

# Marine Knowledge Exchange Issues to consider



*Laurent Kerléguer*  
*Deputy head of SHOM*  
*IHO-EC-Network-WG chairman*



# EC-IHO cooperation

***Memorandum of understanding, April 2012, between the International Hydrographic Organisation and the European Commission***

- ***Framework for liaison for specific areas:***
  - **Surveillance activities**
  - **offshore renewable energy**
  - **maritime spatial planning**
  - **integrated coastal zone management**
  - **marine observation and data networks**
  - **implementation of the Marine Strategy Framework Directive**
  - **marine research,**
  - **data standards**

# Almost any operation at sea relies on hydrography

*Risk assessment and management*



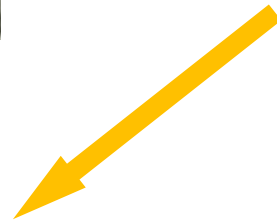
*Environmental protection*



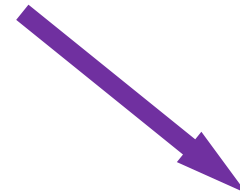
Hydrography



*Maritime spatial planning*

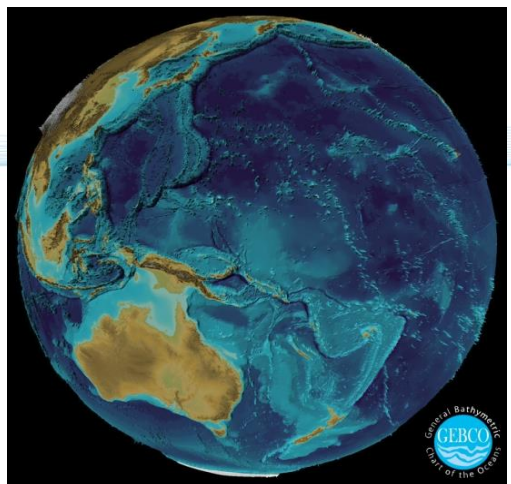


*Blue Growth*



# Isn't it all done, mapped, charted yet?

Less than 10% of oceans surveyed  
For **coastal waters**, depths < 200 m  
(Source IHO)



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- Polar regions > 95%**
- Caribbean > 80%**
- W. Africa > 80%**
- USA ~ 40%**
- UK ~ 30%**
- France (Atlantic) ~ 17 %**

are **not surveyed** or **inadequately surveyed** according to IHO standards

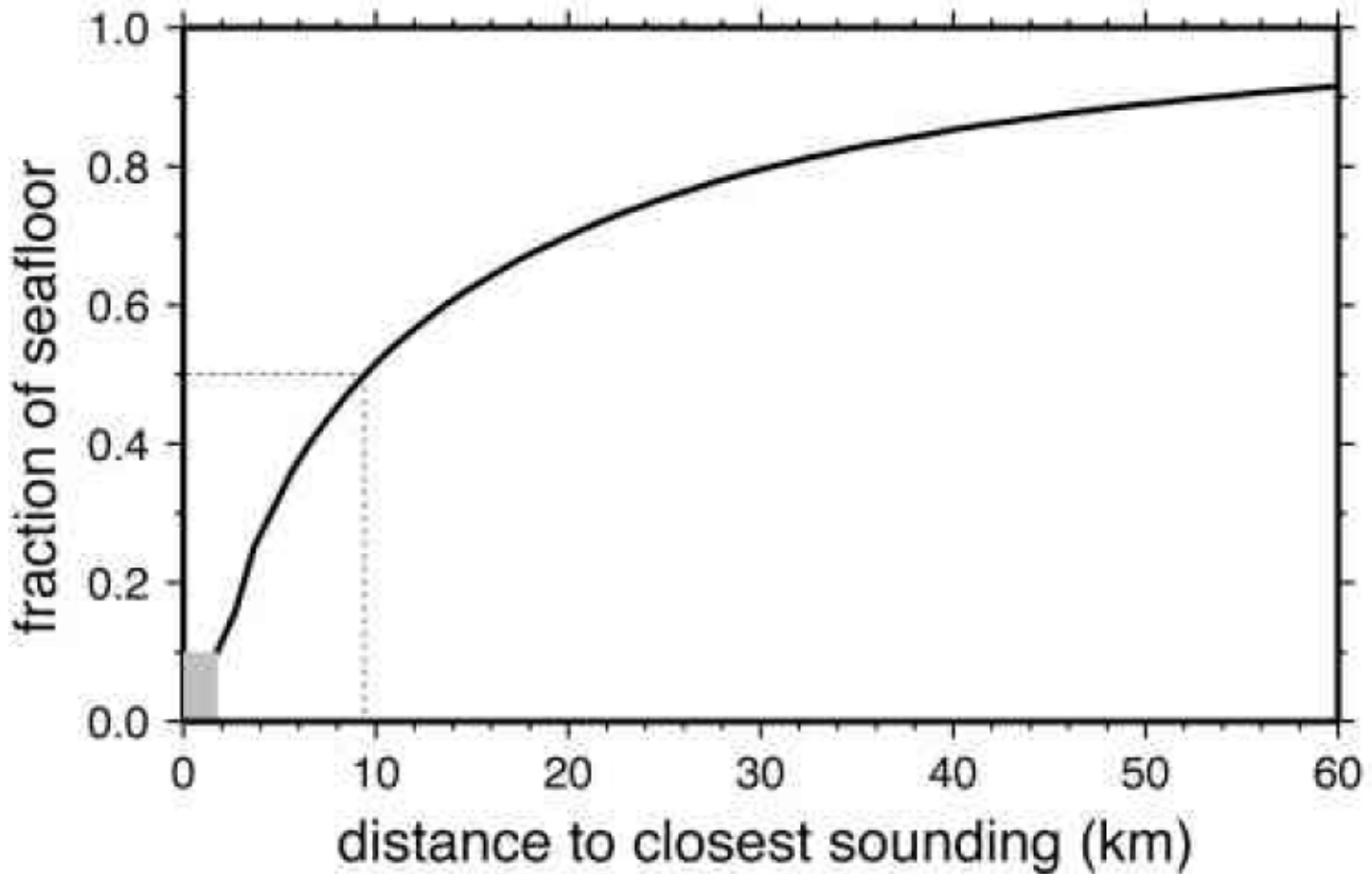
Do not match modern needs for safety of navigation, for computing DTM necessary for hydrodynamic models...

# Isn't it all done, mapped, charted yet?



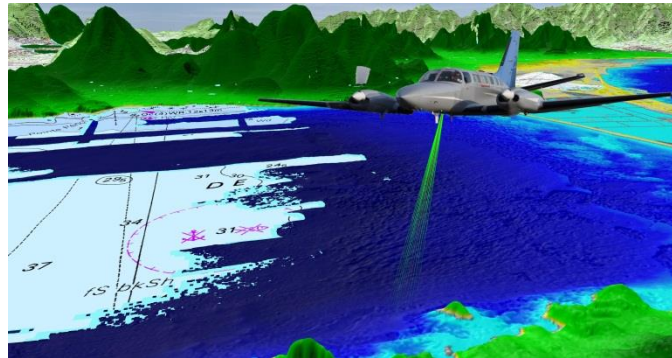
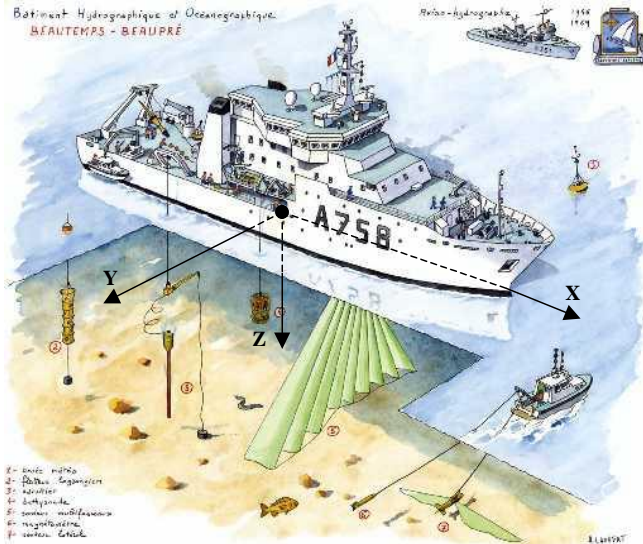
**Half of global seafloor bathymetry is not resolved at 10 km resolution**

More  
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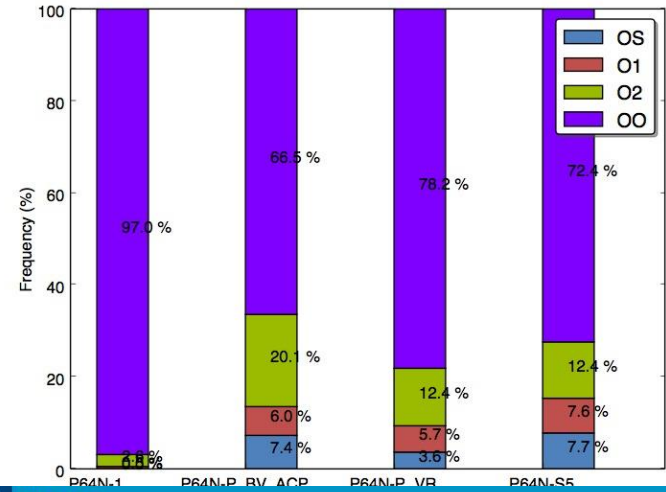


# Gathering Marine Data

## a question of **time, money and accuracy**



	Acoustic (EM 2040)	Lidar (CZMIL)	Satellite (Pleiades XS)
Survey (k€ per sq. km)	2.5	1.5	0.01
Duration (hour per sq. km)	7	0.08	0
Processing (hour per sq. km)	21	4	3
<b>Total Cost (k€ per sq. km)</b>	<b>3.3</b>	<b>1.7</b>	<b>0.1</b>
Total Duration (hour per sq. km)	28	4	3



# HOs: what do they bring?

**Standardized data under the aegis of IHO (S-44) → reliable authoritative normalised data safely kept in national repositories**

**Inspire compatible data presented in Spatial Data Infrastructures (data.shom.fr as an example)**

