



## Review

of the *member* of the dissertation council Danling Tang for the dissertation of Novoselova Elena Vladimirovna on the topic: «Mesoscale vortex dynamics of the Lofoten basin», submitted for the degree of *candidate* of geographical sciences (*candidate* of sciences in geography) in scientific speciality 1.6.17. Oceanology.

**The relevance** of Novoselova's dissertation work is unquestionable. Mesoscale vortices have a significant impact on horizontal and vertical water exchange, affecting the spatial distribution of oceanological parameters, mention, Mesoscale vortices also have a significant impact on bioproductivity. This study of mesoscale vortices carried out a comprehensive analysis of mesoscale variability in the Lofoten basin, it gives an idea of whole systems of interconnected oceanic characteristics and it can be one of the most important tasks of ocean hydromechanics.

**The main objective** of the dissertation is to investigate the spatial, seasonal, and interannual mesoscale eddy variability in the Lofoten Basin.

Within the scope of this dissertation research, a comprehensive analysis of mesoscale variability in the Lofoten Basin has been conducted. The theoretical significance of this work lies in advancing fundamental knowledge about oceanic physical processes. The Lofoten Basin stands as a crucial area for the transit of warm Atlantic waters. Hence, studying its dynamics facilitates a better understanding of the ocean-atmosphere interaction and their role in climate change. The practical significance of the dissertation resides in the development and synthesis of fundamental methods for processing and interpreting data, using the Lofoten Basin as an example. This will enable addressing fundamental and applied ocean research questions at a qualitatively new level.

The dissertation is a scientific qualification work that resolves a scientific problem important for the development of the relevant field of science.

Considering the above, I believe that *Novoselova Elena Vladimirovna*'s dissertation on the topic: «Mesoscale vortex dynamics of the Lofoten basin» meets the requirements of speciality 1.6.17. Oceanology.

A few comments can be noted:

- 1) There are a few grammatical mistakes in the English text.
- 2) The author predominantly relies on one data source in their research, namely the Global Ocean reanalysis GLORYS. It would be beneficial to see a greater diversity of data being used.

No violations of paragraphs 9 and 11 of the Order No.11181/1 as of November 19, 2021 "On the Procedure for Awarding Academic Degrees at St. Petersburg State University" have been detected.

The dissertation meets the criteria of dissertations for the academic degree of candidate of sciences, established by the specified Order. The dissertation is recommended for the defense at St. Petersburg State University.

Member of the dissertation council

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*Danling 2023*

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