

19th South West Pacific Hydrographic Commission Meeting (SWPHC19)

23-25 February 2022 – VTC (Wellington, NZ)

Draft Minutes

1. Opening

The Chair and Secretariat formally greeted the participants with a Te reo Māori karakia (non-denominational blessing).

1.1 Opening Remarks by the Chair of the SWPHC

SWPHC Chair, Mr Adam Greenland (LINZ) welcomed participants and thanked them for their attendance. The Work Plan & Priorities Working Group were thanked for their work in developing the draft work programme.

1.2 Address by Chief Guest

Mrs Jan Pierce, Kaihautū, Deputy Secretary, Customer Delivery (LINZ) addressed the Commission. She reflected on the current global context of the UN Decade of Ocean Science for Sustainable Development and the IHO Strategic Plan, both of which raise hydrography to an international level and puts a focus on the utilisation of marine data in an expanding role of the hydrographic community. Other international projects and initiatives such as Seabed 2030, UN Global Geospatial forum, International Geospatial Information Framework, give focus to open data and connecting users to marine data. Hydrography now has a wider role. Partnering with others to collect data to support cultural and economic growth, provides an opportunity to get hydrography better understood. Mrs Pierce commended the commission on the gap analysis and work plan but recognised supporting the challenges around open data. Mrs Pierce concluded with a challenge to the Commission, to think about what it can be doing in the wider context, in particular promoting opening data.

1.3 Address by the IHO Director

Mr Abri Kampfer (IHO Director) addressed the participants noting that 2021 was the 100-year anniversary of the IHO. The success of the IHO is due to a handful of remarkable individuals who put aside political differences to work together for the good of all mankind. Mr Kampfer encouraged the Commission to follow the example and continue the legacy to cooperate on hydrography, focus on issues we can change, and make improvements that benefit the region. He commented on the impact the pandemic has had on the IHO and the changes needed to work differently. Even with the pandemic, Mr Kampfer noted that the full agenda reflects on the positive momentum in the region.

Mr Kampfer highlighted some of the achievements of the IHO, in particular, the Roadmap v2.0 for the S-100 Implementation Decade as an important milestone. Others included the inauguration of the Joint IHO/Singapore Innovation & Technology Laboratory which has two projects underway. Firstly, the investigation into the automated conversion of S-57 to S-100; and secondly the digital infrastructure to improve the exchange of information between ports and Hydrographic Offices (S-131 Product Specification). Acknowledging the limitations of the IHO capacity building fund, the region was encouraged to focus on the resources available in the region. This was seen with the quick reaction of nations to work together in response to the natural disaster in Tonga. The IHO Director thanked the Chair

and those involved in the preparation of the meeting and commented that the meeting offers the opportunity to assess the resource situation, focus on technical issues and identify key priorities.

2. Agenda

Doc. SWPHC19-02

The Chair introduced the Provisional Agenda (doc. SWPHC19-02). Members were invited to comment and adopt the document version 1.3. As there were no additional items proposed for discussion, the meeting adopted the agenda.

3. Approval of Minutes of SWPHC18 Meeting

Doc SWPHC19-03

The draft minutes of SWPHC18 had been circulated to the participants and is available on the website. As no comments were received these were adopted as the approved (final) version.

Decision 1: To approve the minutes of SWPHC18 (doc. SWPHC19-03).

4. Matters arising from Minutes of SWPHC18 Meeting

Doc SWPHC19-04

Referring to the list of actions from SWPHC18, the Chair stated that some actions were complete, and the remaining were ongoing issues which will continue to be discussed at the Commission meetings and actioned as appropriate.

The Chair and action owners provided updates on the status of the actions as indicated below.

No	Agenda Item	Action	Responsible	Deadline and Status
1	4	To liaise with IALA and SPC to encourage coastal States that are not yet Members to join the SWPHC	Chair	permanent
2	4	To consider identifying opportunities in national/regional/international donor agencies to incorporate hydrography in development projects.	All members	permanent
3	4	To review their entries in the IHO Yearbook and C-55 and to provide the IHO Secretariat with the appropriate updates or to report no change.	All members	permanent
4	4	To consider submitting papers for publication in the International Hydrographic Review	All members	permanent
5	4	AHO to identify a suitable candidate to replace Mike Prince as the regional representative on the International Hydrographic Review Editorial Board.	AHO	?? 2021 Complete
6	4	SPC to invite SWPHC Chair and IHO Sec-General/Director to the next meeting of the Pacific Regional Energy and Transport Ministers Meeting. (SWPHC attended the Regional Heads of Maritime	SPC	Complete

No	Agenda Item	Action	Responsible	Deadline and Status
		Transport meeting, November 2021)		
7	4	UK and NZ to work with SPC* and look into how the SWPHC should start addressing the challenges for implementing the SDGs of the UN Decade of Ocean Science for Sustainable Development. (*Office of the Pacific Oceans Commissioner – part of PIF)	UK (Sam Harper - lead), NZ and SPC	Complete See SWPHC18 Agenda Item 12.
8	5	Chair to circulate 'redline' version of the SWPHC Statutes for comments by the Members via correspondence or at SWPHC19. Members to approve/object the 'redline' version via correspondence or at SWPHC19.	Chair	SWPHC19 Complete SWPHC CL06-2021
9	6.2	Members are encouraged to support, promote and consider participation in the Empowering Women in Hydrography (EWH) Project. Members are encouraged to attend the EWH initial workshop in May 2021. IHO Secretariat to send EWH event details to Pacific Woman in Maritime Association (PacWima)	Members IHO Secretariat	May 2021 Complete April 2021 IHO CL35-21 Complete
10	6.2	Members to review the paper on the FotPNC (dated 28/08/2020) and provide feedback.	Members	IRCC13 Complete
11	6.4	Members are encouraged to complete MSDI Questionnaire and submit by MSDIWG12 (IHO CL 56/2019 refers).	Members	17 March 2021 Complete
12	6.4	Members are encouraged to support and consider participation in the OGC-IHO Federated Marine SDI demonstration pilot: FMSDI	All	SWPHC19 Complete
13	9.1	Members to establish SWPHC WG for sharing experience on S-100 Implementation and identify CB requirements (SWPHC S-100 Workshop, October 2021)	NZ, AU, ??	SWPHC19 Complete
14	10	Members are encouraged to nominate a point of contact to NAVAREA XI Coordinator and to consider attending CB activities	NAVAREA XI members	July 2021
15	10	Standardise MSI reporting template for RHCs via National Reports to reflect changes in service providers Template under review by WWNWS SC - TBC	IHO Secretariat	WWNWS14 2022

No	Agenda Item	Action	Responsible	Deadline and Status
16	12	Chair to share Gap Analyses, summary analysis and VTC recording of agenda item 12 with IHO Council, IRCC and RHCs.	Chair	March 2021 Complete
17	12.1	CB Coordinator & AU to produce summary document of actions and themes identified from agenda item 12. Chair to share with IHO Council, IRCC and RHCs.	CB Coordinator & AU Chair	March 2021 Complete Complete
18	12.1	Chair to establish a WG to develop SWPHC 3-6 year draft work plan and priorities. WG to review actions and themes identified from agenda item 12 and develop SWPHC 3-6 year draft work plan and priorities.	Chair WG (NZ, CB Coordinator, UK, ??)	April 2021 Complete SWPHC19
19	13.1	All members to provide CB requests to the CB Coordinator.	Members	28 Feb 2021 Complete
20	13.1	CB Coordinator to compile the CB requests and submit to the CBSC19 Meeting in coordination with the Chair.	CB Coordinator	31 March 2021 Complete
21	14.1	Members to complete the Seabed2030 Community Survey . (Survey closed)	All	SWPHC19 Complete
22	14.1	Members to provide images to the Seabed2030 Image Stream	All	Permanent
23	14.2	Members to provide bathymetric data to the Seabed2030 Project using the Contributing data form.	All	Permanent
24	14.3	IHO Members to review their policy on data release and consider submitting a positive response to CL 21/2020 (IHO CSB Data for Public Domain)	Members	Permanent
25	14.3	Non-members (IHO) to review their policy on data release and consider submitting a positive response to IRCC CL 01/2020 (IHO CSB Data for Public Domain)	Associate Members, Observer States and other Coastal States	Permanent
26	15	Chair and SWPHC Council Representative (AU) to raise relevance of IHO Strategic Plan SPIs for Goals 2 & 3 for RHCs and explore appropriate S-100 CB activities.	Chair SWPHC Council Representative (AU)	IRCC13 C4 Complete
27	16	Coastal States to identify points of contact and means of communications for the SWPHC Disaster Response Framework.	SB, TO, VU, TK, TV, FR, UK	SWPHC20

No	Agenda Item	Action	Responsible	Deadline and Status
28	16	SWPHC WG to review the SWPHC Disaster Response Framework, to produce a 'redline' version and distribute to Members	NZ (lead), FJ, US	SWPHC20
29	17	Members to consider producing content for WHD 2021	NZ (lead)	1 May 2021 Complete
30	19	Host and conduct a NOAA ESTOFS workshop for the SWPHC to learn how to use the model forecast guidance	US, CB Coordinator	SWPHC19 Complete
31	22	Tonga to confirm SWPHC Vice-Chair position	Tonga	May 2021 Complete
32	24	Vanuatu to confirm hosting of SWPHC19 in Vanuatu in February 2022	Vanuatu	June 2021 Complete

Participants updated the actions list and agreed on the following:

SWPHC18 Action 1-4: Members agreed to retain the permanent actions.

SWPHC18 Action 5: Ms Elizabeth de Bol (AU) identified as the regional representative on the International Hydrographic Review Editorial Board – action closed

SWPHC18 Action 6: The next date for the Pacific Regional Energy and Transport Ministers Meeting is yet to be confirmed, and SPC will extend invite when date is confirmed. Chair of SWPHC and IHO Secretary General to be invited – closed and a **new action item to be created under agenda item 8 (SWPHC19 Action 21)**.

SWPHC18 Action 10: closed

SWPHC18 Action 11: closed

SWPHC18 Action 12: Pilot commenced. Closed

SWPHC18 Action 13: Workshop hosted, and Work Plan includes further workshops. Closed.

SWPHC18 Action 14: To be discussed with NAVAREA XI report. 3 of 4 members have nominated points of contact. NAVAREA XI Coordinator requested that the action be marked as permanent, however SWPHC Chair considered this to be a BAU task for NAVAREA Coordinators. Closed.

SWPHC18 Action 15: WNWWS Document Review WG is looking to review information in template and should be finished this year before the information is due to WNWWS14.

SWPHC18 Action 21: closed

SWPHC18 Action 22 & 23: permanent actions

SWPHC18 Action 24 & 25: permanent action

SWPHC18 Action 26: closed

SWPHC18 Action 27: updated for countries yet to respond.

SWPHC18 Action 28: addressed in SWPHC19 agenda item 14.

5. SWPHC Statutes

Doc SWPHC19-05

The redline version of the Statutes was circulated prior to the meeting, and comments were received and incorporated for the Meeting to review. The Commission was requested to note this report and the feedback received and agree to the amendments.

Decision 2: To approve the SWPHC Statutes.

6. IHO Matters

6.1 IHO Secretariat Report

Doc SWPHC19-06.1

Mr Abri Kampfer (IHO Director) presented the IHO Secretariat Report which included:

- SWPHC Membership and IHO Membership – Vanuatu’s membership remains suspended. IHO Secretariat offers to assist non-IHO Member states with membership application process and high-level country visits.
- IHO Council activities - The Commission is invited to
 - continue on the implementation of the IHO Strategic Plan, elaborate on the gap analysis and support IRCC in identifying measures and values to measure SPIs of regional interest
 - participate in the Empowering Women in Hydrography project and provide proposals via <https://iho.int/en/basic-cbhc-ewh>
 - [provide contributions of online learning material to the IHO e-Learning Centre](#)
- CB Programme
- MSI Services – the modernisation of GMDSS and the recognition of Iridium SafetyCast service
- World Hydrography Day theme “Hydrography – contributing to the United Nations Ocean Decade”
- IHO Centenary Celebrations
- International Hydrographic Review – thanked Commission for appointing a Regional Representative and invited Members to submit papers for publication.

Definition of term “hydrographic interest” is being considered, being worked so feedback on this to Hilary Thompson.

Looking to host events o Empowering Women in the region.

Decision 3: To note IHO Secretariat Report and recommendations (SWPHC19-06.1)

Action 12: SWPHC is invited to encourage and propose to the IHO Secretariat High Level visits to those States not yet IHO Member States.

Action 13: Members are encouraged to participate in the Empowering Women in Hydrography project.

Action 14: SWPHC Members are invited to provide contributions for the IHO e-Learning Centre at KHOA.

6.2 Highlights of Inter-Regional Coordination Committee (IRCC13)

Doc SWPHC19-06.2A, SWPHC19-06.2B, SWPHC19-06.2C

Mr Adam Greenland attended the IRCC13 virtual meeting in June 2021 and a workshop on the strategic plan as Chair of SWPHC. His report included:

- A summary of the presentation
- The challenges of the region
- Recommendations from IRCC

Member States are encouraged to review the reports submitted to IRCC13 and provide feedback where requested.

Decision 4: To note the report of the highlights of IRCC13 and recommendations (doc SWPHC19-06.2)

Action 15: SWPHC to consider extending the role of the Charting Regional Coordinator for the implementation of the S-100 Implementation Roadmap.

Action 16: SWPHC to coordinate the efforts on the implementation of S-100, promote the cooperation and exchange of experiences, and identify CB requirements.

6.3 Highlights of Hydrographic Services and Standards Meeting (HSSC13)

Doc SWPHC19-06.3

Ms Nathalie Leidinger (HSSC Vice-Chair) presented the report of the highlights of the meeting. This included:

- SPIs allocated to HSSC
- ISO 9001 principles of the development of S-101 product specification
- S-100 implementation priorities, timeline, and potential options for the production of S-101 in conjunction with S-57
- New project teams established

Decision 5: To note the report of the highlights of HSSC13 and recommendations (doc SWPHC19-06.3)

Action 17: SWPHC to include the measurement of the SPI attributed by IRCC and HSSC in their annual Work Plans.

Action 18: Members are encouraged to participate in the new HSSC Project Teams i.e., Baseline Symbology (subWG of NCWG) to support the automated production of paper charts from S-101 data.

6.4 Highlights of Worldwide ENC Database Working Group (WENDWG12)

Doc SWPHC18-06.4

Mr John Nyberg (WENDWG Chair) presented the highlights from the WENDWG12, including:

- WEND Principles approved for S-101. Working on guidelines for S-1xx, which the WG plan to have endorsed at WENDWG12.
- Scheming guidelines will be an Annex to the WEND-100 Principles
- Details on WEND website
- Regional coordinator for S-1xx Products likely to be requested

Laurent Kerléguer (SHOM) questioned the benefit to users regarding ENC rescheming; SHOM considers priority to harmonising the scales of the cartographic backgrounds of ENCs. In further comments regarding the Standardisation work of with WENDWG, SHOM suggested the Standardisation WG should

consider separate guidelines for those S-1xx products that are for safety of navigation and those that are not.

Mr Nyberg responded by saying guidelines were a work in progress and comments like this will contribute to the conversation, i.e., production of datasets and who's responsible. In terms of chart schemes, it is likely that each region will do this differently and look to coordinate small scales in particular. Some of the benefits of re-scheming and uniform scales are reflected in using the data beyond safety of navigation, such as creating paper charts from S-100 data that is of uniform scale and seamless.

Decision 6: To note the presentation of the highlights of WENDWG12.

Action 19: SWPHC to consider role of regional charting coordinator to include S-1xx Products as RHC WEND Coordinator.

6.5 Marine Spatial Data Infrastructures Working Group (MSDIWG12)

Doc SWPHC18-06.5

Ms Pearlyn Pang (MSDIWG Vice-Chair) presented the highlights of the MSDIWG12 meeting, including:

- Focus on data discoverability and FAIR principles, and moving to Geospatial Knowledge Infrastructure
- SPIs included in the MSDIWG work plan
- As S-100 is a universal data model it should be able to be used for other use cases, not just navigation.
- Link to the EU's New Blue Economy for a Sustainable Future
- Webinar series last year to lead into an in-person seminar in Singapore in May this year
- Upcoming MSDI questionnaire
- Web link from presentation

Decision 7: To note the presentation of the highlights of MSDIWG12.

7. Summary of National Reports

Doc SWPHC19-07A

Mr Stuart Caie (LINZ) presented a summary of achievements and challenges contained in the eleven (11) national reports received.

Achievements

- Continued investment in survey.
- Risk assessments developed and being used for prioritisations
- Partnerships and collaboration for data collection
- Chart re-branding, new chart coverage (ENC and paper charts)
- Engagement with MSDI groups, improved access
- Contribution to Seabed 2030 project.

Challenges

- Covid impacting many activities
- Recruitment and retention of staff
- Transitioning to S-100
- Climate change commitments

Decision 8: To note the summary of National Reports (SWPHC19-07A).

National Reports and Presentations

Individual National Reports and presentations submitted are available on website (Doc SWPHC19-07B-07U). Below are key achievements from report received. Note that due to time constraints, not all National Reports were presented under Agenda Item 7. Others are detailed under Agenda Item 17.

Australia

- Key focus throughout 2020 2021 has been the implementation of the HydroScheme Industry Partnership Program (HIPP), an innovative government industry arrangement supporting the collection, assessment and publication of nautical information products in the Australian Charting Area.
- Several products updated from surveys conducted within PNG and Solomon Islands.
- PNG renaming project published 78 rebranded paper charts and 166 ENCs.

Cook Islands

- Three paper charts rebranded with nations two-digit country code and Cook Island crest. 22 ENCs published with two-digit country code.
- Procurement of LiDAR data capture for Rarotonga Coastal and Flood Mitigation Project.
- Staff recruitment including a Senior Hydrographic Surveyor.

Fiji

- A number of hydrographic surveys carried out, primarily in tourist areas.
- Geodetic datum moving from WGS72 to WGS84 in phased approach.

Papua New Guinea

- Survey in approaches to Port Moresby completed.
- MSDI and IALA training received.
- Planning on a national hydrographic awareness workshop planned for Mar 2022.

Solomon Islands

- Recruitment of staff for AtoN and Hydrography including a National MSI Coordinator.
- Signing of an Agreement between JICA and SIMA for Development Support in Hydrography and Charting.

8. Relevant International/Regional Organisations Reports and Activities

8.1 IALA World-Wide Academy

Doc SWPHC19-08A

Ms Gerardine Delanoye (Capacity Building and Resources Manager, IALA) presented the following activities specifically relevant to SWPHC, including:

- Technical webinar series available on IALA YouTube – Guideline on sustainable structural design for AtoN coming soon.
- Education opportunities mostly online at present.
- SWPHC sponsorship may be available for “How to” procurement course.

8.2 IMO

N/A

8.3 SPC (Pacific Community)

Doc SWPHC19-08C

Mr Salesh Kumar presented about the Geoscience, Energy and Maritime Division of SPC including projects developing capacity in the region in continental shelf submissions, geodetic reference frames, geodetical survey operations, tide predictions. Summary of week-long course hosted in 2021. The Pacific Community Centre for Ocean Science (PCCOS) has slowed due to COVID, but still looking to progress. SPC is looking to create a new vision and get a permanent observer to SPC from the EU.

Chair commented SPC Strategic Plan aligns well with the IHO Strategic Plan.

Decision 9: To note the organisations reports (SWPHC19-08A & SWPHC19-08C)

Action 20: SPC to invite SWPHC Chair and IHO Sec-General/Director to the next meeting of the Pacific Regional Energy and Transport Ministers Meeting.

Action 21: IHO and SWPHC to engage with new IMO regional representative.

Action 22: SWPHC to engage with SPC to develop a consistent and coordinated approach to safety of navigation in the Pacific, between countries and interested partners and to engage with IMO through Pacific position papers and formal requests for support.

9. SWPHC Working Groups

9.1 Update from International Charting Coordination Working Group (ICCWG)

Doc SWPHC19-09.1

Mr Robert Cario (ICCWG Chair) presented the report on the ICCWG, including a number of charts produced since SWPHC18.

Decision 10: To note the update from the SWPHC ICCWG (SWPHC19-09.1)

9.2 Highlights of the SWPHC Marine Spatial Data Infrastructure Working Group (SWPHC MSDIWG)

9.2.1 Doc SWPHC19-09.2A – Ms Helen Phillips (MSDIWG Chair) provided an update on the WG activities since its creation in February 2021. The WG have provided a number of presentations to build members knowledge base and will continue to do so. Will continue working through the WG activities in response to the SWPHC Work Plan.

Action 23: Members are encouraged to join the SWPHC MSDIWG.

Decision 11: To note the update from the SWPHC MSDIWG (SWPHC19-09.2A)

9.2.2 Doc SWPHC19-09.2B – Mrs Rachel Gabara (LINZ) presented on the NZ collaboration within the NZ MGIWG for a proof of concept for Enabling Integrated Marine Management initiative for a data mesh to connect data from a number of sources.

10. GDMSS, MSI & NAVAREA Coordination Reports (X, XI, XIV)

10.1 NAVAREA X Coordinator Report

Doc SWPHC19-10B

Mr Stuart Shepard (NAVAREA X Coordinator) presented a summary of the NAVAREA X report, including current list of contacts regularly communicated with. Australia is trialling the Iridium SafetyCast service. Steady decline in warnings posted and MSI from the region. AMSA has taken over all Australia HF radiophone services.

10.2 NAVAREA XI Coordinator Report

Doc SWPHC19-10C

Mr Shigeru Nakabayashi (NAVAREA XI Coordinator) presented a summary of the NAVAREA XI report, including expressing thanks for the increased communication from the region since becoming part of the SWPHC.

10.3 NAVAREA XIV Coordinator Report

Doc SWPHC19-10D

Mr Dave Wilson (NAVAREA XIV Coordinator) presented a summary of the NAVAREA XIV report, including current list of contacts regularly communicated with. All GDMSS services via all recognised mobile satellite services have now been declared operational to the IMO. Offered targeted training to countries due to limited travel opportunities which has yet to taken up.

Decision 12: To note the reports from NAVAREA X, XI & XIV Coordinators (SWPHC19-10B to 10D)

11. Preparations for Day 2

The Chair provided an introduction to the intent and outcomes of the discussions on Day 2.

12. SWPHC Work Plan 2021-2026

12.1 Session Introduction

The Chair introduced Agenda Item 12, reminding the Commission of work done at SWPHC18 on the gap analysis and the actions that resulted from those discussions.

12.2 SWPHC Work Plan & Priorities Working Group (WP&PWG)

Docs SWPHC19-12.2A to 12.2D

The Working Group Chair, Mrs Hilary Thompson (AU) introduced the WG and the steps the WG went through in forming the draft work plan, and explained some of it in detail, this included:

- Stakeholder analysis
- Theory of Change methodology
- SWP contributions to IHO WGs

While work has already started on some of the activities, the WG plan to publish the Work Plan in April 2022.

Decision 13: note the report and progress made by the SWPHC WPWG.

Action 24: Members to provide feedback on the Draft ToR and RoP of the SWPHC Work Plan & Priorities WG to the WG Chair

Action 25: Members to provide feedback on the SWPHC Draft Work Plan 2022-2024

12.3 SWPHC Strategic Performance Indicators (SPI) Sub-Group

Docs SWPHC19-12.3

Chair of Sub-group, Mr Stuart Caie (NZ) introduced the report of the SWPHC SPIs including the focus of the group. The Commission were informed that there would be a repeat of the gap analysis to support SPI baselines. Nations were thanked for taking the time to include details of areas of significance to support reporting of the SPI.

Decision 14: To note the report of the Strategic Performance Indicators Sub-group and note recommendations

12.4 SWPHC Hydrographic Leaders Programme

Docs SWPHC19-12.4

CB Coordinator, Matt Borbash (US) and SWPHC WG Chair, Hilary Thompson introduced the Hydrographic Leaders Programme, explaining the selection process.

Mr Chris Hunt (UK) explained the programme content and how it will develop.

The SWPHC Chair introduced the first cohort to the Commission meeting.

12.5 S-100 and you – the impact on all nations

Mr Al Armstrong (NGA) talked about the value of data being shared, and how data can be structured to enabling sharing. There is a shift from the one digital product (S-57) to a multitude of products for mariners and other stakeholders. While not required to publish data, nations are required to make it available.

The Chair invited Mr Armstrong to talk further on the topic and about the great potential of S-100. Collaboration across nations will aid in bringing S-100 to its full potential. Whilst acknowledging nations don't fully understand what S-100 will look like, it is an exciting time to anticipate what the results will be.

Action 26: Host an intersessional workshop for the SWPHC on *S-100 and you – the impact of S-100 on all nations*.

13. UNGGIM Integrated Geospatial Information Framework (IGIF) & Open Data

13.1 Implementation of IGIF

Doc SWPHC18-13.1

The presentation by Mr Andy Coote (Consulting Where) included reference to the information age that we are entering and how information is a fundamental part of national infrastructure. Mr Coote explained the IGIF methodology and gave examples of usage and resources. There is a strong value proposition for the efficient use of geospatial information.

13.2 Introduction to IGIF-H

Doc SWPHC18-13.2

Ms Pearlyn Pang (Maritime and Port Authority of Singapore) presented about the Operational Framework for Integrated Marine Geospatial Information Management which supplements the IGIF. Ms Pang gave examples of where value proposition could lie and stressed the importance of a national geospatial leadership board to support interagency collaboration. National policy and legal considerations need to be given to enable 'collect once, use many times'. The Commission is invited to be involved in consultation group.

Action 27: Host an intersessional workshop on the IGIF-H for the SWPHC to raise awareness and lead the adoption of the framework by Coastal States in the region.

13.3 Open Data – Achieving the Value Proposition

Doc SWPHC18-13.3

Dr Lesley Arnold (Geospatial Frameworks) explained the definition of open data, being free and available with the attribution of source, and promotes open by default. Dr Arnold extolled the benefits of open data for society, economy and the environment, and emphasized the benefits of being able to tell a story about the benefits that everyone can understand. Accessibility of data is a reoccurring problem, and Dr Arnold debunked common barriers about open data.

13.4 Panel Session

The Chair introduced the panel session and posed two questions for discussion.

- a. What can we do to advance adoption/implementation of the IGIF and Open Data in our region?
- b. How do we collectively work in the region to share data leading to Open Data - open by default, a reality?

The intent of the questions is to kick-start a regional discussion on the value and benefits of geospatial information, the framework and sharing data. The outcomes are actions/commitment from SWPHC19 to collaborate with international and regional entities and Coastal States to develop a strategy to support the implementation of the IGIF, understand the value of open data and commit to sharing data.

The Chair then introduced the panel Chair, Dr Stuart Minchin, Director-General, SPC, who then introduced the panel members.

- Andy Coote (AC), Consulting Where
- Kim Picard (KP), Geoscience Australia
- Lesley Arnold (LA), Geospatial Frameworks

Dr Minchin put the following questions to the panel:

Q: Many nations in the regions have small governments with limited geospatial capacity and capability, and concerns about data sovereignty and cultural appropriation – how do we make people comfortable with sharing their data?

KP – having discussion, listening to the science, go through the steps one-by-one.

LA – more customers using data, the more you're integrated and imbedded in their services; no one "can turn your agency off". Workforce development is important in all sectors, and data should stay stored within the agency.

AC – Indian example of security issue, where making data open has the advantage of decisions being made multilaterally. Respect does need to be given to security.

Q: Picking up on a theme of workforce and capacity development needs. In the region there are small populations with small governments, thus limited capability to build capacity. One or 2 people in government responsible for hydrography in a country. How do we need to adjust the IGIF approach for this region? 1 or 2 people v's a department?

AC – similar to local authorities in bigger countries, where relationships can be built with bigger organisations with more resources and building capability for self-sufficiency.

LA – working with UN in Fiji and Tonga about developing geospatial action plans using the IGIF, started with one person but recognised a team approach is needed with groups building a strategic approach.

Need to improve connection and engagement across the SWP to progress and avoid duplication. SWPHC needs to get involved as they have the connections.

KP – partnership and ownership. All those involved should have a vested interest in owning what is mutually beneficial.

Q: Much of the data collection in region is undertaken by military and HO's, but also by private, philanthropic entities. Data is collected and then goes back to the collectors' country and is published in scientific literature but doesn't always make its way back to the country where it was collected. – how do we ensure that the data returns to the countries and contributes to a common regional picture of the seafloor?

KP – requirement should lie when permission for collection is given; surveyors should be required to give the data back. This also needs to be reinforced with those bigger organisations.

LA – Data integration is a challenge so can go unused. It's a complex problem.

AC – Name and shame – NGO's should know better and should be doing this.

LA – a custodian of the data should be identified on the outset.

Dr Minchin closed the discussion with the comment that there is power in identifying areas of priority for opportunistic collection of data which could enable large amounts of data collection. This can ensure areas aren't duplicated and maximises the area that can be covered.

SWPHC Chair thanked the panel and suggested the discussion should continue as well as further collaboration with regional organisations. The Chair challenged the IHO on how it can influence the World Bank to enhance collaboration and ensure the data is released and shared.

The recording of Agenda Item 13 will be posted on the SWPHC webpage.

Action 28: Develop an open data value proposition for the region through collaboration with international / regional actors.

14. SWP Disaster Response

14.1 Disaster Resilience & Community Programme

Doc SWPHC19-14.1

Mr Salesh Kumar provided an overview of SPC's Pacific Resilience Project, including acquisition of LiDAR data and training in its use.

On questioning, Mr Kumar said data would be made available to charting authorities through the SPC Data Portal, and that data sharing arrangements in place enabling this.

Action 29: Share Pacific Resilience Project LiDAR data (MH, TO, VU) with charting authorities.

14.2 SWPHC Disaster Response Framework update

Doc SWPHC18-14.2

Mr Stuart Caie provided an update on the current state of the Disaster Response Framework, in its redline version. Those nations who hadn't yet done so were requested to send through their contact details. There is an approved CB activity to run an emergency exercise to test the framework. This is planned to be held in conjunction with SWPHC21 in 2024.

Decision 15: To note report on SWPHC Disaster Response Framework and agree to continue the development of the framework.

15. UN Decade of Ocean Science

15.1 GEBCO Seabed 2030 Project

Doc SWPHC19-15.1

Mr Jamie McMichael-Phillips, Seabed 2030 Project Director provided an update on the project which still aims for 100% sea floor mapped by 2030. Five Project Work Packages are in progress covering data; systems & tools; technology innovation; mapping activities; and management. The GEBCO 2021 grid released for WHD 2021, now have 20.6% of the ocean floor mapped. Quite a bit of work on process improvements at the data centres, including a data uploader. The University of New Hampshire has been working on a new generation CSB data logger. Viability of autonomous data gathering on Saildrone's Pacific crossing. Mr McMichael-Phillips outlined some of the mapping activities under the Ocean Frontier Mapping Project which include funding for personnel to operate systems on board vessels. He encouraged organisations to reach out to the Project to seek funding to support placing a mapper on board vessels.

Seabed 2030 is one of the first programmes under the UN Ocean Decade and termed a Flagship Programme; and endorsed by the 2021 Paris Peace Forum as a project to promote.

Mr McMichael-Phillips acknowledged that the SWPHC recognises the importance of sharing data. It is a major challenge for Seabed 2030 to access data, so he was encouraged that the Director-General of UNESCO made a high-level political intervention at the World Ocean Summit that focused on asking countries and commercial companies to release data that is embargoed.

15.2 Seabed 2030, South and West Pacific Ocean Regional Centre (SaWPaC)

Doc SWPHC19-15.2

Mr Kevin McKay, Centre Head for the SaWPaC presented an update on Seabed2030 in the region. The SWPHC region has 13% of area has data collected, with recognition of depth of ocean and areas not commonly sailed. Kiribati have formally agreed to provide data to the project and the Centre encourages other nations to do the same. The Centre has been engaged with countries to help discover and exchange data and working with vessels to plan transits to maximise 'mapping the gaps' and ensuring private vessels provide data back to the data's sovereign nation. Mr McKay reminded the Commission of IRCC12 Action Item 19 which encourages all Member States to make existing seabed mapping data available for use by Seabed 2030 in the GEBCO Grid.

15.3 NZ Response to UN Decade

Doc SWPHC19-15.3

Ms Zuleika Chang and Ms Silke Bieda presented on New Zealand's response to the UN Decade of the Ocean, including the make-up of the NZ National Commission for UNESCO and its approach. The Commission provides advice to the NZ Government on UNESCO matters and is the conduit between international and domestic activities in relation to the Decade, UNESCO and International Oceanographic Commission. Ms Bieda outlined NZ and Pacific projects submitted to the Decade. Further information can be found at www.tetiniatangaroa.org.nz. Ms Chang introduced the International Virtual Ocean Decade Laboratories 2022, including a 48-hour virtual lab.

The Chair commented that the SWPHC will consider making a submission and/or make a presentation to the 48-hour virtual lab. In closing, Ms Chang offered to support and submission for programmes and projects to the UN for endorsement, with funding opportunities available.

Action 30: SWPHC to consider initiatives in support of the UN Decade.

Action 31: Members to register to attend virtual labs for UN Decade.

Action 32: Members to consider submitting a concept note to participate in up-coming International Virtual Ocean Decade Laboratories

16. Crowdsourced Bathymetry (CSB) / IHO Data Centre for Digital Bathymetry (DCDB)

16.1 CSB and IHO DCDB Activities

Doc SWPHC19-16.1

Ms Jennifer Jencks (IHO DCDB Director) provided an update on activities including how to contribute data and how to access the viewer for data the Centre holds.

16.2 SWPHC CSB / Seabed 2030 Coordinator Report

Doc SWPHC19-16.2

Mr Stuart Caie (SWPHC CSB / Seabed 2030 Coordinator) provided an update on the activities specific to the SWP including data trackers and the webinar series including those upcoming in our region. Mr Caie encouraged members to respond to IHO CL 21/2020 and IRCC CL 01/2020 to release their data.

Decision 16: To note the report from the SWPHC CSB/Seabed 2030 Coordinator.

Action 33: Host an intersessional, regional Seabed 2030 webinar.

Action 34: Members are encouraged to participate in regional CSB activities.

17. National Reports and Presentations

New Zealand

- 47 ENCs and 17 paper charts published for the Cook Islands, Niue, Samoa, Tokelau and Tonga rebranded with the country's two-letter country code i.e., Cook Islands CK.
- NZ Digital Government - Digital Government Partnership Innovation Fund approved 6-month proof of Concept to improve MGI data access and integration.
- Collaboration with Seabed 2030 Project to collect SDB in Cook Islands.
- CSB data loggers installed and used on six vessels.
- New Zealand Government signs agreement with Seabed 2030.

United Kingdom

- Sustained output and renewed emphasis on safe, secure and thriving oceans In SW Pacific region, 11 new charts published, 38 New editions and 2 New GB ENCs.
- Publication of UKHO S 100 strategy, themes and goals, focussed on the future of navigation.
- New online training capability (and virtual academy) developed, including provision of free online courses. In total, >3000 training places.

Kiribati

- Approval of National Coordinator for Hydrography and Charting post – intention to expand in future.
- Support Seabed 2030 initiative through release of data from SPC.
- Progress on Component 1, KOITIIP

- Survey and Mapping Work Exercise – data acquisition and production of nautical charts
- 2022 – data acquisition work begins
- Capacity building and institutional strengthening

Niue

- New chart including previously uncharted Beveridge Reef.
- Maritime Safety Act 2021 passed.
- Marine Spatial Management Plan approved

France

- A number of surveys undertaken in the region and the launch of a new multibeam system.
- MSDI data portal has been updated and has new layers.
- An experiment has been undertaken to get the best results from survey equipment.

United States

- NGA signed Memorandums of Understanding (MOU) with both Palau and RMI this past year. Solidifying working partnership and NGA's position as PCA for both countries.
- NGA completed its first year of ENC production. The first completed ENCs are now available through our web portal

Indonesia

- 22 hydrographic surveys conducted covering 46,750km².
- 128 paper charts and 473 ENC cells updated.
- Participated in SAR and natural disaster relief and mitigation.

Vice Admiral Nurhidayat introduced himself as the new Chief Hydrographer and expressed commitment to supporting the Commission and those in the community.

Individual National Reports submitted are available on website (Docs SWPHC19-07B to 07U).

18. Industry / Expert Contributors

18.1 Fugro

Doc SWPHC19-18.1

Mr Paul Seaton opened his presentation with the fact that Fugro has to date, contributed 2 million km² of bathymetry to the Seabed2030 project. Fugro is contributing to UN Decade of Ocean and working in partnership with clients to remove barriers to opening data. Fugro were able to conduct topographic LiDAR in Palau and were able to also collect further bathymetry by not turning off measuring equipment when flying outside of the contracted area. In country capability capacity building around LiDAR data was conducted. Mr Season emphasised the importance of integrating data.

18.2 IIC Technologies

Doc SWPHC19-18.2

Mr David Crossman presented about activities across the region, including the increasing the amount of training IIC offers. IIC has been supporting Niue with an Electronic Information Management System, increasing data holdings including language and culture capture. IIC are actively supporting open data, including using their own smartphone software.

18.3 EOMAP

Doc SWPHC19-18.3

Mr Magnus Wettle presented an update from EOMAP and the satellite derived bathymetry (SDB) journey. EOMAP actively contribute to Seabed2030 through the SaWPaC and in polar regions and is encouraging clients to release their data under a Creative Commons licence. Projects have also been undertaken which support climate change resilience. Mr Wettle commented that as SDB does not require in-country activities, it is not affected by COVID related travel restrictions. He also noted that the IHO have established an SDB Working Group.

18.4 iXblue Pty Ltd

Doc SWPHC19-18.4

Mr David Field announced that they have joined the Ocean Infinity group. iXBlue promote open data and gave an overview of their work, including autonomous vessels. Ms Holly Ewart from Ocean Infinity provided an overview of the company's mission and examples of data sharing, before outlining where they see the future with the use of autonomous platforms.

18.5 P&O Cruises Australia

Doc SWPHC19-18.5

Mr Mike Drake gave an update on the P&O fleet. P&O support the open data, in particular support keeping charts up-to-date including IHO's recommended port scales and hdENCs. P&O shared their wish-list of cruise destinations that need improved charting.

18.6 SevenCs

Doc SWPHC19-18.6

Mr Yee Wei provided an update on high density contours and soundings. SevenC's promoted the benefits of hdENCs and explained recent testing using a prototype NZ hdENC.

Decision 17: To note the presentations from the Industry / Expert Contributors.

19. Capacity Building

Doc SWPHC19-19A, SWPHC19-19B

Mr Matt Borbash (CB Coordinator) provided an update on Capacity Building events around the region. CBSC19 worked to align the CB Strategy to the IHO Strategic Plan, and shift training opportunities not undertaken to future years. Members were encouraged to view the CB calendar on the IHO website. Mr Borbash gave an overview of SWPHC future funded activities and activities undertaken during the last year.

19.1 Future Capacity Building Initiatives

Doc SWPHC19-19C

Mr Matt Borbash provided an overview of activities carried forward and the 3-year Capacity Building Plan.

Decision 18: To note report and approve the 3-year CB work plan.

19.2 Highlights of Regional Capacity Building Initiatives

Doc SWPHC19-19.2A – Mr Chris Hunt (UK) provided an update on the Commonwealth Marine Economies programme which is coming to a close. The UKHO continues to be fully committed to the South West Pacific in the future, with work still to do.

Doc SWPHC19-19.2B – Ms Alison Cantrill (NZ) provided an update on the Pacific Regional Navigation Initiative (PRNI), including recent charting and renumbering/ rebranding. Further chart improvements are planned for Tonga and Samoa, culminating in new ENC's and paper charts.

Doc SWPHC19-19.2C – Ms Beverly Palliser (NZ) presented the NZ Ministry of Foreign Affairs and Trade (MFAT) review on maritime activities including PRNI, Pacific Maritime Safety Programme and Pacific Island Domestic Shipping Safety. The review found the activities had been effective but provided some recommendations. The full report is available on the MFAT website.

Doc SWPHC19-19.2D – Ms Francesca Pradelli (SPC) presented an update on the Safety of Navigation Project to improve governance, capacity building and infrastructure of AtoNs. Of note are the following remotely run training courses which were very successful:

- SIRA risk assessment conducted remotely with Tonga and Solomon Islands.
- MSI regional training webinars
- AtoN maintenance webinars

Further webinars are to be run.

Decision 19: To note the progress on the regional capacity building initiatives.

Action 35: SPC to make available the SoN Project AtoN Risk Assessment report for Tonga to NZ.

20. 6th IHO Council Meeting (C6)

Doc SWPHC18-20

SWPHC Chair, Mr Adam Greenland will compile the report to go to IRCC14. Members are invited to raise items for discussion which will then be included in the report to IRCC14 for discussion at IHO Council (C6) by the SWPHC Council Representative (AU).

Chris Hunt (UK) commented that some items in the SWPHC Draft Work Plan are identified for action by the IHO, Council and relevant Committees. These actions need to be raised at C6 as we (the SWPHC) recognise we can't do it on our own and will rely on the support of the IHO, as noted by the IHO Director in his comments on the Work Plan. The Commission needs to be clear on the support needed to successfully deliver the Work Plan.

Action 36: Items to be raised at IRCC14 for discussion at 6th Council Meeting (C6).

21. World Hydro Day (WHD) 2022

"Hydrography - contributing to the United Nations Ocean Decade"

Action 37: Members to consider producing content for WHD 2022.

22. International Hydrographic Review

There is a permanent action about contribution to the Review, deadline for next edition is July 2022.

23. Election of Chair/ Vice-Chair

No other nominations for the role of Chair were received. Mr Adam Greenland offered to continue as Chair of the SWPHC and was accepted.

No other nominations for the role of Vice-Chair were received. Fiji offered to continue as Vice-Chair of the SWPHC and was accepted.

Decision 20: To re-elect NZ as Chair of the SWPHC.

Decision 21: To re-elect FJ as Vice Chair.

24. Review of the Actions and Decisions

Doc SWPHC19-24

The Actions and Decisions were reviewed and agreed (SWPHC19-24).

25. Date and Venue of SWPHC20

The Chair was hopeful that 2023 will enable a face-to-face meeting for which New Zealand has offered to host.

Decision 22: To hold the next meeting (SWPHC20) in NZ (TBC) in February 2023.

Action 38: NZ to confirm hosting of SWPHC20 in February 2023.

26. Closing Remarks

Chair closed the meeting, thanking the participants for their engagement and contributions to the meeting.

DRAFT