Geophysical Research Abstracts
Vol. 16, EGU2014-1162, 2014
EGU General Assembly 2014

The Results of Comparative Analysis of SST Satellite Monitoring Data and Data on the Distribution Density of Redfish in the Irminger Sea

George Vanyushin and Tatiana Bulatova
Russian Federal Research Institute of Fisheries and Oceanography, Russian Federation (ladimon@mail.ru)

The Results of Comparative Analysis of SST Satellite Monitoring Data and Data on the Distribution Density of Redfish in the Irminger Sea

G.P.Vanyushin and T.V. Bulatova
Russian Federal Research Institute of Fisheries and Oceanography (VNIRO),
Moscow, Russia
e-mail: ladimon@mail.ru

Abstract

Special interest for VNIRO experts was the attempt to use operational information of the sea surface temperature (SST) from meteorological satellites during the studies of environmental long-period fluctuations' influence on distribution and evaluation of redfish biomass in the North Atlantic.
As it is known, the direct of temperature conditions observations in the Irminger Sea are carried out only for 3 weeks every two years during the period of international surveys.
The advantage of this approach is the ability to conduct continuous satellite monitoring to obtain a quantitative assessment of the synoptic, month, seasonal and interannual variability of the temperature data compared with climate data (the ability to obtain the real sea surface temperature (SST) variations in "plus" or "minus" in the region of the ocean to the nearest tenth of a degree Celsius: from climatic data; from data for other months and seasons of the year for the same water area for the same period of time).
The satellite data "NOAA" and "Meteosat" were used to construct maps of SST. The quasi-synchronous measures of SST«in situ» from ships and buoys were used for verification of satellite data.
There have been analytical calculations of the average values of SST, average value of acoustic estimates of available stock of redfish biomass (SA), average value of SA and integral values of SA for the reference zone, as well as the average values of the SA only in those places of the reference area where the aggregations of redfish were found in the layer 0-500 m.
Revealed: the lower the value of SST is, the lower integral and average values of SA data is. In other words, the cooling of the sea surface temperature leads to a decrease in the density of clusters in the layer up to 500 m, and accordingly, to a decrease in the biomass estimated during international surveys in 2001-2011.
This once again confirms the decisive role of fluctuations in environmental conditions on estimates of red fish's biomass during recent years.

Key words: satellite monitoring of SST, the North Atlantic, the Irminger Sea, redfish biomass.