

South West Pacific Hydrographic Commission (SWPHC) Report to IRCC6

1. **Chair:** CDRE Brett Brace (Hydrographer of Australia) – Feb 2014 onwards
RAdm Tom Karsten (National Hydrographer, United Kingdom) – Dec 2012-Feb 2014
Vice Chair: Mr Nicholas Pion (Hydrographer, Papua New Guinea) – Jun 2012 onwards
2. **Membership**

Members: Australia, Fiji, France, New Zealand, Papua New Guinea, Kingdom of Tonga, United Kingdom, United States of America

Associate Members: Cook Islands, Kiribati, Niue, Palau, Solomon Islands, Vanuatu

Observers: New Caledonia, Secretariat of the Pacific Community (SPC)

IHB Representative: President Robert Ward
3. **Meetings**
 - 3.1 The 12th SWPHC Meeting held in Port Vila, Vanuatu on 12-14 November 2013 was attended by more than 40 participants. There were delegates from six Members, three Associate Members (Kiribati, Solomon Islands and Vanuatu), one Observer (SPC), an IHB representative, as well as industry representatives.
 - 3.2 The 13th SWPHC Meeting is planned to be held in the Cook Islands in February 2015.
4. **Current SWPHC Working Groups**

SWPHC International Charting Coordination Working Group (SWPHC-ICCWG)

SWPHC Capacity Building Working Group (SWPHC-CBWG)
5. **Status of IRCC Actions (relevant to SWPHC)**
 - 5.1 *IRCC05/01 Encourage the approval of pending applications for IHO membership.*
The IHB representative attending the 12th SWPHC Meeting encouraged MS to approve pending applications.
 - 5.2 *IRCC05/04 Comply with the CBSC Procedures and ensure the timely provision of the appropriate documentation that justify expenses associated to CB projects, and to demand refund, if needed, no later than one month after the event has finalized.*
Complete. Cook Islands Technical Visit carried out on 7-18 Oct 2013. All CBSC procedures complied with and expenses submitted and approved.
In progress - Kingdom of Tonga Technical Visit 18-28 Mar 2014.
 - 5.3 *IRCC05/06 Invite GEBCO Guiding Committee ‘ Bathymetric Regional Project Chairs to attend corresponding RHCs meetings., aiming at strengthening collaboration with a priority on improving high resolution shallow water bathymetry at the regional level.*
Complete. Dr James Daniel of James Cook University, Australia represented GEBCO at the 12th SWPHC Meeting.
 - 5.4 *IRCC05/07 Consider the participation of stakeholders at the RHC conferences*

Complete. Attendees at the 12th SWPHC Meeting included 10 participants from industry. A half-day Stakeholder Session was held during which the industry representatives gave presentations on various topics. The SWPHC Statutes have been amended to allow industry to participate as 'expert contributors'.

5.5 *IRCC05/20 Consider proposing agenda items to the next EIHC5.*

SWPHC12 agreed to submit an information paper titled 'Hydrography Risk Assessment – a novel approach to prioritising hydrographic surveys to improve maritime safety', to be presented as an IRCC Proposal to EIHC5.

5.6 *IRCC05/34 Encourage Member States and representatives of industry and academia to promote and to work together to ensure that the best possible use is made of Satellite Derived Bathymetry*

Discussions at the 12th SWPHC meeting also dwelt on the Satellite Derived Bathymetry (SDB) technique. United Kingdom provided an overview of the UKHO's trials with SDB and described the ongoing work in Antigua. France commented that SHOM had been using SDB successfully for quite some time, particularly in the charts of French Polynesia.

5.7 *IRCC05/36 Provide material to the IHB to promote the achievements of IRCC Bodies including CBSC, GEBCO,*

Information on the Hydrographic Risk Assessment Methodology, including Vanuatu Risk Assessment Results, have been provided to the IHB and published on the IHO website: http://www.iho.int/mtg_docs/CB/CBA/SWPHC-Risk_Assessment.htm

6. Activities

6.1 Capacity Building

6.1.1 2013 CBWP No. 3.4.1b - Technical Visit to Cook Islands to facilitate National Hydrographic Requirements (7-18 Oct 2013)

The visit by Mr. Adam Greenland, NZ National Hydrographer, was part of the Hydrography Risk Assessment for the Cook Islands. Discussions were held with the relevant government ministries (Ministry of Infrastructure & Planning, Ministry of Transport and Ministry of Foreign Affairs and Immigration), which included an update on progress since the IHO Assessment visit in 2011. The results of the risk assessment will contain the priority areas of risk which will form the basis of a national prioritized survey plan, to improve nautical charts. The Cook Islands are seeking assistance from IHO and regional donor programmes to implement the recommendations contained in Paragraph 45 of the 2011 IHO Assessment Visit report, to achieve Phase 1 Development of Hydrographic capability.

Note that the Cook Islands:

- are now an associate Member of the SWPHC,
- will host the next SWPHC meeting in 2015, and
- are included in the IHO CB funded MSI training for the SWPHC (Aug 2014)

6.1.2 2013 CBWP No. 3.4.1a - Technical visit to the Kingdom of Tonga (18-28 Mar 2014)

The visit by Mr. Adam Greenland, NZ National Hydrographer, was part of the Hydrography Risk Assessment for Tonga. Discussions were held with the relevant government ministries (Ministry of Infrastructure (MOI) – Marine & Ports Division (MPD) and His Majesty's Armed Forces: Navy). Tonga is a long standing IHO Member State but has not been active or engaged with IHO/SWPHC in recent years due to changes in government ministries and changing priorities. IHO is seeking clarification from Tonga to confirm the national focal point for hydrographic services.

Note that Tonga:

- MOI has formally requested charting assistance from New Zealand
- MOI provides national MSI to LINZ (PCA) via MPD

- Navy has potential to carry our hydrography surveys: patrol vessel with SBES & SSS, Cat A & Cat B trained – require GNSS equipment
- are included in the IHO CB funded MSI training for the SWPHC (Aug 2014)

6.1.3 2013 CBWP No. 3.5.1j - Course in Hydrographic Data Processing and Marine Cartography, including specialism in Electronic Navigational Chart - UK 2 Sep – 13 Dec 2013

One candidate from SWPHC (i.e. Solomon Islands) was among the six selected to attend this Category B recognised course, funded by the Nippon Foundation (Japan), and the training facilities provided by UKHO. Three participants from Australia also attended Module 3 of the course (ENC Production).

7. Cooperation with Other Organisations

7.1 'Capacity Building in Hydrography for Ocean and Coastal Development (SPC member countries)'

7.1.1 The Australian Hydrographic Service (AHS) is coordinating the AusAID funded project 'Capacity Building in Hydrography for Ocean and Coastal Development (SPC member countries)', which was submitted jointly by the AHS and the Secretariat of Pacific Community (SPC) in 2012. The project runs over 3 years (July 2012 - June 2015).

7.1.2 The initial activity involved the training of a SPC staff member (Mr Salesh Kumar) who attended the Category 'B' Course in Hydrographic Survey at the RAN Hydrographic School, Sydney during April-September 2013. Attendance of 2 SPC staff members at the SWPHC12 Meeting was also part of this project. Activities planned for 2014 include procurement of sidescan sonar equipment and attachment of the Cat 'B' trained staff to the Australian Hydrographic Office.

8. Risk Assessment Methodology

The hydrography risk assessment methodology is based on the IMO Formal Safety Assessment (note that IALA has used the FSA concept for its own risk based solution). This 5-step methodology is marine related, proactive, logical, structured and comprehensive.

There are four key components that the methodology needs to take into account, that when combined provide the evidence required to prioritise areas for maritime safety chart improvements. These are *risk, ship types & sizes, economic growth and environmental status*. The SOLAS shipping traffic information is provided from satellite AIS data and provides actual ship tracks.

The risk model is created in the GIS which provides an easily interpreted heat map showing areas of comparative risk which is easily understood by a wide audience.

For a full explanation of the methodology including a simple flow chart refer to the information paper submitted to IRCC by NZ (IRCC6-12A) titled 'Hydrography Risk Assessment – a novel approach to prioritising hydrographic surveys to improve maritime safety'

9. Vanuatu Charting Issues – case Study Example and Solution

The Vanuatu risk assessment results clearly identified the priority areas for chart improvements, which allowed the Vanuatu Government to approach donors to discuss funding for hydrographic surveys and other mitigations to improve maritime safety. Donor interest is high as the risk assessment is evidence based on real data and actual vessel

tracks. Refer to the information paper submitted to IRCC by NZ (IRCC6-12A) titled 'Hydrography Risk Assessment – a novel approach to prioritising hydrographic surveys to improve maritime safety', for further information.

10. Role of Regional Inter-Governmental bodies in Provision of Hydrographic Services

10.1 SPC presented an information paper 'Hydrographic Services: An International Obligation and Essential Component of National Transport Infrastructure' at the 'Regional Meeting of Heads of Transport (Aviation and Maritime) in Suva, Fiji, 4-6 March 2014. It provided an overview of the status of hydrographic services in the region, and highlighted the challenges faced by Pacific Island countries and territories (PICTs) in fulfilling their international obligations under international law, especially the SOLAS Convention.

10.2 The Heads of Transport meeting was followed by the Regional Meeting of the Pacific Ministers of Energy and transport (Nadi, Fiji, 2-4 April 2014). The Ministers agreed that hydrographic services was one of the high priorities for implementation in the next 3 years, i.e.:

- *Acknowledged the critical importance of hydrographic services to enable maritime surveys that lead to production of maritime charts to aid shipping and developmental opportunities such as determining new ports for tourism or other economic development and new shipping routes.*
- *Supported PICTs becoming members of the International Hydrographic Organization and the South-West Pacific Hydrographic Commission.*
- *Agreed to the formation of a dedicated hydrographic unit at SPC to develop and further enhance regional hydrographic services to members.*

11. Conclusions

11.1 SWPHC is committed to carrying forward hydrographic, nautical cartographic and capacity building activities in close alignment with IHO objectives and goals. A proactive hydrographic risk assessment program in the South-West Pacific will likely yield greater donor support and result in improved charting coverage and reduced risk to mariners and the marine environment.

12. Actions Required from IRCC6

12.1 IRCC members are invited to note:

- this report
- the success of the NZ approach to Hydrographic Risk Assessment and the value to coastal states and the South-West Pacific region
- PICTs' recognition of the value of hydrographic data for the development of the region
- PICTs' recognition of the need to establish a regional hydrographic data gathering capability.
