

Recent Developments in the CPC Experimental Global Tropics Benefits/Hazards
Assessment

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Several distinct activities are ongoing at the Climate Prediction Center (CPC) that would benefit from and/or contribute to improved understanding and prediction of the MJO. An operational assessment of the current status of the MJO is produced each week and is a significant component of an Experimental Global Tropics Benefits/Hazards Assessment product released weekly. The activity provides outlooks for regions of enhanced/suppressed rainfall and periods of elevated/suppressed tropical cyclone activity across the global tropics for leads out to two weeks. We first describe (1) an overview of the activity with a complete list of contributors, (2) objective verification of the outlooks, (3) recent developments in both production and research, and (4) both short- and long-term goals. Initial verification results are encouraging and warrant continued development of the product.

The recent developments in research will focus on a description related to the improvement of existing CPC MJO tools and the development of new objective prediction methods that include both statistical and dynamical approaches. The work presented here describes the concept, methodology and initial findings for objectively combining several MJO forecast methods using information based on the historical performance of the participating tools. The optimized MJO forecast is then linked with historical precipitation data to produce outlooks for above and below average precipitation across the global tropics. The premise is that the consolidation (*i.e.* objective combination) of multiple methods will produce a more accurate realtime forecast than any individual forecast because it utilizes the independent skill of each of the forecast tools. It is hoped that we can leverage the accomplishments of the US CLIVAR MJO working group to accelerate improvements in this objective tool, hence our overall efforts, in the near future.