The Biggest Marine Food Source:

Studying the advection of mesopelagic prey into Marine shelf ecosystems

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Why is this important

The horizontal movement of mesopelagic organisms have been studied less than the vertical movement. Since its estimated that 50-90% of the fish biomass in the sea is residing in the mesopelagic zone or twilight zone the potential food source that they potentially provide the marine shelf communities may be far greater then earlier anticipated.

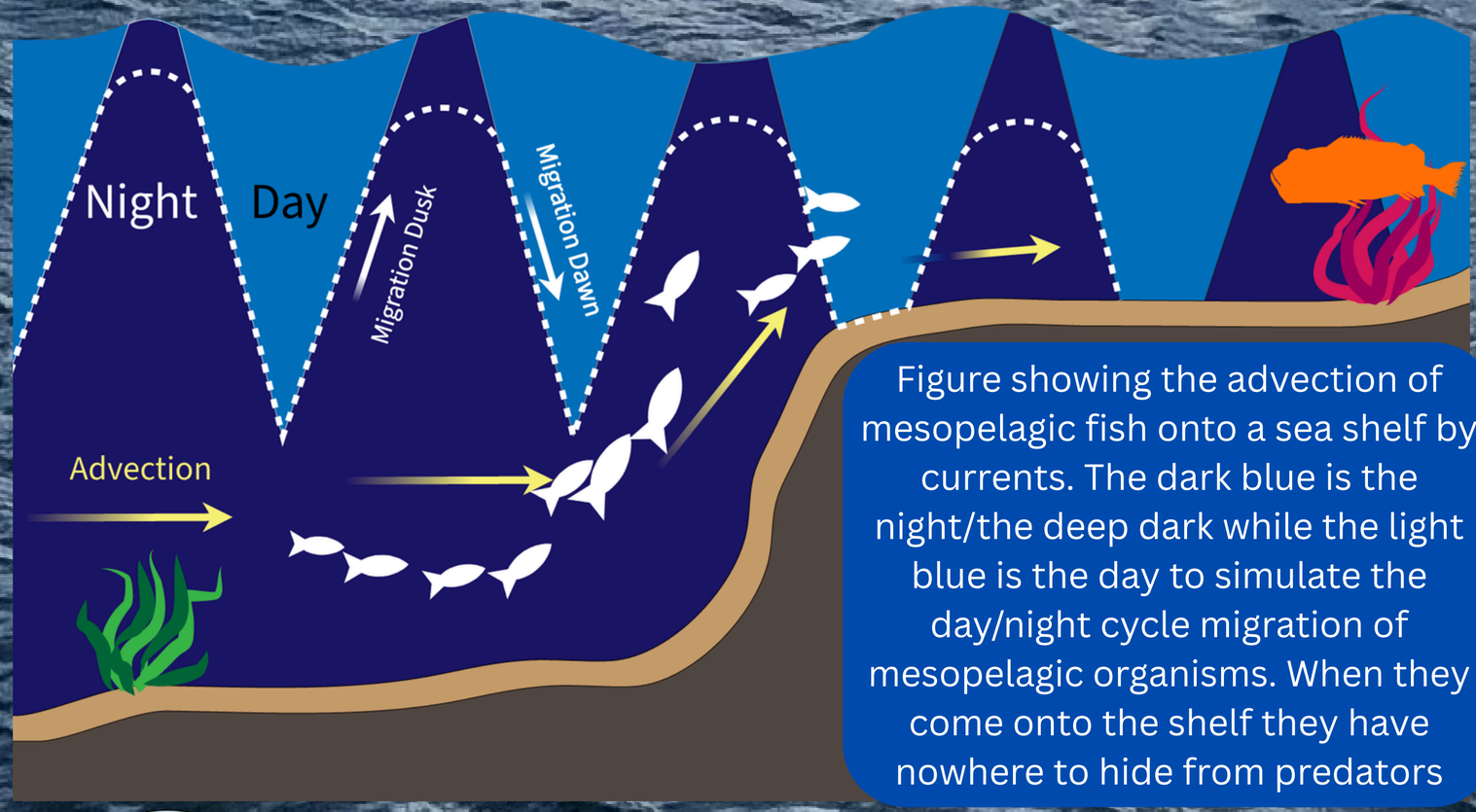
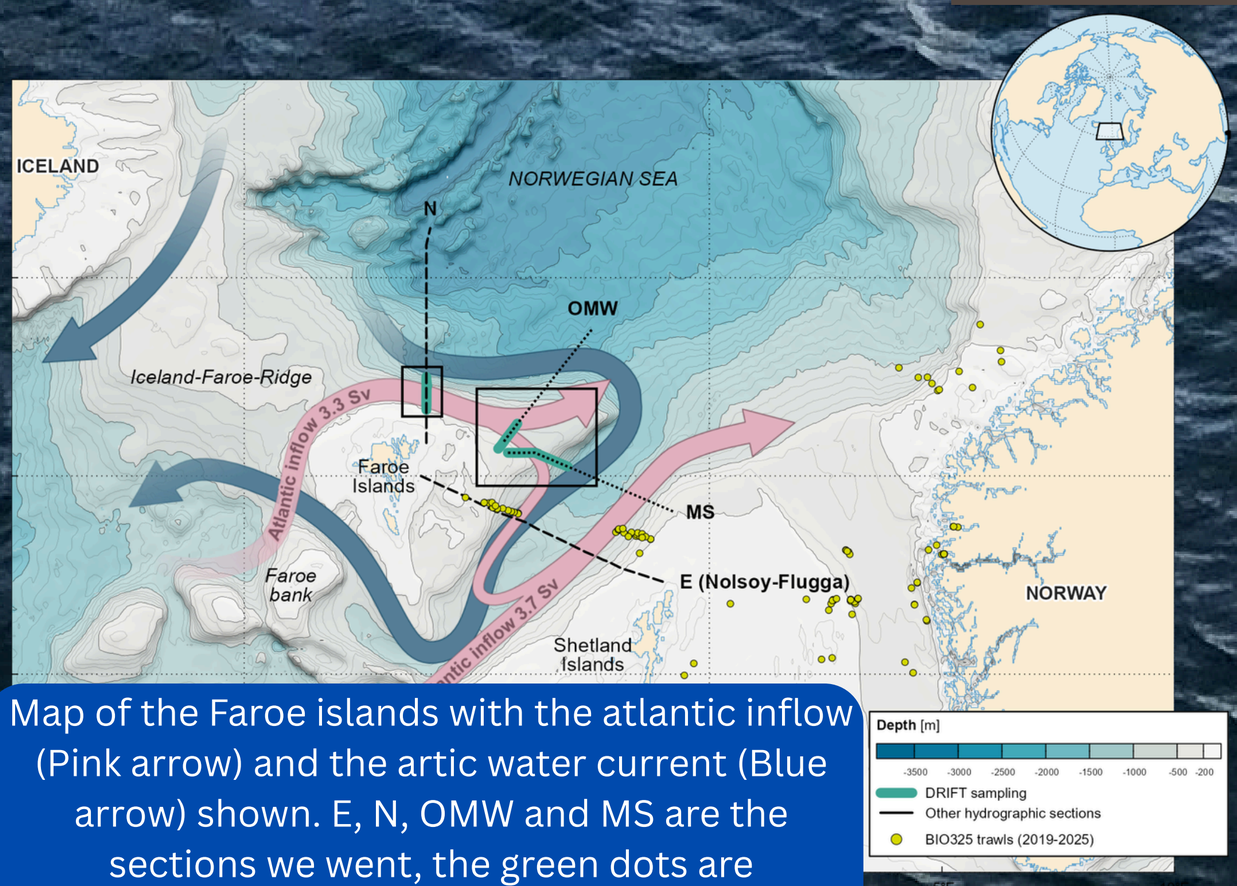


Figure showing the advection of mesopelagic fish onto a sea shelf by currents. The dark blue is the night/the deep dark while the light blue is the day to simulate the day/night cycle migration of mesopelagic organisms. When they come onto the shelf they have nowhere to hide from predators



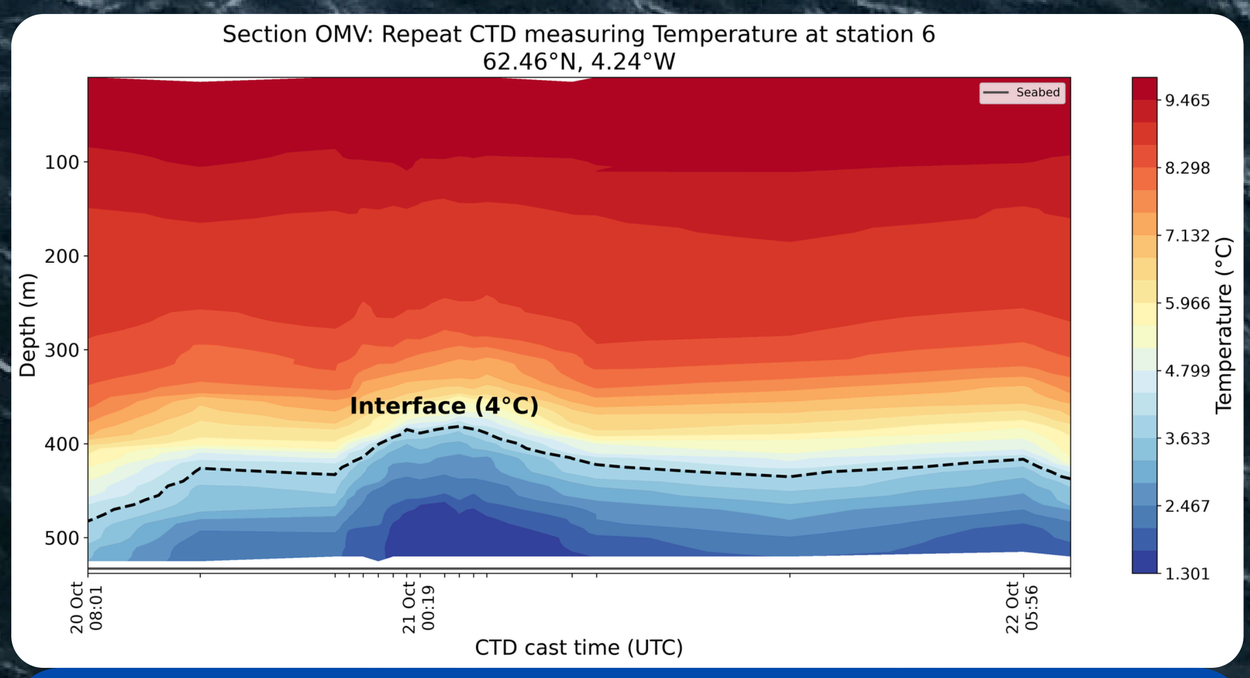
Map of the Faroe islands with the atlantic inflow (Pink arrow) and the artic water current (Blue arrow) shown. E, N, OMW and MS are the sections we went, the green dots are stations(Photo credit: Tom Langbehn)

Where we studied

The Faro island is topologicaly unique with its shallow sea shelfs surrounding the island that feed into deep water chasms. In combination with its topology, the location is at a cross section between major currents, making the Fareo's a good place for studying the intercation between advection of mesopolagic organism and predators on the seashelf

How we collected data

- **Mapping**
  - CTD (ConductivityTemperatureDepth) sensors with LADCP for mesuring salinity, temperature, depth and water velocity .
- **Collecting**
  - Trawling and nets at depths between 10-600 meter measuring, catergorizing, collecting stomach samples and taking otoliths for age determination



Graph is showing the temperature measurements from section OMV (Shown in picture of the Faroe`s) where the CTD went up and down on the same station 17 times over a period of 2 days. You can see the interface (the line between the different water masses) change in that period meaning the water washed onto the shelf

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