolution 1/2005, as amended – “IHO Response to Marine Disasters, and Contribution to Prevention and Alert Systems” be amended as attached.

EXPLANATORY NOTE:

1. Japan proposed the amendment of IHO resolution 1/2005 “IHO Responses to Disasters” at the XVIIIth International Hydrographic Conference held in April 2012 to add key elements to be taken by Member States for the immediate re-establishment of basic maritime transportation routes based on experiences of the Great East Japan Earthquake that occurred in March 2011, and the Conference agreed to amend the Resolution following the proposal.

2. After 2012, Japan continued to conduct re-surveys at each damaged port until September 2015 and plans to revise the nautical charts by the first half of 2017. In this process, Japan revised the chart datum at some affected ports because of the change of the ground level by post-seismic crustal deformation, and developed a rapid method to determine the chart datum utilizing GNSS techniques. Japan also established a system to provide graphical information for Notices to Mariners and Navigational Warnings based on experiences in the huge earthquake. In addition, between 2012 and 2015, Japan hosted the following meetings related to response to disasters.

- a) In August 2012: International Seminar on the Importance of Hydrographic Service against the Natural Disaster
- b) In November 2015: International Workshop on Tsunami Inundation Mapping (P-17 of the IHO Capacity Building Work Programme in 2015)

3. Furthermore, in March 2015, the UN 3rd World Conference on Disaster Risk Reduction (WCDRR) was held in Sendai, Japan, where the IHO representative delivered a statement, highlighting the important roles of hydrography in disaster risk reduction. The Conference adopted “the Sendai Framework for Disaster Risk Reduction 2015-2030” for disaster risk reduction. In the framework, key activities to be taken by States, regional and international organizations and other relevant stakeholder are described under the following four priority areas:

- a) Understanding disaster risk;
- b) Strengthening disaster risk governance to manage disaster risk;
- c) Investing in disaster risk reduction for resilience;
- d) Enhancing disaster preparedness for effective response, and “Building Back Better” in recovery, rehabilitation and reconstruction.

The framework also invites international organizations to consider and implement the key activities for disaster risk reduction as follows:

Sendai Framework for Disaster Risk Reduction 2015-2030

IV. Priorities for action:

"21. In their approach to disaster risk reduction, States, regional and international organizations and other relevant stakeholders should take into consideration the key activities listed under each of these four priorities and should implement them, as appropriate, taking into consideration respective capacities and capabilities, in line with national laws and regulations. "

4. Given the circumstances above, Japan proposes that IHO Resolution 1/2005, as amended – "IHO Response to Marine Disasters, and Contribution to Prevention and Alert Systems" be further amended in order to improve the relevant measures for disaster risk reduction.

The main purpose of the proposed amendment is to add descriptions to "1. Introduction" and "2. Procedures and Guidelines" in the Resolution with regard to the following items:

- a) To encourage cooperation in the development and implementation of restoration plans for affected coastal areas and preventive strategies for disaster risk reduction;
- b) To plan and organize capacity building activities to enhance disaster management;
- c) To consider and prepare support plans in advance for countries likely to be affected by future disasters;
- d) To take into consideration the long term impacts on ground level and depths of post-seismic crustal deformation caused by earthquakes;
- e) To participate in monitoring disaster risk and research and development activities;
- f) To promote the collection, analysis, management and use of relevant data for disaster risk reduction.

Attachment to PRO-3

IHO RESPONSE TO MARINE DISASTERS, AND CONTRIBUTION TO PREVENTION AND ALERT SYSTEMS	1/2005 as amended	29/2015	K4.5
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Note: The proposed amendments are highlighted in red.

1 Introduction

The 2004 and 2011 Indian Ocean and Japan tsunami not only severely affected local communities through the widespread loss of life and the extensive destruction of most facilities, but also severely affected safety of navigation through the destruction of port facilities and the creation of new navigational obstacles. A huge number of refugees were created and immediately suffered from shortages of food, water and fuel. In such circumstances support by sea transport was vital and depended on the immediate restoration of appropriate hydrographic and charting services.

Furthermore, various data and information obtained from hydrographic and charting activities are indispensable for the development of restoration plans for damaged coastal areas and for strategies for disaster risk reduction.

In order to reduce disaster risk, Hydrographic Offices should therefore plan to respond immediately after the occurrence of such severe disasters and participate in and cooperate in the development and implementation of the restoration plans for the damaged coastal areas and the strategies for disaster risk reduction within their area of responsibility, which may vary from Member State to Member State.

The International Hydrographic Organization, the Member States, and the Regional Hydrographic Commissions should also cooperate and coordinate their activities in relation to mitigation measures for significant disasters and for the improvement of the capacity of the Member States to cope with disasters, in cooperation with other international organizations as appropriate.

The International Hydrographic Organization, its Member States and the Regional Hydrographic Commissions should ensure that appropriate procedures and guidelines are in place so as to enable an immediate and appropriate response to any future disaster affecting coastal areas of the world.

These procedures should provide guidance to be followed at the national, regional and international levels within the over-arching structure of the IHO.

Such procedures and guidelines should aim to:

- ensure the immediate assessment of damage and its effect on the safety of navigation of national and international shipping,
- immediately inform mariners and other interested parties of relevant damage and any dangers, particularly with respect to navigational hazards,
- re-establish the basic key maritime transportation routes, and
- ensure that charts and other hydrographic information of affected areas are updated as soon as possible.

The procedures and guidelines should also identify the type of actions required and the likely support from Hydrographic Offices needed to recover from the damage as well as preventive measures, such as the improvement of capacity and capability for disaster management, development of disaster risk reduction strategies, and the monitoring and research and development activities for disaster risk reduction.

Appropriate global or regional actions can be co-ordinated through the IHB ("IHB" to be replaced with "IHO Secretariat" when the revised Convention enters into force), in liaison with the relevant Regional Hydrographic Commissions, IHO Member States, other Coastal States and relevant International Organizations, as appropriate to the circumstances, based on the general framework described in section 2 below.

It is also very important for Coastal States to collect relevant coastal and bathymetric data in their areas of responsibility and to make this available to the appropriate organizations to support the establishment and improvement of tsunami early warning systems, protection of coastal areas and relevant simulation studies. In particular, Coastal States should cooperate and support the IOC Tsunami Warning Programme (www.ioc-tsunami.org) in setting up sea-level and tide gauges networks, procedures and systems for the exchange and transmission of near real time sea-level data. One to five minute transmission of sea-level data, properly sampled (~1 min rather than 15 min or 1 h) is recommended for specific gauges likely to provide early warnings of tsunamis and storm surges. Any necessary regional cooperation for the collection of data can be coordinated through the Regional Hydrographic Commission with other States in the Region and regional bodies of other International Organizations as appropriate, such as the IOC.

2 Procedures and Guidelines

a) By Coastal States:

All Coastal States should have contingency plans developed in advance in order to be prepared in case a disaster occurs. After the occurrence of a disaster affecting coastal areas under its jurisdiction, each State should promulgate Maritime Safety Information and conduct a preliminary survey to confirm the principal transportation routes, according to the extent of the damage.

In response to the reconstruction of ports, each State should undertake hydrographic surveys so as to keep the charts updated. These actions should be coordinated with neighbouring States, Regional Hydrographic Commissions and others as appropriate.

Member States are requested to consider and prepare support plans in advance that can be implemented in the event of a significant disaster occurring in other countries.

It is important that each Coastal State provides both a senior point of contact and a working point of contact for communication and coordination purposes; this could include the Director of the Hydrographic Service or Maritime Safety Agency or other appropriate persons with the appropriate authority and who are familiar with maritime procedures.

Contingency plans should contain the following key elements:

- i) Immediately upon the occurrence of a disaster, including tsunami, promulgate appropriate navigational warnings and necessary information and advice to shipping through existing channels (e.g. NAVTEX, SafetyNET, etc...) using appropriate ways for the public to understand easily, such as graphical information on maps. In addition and following further monitoring and assessment, promulgate updated warnings, information and advice in accordance with the development of the event.
- ii) Co-operate with the NAVAREA Co-ordinator and other national co-ordinators so that warnings, information and advice can be made available to mariners beyond the area of national jurisdiction as soon as is practicable.
- iii) Assess the extent of damage to the coastal area particularly to ports, harbours, straits, approaches, and other restricted areas.
- iv) Assess, in co-operation with other national agencies, for example, lighthouse and port authorities, the extent of damage to navigational aids.
- v) Prioritize actions and allocate resources in order to identify requirements and undertake preliminary re-surveys starting with the most critical areas for navigation, aiming at ensuring the

passage of support and supplies through maritime channels and ports, and the marking of new dangers where necessary.

vi) Assess the specific effects on shipping of the existence of obstacles and any changes to the seafloor that can hinder navigation, taking full account of the effects of drifting obstacles which may also hinder preliminary survey results.

vii) Inform the Chair of the Regional Hydrographic Commission and the IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) of the situation, providing details of the damage, actions taken and indicating what support, if any, is needed. Furthermore, prepare procedures, equipment and materials to support the affected country.

viii) Take the following action to assess and define new hydrographic or cartographic requirements, including:

1. Conducting hydrographic surveys in harbours and approaches as soon as practicable wherever the depth is likely to have changed due to geomorphic change, obstacles, or accumulation of sediment. Surveys should be progressed incrementally in support of progress in reconstruction of port facilities.

2. Checking and confirming relevant benchmarks. Re-defining chart datum, if necessary.

3. Providing nautical information as soon as practicable. Providing chart correction information or new editions of charts incrementally according to priorities and available resources. Indicating newly surveyed areas in chart correction information or on new editions of charts in accordance with the relevant IHO chart specifications in order to highlight areas of more reliable information in areas where significant changes of depth have taken place.

4. In the case of an earthquake, the ground level may continue to change for many years due to post-seismic crustal deformation, which may accumulate and affect charted depths significantly. Therefore the change of water depths should be monitored regularly, even after the revision of the charts, especially when this kind of change is anticipated.

ix) Provide follow-up reports to the Chair of the Regional Hydrographic Commission and the IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force).

In anticipation of potential disasters, Coastal States are encouraged to take the following actions:

- i) To plan and organize capacity building activities to enhance disaster management in cooperation with other Member States and organizations as appropriate.
- ii) To participate in and cooperate with the development and implementation of a disaster risk reduction strategy in each coastal State incorporating the existing and available hydrographic and charting capabilities.
- iii) To participate in monitoring disaster risk, and research and development activities thereby incorporating the skills and knowledge of hydrographic offices, and
- iv) To promote the collection, analysis, management and use of relevant data for disaster risk reduction by using, as applicable, geospatial information technology.

b) By Regional Hydrographic Commissions:

The Chair of the Regional Hydrographic Commission will be responsible for co-ordinating the actions needed within the Region. In order to achieve this, the RHC should develop a ‘disaster’ action plan, aimed at supporting States in the area to assess the hydrographic damage, provide support and co-ordinate actions and efforts including capacity building, monitoring disaster risks, and research and development to enhance disaster management. These plans will be focused on the following:

- i) Communicating, by the quickest means available, with the focal points of the States in the Region, in order to make an initial evaluation of the extent of the damage.
 - ii) Deciding whether a Regional technical task team needs to visit States in the area to support the evaluation of the damage and support needed.
 - iii) Deciding, based on the information collected, whether an Extraordinary Meeting of the RHC is needed, in order to discuss in detail the problems, evaluate the damage and respond to requests for support.
 - iv) Deciding if the Chair needs to take a co-ordinating role in assessing damage, providing support and broadcasting information to mariners.
 - v) Informing the IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) on the situation, the actions taken and the need, if any, for external support.
 - vi) Monitoring the progress of the actions agreed in the area, keeping Member States in the Region and IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) informed accordingly.
 - viii) Including this issue as a permanent Agenda item on RHC meetings in order to monitor the readiness of the Commission to respond to disasters and conducting regular table-top exercises to evaluate the procedures.
- c) By the IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force):

The IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) will co-ordinate the actions required of Member States and Regional Hydrographic Commissions in order to assess damage and will co-operate with other International Organizations as appropriate to co-ordinate any external support required.

The IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) will coordinate with other International Organizations as appropriate to provide capacity building, monitoring and research and development to enhance disaster management.

The IHB (“IHB” to be replaced with “IHO Secretariat” when the revised Convention enters into force) will undertake the following tasks:

- i) Communicate with the Chairs of the Regional Hydrographic Commissions and, where necessary, directly with Member States in the region(s) affected, in order to collect information relating to the scale of the damage, actions taken, the support needed and the desirability of a regional meeting.
- ii) Participate as appropriate in meetings organized by the RHC or Member States, to determine problems and the actions required to remedy the situation
- iii) Co-operate with other International Organizations, informing them of matters affecting the safety of navigation, the needs of Member States, and actions taken and seeking where appropriate, support from these Organizations for the repair of the damage.
- iv) Invite other International Organizations to participate in Regional Meetings, in order to contribute to the discussions and to the required actions.
- v) Monitor developments and inform Member States on all issues associated with the damage, actions taken and support needed.
- vi) Investigate the willingness of Member States to provide support and co-ordinate the appropriate actions with the affected States in close co-operation with the Chair of the RHC.

vii) Participate in discussions at RHC meetings to monitor requirements, develop responses to possible disasters and test the procedures and readiness to respond by table-top exercises.

MEMBER STATES' COMMENTS

AUSTRALIA

1. Australia welcomes the proposal by Japan to review Resolution 1/2005, as amended, *IHO Response to Marine Disasters, and Contribution to Prevention and Alert Systems*. The comments provided by Australia are also made as Chair of the South West Pacific Hydrographic Commission (SWPHC), having discussed Japan's proposal during the SWPHC meeting in Nouméa in November this year. The comments provided are also made in the context of two recent SWPHC responses under the current Resolution to natural disasters caused by Severe Tropical Cyclones Pam (2015) and Winston (2016), which struck Vanuatu and Fiji, respectively.
2. Responses provided in the SWPHC to recent disasters, albeit similar disasters have varied slightly due to the nature of the impact on the affected countries, the nature of the support required, and the nature of the support requested. In the immediate 'response phase' to a disaster, the main matter to consider is 'where can the IHO Secretariat and RHC have the most positive impact and be of most assistance'. Similarly, in the longer term 'recovery phase' the RHC and IHO Secretariat should be looking at where resource allocation and support can best be delivered to address those matters that genuinely fall within the remit of the IHO and RHC. The reality of most disaster responses is that they do not generally follow a prescriptive list.
3. The nature of any response is also influenced by the capabilities of the region and the affected countries, and by the capabilities that may or may not be at the disposal of RHC members (i.e. specifically available to the Hydrographic Offices or other relevant hydrographic authorities). In this context, the prescriptive and directive language within the Resolution does not reflect the ability (i.e. the inability) of most RHCs, RHC Chairs, or the IHO Secretariat to undertake, or in some case even influence, the many activities detailed within the Resolution (both current and proposed).
4. Therefore, a more generic description of the IHO's commitment to disaster response would be more appropriate. This also then allows for a positive reflection on disaster response activities, as each would have been undertaken on their merits and within the available resources, rather than a list of activities that were not achieved due to a range of circumstances that were outside of the control of the IHO Secretariat and the RHC. In most cases many of the listed activities are outside of the role of the IHO Secretariat and the RHC.
5. In view of these comments and also acknowledging the genuine need to ensure the IHO Secretariat and the RHC can have the most positive impact and be of most assistance, Australia suggests, and considers appropriate, for the IRCC to be tasked with reviewing Resolution 1/2005, with appropriate input from RHCs and the IHO Secretariat, with a view to redrafting Resolution 1/2005.

CROATIA:

Croatia supports this proposal.

FINLAND:

Finland is in favour.

FRANCE:

The Japanese experience is very valuable, and the IHO Member States should give it their utmost consideration.

Nevertheless, mitigation and restoration measures may cover wide-ranging activities, some of which are beyond the scope of the IHO. More specifics, or examples in terms of what should be considered would be helpful. In that respect we could learn from recent experiences in the Pacific (Pam, Winston) and in the Greater Antilles (Matthew), to investigate what may have been missing. To this end, the preparation of support plans, including activation procedures, is a good idea (the commitment of resources implies a decision making process which goes beyond the scope of Regional Hydrographic Commissions – eg : Matthew in Haiti, where the lack of an official request for support from Haiti made it impossible for certain Member States to provide assistance). Finally, the main difficulty concerning the follow-up of the changes to the vertical datum after an earthquake is a real new issue (in hydrography), and it might be a subject matter for a HSSC WG (TWCWG?).

ITALY:

Italy thoroughly supports Japan's proposal.

NETHERLANDS:

The Netherlands, also in the capacity as outgoing Chair of the MACHC, thanks Japan for its proposed revision to the IHO Resolution 1/2005 on Response to Disasters.

The Netherlands note that the Resolution has been amended on several occasions and has become increasingly prescriptive by placing obligations and directions on the IHO Secretariat, the Chairs of RHC's and on HO's, for instance with contingency/action plans which suggest executive responsibilities. Moreover, the described responsibilities of coastal states, RHC's and the IHO Secretariat seem overlapping.

The RHC's as the MACHC, have been established in line with the (overarching) IHO resolution 2/1997 on the establishment of RHC's. The MACHC is advisory, scientific and technological in character with aims to promote hydrographic surveying, marine cartography and nautical information. In that sense it has no executive remit. The Chair of a RHC as the MACHC is not envisioned to have a standing 'Command and Control Capability' for disaster response.

IHO resolutions 1/2005 and 2/1997 are therefore not fully aligned. In a revision of IHO resolution 1/2005 this needs to be taken into account. Depending upon the circumstances of the disaster, the regions involved, and the resources of individual HO's and Chairs, many of the directives in IHO resolution 1/2005 cannot be achieved because of lack of resources, difficulties in communication, political or diplomatic protocols.

NETHERLANDS (contd):

A better lesson identified during the passage of Hurricane Matthew last October, is that the ambition level of what can be expected of a RHC should be realistic. The role of the Chair of the MACHC was essentially restricted to that of a broker of hydrographic demand (from the affected countries) and supply (by countries offering assets). For immediate disaster response this focused on supporting other relief activities as an enabler. During the subsequent recovery phase the main focus was updating charts and hydrographic information.

Another important lesson identified is the need for functioning channels. Effective hydrographic support predicated on diplomatic clearance to actually deploy the offered hydrographic assets in theatre. It was the responsibility of affected states to institute procedures to progress 'hydrographic' requests timely through their Nations Diplomatic channels. The Chair of the MACHC had no means to absorb these national responsibilities. The IHO resolution on Disaster Response should therefore also be outward looking and be placed in the proper diplomatic context.

Based on this very recent experience in relation to natural disasters in the MACHC region, and as supported by the 17th MACHC meeting in Belém, Brazil (14-17 December 2016), the Netherlands take the view that the Resolution does not continue to be overly prescriptive or place obligations upon the Chairs of all RHC's or the IHO Secretariat, or HO's, that they cannot fulfil for various reasons. Also, the Resolution needs to take into account other (overarching) resolutions and existing standing procedures to avoid friction and/or duplication.

The Netherlands therefore suggests that it would be appropriate to task the IRCC to take note of the input provided by Japan and this letter, and to seek the further opinion of the Chairs of the RHC's and the IHO Secretariat, with a view to completely redrafting the Resolution 1/2005 instead of continuing the current incremental approach. This work should assess the original needs and aims of the guidance with a view to creating a generic set of guidelines and best practices for consideration by RHC's when faced with a disaster in their region.

NEW ZEALAND:

New Zealand supports the amendments proposed by Japan.

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

UK welcomes the proposal to review the resolution on IHO Response to Disasters but is concerned that the document is now rather proscriptive and is not necessarily suited to meeting the differing demands of our individual Hydrographic Commissions each of which will have a unique set of issues to tackle with a varying capability and resource available to them to support such disaster response activity. The proposal contains useful recommendations and guidance but noting that this is a proposed further amend to the original documentation it may be better to task a subordinate body such as IRCC to review the original needs and aims of the guidance with a view to creating a truly generic set of guidelines and best practice recommendations that should be considered by Regional Commissions when faced with a disaster in their region.

PRO-4 - REWRITE OF THE IHO STRATEGIC PLAN

Submitted by: United Kingdom

- References:
- A. IHO CL 17/2016 dated 31 March - *Call for Submissions to update the IHO Strategic Plan*
 - B. IHO CL 31/2016 dated 11 July - *Responses to the call for submissions to update the IHO Strategic Plan*

PROPOSAL:

It is proposed to rewrite the IHO Strategic Plan.

EXPLANATORY NOTE:

In accordance with Reference A, the UK provided comments on the review of the 2009 IHO Strategic Plan for the Directing Committee to consider. The UK considered that a complete re-write of the Strategic Plan to reflect the many changes that have taken place over the last 7 years and the coming into force of the new IHO constitution would be the most appropriate way ahead.

Reference B, noted that five of the six contributions received from Member States could be accommodated through a modest revision of the current edition of the Strategic Plan and/or considered when preparing the draft IHO Work Programme 2018-2020.

Since the implementation of the IHO Strategic Plan in 2009, we know that the hydrographic domain has changed dramatically, particularly with the updated International Convention for the Safety Of Life At Sea (SOLAS) to allow for the carriage of electronic navigational charts. The pivotal role of the IHO in this area over the last seven years or so has been a key tenet to the successful uptake of ECDIS and ENC's. Similarly, the focus on hydrographic Capacity Building has contributed towards the drive for quality hydrographic data, and is, in our view, something which should be continued and invested in further.

In light of the above, the UK considers that a modest revision of the current edition of the Strategic Plan is not sufficient and continues to recommend a full rewrite of the Strategic Plan, to ensure it not only takes in account of the changes which have occurred since it was written, but also reflects and sets new priorities to enable progress against limited resource levels.

The work plan should clearly identify IHO strategic priorities and be flexible to deal with emerging requirements over the duration of the plan. With this in mind, and if a rewrite of the Strategic Plan is endorsed, we would like to offer our support to taking forward this work.

MEMBER STATES' COMMENTS**BRUNEI DARUSSALAM:**

A comprehensive revision of IHO Strategic Plan is thought to be essential especially due to the anticipation of fully utilizing ENC in the coming years. This certainly will add in some factors and information which contribute on safety of navigation as an example. Moreover as a new member such as Brunei Darussalam, a strategic plan in enhancing the capacity building will definitely give a positive impact in many aspects. The areas from conducting the survey to the production of charts and training for trainers in hydrography and cartography such as the recent training conducted by Korea Hydrographic and Oceanographic Agency (KHOA), are all vital and required.

CHILE:

We would like to express our support to the Proposal 4 submitted by the United Kingdom and we thank the UK for offering the work associated to rewrite the IHO Strategic Plan.

CROATIA:

Croatia supports this proposal.

DENMARK:

Denmark supports the proposal from UKHO and the need to rewrite the IHO Strategic Plan.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA:

We support UK proposal.

It takes into account that the current strategic plan might not fully represent the views of newly-joined IHO member states after 2009 when it was developed.

FRANCE:

Before embarking on rewriting the Strategic Plan, and devoting scarce resources to this exercise, the expected benefits must be identified.

A rewrite would be justified if new strategic priorities were identified beforehand and were at odds with the current directions, therefore making the current plan obsolete.

But the directions set out in the IHO Strategic Plan are still highly relevant and include in particular the objectives of improved knowledge (drive for global coverage, development of coastal States' capabilities), adequate hydrographic services and efficiency (for example through coordination, management of overlaps).

The proposal suggests that the directions be better prioritised and linked to the Work Programme. However, the relationship between the tasks of the Work Programme and the strategic directions is already addressed as all tasks refer to one or more strategic directions. The approval of the Work Programme, in principle, allows year on year prioritization of the efforts devoted to the various strategic directions. It is likely that the Council will have an important role to play in the future with regards to prioritization.

In conclusion, France could contribute to the consideration of potential new strategic directions but France believes that an overhaul of the document should be initiated only if new directions are identified. Improving the form or the structure of the existing document cannot alone justify investing the significant time that would be required to rewrite the Plan.

ITALY:

Italy agrees with the principle of the proposal. The strategic guidelines must be outlined during the Assembly to be further developed for approval by Member States.

NEW ZEALAND:

New Zealand supports this proposal.

RUSSIAN FEDERATION:

No objections.

UNITED KINGDOM:

The United Kingdom submitted this proposal therefore supports.

COMMENT OF THE IHO SECRETARIAT

As indicated in its report on the execution of Programme 1 (see document A.1/WP1/01), the Secretariat invites the Assembly to consider the proposed revised IHO Strategic Plan presented in document A.1/WP1/03.

PRO-5 - DEVELOPMENT OF AN IHO SATELLITE-DERIVED BATHYMETRY ASSESSMENT AND CHARTING PROGRAMME FOR AS YET UNCHARTED OR POORLY CHARTED AREAS

Submitted by: Canada, France, United States of America

- References:
- A. Decision n°17 of the XVIIIth International Hydrographic Conference: “... to progress whatever actions are required to improve the collection, quality and availability of hydrographic data worldwide, monitor and rectify possible deficiencies and shortcomings...”
 - B. Proposal 6 to the 5th Extraordinary International Hydrographic Conference “Development of an IHO satellite-derived bathymetry and charting programme for remote areas”
 - C. GEBCO Cook Book
(http://www.star.nesdis.noaa.gov/sod/lsa/GEBCO_Cookbook/documents/CookBook_20160727.pdf)

PROPOSAL:

The Assembly is requested to consider and approve the following:

That the Regional Hydrographic Commissions via the IRCC be requested to include as part of their work programmes an assessment of as yet uncharted or poorly charted areas in their respective regions using satellite derived bathymetry and risk assessment methodologies to develop survey priorities for donor funding consideration.

EXPLANATORY NOTE:

Satellite-derived bathymetry (SDB) has been an agenda item of several Regional Hydrographic Commissions (RHCs), CBSC and IRCC in recent years. This issue is a standing agenda item for IRCC meetings and for the conferences of several RHCs. This proposal seeks to encourage the RHCs to use SDB to prioritize regional survey requirements (see Reference A) that could then be reported to the WEND WG for tracking and the compilation of a global assessment of gaps. These results could then be considered by the IRCC and IHO in support of funding requests to donor organizations (UN Development Programme for example, with the results made available to the UN-GGIM under open licenses ; also the IHO Capacity Building Programme) to address the identified gaps.

Thanks to new technological developments and available sources of satellite information, SDB offers the possibility to assess in a reasonable time the quality of bathymetry over large areas that are poorly charted or charted a long time ago. Used in conjunction with risk assessment methodologies (identifying where greatest shipping traffic is located within poorly charted areas, for example), SDB would be of considerable value in giving coastal States a clearer view of the status of hydrography in the waters under their responsibility, and for establishing a focused hydrographic programme of obtaining certified quality data, based on priority requirements and an objective rationale derived from SDB reconnaissance information and a risk assessment.

From a capacity building perspective, this approach could be very relevant in countries where requirements for land surveying and environment monitoring have led to the development of remote sensing processing capabilities. Indeed, SDB should not be seen as an “all-in-one” solution, impeding the development of classic hydrographic surveying capabilities, even at the limited level required at least for critical areas and / or checking purposes. Nevertheless, the perspective of being able to collect, on a wide scale, a complete set of information usable for establishing a focused strategy for the modernization of nautical charts driven by risk assessment, in a reasonable amount of time and for a foreseeable cost, can be a strong driver for raising funding for regional chart improvement programmes.

At the EIHC-5 in 2014, a proposal on a scoping study on an IHO SDB programme (see Reference B) was discussed. Though the proposal was supported by several Member States,

with fruitful comments on technical, practical and legal aspects, the idea of an IHO programme was considered too ambitious a goal at the time, and the Conference agreed not to initiate a coordinated action on satellite-derived bathymetry.

The SDB has been assessed by several hydrographic services and commercial organizations in order to meet their own responsibilities or objectives. However, an assessment of the contribution of this technology to global safety of navigation is yet to be done. This includes those areas not under the direct responsibility of existing IHO Member States, but that may still be important for the risk assessment of navigation of ships under their flag, and could also be of particular interest to future IHO Member States.

MEMBER STATES' COMMENTS

BRUNEI DARUSSALAM:

Satellite-Derived Bathymetry (SDB) would be a good quality assurer to assess a certain area especially with regards to in the explanation statement in this proposal. Where the bathymetry of a large area as an example could be assessed by using SDB. Its advantage and also the strength of using satellite data could adequately check the area concerned and verify its bathymetry to the standard set out by IHO.

This SDB could be the economical and reliable approach to resolve problems to cover a large area and to cope with issues concerning poorly charted area.

CROATIA:

Croatia supports this proposal.

DENMARK:

Denmark supports the proposal.

FRANCE:

Proposal presented by Canada, France and USA.

ITALY:

Italy supports the proposal.

JAPAN

Japan supports this proposal.

NEW ZEALAND:

New Zealand (NZ) fully supports this proposal as the SWPHC NZ Pacific Regional Navigational Initiative (PRNI) work programme includes risk assessment and the use of SDB as a reconnaissance tool to assess the quality of bathymetry over large areas that are poorly charted.

NZ would like to know how this work programme would be funded.

NZ suggests that the prioritised regional survey requirements be reported to CBSC for tracking rather than the WEND WG as the CBSC is better placed to feed into IRCC and IHO funding requests to donor organisations.

RUSSIAN FEDERATION:

No objections.

UNITED KINGDOM:

The United Kingdom broadly supports using Satellite Derived Bathymetry (SDB) as a planning tool to aid the assessment of poorly charted areas with a view to directing more focused future hydrographic survey campaigns. The availability of open source 10m resolution Sentinel-2 satellite imagery is particularly encouraging in this respect. However, the importance of distinguishing this kind of planning/reconnaissance use of SDB as distinct from SDB survey for the direct purposes of compiling navigation charts should be emphasised. Whilst the need to verify the accuracy of SDB for planning purposes need not be as stringent as for its inclusion on SOLAS products, the IHO community would benefit from the establishment of an agreed best practice for this particular application.

PRO-6 - PROPOSED AMENDMENT TO THE IHO RESOLUTION 2/2007 FOR IMPROVING THE VALIDATION PROCEDURE OF MAKING CHANGES TO SPECIFICATIONS BASED ON S-100

Submitted by: Republic of Korea

- References:
- A. IHO Resolution 2/2007 as amended - *Principles and Procedures for making changes to IHO Technical Standards and Specifications*
 - B. IHO Publication S-100 - *IHO Universal Hydrographic Data Model*

PROPOSAL:

Recognizing the need to improve the test and validation procedure of making changes to specifications based on S-100, it is proposed to add the following to the IHO Resolution 2/2007:

- 1. Establish and run a test bed to test and validate the changes to S-100 based specifications.**
- 2. Share the results of running the test bed on the IHO website.**
- 3. A body for running the test bed is required to set detailed specifications for the following, which will subsequently need to be approved by the IHO technical committee.**
 - a. Composition and tasks of the organization for running the test bed**
 - b. Items and criteria of test phases**
 - c. Guidelines on inter-operability between specifications**
 - d. Any other specifications set forth by other technical committees**

EXPLANATORY NOTE:

1. The IHO Resolution 2/2007 is a mandatory resolution to refer to when making changes to IHO's specifications and it outlines the principles and procedures for doing so.
2. It also specifies principles and procedures for preventing problems which may occur when making changes to IHO's specifications. To name a few problems, they can be incompatibility between systems, high updating costs, market monopoly, dissatisfied users or increased risks to safety of navigation.
3. Nevertheless, since S-100 based product specifications enable not only traditional single information such as ENC's but also integrated services including tides, bathymetry, and marine meteorology on a single screen, it is anticipated that pre- assessment of impacts from making changes to amendments will be sophisticated. To supplement that, it is required to improve the existing test and validation procedure of making changes to specifications. Therefore it is necessary to add relevant articles to the IHO Resolution 2/2007.
4. Furthermore, it is difficult for Member States to determine the appropriateness of the changes because technical aspects such as data modelling of S-100 based specifications have been reinforced, compared to those from the past.
5. Subsequently, it is required to establish a system which shares the procedure and result of running the test bed on the IHO website so that it will help stakeholders understand changes to specifications.
6. The body which will be tasked to run the test bed is required to obtain prior approval by the IHO on its composition, tasks, roles, etc.

MEMBER STATES' COMMENTS

CROATIA:

Croatia supports this proposal.

DENMARK:

Denmark supports the proposal.

FRANCE:

France supports this proposal. Resolution 2/2007 has often been criticized for being cumbersome by certain IHO Working Groups (TSMAD, NCWG, etc.). S-100 products and their interoperability are taking us into a new era where a new mode of operation is required.

France recommends that the body responsible for the proposed test bed, be under the supervision of the S-100 Working Group (through expanding the terms of reference of the S-100 WG or establishing a Sub-Working Group).

ITALY:

Italy supports the proposal.

NEW ZEALAND:

Proposed Amendment to the IHO Resolution 2/2007 for Improving the Validation Procedure of Making Changes to Specifications Based on S-100

New Zealand supports this proposal.

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

The United Kingdom supports the need for a mechanism to test and validate changes to S-100 based product specifications and the idea that results should be posted on the IHO website. The IHO Resolution 2/2007 is not the appropriate mechanism and we propose that a new S-100 testing and approval standard is developed. This would cover the initial testing of a new product specification.

PRO-7 - NATIONAL HYDROGRAPHIC OFFICE IMPLICATIONS REGARDING THE UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT (UN-GGIM) SHARED GUIDING PRINCIPLES FOR GEOSPATIAL INFORMATION MANAGEMENT

Submitted by: United States of America

Supported by: Australia, Brazil, Canada, Croatia, Denmark, Netherlands, New Zealand, Norway

- References:
- A. UN-GGIM Working Group on Development of a Statement of Shared Principles for the Management of Geospatial Information, adopted Statement
URL:
<http://ggim.un.org/docs/meetings/GGIM5/statement%20of%20shared%20guiding%20principles%20flyer.pdf>
 - B. Report presented to the UN-GGIM, Fifth session, New York, 5-7 August 2015. <http://ggim.un.org/docs/meetings/GGIM5/E-C20-2015-10%20Statement%20of%20Shared%20Principles%20Report.pdf>
 - C. *A Comparative Study of the Development of Marine Spatial Data Infrastructure (MSDI) by IHO Member Nations*, January 2016, presented to the IHO MSDIWG.
 - D. IHO Publication C-17 - *Spatial Data Infrastructures: "The Marine Dimension" – Guidance for Hydrographic Offices*, Ed 2.0, April 2016 (Draft)
 - E. UN-GGIM Committee of Experts:
<http://ggim.un.org/docs/meetings/GGIM6/GGIM%206th%20Session%20-%20List%20of%20Participants%20as%20circulated.%20rev5.pdf>
and Regional Entities: <http://ggim.un.org/Regional%20Entities.html>

PROPOSAL:

The IHO Assembly is requested to consider the UN-GGIM “*Statement of Shared Guiding Principles for Geospatial Information Management*”, which emphasizes the importance of making all geospatial data available to a broad user community and managing it within a common framework. Hydrographic Offices are key providers of marine geospatial information that is highly valuable to many users beyond the traditional Safety of Navigation customers, yet the marine domain is not fully represented in the UN-GGIM considerations.

To address the issue of geospatial information management, the UN-GGIM conducted a wide ranging consultation and deliberation process with its Member States and geospatial experts that resulted in the creation of a statement of Shared Guiding Principles. IHO Member States are invited to consider how the UN-GGIM principles can be incorporated into national and international frameworks that govern how we operate.

The Assembly is invited to:

1. Note the UN-GGIM document, *The Statement of Shared Guiding Principles for Geospatial Information Management*.
2. Task the IRCC and its subsidiary bodies (RHCs, MSDIWG), in cooperation with the Secretariat of the IHO, to identify and recommend whatever actions may be required to incorporate the Shared Guiding Principles for Geospatial Information Management in their work programs, paying particular emphasis to the following:
 - a. Preamble (e): “*it is desirable that guiding principles are incorporated in the institutional frameworks that govern geospatial information organizations*”

and understood at all political levels and by all stakeholders in national authorities.”

- b. Innovation (e): *“Open data: where feasible adopt policies that maximize access to and use of open, free and unrestrictive geospatial information for innovation, efficient and effective decision making and a spatially enabled society.”*
- c. Governance (m): *“International cooperation and harmonization: engage in bilateral and multilateral cooperation in geospatial information management to foster effective and efficient geospatial data management systems in all Member States. Harmonization of national geospatial data and services at regional and global levels is encouraged in order to meet the needs of supranational users.”*

3. Encourage Member States to incorporate the principles into institutional frameworks that govern the collection, use, and dissemination of hydrographic data, products, and services.

4. Support the continued engagement of the Secretariat of the IHO with the UN-GGIM.

5. Encourage Member State HOs to liaise with their national representatives in UN-GGIM on best practices and to help ensure that ocean and coastal geospatial data is considered as an integral part of national SDI initiatives.

6. Encourage Member States and RHCs to engage with the UN-GGIM and its regional entities to raise awareness of the marine domain, any of its unique needs, and the value of the domain within any geospatial information management effort.

EXPLANATORY NOTE:

National Hydrographic Offices (HOs) have traditionally viewed their role as a provider of nautical charts to support efficient Safety of Navigation (SoN). This role will not change; however, there is a developing recognition that HOs are key providers of marine geospatial information, in all its forms, to a broad user community beyond traditional SoN customers. As national HOs, our collective data, products, and services form the baseline of reliable information that supports the concept of a Marine Spatial Data Infrastructure (MSDI). We are the authoritative, hydrographic, geospatial information managers for our nations, and with proper governance, maximizing access to this information will gain greater support from more users to spatially strengthen the various sectors of our national societies (e.g., commerce, navigation, scientific research, resource management).

UN-GGIM is playing a leading role in setting the agenda for the development of global geospatial information. It provides a forum to liaise and coordinate between UN Member States and international organizations. The mandate of the UN-GGIM is to provide a platform for the development of effective strategies on how to build and strengthen national capacity on geospatial information, as well as disseminating the best practices and experiences of national, regional and international bodies on geospatial information.¹

The mandate also includes overarching principles inherent in the professional practices of geospatial information management, including recognition of the broad societal need to make data widely accessible. Adherence to the mandate and the principles enhances the public trust in the value of hydrographic data to a variety of applications beyond traditional applications in the global marine transportation system. Operating with common principles and approaches to the management of marine geospatial information will allow national HOs to meet the needs of a broader community of marine data and information users.

¹ Adapted from UN-GGIM information.

To address the issue of geospatial information management, the UN-GGIM conducted a wide ranging consultation and deliberation process with its Member States and geospatial experts that resulted in the creation of a statement of Shared Guiding Principles. This document, *The Statement of Shared Guiding Principles for Geospatial Information Management*, has been adopted by the UN-GGIM for application to all geospatial data, including marine information created and maintained by national HOs.

HOs need to consider how the UN-GGIM principles can be incorporated into our national and international frameworks that govern how we operate.

MSDI is actively being discussed within the IRCC, the MSDIWG, and the Regional Hydrographic Commissions. IHO publication C-17 developed by the MSDIWG is undergoing an update based on the changing roles of HOs as data managers/providers, the current technological environment, and the latest best practices. It provides general guidance to HOs to consider regarding the implementation of MSDI. In 2016, Canada completed *A Comparative study on the development of Marine Spatial Data Infrastructure by IHO Member Nations*. The result was that many nations are making progress, but there is work to be done developing improved governance policies and supporting this effort across the marine community.

These topics are also part of the general discussions at the RHCs. Member States are invited to discuss how they are addressing these concepts within their national programs as some regional efforts are starting to make progress in meeting the needs of the wider community.

There is a clear need to link the marine geospatial management efforts with the land-focused efforts being considered by the UN-GGIM and other geospatial information management governance bodies. As can be seen from the UN-GGIM participant list, there are very few representatives from the global maritime domain.

MEMBER STATES' COMMENTS

CROATIA:

Croatia supports this proposal.

FINLAND:

Finland is in favour.

FRANCE:

France supports this proposal and recommends that the MSDIWG be more involved in the activities of the UN-GGIM, notably by studying the UN-GGIM reports in order to consider the transposition of the general principals to data produced by Hydrographic Offices.

This includes also aspects involving pricing policy and economic models in relation with the promotion of open data, an area which needs to be explored at the MSDIWG whilst taking into consideration "local" requirements (such as European policies on public sector information).

Recent exchanges with UN-GGIM Europe on the specifications for administrative boundaries, reveal, the importance of coordination to ensure convergence with the S-121 standard.

ITALY:

Italy supports the proposal. EC Regulations include a policy on open data and the IIM is working together with other Italian authorities on a draft of the relevant norms to comply with the new standards.

NEW ZEALAND:

New Zealand fully supports this proposal

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

The United Kingdom supports the need to note the UN-GGIM "Statement of shared guiding principles for geospatial information management" and agrees to the tasking of IRCC to identify actions required. However the proposal to encourage MS to incorporate the principles, is imprecise, without the guidance that will arise from the tasking of IRCC/MSDI/RHCs. UK supports the continued engagement of the secretariat and the encouragement of MS to liaise with national reps to UN-GGIM.

PRO-8 - REVISE THE STANDARDS OF COMPETENCE FOR HYDROGRAPHIC SURVEYORS

Submitted by: Italy

PROPOSAL:

The Assembly is requested to approve the preparation, under IHO Secretariat responsibility, of a questionnaire with the task of providing suggestions for the IBSC from Hydrographic Offices towards a new amended version of the Standards of Competence, in order to accommodate for the needs and demands of a world where hydrographers are employed in a wider range of activities - boundary delimitation, sea-related business, environment, etc. – and not just as cartographers.

EXPLANATORY NOTE:

1. Education is essential in creating and maintaining a modern hydrographic service. Over twenty IHO Member States offer more than thirty technical training programs in hydrography in compliance with IHO guidelines. In cooperation with the Fédération Internationale des Géomètres (FIG), and the International Cartographic Association (ICA), a comprehensive set of Standards of Competence for hydrographic surveyors and nautical cartographers have been drawn up, together with appropriate syllabi for the guidance of universities and teaching establishments. An International Board supervises the application of these standards. Three publications relating to education and training were issued:

- IHO Publication S-5 (S-5B and S-5A-draft): “*Standards of Competence for Hydrographic Surveyors*”;
- IHO Publication S-8: “*Standards of Competence for Nautical Cartographers*”;
- IHO Publication C-47: “*Courses in Hydrography and Nautical Cartography*”.

2. Capacity Building is considered by the IHO as a strategic objective, defined as the process by which the Organization assesses and assists in sustainable development and improvement of Countries, to meet IHO’s objects and the Hydrography, Cartography and Maritime Safety obligations and recommendations described in UNCLOS, SOLAS V and other international instruments. Also during the CBSC14 and IRCC8 some delegates from some Regions have put in evidence specific needs about training in their areas.

3. Italy fully supports the indication in CL 14/2013 (*...recognizes the benefit of feedback and contributions from the broad range of stakeholders in order to ensure that any revision of the existing standards take into account the requirements and expectations of the stakeholders...*) but feels that the present Standards of Competence have a rather academic approach particularly in the new category A draft version.

Italy feels that the latest IBSC proposal on training hydrographers skilled enough to work with competence across the full spectrum of their profession is in contrast with a general trend towards highly specialized professionals in given fields. No engineer can deal with IT, building, aerospace, mechanics and logistics at the same time. Likewise no hydrographer can possibly be equally proficient in remote sensing, nautical charting, port management and coastal engineering, data management, offshore geophysical surveying, military and inland waters hydrography.

4. The importance of international organizations in establishing appropriate standards and guidance is universally recognized. For over 90 years the IHO has consistently worked towards achieving maximum standardization in nautical products, services and surveys. IHO publications M and S series are an example.

5. Italy feels that a new approach to training hydrographers is required, offering modular and flexible solutions, also in view of innovative technical solutions such as Crowd Sourced Bathymetry, Remote Sensing etc. The IHO Secretariat should have an essential role in order to transfer the requirements emerging in the hydrographic community to the IBSC.

MEMBER STATES' COMMENTS**BRUNEI DARUSSALAM:**

Generally this process to revise and improve the standards of competence for hydrographic surveyors is something that should be done periodically or when necessary; as it will contribute eventually to the quality of the work done. As indicated in the proposal Remote Sensing needs to be considered in this new approach to training hydrographers it has already been included by leading institutions in hydrography and marine environment such as the University of Plymouth. The modules in Remote Sensing and GIS were integrated as one single module with the other modules and in the Category A accredited subjects offered for MSc in Hydrography at that university.

As an example, a surveyor from Brunei Survey Department, who recently completed this course, has experienced and acquired these skills. This is thought to be a complementary subject to the other typical modules that are essential to hydrography.

CROATIA:

Croatia supports this proposal.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA:

We agree with this proposal.

We consider that the establishment of appropriate standards of competence for hydrographic surveyor is a fundamental basis of quality control of charts.

DENMARK:

Denmark supports the proposal.

FINLAND:

Finland is in favour.

FRANCE:

Gaining feedback in order to adapt training to the needs of employers is essential. France considers:

- That a survey on this subject should not only aim at hydrographic offices but other employers too (public authorities, engineering consulting ...)
- Such a survey today would be premature considering the recent review of the standards of competence which does not allow sufficient experience of the new developments.

NEW ZEALAND:

New Zealand does not support this proposal.

The Standards encapsulate the fundamental competencies which allow for a wide range of specialisations. Organisations are free to refine their programme in alignment with a specialisation of their choosing by allocating additional hours. This offers greater flexibility than would be available through named specialisations.

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

The United Kingdom broadly supports this proposal, however noting the time pressures for delivering courses, it is suggested that few institutions will accept any additional Learning Outcomes in the syllabi without compensating reductions. This is certainly the UK view and this suggests any amendments to the standards of competence could prove a difficult exercise. Furthermore the suggestion for a new, modular approach to training is likely to prove an additional substantial body of work and in many respects would mark a return to previous S-5 option-based accreditation (albeit with updated modules) at a time when many institutions have geared themselves towards delivering the new S-5A and S-5B.

IBSC CHAIR COMMENTS

The Proposal as interpreted by the IBSC potentially undermines the philosophy and aim of the Standards of Competence.

The present Standards have been developed in open and consultative process with the relevant stakeholders in accord with the procedures of the parent bodies: IHO/FIG/ICA. In terms of the specific IHO process for the adoption of Standards, the IHC18 (2012) approved the new structure of the Standards and subsequently, in 2015/2016, Member States approved the S-5A and S-5B Standards.

It is worth reminding the Assembly that the removal of the Options and the Standards in no way inhibits institutions from developing options within their programmes that meet their own specific requirements.

Maintenance of the Standards over time routinely takes feedback into account from the experience of those delivering programmes and the Board takes any opportunity to interact with stakeholders.

PRO-9 - REVISE IHO PUBLICATION M-3 – REPERTORY OF IHO RESOLUTIONS

Submitted by: IHO Secretariat (Secretary-General)

Reference: IHO Publication M-3 - *Repertory of IHO Resolutions*, 2nd Edition - 2010, Updated to July 2015

PROPOSAL:

In order to reflect the new structure of the IHO as defined in the amendments to the Convention on the IHO and the other Basic Documents of the IHO that entered into force on 8 November 2016, the Assembly is requested to agree to:

- a. The editorial amendments to IHO Publication M-3 - *Repertory of IHO Resolutions*, 2nd Edition - 2010, Updated to July 2015, as set out in Annex A to this Proposal, and**
- b. The development of substantive amendments according to the proposals set out in Annex B.**

EXPLANATORY NOTE:

1. IHO Publication M-3 contains the repertory of IHO resolutions. The current edition is the 2nd Edition, 2010, updated to July 2015.
2. The implementation of the new structure of the IHO, as defined by the Protocol of amendments to the Convention on the IHO approved by the 3rd Extraordinary International Hydrographic Conference in 2005 (EIHC-3) and the other new Basic Documents of the IHO approved by the 17th International Hydrographic Conference in 2007 (IHC-17), and that entered into force on 8 November 2016, has an impact on a number of resolutions that need to be updated accordingly.
3. After a review of Publication M-3, the IHO Secretariat (Secretary-General) proposes a two-level approach.
4. The first level consists of straightforward editorial amendments reflecting the changes in the nomenclature of the Organization (for example the change from Conference to Assembly) and other similar minor, non-substantive adjustments. These proposed amendments are set out in Annex A.
5. The second level addresses several substantive amendments that reflect the requirements of the new organizational framework and other recent developments and that have a significant impact on the content or scope of the relevant resolutions. These substantive amendments are identified in Annex B with proposals for revised texts or for further work as appropriate.

Annex A to PRO-9
Proposed Editorial Amendments to IHO Resolutions

Title	Reference	Last amendment (CL or IHC)	1 st Edition Reference
VISITS TO IHB BY HEADS OF HYDROGRAPHIC OFFICES	6/1972 as amended	13/1997	T1.4
Replace "IHB" with "IHO Secretariat". Replace "Conference" with "Assembly."			
LANGUAGES USED IN CORRESPONDENCE WITH THE BUREAU AND AMONG MEMBER STATES	13/1962 as amended	IHC 15	T1.6
Replace "Bureau" with "IHO Secretariat".			
MEMBERSHIP IN IHO AND CO-ORDINATION OF HYDROGRAPHIC SERVICES THROUGHOUT THE WORLD	5/1952 as amended	72/2009	T2.2
Amend the text as follows: The Conference is IHO Member States are aware that certain countries with important hydrographic interests are not yet Members of the IHO. In this connection, the delegates in plenary session expressed the unanimous opinion that t The co-operation of these countries would result in a considerable and increasingly effective co-ordination of hydrographic services throughout the world, a co-ordination which would lead to a greater degree of standardization of charts and nautical documents and would considerably improve the theory and practice of the science of hydrography. 2 Furthermore, it is strongly recommended that the IHB Secretary-General and Directors stimulate in all States without Hydrographic Offices an interest in, and an appreciation of the importance of, setting up such an organization in their country.			
SECONDMENT OF PERSONNEL FROM MEMBER STATES TO THE IHB	3/1987 as amended	54/2008	T4.2
Replace "IHB staff/Staff" with "Secretariat Staff". Replace "International Hydrographic Bureau (IHB)" with "IHO Secretariat". Replace "IHB" with "Secretariat". Replace "Directing Committee" with "Secretary-General". Replace "a Director" with "the Secretary-General or a Director". Replace "IHB Pension and Medical care schemes" with "Pension and Medical care schemes of the IHO". Replace "the President, IHB on behalf of the Directing Committee" with "the Secretary-General".			
PRACTICAL IMPLEMENTATION OF VOTING PROCESSES			T6
Amend the text as follows: In considering the Report provided by the IHO Legal Advisory Committee (LAC)¹, Member States decided that the following meanings should be used to determine the two-thirds majority required for the voting procedures under Articles XX and paragraph 3c of Article XXI of the IHO Convention as amended:			
DETERMINING THE MAJORITY REQUIRED TO APPROVE AMENDMENTS TO THE CONVENTION	1/2009		T6.1
Amend the text as follows: In order to determine the majority required to approve the entry into force of an amendment to the Convention in accordance with paragraph 3c of Article XXI of the Convention, the expression " approval by two-thirds of the Contracting Parties after notifications of consent to be bound by two-thirds of the Member States have been received by the Depository " shall be interpreted as meaning two-thirds of the Contracting Parties <u>Member States</u> entitled to vote at the time of the approval by the Conference <u>Assembly</u> .			

DETERMINING THE MAJORITY REQUIRED TO APPROVE ADMISSION TO THE IHO	2/2009		T6.2
Replace "Member Governments" and "Contracting Parties" with "Member States".			
THE PRINCE ALBERT 1 ST MEDAL FOR HYDROGRAPHY	2/2014	EIHC 5	-
Amend paragraph 1 as follows: (...) The Medal is had always been presented by the Prince of Monaco himself during the Opening Ceremony of the ordinary International Hydrographic Conferences. (...) Implement the changes as already indicated in paragraphs 2, 3 and 4.			
LIQUIDITY OF THE IHB	3/1972 as amended	FCCL6/2003	R1.1
Amend the title as follows: Liquidity of the IHB IHO Secretariat Amend the text as follows: It is resolved that in complying with Article 18 of the Financial Regulations the term " operating cash reserve emergency reserve fund " shall be understood to include only those amounts of money which are available to the IHB IHO Secretariat for current operating expenses, and shall specifically exclude all money which is part of the Staff Internal Retirement Fund and all money held in special funds against specific future requirements, e.g. for I.H. Conferences Assemblies , re-location of IHB Directors Internationally Recruited Members of Staff , renovation and re-equipment of IHB the Secretariat . The term shall also exclude any cash arising from contributions paid in advance.			
TANGIBLE ASSETS OF THE BUREAU	8/1947 as amended	FCCL1/2003	R1.3
Replace "Bureau" with "IHO Secretariat". Replace "every five years" with "every three years".			
INTEREST ON BUREAU FUNDS	8/1926 as amended	IHC 14	R1.4
Amend the title as follows: Interest on Bureau IHO Funds. Amend the text as follows: The inactive funds of the IHB IHO should be placed in interest-bearing deposit accounts in reputable banks, convenient for the financial administration of the Bureau IHO Secretariat .			
ROUTINE INCOME OTHER THAN CONTRIBUTIONS	4/1972		R1.7
Replace "Directing Committee" with "Secretary-General".			
EXTERNAL AUDIT - GENERAL PROVISIONS	1/2004		R5.1
Amend the text as follows: The audit shall be conducted yearly in conformity with Generally Accepted Accounting Principles. The Finance Committee, the Council or the Conference Assembly may request the External Auditor to perform certain specific examinations. Nevertheless, the External Auditor shall be completely independent and solely responsible for the conduct of the audit. At the request of the Council , the Finance Committee or the Directing Committee Secretary-General , such auditing may be carried out at any time. The Directing Committee Secretary-General shall provide the External Auditor with the facilities he that they may require in the performance of the audit.			
SHIPS' ROUTEING	1/1980 as amended	29/2009	A1.17
Replace "IHB" with "IHO Secretariat".			

PRINCIPLES AND PROCEDURES FOR MAKING CHANGES TO IHO TECHNICAL STANDARDS AND SPECIFICATIONS	2/2007	69/2014	A1.21
<p>Replace "IHB" with "IHO Secretariat".</p> <p>Replace "Member States" with "Member States through the Council"</p> <p>Amend clause 3.2.8 as follows:</p> <p>3.2.8 After endorsement by the Committee <u>and the Council</u>, the new or changed standard should be submitted to Member States by the IHB <u>IHO Secretariat</u> for approval of the content, and confirmation of the "effective date".</p> <p>and amend the diagram in clause 3.2 and the flow chart in clause 5.3 accordingly.</p> <p>Update the column "relevant maintenance body" in Appendix 1 according to the new structure of HSSC working groups.</p>			
HYDROGRAPHIC OFFICE ARRANGEMENTS FOR THE EXCHANGE AND REPRODUCTION OF NAUTICAL PRODUCTS	7/1919 as amended	8/1995	A3.4
<p>In the note, replace "TR" with "Resolution".</p> <p>In clause 7, replace "International Hydrographic Bureau" with "IHO Secretariat".</p>			
INTERNATIONAL STANDARDIZATION OF GEOGRAPHICAL NAMES	1/1972 as amended	8/1974	A4.2
Replace "IHB" and "Bureau" with "IHO Secretariat".			
NAMING OF UNDERSEA FEATURES	2/1987 as amended	59/1991	A4.3
Replace "IHB" with "IHO Secretariat".			
HISTORICAL ACCOUNTS OF HYDROGRAPHIC OFFICES	30/1919 as amended	59/1991	H1.2
Replace "IHB" and "Bureau" with "IHO Secretariat".			
MARINE SPATIAL DATA INFRASTRUCTURE (MSDI) POLICY	5/2009		K4.7
Replace "Special Publication" with "IHO Publication".			
CENTRALIZATION OF OCEANIC SOUNDINGS	3/1929 as amended	85/2008	A5.3
<p>Replace "IHB" with "IHO Secretariat".</p> <p>In clause 1, replace "GEBCO Guidelines (IHO Publication B-7)" with "GEBCO Cook Book (IHO Publication B-11)".</p>			
EXTENSION OF WORLD NETWORK OF TIDAL OBSERVATIONS	5/1932 as amended	19/2008	A6.4
Replace "IHB" with "IHO Secretariat".			
STUDY OF MEAN SEA LEVEL	6/1932 as amended	20/2012	A6.5
Replace "IHB" with "IHO Secretariat".			
IHO TRANSFER STANDARD FOR DIGITAL HYDROGRAPHIC DATA	1/1987 as amended	35/1996	A3.7
<p>Replace "IHB" with "IHO Secretariat".</p> <p>Replace "a Transfer Standard Maintenance and Application Development (TSMAD) Working Group" with "an ENC Standards Maintenance Working Group (ENCWG)".</p>			
IHO DATA PROTECTION SCHEME S-63	1/2007		A3.12
Replace "the IHB, as the IHO Secretariat" with "the IHO Secretariat".			
THE IMPORTANCE OF RESOLVING ISSUES RELATED TO THE FUNCTIONING OF THE "ECDIS-ENC SYSTEM"	1/2012	IHC 18	-
Replace "Bureau" with "IHO Secretariat".			

REGULATIONS OF THE IHO FOR INTERNATIONAL (INT) CHARTS AND CHART SPECIFICATIONS OF THE IHO	11/2002 as amended	75/2003	B5.6
Amend clause 3 as follows: It is resolved that the IHB IHO Hydrographic Services and Standards Committee (HSSC), through the Chart Standardization and Paper Chart Working Group (CSPCWG) appropriate working group , keep publication S-4 under review in order to advise the IHO on their updating. Member States having proposals to update S-4 should forward them to the CSPCWG working group through the I.H. Bureau IHO Secretariat.			
FREE DISTRIBUTION AND SALE OF IHO PUBLICATIONS	10/1937 as amended	39/2009	R4.1
Amend clause 1 c) as follows: c) One copy to former Presidents, Secretaries-General and Directors of the IHB , if requested. Replace "IHB" with "IHO Secretariat". Replace "Directing Committee" with "Secretary-General".			
TRANSLATION OF IHO PUBLICATIONS	2/2008		R4.2
Replace "IHB" with "IHO Secretariat".			
DOCUMENTATION	12/1962 as amended	EIHC 5	T1.5
Replace "IHB" and "Bureau" with "IHO Secretariat". Replace "Category B Staff" with "Locally Recruited Members of Staff".			
HYDROGRAPHIC DICTIONARY (S-32)	7/1929 as amended	32/2010	K3.3
Replace "IHB" with "IHO Secretariat".			
STATUS OF HYDROGRAPHIC SURVEYING AND NAUTICAL CHARTING WORLD WIDE	1/2010		A1.22
Replace "IHB" with "IHO Secretariat".			
REPORTS OF PROCEEDINGS OF I.H. CONFERENCES	9/1929 as amended	72/2009	Q2.4
Amend the title as follows: Report of Proceedings of I.H. Conferences <u>Assembly sessions and Council meetings</u> Amend the text as follows: The Proceedings of International Hydrographic Conferences <u>Assembly sessions and Council meetings</u> will be prepared by the IHB IHO Secretariat and shall comprise summary reports records of the different sessions of the Conference <u>all meetings</u> . It will be made available in digital form after the Conference <u>Assembly</u> . The IHB IHO Secretariat will prepare a limited number of printed copies for the IHB IHO Secretariat Library. in accordance with rule 20 of the Rules of Procedure of the Assembly and rule 16 of the Rules of Procedure of the Council.			
INTERNATIONAL HYDROGRAPHIC REVIEW	6/2009 as amended	EIHC 5	Q2.5
In paragraph 1, replace "the International Hydrographic Bureau (IHB)" with "the International Hydrographic Bureau (IHB) (now IHO Secretariat)". Replace "IHB Directing Committee" with "Secretary-General". Replace "IHB" with "IHO Secretariat".			
REPERTORY OF RESOLUTIONS	13/1932 as amended	72/2009	Q3.1
Amend the text as follows: 1 All resolutions adopted by I.H. Conference <u>the Assembly</u> or by correspondence shall be compiled in one volume. 2 It is resolved that the IHB IHO Secretariat shall keep the Repertory of Resolutions up to date by periodically submitting, through circular letters to Member States, amendments to existing resolutions and new resolutions on any subject, provided that they do not concern matters which would be more appropriately handled by Conferences <u>the Assembly through the Council</u> . These amendments or new resolutions may be proposed either by a Member State or by the Council <u>or by the IHB Secretary-General</u> .			

3 It is strongly recommended that the IHO Hydrographic Dictionary be used to standardize terminology of the Resolutions.			
GENERAL REGULATIONS OF THE IHO	6/1967 as amended	72/2009	Q3.3
FINANCIAL REGULATIONS OF THE IHO	6/1967 as amended	72/2009	Q3.4
IHO BASIC DOCUMENTS	5/1977 as amended	72/2009	Q3.5
Replace with a single resolution as follows: Basic Documents of the IHO 1. Subsequently to the approval of a Protocol of amendments to the Convention on the IHO in 2005, the 17 th International Hydrographic Conference in 2007 approved the text of a revised set of rules, comprising the General and Financial Regulations and the Rules of Procedure, that contained a number of detailed provisions intended to supplement the provisions of the Convention as amended by the Protocol. 2. These rules are kept updated through review and revision by Member States and the IHO Secretariat, through the Council and published as a single document (IHO Publication M-1) containing the Convention, the General and Financial Regulations, the Rules of Procedure and the Host Agreement between the Organization and the Government of the Principality of Monaco.			
IHO RESPONSE TO DISASTERS	1/2005 as amended	29/2015	K4.5
Replace "IHB" with "IHO Secretariat".			
HYDROGRAPHY AND CARTOGRAPHY OF NAVIGABLE INLAND WATERS	4/2009		K4.6
Replace "International Hydrographic Bureau (IHB)" with "IHO Secretariat".			
TECHNICAL ASSISTANCE AND COOPERATION IN THE FIELD OF HYDROGRAPHY	2/1972 as amended	35/1996	K4.1
Replace "Articles II and VIII(e)" with "Article II (c)". Replace "IHB" and "Bureau" with "IHO Secretariat". Amend clause 3 as follows: The Directing Committee <u>Secretary-General</u> is invited to report annually to Member States through the Council on measures taken regarding the above-mentioned actions.			
TRAINING AND TECHNICAL ASSISTANCE TO DEVELOPING COUNTRIES	4/1977 as amended	17/2008	K4.3
Replace "IHB" with "IHO Secretariat". Delete ", in accordance with Article VIII of the Convention".			
TECHNICAL ASPECTS OF THE LAW OF THE SEA	2/1992 as amended	28/2008	K4.4
Replace "IHB" with "IHO Secretariat".			
THE CAPACITY BUILDING FUND	5/2004 as amended	17/2008	R6.2
Replace "IHB" with "IHO Secretariat".			
PROCEDURES OF THE CAPACITY BUILDING FUND	7/2004 as amended	17/2005	R6.4
Amend clause 1 as follows: 1 IHO Member States, preferably through the RHC Chairmen <u>Chairs</u> , shall report to the CBC <u>Chairman of the Capacity Building Sub Committee (CBSC)</u> at via the IHB IHO Secretariat, no later than April each year, on the main capacity building initiatives needing financial support. The needs shall be clearly identified as well as the regional priority assigned. In clauses 2 to 4: Replace "CBC" with "CBSC". Replace "Conference" with "Assembly". Replace "IHB" with "IHO Secretariat". Replace "Capacity Building Committee" with "Capacity Building Sub-Committee".			

Annex B to PRO-9
Proposed Procedures for the Preparation of Substantive Amendments to IHO Resolutions

Title	Reference	Last amendment (CL or IHC)	1 st Edition Reference
IHO RELATIONS WITH OTHER ORGANIZATIONS	5/1957 as amended	72/2009	T1.2
Purpose: to reflect the prerogatives of the Council in accordance with Article VI g (ix) of the revised Convention. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
QUESTIONS DEALT WITH BY THE BUREAU BY CORRESPONDENCE	1/1969 as amended	43/1970	T2.1
Purpose: to reflect that the references mentioned in article 1 are no longer valid. Procedure: Secretary-General to submit a proposal (a draft revised resolution or revocation) to the first meeting of the Council.			
PROCEDURE FOR ELECTION OF A DIRECTOR BY CORRESPONDENCE	9/1967 as amended	35/1996	T3.1
Purpose: to reflect the change to Secretary-General and Directors and the terms of Article 25 of the new General Regulations. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
PLANNING CYCLE	12/2002 as amended	EIHC 4	T5.1
Replace with the version approved by Decision 4 of the EIHC-4 (see text in Appendix 1).			
TONNAGE FIGURES	5/1972 as amended	35/1996	R2.1
Purpose: to reflect the new provisions of article 6 of the new Financial Regulations. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
HISTORIC RECORD OF THE VALUE OF A SHARE OF IHO CONTRIBUTIONS	9/1937 as amended	IHC 14	R3.1
Noting that the record of the value of the share is provided in the Finance Report to the Conference / Assembly, it is proposed to revoke this resolution.			
EXTERNAL AUDIT – REPORTS	3/2004		R5.3
Noting that the provisions are superseded by article 19 d of the new Financial Regulations, it is proposed to revoke this resolution.			
GUIDING PRINCIPLES FOR IHO FUNDS	1/2014	33/2014	-
Purpose: to take into account the role of the Council and to reflect the provisions of the revised IHO Staff Regulations if and when approved. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
PREPARATIONS FOR INTERNATIONAL HYDROGRAPHIC CONFERENCES	4/1957 as amended	72/2009	S1.1
Purpose: to reflect the new Rules of Procedure of the Assembly and consider extending the scope of the resolution to include preparations for meetings of the Council. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
CHECKING OF PROPOSALS SUBMITTED BY MEMBER STATES	8/1967 as amended	23/1970	S1.3
Purpose: to consider extending the scope of the resolution to incorporate proposals submitted to the Council. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			

ADOPTION OF THE CONCLUDING PROCEDURE	1/1965 as amended	IHC 9	S2.3
Purpose: to consider extending the scope to include the meetings of the Council and the Finance Committee. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
POSSIBILITY OF CONSIDERING A WITHDRAWN PROPOSAL	2/1965 as amended	IHC 9	S2.4
Purpose: to consider extending the scope of the resolution to include the meetings of the Council and Finance Committee. Procedure: Secretary-General to submit a draft revised resolution to the first meeting of the Council.			
REGIONAL SCHEMING OF INT CHARTS	2/1982 as amended	CHRIS 20	B5.4
Noting that the provisions of this resolution are superseded by Part A of IHO Publication S-11 - <i>Guidance for the Preparation and Maintenance of International Chart Schemes and Catalogue of International (INT) Charts</i> , it is proposed to revoke this resolution.			
MONITORING OF INT CHARTS	1/1992		B5.5
This resolution is under review by the Inter-Regional Coordination Committee (IRCC) in accordance with Decision No. 2 of the EIHC-5.			
LIMITS OF OCEANS AND SEAS (S-23)	32/1919 as amended	IHC 11	K3.2
This resolution is in abeyance in accordance with Decision No. 10 of the IHC-17. Any revision would be subject to a decision of the Assembly on related proposal(s) noting Decision No. 5 of the EIHC-5.			
GEOGRAPHICAL SEQUENCE OF STATIONS	8/1932 as amended	IHC 9	E2.2
Purpose: to reflect changes to the names of countries listed in the resolution. Procedure: HSSC to include the revision of the resolution in its Work Plan and report to the Council.			
ESTABLISHMENT OF REGIONAL HYDROGRAPHIC COMMISSIONS (RHC)	2/1997 as amended	69/2010	T1.3
Purpose: to ensure consistency with article 8 of the new General Regulations. Procedure: IRCC to include the revision of the resolution in its Work Plan and report to the Council.			

Annex B to PRO-9

Appendix 1

PLANNING CYCLE	12/2002 as amended	EIHC 4	T5.1
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The Organization shall prepare two plans to guide its work.

The Strategic Plan shall be for an indefinite period, and shall be reviewed at each ordinary session of the Assembly.

The 3-year Work Programme shall look three years ahead, and shall be reviewed annually.

Planning Cycle for the Strategic Plan

Y-12 (Apr): The Secretary-General invites MS, HSSC and IRCC to submit proposals to update the Strategic Plan.

Y-08 (Aug): The Secretary-General circulates proposals on strategic issues to all MS.

Y-05 (Nov): MS provide comments to the Secretary-General in relation to the proposals.

Y-04 (Dec): The Council reviews the comments and drafts a proposal to confirm, amend or revise the Strategic Plan.

Y (Apr): At the Assembly, the Council proposal is discussed, amended and decided upon in Plenary.

Y+02 (Jun): The Secretary-General circulates the updated Strategic Plan to MS.

Notes:

1) Rules of Procedure of the Assembly No. 4 and No. 9 apply.

2) "Y" means the year of the ordinary session of the Assembly, and the numbers are months before (-) or after (+).

Planning Cycle for the 3-year Work Programme

The 3-year Work Programme will be reviewed on a yearly basis.

Y (Jan): The corresponding Annual Programme enters in force.

Y+04 (Apr): The Council evaluates the accomplishment of the preceding year's Work Programme, and reports to MS, through the "IHO Annual Report", reviews the Work Programme upcoming years, proposing changes (if needed) to the Programme in force and budgetary adjustments issuing from those changes, within the limits of the approved 3-year Budget.

Y+06 (Jun): MS provide the Secretary-General with comments and proposals, if any, for changes to the Programme in force.

Y+08 (Aug): The Secretary-General submits to the Council for approval the draft Programme and Budget for the upcoming year.

Y+12 (Dec): The Council approves the draft Programme and Budget and the Secretary-General issues CL with the final version of the Programme and Budget.

Y+12 (Jan): The corresponding Annual Programme enters into force, and the Cycle is repeated.

During Assembly years, Article V (e) (v) of the Convention will apply and the Council will submit the new Work Programme and associated 3-year budget for the intersessional period 4 months before the opening of the session. The Work Programme and proposed 3-year Budget will be discussed and approved by the Assembly and will enter into force on 1st January of the year following the session. Then the Planning Cycle as described above will apply.

Note: "Y" means years.

MEMBER STATES' COMMENTS

CHILE:

We support Proposal 9 submitted by the IHO Secretariat. We consider it is convenient to revise and update resolutions as found necessary.

CROATIA:

Croatia supports this proposal.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA:

We agree with this proposal.

We take note of the second level approach among the approaches of 2 levels proposed by IHO Secretariat (Secretary-General) and we intend to provide our comment at the 1st Session of the IHO Assembly.

DENMARK:

Denmark supports the proposal.

FINLAND:

In favour.

FRANCE:

In favour.

ITALY:

Italy supports the proposal.

NEW ZEALAND:

New Zealand supports this proposal.

RUSSIAN FEDERATION:

No objections.

SPAIN:

Spain supports this proposal.

UNITED KINGDOM:

The United Kingdom supports this proposal.

COMMENT OF THE IHO SECRETARIAT

As indicated in its report on the execution of Programme 1 (see document A.1/WP1/01), the Secretariat invites the Assembly to consider a proposed further revision of IHO Resolution 12/2002 – *Planning Cycle* presented in document A.1/WP1/04.

PRO-10 - PROPOSAL TO REVISE ARTICLE 13(c) OF THE FINANCIAL REGULATIONS OF THE IHO

Submitted by: Syrian Arab Republic

PROPOSAL:

To revise Article 13 of the Financial Regulations of the IHO by deleting Article 13(c) regarding the application of interest on the late payment of annual financial contributions from Member States:

~~*13(c) Annual contributions or portions thereof not paid before 1 January of the succeeding financial year shall be increased by interest from that date at the rate of one per cent for each month or portion thereof.*~~

EXPLANATORY NOTE:

1. Article 13(c) of the former Financial Regulations of the IHO states:

13(c) Annual contributions or portions thereof not paid before 1 January of the succeeding financial year shall be increased by interest from that date at the rate of one per cent for each month or portion thereof.

A similar provision is included in Article 13 of the new Financial Regulations that entered into force on 8 November 2016:

13(c) Annual contributions or portions thereof not paid before 1 January of the succeeding financial year shall from that date be subject to simple interest at the rate of one per cent for each month that they remain unpaid.

2. As part of settling its outstanding debt, the Syrian Arab Republic recently requested an exemption from paying interest on its outstanding financial contributions as required by Article 13(c) of the Financial Regulations. The IHO Secretariat brought this matter to the attention of the Officers of the Finance Committee (Chair and Vice Chair of the Finance Committee) at their meetings in April and November 2016.

3. The Finance Committee Officers took note of the request from the Member State and observed that levying interest on outstanding debts may not always serve a meaningful purpose in ensuring timely payment of debts because in many cases late payment is caused by economic, geopolitical or administrative factors that are beyond the control of the Member States' representatives. The threat of suspension appears to be the principal catalyst for action.

4. The Finance Committee Officers concluded that the matter might be considered further by the Assembly in April 2017 if the Member State wished to pursue the matter.

5. The IHO Annual Report 2015 - Part 2 - *Finances* indicates that a provision of 22.5k€ was made in 2015 to account for the outstanding interest charges due from the Member States that had settled their contributions in arrears. The interest remaining due at the end of 2015 stands at 4.6k€ after depreciation.

6. The following UN bodies with which the IHO has close association: the IMO, IAEA and ISA, have a similar mechanism to the IHO to suspend the voting rights of Members that are in arrears. However, none of these organizations levy interest on outstanding or late payment of annual financial contributions.

7. Taking into account the situation described above, it is proposed that the Assembly consider cancelling the current requirement to levy interest on the annual financial contributions of Member States that are in arrears by:

- a. **Withdrawing** Article 13(c) of the Financial Regulations, and
- b. **Writing off** the outstanding interest on late payments shown in the accounts of the IHO.

MEMBER STATES' COMMENTS

CROATIA:

Croatia supports this proposal.

FRANCE:

Under consideration.

MAURITIUS:

Mauritius supports the waiver of outstanding interest rates on late payment of the annual financial from Member States as proposed by the Syrian Arab Republic in Assembly Circular Letter 10 bis -1.

RUSSIAN FEDERATION:

No objections.

UNITED KINGDOM:

The UK is supportive of the proposal to revise article 13c of the Financial Regulations of the IHO to remove interest charges on the late payments.

UNITED STATES OF AMERICA:

The United States does not support the proposal.

COMMENT OF THE IHO SECRETARIAT

The consideration of this proposal is an item in the draft agenda of the meeting of the Finance Committee (see IHO FCCL 04/2016). The Finance Committee will be invited to consider the proposal and the comments received and advise the Assembly.

PRO-11 - PROPOSAL TO ADOPT A RESOLUTION ON IMPROVING THE AVAILABILITY OF BATHYMETRIC DATA WORLDWIDE

Submitted by: IHO Secretariat (Secretary-General)

PROPOSAL:

**To adopt a Resolution on improving the availability of bathymetric data worldwide
Improving the Availability of Bathymetric Data Worldwide**

Noting that the depth of a significant percentage of the world's seas, oceans and waterways has yet to be measured directly;

Noting that bathymetric knowledge underpins the safe, sustainable, cost effective execution of almost every human activity in, on or under the sea;

Recognizing the relevance of bathymetry in the maritime aspects of the UN's 2030 Agenda for Sustainable Development Goals, the Paris Agreement under the United Nations Framework Convention on Climate Change and the Sendai Framework for Disaster Risk Reduction 2015-2030;

Noting that significant amounts of bathymetric data is collected by the scientific and commercial sector for purposes other than chart improvement, but is not easily made discoverable or available for secondary purposes;

Noting that in the absence of any data, bathymetric data that may not support precise navigation may nevertheless still be useful for many potential users of the world's seas, oceans and waterways;

1. Member States **resolve** that, in addition to fulfilling their international obligations to provide hydrographic information in support of safety of navigation, they should also consider implementing mechanisms that encourage the widest possible availability of all hydrographic and particularly bathymetric data, so as to support the sustainable development, management and governance of the marine environment. This may be achieved in several ways, including:

- a. active participation in and contribution to the marine element of national Spatial Data Infrastructures (MSDI);
- b. continued support for the IHO-IOC GEBCO project and the IHO Data Centre for Digital Bathymetry;
- c. encouraging the scientific and the commercial sector to identify and wherever possible make available for secondary use, data collected or being collected for a specific scientific or commercial purpose;
- d. supporting systems and infrastructures, such as MSDI and the IHO DCDB, that facilitate data discovery, thereby avoiding unnecessary duplication in bathymetric data collection;
- e. encouraging supplementary methods for collecting bathymetric data, including, but not limited to:
 - (1) Crowd-Sourced Bathymetry,
 - (2) Satellite Derived Bathymetry,
 - (3) The use of autonomous vehicles for the collection of environmental data including bathymetry.

EXPLANATORY NOTE:**Background**

1. Proposal 6 of the XVIIIth International Hydrographic Conference, held in April 2012, considered the global status of hydrographic surveying and tasked ... *the IRCC and HSSC in cooperation with the Directing Committee to progress whatever actions are required to improve the collection, quality and availability of hydrographic data worldwide, monitor and rectify possible deficiencies and shortcomings, cooperate with other international organizations and stakeholders as necessary, and to keep Member States informed on progress on this issue.* (see IHC18-Decision 17).

2. At the 5th Extraordinary International Hydrographic Conference, held in October 2014, several discussions and considerations took place on ways to improve the current lack of bathymetric knowledge of many parts of the world's seas, oceans and waterways. Discussion at the Conference led to the need to explore sources of bathymetric data outside traditional surveys – particularly in support of providing a baseline global bathymetric model for the many non-navigational uses for bathymetry that are now emerging. This resulted in the establishment of a Crowd-Sourced Bathymetry Working Group (CSBWG) to provide guidance on how the IHO could encourage crowd-sourcing. Other potential sources of bathymetry such as the use of satellite-derived bathymetry were discussed. The role of Marine Spatial Data Infrastructures (MSDI) in improving access to hydrographic data was also highlighted. Discussions on these topics have continued to take place in most of the Regional Hydrographic Commissions.

Bathymetry Supporting the World's Increased Focus on the Sea

3. The focus on the world's seas, oceans and waterways continues to increase. The world is increasingly looking to the sea for resources. The concept of the *blue economy* is now firmly in place. At the same time, there is growing awareness of mankind's dependence on and vulnerability from the sea, ranging from destruction caused by natural disasters such as tsunami and storm surges, to over-fishing and the inappropriate use of the sea's resources, to pollution and climate change. As a result, several high-level global initiatives are now in place that seek to address these issues, including the United Nation's 2030 Agenda for Sustainable Development Goals, the Paris Agreement under the United Nations Framework Convention on Climate Change and the Sendai Framework for Disaster Risk Reduction 2015-2030.

4. In this context, the shortfall in bathymetric data is all the more significant, since both scientific study and the success of almost every human endeavour in the maritime domain depends in one way or another on knowing the depth and shape of the seafloor.

Potential Sources of Additional Bathymetric Data**Crowd-Sourced Bathymetry**

5. The International Maritime Organization (IMO) Safety of Life At Sea (SOLAS) carriage requirements obliges all commercial vessels to be equipped with certified, and inherently reliable, echo sounders and satellite-based position fixing systems. As such, the world's commercial fleet represents a significant untapped source of bathymetric observations. While these observations may not meet charting requirements for critical passages, such observations may still serve a very useful purpose, particularly in depths where data is old or of limited quality. Crowd-sourced bathymetry can be used to identify significant features that might merit further investigation by appropriately equipped surveying vessels. Crowd-sourced bathymetry can assist in verifying existing charted information, thereby avoiding the need for re-surveying. The location of crowd-sourced bathymetry can also help to confirm that charting schemes are appropriate for the current traffic patterns. In areas where otherwise little or no data exists, then crowd-sourced data, supported by appropriate metadata that will allow users to determine its fitness for their purpose, is useful. Many

development activities and scientific studies require only an approximate depth, rather than depths measured to meet precise navigation requirements.

Data collected for scientific and other commercial purposes

6. Another very significant and largely untapped source of bathymetric data is from the scientific research and the commercial surveying sectors.

7. Informal discussion between the IHO Secretariat and several representatives of industry and academia that participate in IHO activities either as Expert contributors or as Observers indicates that survey data collected for a variety of scientific and commercial purposes could be more widely used.

8. Commercial survey companies enter into contracts both with Government departments and with commercial entities to undertake surveys that, if not solely hydrographic, at least contain a bathymetric element. The surveying companies render the collected data solely to their clients as they are contractually obliged to do, but in the knowledge that, whilst meeting the needs of the task, all or parts of the data could be exploited for much wider use and benefit. It is estimated that no more than 20% of the bathymetric data collected commercially during surveys for specific projects is made available to Hydrographic Offices for inclusion in charts or for wider uses.

9. Similarly, bathymetric data collected for scientific purposes often suffers a similar fate to commercially collected data, in that it is used for its primary purpose and then either archived or abandoned. In many cases, the existence of the data is difficult to discover. In addition, scientific vessels that are equipped to collect bathymetry, most often only collect data in the specific area of scientific interest. The concept of passage sounding is not widely understood or incorporated into voyage planning.

Purpose of the Resolution

10. The Resolution is intended to reaffirm the IHO's recognition of the existing shortfall in bathymetric knowledge of the seas, oceans and waterways and its consequences and the need, therefore, to urgently address this shortfall.

11. The Resolution is intended to indicate both to Member States and to others, such as commercial ship operators, academia and the commercial surveying sector that may be able to assist, that there are practical, generally low-cost, mechanisms available that can help address the global shortfall in hydrographic knowledge.

12. The Resolution is intended to support the current work of the MSDIWG, the CSBWG, the GEBCO Guiding Committee and the IHO Data Centre for Digital Bathymetry (DCDB).

MEMBER STATES' COMMENTS

CROATIA:

Croatia supports this proposal.

FRANCE:

France supports this proposal which is consistent with the open data policy at national and European level.

ITALY:

In view of the benefits for the marine environment and for a more efficient response to marine disasters, Italy supports the proposal.

JAPAN:

Japan recognizes the importance of improving the worldwide availability of hydrographic information and supports this proposal.

MEXICO:

Mexico totally agrees that there is no global bathymetric data coverage currently that gives a solution to the problems arising from human activities. Mexico supports and endorses the work of the Working Groups (MSDIWG, CSBWG & GEBCO) in their activities aimed at improving the hydrographic data availability.

NEW ZEALAND:

New Zealand fully supports the resolution on improving the availability of bathymetric data worldwide.

RUSSIAN FEDERATION:

No objections.

UNITED KINGDOM:

UK supports PRO-11, but with the following observations:

1. The remit of most HOs is primarily to support safe navigation rather than wider use of their data. Increased involvement in a wider remit is likely to require national recognition.
2. Regarding each of the mechanisms:
 - a) Few countries have a National Spatial Data Infrastructure. Active participation may require a national or regional government initiative to establish a NSDI/MSDI, and to acknowledge the HO's role.
 - b) GEBCO fully supports the aspirations of wider accessibility of hydrographic data for wider uses. With a largely scientific bias it needs support from beyond the HO community.
 - c) Encouraging the scientific and commercial sector to make data available for secondary use may not be primarily HO business. It generally requires a national initiative to be effective.
 - d) This makes no additional points not already included in a) and b)
 - e) HO's already make use of supplementary methods on a case by case and as needed basis. In most cases this will be justified on the requirements for nautical charting and safe navigation. Where such methods are used for additional purposes, the availability of the data is largely covered by point c).

UNITED STATES OF AMERICA:

The United States supports the Proposal and encourages the Secretariat and Member States to make every effort to be proactive stewards in the management and distribution of bathymetric data. Marine data held by member state hydrographic offices has great societal value in a wide variety of applications beyond charting.

PRO-12 - REVISION OF IHO RESOLUTION 4/1967 AS AMENDED - SUBMARINE CABLES

Submitted by: Germany

References: A: IHO Resolution 4/1967 as amended - *Submarine Cables*
B: Memorandum of Understanding between the International Hydrographic Organization and the International Cable Protection Committee, dated 18 April 2016

PROPOSAL:

It is proposed that IHO Resolution 4/1967 as amended - *Submarine Cables* be revised as described in the Annex.

EXPLANATORY NOTE:

In practical application of the Memorandum of Understanding (MoU) between the IHO and the International Cable Protection Committee (ICPC) signed in 2016, the Hydrographic Services and Standards Committee (HSSC) of the IHO tasked its subsidiary Nautical Information Provision Working Group (NIPWG) to update the applicable IHO Resolution on Submarine Cables (4/1967 as amended) in close consultation with the nominated technical experts of the ICPC. This task was successfully completed in November 2016 at the 3rd meeting of the NIPWG and the outcome received the full support of the ICPC representative.

The referenced Resolution provides guidance to Hydrographic Offices on how mariners should be informed, by means of appropriate nautical publications, about the potential threat of damage to submarine cables and the resulting actions to be taken if such an event occurs.

Under normal circumstances, the recommendations of the NIPWG would first be considered and endorsed by the HSSC, prior to seeking the approval of Member States. However, in this case, noting that the NIPWG, like the HSSC, is chaired by Germany, and considering the significant increase in global cabling activities across the world seas and oceans and the critical importance of their protection against potential damage through inappropriate vessel operations, and further noting the importance of being reactive to the concerns of the ICPC, Germany invites the IHO Assembly to directly consider and endorse the proposed revision of IHO Resolution 4/1967 on submarine cables.

Annex to PRO-12

Current version: (M-3, 2nd Edition, 2010, updated to July 2015)

SUBMARINE CABLES	4/1967 as amended	IHC 16	C3.10
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It is recommended that general information supplied to mariners by Hydrographic Offices either in Sailing Directions or in other documents include a note which specifies:

- a) that very high voltages are carried in modern multi-channel telegraphic and telephone cables;
- b) that consequently it is most dangerous to attempt to free an anchor or trawl by hauling in the cable; the anchor or trawl should be buoyed and cast off.

Proposed revision (redline version)

SUBMARINE CABLES	4/1967 as amended	IHC 16 IHO A-1	C3.10
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~~It is recommended that general information supplied to mariners by Hydrographic Offices either in Sailing Directions or in other documents include a note which specifies:~~

- ~~a) that very high voltages are carried in modern multi-channel telegraphic and telephone cables;~~
- ~~b) that consequently it is most dangerous to attempt to free an anchor or trawl by hauling in the cable; the anchor or trawl should be buoyed and cast off.~~

The following text should be used by Hydrographic Offices as the basis upon which to provide mariners with appropriate information in publications such as Mariners' Handbooks or annual Notice to Mariners:

Certain submarine cables are used for telecommunications functions while others are used for power transmission. All power cables and most telecommunications cables carry dangerous high voltages. Damaging or severing a submarine cable, whether a telecommunications cable or a power cable, may, in some circumstances be considered as a national disaster and very severe criminal penalties may apply. Electrocutation, with injury or loss of life, could occur if any cables carrying high voltage are breached. Depending on whether the cable is primarily for power or telecommunications, damage may result in power cuts, loss of voice, data transfer or internet connectivity. In these circumstances cables are considered to be critical infrastructure.

In view of the serious consequences resulting from damage to submarine cables, vessel operators should take special care when anchoring, fishing, mining, dredging, or engaging in underwater operations near areas where these cables may exist or have been reported to exist.

Mariners are also warned that the seafloor where cables were originally buried may have changed and cables may now be exposed; therefore particular caution should be taken when operating vessels in areas where submarine cables exist and the depth of water means that there is a limited under-keel clearance.

Vessels fouling a submarine cable should not attempt to clear or raise the cable due to the high possibility of damaging the cable. Anchors or gear that cannot be cleared should be slipped, and no attempt should be made to cut a cable. Before any attempt to slip or cut gear

from the cable is made, the cable should first be lowered to the seafloor. Note that there is a risk of capsizing smaller vessels (primarily fishing vessels) if they attempt to bring a cable to the surface. Following an incident of fouling a cable, a vessel should immediately notify the local hydrographic authority of the position, type and amount of gear remaining on the seafloor. If a mariner, through no fault of their own, catches a cable with an anchor or gear, then sacrificing the anchor or gear to prevent damage to the cable is likely to lead to reimbursement; the cable owner is required to indemnify the mariner for the cost of the sacrifice¹. In inland areas or along the coast, warning signs or marker beacons are often erected to warn the mariner of the existence of submarine cables.

In order to avoid the risk of damaging submarine cables as much as possible, a 0.25-mile wide protected area² exists on either side of a submarine cable. Anchoring is prohibited within this area, even when there is no specific prohibition on the chart.

Incidents involving the fouling of submarine cables should be reported immediately³ to the appropriate authorities⁴ who should be advised as to the nature of the problem and the position of the vessel.

Notes:

¹ To claim a sacrifice, a vessel must within 24 hours of entering port after the sacrifice, file a claim with the cable owner accompanied by a statement from the crew. Most cable owners have a 24 hour toll-free number that a mariner can call to determine the position of a cable or to assist in making a decision on claiming a sacrifice.

² Each hydrographic authority can set this distance to a value that they feel is appropriate.

³ Each hydrographic authority can set the reporting time to a value that they feel is appropriate.

⁴ The appropriate authorities can be listed here, as well as contact methods (telephone, facsimile, VHF, e-mail, internet, etc.) and required information.

MEMBER STATES COMMENTS

CROATIA:

Croatia supports this proposal.

FRANCE:

In favour.

ITALY:

Italy supports Germany's proposal.

MEXICO:

Mexico totally agrees with the description of the Submarine Cables proposed by Germany, in which the mariners are informed through a nautical publication about the potential economic, legal and environmental consequences resulting from affecting various types of submarine cables, as well as the actions to be followed in case of an accident or when there has been a non-observance of the navigational warnings.

NETHERLANDS:

The Netherlands generally agree with the initiative, and wish to contribute to the final proposed text with a few remarks:

1. Replace the notion of “hydrographic authority” by “appropriate authority”. The hydrographic office may not be the appropriate authority in each MS. It is up to the MS themselves to identify the appropriate authority and to communicate this to the mariner.

2. Note 1 mentions a “24 hours” period. What is the origin of this period? If it is following an external source, please mention that source. If it is newly proposed, it needs some explanation as to why this is the correct time frame for a claim.

The Netherlands aims to contribute with these remarks to the success of the proposal, and is available for discussions and explanations.

NEW ZEALAND:

New Zealand supports this proposal.

RUSSIAN FEDERATION:

No objections.

UNITED KINGDOM: Suggested edits and comments inserted in the proposed text

The following text should be used by Hydrographic Offices as the basis upon which to provide mariners with appropriate information in publications such as Mariners' Handbooks or annual Notice to Mariners:

Certain submarine cables are used for telecommunications functions while others are used for power transmission. All power cables and most telecommunications cables carry dangerous high voltages. Damaging or severing a submarine cable, whether a telecommunications cable or a power cable, may, in some circumstances be considered as a national disaster and very severe criminal penalties may apply. Electrocution, with injury or loss of life, could occur if any cables carrying high voltage are breached. Depending on whether the cable is primarily for power or telecommunications, damage may result in power cuts, loss of voice, data transfer or internet connectivity. In these circumstances cables are considered to be critical infrastructure.

In view of the serious consequences resulting from damage to submarine cables, vessel operators should take special care when anchoring, fishing, mining, dredging, or engaging in underwater operations near areas where these cables may exist or have been reported to

exist.

Mariners are also warned that the seafloor where cables were originally buried may have changed and cables ~~may now be~~ become exposed; therefore particular caution should be taken when operating vessels in areas where submarine cables exist ~~and~~ especially where the depth of water means that there is a limited under-keel clearance.

Vessels fouling a submarine cable should not attempt to clear or raise the cable due to the high possibility of damaging the cable. ~~No attempt should be made to cut a cable and~~ Anchors or gear that cannot be cleared should be slipped, ~~and no attempt should be made to cut a cable.~~ Before any attempt to slip or cut gear from the cable is made, the cable should first be lowered to the seafloor. Note that there is a risk of capsizing smaller vessels (primarily fishing vessels) if they attempt to bring a cable to the surface. Following an incident of fouling a cable, a vessel should immediately notify the local hydrographic authority of the position, type, and amount of gear remaining on the seafloor. If a mariner, through no fault of their own, catches fouls a cable with an anchor or gear, ~~then sacrificing~~ and the anchor or gear ~~has to be sacrificed~~ to prevent damage to the cable, ~~this action is likely to lead to reimbursement; the cable owner is required*~~ to indemnify the mariner for the cost of the sacrifice'. In inland areas or along the coast, warning signs or marker beacons are often erected to warn the mariner of the existence of submarine cables.

In order to ~~avoid~~ minimize the risk of damaging submarine cables as much as possible, a 0.25-mile wide protected area² exists** on either side of a submarine cable. Anchoring is prohibited within this area, even when there is no specific prohibition on the chart.

Incidents involving the fouling of submarine cables should be reported immediately³ to the appropriate authorities⁴ who should be advised as to the nature of the problem and the position of the vessel.

Notes:

1. To claim a sacrifice, a vessel must within 24 hours of entering port after the sacrifice, file a claim with the cable owner accompanied by a statement from the crew. Most cable owners have a 24 hour toll-free number that a mariner can call to determine the position of a cable or to assist in making a decision on claiming a sacrifice.
2. Each hydrographic authority can set this distance to a value that they feel is appropriate.
3. Each hydrographic authority can set the reporting time to a value that they feel is appropriate.
4. The appropriate authorities can be listed here, as well as contact methods (telephone, facsimile, VHF, e-mail, internet, etc.) and required information.

* The statements "likely to lead to reimbursement" and "owner is required to indemnify" are contradictory.

** Is the protected area mandatory or advisory? What is the legal status of such protected areas?

PRO-13 - DISCUSS THE FUTURE OF THE OUTDATED IHO SPECIAL PUBLICATION S-23, TAKING INTO ACCOUNT THE REPORT ON WORK TO REVISE IHO PUBLICATION S-23 (APRIL 2012)

Submitted by: Republic of Korea

Reference: Report on Work to revise IHO Publication S-23 - “Limits of Oceans and Seas,” IHO XVIIIth International Hydrographic Conference 2012 Report of Proceedings Vol. 2 - Rev. 1 (CONF.18/WP.1/Add.1), pp. 108–110, April 2012.

PROPOSAL:

It is proposed that the Assembly discuss the future of the outdated IHO Special Publication S-23, taking into account the Report on Work to revise IHO Publication S-23 (April 2012).

EXPLANATORY NOTE:

Special Publication S-23 has been considered to be the IHO’s important publication in view of its use by cartographers, national institutions and commercial agencies over the past century. Nevertheless, S-23 has not been revised for the past six decades. As a result, the current 3rd edition is often described as being an outdated and ineffective publication, having adverse effects on the reputation of the IHO as a competent international organization.

The Republic of Korea is of the view that the IHO should continue to pursue the revision of S-23 in accordance with the relevant IHO Resolutions, no matter how complicated this might be. This would be in the best interests of the IHO as an authoritative worldwide hydrographic body, which is actively engaged in advancing maritime safety and efficiency.

At the International Hydrographic Conferences (IHCs), frustration has been expressed over the failure of the current S-23 to adequately serve States and international organizations. If the newly-launched IHO Assembly cannot take any action concerning the daunting task to revise it, there would be no choice but to discuss what might ensue. On this note, the Report on Work to revise IHO Publication S-23 (CONF.18/WP.1/Add.1) stated that “Member States must decide whether the current but out of date 3rd edition of S-23, which has not been revised for nearly 60 years [then in 2012], will continue to be an active, but ineffective, IHO reference publication or whether the publication should be discontinued.”

Therefore, the Republic of Korea believes that the 1st Session of the IHO Assembly could serve as a valuable opportunity for interested Member States, together with the Secretariat, to discuss the future of the outdated Special Publication S-23.

MEMBER STATES’ COMMENTS

BRAZIL:

We inform that DHN supports that the issue “FUTURE OF S-23” 3rd EDITION – 1953 should be discussed during the first session of International Hydrographic Assembly.

CROATIA:

Croatia has already declared that the problem of IHO publication S-23 is not political but technical issue.

Croatia believes that the publication could be discussed at the 1st Session of the IHO Assembly but the question is what is to be achieved.

ECUADOR:

We have no comments on the submitted proposal that is why we support this issue to be discussed at the IHO Assembly.

FIJI:

Fiji supports PRO-13 and believes that the document is of high importance and that a decision needs to be made. Also at the 5th EIHC in 2014, it was decided that should a member state raise this issue, it could be discussed at the next IHC/Assembly. Fiji also believes that this would be an opportune time to discuss the future of S-23.

MAURITIUS:

Mauritius supports the proposal of Republic of Korea for discussion and revision of IHO Publication S-23 “Limits of the Oceans and Seas” as proposed in Assembly Circular Letter 10bis – 4.

MEXICO:

Although the IHO has a huge workload, there is no reason for the standard publication S-23 to be considered obsolete, therefore the IHO should establish a programme for it to be updated, even if this means on a long term basis, as this is an official referenced document.

PAPUA NEW GUINEA:

See comment related to PRO-1.

RUSSIAN FEDERATION:

Russia does not support discussions on S-23 during the Assembly.

COMMENT OF THE IHO SECRETARIAT

See also PRO-1.

DECISIONS OF THE ASSEMBLY

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DECISIONS OF THE 1st SESSION OF THE IHO ASSEMBLY	
Decision No.	Description
1	<p>The Assembly approved the revisions to IHO Resolution 12/2002: The Organization shall prepare three plans to guide its work:</p> <ol style="list-style-type: none"> 1. The Strategic Plan that shall be for a rolling 6-year period, and shall be reviewed at each ordinary session of the Assembly. 2. The 3-year Work Programme that shall commence in the year following an ordinary session of the Assembly and be reviewed and revised annually by the Council. 3. The 3-year Budget that shall commence in the year following an ordinary session of the Assembly and be reviewed and revised annually by the Council. <p>Planning Cycle for the Strategic Plan</p> <p><i>“A” means the date of the ordinary session of the Assembly; the numbers are months before (-) or after (+) that date.</i></p> <p>A+6 (Oct): The Council considers the instruction given by the Assembly and agrees on the implementation plan.</p> <p>A+30 (Oct.): The Council submits its report and proposals for the consideration of the Assembly</p> <p>A+36/A (Apr): The Assembly discusses and decides in Plenary upon the report and proposals, endorses the Strategic Plan for the next 6 years and instructs the Council for the next cycle.</p> <p>A+03 (July) The Secretary-General circulates the updated Strategic Plan as part of the <i>Proceedings</i> of the Assembly.</p> <p>Planning Cycle for the 3-year Work Programme and Budget</p> <p>Planning Cycle for Assembly Years</p> <p><i>“A” means the date of the ordinary session of the Assembly; the numbers are months before (-) or after (+) that date.</i></p> <p>April (A-12) The Council evaluates by correspondence the accomplishment of the preceding year’s Work Programme and Budget presented by the Secretary-General, and reports to Member States (MS), through the <i>IHO Annual Report</i>, reviews the Work Programme upcoming years, inviting the Secretary-General, the HSSC and IRCC to consider changes (if needed) to the Programme in force and budgetary adjustments issuing from those changes, within the limits of the approved 3-year Budget.</p> <p>by June (A-10) MS, HSSC and IRCC submit proposals to develop the next 3-year Work Programme and 3-year Budget.</p> <p>HSSC and IRCC provide the Secretary-General with comments and proposals, if any, for the next annual Work Programme and Budget.</p>

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August	(A-08)	The Secretary-General takes into account the input from MS, HSSC and IRCC and submits a proposed 3-year Work Programme and 3-year Budget to the Council and to the Finance Committee.
September	(A-07)	The Finance Committee provides any comments on the proposed 3-year Work Programme and the 3-year Budget to the Secretary-General for consideration by the Council.
October	(A-06)	The Council: - reviews the proposals on proposed 3-year Work Programme and Budget and drafts proposals for the Assembly; and - approves the forthcoming annual Work Programme and Budget.
By December	(A-04)	The Secretary-General provides a report of the preceding Council meeting to MS.
By February	(A-02)	The Council evaluates by correspondence the accomplishment of the preceding year's Work Programme and Budget presented by the Secretary-General, and agrees on amendments, if and as required, to the proposed 3-year Work Programme and Budget and to its proposals for the Assembly.
April	(A)	The Secretary-General provides the <i>IHO Annual Report</i> for the preceding year to the MS. At the Assembly, the proposals from the Council are discussed, amended and decided upon in Plenary.
July	(A+03)	The Secretary-General circulates the 3-year Work Programme and 3-year Budget to MS as part of the <i>Proceedings</i> of the Assembly.
January	(A+09)	The 3-year Work Programme and 3-year Budget enter into force.
Planning Cycle for non-Assembly Years		
January		The annual Work Programme and Budget enter into force.
April		The Council evaluates by correspondence the accomplishment of the preceding year's Work Programme and Budget presented by the Secretary-General, and reports to MS, through the <i>IHO Annual Report</i> , reviews the Work Programme upcoming years, inviting the Secretary-General, the HSSC and IRCC to consider changes (if needed) to the Programme in force and budgetary adjustments issuing from those changes, within the limits of the approved 3-year Budget.
By June		HSSC and IRCC provide the Secretary-General with comments and proposals, if any, for the next annual Work Programme and Budget.
August		The Secretary-General takes into account the input from HSSC and IRCC and the results of the audited accounts for the previous year and submits a draft Work Programme and Budget for the following year to the Finance Committee for information and to the

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	<p>Council for approval.</p> <p>October The Council approves the forthcoming annual Work Programme and Budget.</p> <p>By December The Secretary-General provides a report of the preceding Council meeting to MS.</p> <p>January The annual Programme and Budget enters into force, and the cycle is repeated.</p>
2	The Assembly approved the proposed revisions to the IHO Strategic Plan (A.1/WP1/03).
3	PRO-4: The Assembly tasked the Council to conduct a comprehensive review of the Strategic Plan and to provide a draft revised Plan, as appropriate, in time for the consideration of the 2 nd ordinary session of the Assembly (A-2). The Council is empowered to establish a working group for this discrete purpose.
4	PRO-1/PRO-13: The Assembly tasked the Secretary-General to facilitate an informal consultation process regarding the future of S-23 among interested Member States, including determining mutually agreed modalities of work and to report the result of the consultations to the Assembly at the next ordinary session (A-2).
5	<p>PRO-9: The Assembly:</p> <ul style="list-style-type: none"> a) approved the editorial amendments to IHO Publication M-3 - <i>Resolutions of the IHO, 2nd Edition - 2010, Updated to July 2015</i>, as set out in Annex A to PRO-9. b) tasked the Secretary-General to draft a revised IHO Resolution 5/1957 as amended (<i>IHO Relations With Other Organizations</i>) and to submit it to the first session of the Council. c) tasked the Secretary-General to draft a revised IHO Resolution 1/1969 as amended (<i>Questions Dealt With By The Bureau By Correspondence</i>) or a proposal for revocation and to submit it to the first meeting of the Council. d) tasked the Secretary-General to draft a revised IHO Resolution 9/1967 as amended (<i>Procedure For Election Of A Director By Correspondence</i>) and to submit it to the first meeting of the Council. e) tasked the Secretary-General to draft a revised IHO Resolution 5/1972 as amended (<i>Tonnage Figures</i>) and to submit it to the first meeting of the Council. f) revoked IHO Resolution 9/1937 as amended (<i>Historic Record Of The Value Of A Share Of IHO Contributions</i>), noting that the record of the value of the share is provided in the Finance Report to the Assembly. g) revoked IHO Resolution 3/2004 (<i>External Audit – Reports</i>) noting that the provisions are superseded by article 19 d of the new Financial Regulations. h) tasked the Secretary-General to draft a revised IHO Resolution 1/2014 as amended (<i>Guiding Principles For IHO Funds</i>) and to submit it to the first meeting of the Council. i) tasked the Secretary-General to draft a revised IHO Resolution 4/1957 as amended (<i>Preparations For International Hydrographic Conferences</i>) and

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	<p>to submit it to the first meeting of the Council.</p> <p>j) tasked the Secretary-General to draft a revised IHO Resolution 8/1967 as amended (<i>Checking Of Proposals Submitted By Member States</i>) and to submit it to the first meeting of the Council.</p> <p>k) tasked the Secretary-General to draft a revised IHO Resolution 1/1965 as amended (<i>Adoption Of The Concluding Procedure</i>) and to submit to the first meeting of the Council.</p> <p>l) tasked the Secretary-General to draft a revised IHO Resolution 2/1965 as amended (<i>Possibility Of Considering A Withdrawn Proposal</i>) and to submit to the first meeting of the Council.</p> <p>m) revoked IHO Resolution 2/1982 as amended (<i>Regional Scheming Of INT Charts</i>) noting that the provisions of this resolution are superseded by Part A of IHO Publication S-11 - <i>Guidance for the Preparation and Maintenance of International Chart Schemes and Catalogue of International (INT) Charts</i>.</p> <p>n) tasked the HSSC to include a revision of IHO Resolution 8/1932 as amended (<i>Geographical Sequence Of Stations</i>) in its Work Plan and report to the Council.</p> <p>o) tasked the IRCC to include a revision of IHO Resolution 2/1997 as amended (<i>Establishment Of Regional Hydrographic Commissions - RHC</i>) in its Work Plan and report to the Council.</p>
6	The Assembly approved the continued existence of the HSSC under its amended Terms of Reference and Rules of Procedure set out in Annex C of document A.1/WP2/01.
7	<p>The Assembly expressed its gratitude to the Chairs of subordinate organs and subsidiary bodies who retired from the hydrographic community during the reporting period:</p> <ul style="list-style-type: none"> - Mr Chris Carleton, United Kingdom - Mr Stephen Gill, United States - Mr Barrie Greenslade, United Kingdom - Mr Chris Howlett, United Kingdom - Dr Peter Jones, United Kingdom - Mr Jerry Mills, United States
8	The Assembly urged Member States to contribute more actively to the implementation of Programme 2 and to maintain the relevant expertise.
9	The Assembly acknowledged the significant contribution of expert contributors from industry and academia and encouraged their continuing involvement in the activities of the Organization.
10	The Assembly urged Member States to ensure consistency between their paper and digital charts and publications through the provision of the appropriate updates.
11	The Assembly urged Member States to ensure that the information on national arrangements related to the use of ECDIS are kept current.

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12	PRO-6: The Assembly tasked the HSSC to review IHO Resolution 2/2007 as amended taking into account PRO-6 and related comments and submit a draft revision to the Council.			
13	PRO-12: The Assembly approved the revisions to IHO Resolution 4/1967 (<i>Submarine Cables</i>) as amended during the session.			
	SUBMARINE CABLES	4/1967 as amended	<u>IHO A-1</u>	C3.10
	<p>Considering the provisions of the International Convention for the Protection of Submarine Telegraph Cables as amended, Hydrographic Offices should use the following text as the basis upon which to provide mariners with appropriate information in publications such as Mariners' Handbooks or annual Notice to Mariners:</p> <p>Certain submarine cables are used for telecommunications functions while others are used for power transmission. All power cables and most telecommunications cables carry dangerous high voltages. Damaging or severing a submarine cable, whether a telecommunications cable or a power cable, may, in some circumstances be considered as a national disaster and very severe criminal penalties may apply. Electrocutation, with injury or loss of life, could occur if any cables carrying high voltage are broached. Depending on whether the cable is primarily for power or telecommunications, damage may result in power cuts, loss of voice, data transfer or internet connectivity. In these circumstances cables are considered to be critical infrastructure.</p> <p>In view of the serious consequences resulting from damage to submarine cables, vessel operators should take special care when anchoring, fishing, mining, dredging, or engaging in underwater operations near areas where these cables may exist or have been reported to exist. In order to minimize the risk of such damage as much as possible, vessels should avoid any such activity at a minimum distance of 0.25-nautical mile¹ on either side of submarine cables.</p> <p>Mariners are also warned that the seafloor where cables were originally buried may have changed and cables become exposed; therefore particular caution should be taken when operating vessels in areas where submarine cables exist especially where the depth of water means that there is a limited under-keel clearance.</p> <p>Vessels fouling a submarine cable should not attempt to clear or raise the cable due to the high possibility of damaging the cable. No attempt should be made to cut a cable and anchors or gear that cannot be cleared should be slipped. Before any attempt to slip or cut gear from the cable is made, the cable should first be lowered to the seafloor. Note that there is a risk of capsizing smaller vessels (primarily fishing vessels) if they attempt to bring a cable to the surface. Following an incident of fouling a cable, a vessel should immediately notify the local responsible authority of the position, type, and amount of gear remaining on the seafloor. In inland areas or along the coast, warning signs or marker beacons are often erected to warn the mariner of the existence of submarine cables.</p> <p>Incidents involving the fouling of submarine cables should be reported at the shortest possible notice to the responsible authorities² who should be advised as to the nature of the problem and the position of the vessel.</p>			

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	<p>Notes :</p> <ol style="list-style-type: none"> 1. Each responsible authority can set this distance to a value that they feel is appropriate. 2. The responsible authorities can be listed here, as well as contact methods (telephone, facsimile, VHF, e-mail, internet, etc.) and required information.
14	The Assembly approved the continued existence of the IRCC under its current Terms of Reference and Rules of Procedure presented in Annex D of document A.1/WP3/01.
15	The Assembly tasked the IRCC to directly seek approval of the proposed new editions of IHO Publications S-8B and S-8A by Member States through Circular Letter voting rather than via submission to the Council.
16	PRO-2: The Assembly directed the IRCC to take into account e-learning in the IHO Capacity Building Strategy and to consider using e-learning in its Capacity Building activities.
17	PRO-8: The Assembly invited Italy to present PRO-8 to the IBSC for further consideration.
18	PRO-5: The Assembly tasked the IRCC to encourage the Regional Hydrographic Commissions to consider using satellite derived bathymetry and risk assessment methodologies in uncharted or poorly charted areas in their respective regions as a way of developing survey priority areas as part of attracting donor funding.
19	PRO-3: The Assembly tasked the IRCC to review and redraft IHO Resolution 1/2005 – <i>IHO Response to Disasters</i> , as amended taking into consideration PRO-3 and related comments and submit a draft revision to the Council.
20	<p>The Assembly agreed the following procedure for the election of the Chair and Vice-Chair of the IHO Council for the period 2017-2020:</p> <ol style="list-style-type: none"> 1. The Assembly agreed to waive Rule 12 of the Rules of Procedure for the Council in respect of the first meeting of the Council by authorizing the Council to elect its Chair and Vice-Chair in advance of the first meeting by correspondence. 2. The Assembly instructed the Secretary-General to implement the following process: <ol style="list-style-type: none"> a. Call for nominations from the Members of the Council before 5 May 2017. b. Nominations to close on 5 June 2017. c. Circulate the names of candidates for the positions of Chair and Vice-Chair of the Council on 8 June 2017 and invite the Members of the Council to submit their votes not later than 9 July 2017. d. Inform all IHO Member States of the results of the election by 15 July 2017. 3. The Assembly instructed the Council to consider whether Rule 12 of the Rules of Procedure for the Council requires permanent amendment and to make proposals accordingly and if required for consideration by the Assembly at its next session (A-2).

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<p>21</p>	<p>PRO-11: The Assembly endorsed the following IHO Resolution:</p> <p>Improving the Availability of Bathymetric Data Worldwide</p> <p>Noting that the depth of a significant percentage of the world’s seas, oceans and waterways has yet to be measured directly;</p> <p>Noting that bathymetric knowledge underpins the safe, sustainable, cost effective execution of almost every human activity in, on or under the sea;</p> <p>Recognizing the relevance of bathymetry in the maritime aspects of the UN’s 2030 Agenda for Sustainable Development Goals, the Paris Agreement under the United Nations Framework Convention on Climate Change and the Sendai Framework for Disaster Risk Reduction 2015-2030;</p> <p>Noting that significant amounts of bathymetric data is collected by the scientific and commercial sector for purposes other than chart improvement, but is not easily made discoverable or available for secondary purposes;</p> <p>Noting that in the absence of any data, bathymetric data that may not support precise navigation may nevertheless still be useful for many potential users of the world’s seas, oceans and waterways;</p> <p>1. Member States resolve that, in addition to fulfilling their international obligations to provide hydrographic information in support of safety of navigation, they should also consider implementing mechanisms that encourage the widest possible availability of all hydrographic and particularly bathymetric data, so as to support the sustainable development, management and governance of the marine environment. This may be achieved in several ways, including:</p> <ul style="list-style-type: none"> a. active participation in and contribution to the marine element of national Spatial Data Infrastructures (MSDI); b. continued support for the IHO-IOC GEBCO project and the IHO Data Centre for Digital Bathymetry; c. encouraging the scientific and the commercial sector to identify and wherever possible make available for secondary use, data collected or being collected for a specific scientific or commercial purpose; d. supporting systems and infrastructures, such as MSDI and the IHO DCDB, that facilitate data discovery, thereby avoiding unnecessary duplication in bathymetric data collection; e. encouraging supplementary methods for collecting bathymetric data, including, but not limited to: <ul style="list-style-type: none"> (1) Crowd-Sourced Bathymetry, (2) Satellite Derived Bathymetry, (3) The use of autonomous vehicles for the collection of environmental data including bathymetry.
<p>22</p>	<p>PRO-7: The Assembly endorsed the Proposal and:</p> <ul style="list-style-type: none"> a) noted the Statement of Shared Guiding Principles for Geospatial Information Management and tasked the IRCC and its subsidiary bodies, to identify and recommend whatever actions may be required to incorporate the Principles in their work programmes. b) encouraged Member States to incorporate the Statement of Shared Guiding Principles for Geospatial Information Management into institutional frameworks and to liaise with their national representatives in

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	<p>the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) to help ensure that ocean and coastal geospatial data is considered as an integral part of national Spatial Data Infrastructure (SDI) initiatives.</p> <p>c) supported the continued engagement of the Secretariat of the IHO with the UN-GGIM.</p> <p>d) encouraged Member States and RHCs to engage with the UN-GGIM and its regional entities to raise awareness of the marine domain, any of its unique needs, and the value of the domain within any geospatial information management effort.</p>
23	<p>IHO Work Programme 2018-2020</p> <p>The Assembly approved the proposed IHO Work Programme 2018-2020 as set out in document A.1/WP1/02.</p>
24	<p>The Assembly:</p> <p>a) approved the financial report for the five-year intersessional period 2012-2016.</p> <p>b) approved the financial report for 2016 and its recommendation, which is that the budget surplus for 2016 of 241,000 Euros be distributed as follows:</p> <p>(1) 191,000 Euros to the Capacity Building Fund,</p> <p>(2) 50,000 Euros to the Internal Retirement Fund.</p> <p>c) confirmed that the Council is empowered to approve the financial statements and any recommendations for the previous year and the budget estimates and the associated annual work programme for each forthcoming year.</p> <p>d) directed the Council at its first meeting to consider an appropriate methodology and timetable to deal with each year's subsequent financial statements and to propose any adjustments to the relevant basic documents if required.</p> <p>e) deleted Article 13(c) of the IHO Financial Regulations.</p> <p>f) decided that any interest paid by Member States on contributions in arrears after 1st January 2012 be deducted from their contribution due in 2018.</p> <p>g) instructed the Secretariat to include an appropriate provision in the budget for 2017.</p> <p>h) appointed Price Waterhouse Coopers Monaco as the external auditor for the accounts of the period 2018-2020.</p> <p>i) amended Rule 9 of the Rules of Procedure of the Finance Committee as follows:</p> <p>"The Chair and Vice-Chair shall be elected at regular meetings of the Finance Committee. Member States represented at such meetings may participate in such elections. The Chair and Vice-Chair shall be elected for a period of three years <u>and hold office until the end of the next ordinary session of the Assembly</u>".</p> <p>j) adopted the proposed budget for 2018-2020 as submitted in document A.1/F/02.</p>

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	k) adopted the proposed Table of Tonnages as submitted in document A.1/G/03/Rev.1.
25	The Assembly elected successively: <ul style="list-style-type: none"> - Dr Mathias Jonas (Germany) to the post of Secretary-General, for a term of office of six years starting on 1 September 2017, - Captain Abraham Kampfer (South Africa) to a post of Director for a term of office of six years starting on 1 September 2017, - Rear Admiral (retired) Mustafa Iptes (Turkey) to a post of Director for a term of office of three years starting on 1 September 2017.
26	The Assembly reviewed and endorsed the selection process for the Council as reported in Assembly document A.1/WP1/05 and approved the composition of the Council set out in table 3 of the document for the period 2017-2020 (until the 2 nd session of the Assembly).
27	The Assembly agreed in principle to host its second session from 19 to 25 April 2020 in Monaco, subject to confirmation in due course by the Secretary-General, in liaison with the Government of His Serene Highness the Prince of Monaco.
28	The Assembly agreed that the seating order at the second session of the Assembly will start with the letter "Q".
29	The Assembly approved the revised Host Nation Agreement between the Government of His Serene Highness the Prince of Monaco and the International Hydrographic Organization signed on 24 April 2017.
30	The Assembly: <p><i>Recognizing</i> the continued close association and significant support of His Serene Highness Prince Albert II and the Government of the Principality of Monaco in hosting the International Hydrographic Organization,</p> <p><i>Appreciating</i> the kind generosity of His Serene Highness and the Government of the Principality of Monaco in providing premises for the Organization, confirmed by the signature of the revised Host Nation Agreement between the Government of His Serene Highness and the Organization,</p> <p><i>Further appreciating</i> the provision of the Auditorium Rainier III in Monaco for the 1st Session of the Assembly and its associated Exhibitions,</p> <p><i>Further appreciating</i> the provision of the Port Facilities of Monaco for the ships that called during the 1st Session of the Assembly,</p> <p><i>Expresses</i> its profound gratitude to His Serene Highness Prince Albert II and the Government of the Principality of Monaco for their graciousness and kind hospitality extended to the Organization, and</p> <p><i>Requests</i> the delegation of the Principality of Monaco to convey to His Serene Highness and the Government of the Principality of Monaco the sincere sentiments of the Assembly expressed above."</p>

PLENARY SESSIONS

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**PLENARY SESSIONS
OF THE 1st SESSION OF THE IHO ASSEMBLY**

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1st SESSION OF THE IHO ASSEMBLY

SUMMARY RECORD OF THE FIRST PLENARY SESSION

24 April 2017

WELCOMING REMARKS BY THE SECRETARY-GENERAL

The SECRETARY-GENERAL delivered an address of welcome remarks which is included as Annex A at the end of this Summary Record.

CONFIRMATION OF THE ELECTION OF THE CHAIR OF THE ASSEMBLY

The SECRETARY-GENERAL announced that Dr Parry Oei (Singapore) had been elected as Chair of the Assembly through the usual correspondence procedure.

The election of Dr Parry Oei was confirmed by acclamation.

The SECRETARY-GENERAL handed over the chair to Dr Parry Oei.

ELECTION OF THE VICE-CHAIR OF THE ASSEMBLY

The CHAIR announced that Captain Brian Connon (United States) was nominated as Vice-Chair of the Assembly.

Captain Brian Connon was elected Vice-Chair by acclamation.

APPOINTMENT OF SCRUTINEERS

A team of scrutineers was appointed consisting of one representative each from Argentina, Japan, Nigeria, Republic of Korea, and USA. Two reservists were appointed, one each from India and the Netherlands.

APPOINTMENT OF RAPORTEURS

A team of rapporteurs was appointed consisting of one representative each from Australia, Brazil, Canada, France, Italy, Norway, Singapore, and two representatives from the United States.

ADOPTION OF THE AGENDA (A.1/G/01/Rev.3)

The SECRETARY-GENERAL proposed to introduce an additional item to the draft agenda under "Any Other Business" explaining that during the formal opening ceremony a new host nation agreement between the Government of His Serene Highness the Prince of Monaco and the International Hydrographic Organization would be signed and would require approval by the Assembly. He proposed to include this agenda item under Any Other Business in accordance with Rule 9 of the Rules of Procedure of the Assembly.

The CHAIR invited the Assembly to adopt the agenda with the inclusion of the additional item under Any Other Business as outlined by the Secretary-General.

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The Agenda was adopted.

OPENING CEREMONY

His Serene Highness Prince Albert was escorted into the Assembly Hall.

The SECRETARY-GENERAL delivered his opening address, which is reproduced in these proceedings.

The CHAIR delivered his opening address which is reproduced in these proceedings.

Mr KITACK LIM, Secretary-General of the International Maritime Organization, delivered a keynote address, which is reproduced in these proceedings.

Prof. PETTERI TAALAS, Secretary-General of the World Meteorological Organization, delivered a keynote address, which is reproduced in these proceedings.

Mr MICHAEL LODGE, Secretary-General of the International Seabed Authority, delivered a keynote address, which is reproduced in these proceedings.

His Serene Highness PRINCE ALBERT II of Monaco delivered an address declaring open the 1st Session of the Assembly of the International Hydrographic Organization, which is also reproduced in these proceedings.

PRESENTATION OF THE PRINCE ALBERT IST MEDAL

His Serene Highness PRINCE ALBERT II of Monaco presented the Prince Albert Ist Medal for Hydrography 2017 to Mr Juha Korhonen (Finland) for his active and continuous contribution to the work of the IHO from 1980 until his retirement in 2014 and for his success in maximizing hydrographic capacity within the Nordic and the Baltic Sea region.

SIGNATURE OF THE REVISED HOST AGREEMENT

His Serene Highness PRINCE ALBERT II of Monaco witnessed the signature of the revised host nation agreement between the Government of the Principality of Monaco and the International Hydrographic Organization by His Excellency Mr Serge Telle, Ministre d'Etat, and the Secretary-General.

His Serene Highness was escorted from the Assembly Hall to the exhibition venue to open and visit the Industry Exhibition and the Member States' Exhibition.

FLAG PRESENTATION CEREMONY

The representatives of Cameroon, Georgia, Viet Nam, Brunei Darussalam and Malta were invited successively to present their flag as is the tradition. The Secretary-General presented each representative with the IHO crest.

CONSIDERATION OF REPORTS AND PROPOSALS: WORK PROGRAMME 3 (Agenda item 5)

Noting that Professor Peter Haugan, Chair of the Intergovernmental Oceanographic Commission (IOC), could only be present on the first day of the Assembly, the CHAIR invited Professor Haugan to deliver a statement related to Work Programme 3.

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PROFESSOR HAUGAN (IOC) delivered a statement on behalf of the IOC, which is included as Annex B at the end of this Summary Record.

The CHAIR, commenting on the statement by Professor Haugan, pointed out the importance of the links between the different international organizations in addressing the issue of sustainable development.

CONSIDERATION OF REPORTS AND PROPOSALS: WORK PROGRAMME 1 (Agenda Item 3)

The SECRETARY-GENERAL recalled the three sections of the IHO Work Programme: corporate affairs, hydrographic services and standards, and inter-regional coordination. He introduced his report on the principal achievements and significant activities related to Programme 1 (see document A.1/WP1/01), together with some more general observations on the IHO Work Programme as a whole. He highlighted in particular an ongoing need to consider how the Secretariat maintains its currently high profile and the reputation of the IHO in the face of the limited human and technical resources that are available collectively as an organization.

The SECRETARY-GENERAL explained and presented the revised text set out in document A.1/WP1/03 regarding the IHO Strategic Plan to the Assembly for consideration. He highlighted that there were no significant new elements identified by the various IHO bodies consulted by the Secretariat and that the changes in the proposed revised text relate mainly to editorial and formatting changes, rather than to substantive changes to the content or purpose of the existing Strategic Plan.

The SECRETARY-GENERAL noted that with respect to PRO-4, which proposes a re-writing of the Strategic Plan, it was his view that Member States should first clearly identify what, if any, deficiencies there are in the existing plan and what additional items should be included in any new plan.

The SECRETARY-GENERAL invited the Assembly to note the report on Work Programme 1, to note the requirement to consider the need to increase the permanent staff in the Secretariat as soon as finances allow, to approve the proposed revisions to IHO Resolution 12/2002, and to approve the proposed revisions to the IHO Strategic Plan.

The CHAIR, speaking as Chair of the Inter-Regional Coordination Committee, noted that the perspective of new States joining the Organization would improve the situation and highlighted the importance of capacity building activities. He then explained the actions required of the Assembly and invited discussion on Work Programme 1.

FRANCE supported the recommendation made by the Secretary-General in terms of the need to include hydrographic work in a far broader maritime perspective with a view to emphasizing hydrographic skills for the benefit of the entire community.

FRANCE concurred with the Secretary-General that there is no crisis in the growth of the organization, but expressed concern about the growing workload and expenses of the organization as membership and needs increase.

FRANCE supported the comment of the Chair of the Assembly regarding the importance of capacity building and explained it should be funded in priority if new resources become available and believed this was an important topic for consideration.

FRANCE supported the proposed revision of Resolution 12/2002.

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In terms of the Strategic Plan of the IHO, FRANCE believed it took into account the main features of the external environment and noted that it will be important for the Council to take up the Strategic Plan as foreseen in the revision of Resolution 12/2002 and, in particular, to take a close look at the risks and priorities under the revised Strategic Plan.

UNITED STATES OF AMERICA acknowledged the Secretary-General's summary of the activities leading up to the proposed updates of the Strategic Plan but called for a point of order and raised the question of whether PRO-4 should be considered prior to the decision on whether the proposed updates should be formally accepted.

NORWAY congratulated the Secretariat for its achievements during the reporting period and supported the proposed revisions to Resolution 12/2002 on the planning cycle.

NORWAY raised a question related to the comment made by the USA regarding the timing of addressing PRO-4.

CANADA expressed support for the proposed revised Resolution 12/2002 and the proposed revision to the IHO Strategic Plan but also raised the issue of coupling the discussion with the consideration of PRO-4.

CANADA noted the requirement to increase the permanent staff in the Secretariat as soon as the finances allow.

CANADA noted the report on Work Programme 1.

ITALY asked if increasing the permanent staff in the Secretariat was an absolute priority given availability of resources.

CHINA expressed support for the proposal to revise the IHO Strategic Plan but pointed out the technical and consultative character of the IHO.

UNITED STATES OF AMERICA noted that the proposed three-year budget for 2018-2020 stated that "consideration" should be given to increasing personnel by up to two if funds become available. It expressed concern that the language "requiring" the increase in the report on Programme 1 had a different meaning. USA proposed that the language should be closer to what was contained in the 2018-2020 budget proposal.

TURKEY noted the report on Work Programme 1 and expressed support with regard to the planning cycle proposal.

SOUTH AFRICA expressed support for the proposed revisions to the resolution on the planning cycle and recommended approval of the proposal.

SOUTH AFRICA also expressed that approval of the proposed revised IHO Strategic Plan should wait until after discussion of PRO-4.

UNITED KINGDOM expressed agreement with Norway, United States of America, and South Africa in suggesting that the consideration of the two issues, the proposed revised resolution and the proposed revised Strategic Plan, be deferred until after discussion of PRO-4.

The CHAIR noted that there appeared to be general consensus on the proposed revised planning cycle.

The CHAIR asked the USA to clarify its positions regarding the increase in Secretariat staff.

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UNITED STATES OF AMERICA stated its position that the language should be more similar to the language contained in the budget proposal where it says that "consideration" will be made to increasing the number of staff when finances allow, not that it is a "requirement."

The SECRETARY-GENERAL responded by clarifying that the language does not give license to actually increase the staff and any change to the budget or staff numbers would still need to be submitted to the Member States in order to get their permission. What the Secretariat wanted at this stage was for the Assembly to acknowledge that this matter will need to be considered.

UNITED STATES OF AMERICA indicated that it would still prefer the language of the recommendation to be similar to the language contained in the budget document.

PRO-4: REWRITE OF THE IHO STRATEGIC PLAN

The CHAIR introduced the proposal on re-writing the Strategic Plan as the next topic of discussion noting the concern regarding the timing of the review of PRO-4 in relation to the consideration of the proposed revised Strategic Plan.

The CHAIR pointed out that the Strategic Plan had been in place since 2009 and suggested that consideration should be given to whether it has served its purpose in terms of remaining flexible in adjusting to changes and whether there was urgency to review the Strategic Plan at the current session of the Assembly or refer it to the Council.

DIRECTOR BESSERO highlighted that two issues needed to be considered. The first issue was whether the Assembly was content that the proposal submitted by the Secretariat reflected the outcome of the review conducted prior to the Assembly in accordance with the Resolution on the planning cycle. The second issue was about which process should be followed to prepare the next revision to be considered by the next ordinary session of the Assembly.

The CHAIR suggested that more time was needed to discuss the issues regarding the Strategic Plan and PRO-4 and suggested that it be deferred and taken up the next day in the morning.

UNITED KINGDOM stated that it was in agreement with the Chair's suggestion.

PRO-1: DISCUSS A WAY FORWARD FOR THE PUBLICATION OF A 4th EDITION OF IHO PUBLICATION S-23 AND INCLUDE IT IN THE NEXT "3-YEAR WORK PROGRAMME" and PRO-13: DISCUSS THE FUTURE OF THE OUTDATED IHO SPECIAL PUBLICATION S-23, TAKING INTO ACCOUNT THE REPORT ON WORK TO REVISE IHO PUBLICATION S-23 (APRIL 2012)

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA presented PRO-1 and the reasons behind its proposal to re-establish a working group.

REPUBLIC OF KOREA presented PRO-13 and the reasons behind its proposal. It proposed to establish an informal consultation framework, inviting the Secretary-General to facilitate informal consultations among the interested Member States and report to the next session of the Assembly.

At the request of ROK, a full copy of its intervention is included as Annex C at the end of this Summary Record.

JAPAN asked for clarification regarding how the proposed informal consultation process would work, noting that the modalities were not clear and would need to be agreed upon

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among the participants on a consensus basis. Subject to such clarification, Japan said it was ready to take part in informal consultations

The CHAIR asked Japan to clarify its reference to "modalities" and among whom the modalities would be developed.

JAPAN stated that it would be among the participants of the informal consultations.

The SECRETARY-GENERAL stated his opinion that the process being described might be a last chance to make progress before seriously looking at withdrawing the document. He noted that the process that had been described and to which, in principle, Japan was agreeable, involved the Secretariat, and he made the assumption that it meant the Secretary-General. He indicated that he would support such an initiative during the remainder of his tenure. The Secretary-General discussed the resource impact on the Secretariat and ways to minimize the direct expenses on the Secretariat.

The CHAIR stated his understanding that the Secretariat of the IHO would take on this role.

The CHAIR referred to Japan's proposal that Member States willing to participate in informal consultative groups would be able to do so and invited confirmation that the task of organizing the countries involved would be taken on by the Secretariat.

No objection was raised.

MEXICO while acknowledging the relevance and usefulness of S-23 questioned the impact of the publication on implementing the goals of the IHO and the place it should have in a list of work priorities. Noting the non-technical issues related to the publication, Mexico could not support PRO-1.

With respect to PRO-13, MEXICO stated that it would encourage the open, informal, and unbound discussions of S-23 between all interested Member States but did not believe that it should be included in the Work Programme.

Noting that there appeared to be consensus on the way forward, the CHAIR indicated that he would allow a last intervention from the Russian Federation but would then close the discussion.

RUSSIAN FEDERATION supported the idea of discussing S-23 with the support of the IHO Secretariat during the next three years. The Russian Federation believed it was a very good opportunity for all interested Member States to clarify names of objects and a very good opportunity to clarify borders of oceans and seas. It expressed support for the proposed informal consultation process and stated it would consider the possibility of participating.

The CHAIR noted that there was general consensus on the proposed informal consultation process and that it will be up to the Secretary-General to facilitate such a process and report back at the next session of the Assembly.

The SECRETARY-GENERAL reiterated his understanding that, subject to the approval of the Assembly, the Secretary-General would be tasked to facilitate informal consultations among all of the interested parties and to invite participants and to mutually agree on the modalities under which the informal consultation will operate.

It was so agreed.

ANNEX A TO SUMMARY RECORD 1

**Welcome Remarks by the Secretary-General of the
International Hydrographic Organization**

Mr Robert Ward

Good morning, Bonjour,

Firstly, may I advise you that continuous translation will be available in the four Assembly languages – English, French, Spanish and Russian, throughout the formal sessions of this Assembly. Headsets are available at the entrance to the auditorium.

Excellencies, Distinguished Delegates, Ladies and Gentlemen, it is my great privilege to welcome you to Monaco and to this 1st session of the IHO Assembly. I would like to welcome all the distinguished Delegates representing 77 of our 87 Member States together with representatives of several States that have yet to become Member States of the IHO, and 19 official Observer organizations that are or will be represented here during the Assembly, including the Secretary General of the International Maritime Organization (IMO), Mr Ki Tack Lim; the Secretary General of the World Meteorological Organization (WMO), Dr Petteri Taalas; the Secretary General of the International Seabed Authority, Mr Michael Lodge; the Chairman of the Intergovernmental Oceanographic Commission (IOC) of UNESCO, Professor Peter Haugan; the Secretary General of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), Mr Francis Zachariae; and the President of the International Cartographic Association, Professor Menno-Jan Kraak.

We have several important preparatory items to attend to before the official opening ceremony, starting with the confirmation of the election of Dr Parry Oei, Hydrographer of Singapore, as our Chair of the Assembly. You will recall that Dr Parry Oei was selected as our chair through a correspondence procedure. I therefore ask you all to confirm his election by acclamation.

(...)

So, congratulations, Mr Chair! I now ask Dr Oei to come to the table to conduct the rest of the 1st Session of the IHO Assembly as our Chair.

ANNEX B TO SUMMARY RECORD 1

Statement of the Chair of the Intergovernmental Oceanographic Commission

Prof. Peter Haugan

As the Chair of the Intergovernmental Oceanographic Commission (IOC of UNESCO) I welcome this opportunity to take the floor during the IHO Assembly. On behalf of the IOC Member States I would like to congratulate the IHO Secretary-General and the entire IHO with the progress achieved in all dimensions of its work.

The IOC is an intergovernmental organization established in 1960. Its purpose is to promote international cooperation and to coordinate programmes in research, services and capacity- building, in order to learn more about the nature and resources of the ocean and coastal areas and to apply that knowledge for the improvement of management, sustainable development the protection of the marine environment, and the decision-making processes of its Member States.

In order to achieve its purpose, the IOC should collaborate with key partners like the IHO. A prime example of such collaboration is the General Bathymetric Chart of the Oceans (GEBCO) project which has been a joint project between IHO and IOC since 1973 when the joint IHO-IOC GEBCO Guiding Committee was established. Access to high quality bathymetry is important not only for navigation but also for other purposes including ocean science. Other areas of common interests are Marine Spatial Planning and Global Ocean Observations including sea level.

Several IHO member institutions carry out sea level observations and contribute these towards the regional tsunami warning systems coordinated by the IOC.

In response in particular to the Sustainable Development Goal 14 to conserve and sustainably use the oceans, seas and marine resources for sustainable development, but also with relevance to the climate agreement, the Sendai framework for disaster risk reduction, the Samoa Pathway for Small Island Developing States, and our responsibilities in relation to the United Nations Convention on the Law of the Sea, the IOC has taken an initiative to make the decade from 2021 until 2030 into an International Decade of Ocean Science for Sustainable Development -"Towards the ocean we need for the future we want". This will be discussed at the UN Ocean Conference to be held in New York from 5 to 9 June 2017, coinciding with World Oceans Day. We are hopeful that the IHO would like to be an active partner with IOC and others in this endeavour.

In addition to high level initiatives the IOC and IHO can work together on a practical level to make sure that vessels and other platforms collect multiple types of data for multiple purposes and share them in the most effective way. Finally, Chair, I note that the IHO has selected "Mapping our seas, oceans and waterways - more important than ever" as the theme of the World Hydrography Day 2017. The World Hydrography Day this year happens to be at the opening day of the IOC Assembly in Paris. I am convinced that I will have full support from IOC Member States to work towards further strengthening the links between the IHO and the IOC in the future. Thank you Chair.

ANNEX C TO SUMMARY RECORD 1

Statement of the Republic of Korea

I take the floor to explain what my government has in mind about the future of S-23 mentioned in Proposal 13 and the way forward for its revision.

Over the past century, S-23 has been considered to be the IHO's important publication in view of its use by cartographers, national institutions and commercial agencies. Nevertheless, we all share the view that the third edition of S-23 is now somewhat ineffective as well as outdated, since it has not been revised for the last 64 years. And thereby it fails to correctly reflect the developments of reality during that time span, damaging the authority and reputation of the IHO.

So far, many of the issues that were previously discussed for the revision of S-23 have been resolved, leaving only one or a few of them outstanding. Though those issues could have been easily resolved if the IHO Technical Resolutions, including A4.2, had been implemented as recommended, unfortunately, they are still pending issues.

Against this backdrop, the Republic of Korea proposed a discussion about the future of S-23 in this Assembly. If we are not able to deal with the revision soon, we will be faced with a fundamental question about the future of this publication.

Mr Chair, I have an idea which I want to share with you and colleagues in this room as a way forward for making progress in revision of S-23. This idea comes from the analysis of the history of our past efforts for revision and lessons learnt from that analysis. The analysis includes our experience with the Working Group in 2009 to 2012, which turned out to be a fairly fruitful try but short of success.

As we are all familiar, that W/G was an official mechanism which was stipulated in our General Regulation. The revision of S-23 had been included in the Work Programme and financially supported by the regular budget. Though it had many virtues for our discussion, the W/G also exposed its weakness in a sense that too many Member States were involved around different areas of concern. And it was so official that participants were sometimes reluctant to be flexible at the critical moment of our discussion.

With this analysis and lessons learnt in mind, the Republic of Korea would like to draw your attention to the following idea as a proposal for the progress of S-23 revision.

- Member States concerned with the outstanding issue or issues in the revision of S-23 should hold informal consultations by the invitation of the Secretary-General; and
- The Secretary-General should facilitate such consultations and report the result of the consultations to the Assembly at the next ordinary session.

The Republic of Korea believes that informal consultations have more advantages in terms of flexibility than official mechanisms when a more constructive solution is needed.

Past instances indicate that bilateral consultations without support by the Secretariat make little headway. Third parties participating in the consultations played positive roles in furthering our discussion. In this regard, my Delegation believes that support by the Secretariat and constructive participation by Member States interested are essential. In our contact with Member States about this idea of informal consultation, some States have already expressed their willingness to positively consider their participation in the informal consultations, if such informal mechanism is established.

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One thing I want to underline is that our formula of informal consultations is, in nature, a neutral and procedural proposal with a view to creating a flexible framework for discussions.

In addition, the informal consultation framework also takes into account Japan's relevant comment, which acknowledges the need for S-23 revision while being reluctant to include it into the Work Programme for next 3 years. Since it is informal, we do not necessarily include the consultation in the Work Programme. That is one of the reasons why my Delegation has come up with such an informal approach.

In conclusion, the Republic of Korea would like to respectfully request Member States, through you, Mr Chair, to support the ROK's way forward in light of urgent necessity of S-23 revision and the background that I explained to you as above.

Mr Chair, my Delegation is eager to receive constructive comments from colleagues in this room and happy to answer any questions about my proposal for informal consultation.

Thank you.

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1st SESSION OF THE IHO ASSEMBLY

SUMMARY RECORD OF THE SECOND PLENARY SESSION

25 April 2017

CONSIDERATION OF REPORTS AND PROPOSALS: WORK PROGRAMME 1 (Agenda Item 3) - Continued

The SECRETARY-GENERAL invited the Assembly to take action and noted that he had taken into consideration the comments made by the United States regarding the requirement to consider increasing the permanent staff in the Secretariat and had adjusted the wording to align with other reports in the agenda.

The SECRETARY-GENERAL invited the Assembly to consider three out of the four points that he had presented for decision: to note the report itself; to note the requirement to consider increasing the permanent staff in the Secretariat as soon as finances allow; to approve the proposed revisions to the IHO Strategic Plan; and to put in abeyance the decision to approve the proposed revisions to Resolution 12/2002 – *Planning Cycle* until the Assembly had considered PRO-4. The Secretary-General pointed out that depending on the outcome of the Assembly's consideration of PRO-4, a revision to his proposal for adjusting IHO Resolution 12/2002 may or may not be required.

The CHAIR invited the Assembly to decide on the first three points.

There being no further comment, the CHAIR declared that:

The Assembly had noted the Report of the Secretary-General.

The Assembly had noted the requirement to consider increasing the permanent staff in the Secretariat as soon as finances allow.

The Assembly had approved the revisions to the IHO Strategic Plan.

The CHAIR stated that the Secretary-General's proposed revision of the Resolution 12/2002 would be taken up after discussion on PRO-4.

PRO-4: REWRITE OF THE IHO STRATEGIC PLAN

UNITED KINGDOM presented a summary of PRO-4 and the reasons behind its Proposal to undertake a total rewriting of the IHO Strategic Plan.

UNITED KINGDOM stated that in light of the discussion that had occurred in Monday's session, it wished to adjust the timeline that was originally outlined in PRO-4. UK now proposed that the Assembly task the Council to provide a draft new Strategic Plan in sufficient time to receive consideration and endorsement at A-2 and to establish a working group for this purpose if deemed necessary. UK indicated that the timeline for the Plan should be a rolling six-year period and that the next Plan should cover from 2020 to 2026. This would result in the IHO launching its new Strategic Plan just as it enters its centenary year in 2021.

CANADA expressed its support for the approval of Resolution 12/2002 on the planning cycle for the strategic plan. Canada suggested that discussion on the Strategic Plan should start

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with the new IHO Council identifying how to move forward before considering significant changes or rewriting of the Strategic Plan.

CANADA stated that it would like PRO-4 to be subject to the calendar of the new IHO Council, which will begin in October 2017, and that IHO Resolution 12/2002 should be approved so as to identify the timetable and the process before too quickly embarking on a partial or even complete rewrite.

SOUTH AFRICA expressed support for the Proposal, as adjusted by the UK, and considered that a more conservative approach was appropriate because delivery of a new draft of the Strategic Plan to the IHO Council in October would have been difficult to achieve.

BRAZIL expressed support for the Proposal, as adjusted by the UK. Brazil stated that the Strategic Plan needs to drive more specifically the priorities of the IHO.

CROATIA stated that the IHO had maintained its strategic objective and had significantly contributed to revolutionary achievements. Croatia stated that due to new challenges in key areas where the hydrographic community will be expected to contribute, it was necessary to undertake a comprehensive analysis of all the relevant IHO documents, including the IHO Strategic Plan. Croatia believed that there would need to be preliminary conceptual considerations of the strategic directions and analysis of reasons for failure to accomplish planned tasks as well as deciding where to target efforts to eliminate obstacles and weaknesses.

CROATIA stated that the following questions should be considered at a conceptual level: Whether IHO efficiency can be improved by increasing overall capacities with the condition that the necessary financial resources be provided exclusively from other sources and not by increasing membership dues paid by the IHO Member States; second, whether IHO effectiveness can be improved by reducing the number of tasks related to new thematic segments by setting priorities; third, whether one of the solutions would be partial or complete transfer of responsibility and implementation of some tasks not directly connected to the safety of navigation; fourth, whether it is possible to revise the Strategic Plan only by specifying new topics and tasks and linking them only with existing or additional strategic directives and assumptions without amendments to strategic objective being required and thus without the need to initiate the procedure for amending Article 2 of the IHO Convention. Croatia stated it could support PRO-4.

GERMANY stated that the proposed revised Strategic Plan presented by the Secretary-General provided a good balance between high level strategic assumptions, strategic directions, and ways and means to achieve that. Germany stated that it accepted the view that derived work items and the associated priorities and target dates of delivery of results might not be well presented within the details of the work programmes and believed that the placement of priorities and milestones should be subject to a collective decision within the specialized committees. Germany suggested that it might be appropriate for the Council to review and revise milestones and priorities on an annual basis as appropriate.

GERMANY stated that the proposed revision of Resolution 12/2002 was the correct way to proceed and that an ongoing process to adapt priorities on an annual basis would be more efficient than a total rewrite of the Strategic Plan.

The CHAIR requested that Germany clarify its suggestion regarding the Council reviewing milestones on an annual basis.

GERMANY suggested first to adopt the revision of Resolution 12/2002 as presented by the Secretary-General, followed by using the Council as the driver of the review and revision process with an annual revision of the priorities. This closely followed the suggestion made

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by Canada which was for the Council to consider the further need for revision of the Strategic Plan rather than at the current Assembly.

FRANCE stated that rewriting a new Strategic Plan would be a huge effort and before embarking on such a process it would be appropriate to see if it is truly necessary to rewrite the Strategic Plan in order to facilitate the implementation of the strategy through the programme of work.

FRANCE stated that it believed that the Council should be given by the Assembly a paramount role in monitoring the implementation of the IHO strategy and supported the positions of Canada and Germany.

NORWAY expressed support for the statements made earlier by Germany, Canada, and France, and suggested that UK be given the opportunity to present its views on new strategic directions to the IHO Council which can then make decisions about whether it is necessary to have a complete rewrite or if a revision would be sufficient.

NORWAY expressed support for Resolution 12/2002 on the planning cycle and accepted the revised Strategic Plan as it stands now and looked forward to discussing possible new strategic directions at the IHO Council.

NIGERIA expressed support for PRO-4.

SINGAPORE expressed support for PRO-4. Singapore suggested that in going forward the various status of capacity and capabilities of the Member States need to be considered.

TOGO stated that it believed that time needs to be set aside to read through the Strategic Plan and proposed that this be done in the 1st and 2nd Sessions [of the Assembly]. During that time, Member States and non-Member States would have an opportunity to send in suggested wording to improve the Strategic Plan.

TOGO drew comparisons with several other intergovernmental organizations and also considered that other aspects, including climate change, coastal areas, sediment flows, and the description of the seabed, should be considered, together with initiatives to attract other States to join the IHO.

NETHERLANDS stated that it shared the concerns of the UK and stated that the IHO needs to remain relevant. Netherlands stated that the strategic priorities should be made explicit rather than implicit for guidance purposes. Netherlands expressed support for PRO-4. Netherlands further observed that there were suggestions being made to involve the Council and that the Assembly may be inviting the Council to take on strategic tasks. If this was determined to be the right course to take, the Netherlands suggested that there should be appropriate wording that tasks the Council to do this strategic work for the Assembly.

CHINA stated that whichever process is chosen, either a rewrite or revision of the Strategic Plan, it will depend on the inconsistency of the current Strategic Plan and also available resources and cost. China stated that it would agree to amend the Strategic Plan either by rewriting or revising it and that more Member States should be encouraged to participate in the process to ensure feasibility and consistency.

FINLAND stated that due to the great importance of a Strategic Plan for the IHO work and in the end to maritime shipping and other stakeholders, it is important that the plan is based on widely accepted strategic directions and reflects common interests of Member States. To launch a work or a project of this scale it is good to do a proper cost-benefit analysis in order to find out whether rewriting is really needed. If the analysis concludes that there is a need to rewrite the plan, the work must be organised in the right way meaning that there are

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sufficient resources available for the project provided by a large number of Member States, and that there is a clear plan on how the rewrite will be steered between the Assembly sessions. Finland supported the comments made by Germany, France, and Canada.

UNITED STATES OF AMERICA expressed support for PRO-4, as adjusted by UK, and recognized the opportunity presented by an update to the Strategic Plan in the context of the new IHO Council and the role of the Council as a strong and standing mechanism for maintaining and maturing the Strategic Plan.

While retaining the responsibility for Strategic Plan development, USA expected that the Council would be inclusive to input from all Member States and the IHO role within the community of intergovernmental organizations as noted by Togo and was pleased that the UK had made certain amendments to its Proposal. Accordingly, USA supported PRO-4.

MEXICO noted that the common denominator was that everyone agrees that the Strategic Plan cannot stand as it is and needs to be reviewed and then either amended or completely rewritten and stated that modification of the Strategic Plan cannot wait until all the new technology changes are fully implemented. Mexico considered that it will be too late if action is not taken until after all the coming technologies are implemented and if we do not do our part someone else will fill the void. Mexico believed that the IHO must extend its vision to becoming a leader in the marine geospatial world.

MEXICO indicated its basic support of the Proposal by the UK, together with the comments put forward by Germany, France, Canada, USA, and others.

The CHAIR summarized the discussion so far and stated that the issue was whether the Strategic Plan should be rewritten or reviewed and that there was no issue with regard to the role of the Council to oversee the matter. The issue was whether there should be a specific directive to the Council to review or rewrite the Strategic Plan.

The CHAIR asked the UK if rewriting was something which could be addressed after review by the Council to decide whether there is an absolute need for substantial change to the Strategic Plan.

UNITED KINGDOM stated that a comprehensive revision with an aim of providing the results of such a revision to the Assembly in 2020 would appear to be a sensible compromise and way forward. UK observed that there appeared to be general consensus that there needs to be a comprehensive review and that engagement will be far wider than just the Members of the Council.

The CHAIR asked the UK for confirmation that what was now being proposed was to task the Council as part of the planning cycle, in accordance with Resolution 12/2002, to consider whether the Strategic Plan required a revision or rewriting and to report back to the Assembly in 2020.

UNITED KINGDOM expressed concern that this would appear to be delaying the inevitable. Asking the Council to consider if a new Plan is required would only delay the introduction of a new Plan, should that be desired. Under the Convention and the Rules of Procedure, it is only the Assembly that can make such changes and endorse such changes. So if a revised Plan is not presented at the second session of the Assembly, any new Plan would not be implemented until the third session of the Assembly. The UK asked that, in accordance with its adjusted Proposal, the second session of the Assembly be presented with a comprehensive revised Strategic Plan for its consideration.

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NORWAY observed that there appeared to be a challenge that on the one hand we do not allow the Council to review because it should be the Assembly to deal with strategic issues but, on the other hand, letting the Assembly deal with the issue will give us either too much time if we want to do it in 2020 or too little time if we want to do it now. Norway very much recognized all earlier statements with regard to changes that have taken place since 2009. Norway stated that it had not heard one direct argument where the present strategic directions are not dealing with the changing situation. At present, Norway felt that it would be unwise to start such a huge enterprise of a complete rewrite without a thorough strategic direction gap analysis. Therefore, Norway supported that the Assembly task the Council to review the present Strategic Plan.

NETHERLANDS concurred with the position of the UK and Mexico that waiting until the next Assembly to do something and then waiting another three years would result in the IHO being overtaken.

In reply to the intervention from Norway, NETHERLANDS stated that the current Strategic Plan lacks guidance in certain places which makes it ineffective. We cannot function without reading the Strategic Plan. Maybe that in itself is proof that it needs to be rewritten.

GERMANY pointed out the distinction being made between "rewrite" and "revision" and proposed to adapt the UK Proposal and modify it to say "*the Council is tasked to provide a draft revised Strategic Plan.*"

DIRECTOR BESSERO invited the Assembly to look at the proposed revision of the IHO Resolution on the planning cycle and explained that the Resolution requires that a proposal related to the Strategic Plan be presented to each session of the Assembly as a result of the continuous planning cycle. In the past, each Conference was invited to approve the Strategic Plan, in the new arrangements it will be the Assembly.

DIRECTOR BESSERO indicated that the real question is whether the proposed planning cycle, which is currently due to start one year before the next Assembly, should actually start earlier and whether the Council should be tasked for this first intersessional period between the two Assemblies to initiate such a process with the Secretariat rather than waiting until 2019. Accordingly, the Assembly should agree on the way it wishes to proceed and to discuss the modalities and whether the planning cycle for consideration of the Strategic plan should cover the three-year intersessional period rather than just the last year before an Assembly.

The CHAIR directed the discussion back to the Proposal by UK. The Chair clarified that the Proposal is not to delegate approval of the Strategic Plan to the Council but to task the Council to look at the Strategic Plan and determine whether it remains relevant.

The CHAIR stated that the issue was whether the Strategic Plan should be rewritten and recalled the concerns expressed by several Member States that it was premature to rewrite the Strategic Plan without first doing a full analysis of the current Strategic Plan. The Council has the opportunity to review the Strategic Plan and to establish working groups as necessary to look at the Plan on a yearly basis for submittal to the next Assembly.

FRANCE stated that it appeared that all the speakers agreed that the next Assembly could approve a Strategic Plan which has been amended, revised or totally reworded during the period between the two Assemblies.

France stated that it was not possible to prejudge now without analysis whether the plan to be submitted for approval at the 2nd Session of the Assembly should be totally rewritten or only amended.

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FRANCE suggested that the Council be tasked to decide whether it is necessary to completely rewrite the Strategic Plan or not so that at the 2nd Session of the Assembly there does not need to be discussion on that topic. Instead, there could be discussion on the content of the Plan as proposed by the Council.

SOUTH AFRICA pointed out that, looking at the previous process followed by the ISPWG, it did its work mainly by correspondence and developed the previous Strategic Plan at one final meeting. South Africa suggested that the Council would be well-suited to conduct a similar role as the ISPWG with the added benefit that they will meet more often than in the previous process. South Africa stated that the decision before the Assembly now was whether there would need to be a comprehensive rewrite or just an updating of the Strategic Plan.

UNITED KINGDOM suggested, in the spirit of trying to move forward, that the suggestion by Germany to change the wording to perhaps read "*The IHO Strategic Plan requires a comprehensive revision and the Council is tasked to provide a new draft in sufficient time to receive consideration and endorsement at the 2nd Assembly*" would be acceptable to the UK as an amendment to its Proposal.

UNITED KINGDOM pointed out that the issue is perhaps one of timing and it clearly is going to take a significant amount of time to undertake a comprehensive analysis to enable a revised draft to be created, and there would not be enough time under the current planning cycle if that starts one year before an Assembly. So tasking the Council to do it earlier would, in the UK's opinion, be the appropriate way to move forward.

CANADA expressed support for the new wording that the UK had suggested.

The CHAIR suggested that the Secretary-General work with the UK on their proposed adjustment to PRO-4, as outlined.

DENMARK expressed its full support for the proposed adjustment from UK.

NORWAY expressed support for the UK's latest position.

Resuming discussions after the coffee-break, the CHAIR announced that revisions had been drafted to the UK's earlier Proposal on the planning cycle and asked Director Bessero to explain the amendments to the UK's Proposal.

DIRECTOR BESSERO first explained that the Proposal was based on the proposed revised Resolution on the planning cycle contained in document A.1/WP1/04.

DIRECTOR BESSERO outlined the changes proposed by the UK. The first one related to the current definition of the Strategic Plan which stated that it "shall be for an indefinite period". It was proposed that the Plan be "for a rolling six-year period".

DIRECTOR BESSERO then presented another suggested change which would return to the initial structure of the Resolution by including a specific section on the planning cycle for the Strategic Plan together with a separate section for the planning cycle for the three-year Work Programme and three-year Budget. Director Bessero explained that the revised section on the planning cycle for the three-year Work Programme and Budget was the same as that already shown in WP1/04 but with all references to the Strategic Plan removed.

The CHAIR asked the Assembly for its agreement on the UK's proposed adjusted text for Resolution 12/2002 regarding the planning cycle.

It was so agreed.

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The CHAIR introduced the UK's proposed amendment regarding instructions to the Council regarding the Strategic Plan and gave the floor to the UK to present its draft revised proposal.

UNITED KINGDOM presented the revised proposal and pointed out that the word "rewrite" had been removed and the word "revision" inserted. The second bullet was that the Council should be tasked to conduct a comprehensive review and to provide a draft Plan in sufficient time to receive consideration and endorsement at the next Assembly. In accordance with the revised Convention, it was proposed to empower the Council to establish a working group if they deem that it was necessary.

TURKEY supported the UK Proposal as amended.

SAUDI ARABIA supported the UK Proposal as amended.

The CHAIR asked the Assembly for agreement on the UK Proposal regarding the review of the Strategic Plan, as amended.

PRO-4, as amended, was adopted.

PRO-9: REVISE IHO PUBLICATION M-3 - REPERTORY OF IHO RESOLUTIONS

The SECRETARY-GENERAL explained that as a result of the entry into force of the amended Convention of the IHO and the implementation of the new Basic Documents, there has been a consequential impact on a number of IHO Resolutions and, as a consequence, a number of active IHO Resolutions set out in IHO Publication M-3 needed to be updated. He explained the two-level approach that was being proposed: editorial amendments needed to reflect the changes and the nomenclature of the Organization; and substantive amendments or withdrawal of several existing Resolutions.

The Secretary-General invited the Assembly to agree to the editorial amendments in IHO Publication M-3 as set out in Annex A of his Proposal, and the development of substantive amendments according to the principles set out in Annex B.

The CHAIR invited comments from the floor and there were none.

PRO-9 was adopted.

CONSIDERATION OF REPORTS AND PROPOSALS: WORK PROGRAMME 2 - HYDROGRAPHIC STANDARDS AND SERVICES (Agenda Item 4) (A.1/WP2/01)

The HSSC CHAIR provided a detailed presentation of the principal achievements and significant activities related to Work Programme 2. The Republic of Korea and Sweden both provided video illustrations highlighting portions of the work programme which were shown to the Assembly. The HSSC Chair asked the Assembly to note the report and to approve the continued existence of the Committee under the amended Terms of Reference and Rules of Procedure subject to the consideration and adoption of the IHO Work Programme 2018-2020 to be considered by the Assembly later in the session.

NORWAY thanked the HSSC Chair and Member States for their achievements and thanked Sweden for their video. Norway stated that it was not just safety of navigation but safe and effective navigation that would provide a more comprehensive meaning for the mariner.

REPUBLIC OF KOREA stated that the use of S-100 was going beyond hydrographic surveying and nautical cartography and was expanding as a fundamental marine spatial data specification. For the safety of navigation in support of the IMO as well as for other

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applications in support of the WMO, IALA, and IEC, the Republic of Korea has been contributing to the development of S-100, catalogue builder and test beds. In particular, since S-100 is complex and diverse, ROK had submitted PRO-6, based on experience gained from running S-100 test beds, in order to overcome limitations of the IHO Resolution 2/2007 and asked for the support of the Member States with reference to PRO-6.

The CHAIR suggested that the Assembly note the report on the execution of Programme 2, approve the continuing existence of HSSC and agree the other recommendations included in the report.

The Assembly took note of the report and reconfirmed the HSSC under the amended Terms of Reference and Rules of Procedure that were presented in document A.1/WP2/01. The Assembly agreed also the other recommendations included in the document.

PRO-6: PROPOSED AMENDMENT TO IHO RESOLUTION 2/2007 FOR IMPROVING THE VALIDATION PROCEDURE OF MAKING CHANGES TO SPECIFICATIONS BASED ON S-100

REPUBLIC OF KOREA presented a summary of PRO-6 and the reasons behind its Proposal.

Recognizing the need to improve the test and validation procedure the Proposal sought to amend Resolution 2/2007 by adding the following items: first, establish and run a test bed to test and validate changes to S-100 specifications; second, share the results of running the test bed on the IHO website; third, for the test bed body to develop detailed specifications and have them approved by the HSSC. If the Proposal is approved, ROK stated that they would like to actively participate in the revision based on their experience gained from developing S-100 series.

UNITED STATES OF AMERICA thanked the Republic of Korea for their ongoing contribution to S-100 and the S-100 test bed. United States expressed support for the Proposal to add language regarding testing and validation to the IHO specifications and recommended that it be added to the HSSC work plan for further consideration. The USA commented that while the HSSC is considering this Proposal, it should consider modernizing and streamlining other parts of Resolution 2/2007 to allow more flexibility and agility in updating and approving standards. The USA also encouraged the HSSC to endorse the operation of multiple test beds to validate S-100 and related standards, prototype data, and future production data.

CANADA acknowledged the great work and leadership of ROK. Canada stated that it was strongly committed to S-100 development and implementation. Canada expressed support for PRO-6 regarding the establishment of an S-100 test bed. As recommended by France and UK in the *Red Book*, Canada expressed support for the idea that any future S-100 test bed should fall under the responsibility and oversight of the IHO S-100 Working Group.

SOUTH AFRICA commended the Republic of Korea for their immense efforts on S-100. South Africa expressed support for PRO-6 in principle but was not convinced that an IHO Resolution is the correct mechanism for providing detailed guidance on how it should be carried out. South Africa suggested that the Resolution should provide guiding principles, but the method of execution should be determined and defined by the relevant committee or working group.

BRAZIL supported the need to establish a test bed for testing and validating S-100 based specification changes and dissemination of the results on the IHO website and that responsibility for the test bed should fall under the S-100 Working Group as well as procedures for approval of new S-100-based standards and amendments.

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The CHAIR summarized the comments from the Member States and proposed to assign the revision of IHO Resolution 2/2007 to the HSSC, taking into account PRO-6 and related comments.

It was so agreed.

PRO-12: REVISE IHO RESOLUTION 4/1967 AS AMENDED - SUBMARINE CABLES

GERMANY explained that its Proposal is a practical application of the Memorandum of Understanding between the IHO and the International Cable Protection Committee signed in 2016. Germany provided some historical background and described the guidance provided by the proposed revised Resolution.

Although this was not the normal procedure, Germany invited the Assembly to directly consider and endorse the proposed revision of Resolution 4/1967 on submarine cables, because of the urgency involved due to the significant increase in global cable activities across the world seas and oceans. Germany stated it had received a number of substantive comments on the Proposal and created a modified version which addressed the comments received (see document A.1/G/02/Add.1 included as annex A at the end of this Summary Record).

SOUTH AFRICA noted that PRO-12 did not mention the Convention on the High Seas, amended in 1958 which states various other conditions under which submarine cables should be avoided and protected. South Africa expressed concern about the clearing distances specified. South Africa pointed out that the Convention on the High Seas refers to two different clearance distances in nautical mile when a ship is laying cables and suggested it might be restrictive and a problem if the least clearance required is specified and gave an example specific to South Africa. South Africa indicated that the Proposal should refer to the Convention on the High Seas and requested more clarity on the clearance distances as specified.

GERMANY stated its understanding that there was a proposed minimum distance of a quarter of a mile but that it was not binding and could be adjusted according to national requirements.

SOUTH AFRICA suggested that if wording could be added, as explained by Germany, that the distance specified would be subject to national authority, then that could provide for bigger distances, if desired, by individual countries.

BRAZIL expressed support for PRO-12 and understood that it would be very useful in order to reduce instances involving anchors and submarine cables and noted that each Member State should create procedures and standards to ensure effectiveness of this Proposal.

ISLAMIC REPUBLIC OF IRAN expressed its appreciation to Germany for the Proposal submitted. Islamic Republic of Iran stated that in the Proposal the vessels losing their anchors due to no fault of their own would be entitled to reimbursement and questioned how such an incident could occur when the cables were charted and vessels were not allowed to anchor in their vicinity. Islamic Republic of Iran expressed that it believed the reimbursement could not be guaranteed and questioned how it could therefore be included in the recommended text in the PRO-12.

GERMANY responded that it was hoping that the phrase "this action is *'likely' to lead to vessels' reimbursement*" would address the case raised by the Islamic Republic of Iran. Germany went on to state that this was a complex legal issue and could not be solved with simple advice on how to handle specific scenarios and indicated that the Proposal was

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intended only to provide general guidance on how to contact the cable owners, which might be subject to a legal dispute outside the scope of the Resolution.

ISLAMIC REPUBLIC OF IRAN indicated that it was not satisfied with the response from Germany in terms of sense of responsibility. At the request of the Chair, Islamic Republic of Iran indicated that it would provide a proposed text to the Secretariat or to Germany that addressed their concerns.

JAPAN emphasized that the importance of underwater infrastructure could not be underestimated. In addition, Japan stated that it recognized the demand among IHO Member States to broaden IHO's hydrographic authority to new stakeholders such as global ICT² companies. In this sense, Japan stated that it basically supported the Proposal of Germany. Nonetheless, Japan stated that it had some concerns that each country might have different thinking towards the protection of cables and anticipated difficulties. Japan stated it would like to confirm there was still some flexibility to expand the descriptions in nautical publications, subject to the situation in each country. If this basis was ensured, Japan could support the Proposal.

UNITED STATES OF AMERICA stated that it would like to support the position of the Islamic Republic of Iran on the sentence regarding reimbursement and proposed that the sentence be removed. The United States stated it was similarly not comfortable with publishing a fairly speculative policy about reimbursement for lost anchors. The United States stated that to the extent that this was recommended language for publication, they were not comfortable with putting in speculative language and suggested that the sentence starting with "if" and ending with "sacrifice" be removed from the proposed language.

UNITED KINGDOM expressed its support for the suggestion from the United States.

SINGAPORE expressed its support for the Proposal but raised two issues. Firstly, there were occasions when cable owners did not report newly laid cables or when they had been decommissioned so that charts could be updated by hydrographic offices. Secondly, reliability issues arose when damaged cables were not owned by individual or independent companies but by a consortium of companies. This might add to the complexity of the liability claims.

GERMANY stated that it could support the deletion of the sentence regarding reimbursement for lost anchors. Addressing the concerns of South Africa, Germany suggested that the footnote referring to the national authority be reinserted and that a reference to the applicable Convention be added.

The CHAIR invited the Assembly to approve the revised text with the adjustments proposed by Germany.

PRO-12, as amended, was adopted.

² ICT: Information, Communication and Technology.

ANNEX A TO SUMMARY RECORD 2

PRO-12: Modified version of the proposed revision of IHO Resolution 4/1967
(Document A.1/G/02/Add.1)

The modifications are shown in red / ~~red~~

SUBMARINE CABLES	4/1967 as amended	IHC 16IHO A-1	C3.10
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The following text should be used by Hydrographic Offices as the basis upon which to provide mariners with appropriate information in publications such as Mariners' Handbooks or annual Notice to Mariners:

Certain submarine cables are used for telecommunications functions while others are used for power transmission. All power cables and most telecommunications cables carry dangerous high voltages. Damaging or severing a submarine cable, whether a telecommunications cable or a power cable, may, in some circumstances be considered as a national disaster and very severe criminal penalties may apply. Electrocution, with injury or loss of life, could occur if any cables carrying high voltage are broached. Depending on whether the cable is primarily for power or telecommunications, damage may result in power cuts, loss of voice, data transfer or internet connectivity. In these circumstances cables are considered to be critical infrastructure.

In view of the serious consequences resulting from damage to submarine cables, vessel operators should take special care when anchoring, fishing, mining, dredging, or engaging in underwater operations near areas where these cables may exist or have been reported to exist. In order to minimize the risk of such damage as much as possible, vessels should avoid any such activity at a minimum distance of 0.25-mile on either side of submarine cables.

Mariners are also warned that the seafloor where cables were originally buried may have changed and cables ~~may now be~~ become exposed; therefore particular caution should be taken when operating vessels in areas where submarine cables exist ~~and~~ especially where the depth of water means that there is a limited under-keel clearance.

Vessels fouling a submarine cable should not attempt to clear or raise the cable due to the high possibility of damaging the cable. No attempt should be made to cut a cable and ~~A~~anchors or gear that cannot be cleared should be slipped, ~~and no attempt should be made to cut a cable.~~ Before any attempt to slip or cut gear from the cable is made, the cable should first be lowered to the seafloor. Note that there is a risk of capsizing smaller vessels (primarily fishing vessels) if they attempt to bring a cable to the surface. Following an incident of fouling a cable, a vessel should immediately notify the local responsible authority of the position, type, and amount of gear remaining on the seafloor. If a vessel mariner, through no fault of their own, catches fouls a cable with an anchor or gear, ~~then sacrificing~~ and the anchor or gear has to be sacrificed to prevent damage to the cable, this action is likely to lead to vessel's reimbursement; the cable owner is required to indemnify the mariner for the cost of the sacrifice'. In inland areas or along the coast, warning signs or marker beacons are often erected to warn the mariner of the existence of submarine cables.

~~In order to avoid the risk of damaging submarine cables as much as possible, a 0.25-mile wide protected area² exists on either side of a submarine cable. Anchoring is prohibited within this area, even when there is no specific prohibition on the chart.~~

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Incidents involving the fouling of submarine cables should be reported immediately³ at the shortest possible notice to the appropriateresponsible authorities²⁴ who should be advised as to the nature of the problem and the position of the vessel.

Notes:

- ^{1.} To claim a sacrifice, a vessel ~~must within 24 hours of entering port after the sacrifice, should~~ file a claim with the cable owner accompanied by a statement from the crew at the shortest possible notice. Most cable owners have a 24 hour toll-free number that a mariner can call to determine the position of a cable or to assist in making a decision on claiming a sacrifice.
- ~~^{2.} Each hydrographic authority can set this distance to a value that they feel is appropriate.~~
- ~~^{3.} Each hydrographic authority can set the reporting time to a value that they feel is appropriate.~~
- ^{24.} The appropriateresponsible authorities can be listed here, as well as contact methods (telephone, facsimile, VHF, e-mail, internet, etc.) and required information.

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1st SESSION OF THE IHO ASSEMBLY

SUMMARY RECORD OF THE THIRD PLENARY SESSION

26 April 2017

CONSIDERATION OF REPORTS AND PROPOSALS: WORK PROGRAMME 3 (AGENDA ITEM 5) - Continued (A.1/WP3/01)

MR JOHN LOWELL (United States of America), on behalf of the IRCC Chair, introduced the report on the execution of Programme 3 and explained in a detailed presentation how inter-regional coordination and support sought to establish, coordinate, and enhance cooperation among States on a regional basis and between regions. He concluded by outlining the actions required of the Assembly with regard to Programme 3.

The CHAIR opened the floor for comment.

AUSTRALIA expressed thanks from the South West Pacific Hydrographic Commission for the support of the countries in the South West Pacific. Australia commented that the introduction to the IRCC Report indicated that the IRCC had given in-principle backing to improving secretarial support to the Capacity Building (CB) work programme. Australia recalled that the action requested of the IHO Secretariat by the IRCC was stronger than “in principle” and that it was basically to provide increased support because the IHO CB work is desperately needed and heavily relied upon.

FRANCE expressed thanks to the authors of the Report and its presentation. France noted that the IRCC report showed the importance of the regional dimension of the IHO, particularly when it comes to developing electronic charting in addition to issues pertaining to the quality of ENCs. France stated the fact that should not be overlooked that significant coastal regions are not yet covered by electronic charts for lack of sufficient hydrographic data, as noted by others including the 18th International Hydrographic Conference in 2012, which gave rise to a Resolution on the need to progress the collection, quality, and availability of hydrographic data in the world. This decision remains very topical.

FRANCE noted that the scope of the IHO-European Union Network Working Group (IENWG) included a Trans-Atlantic initiative which was important. This initiative required good working knowledge of what was happening on both the American and European continents, and France offered to provide further information about the relevant work.

MR JOHN LOWELL acknowledged the reference to the Atlantic Seabed Mapping Initiative and pointed out that it was clearly within the scope of the report. He described this initiative as a new approach to collecting bathymetry across large bodies of water which had been agreed to by the European Commission, Canada and the United States and could serve as a best practice for other regions.

TURKEY expressed appreciation for the report and wished to highlight the achievements on supporting the Regional Hydrographic Commissions, on increasing the number of Member States, and on capacity building activities.

TURKEY also highlighted that active contribution of Turkey in the Regional Hydrographic Commissions, in the IRCC, in the Worldwide Navigational Warning Service, the WEND Working Group, and capacity building activities, as the Regional Coordinator, would continue.

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SOUTH AFRICA congratulated the IRCC Secretariat for the report and supported the comments made by Australia regarding the need for capacity building assistance. South Africa stated that it fully supported the actions requested by the IRCC from the Assembly.

REPUBLIC OF KOREA thanked the IRCC for its work over the previous five years. The ROK stated that the need to invest in capacity building activities for hydrographic survey was still highly recognized, considering that crowdsourcing had been added and there was significant correlation between the quality of survey data and the technical capacity of data collectors. To enable that, ROK would endeavour to increase the level of its contribution to the Capacity Building Fund and encouraged support from developed States and industry. The ROK expressed its appreciation to all participants who endeavoured to use the Capacity Building Fund in the most efficient way and confirmed that it will continue to provide support to capacity building activities.

ITALY congratulated the IRCC for its report and efforts. Italy wished to highlight the important role of the Regional Hydrographic Commissions in two specific matters, one being capacity building and the other one being resolution of overlapping ENC coverage. Italy noted the important role of hydrographic offices in the development of MSDI and identified this issue as another big challenge for each Member State and each hydrographic office.

NORWAY complimented the IRCC for an excellent report and recognized all the hard work done and achieved within the IRCC and its sub-committees over the previous five years. Norway expressed its support and agreed that there was no need to further amend or enhance the existing WEND Principles, subject to ensuring that these principles do not become “sleeping” guidelines but there remains a commitment to the full implementation of the WEND Principles.

The CHAIR summarized the points raised. The Chair drew attention to the point raised by Australia and supported by South Africa regarding the increase in secretarial support required in administration of the capacity building programme. The Chair thanked the Chair of the Capacity Building Sub Committee for the successful accomplishment of the activities of the Sub-Committee.

The CHAIR, in his role as Chair of the IRCC, expressed his view that the chairs of the RHCs should consider ways to ensure continuity among their Regional CB coordinators.

The CHAIR outlined the action items required of the Assembly as requested by the IRCC and asked the Assembly to endorse these actions.

It was so agreed.

FRANCE noted that a detailed report from the IENWG has been provided by its Chair (France) but had not been included in the written report of the IRCC. France intended to re-send the report to the Secretariat so that it may be included in the IRCC report.

The SECRETARY-GENERAL requested to speak about the significant achievements and plans for the future that were presented in the IRCC report related to the better health and governance of the seas, oceans and navigable waterways. He informed the Member States and invited them to confirm that on their behalf the Secretary-General was doing the right thing when, as part of the preparation of the UN Ocean Conference, the Observer Organizations and Member States had been invited to declare so called “Volunteer Commitments” at the UN Ocean Conference in June 2017. The conference would consider progress towards meeting Sustainable Development Goal 14, covering the Oceans, as part of the UN Agenda 2030 Sustainable Development Goals.

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The SECRETARY-GENERAL described the aim of the UN Ocean Conference. It was his proposal to declare the IHO's work towards improving hydrographic knowledge of the seas and oceans, and its capacity building programme as Voluntary Commitments. This would almost certainly guarantee the opportunity for the Secretary-General to speak at the Conference on behalf of the IHO, in addition to being able to have a permanent display throughout the conference period to promote the activities of the IHO and its contribution towards Sustainable Development Goal 14. He requested an indication that the Assembly agreed that this was an appropriate thing to do.

The INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION of UNESCO (IOC) welcomed the report of the IRCC Chair. IOC described the history of IOC support of GEBCO and highlighted the long-time, successful inter-agency cooperation with the IHO and emphasized the importance of bathymetric data.

IOC recalled that the 28th IOC Assembly decided in 2015 to conduct a review of GEBCO, focusing on how IOC should be involved in the project. The review was conducted by a group of experts representing relevant IOC technical and regional subsidiary bodies. Through the review, it was found that bathymetric datasets and products produced by GEBCO were highly relevant to most of the IOC programmes, projects and activities.

IOC pointed out that IOC can also be a focal point for GEBCO to interact with other fields beyond the traditional GEBCO community. As an example, IOC had been promoting regional networks of tsunami early warning system. Generally speaking, improved tsunami modelling would require high resolution bathymetric data and GEBCO contribution was highlighted in this area. The application of GEBCO products to support Member States efforts to develop marine spatial plans and generally ecosystem based management was also important to the IOC. As a result of the review, the IOC Executive Council had decided in 2016 that IOC would enhance its involvement in the GEBCO project, address ways of potentially contributing to GEBCO data and products, and provide guidance and user requirements to GEBCO from the perspectives of IOC's relevant programmes, projects, and activities. In this respect, a regular working group would be established to collect, integrate and assess the user requirements from the IOC perspective related to GEBCO products. The GEBCO project activities were to be reviewed by the next IOC Assembly in June 2017 and for the first time in many years a financial allocation had been included in the draft programme and budget to be approved by IOC Member States.

IOC recalled and highlighted the adoption of the Agenda 2030 Sustainable Development Goals adopted by the UN General Assembly in September 2015. The IOC Chair had informed the IHO Assembly on the first day of the Assembly of the plan to launch an *International Decade on Ocean Sciences for Sustainable Development* and invited IHO to work with IOC in the design and implementation of such an initiative. One of the stated objectives of this *Decade of the Ocean* was to boost international efforts in mapping the ocean floor and its resources to support their sustainable use. IOC welcomed the development of a *Seabed 2030* proposal likely to be implemented under the GEBCO project and with the support of the Nippon Foundation. IOC indicated its view that this much needed project would strengthen the contribution of ocean mapping to sustainable development and would contribute naturally to the objectives of a proposed *International Decade of the Ocean*.

UNITED STATES OF AMERICA expressed its strong support for such a joint project with IHO and IOC through GEBCO for a worldwide ocean mapping effort. The USA would contribute its national resources through existing hydrographic offices and other institutions in support of this.

GERMANY fully welcomed the proposal made by the Secretary-General to proactively support greater support of global ocean governance, and the cooperation of IHO and IOC.

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The CHAIR asked for agreement on supporting the Secretary-General with regard to UN activity and to invite hydrographic offices to be present at the UN Ocean Conference and make IHO's presence felt since historically the UN Conferences relating to oceans have been attended by very few hydrographers or cartographers from national hydrographic offices. The Chair urged Member States to attend the conferences or provide views to their national delegations on the role of hydrography in supporting the sustainable development of the oceans.

The CHAIR indicated that he saw general agreement.

The CHAIR invited the Chairs of the Regional Hydrographic Commissions to present their reports.

DENMARK presented the report of the Arctic Regional Hydrographic Commission (ARHC) and asked the Assembly to note the report.

The CHAIR requested clarification regarding the reason behind the Arctic RHC describing itself as an intergovernmental organization.

DENMARK stated that it believed that the ARHC comprised representatives of national hydrographic organizations who, working together, had positioned the ARHC as the organization that dealt with regional hydrographic and charting issues.

NORWAY responded by saying that it felt that there was a need for the IHO, through the ARHC, to establish itself in the Arctic as the authoritative body of knowledge to advise the Arctic Council because the Arctic Council otherwise has a more land-based orientation. As a result, during this reporting period, the ARHC has been recognized as the body of knowledge on all Arctic maritime matters.

The Assembly took note of the report.

GERMANY presented the report of the Baltic Sea Hydrographic Commission.

The CHAIR welcomed the interregional cooperation established with the North Sea Hydrographic Commission.

The Assembly took note of the report.

MALAYSIA presented the East Asia Hydrographic Commission report.

The Assembly took note of the report.

SPAIN presented the report of the Eastern Atlantic Hydrographic Commission.

The CHAIR stated he was encouraged to see Cameroon had joined the IHO and encouraged joint efforts of the countries in the region to improve navigation and safety in the area. He commented that the information regarding joint surveys provided in the presentation of the Report was very encouraging.

SPAIN responded that the collaboration between Portugal and Spain was expected to provide clear results in a few months and was a very good example of international collaboration in the regions.

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The Assembly took note of the report.

MEXICO presented the report of the Meso American - Caribbean Sea Hydrographic Commission.

The CHAIR requested a point of clarification with regard to the priority ports and the target date for completing coverage of all the ports that were identified in the Report.

MEXICO indicated that there was not yet a date for the completion of full coverage, but that work was well underway and should be achieved in a short space of time.

The Assembly took note of the report.

FRANCE presented the report of the Mediterranean and Black Seas Hydrographic Commission.

ITALY informed the Assembly that Croatia and Italy had had an interesting and fruitful meeting and were confident that the problem of overlapping ENC cells in the Adriatic Sea would be solved. In addition, Italy informed the Assembly that they were supporting the Lebanese Armed Forces in their effort to create a national hydrographic service. Italy was providing training staff and surveyors, resulting in a significant investment by Italy that would continue until 2020.

The Assembly took note of the report.

SWEDEN presented the report of the Nordic Hydrographic Commission.

The Assembly took note of the report.

EGYPT presented the report of the North Indian Ocean Hydrographic Commission.

SRI LANKA expressed gratitude to the Vice-Chair of the North Indian Ocean Hydrographic Commission (India) for extending assistance to Sri Lanka for capacity building and highly appreciated the cooperation between the two countries.

INDIA thanked Sri Lanka for its kind words. India also mentioned that the enthusiasm of all Member States to build up hydrographic capability in the region was noteworthy and, subject to the momentum continuing, the region would be able to make quick and significant progress in all areas including marine safety information systems and GEBCO requirements.

The Assembly took note of the report.

IRELAND presented the report for the North Sea Hydrographic Commission.

The Assembly took note of the report.

PAKISTAN presented the report of the ROPME Sea Area Hydrographic Commission.

The Assembly took note of the report.

SOUTH AFRICA presented the report of the Southern African and Islands Hydrographic Commission.

The CHAIR asked South Africa to expand upon the marine disaster contact details information described in the Report.

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SOUTH AFRICA stated that from the point of view of the Regional Hydrographic Commission, it would be extremely difficult to manage any disaster mitigation in the region. The purpose of the contact list was mainly to indicate the national contact details of people that should be the first one to be notified or contacted in case of a national disaster.

The Assembly took note of the report.

ECUADOR presented the report of the South-East Pacific Regional Hydrographic Commission.

The Assembly took note of the report.

ARGENTINA presented the report of the South West Atlantic Hydrographic Commission.

The Assembly took note of the report.

AUSTRALIA presented the report of the South West Pacific Hydrographic Commission.

FIJI acknowledged the assistance and expressed its sincere appreciation to Member States namely Australia, New Zealand, and also to the UK for their timely assistance during the tropical cyclone *Winston* disaster which had hit Fiji in February 2016. This led to the rapid recovery of the maritime industry in Fiji and indicated the effectiveness of the IHO Resolution on response to natural disasters.

The Assembly took note of the report.

CANADA delivered the report of the United States Canada Hydrographic Commission.

The Assembly took note of the report.

The SECRETARY-GENERAL, as Chair of the Hydrographic Commission on Antarctica (HCA), presented the report of the HCA and concluded by highlighting the significant and outstanding contribution made by Mr Andy Willett (UK) as the long-standing Charting and Survey Priorities Coordinator for the HCA.

ITALY congratulated the HCA on its report. Italy then informed the Assembly that Italy had completed the production of the three nautical charts in the area of the Ross Sea, the last one having been issued in March 2017.

UNITED KINGDOM acknowledged the very kind words of the Chair of the HCA with respect to Mr Andy Willett.

The Assembly took note of the report.

PRO-2: DEVELOPMENT OF THE IHO E-LEARNING CAPACITY

FRANCE introduced its Proposal and considered that the development of e-Learning capacity as an important tool for the IHO regarding capacity building. France pointed out that it had adjusted its Proposal to take into account the written comments already provided by some Member States and that were included in the *Red Book*. France presented a summary of its Proposal and stated that it would lead to the development of appropriate tools for capacity building purposes.

FRANCE stated that the response of the IHO could be extremely positive and help to reinforce capacity building strategies, and invited the Assembly to approve the amended

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Proposal. France invited the Assembly to task the IRCC to take into account e-learning in the IHO capacity building strategy and to task the IRCC to implement the use of e-learning in capacity building programmes and in the various Regional Commissions.

The CHAIR asked if Member States that had already made comments on the Proposal had additional comments, in particular the comments by Denmark with regard to the possibility of including Spanish and French in online training, and the United Kingdom on blended approach as an alternative to single-source e-learning.

UNITED KINGDOM stated that the use of blended training media, normal classroom instruction coupled with e-learning, was the modern way. The UK expressed concern with regard to the potential resource implications if the IRCC was asked to implement the use of e-learning in all its capacity building programmes. The UK said the language appeared to be directing that "all" capacity building programmes would have to have an e-learning capability. The UK suggested that inserting the word "consider" would be a more normal use of resources at this time

FRANCE thanked the UK for the clarification and explained that it was not the intention to seek the systematic implementation of e-learning in all the capacity building activities. It would just be one of the tools for the capacity building programme.

ISLAMIC REPUBLIC OF IRAN expressed support for the Proposal in general. However, it noted that although e-learning would facilitate and reduce the cost of training, hydrographic skills were such that the need for on-the-job and practical training would still be of the utmost of importance. Islamic Republic of Iran emphasized the point which was mentioned by France that there would be a combination of e-learning and practical training and stated that this would particularly need to include practical training in the regions with the least number of skilled and well-trained hydrographers.

CANADA stated that it considered e-learning to be absolutely essential and inevitable. Therefore, Canada supported the Proposal submitted by France. Canada sought a clarification of where the financing for this activity would come from. Canada stated that it considered that face-to-face training would remain essential in order to round off e-learning for capacity and skill building. Canada supported strongly the Proposal submitted by France.

SOUTH AFRICA expressed support for the Proposal but noted the difficulty of obtaining accreditation for online training and therefore the need to come up with a blended-training approach. It also noted that e-learning could provide a very valuable contribution as a precursor to formal full-time studies of an accredited programme. South Africa suggested that in the initial phases maybe that could be the start of such an approach.

INDIA suggested that it would be appropriate to ask the views of the countries which are recipients or desire to be recipients of such courses. India stated that practical training and on-the-job training was what was actually lacking in all capacity building efforts.

GERMANY indicated that it was also speaking as the Chair of the Capacity Building Sub Committee. Germany thanked France for its Proposal and also thanked all the other Member States for their input provided during the discussions. Germany expressed support for the Proposal and stated that e-learning was a significant improvement. The resources needed to install and run such programmes could be provided from the Capacity Building Fund at least in part. Germany mentioned that some projects had been started and mentioned the East Asia Hydrographic Commission and the Eastern Atlantic Hydrographic Commission project as examples.

GERMANY went on to discuss the implementation of such a strategy and e-learning scenarios, and especially the concept of a tutors' network as being well beyond what the

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CBSC itself could do. It would need to be a joint effort of all the subordinate bodies of the IRCC, and especially a task for the Regional Hydrographic Commissions, to come up with ideas on how to implement such a regime in their regions.

GERMANY stated that a lot of resources may be needed, financially and personally, to make this work, but Germany fully supported that there was a need to consider e-learning and asked for the support of the Member States.

REPUBLIC OF KOREA expressed support for the Proposal since online training was not bound by time and place and offered a variety of learning in hydrography. ROK had been running the Training, Research, and Development Center (TRDC), under the East Asia Hydrographic Commission since 2013, offering both offline and online training programmes. Based on ROK's experience and know-how gained from running the training center, it was willing to support defining a strategy regarding online training.

UNITED STATES OF AMERICA expressed support for France's Proposal and acknowledged the concerns of some of the Member States about the cost as well as the desire for an optimal strategy to implement a blended solution of both online and practical training. Therefore, the U.S. concurred in principle with France to task the IRCC to develop an implementation strategy regarding distance learning and traditional learning in the capacity building programme. In addition, the USA suggested an investigation into the concept of the IHO providing an online educational portal similar to the IOC's *Ocean Teacher* portal. The USA pointed out, though, that any decision regarding implementation of the IRCC strategy must be approved by the Member States.

MEXICO outlined the advantages and shortcomings of distance learning or e-learning which have to be taken into account when designing such programmes. Mexico pointed out that e-learning had certain limitations because it did not address the practical side and would be a theoretical form of learning and covering the basics. Subsequently, to complement the theoretical course, practical in-the-field training could be developed and organized in conjunction with hydrographic surveys conducted by Member States proposed and set out in a schedule in coordination with the e-learning programme.

MEXICO offered to provide its survey calendar and the areas of operations which could be taken into consideration as a complement to e-learning by providing opportunities for complementary field training for people who have recently undertaken hydrographic e-learning.

MEXICO stated that e-learning could be an excellent complement for people who already had training in hydrography covering specific topics such as "Patch Test" or "Latency Test" or on how to establish a sound velocity profiling strategy and/or to disseminate the basic principles for those who wanted to take their first steps and embark on a hydrographic career.

MEXICO expressed its support for the Proposal.

SINGAPORE stated that it fully recognized the advantage and benefits of e-learning from the Proposal. However, Singapore pointed out the importance of the work of hydrographers and cartographers for the safety of navigation, assets and marine environment. Singapore stated that it was imperative that officers undergoing training were systematically trained through hands-on training, and had constant supervision. Hence, Singapore emphasized the benefits of online e-learning training to supplement and complement face-to-face and practical training.

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SINGAPORE, in principle, expressed support for the Proposal and for the IRCC to carry out an assessment of identified training modules and the cost-effectiveness of e-learning of those modules in coming up with a programme.

IMAREST stated that it welcomed the Proposal. As a global not-for-profit marine charity, it was very involved in providing blended e-distance learning, and explained that it included a combination of online training but also residential training. IMarEST believed it was critical to provide absolute assurance of quality. IMarEST offered to discuss with any Member State that was interested, their current residential training sites in New Zealand and UK to complement online learning.

IMAREST indicated that it was standing ready to support IRCC in the definition of a strategy for e-learning and was happy to provide resource, for free, to help put together a fully implemented pilot to try and demonstrate the importance of this approach in capacity building.

IALA stated that the IALA academy had started distance learning the previous year and it had been very successful with a mix between distance learning and classroom learning. IALA also offered to share its experience with the Secretariat and the IHO Member States.

FRANCE thanked all the Member States and observers who contributed to the discussion and made several comments. In response to the comments from South Africa regarding course certification, France pointed out that there were capacity building programmes set up in various Regional Hydrographic Commissions that did not require a formal recognition process.

In addressing the comments on blended learning, FRANCE indicated it had slightly modified the wording of its Proposal submitted to the Assembly to avoid the need to define a strategy in e-learning, but rather, for the IRCC to take e-learning into account in its capacity building strategy, and to indicate that e-learning was one of the tools that could be combined with other tools, including, first and foremost, practical training on a certain number of topics.

FRANCE indicated that one of the purposes behind proposing a study on how e-learning could be included in the CB strategy was to identify and address the cost and funding issues. France drew attention to the East Atlantic Hydrographic Commission where e-learning in support of maritime safety information was being tested. France suggested that an e-learning course might be developed for the same cost than the cost of a face-to-face MSI training. France stated that in the development of an e-learning strategy, the return on investment of the development costs of e-learning should also be taken into account.

FRANCE referred to the fact that India had underscored the importance of feedback from those who have benefited from e-learning and explained that this is why it had proposed taking into consideration the experience of the various organizations which were already using this method when it came to testing this out in the Eastern Atlantic Hydrographic Commission.

FRANCE commented on the flexibility of e-learning and the comment made by Mexico regarding the fact that e-learning could also be used for continuing education and the upgrading of skills in specialized subjects where it was difficult to send out competent trainers. Hence, e-learning could be a very good solution.

FRANCE stated that if the Assembly decided to move in this direction, France would be prepared to submit a more detailed document for forthcoming sessions of the IRCC and the CBSC which would be meeting in a few weeks' time.

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The CHAIR asked France to clarify the purpose of PRO-2. France explained that its Proposal was to ensure that e-learning was considered in the delivery of the IHO Capacity Building Work Programme.

GERMANY (as CBSC Chair) stated that the purpose of the Proposal, as explained by France, was fully in line with the goal of making use of e-learning in capacity building. It did not mean that e-learning was implemented in all the different projects and activities but in, for example, the capacity building programme underneath Work Programme 3.

GERMANY continued by pointing out that in the Capacity Building Work Programme for 2017, a large majority of the training was not certified nor accredited. Most of the programmes, training, workshops, and short courses were very specialized and designed for a region and could not be standardized. In that context, there was not always a need to have accredited programmes. Furthermore, there might be a difficulty because, if one would develop very specialized e-learning programmes to meet a certain need or region, then the number of users might be reduced which then would make it less cost efficient.

The CHAIR suggested, based on the discussions and comments from the floor, to task the IRCC to consider the use of e-learning in the Capacity Building Programme.

PRO-2, as amended by the suggestion of the Chair, was adopted.

PRO-8: REVISE THE STANDARDS OF COMPETENCE FOR HYDROGRAPHIC SURVEYORS

ITALY introduced its Proposal and stated that the training of hydrographers was of paramount importance and described the history and organization of the training provided by the Italian Hydrographic Institute. Italy stated that needs and demands had changed radically. Hydrographers were employed in a wider range of activities. The present standards of competence were an excellent tool, but they would need to be supplemented with a more articulated structure. Italy stated that it felt there was a need for standards of competence that would provide more modular and flexible solutions for training more specialized hydrographers with specific skills in areas such as crowd-sourced bathymetry, remote sensing, etc.

ITALY pointed out that there were not standardized, certified, or validated courses by the IBSC. Italy believed that a modular training solution, with standard objectives set by the IHO but with a measure of flexibility for individual training providers, would be more efficient and more effective.

ITALY explained that its Proposal invited the Assembly to consider the possibility of a new approach through a questionnaire to be used as a comprehensive tool that would allow all Member States and a variety of stakeholders to express specific educational needs.

GERMANY supported the comments made by France and New Zealand in the *Red Book*. Germany noted the long process that had been followed to develop the latest standards which had only just been released, and felt that it might be better to wait until we would have more experience of their use.

CHINA stated that, after doing a comparison, it believed that the new version [of the standards] was more reasonable. The new standards were more scientific by incorporating the optional subjects and professional subjects. The new standards were more universal and more fundamental. Also, the new standards were adequate to meet the requirement of new techniques and to promote IHO influence. The introduction of new techniques was favourable for the development of the competence of both hydrographer and cartographer and provided a broad prospect for the profession of hydrographer.

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CHINA considered that the outcome of the IBSC deserved respect since the new standards had been established in accordance with relevant Resolutions and the draft had been refined by soliciting suggestions of organizations from 20 countries as well as experienced professional assessment. Nevertheless, institutions from Member States would need time and resources for the implementation of the new standards. China believed it would be understandable that the old standard be enforced together with the present standard for a certain time and the new standards could be implemented at full scale afterward.

SWEDEN recognized the need for additional competencies for hydrographers but, considering the extensive work that had been done with the standards recently, Sweden did not agree to open the standards again for review. Sweden therefore supported the comments made by Germany and also previously by New Zealand and France. Sweden pointed out that academic institutes were free to add other topics as they liked, and there was nothing against adding new other topics as appropriate.

IFHS stated that the board of the IFHS, on behalf of its members, wished to express its support to the concept of the standards of competence and acknowledged the work accomplished so far by the IHO on providing the community with such a reference.

IFHS expressed its concern that there might potentially be insufficient accredited courses available worldwide to supply the needs of commercial hydrographic organization in the future. IFHS believed it was crucial to take into account the experienced feedback from a broad range of hydrographic stakeholders. Therefore, any proposal at collecting such experience under any form was welcomed by the IFHS. IFHS suggested that it could be a facilitator between IHO and the industry to serve such inquiry.

ITALY expressed thanks particularly for the last intervention because the spirit of Italy's Proposal was to properly take into account the experience from the end users and from major stakeholders.

AUSTRALIA stated that it did not agree that it would be practical to instruct the IBSC to implement a questionnaire and did not believe it was appropriate to develop standards to look at the practical implementation of different pieces of equipment or technological changes. The principle behind the standards was that they would provide the understanding of the physics and the mathematics and the principles behind the environment in which the hydrographer would operate allowing them to problem-solve and to apply their equipment to a particular task. If efforts were made to try to account for these practical applications, then the result would really be a set of operational procedures. Australia had previously pointed out that the standards were minimum standards. Educational organizations could develop programmes with specific modules for their user community if they so wished in addition.

As a result of the various discussions, the CHAIR suggested that Italy present PRO-8 to the IBSC for further consideration.

ITALY agreed.

Accordingly, and noting no further comment from the Assembly, it was so decided.

The Chair closed discussion on PRO-8.

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PRO-5: DEVELOPMENT OF AN IHO SATELLITE DERIVED BATHYMETRY ASSESSMENT AND CHARTING PROGRAMME FOR AS YET UNCHARTED OR POORLY CHARTED AREAS

FRANCE presented a summary and explanation of its Proposal that the Regional Hydrographic Commissions via the IRCC be requested to include as part of their work programmes an assessment of as yet uncharted or poorly charted areas in their respective regions using satellite derived bathymetry (SDB) and risk assessment methodologies to develop survey priorities for donor funding consideration.

UNITED STATES OF AMERICA supported PRO-5 and considered SDB a valuable tool as a low-cost, easy-to-use technology that should be considered by Regional Hydrographic Commissions as a tool for risk assessment, chart quality evaluation, and gap identification. The United States outlined that it has been highly successful in using SDB in a number of areas. The USA stated that Regional Hydrographic Commissions would be better informed on how to target their often limited resources after conducting an evaluation using satellite derived bathymetry. Therefore, the IRCC should encourage RHCs to include it as part of their work programmes.

JAPAN stated that SDB was a powerful tool for hydrography, but was not a replacement for conventional survey technology. SDB was also a good tool to assess the quality of bathymetric data over large sea areas in a reasonable time scale and with a relatively small budget. Japan supported the idea that Regional Hydrographic Commissions via the IRCC assess regional survey requirements, which would improve the quality of regional hydrographic data and increase the efficiency of survey activities.

JAPAN stated that it has been doing research and development on SDB with the Japan Hydrographic Association and Remote Sensing Technology Center of Japan. Japan also announced that the Japan Hydrographic Association planned to provide free software on SDB which would be available in several months. This software would allow Member States to analyse satellite imagery data and obtain bathymetric data. Japan would provide the software to Member States who were interested.

FRANCE replied to a comment made by the United States indicating that it was not proposing a change to the Proposal as it stood in the *Red Book*. What was set out under Section 1, 2, 3 for implementation was simply designed to propose a train of thought and lay out certain avenues.

REPUBLIC OF KOREA expressed support for the Proposal. ROK believed it was worth encouraging the IRCC to proceed in terms of sharing skills and cooperation and encouraging the IRCC to explore the possibilities of advancing the satellite derived bathymetry technology, assessment methods, and training experts in the field.

BRAZIL supported the Proposal in spite of the fact that this technology still did not meet the requirements of S-44. Brazil stated that regarding the comments from France and United States, Brazil was not ready to analyse the way forward.

CANADA stated that it had major challenges in its poorly surveyed or unsurveyed areas, especially in the Canadian Arctic where cruise shipping was increasing significantly. As stated by France, Canada was committed to hold an SDB bathymetry workshop to initiate the discussion on the way forward within the next year. Satellite derived bathymetry allowed the identification of hazards to navigation, although it did not yet meet the standards of hydrographic techniques. Canada stated its strong support for the Proposal

SOUTH AFRICA expressed support for the Proposal.

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ISLAMIC REPUBLIC OF IRAN stated that its concern was that such systems should not interfere with exclusive rights of the Member States for the production, publication, and distribution of nautical charts within the waters under their jurisdiction. However, if a Member State needed to use such system for chart production, it should be done according to the agreement between the Member States and the technology owner.

CHINA stated that it supported the Proposal in principle and would welcome the application and use of the new technology. But bearing in mind that the accuracy and reliability of satellite derived bathymetry was relatively low, China suggested this methodology should be used firstly in areas where little or no other data exists.

The CHAIR summarized the discussion noting the general support of the Assembly that the Regional Hydrographic Commissions consider using satellite derived bathymetry and risk assessment methodologies in uncharted or poorly charted areas in their respective regions as a way of developing survey priority areas, in particular, as part of determining priorities and attracting donor funding.

There was no further comment.

It was so decided.

PRO-3: REVISION OF THE RESOLUTION ON HO RESPONSE TO DISASTERS

JAPAN presented a summary explanation of its Proposal to revise IHO Resolution 1/2005, as amended, *IHO Response to Marine Disasters, and Contribution to Prevention and Alert Systems*.

CHILE supported the Proposal. Chile stated that, like Japan, it had suffered from a large number of earthquakes and tsunamis.

ISLAMIC REPUBLIC OF IRAN pointed out that in the proposed amendment to the Resolution the participation of other Member States appeared to be of an obligatory nature, namely, the word "should" had been used. Since this sort of cooperation usually needed the deployment of equipment and/or personnel on a voluntary basis, the Islamic Republic of Iran proposed that the wording be changed in order to take these points into account.

BRAZIL stated that it supported the Proposal as long as it would improve the guidelines for the use of resources and mobilization of Member States in case of a natural disaster. Brazil also supported the intervention made by Iran.

INDIA described its experience after the 2004 tsunami and explained how it had taken around eight or nine years to complete re-surveying in the region. India fully supported the Proposal.

UNITED STATES strongly supported the spirit of the Proposal. USA shared the concerns of those Member States as expressed in the *Red Book* comments. USA noted that with the proposed amendments, the Resolution is becoming increasingly prescriptive and neither the IHO nor RHCs had authority to direct nations to respond in any particular way. Therefore, the United States recommended certain adjustments should be made to the proposed text and suggested that the IRCC be tasked to review the original intention of the Resolution and to solicit input from the RHCs and Member States to redraft a streamlined Resolution 1/2005 that would reflect a generic set of guidelines and best practices for consideration by Member States and RHCs when faced with disasters in their regions.

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IOC stated that IHO Resolution 1/2005 in its current form made reference to response activities of cooperating organizations (such as IOC) following the occurrence of a marine disaster. IOC suggested that the Resolution be amended to also appropriately stress areas where IHO and its cooperating organizations could contribute to tsunami preparedness and awareness.

IOC stated that several of the IHO's cooperating organizations carried out observations and contributed those observations to the IOC regional tsunami warning systems. However, some of these organizations were capable of providing sea-level observations in real time but did not presently do so. Lack of this data delayed the issuance of tsunami warnings. IOC suggested that the Resolution should encourage such organizations to make every effort to provide such data towards tsunami warning systems in the Pacific, Indian, Caribbean, Mediterranean, and connecting seas. IOC indicated its willingness to provide advice and facilitate technical assistance in this area as collection and access to coastal bathymetry with adequate resolution was essential. IOC went on to state that tsunami wave exercises were carried out every one to two years. Coordinators were routinely invited to participate in the tsunami wave exercises. Exercises were important so that hydrographic agencies could take part and test their own readiness and response processes. The IOC requested that this be incorporated in any revision to the Resolution.

ECUADOR stated that it would spare no effort to fit in with this Proposal. Ecuador was also exposed to seismic events and many gave rise to tsunamis. Ecuador described its experience of the previous year when an earthquake required them to review charts because of the various destructions/reconstructions that resulted. Ecuador stated that any country exposed to this kind of event might provide an immediate response, but it was not possible to guarantee that this would be effective, particularly in terms of reliance. Ecuador observed that the capabilities that needed to be rolled out involved a process of planning and implementation which presumably was necessary but might be extremely costly for certain countries, particularly developing countries. Ecuador suggested that it was necessary to create and to check the coordination mechanism so that these processes became as feasible as possible and it was absolutely necessary to work in this direction. Ecuador expressed its keen interest in the Proposal.

INDONESIA expressed support for the Proposal. Indonesia also reported that it would be hosting training in disaster relief this year and Member States of the EAHC would take part in that training. Indonesia also mentioned that it would support disaster relief in the region, when required.

The CHAIR summarized the discussion and suggested that, taking into account the comments heard at the beginning of the discussion and those contained in the *Red Book*, the Assembly should task the IRCC to review and redraft IHO Resolution 1/2005 – *IHO Response to Disasters*, as amended taking into consideration PRO-3 and related comments and submit a draft revision to the Council.

There being no further comment, it was so decided.

TIMING AND PROCESS FOR THE SELECTION OF A CHAIR AND VICE-CHAIR OF THE FIRST COUNCIL

The Chair gave the floor to Canada to discuss its proposal on the timing and process for the selection of a Chair and Vice-Chair of the first Council.

CANADA suggested that the selection of the Chair and the Vice-Chair of the first IHO Council be dealt with while Member States who were part of the Council were present in Monaco. Canada suggested that the Members of the Council could nominate, elect, and appoint their Chair and a Vice-Chair on Friday immediately after the membership of the

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Council has been approved and after the closing of the First Session of the Assembly. This could take place in a special short first meeting of the Members of the Council. The new elected Chair and Vice-Chair would then be in a position to prepare for the first meeting of the Council in October. Canada stated that electing and appointing the Chair and the Vice-Chair on Friday would enable a smoother and more efficient preparation for the Council meeting by involving both the incoming and outgoing Secretaries-General.

SOUTH AFRICA expressed support for the proposal by Canada.

GERMANY acknowledged the positive aspects of Canada's proposal and expressed its support.

UNITED KINGDOM expressed support but requested a clarification: If a member of the Council is not in attendance, would they be given an opportunity to be informed of this extraordinary meeting?

CANADA indicated that it was its understanding that all the Member States that would be Members of the Council were represented at the Assembly, but was unclear whether that was the case, and did not know what the rules and procedures were if there was one or more members missing, but hoped that the Assembly could rule anyway.

The CHAIR stated that he understood that Uruguay was not represented.

The SECRETARY-GENERAL responded to the concerns of the UK and explained that if all of the members of the Council were not represented, if the Assembly agreed to waive the strict adherence to the appropriate rule such that the Chair can be elected early, following the rules in all other respects other than the timing, it would be appropriate that all members of the Council were represented. If that could not be achieved by some mechanism, then he suggested to those Council members present that an alternative mechanism be found to elect the Chair at the first available opportunity and in advance of the first full session of the Council.

CHINA stated that it did not support the proposal and needed more time to prepare and that it was not appropriate to make a sudden decision. China stated that, as proposed by Canada, the purpose for this proposal was to save time and allow for preparation, but China did not think there was a problem at this point because, according to the Rules of Procedure, it was the role of the Secretary-General to chair the first meeting of the Council until the election of the Chair and the Vice-Chair of the Council. With regard to nominations for the Chair and Vice-Chair of the first meeting of the Council, China agreed with the proposal by the Secretary-General to use circular letters to call for nominations.

NETHERLANDS acknowledged the procedural point and suggested electing a provisional Chair to be confirmed at the first Council meeting.

NORWAY supported a practical solution because in its view, both the new Secretary-General and the one leaving will have many preparations to make and would therefore welcome a preliminary Chair to start preparing for the IHO Council. Norway expressed support for the proposal made by Canada as amended by Netherlands.

SINGAPORE stated that while Singapore recognized the practical implications that the suggestion by Canada would solve, it was sudden. Singapore said that it believed that there was not a mandate to select, nominate, or vote for the Chair or the Vice-Chair. Singapore stated that it would be able to support the Secretary-General's proposal and after this Assembly, whether through correspondence or videoconferences, select the Chair and possibly the Vice-Chair of the Council.

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JAPAN stated that it did not see the urgency sufficient enough to change the existing rule of election of the Chair of the Council. Japan understood the concern expressed by Canada and would like to support the amended proposal made by Netherlands.

The CHAIR suggested that the proposal be discussed further in the following morning session. The CHAIR acknowledged that Canada was agreeable to his suggestion.

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1st SESSION OF THE IHO ASSEMBLY

SUMMARY RECORD OF THE FOURTH PLENARY SESSION

27 April 2017

TIMING AND PROCESS FOR THE SELECTION OF A CHAIR AND VICE-CHAIR OF THE FIRST COUNCIL (continued)

The CHAIR gave the floor to Canada to continue the discussion from the previous afternoon on its proposal on the timing and process for the selection of a Chair and Vice-Chair of the first Council.

CANADA presented its clarifications and modifications. Canada explained that it did not want to rush or create a sense of urgency with regard to nominating, electing, and appointing a Chair and a Vice-Chair for the first IHO Council. Canada wanted to stress that it would not run for the two positions, nor did Canada want to create a perception of pushing Member States without the necessary preparation. Canada wished only to improve the process and the efficiency of the 1st IHO Council meeting.

CANADA presented the following clarification to its suggestion made the previous day: First, the Assembly would agree to proceed to elect a Chair and a Vice-Chair of the first IHO Council in advance of its first meeting through a postal ballot by correspondence. Second, the postal ballot would respect the following timetable which should be flexible: nominations could be sent to the Secretariat by 5 June 2017; the IHO Secretariat would then inform all Council Members by June 8 of candidates running for Chair and Vice-Chair. Then, postal ballot voting would take place between the closing of the nomination and early July, such as 9 July 2017. Finally, the IHO Secretariat would inform all IHO Member States of the elected Chair and Vice-Chair of the first Council by the end of July, 2017.

CANADA expressed its belief that this type of process would enable a smooth, efficient, and successful preparation for the IHO Council meeting of October 2017 and could therefore involve both the incoming and outgoing Secretaries-General.

The CHAIR opened the floor for comment.

NORWAY stated that according to the existing protocols the Chair and Vice-Chair of the IHO Council are selected by the members of the IHO Council. Norway asked for clarification whether the suggestion by Canada was for the selection to be done by all IHO Member States or by the Member States of the IHO Council.

CANADA responded that the proposal was for the vote to be made by the Members of the Council only.

The CHAIR closed the discussion and invited Canada to draft a text to be presented later.

PRO-11: ADOPT A RESOLUTION ON IMPROVING THE AVAILABILITY OF BATHYMETRIC DATA WORLDWIDE

The SECRETARY-GENERAL called upon Ms Jennifer Jencks, Director of the IHO Data Centre for Digital Bathymetry (DCDB), and Mr Don Ventura, Hydrographic Business Development Manager with Fugro – a geotechnical, survey, subsea, and geoscience company, to deliver short presentations to provide relevant background information of interest to Member States related to improving the current lack of bathymetric data covering the seas and oceans.

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MS JENCKS provided a presentation on the current progress being made towards improving public accessibility to bathymetric data both through the DCDB and the ongoing work of the IHO Crowd Sourced Bathymetry Working Group, of which she was the Chair.

MR VENTURA gave a presentation on collaborative and mutually beneficial ways in which government-sponsored contract surveys could be organised and specified so as to benefit the greatest number of potential data users.

The SECRETARY-GENERAL then introduced Proposal 11. He explained that PRO-11, built upon PRO-6 from the last Conference in 2012 that considered the global status of hydrographic surveying. The Secretary-General provided the history behind the Proposal and summarized its contents.

The SECRETARY-GENERAL reiterated that the purpose of the proposed Resolution is to re-emphasize the IHO's recognition of the shortfall in bathymetric knowledge of the seas, oceans, and coastal waters that existed and to acknowledge a broad range of ways to overcome this shortfall. The Resolution was also intended to show that, considering new technologies and methods, ship operators, academia, and the commercial surveying sector could assist at minimal or no cost using their existing resources.

The SECRETARY-GENERAL stated that the Proposal directly supported the UN sustainable development agenda framework particularly in relation to Sustainable Development Goal 14 concerning the oceans.

The SECRETARY-GENERAL stated that the Resolution was also intended to support the ongoing work of the Marine Spatial Data Infrastructures Working Group, the Crowd-Sourced Bathymetry Working Group, the GEBCO Guiding Committee, and the IHO DCDB, as well as the efforts of the scientific and the commercial surveying community.

The CHAIR opened the floor for discussion.

BRAZIL expressed support for the Proposal in spite of the fact that the definition of the availability of bathymetric data depended on the Member States. Brazil stated that the data from scientific and commercial sectors, in particular, would be of great value for the IHO Proposal.

MEXICO expressed support for the Proposal. Mexico noted the combination of different technologies available today and the importance of being more data-focused and customer-oriented. Mexico considered that bathymetry was basically "elevation" data under water either raster, such as BAGs or S-102, or vector, such as point clouds, regardless of the technology used to collect the data and it should be treated as such, and that looking beyond traditional charting responsibilities was also very critical for the Organization moving forward and would put the Organization in the mainstream of the geospatial world. Being part of the data stream of "Big Data" and the Internet of Things, in Mexico's view, was very much related to e-navigation and the S-100 standards should be developed with those aspects in mind too. Mexico mentioned that not much had been done regarding unmanned ships, which were taking advantage of those data streams, and it was something that would be part of e-navigation, with big data and the Internet of Things as the foundation for enabling this type of machine readable new technology at sea.

MEXICO said that adopting this Proposal would help put the IHO and hydrographic offices at the forefront of the marine geospatial world. Mexico believed it was important to adopt and embrace new technologies and push forward for accessibility of bathymetric data, taking note of any appropriate levels of restriction that would need to be applied.

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The WORLD OCEAN COUNCIL (WOC) stated that it was honoured to have become an accredited observer organization to the IHO and wished to reinforce the message of the proposed Resolution. WOC reiterated its offer to serve as a portal and bridge to the global ocean business community and relayed that they were engaged in discussions with regional groups to begin pilot projects that would provide a systematic, structured and strategic engagement with the various industries that could be involved in data collection.

NORWAY expressed support for the statement made by Mexico. Norway stated that one perspective to be considered was, on the one hand, we would like this Resolution, but on the other hand we seemed to be very conservative regarding how we would allow bathymetric data to be used in our core products. There were many areas around the world that were either not surveyed or surveyed to a standard from the 18th and 19th centuries. There would need to be better scientific methods to establish the quality of bathymetric data. Norway suggested expanding the present mandate of the Crowd-Sourced Bathymetry Working Group to look at ways to use crowd-sourced bathymetry (CSB) for safety of navigation because there was a need for better data in charts in many areas of the world; and, furthermore, to identify ways to provide an incentive for engage mariners around the world to become engaged in a CSB programme.

FRANCE expressed support for the Resolution. France noted that in addition to the worldwide and national levels which were mentioned in the Resolution, the regional level could play a very positive part by uniting the efforts of different partners in a given region. It gave the example of the EMODnet project, which aimed, among other goals, at improving bathymetric knowledge in European waters. FRANCE explained that a third stage of this project, for high resolution bathymetry, was about to begin, with the participation of several European hydrographic offices, and other institutions and companies from the private sector.

UNITED STATES OF AMERICA acknowledged the comments made by Mexico and France and particularly acknowledged the challenge that Norway posed regarding the credibility of the IHO community in leading the crowd-sourced bathymetry work by the way that we treated the data ourselves. The USA expressed its strong support for the Proposal and encouraged Member States to advance their participation in the vision of the GEBCO GC to identify all seafloor features larger than 100m by 2030. The USA noted that Member States' governments had agreed to the UM-GGIM data management principles as would be discussed in Proposal 7. In that context, the United States stated that it was incumbent on national data owners and authorities to enhance the value of the data holdings and make them available to the widest possible audience. The USA encouraged Member States to consider implementing mechanisms that would encourage the widest possible availability of hydrographic and particularly bathymetry data to support sustainable development, management, and governance in the marine environment.

SINGAPORE expressed support for the Proposal and echoed the concerns raised by Norway regarding the bathymetry data acquired having to be quality assured and categorized clearly with metadata to ensure that data used for navigation did meet the required hydrographic survey standards. Singapore suggested that consideration should be given to monitoring developments in the international geospatial data exchange formats, for example, Open Geospatial Consortium (OGC), so that OGC standards and principles be identified that could be incorporated into the IHO's efforts in improving the availability of bathymetric data worldwide

CANADA expressed support for the initiatives in terms of CSB and MSDI and supported PRO-11.

The OPEN GEOSPATIAL CONSORTIUM (OGC) referred to the fact that IHO had entered into an agreement with OGC last year for cooperative work and welcomed the members of the IHO to participate in the OGC process. OGC also encouraged the IHO to consider the

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OGC marine domain working group, which was currently deliberating over the application of standards to the entirety of the marine domain, including consideration of a marine spatial data infrastructure concept development study. OGC also highlighted that they had a citizen science domain working group which considered the aspects of directed crowdsourcing of scientific or other technical content and had developed a number of very valuable publications, in particular with emphasis on automated quality assessment and suitability of data.

The INTERNATIONAL CHAMBER OF SHIPPING (ICS) expressed that it was very supportive of the CSB project and its development. ICS echoed the point made by Norway that there needed to be an incentive for the shipping industry's participation. ICS made the point that progress needed to be made beyond just discussing the issues. ICS suggested that very clear objectives and incentives that were understood by all the players, particularly by the shipping industry, were needed to encourage participation.

MEXICO echoed the comments from Singapore regarding the OGC standards and echoed the comments of the OGC regarding the marine domain working group. Mexico added that bathymetry was essentially the elevation below water and that there were already standards to manage this information that could be taken advantage of in our domain. Mexico agreed with the comments and concerns from Singapore and Norway about quality control and quality assurance of bathymetric data.

The CHAIR summarized the discussions on noted general support for the Proposal and there was no further comment.

PRO-11 was adopted.

PRO-7: NATIONAL HYDROGRAPHIC OFFICE IMPLICATIONS REGARDING THE UNITED NATIONS COMMITTEE OF EXPERTS ON GLOBAL GEOSPATIAL INFORMATION MANAGEMENT (UN-GGIM), SHARED GUIDING PRINCIPLES FOR GEOSPATIAL INFORMATION MANAGEMENT

UNITED STATES OF AMERICA presented the Proposal which emphasized the importance of making all geospatial data available to a broad user community and managing it within a common framework. Hydrographic Offices were key providers of marine geospatial information that was highly valuable to many users beyond the traditional Safety of Navigation customers, yet the marine domain was not fully represented in the UN-GGIM considerations.

The SECRETARY-GENERAL stated that the USA has already provided much of the information explaining the relevance of the work that the GGIM was doing, and emphasized that "...if we don't do this, somebody else will." The Secretary-General noted that was what was happening in the UN-GGIM right now, particularly because most of the IHO Member States' representatives were not represented in the UN-GGIM. The Secretary-General informed the Assembly that the GGIM already had an expert group on fundamental data themes in operation. The Secretary-General was representing the IHO within that group and discussed some of the topics and events that had occurred so far within that group. He indicated, by way of example, that "depth" might not have been considered by the group without his intervention. The Secretary-General emphasized there were very, very strong reasons for IHO representatives to participate or be represented at the GGIM.

The CHAIR opened the floor for comments.

FRANCE expressed support for PRO-7 but with comments. Concerning the principle of innovation, France felt that one should not forget to broach the question of the economic model for open data. Open data might be for free but still had a cost. France expressed that

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when it came to governance, France was of the opinion that thought needed to be given to applying a subsidiary principle between the various national, regional, and global levels.

UNITED STATES OF AMERICA provided information regarding a proposed to establish a UN-GGIM working group on marine geospatial data that was expected to be submitted to the next UN-GGIM meeting.

Regarding possible future work for a proposed UN-GGIM working group on marine geospatial data, FRANCE felt that considering consistency between maritime and terrestrial data in the littoral area would be an excellent means of improving the consideration of maritime data in the overall work of the UN-GGIM.

GERMANY stated that it supported the open data policy and was supportive of the Proposal. Germany echoed the position of France regarding the aspect of data being open, free, and unrestrictive should not be misinterpreted that there was no cost. There were strong economic aspects to consider. Germany added that the matter of autonomous shipping needed to be considered and believed that there was still a need for a secured and encrypted chain of data flow for the purpose of navigation which was not endangered by intended or unintended corruption, and that might be detrimental to the idea of making everything open, free, and unrestricted. Germany saw a need for some restriction for the purpose of safety - in particular for hydrographic services and data.

CANADA stated that it saw MSDI as one of the most important, pivotal roles of HOs in the future.

Canada considered it essential that IHO and its Member States were fully committed in the direction of the UN Committee of Experts on GGIM. Canada expressed its support for PRO-7.

The CHAIR highlighted the comments made with regard to open data and data security in light of innovation and autonomous vessels.

DIRECTOR BESSERO pointed out that the issue of data security is already on the agenda of the IHO work programme, particularly when developing the data protection scheme associated with the development of S-100.

The CHAIR mentioned that cyber security and encryption was also a concern expressed by Germany.

The CHAIR asked for agreement on the Proposal.

PRO-7 was adopted.

TIMING AND PROCESS FOR THE SELECTION OF A CHAIR AND VICE-CHAIR OF THE FIRST COUNCIL (continued)

CANADA presented a draft text on the timing and process for the selection of a Chair and Vice-Chair of the first Council.

The CHAIR opened the floor for comments and there were none.

As a result, the text proposed by Canada was agreed.

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CONSIDERATION AND APPROVAL OF THE PROPOSED IHO WORK PROGRAMME FOR 2018-2020 (Agenda Item 6) (A.1/WP1/02)

The SECRETARY-GENERAL presented the proposed Work Programme for 2018 to 2020 for the Organization, and summarized its contents. The Secretary-General noted that the budget, which would be considered later, had been based on this proposed Work Programme.

The CHAIR opened the floor for comments.

REPUBLIC OF KOREA expressed support for the approval of the proposed Work Programme. ROK said that ROK would contribute to improving the work of the IHO Secretariat and Member States by participating in technology development, managing the S-100 registry, and delivering capacity building activities to develop the latest hydrographic technology.

CHINA indicated its approval of the Work Programme and believed that through coordination and collaboration among IHO Member States the Work Programme would be successful.

The CHAIR invited further comments and there were none.

The IHO Work Programme for 2018-2020 was adopted.

FINANCE COMMITTEE REPORT (Agenda Item 7)

The SECRETARY-GENERAL reported that during the meeting of the Finance Committee on Sunday 23 April the Committee was informed and accepted that the annual accounts between 2012 and 2015 had been approved by correspondence. He reported that the Finance Committee recommended the approval of the financial report for the five-year intersessional period 2012 to 2016.

The SECRETARY-GENERAL explained that in accordance with Article 8 of the new Financial Regulations that entered into force on 8 November when the amended Convention on the IHO took effect, the Secretary-General is now required to submit the annual financial statements to the Council and to the Finance Committee by correspondence, together with the budget estimates for the following year. However, the first meeting of the Council would not take place until October 2017, which meant it would be difficult for the Council to consider the financial report for 2016, and, in particular, its recommendations, before at least the last quarter of 2017.

The SECRETARY-GENERAL reported that because of the need for an early decision on the recommendations in the Finance Report covering 2016, as well as the need for clarification, the Report for 2016 and its recommendations had been presented to the Finance Committee and was being brought forward directly to the Assembly for its consideration. In terms of the clarification required, the Finance Committee had observed that it was clear from Article 8 of the Financial Regulations now in force and its references to Article VI (g) (vi) and VII (c) of the Convention that the financial statements of the Organization were to be approved at each ordinary session of the Assembly, taking into consideration the observations and recommendations of the Council on the one hand and the Finance Committee on the other. However, there was a question regarding how any recommendations that would arise from either the most recently audited annual accounts or the following year's annual budget estimate were to be addressed and implemented in a timely manner in the years when no Assembly would take place.

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The SECRETARY-GENERAL summarized that there existed a situation where according to the current doctrine it was the Assembly that would approve all the financial statements. However, this would create a problem in those years when there was no Assembly yet the Council was instructed to consider the last year's audited statements and the annual budget for the following year.

The SECRETARY-GENERAL reported that as a result of the Committee's considerations regarding the financial statement for 2016 and the recommendations that were associated with it, the Finance Committee agreed to recommend that the Assembly approve the recommendations that were in that report and approve the Financial Report for 2016 and its recommendations. The recommendations were that the budget surplus for 2016 of 241,000 Euros be distributed as follows: 191,000 Euros to the Capacity Building Fund and 50,000 Euros to the Internal Retirement Fund.

The SECRETARY-GENERAL reported that the Committee also recommended that the Assembly confirm that the Council was actually empowered to approve the financial statements and any recommendations for the previous year and the budget estimates and the associated annual work programme for the following year.

The SECRETARY-GENERAL reported that the Committee also recommended to invite the Council, at its first meeting, to consider an appropriate methodology and timetable to deal with each year's subsequent financial statements and recommendations earlier in the year rather than wait for its October meeting and to propose any adjustments to the relevant Basic Documents of the IHO if that was required in order for the Council to undertake that function.

The SECRETARY-GENERAL reported that the Committee also considered the report and the recommendations from the Secretary-General regarding the appointment of an auditor for the period 2018 to 2020, and as a result, the Finance Committee recommended that the Assembly appoint Price Waterhouse Coopers Monaco as the external auditor for the accounts for the period 2018-2020.

The SECRETARY-GENERAL reported that the Finance Committee looked at a requirement to amend the Rules of Procedure for the Finance Committee. According to Rule 9 of its current Rules of Procedure that came into force on 8 November 2016, the Chair and the Vice-Chair of the Finance Committee should be elected at the beginning of the regular meetings of the Committee. This means that the Chair and the Vice-Chair would be elected at the meeting immediately prior to a session of the Assembly and they would then be responsible for the work and the output of the Committee when it reports to the Assembly a few days later. The Committee noted that if a new Chair was elected at the beginning of the meeting, then it would be impossible for that new Chair to prepare in advance for the meeting and that this would complicate the new Chair's ability to report with confidence to the Assembly a matter of days later. For this reason, the Finance Committee endorsed the Secretary-General's proposal to amend the relevant rule so that the election of the Finance Committee officers takes place at the end of its meeting rather than at the beginning and that the term of office of the Chair and Vice-Chair begins upon completion of the session of the Assembly. This arrangement would be more consistent with the arrangements for the Chair and the Vice-Chair of the Council who, according to the current Rules of Procedure for the Council, hold office until the end of the next ordinary session of the Assembly.

The SECRETARY-GENERAL reported that the Finance Committee agreed to recommend that the Assembly amend Rule 9 of the Rules of Procedure of the Finance Committee.

The SECRETARY-GENERAL reported that the Finance Committee reviewed and considered the proposed budget for 2018-2020 and the proposed Table of Tonnages. As a result, the Committee recommended that the Assembly adopt the proposed budget for 2018-2020 submitted in document A.1/F/02.

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The SECRETARY-GENERAL reported that the Committee recommended that the Assembly adopt the proposed Table of Tonnages submitted in document A.1/G/03/Rev.1.

The SECRETARY-GENERAL stated that there were a number of actions requested of the Assembly. The first one was to approve the Finance Report for the five-year intersessional period 2012-2016.

The CHAIR opened the floor to Member States to comment on the first item, to approve the Finance Report for the five-year intersessional period 2012-2016.

In the absence of any statements or objections, the Finance Report for 2012-2016, was approved.

It was so agreed.

The SECRETARY-GENERAL reported that the Finance Committee recommended the approval of the Finance Report for 2016 and the recommendations contained in the financial report which were that the budget surplus for 2016 of 241,000 Euros be distributed: 191,000 Euros to the Capacity Building Fund and 50,000 Euros to the Internal Retirement Fund.

UNITED STATES OF AMERICA said it welcomed the preliminary Financial Report for 2012-2016 and the financial report for 2016 and that the accounts reflect a good-faith effort to contain costs. The USA noted, however, that the past five years assessed budget had increased by 6%, primarily due to the increase in new Member States directly adding to the bottom line of the Organization without redistributing those funds to reduce the cost of Member States' shares. The USA stated that it had a standard USA policy of zero nominal growth for international organization budgets and it had been pressing international organizations to perform their missions without budget growth, as many of national governments were doing. The USA stated that it believed, as a general principle, that existing Member States' contributions should decrease when new Member States' assessments are received and that this should be taken into account in subsequent budgets.

The CHAIR, hearing no further comments from the floor, returned to the issue of the need for additional staff in the Secretariat to support activities like capacity building and mentioned that with a potential increase in income to the budget there could be allocations made to the areas prioritized during the discussions of this Assembly. The Chair suggested that debt funds be looked into and explored how they could be used to benefit the Organization.

FRANCE thanked the Secretary-General for the very comprehensive statement and accompanying documents. France stated that the financial situation of the Organization was very clear. France stated that it supported the position which consisted of keeping the Organization's budget within reasonable limits. France considered that it was also necessary to look at how investment in the Capacity Building Fund, made possible by the accession of new Member States, now might help to alleviate, in the long term, the burden on certain Member States currently assuming hydrographic responsibilities outside their national waters when developing States are able to take over these responsibilities.

FRANCE supported the United States on its comments to take into consideration the different possible hypotheses flowing from the accession of new Member States. France also believed that the matter should be taken with a view to a return on investment on the efforts made, including financial efforts when it came to capacity building return on investment, which should benefit in the long term a large number of Member States and not just those who directly benefit from capacity building actions.

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The CHAIR stated that it was good that the Organization had surpluses and recognized France's point that utilization of surpluses should be considered from the viewpoint of the number of Member States that will benefit.

In the absence of any objections, but noting the intervention by the USA and France, the Finance Report for 2016 and its recommendations were approved.

It was so agreed.

THE SECRETARY-GENERAL returned to the issue of how to deal with the financial year preceding and the financial year that follows a year when there is no session of the Assembly. The Assembly was invited to confirm that the Council was empowered to approve the financial statements and any recommendations for the previous year and the budget estimates and the associated annual work programme for each forthcoming year.

In the absence of any comments or objections, this was approved.

It was so agreed.

THE SECRETARY-GENERAL invited the Assembly to direct the Council at its first meeting to consider an appropriate methodology and timetable to deal with each year's subsequent financial statements in a timely manner and to propose any adjustments to the relevant basic documents if this is required in order to achieve their proposed timetable.

In the absence of any comments or objections, this was approved.

It was so agreed.

The SECRETARY-GENERAL indicated that the subsequent recommendations in the report of the Finance Committee related to PRO-10 which had not yet been introduced and should be returned to as part of the discussion of the proposal.

The SECRETARY-GENERAL reported that the Finance Committee recommended the Assembly to appoint Price Waterhouse Coopers Monaco as the external auditor for the accounts for the period 2018-2020.

In the absence of any comments or objections, the appointment was approved.

It was so agreed.

The SECRETARY-GENERAL reported that the Finance Committee recommend the Assembly to amend Rule 9 of the rules of procedure of the Finance Committee, as explained earlier.

In the absence of any comments or objections, the recommendation was approved.

It was so agreed.

The SECRETARY-GENERAL reported that the Finance Committee recommended that the Assembly adopt the proposed budget for the next three-year period, 2018-2020, as provided in document A.1/F/02.

UNITED KINGDOM asked for a point of clarification, noting that in the proposed budget for 2018-2020 there were two recommendations relating to increased staffing, one for 125,000 Euros per annum and one for 90,000 Euros per annum, and it was couched in language that said "shall be considered if funds allow." The UK asked for clarification regarding the

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process by which the expenditure would be approved and commented that they did not want the Assembly to be seen as endorsing a requirement to increase staff at this point without any further checks and balances.

The SECRETARY-GENERAL explained that in accordance with the existing regulations, the Secretariat is only able to spend according to the budget that is approved, and part of the budget proposal requires the prior approval of the number of staff in the Secretariat. It will be a requirement for the Secretary-General, through the Council, to seek approval of the Member States for any such increase in staff or any allocation of any additional funds that become available.

The SECRETARY-GENERAL stated that it was his intention, in identifying the need for more staff, together with other future requirements, to forewarn the Member States that this was potentially a requirement that would need to be balanced against other potential priority requirements at the time that any additional funds became available.

UNITED KINGDOM thanked the Secretary-General for the clarification.

The CHAIR asked if there were other interventions and there were none.

In the absence of any objections, the proposed budget for 2018-2020 was adopted.

It was so agreed.

The SECRETARY-GENERAL presented the recommendation of the Finance Committee that the Assembly adopt the proposed Table of Tonnages as submitted in Document A.1/G/03/Rev.1.

In the absence of any comment or objection, the proposed Table of Tonnages was adopted.

It was so agreed.

PRO-10: REVISION OF ARTICLE 13(C) OF THE HO FINANCIAL REGULATIONS

SYRIAN ARAB REPUBLIC expressed its government's sincere appreciation to the International Hydrographic Organization for taking into consideration its Proposal which was tabled by the Syrian Arab Republic and forwarded to the IHO Assembly after being considered by the Finance Committee of the IHO earlier in the week.

SYRIAN ARAB REPUBLIC recalled the recommendation of the Finance Committees to adopt the Proposal concerning the revision of Article 13 (c) which stated that annual contributions, or portions thereof, not paid before 1 January of the succeeding financial year should be increased by interest from that date at the rate of 1% for each month or portion thereof. Syrian Arab Republic explained that its proposal invites the Assembly to delete Article 13 (c) and waive outstanding interest on late payments.

SYRIAN ARAB REPUBLIC suggested deletion of this article because in many cases late payment of financial contributions is caused by economic, geopolitical or administrative factors beyond the control of the Member States concerned and pointed out the well-known challenges that the Syrian Arab Republic was facing in this regard.

SYRIAN ARAB REPUBLIC reaffirmed the full commitment of its government to pay all its contributions and reassured the International Hydrographic Organization of its willingness to remain an effective Member State of the IHO. It asked the Assembly to once again take into consideration the special circumstances that the Syrian Arab Republic found itself in and kindly adopt its Proposal.

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The SECRETARY-GENERAL stated that the Finance Committee, after considering PRO-10, had recommended to the Assembly that Article 13(c) of the Financial Regulations be deleted.

The SECRETARY-GENERAL explained that the Finance Committee had considered how to deal with interest already paid by debtors versus those who had paid their outstanding debt but had not yet paid the outstanding interest. In recommending that interest debts be written-off, the Finance Committee wanted to avoid the situation where there was unfairness between those that had paid interest and those that had not yet done so.

The SECRETARY-GENERAL reported that the Finance Committee considered that the appropriate mechanism to use, noting that the total interest income in the last five-year financial period was only about 13,000 Euros, would be to write-off all outstanding interest-debts accrued in the last five-year financial period, and to credit the interest payments made by the relevant Member States to their next year's financial contribution.

The SECRETARY-GENERAL further explained that the Finance Committee then went on to recommend that the Assembly instruct the Secretariat to include an appropriate provision in the budget for 2017. The Secretary-General reported to the Assembly that he felt that it was quite feasible to make such a provision in the budget for 2017 without any increase to the total value of the budget for 2017.

The CHAIR opened the floor for comments.

FRANCE indicated that it did not support PRO-10.

SURINAME expressed its support for the proposal from the Syrian Arab Republic and the endorsement of the Finance Committee.

SOUTH AFRICA expressed support for the Proposal and stated that the threat of suspension is an appropriate incentive to avoid defaults on payment.

ISLAMIC REPUBLIC OF IRAN expressed support for PRO-10 and stated that it was confident that best efforts would be made to find a solution to resolve any technical issues.

SYRIA ARAB REPUBLIC stated that similar to international organizations such as IMO, the right of waiver should be granted to such States which were not in a position to pay their outstanding contribution in due time as a result of technical reasons. In addition, in many of the international organizations there was no interest on the unpaid contributions and charging of interest might cause further problems for the contracting party. For this reason, the Syrian Arab Republic suggested that the charging of interest be deleted.

VENEZUELA expressed its support for the Proposal made by the Syrian Arab Republic.

The CHAIR opened the floor for further comment and there was none.

PRO-10 was adopted together with the related recommendations of the Finance Committee.

1st SESSION OF THE IHO ASSEMBLY

SUMMARY RECORD OF THE FIFTH PLENARY SESSION

28 April 2017

**ELECTION OF THE SECRETARY-GENERAL AND DIRECTORS (Agenda Item 8)
(A.1/E/01Rev2, A.1/E/02)**

The CHAIR requested that only one delegate from each Member State be present in the auditorium with a personal interpreter as necessary. All delegates and observers who were not entitled to vote were asked to leave the Auditorium Hall.

The SECRETARY-GENERAL explained the procedure to be followed for the election of the Secretary-General and Director positions. He intended to have three rounds of voting in closed session, the first round to elect the Secretary-General, the second round to elect a Director, and the third round to elect a second Director.

The CHAIR announced that he was pleased to report that the Member State that was recently suspended had been reinstated but they were not represented at the Assembly.

UNITED STATES OF AMERICA asked if it was possible to change representatives between votes.

The SECRETARY-GENERAL responded that that was not allowed.

The SECRETARY-GENERAL displayed the names of the eligible candidates for the position of Secretary-General and asked if any of the voting representatives were unsure or unhappy with the number of ballot papers they had been given and received no response. The representatives were then instructed to fill out their ballot papers.

(A vote was taken by secret ballot.)

The SECRETARY-GENERAL confirmed there should be 315 voting papers in the ballot box and the ballot box was handed to the scrutineers for counting.

The CHAIR read the list as compiled by the Chair of the Scrutineers.

Gilles BESSERO, 36
Mustafa IPTES, 88
Mathias JONAS, 112
Abraham KAMPFER, 14
Luiz Fernando PALMER Fonseca, 31
Luigi SINAPI, 34

Mathias JONAS was therefore elected as Secretary-General.

The SECRETARY-GENERAL displayed the names of the eligible candidates for the position of Director and asked if the representatives had received the correct number of voting papers and received no response.

(A vote was taken by secret ballot to elect the first of two Directors.)

The SECRETARY-GENERAL confirmed there should be 315 voting papers in the ballot box and the ballot box was handed to the scrutineers for counting.

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The CHAIR read the list as compiled by the Chair of the Scrutineers.

Gilles BESSERO, 27.
Imdadul HAQUE, 4.
Mustafa IPTES, 77.
Abraham KAMPFER, 105.
Luiz Fernando PALMER FONSECA, 24.
Rafael PONCE URBINA, 27.
Luigi SINAPI, 35
Sergey TRAVIN, 16

Abraham KAMPFER was therefore elected Director.

The SECRETARY-GENERAL displayed the names of the eligible candidates for the position of Director and asked if the representatives had received the correct number of voting papers and received no response.

(A vote was taken by secret ballot to elect the second of two Directors.)

The SECRETARY-GENERAL confirmed there should be 315 voting papers in the ballot box and the ballot box was handed to the scrutineers for counting.

The CHAIR read the list as compiled by the Chair of the Scrutineers.

Gilles BESSERO, 43.
Imdadul HAQUE, 5.
Mustafa IPTES, 103.
Luiz Fernando PALMER FONSECA, 12.
Rafael PONCE URBINA, 100.
Luigi SINAPI, 40.
Sergey TRAVIN, 12.

Mustafa IPTES was therefore elected Director.

Delegates and observers resumed their seats in the Auditorium Hall.

CONSIDERATION AND ENDORSEMENT OF THE SELECTION OF THE MEMBERS OF THE COUNCIL (Agenda Item 9) (A.1/WP1/05)

The CHAIR referred to the list of Member States that had been selected for a seat on the Council (document A.1/WP1/05). The Chair asked the Assembly to agree that the appropriate process had been followed and to appoint the Council for the period from now until the next session of the Assembly.

In the absence of any objections, the members of the Council were appointed.

It was so agreed.

CLOSING CEREMONY (Agenda Item 10)

DATE OF THE SECOND SESSION OF THE ASSEMBLY

The SECRETARY-GENERAL stated that the Government of Monaco had offered the week of the 19 April 2020 as the week to hold the 2nd Session of the Assembly, but stated that if

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circumstances changed in Monaco the date might have to be moved a week or two one way or the other.

SEATING ORDER AT THE NEXT SESSION OF THE ASSEMBLY

The letter "Q" was drawn by the Chair to be used in determining the seating order using the French alphabetical list. The CHAIR stated that he looked forward to seeing Qatar sitting in the front row.

ANY OTHER BUSINESS

The SECRETARY-GENERAL reminded the Assembly that on behalf of the IHO the Secretary-General had signed the new host nation agreement between the Organization and the Government of the Principality of Monaco. In order to complete the process the Member State representative body is required to approve the new host agreement, and the Secretary-General asked for the Assembly's approval.

In the absence of any objections, the new host agreement was approved.

It was so agreed.

PRESENTATION OF THE PRIZE FOR THE MEMBER STATES' EXHIBITION.

A total of 34 ballots were received, and it was announced that the winner was the Republic of Korea.

REPUBLIC OF KOREA thanked the Secretary-General and Distinguished Chair, Directors, and Delegates. ROK said it was a great honour to receive the best display award two times in a row, and thanked deeply all the Member States.

RESOLUTION EXPRESSING GRATITUDE TO THE HOST COUNTRY (A.1/MISC/02)

The SECRETARY-GENERAL explained that the draft Resolution followed a very similar format to previous Resolutions on the same matter and it was the Assembly's formal way of collectively thanking His Serene Highness and the Principality of Monaco not just for all of the very generous facilities that they had provided for this Assembly but also in recognition of the continuous and very generous provision of facilities for the Organization, both in terms of the Headquarters premises but also in terms of the diplomatic support that was received from the Government of Monaco that enabled the IHO to conduct its business as successfully as it did.

In the absence of any objections, the Resolution expressing gratitude to the host country was adopted.

It was so agreed.

STATEMENTS BY OUTGOING AND INCOMING SECRETARIES-GENERAL AND DIRECTORS

MATHIAS JONAS expressed that he had often tried to imagine what this moment might be like, but now that the moment had actually come he was overwhelmed by the support and level of trust that had been placed in him. During his long history with this Organization, he had always tried to give his best to the task at hand. He stated that his endorsement as the first designated Secretary-General Elect marked the peak of this career, and he would repay the trust of the Assembly to the best of his ability. He stated that the "desire to pursue intergovernmental cooperation in hydrography," in the preamble to the renewed Convention

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described exactly his perception of the role of the Secretary-General. He stated that his concept for the IHO was to adopt a programme of continuity and evolution to answer the questions of today and tomorrow.

He stated that he was fully committed to the wide range of tasks ahead and his motivation was very high and asked for the continued support of the Assembly which would be crucial for future success. He promised that he would do his duty and always navigate the ship in safe waters.

ABRAHAM KAMPFER expressed thanks for the immense honour given to him. The confidence expressed in the voting was beyond his wildest imagination. He looked forward to working with a good team at the Secretariat and his fellow Directors. He referred to the comments of the new Secretary-General that the directing committee would only be as successful as the level of support that would be received from the Assembly. He saw the IHO as one big family that shared a passion for hydrography and the best interests of the Organization. He noted that this was a very successful Assembly, very well-organized, and was looking forward to working with everyone.

MUSTAFA IPTES thanked the Assembly for re-electing him as a Director of the IHO, and said it was a great honour for him to serve the IHO Member States and the Organization for three more years. He said he would continue with the same enthusiasm and passion and would do his best to support the fulfilment of the mission of the Organization. He congratulated and welcomed the newly elected Secretary-General and the new Director and wished them great success. He also thanked Director Gilles Bessero who had contributed to the IHO enormously in the last five years. He also thanked Secretary-General Robert Ward for his great contributions to the IHO so far and excellent management of the Secretariat in the last five years. He also thanked the Chair of the Assembly for his excellent work in leading a very successful Assembly. He also extended his appreciation to his family, in particular his wife and daughter, for their support.

GILLES BESSERO stated that during his time in French public service, his motto had been the famous statement of John Kennedy, "*Ask not what your country can do for you. Ask what you can do for your country.*" During the last five years, the driver had been what can he do for the IHO. He expressed disappointment that he could not continue but, as the saying went, "*Every cloud has a silver lining.*" He would continue to do his best to ensure that the transition to the new team that the Assembly had elected be as efficient as possible. He congratulated the new team and expressed gratitude to all the Member States that supported him, in particular the delegations from France and Monaco. He expressed his deepest appreciation to Secretary-General Robert Ward and to Director Mustafa Iptes during the last five years. He also expressed his sincere thanks to the staff of the Secretariat for their continuous commitment to the Organization and the team spirit that always guided their actions. He also expressed gratitude to his family, in particular his wife, for her unflinching love and support.

ROBERT WARD congratulated the Secretary-General Elect and the elected Directors, and also expressed great gratitude for the assistance and the very collegiate nature in which the current directing committee had served to the very best of their ability for the last five years. He congratulated his two fellow Directors, and also wished to congratulate a number of others who had ensured that the Assembly was a success and ensured that the Organization had moved to where it was now over the last five years. He also thanked the rapporteurs for providing the Secretariat with valuable notes which would enable the development of the Proceedings which would be the lasting record of the Assembly. He thanked the interpreters for their valuable work in facilitating communication. He continued by congratulating the Distinguished Delegates and Observers and the Chair for the way in which the Assembly was conducted, which allowed it to be successful and allowed the Assembly to review what had been achieved in the last five years, identify work still to be done, and approve appropriate measures to enable that work to be done. He particularly thanked the Observers and the Exhibitors for their contributions at the Assembly and over the last five years. He stated that he took away from his time with the Organization a great sense of satisfaction with what had

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been accomplished and the confidence that the new team would continue to improve upon it but cautioned that in order to do that it would need the continued support of the entire Organization. He thanked the Chair and the Vice-Chair for their excellent work over the last five days. He then presented the Chair with a commemorative gavel. He recognized all of the Secretariat and his two fellow Directors and expressed what a great honour and pleasure it had been working with everyone.

(Following the customary exchange of courtesies, the 1st Session of the Assembly of the International Hydrographic Organization was declared closed.)