

**17<sup>TH</sup> MEETING OF THE SOUTH WEST PACIFIC HYDROGRAPHIC  
COMMISSION (SWPHC17)  
Wollongong, 12-14 February 2020**

**NATIONAL REPORTS FROM NEW ZEALAND TO THE SWPHC17**

References:

- A. IHO Resolution 2/1997 as amended (see doc. C3-04.2A, [Appendix to Annex A](#))
- B. IHO Circular Letter 20/2019, The IHO Online Form System for responses to Circular Letters and input to IHO Publications (P-5 and C-55): [link](#)  
Online system for P-5 (Yearbook): [link](#)  
Online system for C-55 (Status of Surveys and Charting Worldwide): [link](#)

**Executive summary**

1. Hydrographic Office / Service:

- a) Name of the institution: Land Information New Zealand (LINZ)
- b) Description: The National Hydrographer (Adam Greenland) and Group Manager Hydrography (Rebecca McAtamney) lead the New Zealand Hydrographic Authority (NZHA) in partnership. Both positions report to the Deputy Chief Executive Location Information, Jan Pierce.

The NZHA comprises 19 personnel, including three hydrographic surveyors, five nautical cartographers, two marine geospatial data specialists and a Technical Change Leader who leads a programme of work to move the NZHA to a digital first, data centric environment.

- c) Submitted by: Stuart Caie, Manager Hydrographic Survey, [scaie@linz.govt.nz](mailto:scaie@linz.govt.nz)

Detailed information to update IHO Publication P-5 (*Yearbook*) is submitted in Annex A (alternatively, use the online system, reference B).

2. Surveys:

- a) Coverage of new surveys:

Surveys completed or in progress since SWPHC16 are listed below:

Survey Number	Area	Completed
HYD-1819-HS58	Fiordland	Jun 2019
HYD-1819-HS64	Samoa <sup>1</sup>	Nov 2019
HYD-1819-HS65	Cavalli Passage <sup>2</sup>	Mar 2019
HYD-1819-HS66	Western Marlborough Sounds <sup>3</sup>	In progress
HYD-1819-HS68	Napier <sup>2</sup>	Nov 2019

<sup>1</sup> Hydrographic surveys funded by NZ Aid programme, Pacific Regional Navigation Initiative (PRNI).

<sup>2</sup> Hydrographic surveys carried out by the Royal New Zealand Navy (RNZN).

<sup>3</sup> Partnership with Marlborough District Council to collect bathymetry and backscatter data for scientific purposes.

- b) New technologies and /or equipment

The annual national civil hydrographic survey programme is delivered through a Supplier Panel established in 2017. The Panel utilise the latest technology for seabed

mapping including bathymetry and seafloor / water column backscatter. Technologies include; vessel mounted laser scanner and Unmanned Aerial Vehicles (UAV) to collect data in the intertidal zone (using autonomous systems to avoid hazardous areas); and Unmanned Surface Vessel (USV) fitted with MBES.

c) New ships

LINZ does not own or operate survey vessels; these are operated by the Supplier Panel.

The Royal New Zealand Navy (RNZN) has purchased a vessel to replace their hydrographic surveying and dive support vessels. The vessel, HMNZS *Manawanui* was commissioned in June 2019. The vessel is expected to enter service in 2020 and will deploy to the SW Pacific region.

d) Crowdsourced and satellite-derived bathymetry - national policy

LINZ has approached suppliers and potential partners to trial CSB activities in NZ waters and beyond. Any trial will align with IHO CSB Guidelines B-12.

In May 2019 LINZ personnel attended a 4 -day SDB training course delivered by IIC Technologies in NZ. LINZ plans to use SDB as a planning tool for hydrographic surveys and is assessing the potential of SDB for the 3D Coastal Mapping component of the Mapping NZ 2025 programme of work to ensure seamless mapping from the top of Āoraki/Mt Cook (NZ's highest peak) to the edge of the continental shelf.

e) Challenges and achievements

Recruiting qualified and experienced staff remains a challenge. There is no recognised FIG/IHO/ICA Category 'A' Hydrographic Surveyor or civilian Category 'B' Hydrographic Surveyor courses in the region. This is the same for nautical cartography.

The LINZ PRNI NZ Aid programme has completed an ambitious and complex programme of hydrographic surveys comprising Satellite Derived Bathymetry, Airborne Laser Bathymetry and Multi-beam echo sounder surveys using an Unmanned Surface Vessel. The surveys covered the Cook Islands, Tokelau, Niue and Tonga. This will enable LINZ to produce modern, metric charts for the Ha'apai Group of islands in Tonga, replacing all fathom charts.

In October 2019, LINZ and Marlborough District Council entered and won the New Zealand Spatial Excellence Award for Environment and Sustainability for their joint project, *Marine Magic - Mapping of Queen Charlotte Sound / Tōtaranui*. This project is the most comprehensive marine mapping project ever undertaken in New Zealand, covering 44,000 hectares of seabed.

### 3. New charts & updates:

New Zealand is the Primary Charting Authority (PCA) for five Pacific Island Countries (PIC)s, as below:

Nation	Paper Charts	ENCs	Fathoms/non-WGS84
Cook Islands	4	23	0
Niue	1	2	0
Samoa	7	7	2
Tokelau	1	4	0
Tonga	13	12	5

The LINZ PRNI NZ Aid programme has established a chart improvement programme using new survey data. The table below shows the NC and NE charts and the schedule for the remaining charts:

Nation	Paper Charts		ENCs	
	New Edition	New Chart	New Edition	New Chart
Cook Islands	1 (Jun 2018) 2 (Feb 2019)	-	19 (Jun 2018) 3 (Nov 2018) 6 (Jan 2019)	-
Niue	-	1 (early 2020)	2 (May 2018)	3 (Feb 2020)
Samoa	4 (Mar 2018) 1 (Jul 2019) 2 (Jun 2021)	4 (Jun 2021)*	4 (Jun 2021)	7 (Jun 2021)*
Tokelau	1 (Mar 2019)	-	4 (Mar 2019)	-
Tonga	3 (Jan 2019) 2 (Apr 2019) 1 (May 2019) 2 (Jun 2021)	4 (Jun 2020)* 1 (Jun 2021)	1 (Nov 2018) 3 (Dec 2018) 2 (Feb 2019) 1 (Mar 2019) 1 (Jun 2019) 2 (Jun 2020)	6 (Jun 2020)* 2 (Jun 2021)
INT Chart	-	1 (Aug 2019)	-	1 (Jun 2019)

\* New Charts will replace current fathoms/non-WGS84 charts, enabling production of large scale ENC.

LINZ has commenced a programme to rebrand charts for the above five PICs by including the two-digit country code. The change affects both ENCs and paper charts and will commence in March 2020.

#### a) ENC coverage, gaps and overlaps

To date LINZ has published a total of 309 official New Zealand ENCs and has achieved full ENC coverage of New Zealand waters.

An [on-line spatial viewer](#) provides detailed information of the full New Zealand ENC

folio.

b) ENC distribution method

i. LINZ is a member of IC-ENC and distributes all New Zealand ENCs through the regional IC-ENC office

ii. LINZ is developing a local New Zealand ENC distribution service which is under trial.

<b>New Zealand ENCs published since the SWPHC16 Meeting</b>			
New Zealand Total: 31 New ENC: 3 NE ENC: 28	South West Pacific Total: 8 New ENC: 0 NE ENC: 8	Antarctica Total: 2 New ENC: 0 NE ENC: 2	INT Total: 1 New ENC: 1 NE ENC: 0

<b>New Zealand ENCs scheduled for publication in 19/20 FY</b>			
New Zealand Total: 29 New ENC: 2 NE ENC: 27	South West Pacific Total: 13 New ENC: 13 NE ENC: 0	Antarctica Total: 2 New ENC: 0 NE ENC: 2	INT Total: 0 New ENC: 0 NE ENC: 0

c) RNCs

NZMariner is the product name of New Zealand's Official RNC folio, and is available for download in unencrypted BSB format, at no charge from the LINZ website at <https://www.linz.govt.nz/sea/charts/information-about-charts#nzmariner>.

The future of NZMariner is a legacy product and will be withdrawn in due course.

d) INT charts

In June 2019 LINZ published ENC NZ214628 *South Pacific Ocean - Cook Islands*, replacing ENCs NZ300093 *South Pacific Ocean - Cook Islands* and NZ214631 *South Pacific Ocean - Samoa Islands to Tonga including Niue*.

In August 2019 paper chart NZ 93 was withdrawn and replaced by NZ 14628 (INT 628). Paper chart NZ 14630 (INT 630) will be withdrawn late-2020.

e) National paper charts

New Zealand has a total of 196 paper charts. Detailed information of the full New Zealand chart folio can be found on the [on-line spatial viewer](#).

<b>New Zealand Paper Charts published since the SWPHC16 Meeting</b>			
New Zealand Total: 20 NC: 1 NE: 19	South West Pacific Total: 5 NC: 0 NE: 5	Antarctica Total: 2 NC: 0 NE: 2	INT Total: 1 NC: 0 NE: 1

<b>New Zealand Paper Charts scheduled for publication in 19/20 FY</b>			
New Zealand Total: 19	South West Pacific Total: 7	Antarctica Total: 2	INT Total: 0

NC: 1 NE: 18	NC: 7 NE: 0	NC: 0 NE: 2	NC:0 NE:0
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f) Other charts, e.g. for pleasure craft  
Nothing to report (NTR)

g) Challenges and achievements

In 2010 LINZ implement the Hydrographic Production Database (HPD) software suite. The hydrographic information is stored in S-57 data format and, like many hydrographic offices, was captured from the paper chart folio. It has multiple scale layers to allow for the creation of current paper and ENC products.

The database was designed with a paper chart centric focus and LINZ still produce and maintain products from this legacy viewpoint. With the IHOs drive to implement the S-100 Universal Hydrographic Data Model, LINZ has instigated a programme of work to ensure NZ meets the new standards.

LINZ will:

- a. Create a new source database structure which is product neutral to support the production of gridded ENCs and minimise data duplication.
- b. Improve chart schemes for ENCs and Paper Charts to easily maintain future products
- c. Develop standardised scales for ENCs and Paper Charts to harmonise product creation
- d. Withdraw surplus Paper Charts
- e. Use scale-less usages to their full potential to improve data management by using the approach 'create once use many times'
- f. Establish processes and systems to support the creation of S-101 next generation gridded ENCs
- g. Create S-10x products to meet future requirements

4. New publications & updates:

- a) New Publications  
NTR
- b) Updated publications  
NTR
- c) Means of delivery, e.g. paper, digital  
NTR
- d) Challenges and achievements  
NTR

5. MSI

- a) Existing infrastructure for MSI dissemination  
LINZ publishes Annual Notices to Mariners (available in the Nautical Almanac and online) and fortnightly Notices to Mariners (NtM) distributed via an email subscription service (<http://www.linz.govt.nz/sea/maritime-safety/notices->

[mariners/subscribe-fortnightly-edition-notices-mariners](#)) and available online at <http://www.linz.govt.nz/sea/maritime-safety/notices-mariners>. The subscription service allows users to select which charts they receive notices for.

A dedicated email address has been established for receipt of information pertinent to NtMs, [ntm@linz.govt.nz](mailto:ntm@linz.govt.nz).

Maritime New Zealand (Maritime NZ) is the NAVAREA XIV Coordinator and the New Zealand National MSI Coordinator [rccnz@maritimenz.govt.nz](mailto:rccnz@maritimenz.govt.nz). Navigational warnings are available from the MNZ website <https://www.maritimenz.govt.nz/commercial/safety/maritime-radio/navigational-warnings.asp>

See the following NAVAREA XIV reports:

- The [MSI Self-Assessment report for NAVAREA XIV](#) for the period July 2018 to June 2019 was submitted to the IHO World-Wide Navigational Warning Service (WWNWS) Sub-Committee Meeting (WWNWS11) held in Halifax, Canada on 26 to 30 August 2019.
- NAVAREA XIV Report to SWPHC17 and National MSI Coordinators self-assessments.

In an effort to improve communications and ensure contact details are correct, the NAVAREA XIV Coordinator conducts six monthly communications checks with nine National Coordinators. Since inception the response rate has been 100%. The last communications check identified changes in contact details for six National Coordinators.

b) Statistics on work of the National Coordinator

MSI received from Coastal States within NAVAREA XIV

Coastal State/Country	Number of MSI messages	Topics/Subjects of messages	IHO CB Funded MSI Courses Attended
Cook Islands	3	Wreck, AtoNs	2010, 2014, 2016, 2018
Fiji	50	AtoN, Cable laying ops, Pipeline installations, Wrecks	2010, 2014, 2016, 2018
French Polynesia	36	Military exercises, Space debris, Drifting Hazard, Tow, AtoNs	2010, 2014, 2016, 2018
New Caledonia	16	Military exercises, FADs, Drifting Hazard, Grounding	2010, 2014, 2016, 2018
Niue	3	AtoNs	2016, 2018
Samoa	1	Cable Laying	2016, 2018
Tonga	2	Wreck, Volcanic Activity	2016, 2018
Tuvalu	0		2016, 2018
Wallis & Futuna	Covered by New Caledonia		Covered by New Caledonia
Kiribati	1	Wreck	2016, 2018

c) New infrastructure in accordance with GMDSS Master Plan  
The GMDSS Master Plan is up to date as at July 2019. A Certificate of Authorization for NAVAREA XIV – New Zealand to Participate as a TEST and EVALUATOR for Iridium Enhanced Group Call Services was issued in December 2018.

d) Challenges and achievements  
NTR

## 6. C-55

The table with the latest information to update IHO Publication C-55 (*Status of Hydrographic Surveying and Charting Worldwide*) is provided in Annex B.

## 7. Capacity Building

Offer of and/or demand for Capacity Building

LINZ offers Capacity Building activities through the PRNI Aid Programme and SWPHC.

a) Training received, needed, offered

LINZ has challenges in recruiting experienced staff. With few qualified and/or experienced candidates available and only one IBSC recognized defence Category B Hydrographic Surveying course in the region, it has been necessary to recruit from further afield. As such, New Zealand sees a real need for Hydrography and Cartography programmes to be developed and delivered in-region.

Immediately prior to the SWPHC16 meeting the SWPHC CB 2-day workshop for PICs on Disaster Response Planning and Data Discovery was held 11-12 February 2019, in Niue. 50 participants from 14 PICs, five PCAs, IHO, SPC and industry attended the workshop. The workshop built on the success of previous technical workshops held at SWPHC11, SWPHC13, SWPHC14 and SWPHC15. Similarly, immediately prior to the SWPHC17 meeting a 2-day workshop for PICs on MSI for Managers and Disaster Framework for SWPHC is to be held.

In January 2020, Sunil Kumar of Maritime Safety Authority Fiji (MSAF), completed a 'Train the trainer' distance learning course, funded by IHO CB Fund (P-06).

Availability of funds for developing States in the region to attend the RHC meeting is a known barrier to participation in IHO matters. Holding an IHO funded workshop in conjunction with SWPHC meetings ensures Associate and non-member States are able to benefit from CB workshops and attend the RHC meeting.

Through the NZ Aid programmes PRNI and Pacific Maritime Safety Programme (PMSP), a 1-day MSI workshop was held during a visit to Niue in June 2019. The workshop was attended by key stakeholders and provided an outline of the importance of MSI. The training was delivered by NAVAREA XIV Coordinator, LINZ and MSAF National MSI Coordinator.

b) Status of national, bilateral, multilateral or regional development projects with a hydrographic component. (In progress, planned, under evaluation or study)

a. In 2015 LINZ and MFAT commenced the Pacific Regional Navigation Initiative (PRNI) which focuses on navigation-related aspects of maritime

safety. The primary focus for LINZ is on assisting those five Pacific Island Countries (PICs) where New Zealand is the Primary Charting Authority (PCA), namely Cook Islands, Niue, Samoa, Tonga and Tokelau.

To-date:

- Hydrography Risk Assessments for Cook Islands, Niue, Samoa and Tonga have been completed, presented to the respective governments and are available on the [IHO website](#);
  - an analysis of vessel traffic in and around Tokelau has been completed, used by SPC as the basis of their Safety-of-Navigation programme and is available on the [IHO website](#);
  - bilateral arrangements with the Cook Islands, Niue, Samoa and Tonga have been signed;
  - hydrographic survey work in the Cook Islands, Niue, Samoa, Tokelau and Tonga has been completed including; Satellite Derived Bathymetry (SDB) over nine islands of the Cook Islands, throughout Tonga and Beveridge Reef in Niue; Airborne Laser Bathymetry (ALB) in Tonga and Niue; and Multibeam echo sounder (MBES) survey in Tonga and Samoa;
  - survey data delivered to Tonga and Niue;
  - chart improvement programmes for the Cook Islands, Niue, Samoa, Tokelau and Tonga have been progressed. Updated ENCs and paper charts have been published incorporating recent hydrographic survey data including data held by SPC.
- b. In 2012 MFAT and Maritime NZ commenced work on the Pacific Maritime Safety Programme (PMSP) in response to several high profile passenger ferry disaster in the Pacific. PMSP currently supports seven PICs (Cook Islands, Kiribati, Niue, Samoa, Tuvalu, Tokelau and Tonga) raising awareness amongst fishermen and the community, strengthening the maritime safety regulator, support for seafarer training, vessel safety, marine pollution and Search and Rescue capability.
- c) Description of proposals and requests to the IHO/CBSC  
Hydrography and Cartography programmes to be developed and delivered in-region.

## 8. Oceanographic activities

*[Describe any significant developments in oceanographic activity since the last SWPHC meeting related to the items below]*

### a) General

Within New Zealand there are two Crown Research Institutes (CRI) involved in oceanographic studies: NIWA, the National Institute of Water and Atmospheric <http://www.niwa.co.nz/>; and GNS Science <http://www.gns.cri.nz/>.

Both operate data portals allowing users to discover and access a wide range of New Zealand marine geospatial data.

- GNS: <http://data.gns.cri.nz/dataportal/>

- NIWA: <https://marinedata.niwa.co.nz/project-map-sam/>



New Zealand is part of the Ocean Data Network (<https://nzodn.nz/>), a node of the Australian Ocean Data Network (AODN <https://portal.aodn.org.au/>)

b) GEBCO/IBC's activities, GEBCO Seabed 2030 activities

Seabed 2030 project is a collaboration between The Nippon Foundation in Japan and the General Bathymetric Chart of the Oceans (GEBCO). The project aims to combine all existing bathymetric data into a unified database, promote efforts to collect new data on the ocean floor and to generate maps of all ocean floor features larger than 100m.

New Zealand is the Seabed2030 Regional Data Assembly and Coordination Centre (RDACC) for the South and West Pacific Ocean and operates the South and West Pacific Data Assembly Centre (SaWPac). The SaWPac is run jointly by NIWA/GNS/LINZ and is hosted by NIWA. The second batch of data from SaWPac was delivered to the Global GEBCO Data Centre in October 2019. Two SaWPac Regional Mapping Committee meetings are proposed for 2020. One in South America and the other in Asia – locations/dates TBC. Representatives from countries in the South and West Pacific region will be encouraged to attend the meeting in their area to discuss what bathymetry data their country has and learn how they can contribute this data to the Seabed2030 project.

c) Tide gauge network

LINZ publishes tide predictions for Standard and Secondary Ports on the web <http://www.linz.govt.nz/sea/tides>.

LINZ, in partnership with GNS Science, has established a network of 18 tide gauges to improve New Zealand's response to tsunami hazards. Further information is available at <http://www.linz.govt.nz/sea/tides/sea-level-data>.

As part of the Mapping NZ 2025 programme, Joining Land & Sea (JLAS) Project, LINZ will collect sea level data and complete tide gauge calibrations at 89 sites around New Zealand. This data will be used, initially, to constrain and calibrate a new tide model being developed by NIWA for New Zealand's EEZ. This will provide the tidal surfaces for the JLAS prototype tool to seamlessly connect land and sea datasets. The data collection involves establishing tide stations for a minimum of 35 days (often at sites where sea level observations have never been made before), calibrating existing tide gauges and surveying ellipsoidal heights on benchmarks that are connected to the sea level data

d) New equipment

NIWA has deployed a number of new DART buoys. The DART buoy network will provide tsunami monitoring and detection information for Pacific countries, including Tokelau, Niue, the Cook Islands, Samoa and Tonga as well as New Zealand (<https://www.beehive.govt.nz/speech/dart-buoys-announcement> and <https://www.beehive.govt.nz/release/new-zealand-tsunami-monitoring-and-detection-system-be-established>)

e) Challenges and achievements

NTR

## 9. Spatial data infrastructures

### a) Status of MSDI

LINZ approach to SDI is in line with the UNGGIM Integrated Geospatial Information Framework IGIF. Rather than developing one single system, the NZ approach is to an integrated approach based on FAIR data principles, common standards and interoperability.

LINZ has established a Standards and Interoperability group which has prioritised Geospatial metadata and Technology API projects.

In the Marine space, LINZ is leading and coordinating the NZ marine geospatial community. The NZ Marine Geospatial Working Group (NZMG-WG) has been established and has over 60 public and private NZ organisations represented. The NZMG-WG has developed a national work programme and is working collaboratively on the following priority projects:

- i. Build a national data inventory of available NZ marine geospatial information (MGI)
- ii. Identify and agreed metadata standards for NZ MGI
- iii. Setup communication channels for the NZ MGI community
- iv. Review NZ MGI data portals

### b) Relationship with the NSDI NTR

### c) Involvement in regional or global MSDI efforts

LINZ regional involvement through:

- i. newly established SWPHC MSDI WG
- ii. AusSeabed Steering group
- iii. GEBCO Seabed 2030 South and West Pacific

LINZ global involvement through:

- i. IHO MSDI WG
- ii. OGC Marine Domain WG
- iii. UNGGIM Marine Geospatial WG

NZ contributes Ocean Observation data to the Global Ocean Observation System via the NZ Ocean Data Network and the Australian Ocean Data Network portals.

### d) National implementation of the Shared Data Principles – including any national data policy and impact on marine data.

NZ has an operational [Government Open Data Policy](#) and the NZ Government has [Data and Information Management Principles](#) which state data should be: open, protected, readily available, trusted and authoritative, well-managed, reasonably priced (preferably free), reusable.

### e) MSDI national portal

New Zealand does not have a single MSDI portal. Our approach is aligned with the UNGGIM IGIF where systems and data are interoperable and integrated. There are several data portals within NZ which host and serve MGI including LINZ Data Service - LDS, The NZ Ocean Data Network – NZODN. Other Portals will be

identified as part of the NZMG-WG projects.

- f) Best practices and lessons learned  
NTR

- g) Challenges and achievements  
A key challenge for LINZ and NZ is resources, capability and capacity.

Key achievements include coordinating a diverse user community and developing a joined-up work programme towards FAIR MGI for NZ. There is a growing appreciation for the value of MGI and we have commitment from 7 National agencies to lead projects within the work programme.

## 10. Innovation

- a) Use of new technologies

The NZ long-term national civil hydrographic programme (HYPLAN), utilises new technologies, including vessel mounted mobile laser scanners to map the coastline; and Unmanned Aerial Vehicles (UAVs) to identify hazards close inshore to mitigate health and safety risks.

- b) Risk assessment

In 2019 LINZ completed a hydrographic risk assessment for the Sub-antarctic islands within its EEZ. Recognising the pristine environment of the region, environmental & ecological criteria were included in the model, along with inherent risk.

- c) Policy matters

The New Zealand Hydrographic Authority (NZHA) is engaged with NZ Ministry of Foreign Affairs and Trade (MFAT) to review options for future work in the region in accordance with the [NZ Pacific Reset](#) and [NZ policy statement](#).

## 11. Other activities

- a) Participation in IHO meetings

<b>Working Groups since SHPHC16 Meeting</b>	<b>Date</b>
IBSC42	March 2019
CBSC17	May 2019
IRCC11	June 2019
S-101PT	June 2019
ENCWG4	June 2019

<b>Future activities include:</b>	
IHO/OGC/UN-GGIM Combined Marine Geospatial Information Working Week	February 2020
IBSC42	March 2020
2 <sup>nd</sup> IHO General Assembly	April 2020
ENCWG5	June 2020
S-101 WG	June 2020

- b) Meteorological data collection  
NTR
- c) Geospatial studies  
Refer to section 9 above.
- d) Preparation for responses to disasters  
LINZ has an active role in co-ordinating and promoting the use of geographic data to support New Zealand to prepare for and respond to emergencies and climate change events. <https://www.linz.govt.nz/data/linz-data/resilience-and-climate-change>
- e) Environmental protection  
NTR
- f) Engagement with the Maritime Administration  
LINZ and Maritime NZ signed an MOU in July 2017 to work together on matters of mutual interest. Strategic and operational meetings are held every six months, as required.
- g) Aids to Navigation matters  
Maritime NZ are the authority responsible for [Aids to Navigation](#) in NZ.
- h) Magnetic and gravity surveys  
NTR
- i) International engagements  
The NZHA has attended the following international meetings:

<b>Meetings &amp; conferences since SWPHC16</b>	
IC-ENC SC21	July 2019
UN-GGIM 9th Session	August 2019
IC-ENC 4 <sup>th</sup> Technical Conference	October 2019
Tokelau/Samoa maritime boundary Technical workshop (NZ MFAT)	October 2019
UN-GGIM Asia Pacific	November 2019
GEO Week 2019, Ministerial Summit	November 2019

<b>Future activities include:</b>	
IHO/OGC/UN-GGIM Combined Marine Geospatial Information Working Week	February 2020
Geoscience Australia Seabed Mapping and Marine Geospatial Information Technical Meeting	March 2020
Cambridge conference 2020 - Mapping Nations: The way ahead	April 2020
IC-ENC SC22	July 2020
IC-ENC Technical Conference	October 2020

## j) Others

Mapping NZ 2025 is LINZ's 10-year programme to deliver the mapping, data and expertise needed to address some of the most significant challenges facing NZ—such as climate change, urban growth and water. Our vision is seamless land and sea mapping, from Āoraki/Mount Cook to the edge of the continental shelf.

The programme includes initiatives, leadership and investment. It builds on core LINZ expertise in mapping and charting, and brings in new technologies and data partnerships with other organisations.

## 12. Conclusions

Over the past 12 months the NZHA continues to make progress in moving from a paper centric environment to a digital first, data centric one. Efficiencies in work processes have been realised in the Notices to Mariners publications; the on-line chart catalogue, automated processes to produce and maintain the NZ light list from the source database.

The NZ Marine Geospatial Working Group (NZMG-WG) has been established and has over 60 public and private NZ organisations represented. The NZMG-WG has developed a national work programme.

In October 2019, LINZ and Marlborough District Council were the winners of the New Zealand Spatial Excellence Award for Environment and Sustainability. The award was in recognition of the partnership in surveying Queen Charlotte Sound/Tōtaranui.

Mapping NZ 2025 – a 10-year seamless, integrated mapping programme of New Zealand from the highest mountain Āoraki/Mount Cook to the edge of the EEZ.

NZ is committed to hydrography in the SWP region, collaborating with others under the umbrella of the SWPHC, most notably through the MFAT NZ Aid Programme PRNI.

Through PRNI New Zealand has:

- delivered a hydrography risk assessment for Niue and Samoa and an analysis of traffic in and around Tokelau;
- signed bilateral arrangements with the Cook Islands, Niue, Samoa and Tonga;
- completed an extensive hydrographic survey programme including SDB, ALB and MBES technologies for the Cook Islands, Niue, Samoa, Tokelau and Tonga;
- released 42 ENC incorporating new survey data for the Cook Islands, Niue, Samoa, Tokelau and Tonga; and
- implemented a programme of further chart improvement incorporating new data.

The next twelve months will see further initiatives as New Zealand moves from a paper-based environment to a digital first, data centric model, with a future focus on marine geospatial information for New Zealand.

Input to the IHO Publication P-5 (*Yearbook*)

*Country: New Zealand*  
*Organization: Land Information New Zealand*

(Please provide the information in English. Consider using the IHO Online Form System, see reference B)

<b>Contact information/ Informations de contact / Información de contacto</b>	
-National Hydrographer or equivalent -Directeur du service hydrographique ou équivalent -Director del Servicio Hidrográfico o equivalente	No change
-Head of the Hydrographic Office (if different from the person indicated above) -Directeur du Service Hydrographique (si différent de la personne indiquée ci-dessus) -Director del Servicio Hidrográfico (si diferente de la persona indicada anteriormente)	No change
-Other point(s) of contact -Autre(s) point(s) de contact -Otros punto(s) de contacto	
-Web site -site web -sitio web	No change
<b>Country information / Informations sur le pays/ Información sobre el país</b>	
-Declared National Tonnage -Tonnage national déclaré -Tonelaje Nacional Declarado	Tonnage: Date:
-National day -Fête nationale -Fiesta nacional	No change
-Date of establishment and Relevant National Legislation -Date de mise en place et législation nationale pertinente	No change

-Fecha de constitución y legislación nacional pertinente	
-Date first joined IHO -Date d'adhésion à l'OHI -Fecha de adhesión a la OHI	No change
-Date ratification Convention -Date de ratification de la Convention -Fecha de ratificación de la Convención	No change
-Remarks on membership -Remarques sur l'adhésion -Comentarios sobre la adhesión	No change
<b>Agency information/ Information sur l'agence/ Información sobre la agencia</b>	
-Top level parent organisation -Organisme mère -Organización asociada de nivel superior	No change
-Principal functions of the organisation or the department -Attribution principales de l'organisme ou du département -Principales funciones de la Organización o departamento	No change
-Annual operating budget -Budget annuel -presupuesto anual	
-Total number of staff employed -Effectifs totaux -Número total de personal empleado	No change
-Number of INT charts published -Nombres de cartes INT publiées -Número de cartas INT publicadas	30
-Total number of paper charts published-Nombre total de cartes papier	No change

publiées-Número total de cartas de papel publicadas				
-Number of ENC cells published -Nombres de cellules ENC publiées -Número de células ENC publicadas	309			
-Number of Other charts -Nombre d'Autres cartes -Número de Otras cartas	NA			
-Type of publications produced -Type d'ouvrages produits -Tipo de publicaciones producidas	No change			
-Detail of surveying vessels/ aircraft -Détail des bâtiments hydrographiques / aéronefs -Detalle de los buques hidrográficos / aeronaves	-Name -Nom -Nombre	-Displacement -Déplacement -Desplazamiento	-Date Launched -Date de mise en service -Fecha de botado	-Number of crew -Nombre de l'équipage -Tripulación
-Other information of interest -Autres informations utiles -Otra información de interés				



Input to the IHO Publication C-55 (*Status of Hydrographic Surveying and Charting  
Worldwide*)  
Country: New Zealand

C-55 Summary for:				Comments on Charts:
Country:	New Zealand			
Country Iso Code:	NZ			
Country SubCode:				
INT Region:	L			
Country/Depend:	C			
Last updated:	Feb 2017			
Provided by:	LINZ			
Chart coverage	Passage (%)	Coastal (%)	Port (%)	<b>Comments on Surveys:</b> Hydrographic surveys carried out in: Kaikoura to Cape Campbell; Eastern Bay of Plenty; Cavalli Passage; Napier; and Western Marlborough Sounds
INT	100	100	0	
RNC	100	100	100	
ENC	100	100	100	
Status of Paper Charts				
Paper charts with depths in meters (%)			100	
Paper charts referenced to a satellite datum (%)			100	
Status of surveys	Adequate (%)	Resurvey (%)	No survey (%)	
0-200m	79	21	0	
> 200m	3	9	87	

MSI	Y/N	Comments on MSI:
Local warning	Y	Promulgated by harbour masters
Coastal warning	Y	Promulgated by National Coordinator, NZ Rescue Coordination Center, Maritime NZ (MNZ)
Nav warning	Y	NAVAREA XIV Coordinator
Port warning	Y	
GMDSS	Y/N	Comments on GMDSS:
Master Plan	Y	Coordinated by Maritime NZ
Area A1	N	
Area A2	N	
Area A3	Y	
NAVTEX	N	
SafetyNet	Y	NAVAREA XIV messages broadcast via SafetyNET

National MSI Self-Assessment

*Country:* \_\_\_\_\_

*Organization:* \_\_\_\_\_

**See report to SWPHC17 supplied by Maritime New Zealand, NAVAREA XIV Coordinator.**