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Comparison of the Northeast Arctic cod year class strength (at the age of 3+) with the SST anomalies in main spawning ground (the Norwegian Shelf Waters) by results of analysis satellite monitoring data during last years.

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Abstract
Continuous long-term database (1998-2014) on the sea surface temperature (SST) comprising results of regional satellite monitoring (the Norwegian and the Barents seas) is used to resolve several applied problems. Authors have analyzed indirect influence the SST (the NOAA satellite data) on modern cod total stock biomass (abundance of the Northeast Arctic cod at age 3+). In this study, we went on the consideration of the relationship between the SST anomalies for March-April in the main spawning ground of the cod off the Lofoten islands in the Norwegian Shelf Waters and forecasting assessment of future cod generation success and its future abundance of 3 year old. Mean monthly SST and SST anomalies are computed for the selected area on the basis of the weekly SST maps which made by using the NOAA satellites data for the period 1998-2014. Comparison of the SST anomalies in the main spawning ground with abundance of the cod year class at age 3+ shows that survival of the cod generations was inhibited on the whole as negative (below -0,1C) well as positive SST anomalies (above +1,3C) during March and April. Finally, the results indicate that poor and low middle generations of cod at age 3+ (2002, 2004, 2010) occurred in years with negative or extremely high positive the SST anomalies in the spawning area. The SST anomalies in years which were close to normal significances provide conditions for appearance middle or strong generations of cod (2001-2003, 2005-2009, 2011-2013). So, the SST and SST anomalies (by the NOAA satellite data) characterize of increase in input of warm Atlantic waters which form numerous eddies along the main stream thus creating favorable conditions for spawning and development of the cod larvae and fry and provide them with food stock, finally direct influence on forming total stock biomass of cod and helping its population forecast.
Key words: satellite monitoring of SST, the Northeast Arctic cod, spawning ground, forecast of the cod year class strength at age 3+.