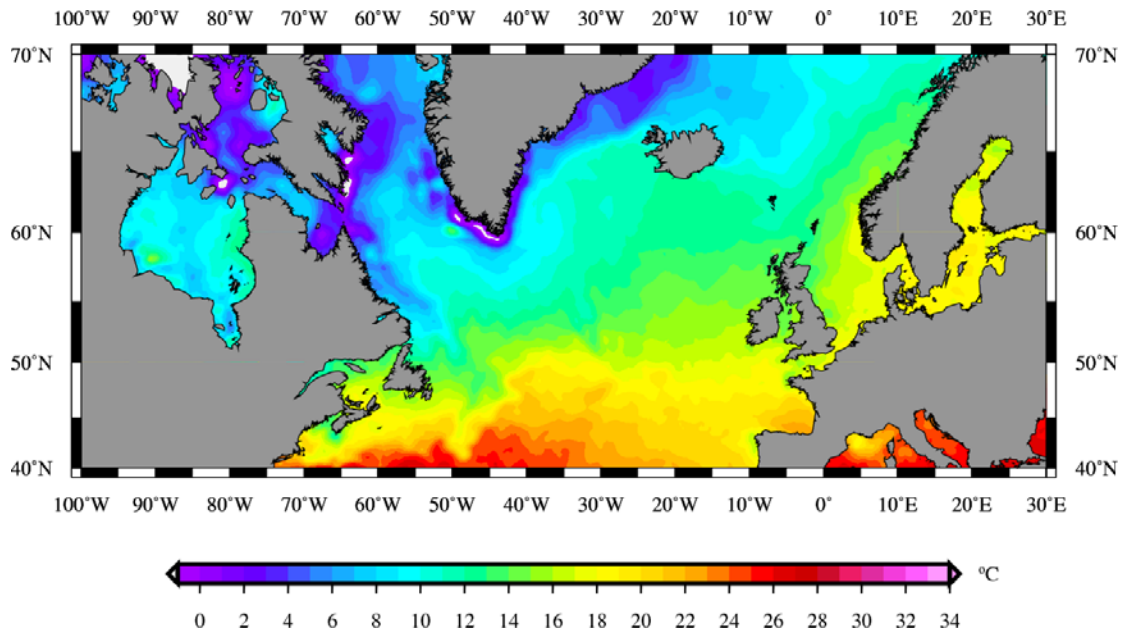


Sea surface temperature



Sea surface temperature 16. August 2006.

The image is part of the project Satellite Eye for Galathea 3 from which it is possible to access current images showing sea surface temperature in the region that the Galathea 3 expedition is visiting.

What can we see?

We see large temperature variations over 25°C from Cape Farewell to latitude 45°N where an arm of the Gulf Stream is flowing towards the west (later turning towards the south). Furthermore, we see a cool region in the Channel because strong tidal currents pull up cold water from the bottom to the sea surface. We also notice very large temperature gradients between the East Greenland Current and the Norwegian Coastal Current.

Along the east coast of Greenland we can see a wedge of cold water near the coast. This is the East Greenland Current which has its origin in the Arctic Ocean and flows south with very cold and relatively fresh water. The East Greenland Current transports also ice of arctic origin, called 'Storis', all the way down to the southern tip of Greenland and then northwards in the West Greenland Current.



It is interesting to see temperature differences along the same latitude between east and west in the North Atlantic Ocean. You may notice several degrees difference between sea surface temperatures near the Shetland Islands in comparison to the area near Southern Greenland even though the two locations are located at approximately the same latitude. This east-west difference is caused by the North Atlantic Current originating in the Gulf Stream and flowing east-northeast as a warm and salty current. Thus we find sea water in the northwestern part of the North Atlantic Ocean of arctic origin while water from the subtropics is found at the same latitude in the northeastern part of the North Atlantic Ocean.

Technical information:

The figure is constructed from satellite observations from several different satellites. While the infrared observations are limited by clouds, and as microwave observations have a coarse spatial resolution, it is necessary to make an interpolation of the data before we produce a sea surface temperature field in high resolution without gaps. To achieve this, the Danish Meteorological Institute (DMI) has developed a method that combines satellite data from various satellites and at various times, and use statistics to calculate a best guess for a sea surface temperature for each 5 kilometer for the entire North Atlantic Ocean.