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The German SMOS project office - CAL/VAL activities

A. Tittebrand (1), D. Stammer (1), and S. Dransfeld (2)

(1) Institute of Oceanography, University of Hamburg, ZMAW, Hamburg, Germany (antje.tittebrand@zmaw.de), (2) ESA, Frascati, Italy

The SMOS remote sensing mission planned to be launched in July 2009 is part of the opportunity missions of the European Space Agency's (ESA) Earth Explorer programme. The role of the German SMOS project office (funded by the BMBF/DLR) is to inform the scientific community and the public about the current mission status as well as to promote the use of the SMOS data products within Germany.

Within the framework of the project office scientific studies for the calibration and validation (cal/val) of the SMOS data are also supported. Our work includes the analysis of model-, shiptrack- and climatology determined salinity data as well as satellite, drifter and float measurements. The first comprehensive in situ data set suitable for global investigations of SSS characteristics is that provided by ARGO temperature and salinity profiles since 2000. The global ARGO float system (Gould et al., 2004) consisting of 3000 floats that provide temperature and salinity profiles, globally, from the top 2000 m every 10 days on approximately a 3 degree global grid. For our study we extract the near-surface values from ARGO salinity and temperature profiles to form a data set of near-surface salinity and temperature covering the years 2002 until 2008. All those ARGO data points are located at a depth of 0 to 5 m. Of importance for the justification of the SMOS mission is the deviation of the Argo-Measurements from climatologies, based on the bulk of the past global in situ salt content measurements, which renders the temporal condition of world oceans. Additionally a deployment of 25 drifters is planned in parallel to the SMOS launch, collecting data of temperature and salinity in the GIN SEA and the western Pacific.