# INFOMAR seafloor survey discovers glacial moraine and variety of ecosystems off the Dingle Coast

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The National Research Vessel, the Celtic Explorer, arrived in Cork Harbour on Sunday June 3rd, just a day before the Cork City Marathon, at the end of another marathon leg of this years INFOMAR (I**N**tegrated Mapping **FO**r the Sustainable Development of Ireland's **MAR**ine Resource) survey. New discoveries by Geological Survey of Ireland and Marine Institute scientists onboard include a major glacial moraine and a large trench just 300-400 metres off the Dingle coast.

The survey data build on existing coverage achieved over the last three years off the south west coast. The area surveyed covered a further 1,212 km2, achieved by sailing 3,967km in 17 days. Almost 200 sediment samples were collected from a series of ten defined seafloor regions for geochemistry, biology and particle size analysis..

The identification of ten seafloor sediment regions suggests the presence of a variety of different seafloor ecosystems. A series of previously unknown seafloor features have also been discovered, including an offshore ridge extending in a north westerly direction off the north shore of the Dingle peninsula. The ridge is five metres high and one kilometre wide with a traceable length of over ten kilometres. This is a notable discovery believed to be a glacial feature, possibly a terminal moraine, which marks the front of a glacier where rock debris, which was carried along by glacial melt water, was deposited. The ridge has been dubbed the "Slava Ridge", after the scientist on the survey who first noted it.

Another prominent feature of the area is a 500 to 600m wide trench-like feature, dubbed the "Brendan Trench", orientated east / west and parallel with the shore stretching over 40km. The trench is between 15 and 25m deep and located only 300 to 400m off the coast. It has been interpreted by the geologists onboard as the seafloor traces of a major geological fault zone.

Meanwhile the magnetic data, which have now to be analysed in detail, indicate potential extension to the known volcanic centres at Clougher Head and the Blasket Island of Inishvickillane.

In sediment samples, collected from areas of coarse sand, low numbers of molluscs and tube dwelling worm species have been found, while muddy substrates show a much higher level of biodiversity and faunal numbers.

The INFOMAR programme is now beginning to produce the first complete coverage maps

within this Biologically Sensitive Area* since it was first mapped in the 1800s using leadlines (rope and attached lead weight) and sextants, from wooden-hulled sailing vessels. Additional datasets, using airborne Light Detection and Ranging (LiDAR) and smaller vessels, will extend the inshore coverage of this area over the next 12 months.

In the meantime, analysis of the hydrology, geology and biology of the amalgamated surveys off the southwest will continue and promise valuable discoveries. INFOMAR continues later in the year surveying the Kish Bank off Dublin, Galway Bay and Waterford Bay.

**Ends.**

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**Notes to editor**

*The area surveyed is within the “Biologically Sensitive Area” (BSA) as designated by the EU Commission in 2003 following lobbying by the Irish government, fisheries scientists and industry. As such, international fishing effort in the area is restricted to a pre-specified effort as a form of protection. The survey will provide more detail on the nature and resources of this important natural area.

**About INFOMAR**

INFOMAR is an ambitious joint venture between the Geological Survey of Ireland and the Marine Institute to map Ireland’s most productive and commercially valuable inshore waters. Covering some 125,000 square kilometres of underwater territory, INFOMAR will produce integrated mapping products covering the physical, chemical and biological features of the seabed. The INFOMAR programme began last summer with surveys of valuable fishing and fish farming areas in Bantry Bay, Dunmanus Bays and fish spawning areas off the South West Coast.

INFOMAR is exploring and mapping the seafloor using high resolution multibeam sonar, measuring gravity and magnetic variation, and recovering grab samples for biological, chemical and geological analysis.