HYDROGRAPHIC CONFERENCE

HYDRO 2023

7-9 November 2023
GENOVA-ITALY
Citizen Hydrospatial Sciences!

International Federation of Hydrographic Societies (IFHS)
Italian Hydrographic Society (IHS)
HYDRO 2023 November 7th, 2023
Day One AM Keynote Address

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EARTH’S SURFACE

All of the world’s countries make up less than one third of our planet’s surface.

REST OF WORLD
Europe (excluding Russia and Greenland) city makes up 12% of the earth’s surface.

This international portion of the ocean makes up 43% of the surface of our planet, comprising nearly 95% of its volume.

*EEZ: Exclusive Economic Zone
**ABNJ: Areas Beyond National Jurisdiction
Sources: UN Statistics Division, Protected Planet

Russia is so big that even if the country was split into its Asian and European places, those new countries would still be the largest in their respective continents.

About 15% of the world’s oceans are covered by sea ice during part of the year.

These are economic zones which extend 200 miles off the shores of sovereign states. Within these zones, countries have special rights regarding marine resources.

This is the “Iceless” part of the ocean, outside of any one country’s jurisdiction.
Definitions

**Hydrospatial (adjective)**
Relating to hydrospatial sciences or denoting data, information and knowledge that is associated with a particular location and time of the earth’s waters and their contiguous zones.

**hydrospatial sciences**
*(plural-only noun (plurale tantum))*
All sciences dealing with the study of the earth’s waters and their contiguous zones.
HYDROSPATIAL DATA, INFORMATION & KNOWLEDGE includes...

- Hydrography
- Oceanography
- Oceans & Cables
- Water Resources Management
- Fisheries & Marine Habitat
- Marine Protected Areas
- Marine Spatial Areas
- Coastal Zones & Erosion
- Flooding Areas
- Marine Mineral Resources
- Ocean Mapping
- Marine Biology
- Marine Geology
- Marine Geophysics
- Marine Environment
- Marine Ecosystems
- Marine Geography
- Marine Shipping
- Marine Ports
- Marine Pilotage
- Marine Weather & Meteorology

...and much more...
In simple words **Hydrospatial**

...is “about all the Blue of our Blue Planet... & its contiguous zones (Coastal, Flooding areas, Water Column, Bottom, Sub Bottom, Surface & Atmosphere)”...

... It’s the Blue Geospatial† contributing to the Sustainable Blue Economy...

Join the Hydrospatial Movement Community on LinkedIn group at:

![QR Code](https://arcg.is/19fiab)
Citizen Science!
Similar to: Community Science; Crowd-Sourced Science; Civic Science; Participatory Monitoring; Volunteer Monitoring; *Non-expert science by interested groups*…
Citizen Hydrospatial Sciences!

... it’s contributing data, information and knowledge openly, to better measure and understand the Blue of our Blue Planet and its contiguous zones!
Is Crowd Sourced Bathymetry the same as Citizen Hydrospatial Sciences?

“Crowd Sourced bathymetry (CSB) is the collection and sharing of depth measurements from vessels, using standard navigation instruments, while engaged in routine operations”.

* From IHO Publication B-12
Only about the third of the IHO Member States support Crowd Sourced Bathymetry (CSB)
The told and known Policy / Regulations / Culture Issues related to supporting CSB

What is the untold and unknown?

C-1: Capture issues regarding national policy/regulations /culture affecting the endorsement of CSB

1. National Policies and Regulations
2. CSB Data is Unnecessary
3. CSB Data Collection Confused with Systematic Survey
4. Data Quality and Accuracy Concerns
5. Legal and Liability Issues
6. Standardization and Compatibility
7. Integration with Existing Data Sources
8. Public Awareness and Engagement
9. Resource Constraints
10. Addressing these challenges would require collaborative efforts from governments, stakeholders, and the public.

Source IHO-CSBWG14 (August 2023):
https://iho.int/uploads/user/Inter-Regional%20Coordination/CSBWG/CSBWG14/CSBWG14_2.2_2023_Policy%20and%20Regulations.pdf
In Hydrography:

“To csB or not to csB, that is the question…”

…whatever the data Quality & precision is!

“… A SHOAL IS A SHOAL …”

Legal versus Moral RISKS!
Governance Technology Data

STANDARDS
Findable Accessible Interoperable Reusable

HYDROSPATIAL DATA INFRASTRUCTURE (HDI=MSDI)

X, Y, Z, T, A, +
Ambiguity (Quality/Uncertainty) is Paramount!
In conclusion...

Citizen Hydrospatial Sciences & Crowd Sourced Bathymetry...

...are an IMPORTANT and valuable contribution for a better knowledge and understanding of the Hydrospatial Domain!
Thank you! / Merci! / Grazie!

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