Perspectives on Ocean Mapping

Chiaki Okada, Dulap Ratnayake, Elaina O`Brien, Elias Adediran, Nicki Andreasen, Sally Jarmusz and Sara Cardigos

Center for Coastal and Ocean Mapping/NOAA-UNH Joint Hydrographic Center

We asked a total of 138 people a set of questions based on priorities in ocean mapping. To what extent are the oceans mapped and how well are these maps representing what we see? Diverse answers came from 59 members of the general public and 79 professionals working in an ocean field. Many believe we have less coverage of the ocean mapped than reality (20.60%), however we all agree that mapping the oceans are of the utmost importance.

Non-Professionals

According to the general public, the **deep ocean** is most important, along with **coastal regions** and **seabed features** (Fig. A).

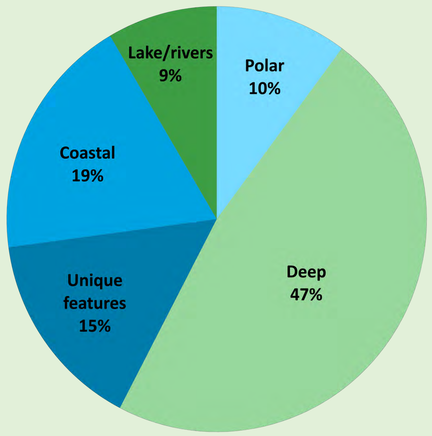

Fig A. What is the most important area to map?

The general public predominantly believes that the areas of importance here include the **environment** as the most important reason to map along with **navigation** (Fig. B).

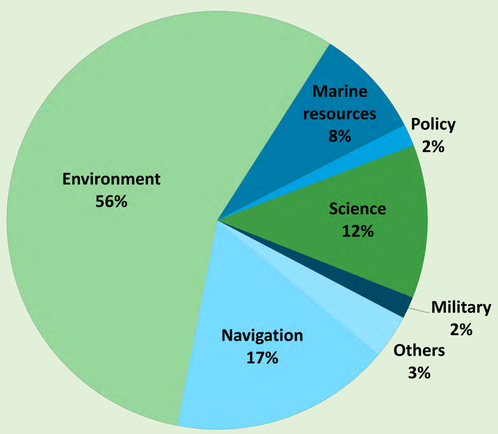

Fig B. What is the most important reason for mapping the ocean in the first place?

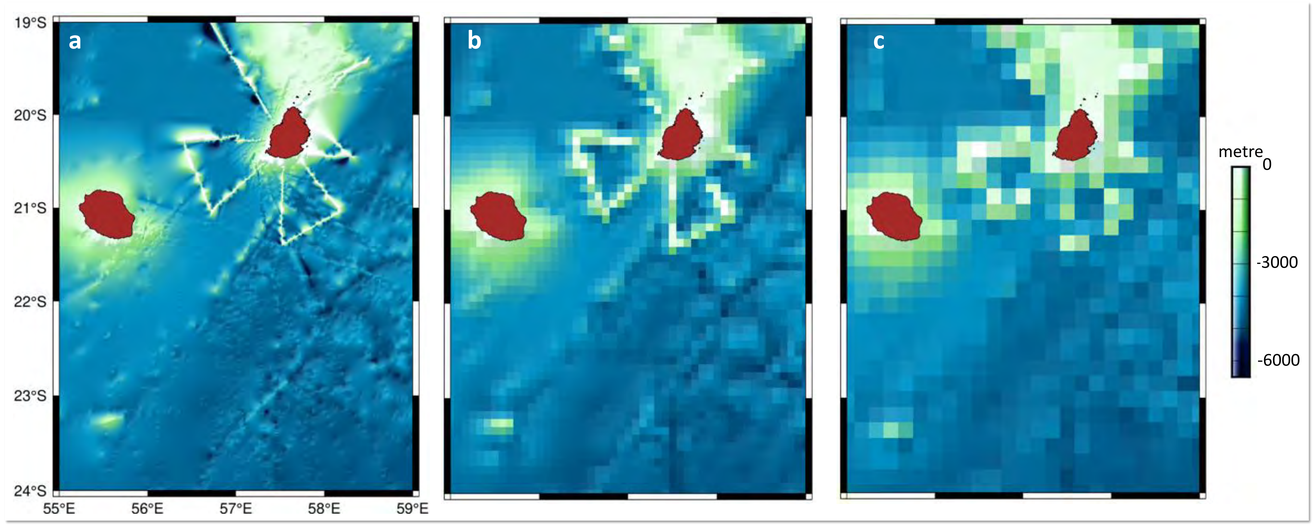

Figure 1 (a, b, c). Three Single Beam Echo Sounder surfaces (a, b, c) at different resolutions (grid spacing) in the Indian Ocean featuring the Mauritius (top) and Reunion (bottom) islands. From left to right, grid spacing in arc minutes (m) for each surface is 0.5m (a), 5m (b), and 10m (c), respectively. Depth is in metres, with 0m being at shallow depth and -6000m being at deeper depth.

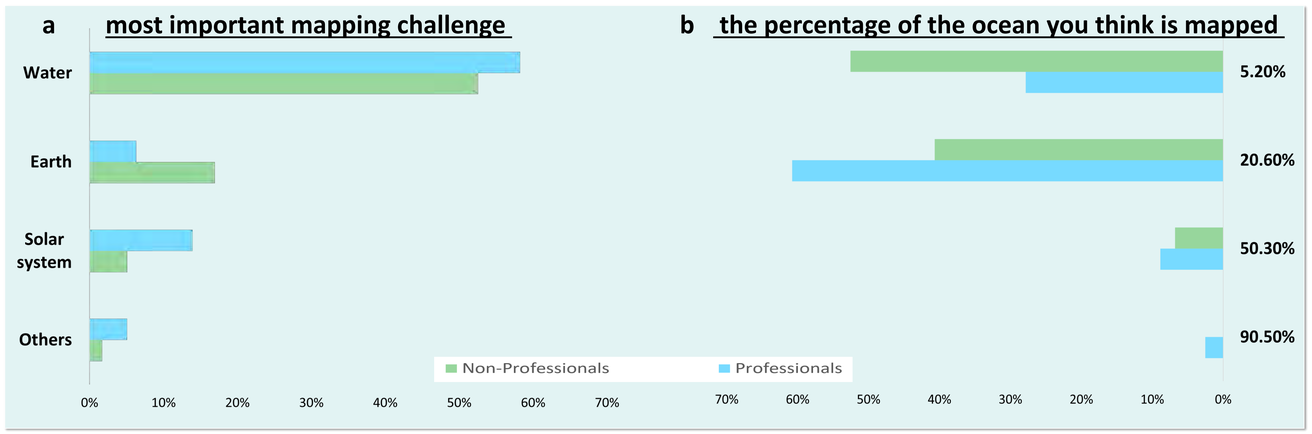

Figure 2. a) We asked both professionals and the general-public what the most important mapping challenge facing us today. As you can see the majority believe it to be water masses. b) The next question posed was how much of our oceans do you think is mapped to date? Many believe we have less than 20.60% mapped to date.

Professionals

For professionals working in marine fields, the most important area to map is predominantly **coastal areas**, as well as the **deep ocean (**Fig. C).

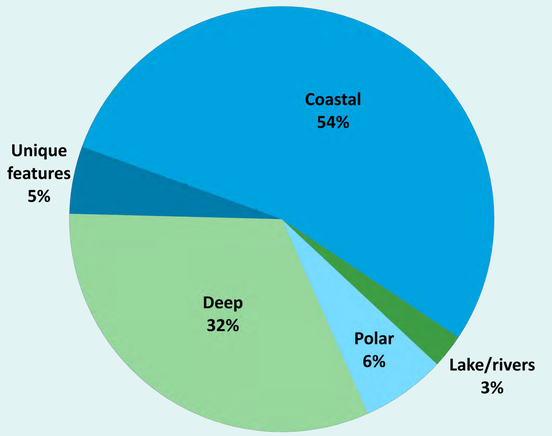

Fig C. What is the most important area to map?

43% of professionals state **safety of navigation**, as well as the **marine resources** are the most relevant (Fig. D). This may be due to most professionals that answered this survey work in navigation (53%).

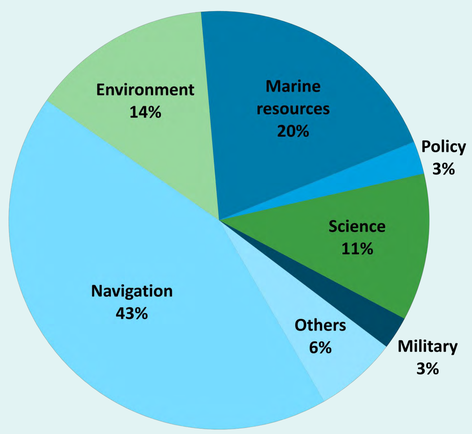

Fig D. What about the most important reason to map in the first place?

References

Rochelle Wigley, Indian Ocean Project, 2022.

Wessel, P., Luis, J., Uieda, L., Scharroo, R., Wobbe, F., Smith, W. H. F., & Tian, D. (2019). The Generic Mapping Tools Version 6. *Geochemistry, Geophysics, Geosystems*, *20* (11), pp. 5556–5564. https://doi.org/10.1029/2019GC008515 2

Professionals and the general-public agree there is a need to survey the oceans and build a global database. Resolutions represent the maps we create, so picking a suitable resolution for each mapping mission is important. There is a wealth of information available online.

To find out more information about ocean mapping go to http://ccom.unh.edu/

Acknowledgements: The authors of this poster recognize the help from Rochelle Wigley, Colleen Mitchell, all that shared and answered this survey, the Center of Coastal and Ocean Mapping, and the University of New Hampshire.

See **QR code** for more information on the Nippon Foundation/GEBCO Training Program.