

NEW ZEALAND NATIONAL REPORT

TO THE

13TH SOUTH WEST PACIFIC
HYDROGRAPHIC COMMISSION (SWPHC)
MEETING

Rarotonga, Cook Islands

25th – 27th February 2015

1. Land Information New Zealand (LINZ), the New Zealand Hydrographic Authority (NZHA)

- 1.1. The National Hydrographer (Adam Greenland) and Group Manager Hydrography (Tim Holloway) lead the New Zealand Hydrographic Authority (NZHA) in partnership. Both positions report to the Deputy Chief Executive Location Information, Jan Pierce.
- 1.2. The NZHA comprises 15 personnel and we are currently recruiting one experienced Nautical Cartographer.
- 1.3. In 2013, as part of the LINZ and the Ministry of Foreign Affairs (MFAT) NZ Aid South West Pacific Regional Hydrography Programme of works to prioritise chart improvements in the SWP, the Hydrography Risk Assessment for the Cook Islands and the Kingdom of Tonga were completed. The results are to be published shortly.
- 1.4. Since SWPHC12 LINZ has been involved in a number of IHO meetings and regional capacity building initiatives, most notably:
 - IHO 10th Chart Standardization and Paper Chart Working Group (CSPCWG10), Wellington, NZ, 21st – 24th January 2014.
 - IHO Capacity Building Stakeholders Seminar, Monaco, 5th-6th March 2014.
 - 12th Meeting of the IHO Capacity Building Sub-Committee, IHO-CBSC12, Brest, France, 14th-16th May 2014.
 - IMO Regional Training Course on Basic Hydrography and Hydrographic Governance, Suva, Fiji, 16th – 27th June 2014. Lead and delivered by NZ (LINZ) and AU (AHS).
 - IHO 6th Meeting of the World-Wide Navigational Warning Service Sub-Committee (WWNWS 6), Wellington, NZ, 18th-22nd August 2014.
 - SWPHC Capacity Building IHO Maritime Safety Information (MSI) Training Course, Wellington, NZ, 25th – 27th August 2014.
 - IHO 5th Extraordinary International Hydrographic Conference (EIHC), Monaco, 6th – 10th October 2014.
- 1.5. In June 2014, 14 participants from the Cook Islands, Fiji, Kiribati, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu attended an IMO funded regional training course in Suva, Fiji, on Basic Hydrography & Hydrographic Governance, to benefit countries in the area of influence of the SWPHC. The course was funded by the IMO under the Support to Small Islands Developing States (SIDS) and Least Developed Countries (LDCs) programme and organized in conjunction with the IHO, the Secretariat of the Pacific Community (SPC), LINZ and the Australian Hydrographic Service (AHS). The principle aim of the course was to provide an introduction to the:
 - basic concepts, techniques, processes and equipment associated with hydrographic surveys and nautical cartography to IHO standards,
 - fundamentals of hydrographic awareness, to raise awareness and understanding of the importance of hydrographic services, and
 - how participating countries can assess and meet national hydrographic obligations as required by the IMO International Convention for the Safety of Life at Sea (SOLAS).

The course followed a structured syllabus comprised of three units; hydrography; basic cartography; and hydrographic governance. The course material and presentations provided links between each unit, highlighting the interconnectivity

between each. A number of topics were supported by practical exercises, in particular the planning of hydrographic surveys; correcting charts for Notices to Mariners; and the assessment of maritime safety information.

With so many Pacific Island Countries (PIC) attending, the opportunity was taken to review the status of each PIC in relation to meeting their obligations under SOLAS Chapter V. The session produced a matrix listing each PICs current and future or desired status; a gap analysis and action table for each PIC. This is seen as a valuable resource in understanding what each country needs to do to meet their international obligations. Each country agreed to a set of actions which will be monitored through the SWPHC meetings. To support the participants in discussions with their respective governments and raising awareness at the highest level as to the need to meet international obligations, a number of documents considered important to help them “tell their story” were collated into a Hydrographic Grab-and-Go (HGG) data pack.

- 1.6. In August 2014, following the WWNWS6 meeting, LINZ hosted an IHO CB funded SWPHC Capacity Building Maritime Safety Information (MSI) Training Course. 15 participants from the Cook Islands, Fiji, New Caledonia, New Zealand, Niue, Papua New Guinea, Kiribati, Samoa, Solomon Islands, Tokelau, Tuvalu and Vanuatu attended the course. NZ (NAVAREA XIV Coordinator) and AU (NAVAREA X Coordinator) provided trainers and along with the WWNWS-SC Chair and NAVAREA IV & XII Coordinator successfully delivered the course.

The objective of the course was to increase the flow of MSI to the NAVAREA X and XIV Coordinators and, ultimately, to emphasise the importance of establishing expertise in the countries within these NAVAREAs to fulfil the role of National Coordinators. To achieve this, the course was intended to provide practical instruction and guidance to participants who are involved with MSI and the drafting of Navigational Warnings, or with the issuance of MSI for the high seas. The aim of the course was to ensure that all attendees would:

- Endeavour to be informed of all events that could significantly affect the safety of navigation within their coastal region,
- Assess all information in the light of knowledge for relevance to navigation in the coastal region,
- Draft navigational warnings in accordance with the Joint IMO/IHO/WMO Manual on MSI, and
- Pass MSI for further promulgation to the NAVAREA Coordinator using the quickest means possible.

2. Surveys

2.1 Coverage of new surveys.

Survey Number	Area	Completed
HYD-1314-HS40	South Island, West Coast - Chalky & Preservation Inlets	June 2014
HYD-1314-HS41	North Island, East Coast – Whangaroa Harbour North Island, East Coast – Tutukaka Harbour	June 2014

During September and October 2014 the New Zealand Royal Navy (RNZN) deployed to the SWP in support of the Third International Conference on Small Island

Developing States, held in Apia, Samoa. During the deployment, named Operation CALYPSO, the opportunity was taken to conduct surveys in a number of locations in Samoa (Satitua, Asau, Apia) and the Cook Islands (Penrhyn, Avatiu, Avana, Aitutaki).

2.2 New technologies and /or equipment

LINZ, in collaboration with Waikato Regional Council have investigated recent developments in Airborne Laser Bathymetry (ALB) and how this technology can be used for the National Hydrographic Survey Programme; and assisting with improving existing hydrodynamic models for inundation modelling.

The chosen study areas have recent multi-beam surveys (2013/14). Fieldwork was completed in May 2013 and after receiving data deliverables in October 2013, the data has been analysed to determine the likely use of this technology. Although the technology did not meet all the criteria of the LINZ stringent hydrographic standards, it is seen as a capable tool to identify areas for further detailed investigation. It is recognised that the technology has the ability to cover large areas at a relatively low cost, compared to traditional vessel mounted techniques.

2.3 New ships

LINZ does not own or operate survey vessels. The annual national survey programme is delivered through a fully contestable procurement process.

3. New charts & updates

Paper charts	192 (includes 8 fathom charts)
Electronic Navigational Charts (ENC)	230
Raster Navigational Charts (RNC)	184

3.1 ENCs

To date LINZ has published a total of 230 official NZ ENCs.

Detailed information of the full NZ ENC folio can be found on the LINZ website at <http://www.linz.govt.nz/sea/charts/electronic-navigational-charts-encs> and in the ENC Coverage Catalogue available on the IHO website www.iho.int.

ENCs published since the SWPHC12 Meeting		
New Zealand Total: 12	South West Pacific Total: 12*	Antarctica Total: 6

ENCs scheduled for publication in 14/15 FY		
New Zealand Total: 5	South West Pacific Total: 0**	Antarctica Total: 0**

* Produced under the LINZ/MFAT NZ Aid South West Pacific Regional Hydrography Programme

** The NZ paper chart folio contains a number of fathom charts on undetermined datums, particularly in Tonga (5 charts), Samoa (2 charts), American Samoa (1 chart). As such, it is not possible to convert these to an ENC.

3.2 ENC Distribution method

LINZ is a member of IC-ENC and distributes all NZ ENCs through the Australian Regional ENC Co-ordination Centre (IC-ENC Australia).

View the IC-ENC World Catalogue here:

<http://websig.hidrografico.pt/website/icenc/viewer.htm>

3.3 RNCs

NZ*Mariner* 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 <http://www.linz.govt.nz/sea/charts/nzmariner-official-raster-navigational-charts-rncs>.

In total there are 184 BSB files. The NZ paper chart folio contains a number of fathom charts on undetermined datums, particularly in Tonga and Samoa. These are not included in the RNC folio.

LINZ publishes NZ*Mariner* annually plus a monthly cumulative update file of corrections published in Notices to Mariners.

3.4 INT charts

LINZ intends to cancel INT 630 (NZ 14630) and publish NZ 93 as an INT chart. We are set to commence a consultation process for these amendments in due course, and will assess how this may affect the ENC schemas in the region.

3.5 National paper charts

NZ has a total of 192 paper charts. Detailed information of the full NZ chart portfolio can be found on the LINZ website at <http://www.linz.govt.nz/sea/charts/paper-charts>

New Zealand Paper Charts published since the SWPHC12 Meeting		
New Zealand Total: 8 NC: 4 NE: 4	South West Pacific Total: 0	Antarctica Total: 0

New Zealand Paper Charts scheduled for publication in 14/15 FY		
New Zealand Total: 15 NC: 2 NE: 13	South West Pacific Total: 0	Antarctica Total: 0

4. New publications & updates

The NZ publications are available in whole or part to download from the LINZ website at: <http://www.linz.govt.nz/sea>

The New Zealand Nautical Almanac 2014/15 Edition (NZ 204) is also available in hardcopy from chart retailers.

Publication	Title	Published:	Edition
NZ 202	New Zealand Chart Catalogue	Electronic copy only	Ed 15
NZ 204	New Zealand Nautical Almanac	June 2014	2014/15

The New Zealand Chart Catalogue is available for download as a [PDF document](#)

5. MSI Existing infrastructure for transmission

5.1 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/hydro/ntms/subscribe>) and available online at <http://www.linz.govt.nz/sea/maritime-safety/notices-mariners>. Copies of New Zealand NtMs can be obtained from LINZ, including PDF format on the LINZ website; Maritime New Zealand; and chart retailers at the major ports of New Zealand.

A dedicated email address has been established for receipt of information pertinent to NtMs, ntm@linz.govt.nz.

5.2 LINZ is the NAVAREA XIV Coordinator navareaxiv@linz.govt.nz
National Coordinators are listed below:

COUNTRY	TELEPHONE	FACSIMILE	E-MAIL
Cook Islands	+682 20321	+682 24321	vaipo.mataora@ici.gov.ck
French Polynesia	+689 541 615	+689 423 915	mrccpapeete@mail.pf
Fiji	+679 3315 266	+679 3313 127 +679 3303 251	msi@msaf.com.fj
New Caledonia	+687 292 332	+687 292 303	mrcc.nc@lagoon.nc
New Zealand	+64 45778030	+64 45778038	rccnz@maritimenz.govt.nz
Kingdom of Tonga	+676 22 555		sioelif@infrastructure.gov.to
Tuvalu	+688 20055	+688 20722	nlteiaputi@gmail.com
Western Samoa	+685 7770691	+685 28688	tafai@mwti.gov.ws
Wallis & Futuna			mrcc.nc@lagoon.nc

Full details are available in the 2014 NAVAREA XIV Self Assessment submitted with this report.

5.3 New infrastructure in accordance with GMDSS Master Plan

The GMDSS Master Plan is up to date as at July 2014.

6. C-55

6.1 Latest update (Tables)

The most recent updates to C-55 for NZ areas were submitted in October 2013 and available at http://iho.int/iho_pubs/CB/C-55/C-55_Eng.htm

7. Capacity Building

7.1 Offer of and/or demand for Capacity Building

- Following the results of the SWPRHP Risk Assessment for Vanuatu, SPC provided capacity building support to Vanuatu to undertake a survey Luganville.
- Through the MFAT Pacific Regional Navigation Initiative (PRNI) (see 7.3 below), LINZ, with the support of the Secretariat of the Pacific Community (SPC), will provide targeted regional capacity building support to those Pacific Island Countries (PICs) within the scope of the PRNI
- LINZ has challenges in recruiting experienced staff. With no qualified and/or experienced candidates available within the region, or non-IBSC recognized courses in the region, it has been necessary to recruit from further afield. The challenge continues in retaining such staff, particularly due to the remoteness of NZ and AU from their home countries. As such, NZ sees a real need for recognised nautical cartography training to IHO Category B standard in the region.

7.2 Training received, needed, offered

- Delivered IMO funded, IHO in-kind Basic Hydrography Training Course in Fiji, February 2014.
- Hosted SWPHC Capacity Building IHO Maritime Safety Information (MSI) Training Course in Wellington, in August 2014
- Within the next 12 months, AU and NZ require IHO Category B Nautical Cartography training courses delivered in region.

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

- In 2011 LINZ and MFAT NZ Aid agreed an MOU, under the South West Pacific Regional Hydrographic Programme, to accelerate ENC production in the New Zealand area of charting coverage; and undertake a risk assessment of PICs to prioritise chart improvements and other safety mitigations such as aids to navigation, for maritime safety.

The methodology for the Hydrography Risk Assessment and the Vanuatu proof of concept have been completed and published and are available from the [IHO website](#). The risk assessment reports for the Cook Islands and the Kingdom of Tonga are being shared with the respective governments prior to release.

- In 2015 a partnership between LINZ, MFAT and SPC will continue the above work through the Pacific Regional Navigation Initiative (PRNI), which will focus on navigation-related aspects of maritime safety. It builds on the successes and lessons learned particularly in relation to charting and risk assessment work by:
 - discovering relevant hydrographic data within the region
 - undertaking hydrographic risk assessments in additional selected PICs
 - supporting hydrographic capability building initiatives throughout the Pacific
 - implementing hydrographic surveys and updating maritime charts
 - supporting the development of a partnership consortium model

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

8. Oceanographic activities

8.1 General

Within New Zealand, there are two Crown Research Institutes 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/>.

GNS Science operate a data portal (<http://data.gns.cri.nz/dataportal/>) allowing users to discover and access a wide range of geoscience data across New Zealand.

8.2 Tide gauge network

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

Between 2007 and 2010 LINZ, in partnership with GNS Science, 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>.

In 2013 LINZ provided benchmark information, tide gauge data and analysis services to SPC for a project in Lifuka, Tonga.

9. Other activities

9.1 Participation in IHO Working Groups

Working Groups since SHPHC12 Meeting	Date
HCA13	November 2013
CSPCWG 10	January 2014
TWLWG6	March 2014
IBSC37	April 2014
TSMAD28	April 2014
WWNWS6	August 2014

Future Activities Include:	
IBSC38	March/April 2015
CBSC13	May 2015
IRCC7	June 2015

9.2 Geospatial studies

The New Zealand Geospatial Office (NZGO) coordinates the implementation of the New Zealand Geospatial Strategy and is located within LINZ (<http://www.linz.govt.nz/about-linz/our-location-strategy>).

9.3 Magnetic/Gravity surveys

LINZ is in the final stages of a five-year project to improve the accuracy of its national vertical datum. This improvement will principally be achieved through the incorporation of a national airborne gravity dataset into the national geoid model. The collection of the airborne data across mainland New Zealand and the near-shore marine areas was completed in June 2014, yielding over 500,000 line-km of gravity observations. The data is currently being processed, and the publication of a new geoid and vertical datum is expected in 2016.

9.4 MSDI Progress

The New Zealand Geospatial Office (NZGO) has developed a comprehensive work programme for the implementation of a national Spatial Data Infrastructure. More information can be found at <http://www.linz.govt.nz/about-linz/our-location-strategy/sdi-and-open-government-data-programme>

LINZ is the Steward of the New Zealand bathymetric dataset. Work is on-going to investigate the requirements for this fundamental dataset. LINZ has commenced an investigation to gain an understanding of NZ bathymetry to inform the future development and coordination of this fundamental data theme.

<http://www.linz.govt.nz/about-linz/what-were-doing/projects/new-zealand-bathymetry-investigation>

The NZHA is the Custodian of LINZ bathymetric data holdings and have the responsibility to; ensure the appropriate data management policies and standards are developed to maintain the data; and ensure the data is available and discoverable.

9.5 International

Attended the IIC Technologies Workshop On Electronic Charting, January 2014.

10. Conclusions

NZ is committed to hydrography in the SWP region working in partnership with others under the umbrella of the SWPHC, most notably through the MFAT NZ Aid Development initiatives – SWPRHP and PRNI Hydrography Risk Assessment Programme of works, and collaborating to deliver capacity building activities according to the IHO Capacity Building Strategy.

LINZ contact details

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