



IHO Publication C-17: Spatial Data Infrastructures: “The marine dimension”

Presentation to the MSDIWG



Overview

Section 3.3 Enhancing an MSDI

Chapter 4 : IGIF 9 Pathways from the HO Perspective

Chapters 4.1 Governance and 4.3 People - co-led by Canada and UKHO

4.1 Governance

4.1.1 Governance and Institutions

4.1.2 Policy and Legal

4.1.3 Financial - Contributor: Germany, Canada

4.3 People

4.3.1 Partnerships

4.3.2 Capacity and Education

4.3.3 Communication and Engagements



Section 3.3: Enhancing an MSDI

- Chapter 4 lead by Oceanwise with UKHO as a contributor with others.
- Contributed content highlighting that the UN-GGIM IGIF principles and IHO MSDI model can synergise together, instead of being duplicative or treated separately.
- The MSDI Four Pillars is still a useful concept as a stepping-stone to the full IGIF ecosystem, as roughly the “middle Technology layer” of the IGIF Nine Pathways (*helpful simplification*).
- For some hydrographic offices, the MSDI Four Pillars is an effective starting point to consider transformation efforts in a more manageable and HO-specific context.
- In a nutshell, an effective “IGIF-aligned MSDI implementation” should ideally seek to ...
 - ✓ “Drive Technology, don’t be Driven by Technology”
 - ✓ “Make the Data Count, don’t just Count the Data”
- ✓ The top and bottom layers of the IGIF Nine Pathways (*Governance & People*) are crucial for these two outcomes

These are two engaging catchphrases to frame the attention of decision-makers and officials.



Chapter 4.1 Governance

➤ Marine Spatial Data Governance

- Marine Spatial Data Governance consists in an effective framework of leadership, policies, laws, directives, regulations, agreements, partnerships, processes and procedures focussing on marine data. The aim is to oversee and ensure the continuity of good decision-making prioritized based on scientific evidence and authoritative data in order to facilitate sustainable social, economic, environmental protection and scientific human activities in marine space.
- inspired from the work of Sutherland and Nichols, 2006, Edwards and Evans, 2017
Sutherlands, Michael and Sue Nichols.- Issues in the Governance of Marine Spaces; International Federation of Surveyors (FIG), Article of the month, September 2006



Chapter 4.1 Governance

➤ Marine Spatial Data Governance

- Delimit how and where HO's are involved and the scope of their MSDI mandate.
- Adaptability to local, national, regional and international priorities and institutions
- Organisation of an ecosystem of systems requiring consultation and coordination with marine domain stakeholders to answer non-navigational users' needs.
- Ensuring MSDI continuity: Telling the story to secure the value and funding

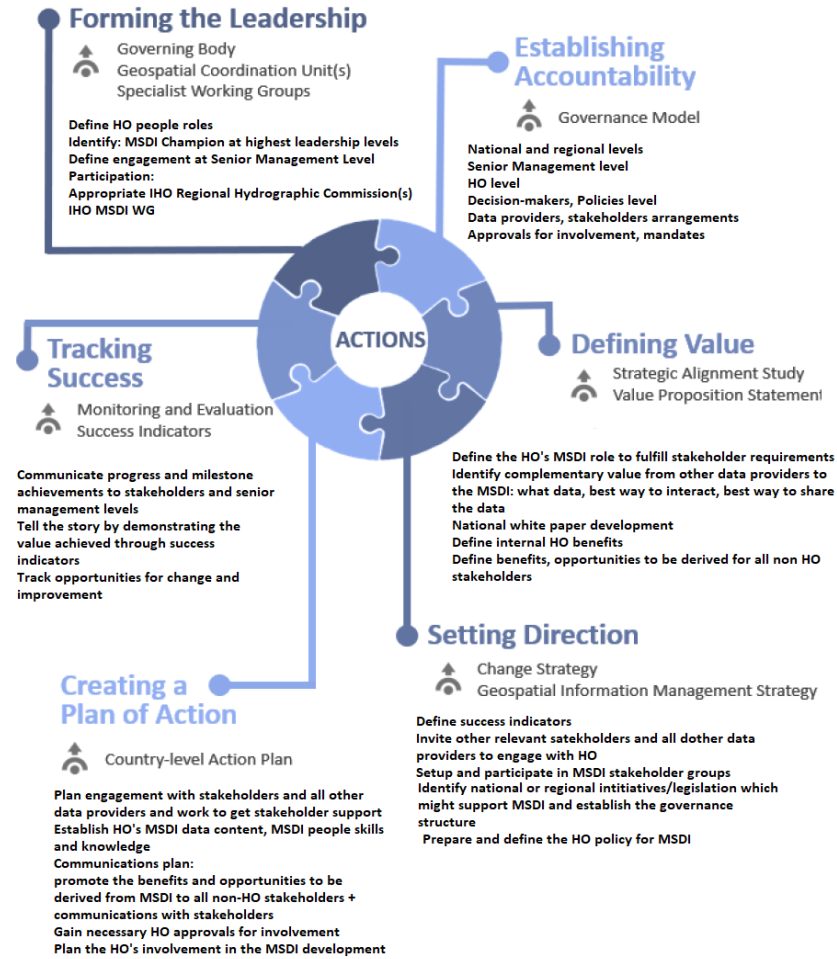
➤ Levels of Governance over Marine Spatial Data

- Foundational data, Hydrographic and legal survey, Administrative and ocean activities, Environment and Climate Change monitoring, Marine Spatial Plans, Bridging land and sea, Adoption of MSDI themes, production of decision-ready data



Repurposing the UN-GGIM IGIF Governance and Institutions Arrangements Pathway for a MSDI:

Mapping Chapter 3's steps necessary to establish an MSDI to IGIF governance actions



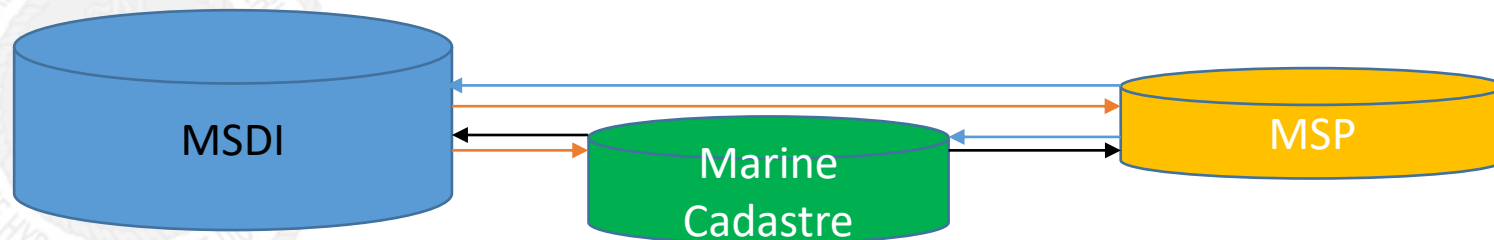
4.1.1 Systems supporting marine spatial data governance

1. **Marine Spatial Planning (MSP): Planning** of concurrent marine activities
2. **Marine Cadastre**: Geospatial depiction of **Marine Regulatory Framework/Georegulations**
3. **Marine Spatial Data Infrastructure (MSDI): Infrastructure**

These systems and their data governance are interdependent and complementary.

The Marine Cadastre is often the missing piece outside of the HO's mandate

MSDI supports, enables and facilitates the other two systems





Section 4.1.2 Policy & Legal

- Alignment with IGIF-H Policy and Legal Pathway not completed
- Compliance with the national marine and data policy, administrative and legal framework must be maintained at all times.
- Legislative and administrative gaps as well as marine domain mandates to be examined carefully to assess whether domestic marine laws are sufficient to enable, maintain and sustain the MSDI capacity building
- Open Data policies open opportunities for encouraging scientific and economic force multiplier
- Marine Cadastre is needed to visualise spatial extents of Rights, Restrictions and Responsibilities according to Georegulations and clarify jurisdictions.
- Several examples of enabling policy and legislation are available



Section 4.1.3 Financial

- Nippon-Foundation –GEBCO Seabed 2030 project is given as a use case for an international project delivering results through a funding model





Chapter 4.3: People

- Chapter 4.3 joint lead with Canada – UKHO contributed on the (*Governance of*) People
- Contributed content highlighting the value of common and standardized MSDI (Data) Governance role (sub)titles to promote **interoperability** within and between organisations.
- An effective MSDI will require organisational interoperability between decision-makers across institutional boundaries, as much as transactional data interoperability, sharing, and exchange.
- People-centric interoperability will enable more agile and responsive decision-making with “faster time to consumer” of new or updated data in a changing Technological environment.
- **4.3.1 Partnerships**: Diplomatic-style multilateral MSDI Governance, Steering, and Working Groups to ensure inclusive and equitable participation of all agencies needed for an MSDI.
- **4.3.3 Engagement**: The need for coordinated communication to build trust and awareness of assured, authoritative data in an era of misinformation, disinformation, and mal-information.



Chapter 4.3 People

- New roles for HOs and their stakeholders:
 - HO people's roles must integrate in a whole of government approach
 - MSDI Champion, Information asset owner, Data custodian, Data Steward, ...
 - Some of these new roles are discussed in the Hydrographic Review Volume 28's paper: "The Hydrographer of the Future – Reflections on an International Virtual Workshop" by CHS (Foroutan, Bathia, Béchar, November 2022). (new material to be included)
- For HOs, supporting MSDI literacy as part of their training is recommended.
- Includes discussion about all involved people from data producers to users.