

Characteristics of tropical cyclones in high-resolution models of the present climate

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As part of the US CLIVAR Hurricane Working Group, simulations of Tropical Cyclones (TCs) in several Atmospheric General Circulation Models, forced with both climatological and historical Sea Surface Temperatures, are compared to the observational record. The number of observed TCs varies considerably between models due to the different criteria to detect TCs used in their tracking schemes. The geographic distribution of simulated TCs are overall similar to the observations in all models, though with some differences. The maximum intensity of simulated TCs varies significantly between models, due mostly to differences in model resolution. In the historical forced runs, several models demonstrate a relatively high correlation to the time series of observed TCs in the North Atlantic and North Pacific basins. In addition, all of the models correctly exhibit an eastward shift in the average position of TC formation in El Niño years in the Western North Pacific and a westward shift in the Eastern North Pacific.