

Exploring our Marine

Monitoring Ocean Temperature at Malin Head for six decades

- At Malin Head in Co Donegal, Ireland's northernmost point, an ocean observatory has been recording the pulse of our seas for over six decades.
- Sea surface temperature has been recorded here since 1958, making it one of the longest-running datasets in the country.
- Water temperature was first measured from a well connected to the sea on Portmore Pier. By 1991, daily water temperature measurements were made either by collecting a bucket of water from beside the pier or by lowering a temperature sensor into the water.
- Since 2007, high-precision sensors have been deployed by the Marine Institute to collect data every 30 minutes. Initially the sensors were deployed at several locations along the pier, but the sensors are now located exclusively at the end of the pier.
- These continuous observations have been transformed into a daily averaged dataset, streamlining access for researchers, educators, policymakers and the wider public.
- The dataset shows a rising trend in sea surface temperatures of roughly 0.015 degrees per year, which might seem very small, but it equates to a 1°C rise in the last 65 years.
- This time series plays a key role in detecting long-term sea surface climate signals, studying marine heatwaves and seasonal patterns, as well as improving ocean models using real data.

