



Deliverable 1.1: Lagrangian connectivity of North Atlantic ecosystems

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Introduction

- In the North Atlantic, the large-scale circulation features set the connectivity between ocean regions.
- This connectivity has impacts on the dispersal of larvae from benthic communities.
- The temporal variability of dispersal pathways is still an open question.
- Output from Lagrangian particle tracking in a high-resolution ocean model, VIKING20, is used to estimate the connectivity and variability over a 50 year time scale.

ATLAS Case Studies and particle launch locations

- To make the task manageable, and of most relevance to ATLAS partners, Case Study locations used to launch modelled particles.
- Collected information from Case Study leaders on locations, species and depths of interest to each of the Case Studies

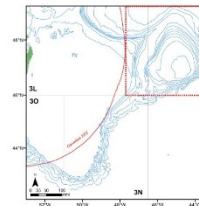
20th January 2017

ATLAS WPI deliverable D1.1 - "Lagrangian connectivity of North Atlantic Ecosystems":
Information about the Case Study No 11 - Flemish Cap

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1. Latitude and longitude of Case Study region boundaries (preferably a simple rectangular bounding box, or boxes, maximum and minimum latitude and longitude).

Red dotted square coordinates	
Lon (Max)	4743W
Lon (Min)	4300W
Lat (Max)	4910N
Lat (Min)	4600N



2. The range of water depths (not necessarily the full range of depths in the region, just the range where the species of interest to ATLAS are found e.g. Lophelia, 300-1000m).

Cold-water corals: 600-1200m

Deep-sea sponges: 900-1450m

3. Information on species of interest to ATLAS within the Case Study region:

General Information on the Flemish Cap (fish & fisheries, oceanography, seabirds, etc.):

NAFO (2007) Flemish Cap Symposium. *Journal of Northwest Atlantic Fishery Science*. Volume 37 (2005-2007). Available at <http://journal.nafo.int>

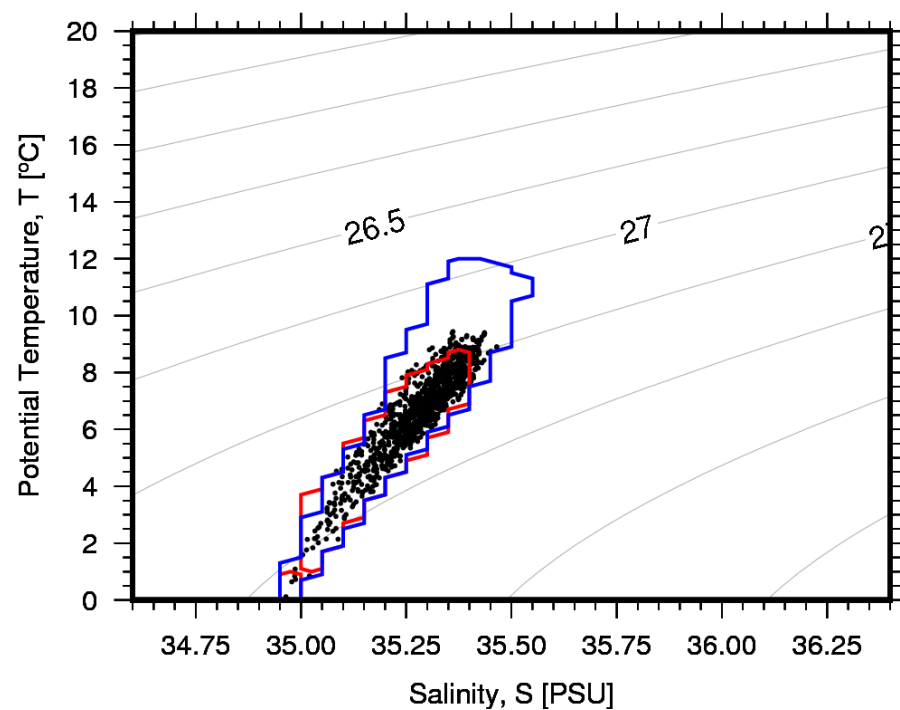
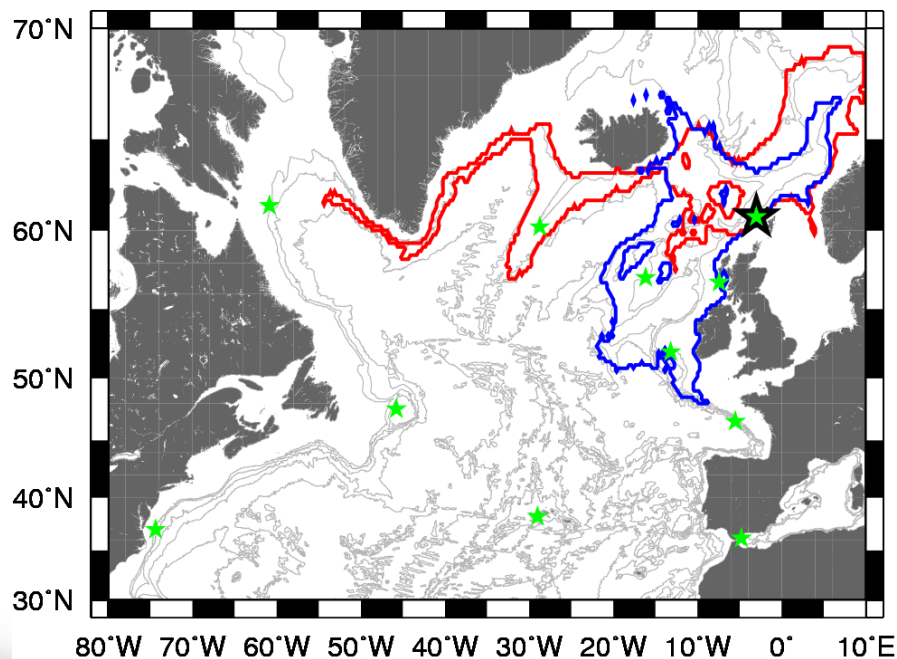
Epibenthic species:

Martin F.J., Serrano, A., Kanchington, E. and Mora, J. (2016) Epibenthic assemblages of the Tail of the Grand Bank and Flemish Cap (northwest Atlantic) in relation to environmental parameters and trawling intensity. *Deep Sea Research Part 1: Oceanographic Research Papers* 106, 99-122.

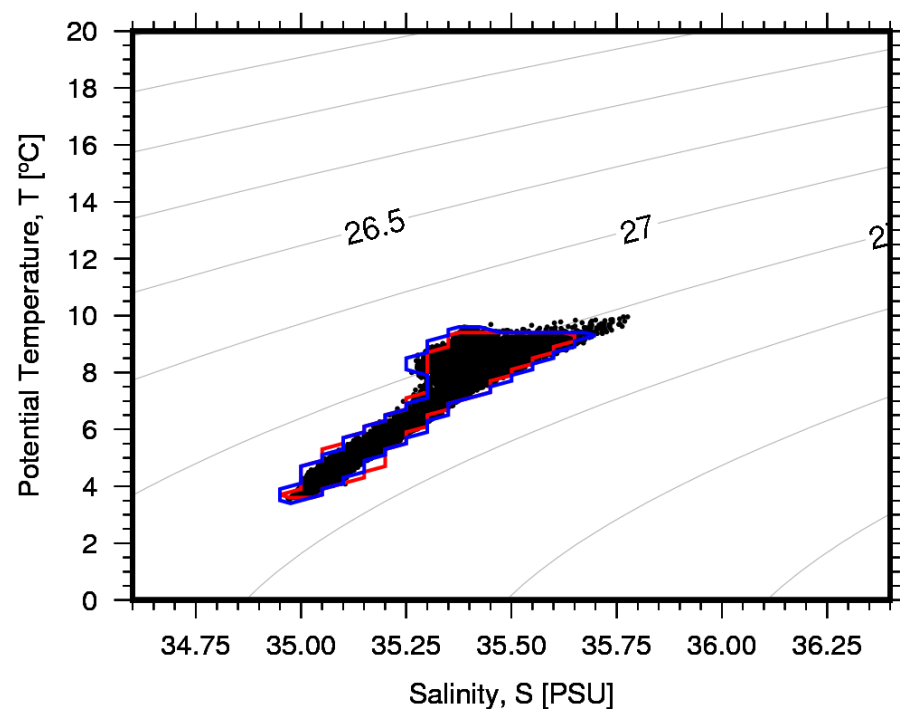
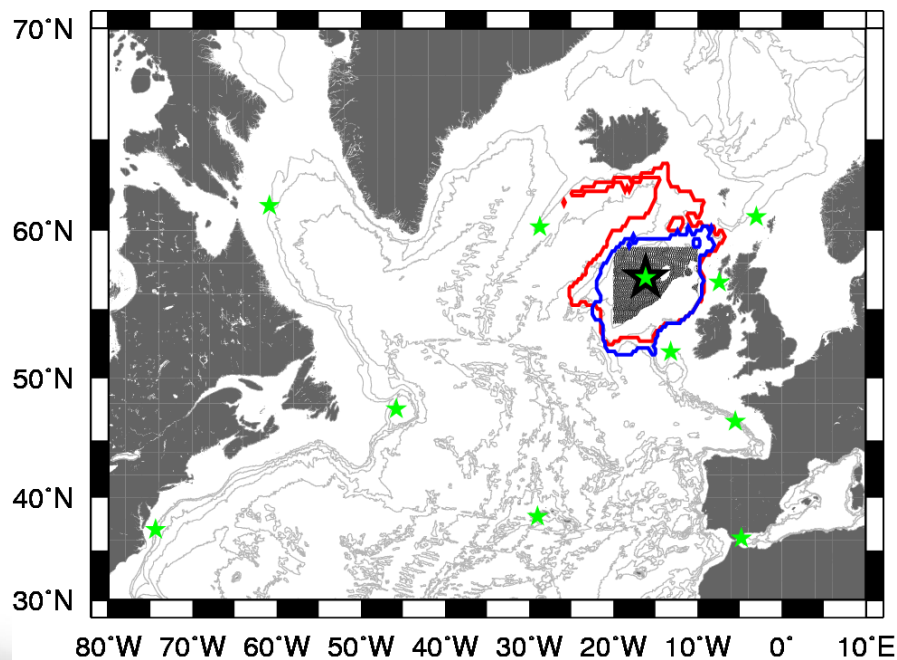


Overview of the particle spreading

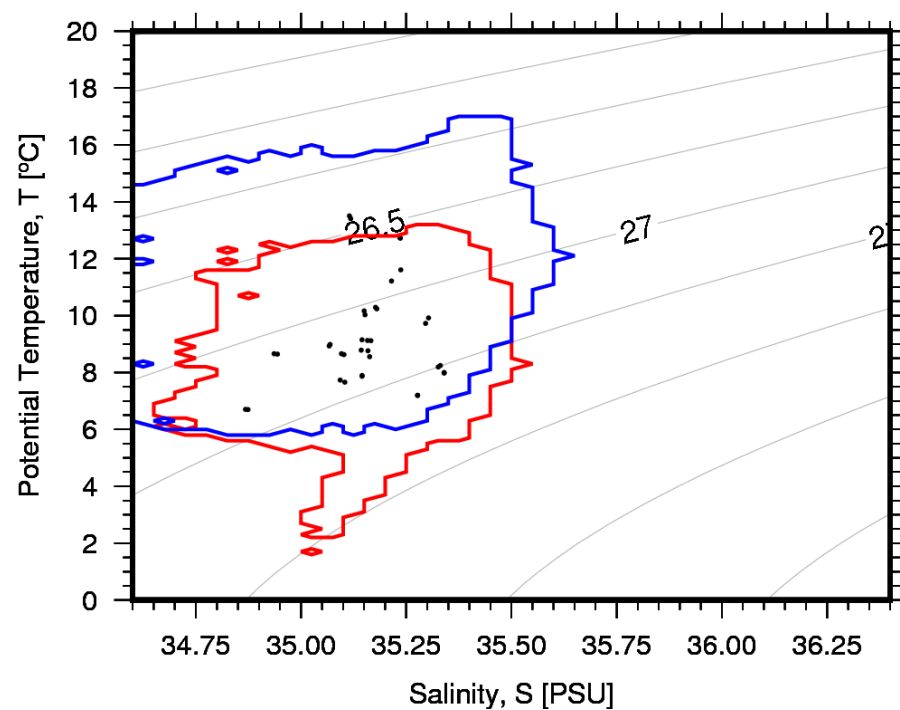
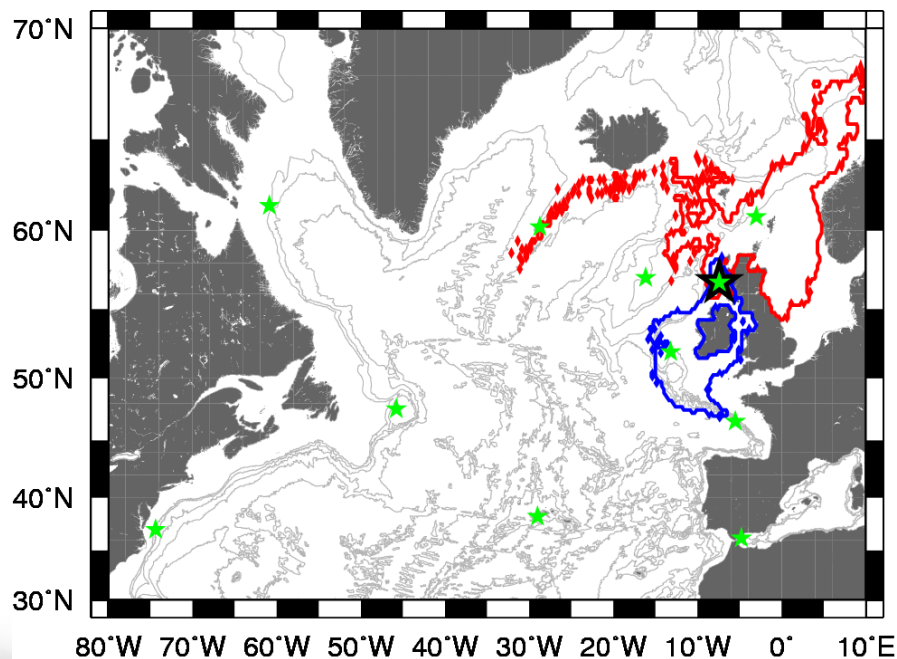
CS2: West of Shetland and W Scotland slope



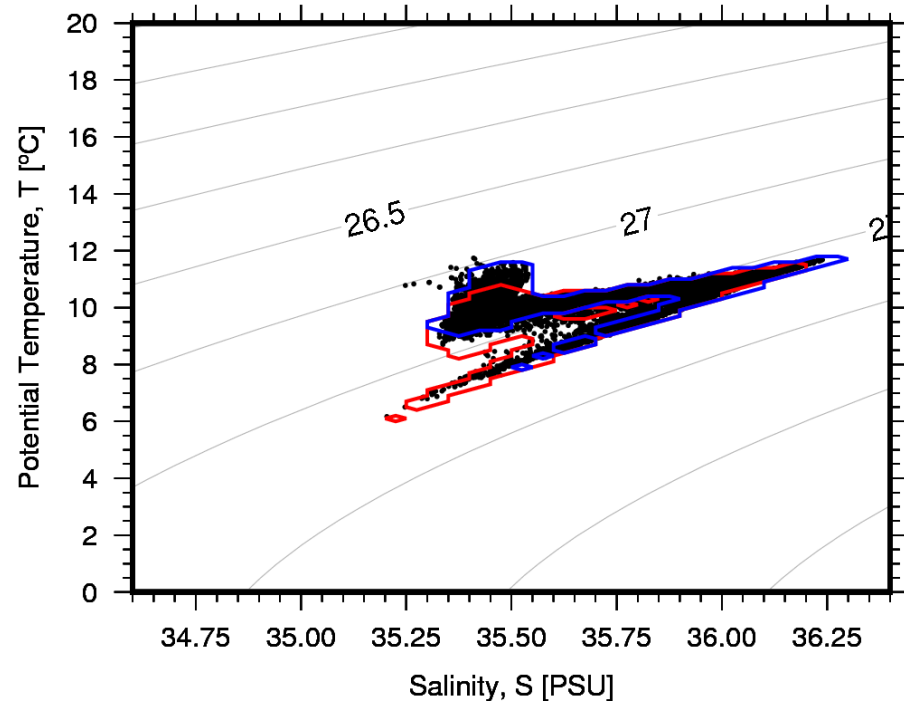
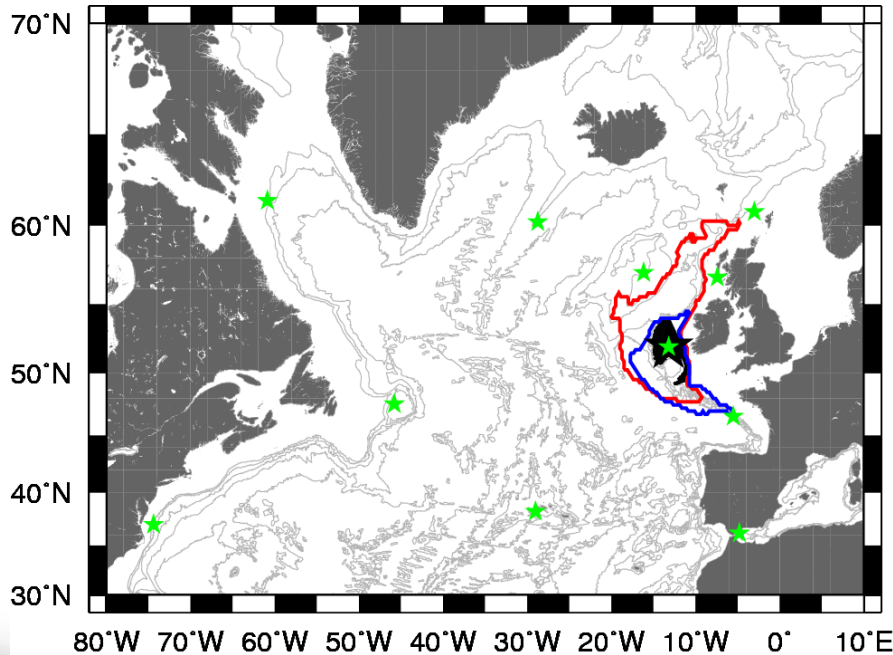
CS3: Rockall Bank



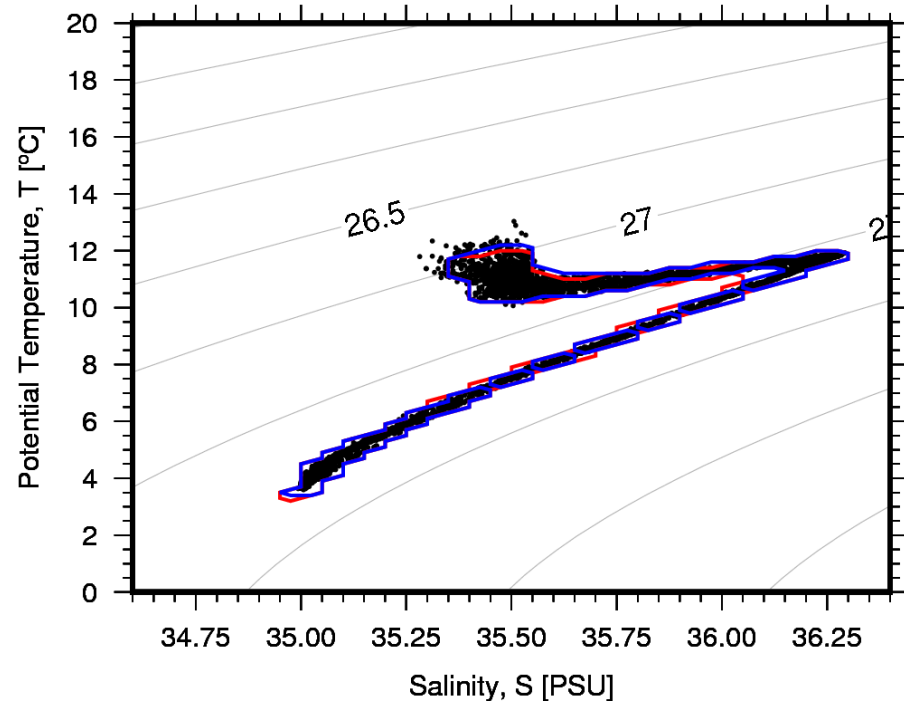
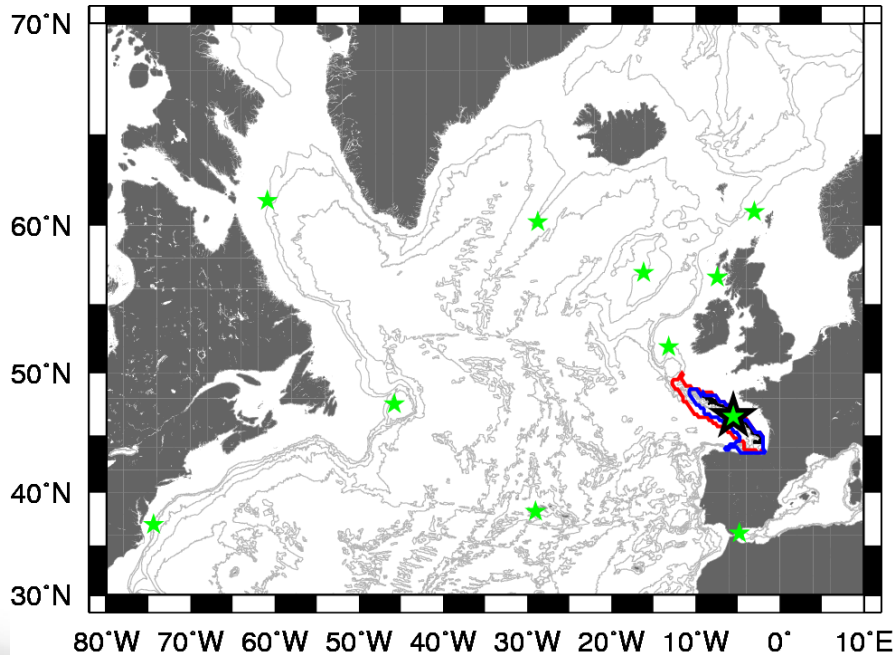
CS4: Mingulay Reef Complex



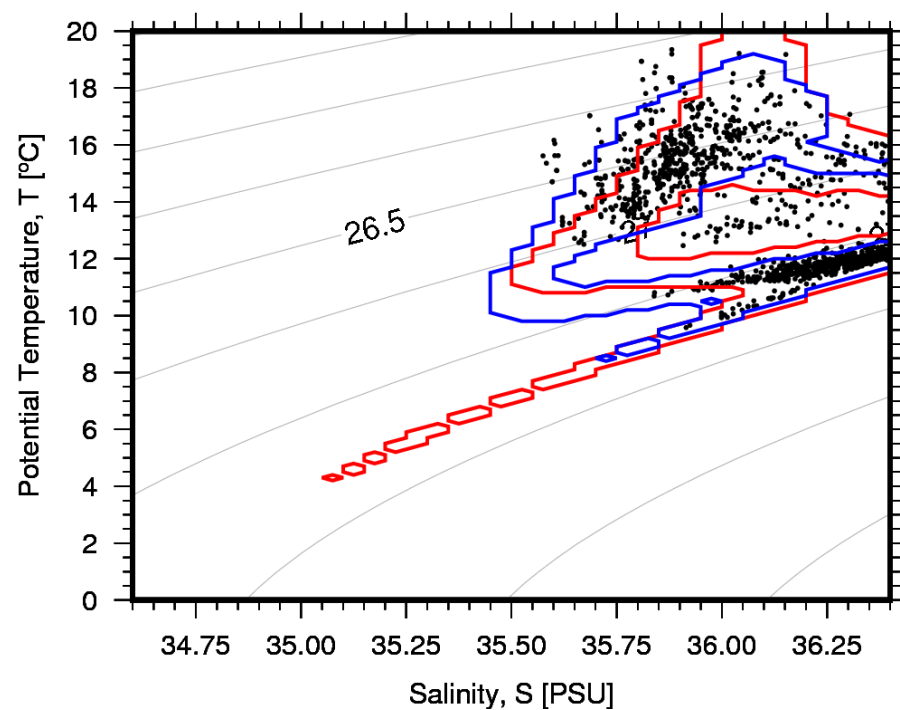
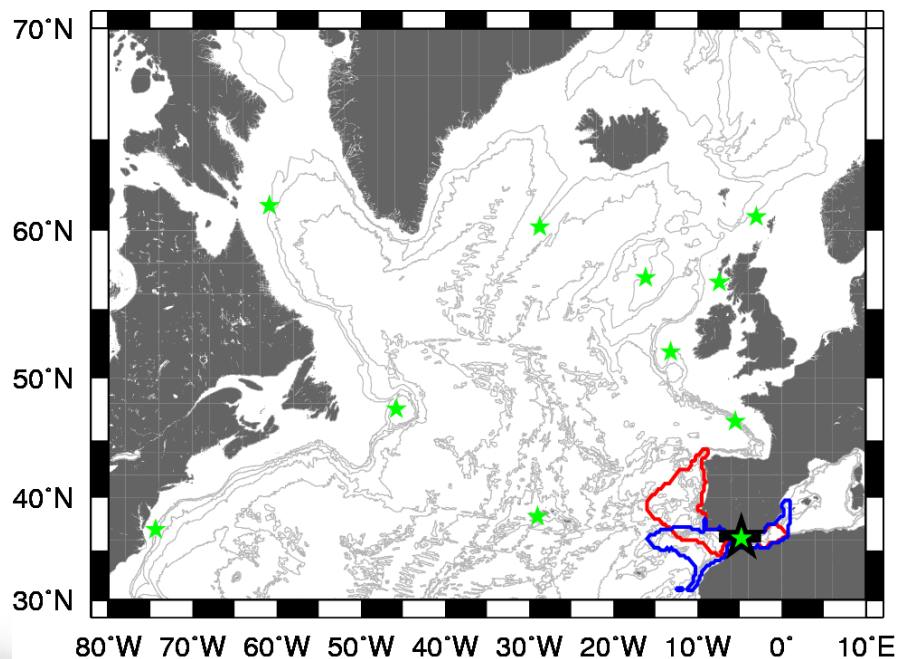
CS5: Porcupine Seabight



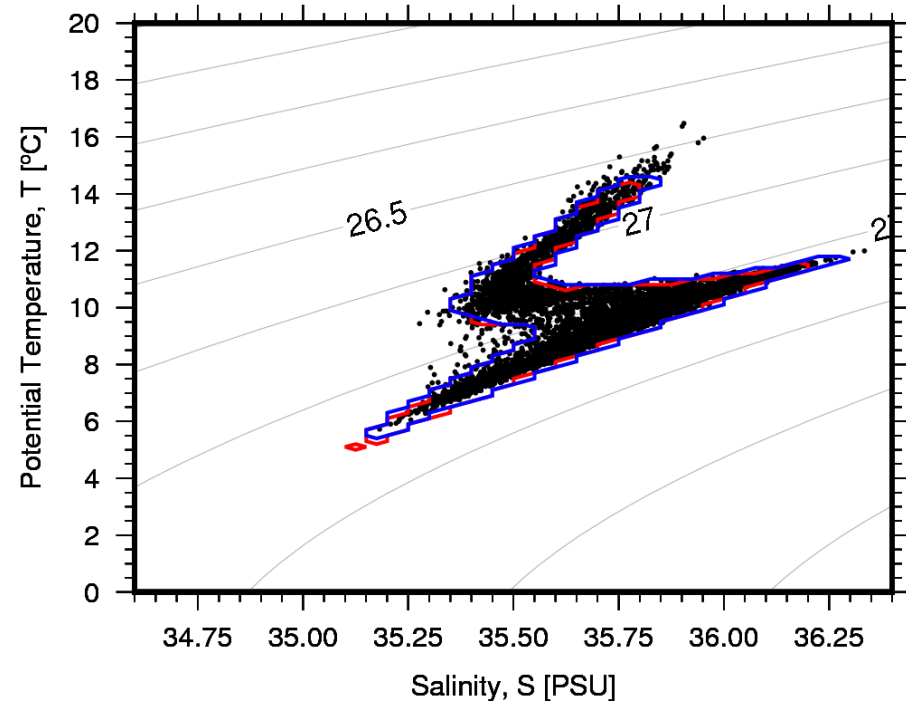
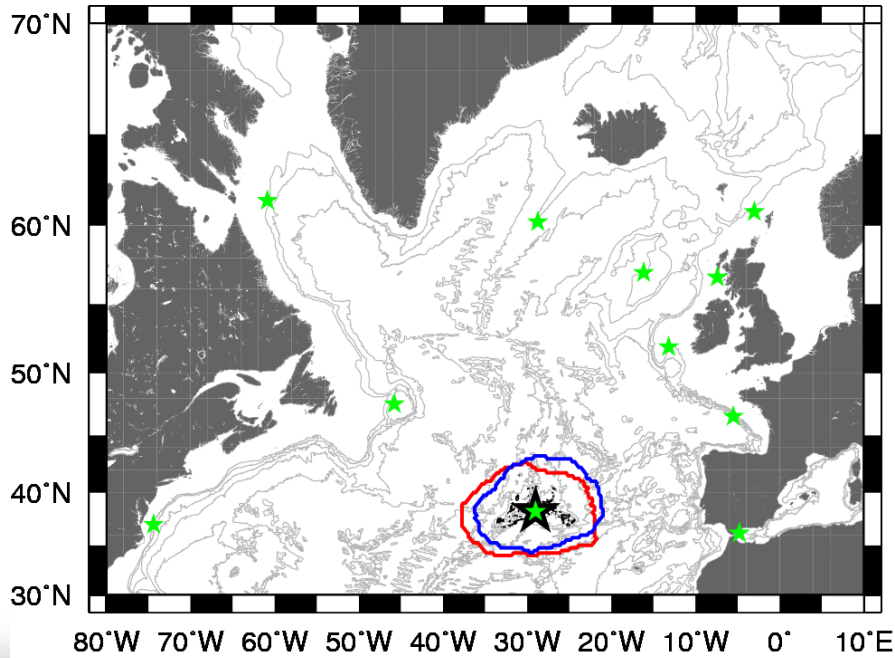
CS6: Bay of Biscay



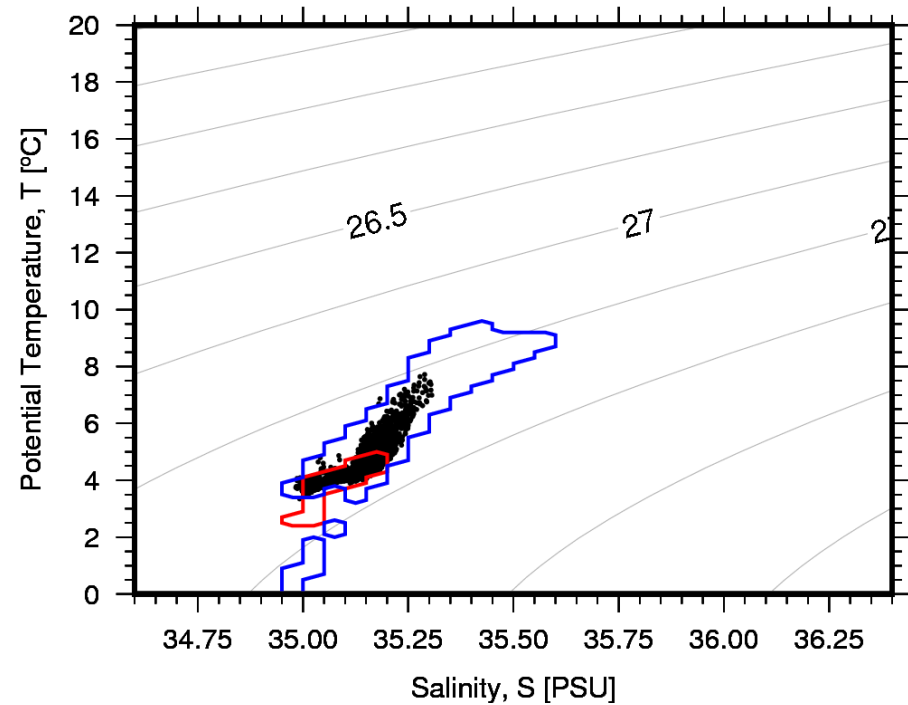
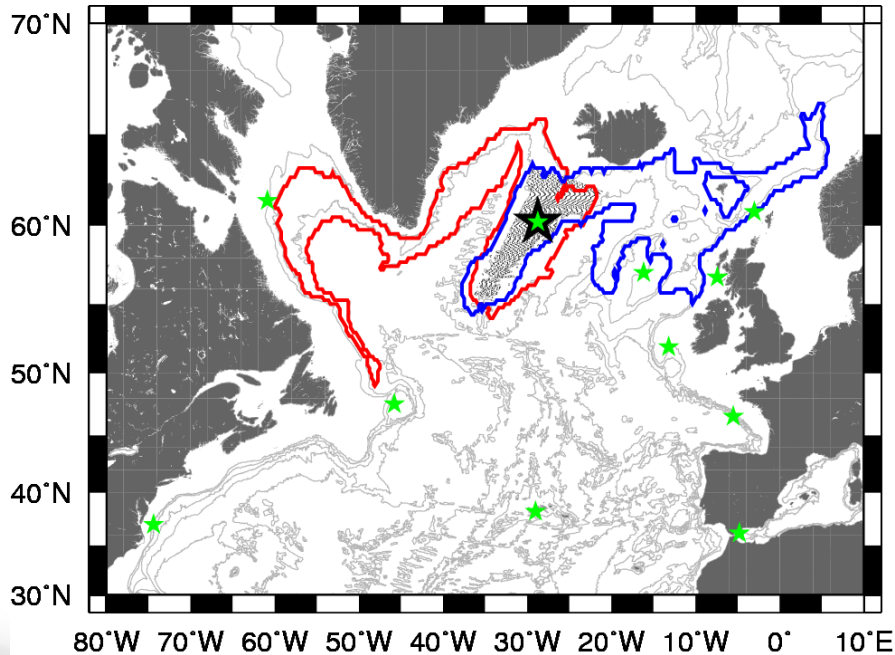
CS7: Gulf of Cádiz/Strait of Gibraltar/Alborán Sea



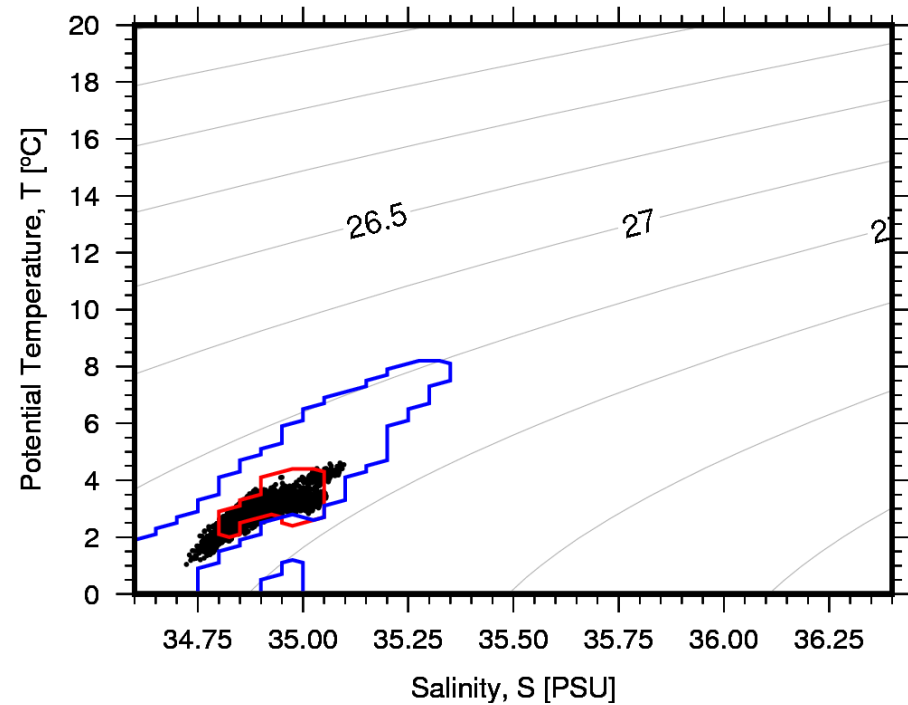
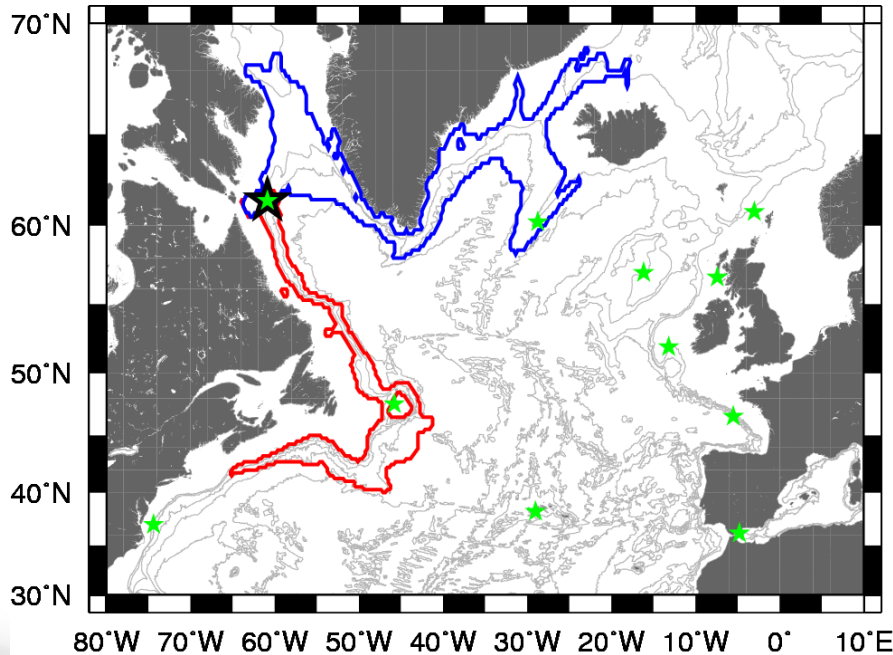
CS8: Azores



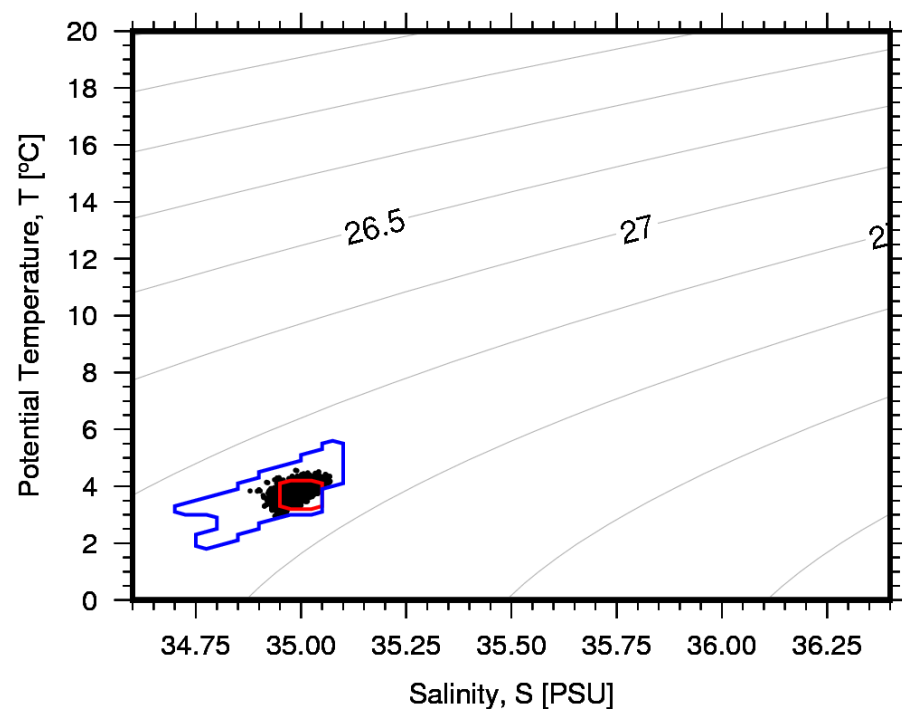
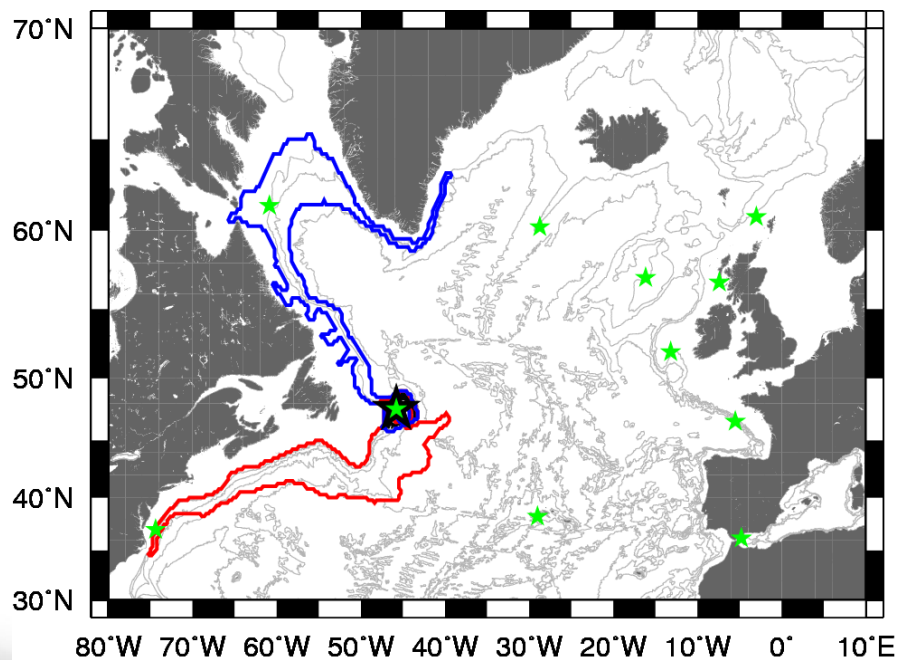
CS9: Reykjanes Ridge



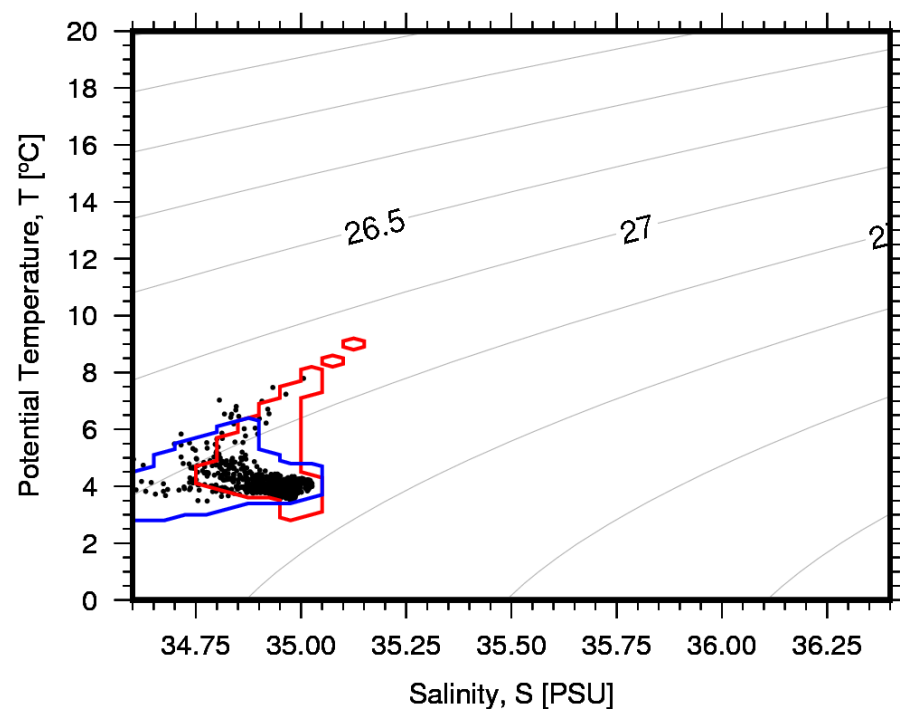
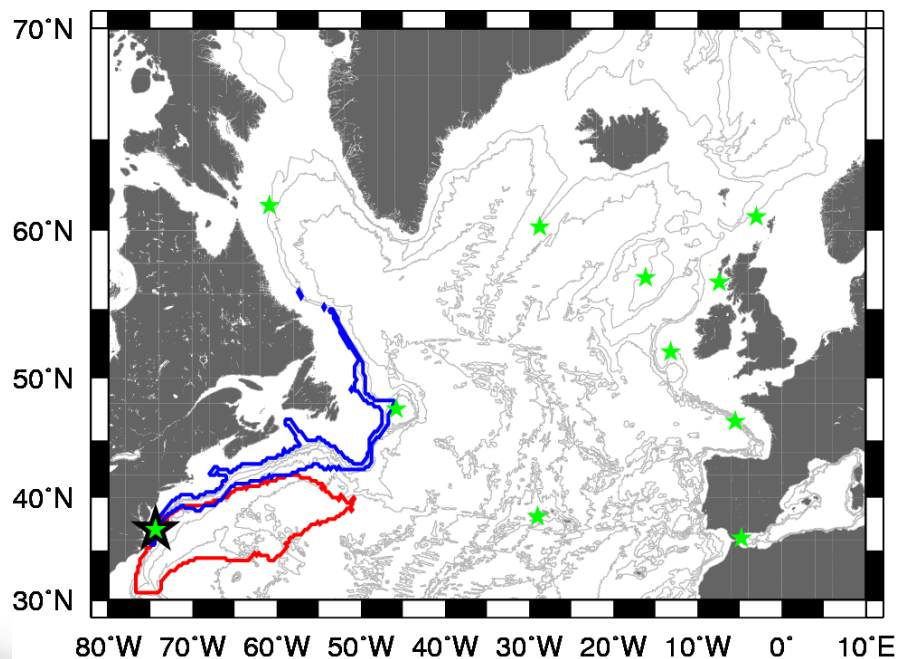
CS10: S Davis Strait/Western Greenland/ Labrador Sea



CS11: Flemish Cap



CS11: SE USA (Bermuda transect)



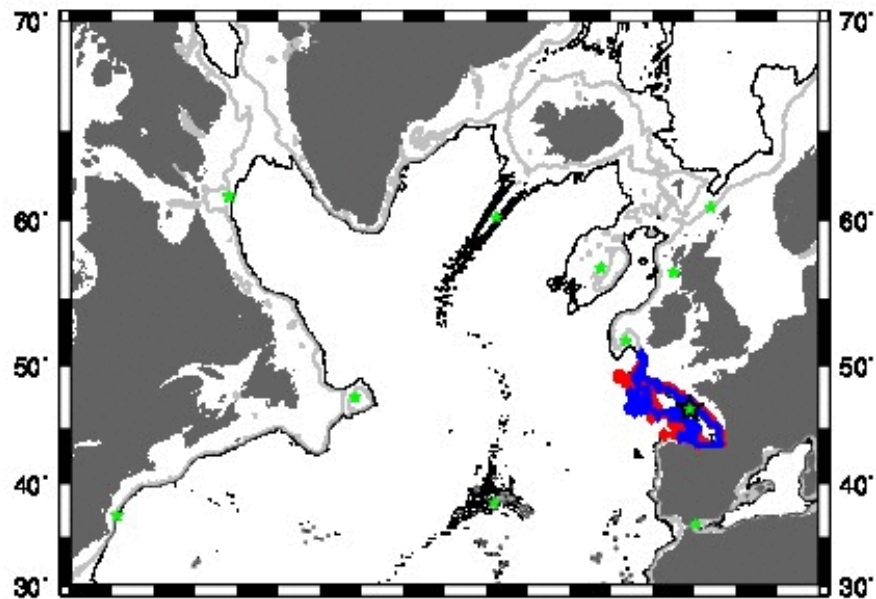


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Variability

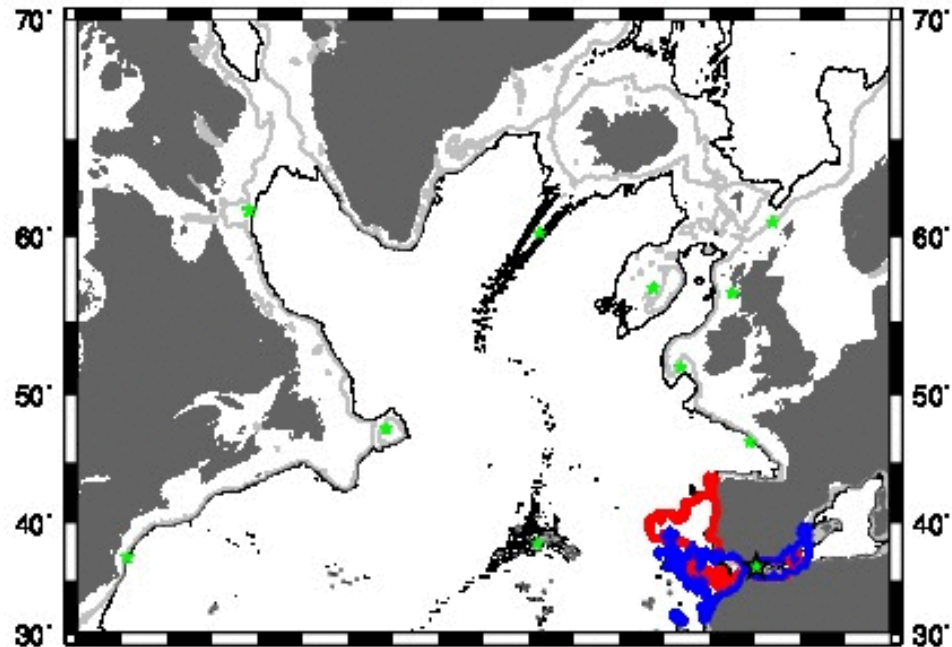
CS6: Bay of Biscay

1959.0137



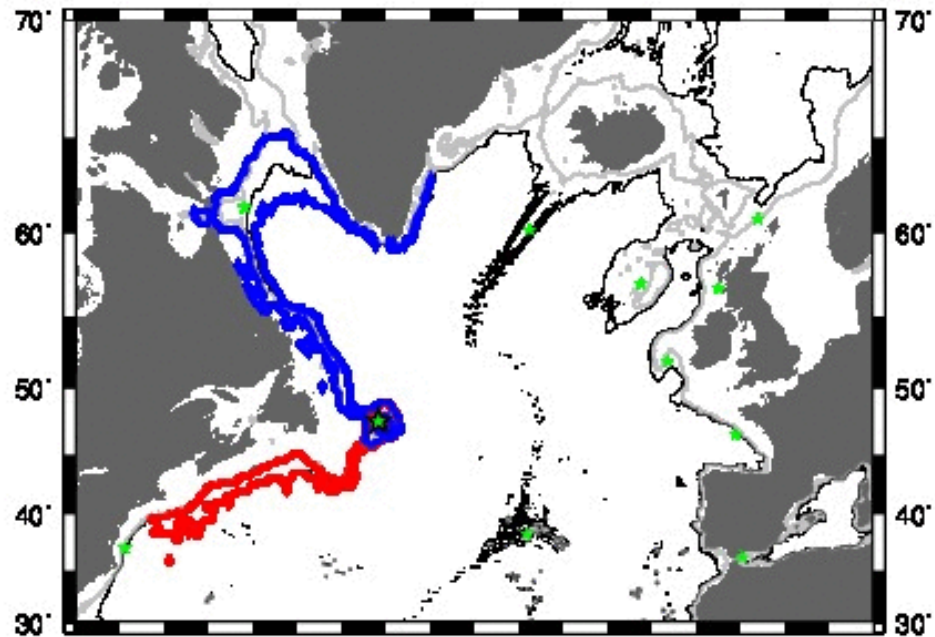
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CS11: Flemish Cap

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CS4: Mingulay Reef Complex

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