



Prospects for subseasonal forecasting of Atlantic tropical cyclone activity

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Successfully forecasting the probability for enhanced or decreased Tropical Cyclone activity at subseasonal lead times could have tremendous societal benefits. It is generally accepted that both the ocean and the atmosphere are important for the formation and intensification of tropical disturbances; land surface conditions have also been associated with the modulation of tropical storm activity e.g., through impacts from the soil moisture content in tropical Africa. It follows that comprehensive coupled numerical models are a good option for operational numerical subseasonal forecast of TC activity (lead times from week 3 to month 2). However, there are still many open questions regarding this enterprise. Among them: How realistic are these coupled models in representing the characteristics of tropical cyclones? Which resolutions are optimal for such long range forecasts? What is the role of the ocean? Here we shed some light on these questions by investigating subseasonal forecasts conducted with the NCEP-CFS model at different resolutions. We show that the model represents with some realism general aspects of the mean August/September Tropical Cyclone activity. We further show that the model can distinguish between years of intense or weak tropical activity e.g., 2005 vs. 2002 at lead times of at least one month. A discussion on possible improvements and of the already reached prediction limits concludes this presentation.