

EGU22-13538

<https://doi.org/10.5194/egusphere-egu22-13538>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



## Surface salinity maximum in the western boundary of the Tropical Atlantic as observed from SMOS salinity maps

**Paola Castellanos**<sup>1</sup>, Estrella Olmedo<sup>2</sup>, Edmo Campos<sup>3</sup>, Wladimir Santis<sup>3</sup>, and Joaquim Dias<sup>1</sup>

<sup>1</sup>Marine and Environmental Sciences Centre, University of Lisbon, Portugal

<sup>2</sup>Institut de Ciències del Mar, CSIC, Spain

<sup>3</sup>Instituto Oceanográfico da Universidade de São Paulo, Brasil

The spatiotemporal evolutions of sea surface salinity measurements from the SMOS satellite reveal presence of a local salinity maximum in the northwestern tropical Atlantic beginning in September increasing with a Maximum in October and disappearing in January. Its structure and variability are analyzed through SMOS SSS daily products derived with advanced techniques developed at the Barcelona Expert Centre during 9 years. The results are compared with in situ data along the North Brazil Current (NBC) from the Prediction and Research moored Array in the Tropical Atlantic - PIRATA program. This seasonal tropical SSS maximum, produces the salty signature Northward of the NBC, which is seen as a localized salinity maximum on satellite imagery, in contrast to the fresh signature present in summer-early fall. These changes suggest a change in the composition of water masses that enter in the South Atlantic contributing to an alteration in the dynamics of global circulation.