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Fourth Report of Joint Russian/German Project "Assessment of
Short-time Climatic Variations in the Labrador Sea"

by

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A Workshop consisting of V. A. Borovkov (PINRO, Murmansk, Russia), M. Stein (ISH, Hamburg, Germany) and E. A. Varlamova (PINRO, Murmansk, Interpreter) met at the Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk during 23-30 August 1999. Terms of references and agenda as formulated during the second meeting of this project formed the basis for this Workshop.

Preliminary Results

Data acquisition

By means of data sets, as acquired during the Third Workshop in Hamburg from the World Ocean Atlas 1994 (WOA94), and through the INTERNET pages:

<http://ingrid.ldgo.columbia.edu/SOURCES/.IGOSS>

<http://www.cdc.noaa.gov/Correlation/>

interannual variability of the slope trapped boundary currents along the Seal Island-Cape Farewell Section, as well as the temporal changes of sea surface temperature (SST) and North Atlantic Oscillation (NAO) Index correlation patterns in the Labrador Sea region were analysed.

Software acquisition

The most recent version (July 1999) of the OCEAN-DATA-VIEW 4.0 software (ODV 4.0.11), as provided by R. Schlitzer from the Alfred-Wegener-Institute for Polar and Marine Research, Bremerhaven, Germany through the INTERNET (<http://www.awi-bremerhaven.de/GPH/ODV>), was used. A special software was provided by M. Antsiferov (PINRO), to combine the monthly data sets of SST data

available from IGOSS at $1^{\circ} \times 1^{\circ}$ (Latitude/Longitude) fields (1982-1999) with December, January, February (DJF) NAO index (1981-1998). The results are given in Fig. 1.

Future activities

As indicated in the Third Report on the project meeting in Hamburg 1999, it is planned to publish the results in primary literature. First scientific results may be presented at the NAFO June 2000 meeting in Dartmouth, Nova Scotia, Canada. Compilation of results from the 1998 meeting in Murmansk, the 1999 meetings in Hamburg and in Murmansk, will be prepared for publication in the NAFO Journal. of Northwest Atlantic Fishery Science.

Future meetings

Provided funding will be available in future, the project scientists V.A. Borovkov and M.Stein suggest a prolongation of the scientific cooperation under the same project name. Necessary steps will be undertaken by both institutes to apply for the necessary funding. It would be desirable to have the next meeting in Hamburg, tentatively during 9 to 16 April, 2000.

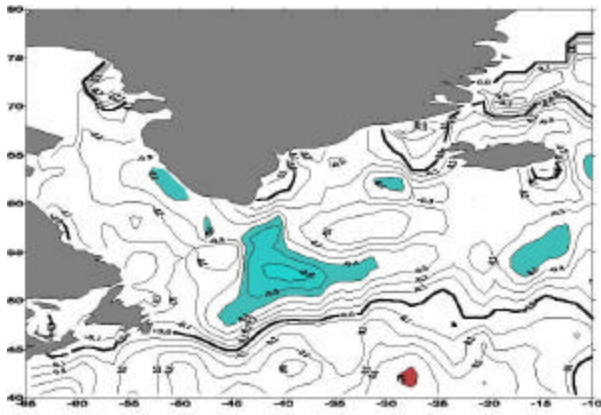
Requirements of future meetings

During this workshop it was noticed that unavailability of some standard software (e.g. WORD '97) hampers the work flow considerably. It is therefore desirable to have at least the standard software as provided by Microsoft Office '97.

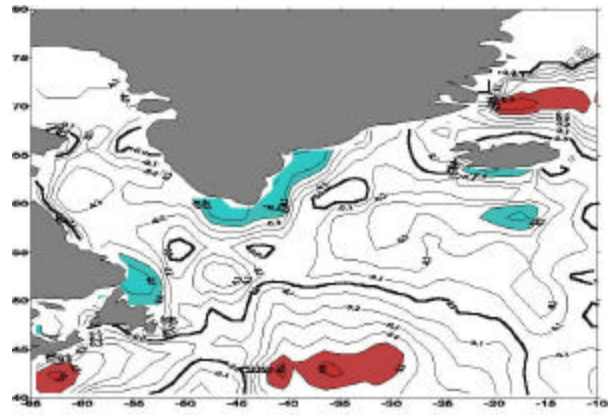
Acknowledgements

The members of the workshop appreciate the administrative help given by the director of Knipovich Polar Research Institute of Marine Fisheries and Oceanography (PINRO), Murmansk, Dr. F. M. Troyanowski and his staff.

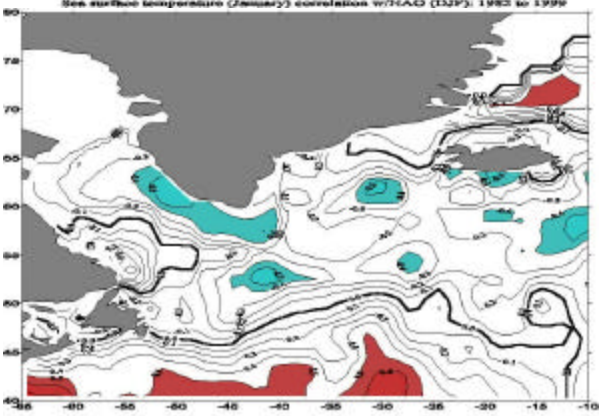
This project was funded by the "Programme of Cooperation between the Federal Republic of Germany and the Russian Federation in the field of Agriculture Research 1998/1999 (Project 74)".



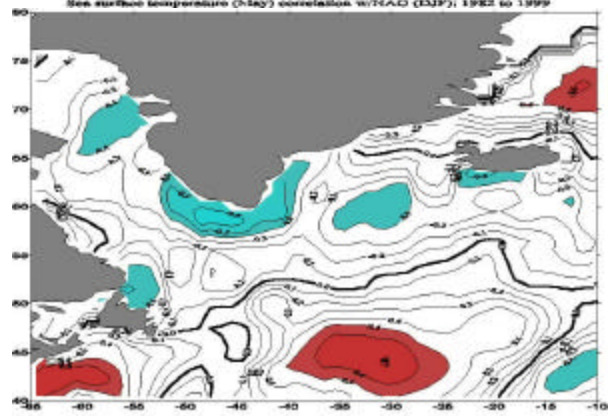
Sea surface temperature (January) correlation w/NAO (DJF): 1982 to 1999



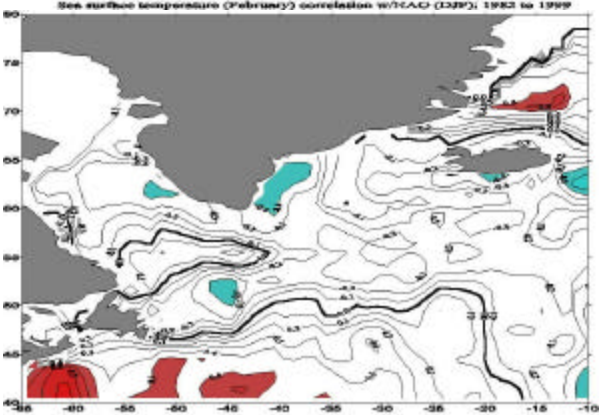
Sea surface temperature (May) correlation w/NAO (DJF): 1982 to 1999



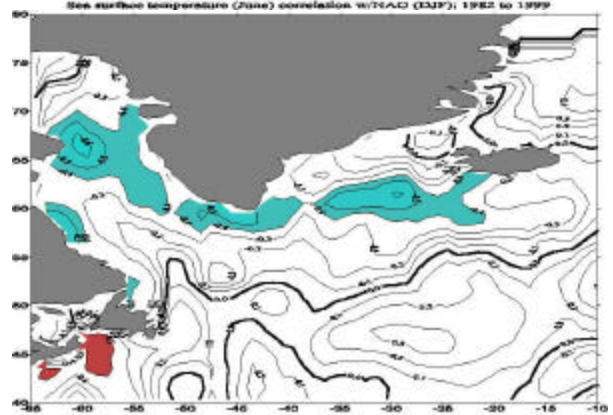
Sea surface temperature (February) correlation w/NAO (DJF): 1982 to 1999



Sea surface temperature (June) correlation w/NAO (DJF): 1982 to 1999



Sea surface temperature (March) correlation w/NAO (DJF): 1982 to 1999



Sea surface temperature (July) correlation w/NAO (DJF): 1982 to 1999

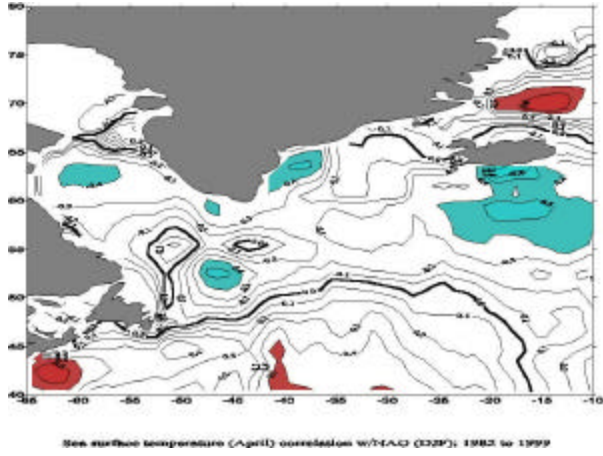


Fig. 1. Monthly SST's (January-July, 1982-1999) / DJF NAO correlation