SSS variability inferred from recent SMOS reprocessing at CATDS

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The Soil Moisture and Ocean Salinity (SMOS) satellite mission has monitored sea surface salinity (SSS) over the global ocean for over 7 years. In this poster, we present results obtained at the LOCEAN/ACRI-st expertise center using recent CATDS (Centre Aval de Traitement des Données) SMOS RE05 reprocessing., We find that correction for systematic errors and removal of data contaminated by ice and radio frequency interferences in fresh regions (river mouths, high latitudes) has been improved with respect to SMOS CATDS RE04 reprocessing.

We analyze SSS variability as observed by SMOS on a wide range of spatial and temporal scales using various statistical indicators such as mean, median, standard deviation, minimum, maximum values and spectral analysis. We compare them with ARGO interpolated fields (In Situ Analysis System fields) at global scale and with ship SSS transects from the GOSUD and ORE SSS data base. This allows us 1) to demonstrate and quantify the improvement of SMOS SSS fields with respect to earlier versions and 2) to study SSS variability, especially at spatial scales between 50km and 600km not well covered globally by in situ network. The complementarity of this information with respect to SMAP (Soil Moisture Active Passive) SSS fields will be discussed.