

PROGRESS AND PLANS FOR SYSTEMATIC APPROACH TO
TROPICAL CYCLONE TRACK FORECASTS

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Over the past five years, a Systematic Approach to tropical cyclone track forecasting has been developed to assist forecasters in improving the accuracy and consistency of typhoon track forecasts. A meteorological knowledge base of dynamically consistent conceptual models has been developed that describes various TC-environment structures and transformations. Three of the four synoptic patterns that apply in the western North Pacific are also found in the eastern/central Pacific and in the Southern Hemisphere; a monsoon gyre pattern appears to be unique. A statistical-synoptic track forecast technique that applies to the two most common synoptic pattern/region combinations (about 73% of all cases) is shown to have skill relative to a climatology and persistence technique.

A recent focus has been on how to better utilize dynamical track prediction guidance. A simple post-processing of the U. S. Navy global model track forecasts results in a 50% (30%) reduction in the 12- (24-) h errors. A "selective consensus" procedure for assessing the likely erroneous dynamic track guidance, and thus providing a basis for its exclusion from the consensus forecast, is being developed and tested.

Key Words: Tropical cyclone track forecasting, Systematic Approach technique