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Title: Outook for seasonal predictions of TC events in Atlantic and Western N Pacific
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Abstract:
Rather than predicting just the seasonal tropical cyclone activity in the Atlantic and western North pacific, we examine the capability of the ECMWF seasonal forecasts beginning from 1 May, 1 June, and 1 July 2012 to predict the distributions of tracks likely to lead to landfalls. We have applied the same procedures to create ensemble storm tracks from the 51-member ECMWF ensemble seasonal forecast vortex tracks that have similar starting locations and subsequent tracks as have been successfully used for the extended-range (5-30 day) forecasts.

In the Atlantic, we found the same deficiencies of not predicting the baroclinically-forced and early- and late-season tropical cyclone events as we have found for the extended-range forecasts during the 2012 season. Although the numbers are too large, realistic westward and recurving African wave-type system tracks are forecast, especially in August and September. Even if the ECMWF seasonal forecast can be properly calibrated to have the correct total number, the inability to predict the two important types of Atlantic tropical cyclone events will likely lead to failure in predicting the number of landfalling events on the seasonal timescale.

We have also examined the ECMWF seasonal forecasts for the western North Pacific to determine if the same characteristics are found as in our prior evaluations of extended-range forecasts during the 2008-2010 and 2012 seasons. This preliminary evaluation for the western North Pacific is much more positive than for the Atlantic in that the primary westward, northwestward, and recurving tracks appear to be forecast in these seasonal forecasts with only 2-3 missed tracks. Although too many tropical cyclone-like ensemble storm tracks are predicted, it seems likely that combinations of these tracks plus a calibration based on a longer-period of predicted tracks could result in useful indications of landfalling tropical cyclones in the western North Pacific on seasonal timescales.
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