

Mapping the Seabed

By Eoin Mac Craith

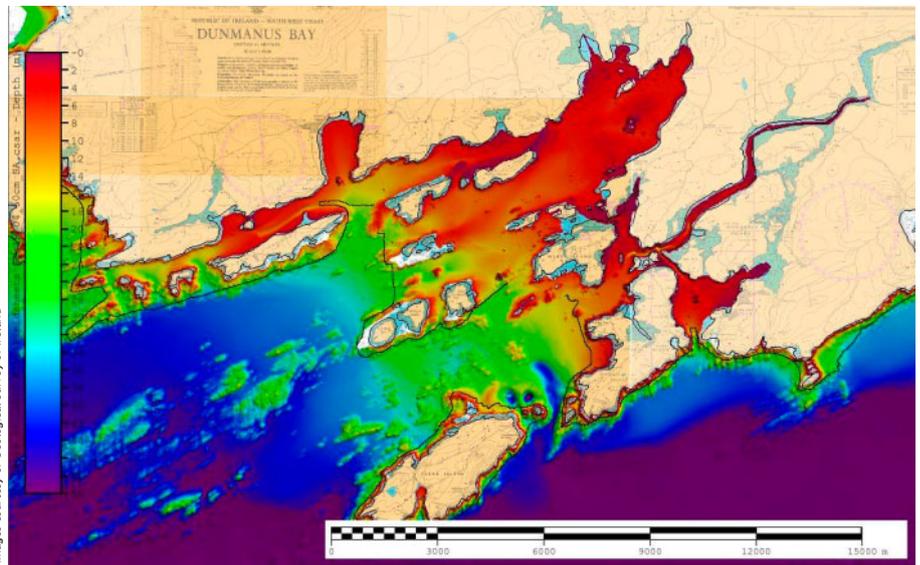
Ireland has a twenty year programme to map the physical, chemical and biological features of Ireland's seabed. This programme is called INFOMAR (Integrated Mapping for the Sustainable Development of Ireland's Marine Resource) and it is funded by the Department of Communications, Climate Action and Environment (DCCA), and managed by Geological Survey Ireland and the Marine Institute.

Geological Survey Ireland is responsible for mapping the seabed from the water's edge out to 30 nautical miles offshore. Beyond that are the deeper waters of the continental shelf, the mapping of which is the Marine Institute's responsibility.

The programme is divided into two phases – Phase 1 ran from 2006 to 2016 and involved mapping 26 bays and three large areas off the coast. Phase 2 followed on from that and its target is to finish mapping all of Ireland's seabed by 2026.

Why does the seabed need to be mapped?

While charts of Ireland's seabed do exist, they often date from the 19th century. They were an incredible achievement for the technology of that time, but now fall short of what is needed to responsibly make use of and protect the marine realm around Ireland. We need detailed maps of the seafloor for everything from safety of navigation and habitat protection to responsible planning in terms of construction work and renewable energy. Ireland is actually now among the world leaders in seabed mapping.

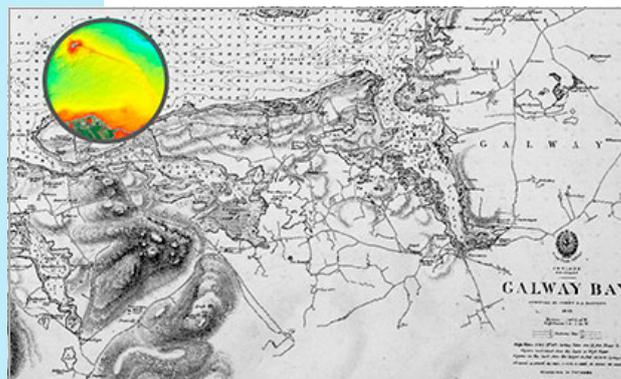


Images courtesy of Geological Survey of Ireland

Navigation

One of the most important uses of INFOMAR seabed data is that it gets incorporated into updates for shipping maps, or navigation charts. The United Kingdom Hydrographic Office (UKHO) has responsibility for producing nautical charts of Irish waters, but has an agreement that they do it free of charge because the Irish government supplies them with INFOMAR's data so that they can update the older charts. Because the data are used in this way, accuracy is of the utmost importance and great care is taken with the quality of the data collection aboard the INFOMAR vessels. For general chart updates this process can take some time, as before the data can be made publicly available there can be months of processing following the original survey – false seabed signals caused by shoals of fish and seaweed must be manually removed under the watchful eye of an experienced data processor before a finalised seabed map can be published. This is slow and meticulous work. However, when more urgent hazards are detected, such as a shallow, uncharted rock in an area used by marine traffic, this is reported on immediately to the UKHO so that they can issue a chart update as quickly as possible.

In 2019, as part of the overall effort to map the seabed, Geological Survey Ireland undertook a seabed survey along the Cork coastline from Kinsale to Dunmanus Bay, including Roaringwater Bay. This coastal work was done by INFOMAR's inshore fleet, having completed seabed mapping between Carnsore Point, Co. Wexford and Kinsale, Co. Cork in 2018. In that sense the survey vessels are working their way systematically around the Irish coast, filling in the unmapped stretches of inshore seabed between the bays that have already been mapped in Phase 1.



Left: A spyglass on an historical map revealing scanned images of the seabed. There are various types of maps to explore on www.infomar.ie/maps