

Weekly image: Week 16, 2007

The height of the Gulf Stream

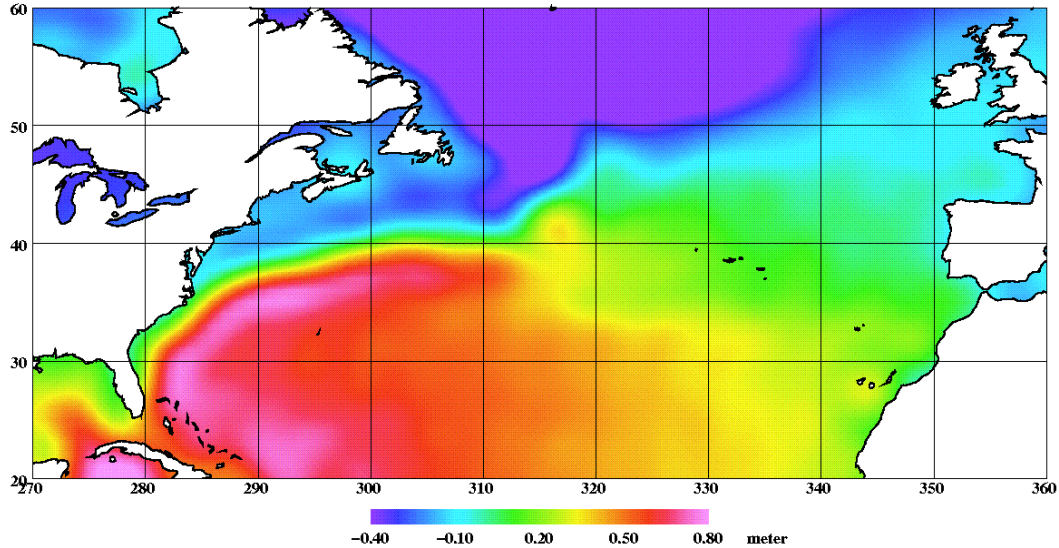


Fig.1 shows the mean height of the sea surface based on measurement by altimetry satellites over a ten years period. It shows how the Gulf Stream can be observed by satellite. When one is sailing from the central part of the Atlantic Ocean (the Sargasso Sea) towards the American coast you are actually sailing 1 ½ meter downhill. It is because the sea surface is higher in the central part of the Atlantic than near the coast and that the sea current keeps the water in the central part of the Atlantic.

The Gulf Stream is a powerful, warm, and swift Atlantic ocean current that originates in the Gulf of Mexico, exits through the Strait of Florida, and follows the eastern coastlines of the United States and Newfoundland before crossing the Atlantic Ocean.

The Gulf Stream is part of the big ocean conveyor belt also called the thermohaline circulation the name for the global ocean current that spans all the oceans of the planet.

Onboard the Vædderen scientists try to measure the sea surface height based on the exact position of the ship based on ultra precisely GPS observations.

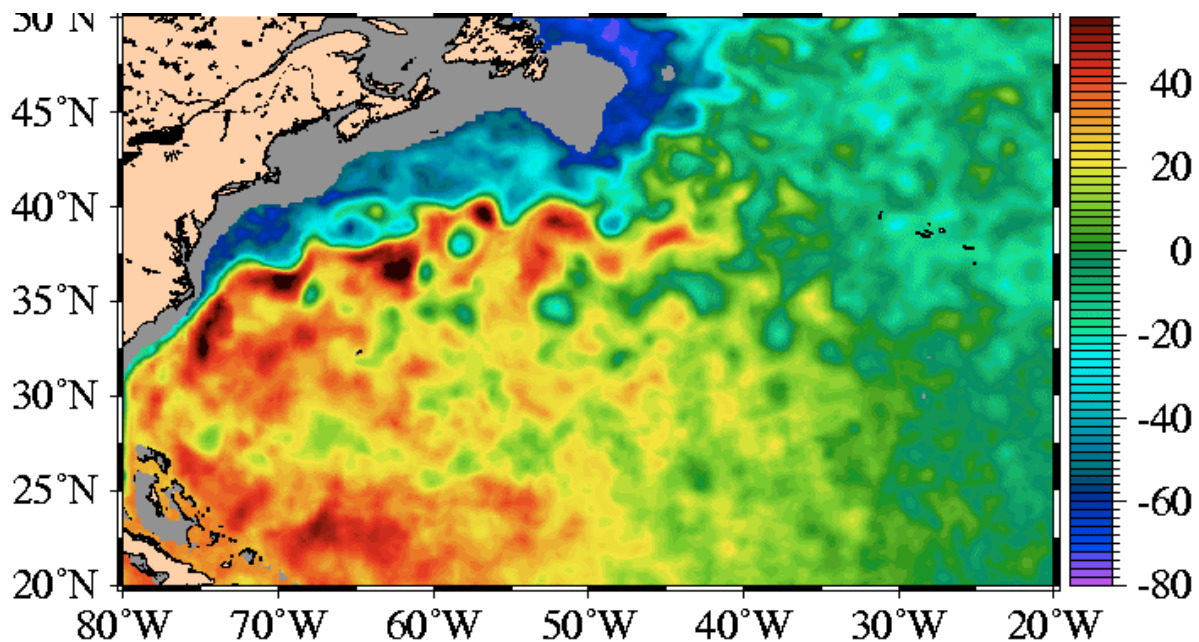


Fig. 2. Shows that the Gulf Stream is very dynamic. Therefore it meanders that is it wanders here and there around its mean direction. This can be seen in the image that is based on observations over a ten days period from the beginning of March 2006. It can be seen that the height variation across the Gulf Stream is almost identical with the image above but more details can be seen.

Technical information

The images are produced for Satellite Eye for Galathea 3 by the Danish National Space Center, DTU

<http://www.spacecenter.dk/>

Recent images Sea surface height anomaly can be fetched at <http://galathea.oersted.dtu.dk/GE.html> to be shown in Google Earth.

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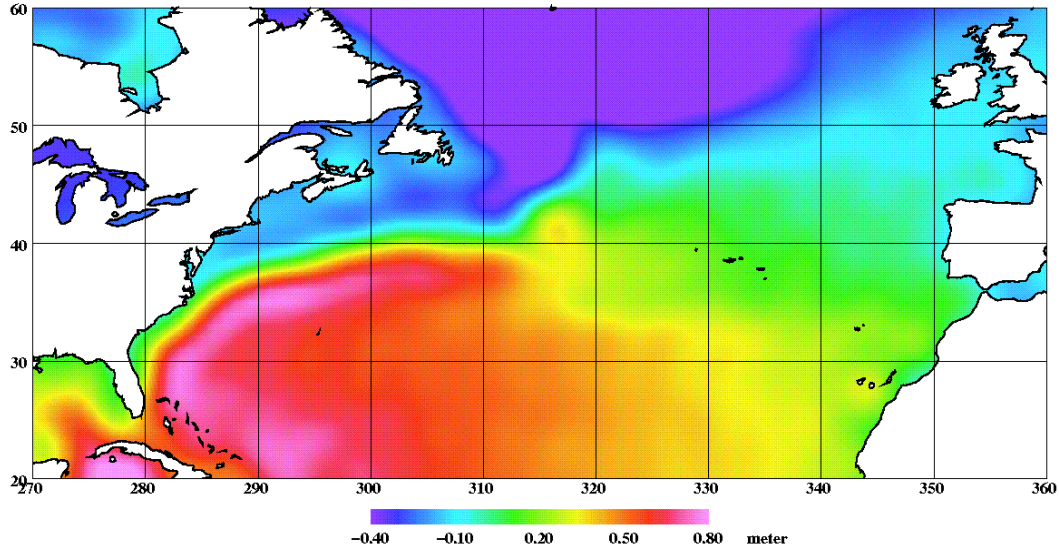


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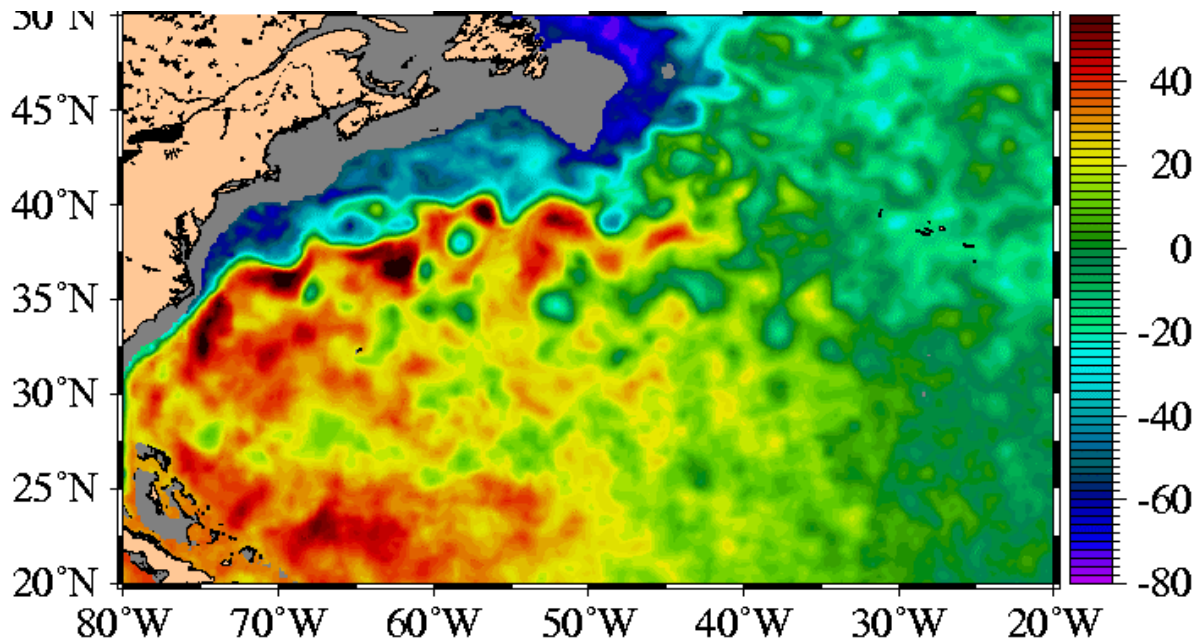


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