Habitat Mapping - Increasing Importance

Two decades ago as CO of a survey ship, I interpreted the SSS-registrations (still on wet paper) twice. Once was for nautical charting purposes and the second, in my own time, was simply to 'get the most from data collected at high costs' (my hobbyhorse) when I made a bottom texture chart for those institutions interested.

Since then, for various reasons e.g. a growing concern about the environment, more and more habitat studies are now conducted, ranging from baseline surveys to full-blown scientific studies. The multidisciplinary studies are mostly based on hydrographic charting specifications and data quality methods (which I thoroughly recommend) and combine physical (geological), biological and oceanographic components.

Habitat mapping projects involve multi-disciplinary hydrographic surveyor expertises such as LIDAR, aerial photography, satellite imaging and airborne hyperspectral imaging, MBES-SBES, SSS, acoustic bottom classification, sub-bottomprofilers, actual bottom sampling by grabs and cores and photo and video transects. Scale is important when selecting data collection and visualisation methods, as habitat studies vary in scale from micro to macro (compare the articles on 'Bonaire 2008' and 'Glider AUV'). Access to marine data is of vital importance for marine research and a key issue for various studies, from climate change prediction to offshore engineering. This growing need has led to various initiatives (e.g. MESH, INSPIRE, SeaDataNet, GeoHab) for improving data accessibility and setting standards for data collection and interpretation, which my 'hobbyhorse' missed at that time. The need for data also makes things ripe for Spatial Data Infrastructure (SDI), not only in developed nations but also for regional SDI and global SDI.

Returning to the cost of data collection, creative and co-operative concepts such as 'map once, use many times' and 'combining marine survey needs' are required.

The wide range of skills required for habitat mapping means that it is difficult to have all expertises in-house and that involvement of the private industry is strongly recommended. This industry is now proving that it can take on large-scale projects and is able to perform the whole range and size. Cooperation between private industries and other institutes can (and has already started to) become a winning combination in performing the whole range of sizes and scales of mapping projects. Yes, I know combining survey needs and survey with an eye on future data needs is a complete departure from normal practice for those used to working according to the 'just fit for purpose' principle; that is why co-operative and 'out of the box' thinking is needed. By the way, are you aware of the work of the International Ship Operators Meeting (see Web Reference 5)?

Enjoy your read!

https://www.hydro-international.com/content/article/habitat-mapping-increasing-importance