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Sea surface salinity from Drifter observations in the hottest and coldest regions of the global ocean

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Sea surface salinity is seldom measured at the very surface, most measurements are at several meters depth by CTD station sondes, Argo profilers or from thermosalinographs in ship hulls. Little is known about the variability of salinity in the uppermost meter of the ocean. This is also a lack of data for validation of the two satellite missions SMOS and Aquarius.

25 Surface drifters were equipped with a salinity sensor at about 40 cm depth and gathered up to 1.5 years of data in one of the coldest and one of the hottest regions of the world's ocean: in the subtropical SouthWest Pacific and in the North Atlantic. The salinity sensors were quite stable during the measurement period as far as one can say from comparison with Argo- and TSG measurements nearby. Statistics of the salinity variability in the mostly non-rainy regions are presented and validation of the SMOS and Aquarius satellite data is attempted with these 2 spots of in situ salinity measurements, taking into account of the temporal and spatial variability as well as the different measuring approaches.