SSS Arctic product version 2 is available

Seven years (2011–2017) of 25 km nine-day Soil Moisture and Ocean Salinity (SMOS) Sea Surface Salinity (SSS) objectively analyzed maps in the Arctic and sub-Arctic oceans (50◦ N–90◦ N) are now available It is available through our FTP service.

Discharge of Mackenzie river captured by BEC Arctic SSS product

The new SMOS SSS maps are an improved version of the preliminary three-year dataset generated and freely distributed by the Barcelona Expert Center. In this new version, a time-dependent bias correction has been applied to mitigate the seasonal bias that affected the previous SSS maps. An extensive database of in situ data (Argo floats and thermosalinograph measurements) has been used for assessing the accuracy of this product. The standard deviation of the difference between the new SMOS SSS maps and Argo SSS ranges from 0.25 and 0.35. The major features of the inter-annual SSS variations observed by the thermosalinographs are also captured by the SMOS SSS maps. However, the validation in some regions of the Arctic Ocean has not been feasible because of the lack of in situ data. In those regions, qualitative comparisons with SSS provided by models and the remotely sensed SSS provided by Aquarius and SMAP have been performed. Despite the differences between SMOS and SMAP, both datasets show consistent SSS variations with respect to the model and the river discharge in situ data, but present a larger dynamic range than that of the model. This result suggests that, in those regions, the use of the remotely sensed SSS may help to improve the models.

A complete description of the methodology used in the generation of this product and a quality assessment can be

found in Olmedo et al, 2018, RS (available in https://www.mdpi.com/2072-4292/10/11/1772).