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Interannual and Seasonal Variability of Tropical Cyclone Genesis in the Northwest Australia Basin

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Common genesis regions for Tropical Cyclones (TCs) worldwide have been identified, but TC genesis in the Northwest Australian Basin (NWAUS) has not been thoroughly studied. Studies conducted in other TC basins show distinct trends in spatial and temporal patterns of TC genesis, but these trends are largely unknown in the NWAUS. The analysis begins by describing the spatial and temporal distribution of TC genesis points for the region. Then statistical correlations are calculated to connect specific genesis regions, in both space and time, to atmospheric teleconnection patterns such as the IOD, ENSO and NAO. In addition, statistical correlations between TC genesis points and NCEP/NCAR reanalysis variables, air temperature, geopotential height, and u and v wind components will also be investigated. By identifying common genesis areas and their links to atmospheric variables, the goal is to develop new and useful TC forecasting tools for the region.

Information about the Authors:

The authors are a group of junior and senior meteorology majors with support from Dr. Kevin Goebbert, Assistant Professor of Meteorology. This project was driven by each student's ambition to learn more about tropical meteorology and desire to conduct scientific research in a group setting. Each author is interested in pursuing higher education beyond an undergraduate degree in atmospheric or related science.

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