12. Salinity Drifters in the Subtropical North Atlantic – SPURS Experiment "Salinity Processes in the Upper Ocean Regional Study"

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Abstract: The SPURS experiment is designed to better understand the hydrological cycles of the earth planet and its evolution on different time scales. The principal questions asked are : how well do we know the evaporation from the world oceans, and can appropriate surface salinity field or satellite measurements contribute to closing this budget? The focus will be on one area of the subtropical North Atlantic (centered near 38°W/26°N) close to the climatological maximum of the surface salinity distribution, and for a period of roughly a year. The spatial scales investigated will be from the large scales (1000 km) to the satellite foot-print (from the Aquarius and SMOS satellite mission) on the 50-200 km scale, and to the sub-meso scales of a few to 10 km. We will briefly present the implementation plan of the experiment and the in situ array, which will in particular include on the order of 100 SVP salinity-measuring drifters. We will first present these drifters, and the preliminary work done in the last few years to evaluate the different drifter models, their working-life expectancies and the accuracy of the drifter data (in particular with the GLOSCAL CNES-supported effort, German (ZMAW/IFM-Hamburg) and Spanish (ICM/CSIC, Barcelona) SMOS drifter programs for the SMOS calibration-validation phase). We will also discuss new prototypes developed to improve long-time performance (R. Schmitt, WHOI) or measure wave spectra (S. Morisset, LOCEAN). Then, we will present the SPURS drifter deployment strategy, and how we plan to use the opportunity of this intensely observed region for surface salinity to further qualify the drifter observations, both their salinity, but also their temperature or other ancillary measurements.