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Tropical Cyclone interaction with the Arctic Sea Ice variability

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In recent years increasing interest has been put on the role that intense Tropical Cyclones can play in the climate system. The following study is aimed at highlighting the effects of strong Tropical Cyclones over the Tropical Atlantic on the mean climate. Their composite effect on the surface winds is made apparent by a wide cyclonic perturbation that affects a large portion of the Atlantic tropical Ocean, here defined as Tropical Composite Cyclone (TCC). Teleconnection patterns, which are visible in the Sea Level Pressure anomalies associated with the TCC, appear to link the activity of the hurricanes to the Arctic Ocean affecting the sea ice motion. A significant anticorrelation between the energy dissipated by hurricanes in the Tropical atmosphere and the sea ice cover along the Transpolar Drift Stream path, has been found.