SECTION: Earth Science

SCIENTIFIC ORGANIZATION: Russian State Hydrometeorological University

REPORT FORM: "Oral report"

AUTHOR(S) OF THE REPORT: I. Kozlov, V. Kudryavtsev, B. Chapron, A. Zimin, E. Zubkova, D. Romanenkov, A. Atadzhanova, A. Myasoedov

SPEAKER: Igor Kozlov

REPORT TITLE: Satellite observations of internal waves in the Russian Arctic seas

TALKING POINTS:
Internal waves (IW) are important dynamical features significantly impacting the hydrology of the upper ocean through transferring the energy from tides to turbulent mixing. In the Arctic seas they are particularly important for sub-marine navigation and construction, formation of the water structure and the maintenance of the life activity in marine ecosystems.

In this study we present the results of IW observations in the White, Barents and Kara seas based on satellite Synthetic Aperture Radar (SAR) measurement during the summer periods between 2007 and 2012. Comprehensive analysis of about 1000 SAR images reveals main regions of IW generation and propagation, their detailed spatial and temporal characteristics (Zimin et al., 2014; Kozlov, 2008; Kozlov et al., 2010; Kozlov et al., 2014). The regions where large-scale nonlinear IWs are observed with amplitudes 20-40 m, wavelength up to 2-4 km and front length exceeding 200 km are specifically outlined.

Core support of this research was provided by Russian Government via Mega-Grant No. 11.G34.31.0078. IK, EZ and AM also acknowledge the support from RFBR, research project No. 14-05-31423 mol_a.

References:


