Observing the deep sea – Example of the FRAM Observatory
FRontiers in Arctic Marine Monitoring

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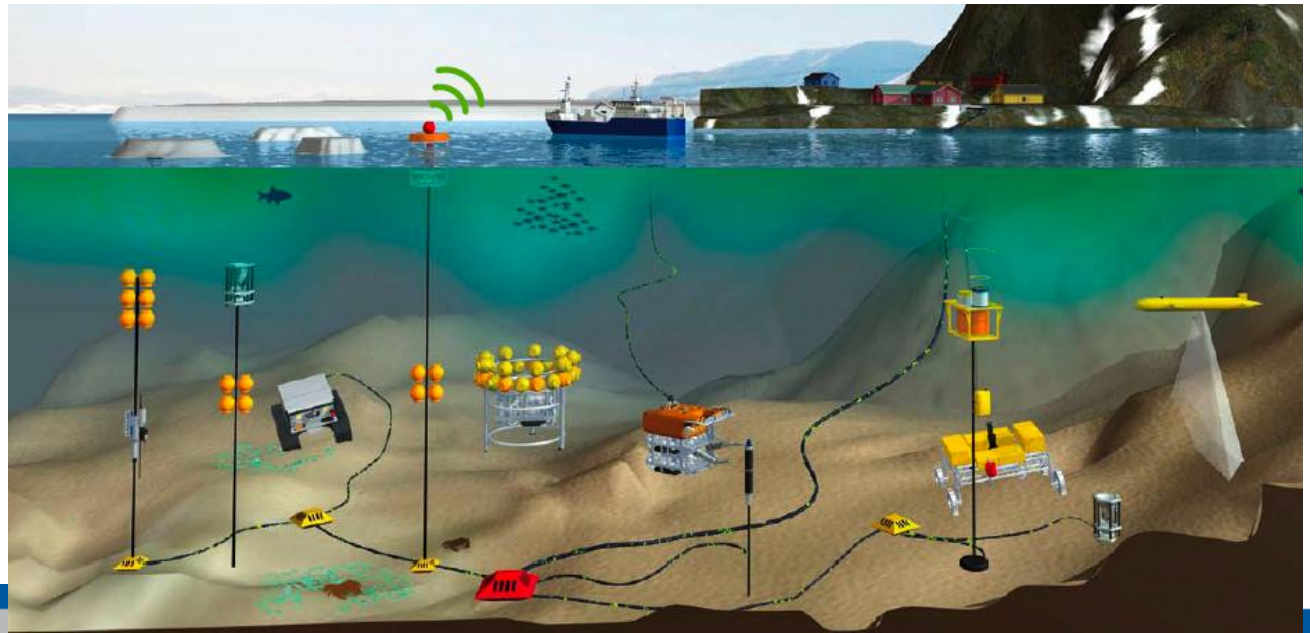
FRontiers in Arctic marine Monitoring - FRAM

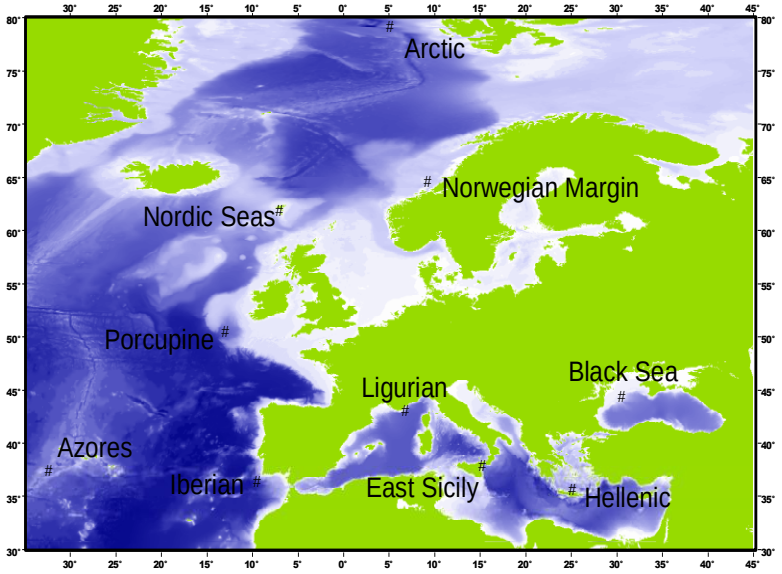
Innovative infrastructure is required for advanced observation and analysis of ocean processes. Here the consequences and changes of the rapid decline of Arctic sea ice cover are addressed as central tasks of polar and marine research.

FRAM is a modern, multidisciplinary Earth observation system integrating existing research facilities and innovative measurement modules that allows for the first time the examination of the complex interactions of physical, chemical, biological and geological components of the Arctic Ocean.



FRontiers in Arctic marine Monitoring

The Fram Strait is a key region for the exchange between the North Atlantic and the Arctic Ocean. It has been selected by EU projects ESONET and EMSO as a key regions for long-term observation. Fifteen years of regular and intensive research by AWI have indicated that effects of climate change are observed from the surface to the sea floor.



Proposed Regional ESONET Observatories

FRAM

- contributes to improved monitoring from the coast to shallow waters and from sea surface to sea floor;
- observes the Atlantic-Arctic region by providing near-real time multidisciplinary, high-resolution (time and space) data;
- contributs to improvements of remote sensing data, ecosystem and climate models and forecasting of seasonal, inter-annual and long-term environmental changes ;
- is embedded in already existing or planned national and international Earth observation networks, e.g. ESFRI projects (EMSO, SIOS and ICOS), Arctic-ROOS, COSMOS, EuroSites, iAOOS, LTER, NOON, SAON, GEOSS).

Long-term vision

Cabled observatory from the coast to the deep-sea.

On-line energy supply and data transmission.

→ Project proposal at German Ministry for Education and Research