

COMMISSION 4 EVENTS / ACTIVITIES / ACCOMPLISHMENTS FROM 2015 TO DATE (FEBRUARY 2018)

Any success of this Commission cannot be solely claimed by the Commission Chair because it is the accomplishments of the Commission's membership that make the Commission's successes. This opportunity is taken to deeply thank all Commission Chairs and members who positively contributed to the Commission since 2015 – their efforts are acknowledged and greatly appreciated, especially in spite of their busy professional commitments and in light of all the setbacks! Rising from a fall is victory!

MEET COMMISSION 4 OFFICERS (2015-2018)



Chair:
Angela Etuonovbe
(Nigeria)



Vice Chair: WG 4.1
Simon Ironside
(New Zealand)



Vice Chair: WG 4.2
Jonathan Li
(Canada)



Vice Chair: WG 4.3
Gordon Johnston
United Kingdom

The Chair of Commission 4, Surv. Mrs. Angela Kesiena Etuonovbe, engaged in the expected guidance and coordination of Commission 4 activities. These include managing the activities of working groups, preparing annual and other reports, keeping Commission 4 stakeholders informed through FIG website contents, and organizing conference sessions at FIG working weeks, regional conferences, and Congress. Surv. Mrs. Angela Kesiena Etuonovbe also contributed as a peer reviewer of papers for FIG working weeks, regional conferences, and Congress.

Specifically invited to speak at certain international events, and gave the following Commission 4 relevant presentations:

- Etuonovbe (2015). “**Blue Economy A Panacea For Eradicating Poverty-Nigeria In Focus**”. Presented at the U.S.Hydro 2015, Gaylord National Harbor, Maryland, U.S.A., March 16-19.
- Etuonovbe (2015). “**The current climate for a sustainable Blue Economy**”. Presented at the Blue Economy Conference in Southampton, U.K. April 14.
- Specifically invited by the Surveyors Council of Nigeria (SURCON) to speak on “**The Benefits of Attending Professional Conferences**” at the Pre-induction Workshop of Newly Qualified Surveyors, February 1, 2017.

WORKING GROUP 4.1 STANDARDS AND GUIDELINES FOR HYDROGRAPHY



Simon Ironside (New Zealand)



Peter Barr(Australia)

Members

Working Group 4.1 (WG 4.1) consists of members from Australia and New Zealand and is supported by the respective FIG Member Associations; the Surveying and Spatial Sciences Institute (SSSI) in Australia (SSSI) and the New Zealand Institute of Surveyors (NZIS).

Simon Ironside	Chair	New Zealand
Mathieu Bestille	Vice Chair	Australia
Neil Hewitt		Australia
Peter Barr		Australia

Background

The WG 4.1 2015-2018 Work Plan was approved at the Commission 4 Annual General Meeting on 18 May 2015 during the FIG Working Week 2015 in Sofia, Bulgaria. WG 4.1 was renamed (from WG 4.2) at the Commission 4 Annual General Meeting held on June 2014, during the FIG Congress 2014 in Kuala Lumpur, Malaysia. WG 4.2 had been moribund for a number of years and one of the goals of the incoming Commission 4 Chair, Mrs Angela Etuonovbe, was to focus the Commission's efforts on having relevant and meaningful input into hydrographic standards and guidelines, hence the WG's re-invigoration and renaming.

The intent of WG 4.1, as set out in the current work plan, is to deliver tangible but realistic outcomes based on the agreed objectives of:

- Assisting in the development and recognition of standards of competency for hydrographic surveyors.
- Assisting in the development of technical standards and guidelines.
- Assisting with review of standards and guidelines.
- Promoting the need for, and benefits of, professional hydrographic surveyor certification.

Outcomes

WG 4.1 has committed itself to a number of specific outcomes based on these agreed objectives over the period of the work plan as follows:

- Broaden the membership of WG 4.1
- Support the International Hydrographic Organization (IHO) through the work of its Hydrographic Services and Standards Committee (HSSC) by participating in HSSC working groups to review hydrographic standards and guidelines, primarily:

S-44 – IHO Standards for Hydrographic Surveys (the most recent version is the 5th Edition, February 2008).

S-100 – IHO Universal Hydrographic Data Model (January 2010)

— Support FIG members on the FIG/IHO/ICA International Board of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) in reviewing and updating competency standards, namely:

S-5A – Standards of Competence for Category ‘A’ Hydrographic Surveyors (August 2016).

S-5B – Standards of Competence for Category ‘B’ Hydrographic Surveyors (February 2015).

— Represent Commission 4 on the FIG Standards Network and other international fora where appropriate.

— Support the work of other FIG Commissions and Working Groups, and participate in Commission 4 events where possible.

Progress Against WG 4.1 Objectives/Outcomes

— Broaden WG 4.1 membership

Two members stood down from the WG in 2016 and two additional member, Mattieu Bestile (Australia) and Neil Hewitt have subsequently joined. Simon Ironside (New Zealand) assumed the role as Chair in February 2016.

Additional members will continue to be sought with the aim being to ensure the WG encompasses appropriate international expertise to be able to make meaningful contributions to WG outcomes/deliverables.

— HSSC Involvement

Working Group 4.1 is represented on the following HSSC Working Groups

— S-44

The IHO Project Team on Standards for Hydrographic Surveys (HSPT) was established on 3 March 2017. The HSPT Chair is Christophe Vrignaud (France). The Vice Chair is Nickolás de Andrade Roscher (Brazil). Working Group 4.1 is accredited to the HSPT with Observer Status and is actively involved with the S-44 review.

The HSPT remit is to review S-44 (5th Edition), identify any deficiencies and following the review update and prepare the 6th Edition of S-44. The first meeting of the HSPT was held at SHOM offices in Paris in June 2017. Unfortunately the WG 4.1 Chair was unable to attend. Outcomes from this meeting were:

Questions highlighted

— Does the S-44 need to be more constrained or at the opposite, more flexible in order to accommodate data that might be less accurate but remain priceless when information is missing?

- Knowledge of the hydrographic surveys standards is very important not only for the hydrographic community, but also for private/public contracting bodies.
- Does the S-44 have to deal exclusively with safety of navigation or take into account other hydrographic needs?”

10 limitations identified

- 1 - S-44 only focused on a final objective which is the nautical chart, with a depth classification (possible solution: matrix or updated table)
- 2 - Difficulty to have an overview of all requirements (possible solution: matrix or updated table)
- 3 - Limited number of definitions (possible solution: support and liaison with the DQWG and VIM3)
- 4 - Misalignment between S-44 and CATZOC (possible solution: contacts with S-101WG and DQWG)
- 5 - Grid resolution and bathymetric surfaces not addressed (contact with S-102)
- 6 - Confusion between a-priori TPU and a-posteriori Qualification (review specific chapters of the S-44)
- 7 - S-44 should remain specific technologies neutral (review specific chapters of the S-44)
- 8 - Confusion of attribute in metadata
- 9 - Outdated chapters
- 10 - Annexes A & B to be placed in C-13 - Manual on Hydrography

Questionnaire

- 547 respondents to questionnaire designed to gauge views of S-44 users by closing date of end November 2017. The WG 4.1 Chair has been involved in the analysis of the questions, which is largely complete and will inform the preparation of the 6th Edition.

“Table 1” case

- Three modifications to the S-44 “Table 1” are under consideration:
- Option A: “Table 1” with slight modifications, like new lines dealing with “current/tidal stream measurement”, “seafloor characterization” (already mandatory but not presented inside Table 1” so far). New information such as “survey grid resolution”, “grid sounding density” ... can be added.
- Option B: Option A + “Matrix Approach”. This Matrix approach keeps the same lines used in Table 1, but with other values, for other needs, but still focused on Hydrography but not necessary dedicated for safety of navigation.
- Option C: Option B + “Recommandations”. This last option adds a table with recommendations for dedicated surveys, like, Under Keel Clearance management, Marine Renewable Energy, Dredging ...

Next meeting of the HSPT is in July 2018 in Brazil and will be attended by WG 4.1 member Neil Hewitt.

S-100

The S-100 Working Group is already established within the HSSC. The Chair is Julia Powell (USA) and Vice Chair is Yong BAEK (Republic of Korea). The WG 4.1 Chair has been awarded Expert Contributor status to the S-100 Working Group with the Vice Chair accepted as an alternate.

The Working Group's remit is to maintain, develop and extend S-100 Universal Hydrographic Data Model and S-99 Operational Procedures for the Organisation and Management of the S-100 Geospatial Information Registry.

The S-100 Working Group Chair has been advised that WG 4.1 will undertake any S-100 review work from a hydrographic surveying perspective and will assist the S-100 WG in any way we can.

IBSC Involvement

WG 4.1 has reviewed the first draft of S-5A Standards of Competence for Category 'A' Hydrographic Surveyors. The consolidated Commission 4 submission was sent to the IBSC Secretariat on 6 April 2016. WG 4.1 is now recognised by IBSC as an Expert Contributor and has been asked to be involved in the review of S-8A&B Standards of Competence for Nautical Cartographers.

The WG 4.1 Chair attended the FIG/IHO/ICA IBSC40 Stakeholders meeting held in Wellington NZ on 29 March 2017 via teleconference. Highlights of the 40th IBSC meeting included

1. Review of eight (8) submissions from tertiary education providers seeking course recognition. After presentations the Board recognised the majority of the submissions with some conditions included for several of them
2. Review of annual reports from several institutions running IBSC recognised courses.
3. Review and completion of S-8A&B Member State feedback, preparation of response and final version.
4. Briefly review of the recently released S-5A&B.
5. Review of the S-8 Guidelines
6. Agreement to create an FAQ site with a list of Category B and A surveyors, initially internally, on the IHO IBSC web page.

There was also considerable discussion around the courses & table of recognition.

Professional Practice Working Group

A Professional Practice Working Group consisting of NZIS Hydrography Professional Stream, SSSI Hydrography Commission and Australasian Hydrographic Society members has been set up to provide input into proposed Australasian hydrography regulatory changes and review of relevant standards and guidelines. Their brief also includes review of S-44, S-100 & possibly S-8 with feedback to the IHO Working Groups and IBSC via WG 4.1.

FIG Standards Network

The Standards Network was advised of the WG 4.1 work plan at the Standards Network meeting at the FIG Working Week 2017 in Helsinki, Finland. Work on the relationship is ongoing.

FIG and Commission 4 Support

This deliverable remains an ongoing WG 4.1 commitment. Only one development has arisen during the period:

Royal Institution of Chartered Surveyors (RICS) Support

WG 4.1 has been asked, and has agreed in principle, to contribute to the hydrographic component of the RICS International Property Measurement Standards (IPMS). FIG remains a key member of IPMS Coalition. However nothing has eventuated to date.

IHO South West Pacific Hydrographic Commission

At the Commission 4 AGM held during FIG Working Week 2016 in Christchurch it was agreed that members would approach the IHO Hydrographic Commissions to offer hydrographic surveying assistance.

The South West Pacific Hydrographic Commission is yet to be engaged by WG 4.1. However, it is intended to work on this relationship in order to provide support and relevant technical input to the work of the Commission on behalf of FIG

WG 4.1 Webpage

A [WG 4.1 page](#) has been established on the FIG (Commission 4) website and all reports, membership details, the Work Plan, Terms of Reference etc. have been posted there and will be updated as work progresses.

2019-2022 Work Plan

Mathieu Bestille has agreed to become WG 4.1 Chair for this period. Simon Ironside will remain involved with the S-44 HSPT.



WORKING GROUP 4.2 – MARITIME AND MARINE SPATIAL INFORMATION MANAGEMENT



Dr. Jonathan Li (Canada)

This Working Group was inactive as no work done throughout the period and no report submitted

WORKING GROUP 4.3 - THE BLUE ECONOMY



Mr. Gordon Johnston(United Kingdom)

Mr. Gordon Johnston, Vice-Chair (Administration and Communication) as well as Vice Chair Working Group 4.3 - Blue Economy has over the last three plus years performed the usual duties of the position related to maintaining communication among Commission 4 members, communicating with the public on Commission 4 business, and handling the administrative tasks of the Commission. Mr. Johnston has been and still is an active member and FIG representative of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC). Mr. Johnston also acts as the de facto FIG-IHO Liaison, and since 2011 has worked to strengthen ties between the two organizations.

During 2017 it was a quieter period for the WG with a number of presentations and talks given at various professional and trade events to develop the beneficial aspects of surveying our oceans. These included:

- Canada: CARIS 2017 Trade Conference
- USA, Norway, Canada: Atlantic Seabed International Mapping Workgroup meetings
- Netherlands: Collaborative effort with Land Registry and Cadastre experts in Europe to assess the potential benefits of a Marine Cadastre.

FIG Representation At The Inaugural UN Ocean Conference

A key event was the UN SGD 14 Ocean event in NY in June. See the document at the end of this report. The meeting was a first for the UN to dedicate their General Assembly to the Oceans. It was a really exciting and busy few days with dignitaries, media personalities, wealthy charitable figures lining up to support the reduction in pollution, better knowledge and management of the seas and oceans. Music to our ears although the awareness of Hydrography is still relatively low. That said the interest was in the dynamic groups who use social media and tag lines to promote their message.

Strategically the UN represent a very important opportunity for FIG engage and build momentum on the importance of the oceans and their management.

The main effort in this last period has to be consolidate and develop a final WG report on the Blue Economy as a vehicle to support FIG promote and further develop related topics and themes related to the economic and benefits of the oceans and a better understanding of them. What else has taken place?

The final paper will be presented at this WW2018 on the Blue Economy and seek support and advice on possible future and forward elements related to this topic.

It is fair to say the above events are only loosely tied and associated with the core issue of the Blue Economy and the socio-economic analysis and promotion of the importance of our oceans as a source of wealth and (food security, climate, safety etc) benefits to all. However the whole aspect of our Oceans and their importance is intimately tied to and integrated with wider regional land, political, food supply, rights and social benefits and as such cannot be viewed in complete isolation.

In fact this is potentially one of the challenges: that to generate interest and support for the preservation and economic sustainability of our oceans through hydrography we need to generate a compelling story with social interest, media attention but hopefully to avoid a disaster to make this happen.

Ongoing work is focused on developing the final WG4.3 report on Blue Growth and the Blue Economy which it is hoped will be complete and available at the FIG Working Week.

The UN Oceans Conference June 2017

General

This was the first UN conference to focus solely on our oceans and was very well attended by some 6000 delegates, UN member state representatives, civil society organizations and numerous and varied international organizations and NGO's.

The 5 day event comprises a series of plenary meetings in the UN's main congress hall, a number of partnership dialogue were also held throughout the week. The UN included a celebration of World Hydrography Day on the 8th June that included a celebration of ocean community and traditional living from Small Island Developing States. The remainder of the event was taken up

with over 100 Side Events that aimed to galvanize opinion and promote specific aspects of the SDG 14 in relation to climate change, pollution and sustainable food resources. These smaller focused events provided an opportunity to hear stakeholders and regional perspectives and to network amongst many representatives and delegates.

In representing Commission 4 it was difficult to know before hand which ones would be of value and could be of relevance to Hydrography. In sense each and every bit of the Ocean event was however it was necessary to identify possible opportunities to increase networks, links and collaborations. Also the venue and number of parallel sessions, meetings, events and delegates made for a hectic and at times challenging week.

Themes and Partner Dialogues:

The Partner Dialogues developed as a series of 7 themes that provided a focus on the resources, initiatives and efforts of many of the volunteering organizations. These were expressed by contributions submitted as Concept Papers. In addition to these written papers from the Partner Dialogues there were over 1300 Volunteer Commitments submitted.

Of particular interest to FIG are themes 2, 4, 6 and 7 which are presented in the table below.

Theme 1	Addressing marine pollution
Theme 2	Managing, protecting, conserving and restoring marine and coastal ecosystems
Theme 3	Minimizing and addressing ocean acidification
Theme 4	Making fisheries sustainable
Theme 5	Increasing economic benefits to small island developing States and least developed countries and providing access for small-scale artisanal fishers to marine resources and markets
Theme 6	Increasing scientific knowledge, and developing research capacity and transfer of marine technology
Theme 7	Enhancing the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea

These themes were supported by two Member States as co-chairs, one from a developed country and one from a SIDS or developing country. Each theme was aired and presentations made on the topic however all real decisions were already formulated into the action plan. The connection for FIG to the action plan points is described later.

The FIG voluntary commitment

<https://oceanconference.un.org/commitments/?id=18733>

The International Federation of Surveyors promotes and is committed to the development of a better understanding and knowledge of our environment. The use of geospatial information is considered critical to the successful implementation of the UNs Sustainable Development Goals (SDGs), in particular themes 2, 4, 6 and 7.

FIG maintains a commission (Commission 4 Hydrography) to focus on the challenges and opportunities associated with the seas and oceans and in relation to the UN Conference offers the following:

International Standards

FIG Commission 4 shall continue to review and maintain International Standards for the Competency of Hydrographic Surveyors and Nautical Cartographers who work to collect and share marine and hydrographic geospatial data in support of capacity development, safety of transport and the responsible development and recovery of resources.

Capacity Development

The oceans and seas are the majority of the earth's surface and as such require to properly managed in a responsible and sustainable manner. FIG Commission 4 will contribute and support initiatives to develop capacity in relation to surveying and monitoring of the oceans for the benefits of all. This may be in promoting the adoption of clear technical standards, creating centres of training and expertise as well as improving the understanding and awareness of governments of the importance in data collection, management and distribution.

FIG Foundation

FIG Commission 4 members are able to apply to the FIG Foundation for contributions to a sustainable future for the seas and oceans through the granting of scholarships to develop curricula for surveying education, training and capacity development; encourage research into disciplines of surveying and geospatial data management; promote learning, knowledge management and continuing professional development in support of the disciplines of surveying and support and promote young professionals and events in cooperation with other international agencies and organizations.

The implications and impact on FIG

This was a very busy and a totally inspiring event was really interesting in that showed just how many agencies, NGO's, charitable groups, societies, industry, academia and other organizations are active in supporting SDG14.

The Oceans are vital to our planet and this is already very much recognised and being promoted and developed by groups.

The potential is huge as the current situation has not matured nor developed into any mainstream activity. However the lack of geospatial data, cohesive and sustainable marine planning and an awareness of the importance of good governance and responsible management of the oceans and

seas represents a huge opportunity for FIG to play a crucial and influential role in developing and empowering areas, countries and regions to develop a sustainable food supply living in harmony with other stakeholders and user communities whilst maintaining and even preserving our natural world.

The Voluntary Commitment covers three areas or themes:

International Standards: we are already active but only in a narrow academic competency sense not the wider geospatial planning, legal frameworks and cadastral sense.

This is an area we are engaged with some other groups in Europe looking at studying and recommending how Marine Cadastre could develop and evolve.

We could develop a more concrete FIG approach that was directly related to the SDG targets and was visible on the main stage rather than in a Commission.

Capacity Development: again an area where we are engaged with the international community but only in the sense of raising awareness and offering a stakeholder view on the surveying of the seas and oceans.

Can we gather an army of volunteers to collect data, process data or teach and train eager students in less well developed regions? Who would fund such a charitable venture? What other practical actions can FIG take?

FIG Foundation: In supporting and encouraging our Young Surveyors we offer some hope and potential for the future. IN reality though this is not connected nor engaged with those who are involved in the seas and oceans and unless specifically allocated funds Commission 4 will struggle to obtain a) interest and applications and b) successful deployment of young surveyors.

This view can be challenged but overall the available funds are simply not sufficient to support more than 1 student per year. Again how do we develop and expand this when others too are promoting opportunities that may be argued as being more mainstream and therefore attractive.

A question for FIG Council to consider is if there is interest in FIG taking action of real value to impact and benefit the ocean based community and society. Either unilaterally or perhaps ideally in collaboration with other stakeholder groups.

PHOTO SPEAK (Some sessions during FIG Working Week)



