

## **FIG Commission 4 (Hydrography)**

### **Work Plan 2019-2022**



#### **Commission Chair**

##### **Dr. Mohd Razali Mahmud**

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#### **Terms of Reference**

Support for all aspects of the Hydrographic Surveying profession including, but not limited to:

- Promotion of hydrographic education, training, Continual Professional Development (CPD) and career pathways within the profession;
- Protection of the marine environment;
- Coastal Zone Management (CZM) including Ports & Harbours;
- Offshore Construction Surveying;
- Nautical charting for safe navigation/bathymetric mapping – analogue and digital including Electronic Navigational Charts;
- Data processing and management of hydrographic data;
- Review and update of standards and guidelines.

#### **Mission Statement**

Commission 4 is committed to:

- Promoting the aims and objectives of FIG to hydrographers through the active involvement of national delegates from member associations and other interested parties in the activities of the Commission;
- Fostering closer links with all sister organisations currently active within the global hydrographic community;
- Developing guidelines and standards that will assist hydrographers in the provision of their services;

- Disseminating information relevant to the profession through participation in international meetings, conferences and committees;
- Assisting international bodies such as the United Nations and the International Hydrographic Organization (IHO) in the protection of the marine environment and promotion of safe navigation.

## General

Commission 4 is committed to achieving both the long term and immediate aims and objectives of FIG. Its strategy over the next four years is aligned with that of the FIG Council and will include:

- Support for the Hydrography profession internationally including development of best practice guides, certification pathways and advocacy;
- Support the International Hydrographic Organization (IHO) and associated United Nations programmes;
- Cooperation with other FIG Commissions, including joint working groups;
- Active support and participation in FIG regional events;
- Cooperation with sister organisations and other appropriate bodies;
- Cooperation with national surveying and mapping agencies; and,
- Respond to directions from FIG Council to address emerging issues as required.

## Working Group 4.1 - Standards and Guidelines for Hydrography

### Chair



**Neil Hewitt (Australia):** [neil.hewitt@precisionhydrographic.com.au](mailto:neil.hewitt@precisionhydrographic.com.au)

### Policy issues

Assist in the development and recognition of standards of competency.

Assist in the development of technical standards and guidelines.

Assess the impact of international standards on current industry practice.

Review standards from alternate reputable sources relevant to Hydrography.

### Specific projects

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).
  - C-13 – IHO Manual on Hydrography.

2. Support FIG members on the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) in reviewing and updating competency standards.
3. Promote recognition of professional pathways.
4. Represent Commission 4 on the FIG Standards Network and other international fora where appropriate.
5. Support the work of other FIG Commissions and Working Groups, and participate in Commission 4 events where possible.

### **Workshops**

Participation in FIG Standards Network meetings and other major Commission events.

### **Publications**

FIG Working Weeks will include technical papers and/or reports to the FIG Standards Network on emerging standards, guidelines and specific issues.

Ongoing contribution to the maintenance of the FIG Guide on Standardisation.

### **Timetable**

Ongoing work will be reported at FIG Working Weeks during the term of this plan and according to a timetable to be developed by the Working Group Chair.

The Working Group will present a draft report at the relevant FIG Congress.

### **Beneficiaries**

FIG Standards Network.

International Hydrographic Organization (IHO).

The United Nations.

Sister organisations and associated national surveying, mapping and charting agencies and relevant international non-governmental organisations.

FIG member associations.

The international hydrography profession including industry, government, education and academia.

## **Working Group 4.2 – Blue Growth & UN Sustainable Development Goal 14**

### **Chair**



**Gordon Johnston (United Kingdom): [gordontjohnston1@gmail.com](mailto:gordontjohnston1@gmail.com)**

### **Policy issues**

The United Nations Development Programme Sustainable Development Goal 14 (SDG 14) advances the sustainable use and conservation of the oceans and requires effective strategies and management to combat adverse effects on the oceans through overfishing, growing ocean acidification and worsening coastal eutrophication.

The Blue Growth & SDG 14 work plan is based upon the ongoing work of Commission 4. It is a diverse and wide ranging topic but the primary focus for Working Group 4.2 is the development and promotion of measures to manage our oceans and seas in a sustainable manner based upon accurate data, sound environmental principles and good management practices.

The Hydrographic Surveyor has a key role in developing an understanding of our seas and oceans for the wider social benefits and Commission 4 aims to promote this role, the benefits and offer case studies of participation and support.

### **Specific projects**

The Working Group 4.2 shall seek to promote and engage with international government and non-governmental organisations to increase the understanding and awareness of the importance of the marine and ocean areas.

### **Workshops**

High on the agenda will be to engage with UN-FAO and World Bank to determine how these organisations perceive the importance and benefits of managing the marine and ocean areas.

### **Publications**

FIG Working Weeks will include Technical Papers on specific issues and presented by Working Group Members and other invited experts. In addition it is planned that additional joint events may be organised to further the work and to generate a short briefing note and relevant proceedings.

### **Timetable**

WG 4.2 will participate in seminars, conferences and Technical Sessions at FIG events each year to support and promote the importance of surveying and surveyors for the seas and oceans.

### **Beneficiaries**

FIG member associations.  
The international hydrographic surveying profession.  
National surveying, charting and mapping agencies.  
Academia.  
Individual hydrographic surveyors.

## **Working Group 4.3 – Mapping the Plastic**

### **Chair**



**Simon Ironside (New Zealand): SI@eliotsinclair.co.nz**

### **Policy issues**

The effects of plastic pollution on the Earth's oceans are well documented, potentially catastrophic and increasing exponentially year on year. The UN Environment Programme has calculated that each year more than 8 million tonnes of plastic ends up in the oceans, wreaking havoc on marine wildlife, fisheries and tourism, and costing at least \$8 billion in damage to our marine ecosystems. Eighty per cent of all litter in our oceans is made of plastic. This is an intolerable but not insurmountable problem that needs immediate and far-reaching action to remedy.

Rivers have been identified as a significant contributor to and enabler of the plastic pollution problem. Working Group 4.3, a combined initiative of the FIG Young Surveyors Network and Commission 4, will focus on the dumping of plastics (and other waste) into major rivers, river systems and deltas at strategic locations around the world. Waste measurement in these water bodies using remote sensing, bathymetric, current measurement and topographical surveys of plastic waste along the banks of rivers will enable a greater understanding of the quantum of plastic waste being transported to the oceans and inform the control and regulation of land use practices with an ultimate goal of eradicating the dumping of plastics into river systems.

### **Specific project**

A pilot project will focus on the Mekong River delta in the south of Vietnam at its outfall to the South China Sea. This project will be undertaken in conjunction with The Centre for Supporting Green Development (GreenHub), a Vietnamese, non-governmental, not-for-profit organisation and Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO).

### **Workshops**

It is proposed that workshops will be held at all FIG Working Weeks (2019-2022).

### **Publications**

The most appropriate way to present the outcomes of WG 4.3 surveys is yet to be finalised.

### **Timetable**

Working Group 4.3 Chair will report at FIG Working Weeks (2019-2022).

Working Group 4.3 to present a final report at FIG Congress, 2022. It may be that WG 4.3 will extend beyond the usual four-year FIG working group cycle.

### **Beneficiaries**

The international maritime community.

Government organisations and non-governmental organisations.

Sister organisations.

The United Nations and other national and international agencies.

FIG member associations, the hydrographic surveying profession and academia.

## **Working Group 4.4 – Marine Development and Administration**

### **Chair**



**Dr. Abdullah Hisam Omar (Malaysia): [abdullahisham@utm.my](mailto:abdullahisham@utm.my)**

**Members :** Prof Drs Dietriech Geoffrey Bengen  
Dr. Hamid-Mosaku Adekunle Isa  
Dr. Rizqi Abdulharis  
Dr. Mohd Zaid Abdullah  
Mohd Hilmi Abdullah

### **Policy Issues**

Assist in the development of institutional policy and framework.  
Assist in the development of conceptual and technical standards, guidelines and practice.  
Assist in the land and sea governance for a marine cadastre.  
Assist in the development of indigenous marine management systems.

### **Specific projects**

Review of national and international hydrographic and marine administration policies, standards and guidelines.  
Promotion of best practice marine development and administration.  
Represent Commission 4 on the FIG Standards Network.  
Development of Marine Cadastre Institutional Framework for participating countries (pilot project in ASEAN).  
Strategy Selection for Marine Administration by Multi-Stakeholders.  
Marine Institutional Analysis and Development (MIAD).  
Technical and Legal Framework for Marine Cadastre.  
Indigenous marine management study.

### **Workshops**

Participation in FIG Working Weeks and Congresses and other Commission 4 events.

### **Publications**

FIG Working Weeks will include technical papers and/or reports of the work of WG 4.4.  
Policy, framework, guidelines and specific issues.

### **Timetable**

Working Group 4.4 Chair will report at FIG Working Weeks (2019-2022).

Working Group 4.4 to present a final report at FIG Congress, 2022.

### **Beneficiaries**

International Coastal and Marine Institutions, and Marine related community.

Sister organisations and other (national) agencies.

FIG member associations, the hydrographic surveying profession and academia.

### **Cooperation with IHO**

Commission 4 supports the IHO through the work of its Hydrographic Services and Standards Committee (HSSC) and looks forward to assisting its capacity building and other initiatives through representation on the IHO Hydrography Commissions. Commission 4 offers ongoing support to the IHO on any appropriate technical initiatives.

Commission 4 currently represents FIG on the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) jointly with IHO and ICA. The role of the FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) is to develop and up-date international standards of competence for Hydrographic surveyors and to review the academic programme of educational institutions that are seeking IHO accreditation of their Hydrographic training courses. The IBSC is composed of 4 representatives from FIG, 4 from IHO and 2 from the ICA. Our liaison officer with the IBSC is Gordon Johnston. Apart from Gordon Johnston, FIG is represented by Adam Greenland (New Zealand), Keith McGowan Miller (Trinidad and Tobago) and Sobri Syawie (Indonesia).

FIG and IHO cooperate under a Memorandum of Understanding (MOU) which was signed in Athens in May 2004. Our liaison is IHO Director, Mustapha Iptes.

### **Cooperation with Sister Associations**

#### **FIG and Member Associations**

Commission 4 maintains contact with the hydrographic surveying community grouping, stream commission etc. within each FIG Member Association through their nominated hydrographic surveying representative. Each Member Association representative is automatically a member of the Commission and contributes to its work in many ways, the most effective being through membership of the Commission 4 Working Groups. The reporting of the work being undertaken by Member Associations is at the Commission 4 Annual General Meeting held during each Working Week and Congress.

#### **FIG and the International Federation of Hydrographic Societies (IFHS)**

Commission 4 and IFHS have a good relationship, being organisations primarily involved in the promotion of hydrography, and cooperate on a number of levels. The Commission lends support to and/or sponsorship of IFHS conferences and seminars that has provided financial support and resources for the updating of IFHS publications.

FIG and IFHS cooperation is based upon a MoU which was signed in Cairo, April 2005. The task has been mandated to Commission 4. FIG liaison with the IFHS is Simon Ironside.

### **Cooperation with the United Nations**

Commission 4 will assist and participate in United Nations programmes on guidance by FIG Council and in circumstances where Commission expertise can contribute towards successful programme outcomes.

#### **Cooperation with other FIG Commissions**

Commission 4 will collaborate with other FIG Commissions where specific Commission expertise can contribute towards a comprehensive understanding and successful resolution to the problem being addressed.

#### **Representation to FIG Networks and Task Forces**

Commission 4 will appoint representatives to FIG Networks and Task Forces as required. Commission 4 is a standing member of the FIG Standards Network.

#### **Other Activities**

Commission 4 will maintain and develop its page on the FIG web site to keep Commission members, the international hydrographic community and the public involved in and informed of the Commission's work. Commission 4 will also contribute editorials, reports and articles to international Hydrographic publications including, but not restricted to, the Hydrographic Journal, Hydro International, The Hydrographic Review, Sea Technology and Lighthouse. It will also publish details of its activities at least once a year.

#### **Calendar of Events**

##### **2019**

US HYDRO Conference 2019, 18-21 March 2019, Beau Rivage Resort & Casino, Biloxi, MS, USA.

IBSC42, 25 March – 5 April 2019, FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers, Honolulu, Hawaii, USA.

Ocean Business, 9-11 April 2019, Southampton, United Kingdom.

FIG Working Week, 22-26 April, 2019, Hanoi, Vietnam.

South East Asia Survey Congress, 15-18 August 2019, Darwin, Australia.

International Conference Geomatics & Geospatial Technology 2019, 1-3 October 2019, Kuala Lumpur, Malaysia.

10<sup>th</sup> Advisory Board on Law of the Sea Conference (ABLOS), 8-9 October 2019, Monaco.

FIG Commission 4 2019 Annual Meeting and International Seminar, November 2019, Kuala Lumpur, Malaysia.

IBSC Stakeholder Seminar on Training and Education in Hydrography and Nautical Cartography, 2019.

##### **2020**

FIG Working Week, 10-14 May, 2020, Amsterdam, Netherlands.

US HYDRO Conference 2020.

IBSC43, 2020, FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers.

FIG Commission 4 2020 Annual Meeting and International Seminar, November 2020.

IBSC Stakeholder Seminar on Training and Education in Hydrography and Nautical Cartography, 2020.



## **2021**

FIG Working Week, 24-28 May, 2021, Accra, Ghana.

US HYDRO Conference 2021.

IBSC44, 2021, FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers.

FIG Commission 4 2021 Annual Meeting and International Seminar, November 2021.

IBSC Stakeholder Seminar on Training and Education in Hydrography and Nautical Cartography, 2021.

## **2022**

FIG Working Week, Cape Town, South Africa, 2022.

US HYDRO Conference 2022.

IBSC45, 2022, FIG/IHO/ICA International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers.

FIG Commission 4 2022 Annual Meeting and International Seminar, November 2022.

IBSC Stakeholder Seminar on Training and Education in Hydrography and Nautical Cartography, 2022.

### **Commission Officers**

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