

Sea Surface Salinity Response to Tropical Cyclones based on Satellite

Observations

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Supplementary Figures

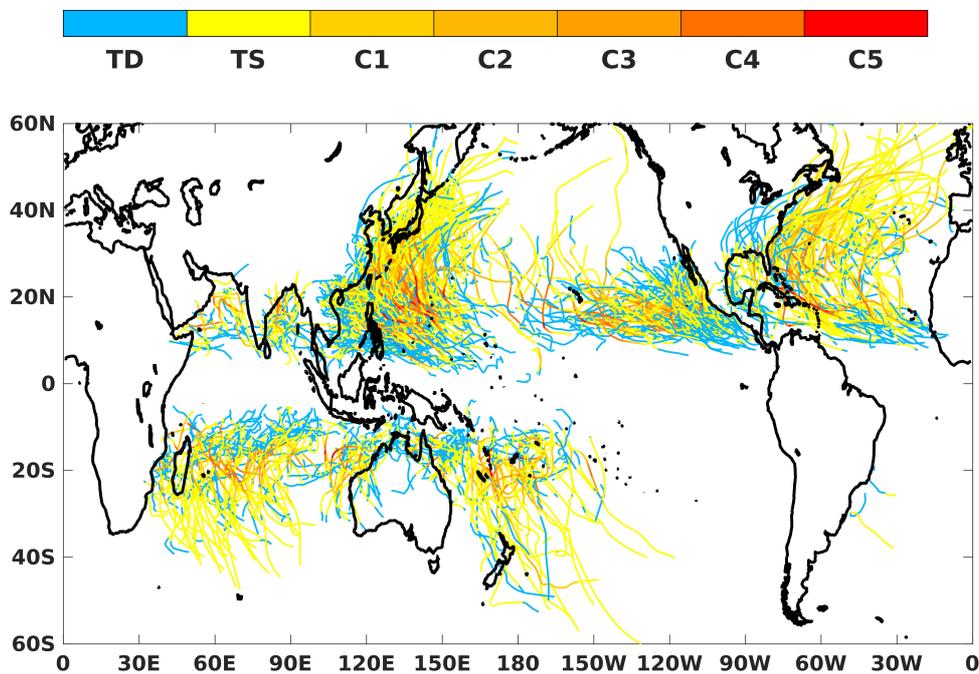


Figure S1. Global TC tracks during the period 2010-2019, from IBTrACS data.

Colors indicate the TC category based on the Saffir-Simpson scale from Tropical Depression to Category 5.

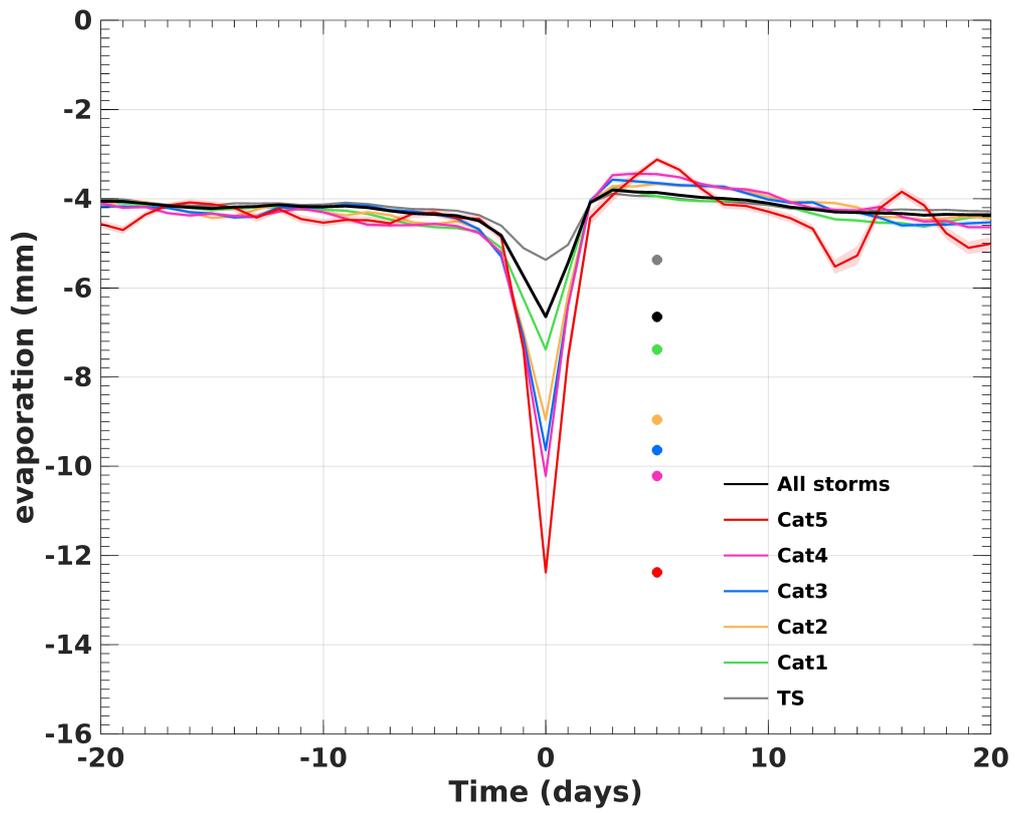


Figure S2. Lagrangian composite of daily accumulated evaporation during the same period with Figure 2, from ERA5.

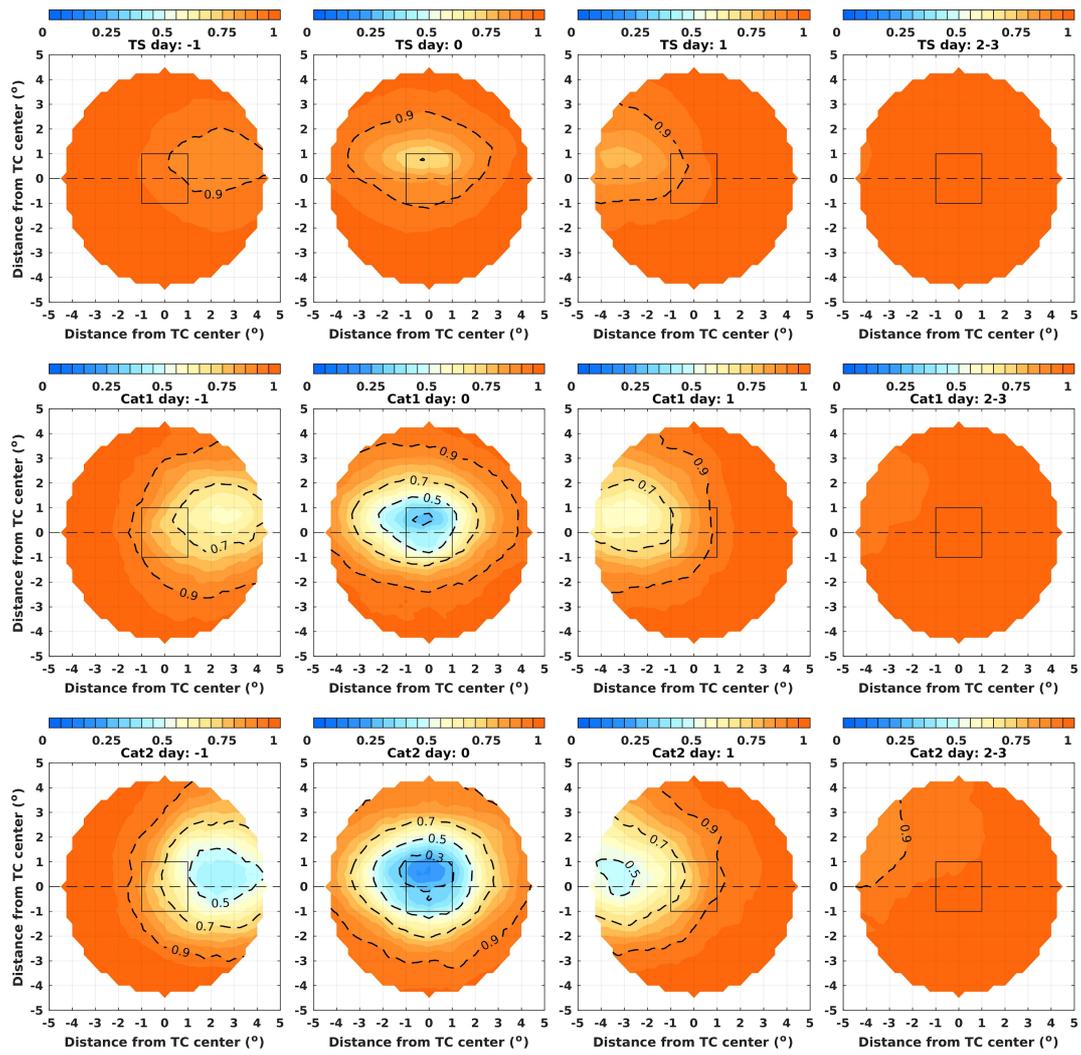


Figure S3. The percentage of the SSS pixels retained for TS, Category 1 and Category 2 TCs after removing the SSS associated with the surface wind speed higher than 15 m s^{-1} from the SMAP L2C swath daily data.

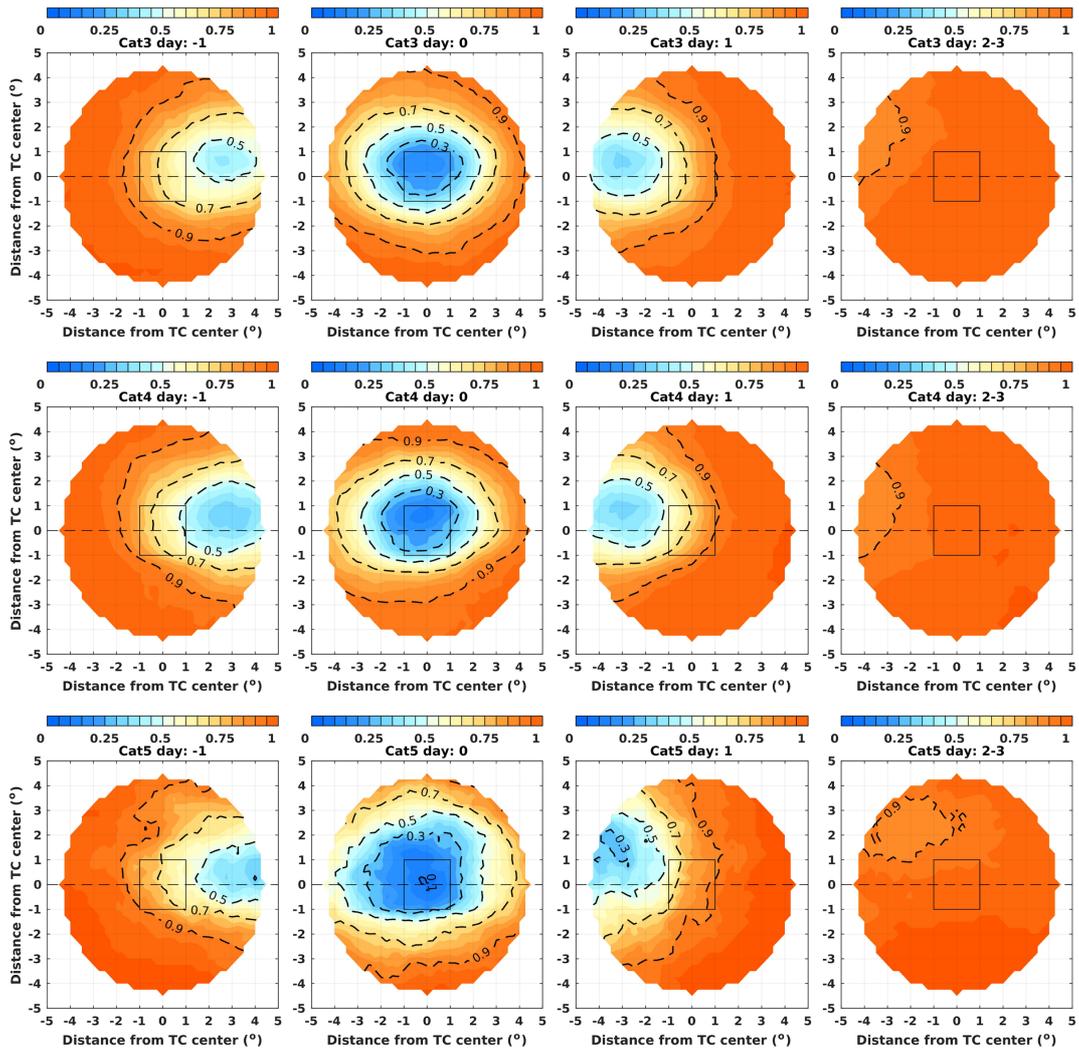


Figure S4. The percentage of the SSS pixels retained for Categories 3 to 5 TCs after removing the SSS associated with the surface wind speed higher than 15 m s^{-1} from the SMAP L2C swath daily data.

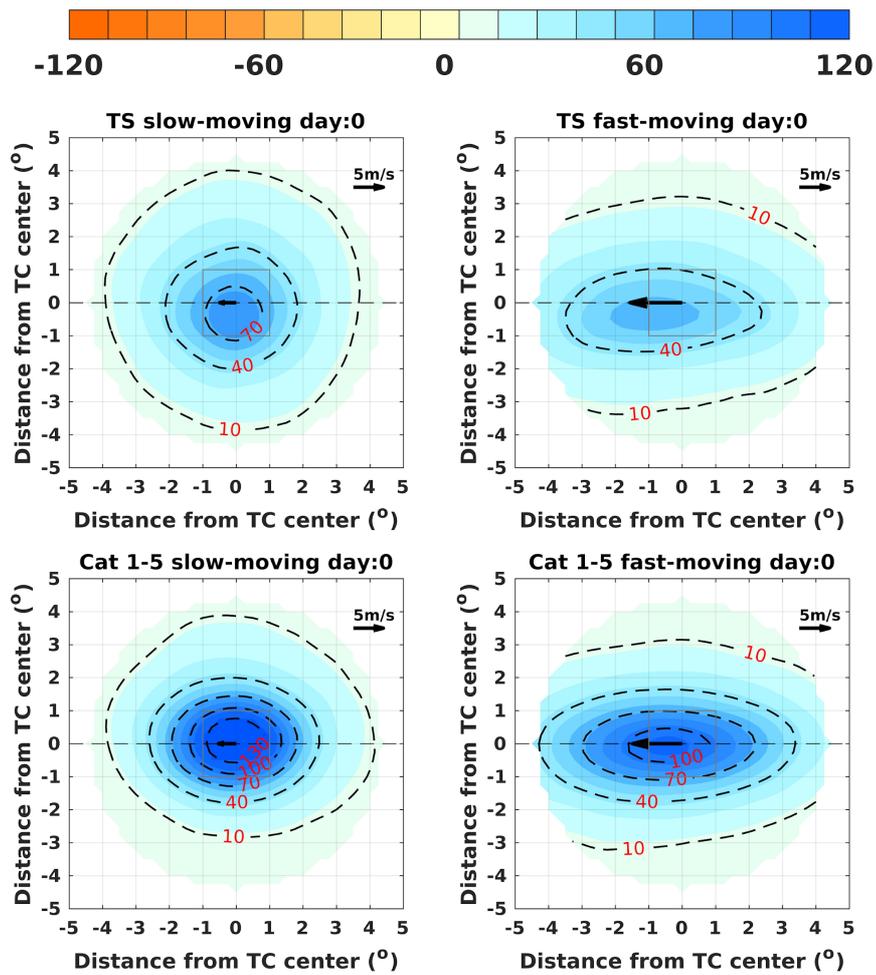


Figure S5. Distribution of daily accumulated P-E (mm) on day 0 in the Northern Hemisphere based on translation speed during the same time period with Figure 11. The mean translation speed in upper (lower) panels is 2.48 (2.67) and 7.80 (7.44) m s⁻¹, respectively.

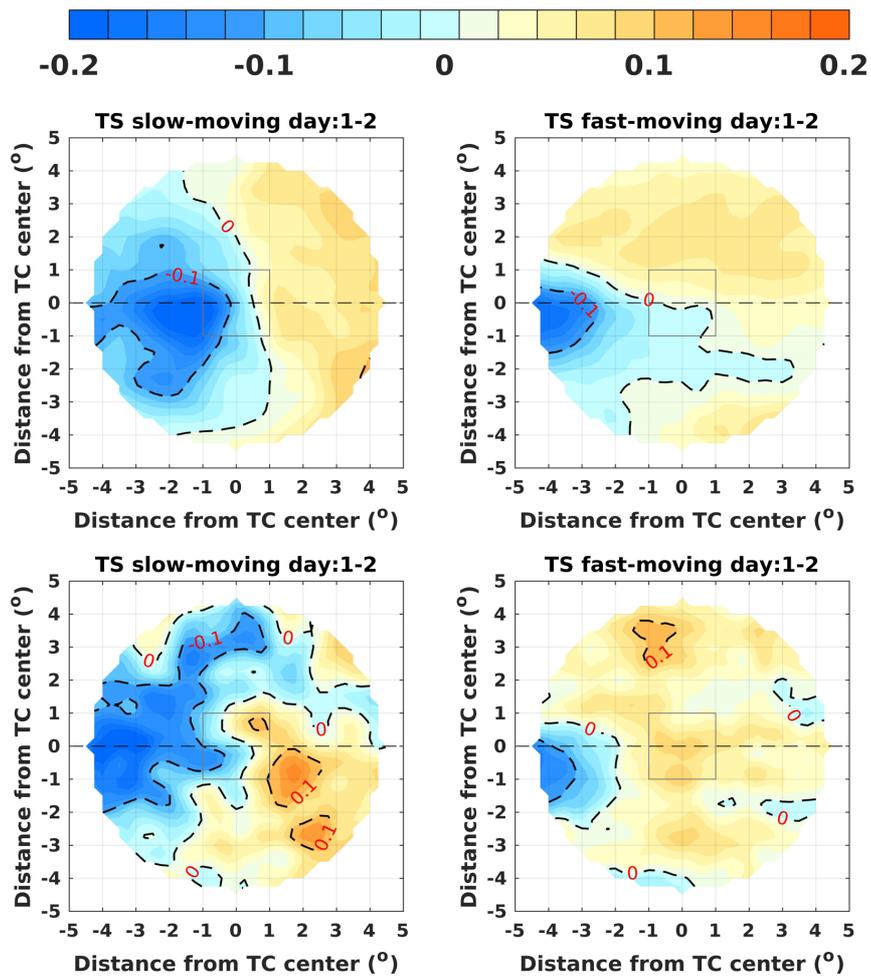


Figure S6. Distribution of SSS response (psu) to tropical storms on days 1-2 based on translation speed in the Northern Hemisphere, with SMAP (upper panels) and SMOS (lower panels) swath daily data. Same time period with Figure 12 is used for both SMAP and SMOS satellite data.

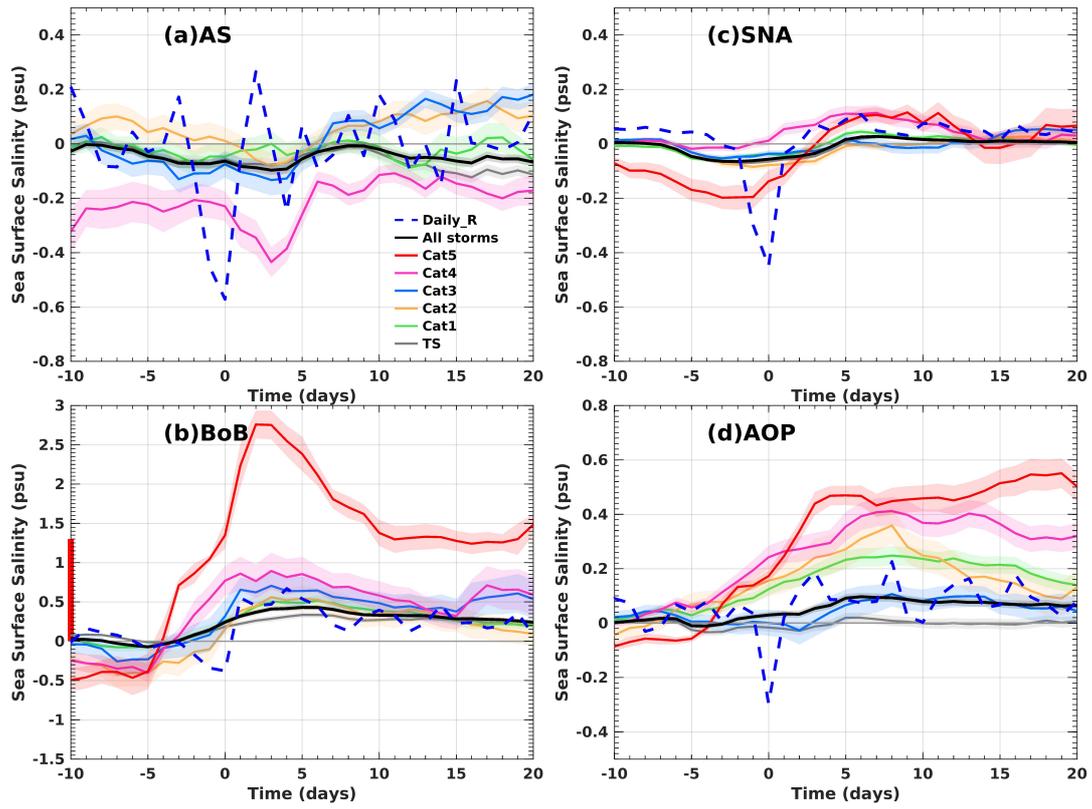


Figure S7. The same with Figure 15, but with SMOS satellite data. The range of y-axis is 1.3 psu for (a), (c) and (d) while 4.5 psu for (b).