

# Prediction of the MJO

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## Abstract

Two NASA/USCLIVAR-sponsored workshops, held in April 2002 and June 2003, as attended by the author, explored the potential for improved forecasts of weather and short-term climate variability on subseasonal time scales (Schubert et al. 2002; Waliser et al. 2003). In the first workshop, several sources of unrealized predictability were identified and discussed, including tropical heating, soil moisture, the Madden-Julian Oscillation (MJO), the Arctic Oscillation and the Pacific/North American pattern. Indeed, the MJO was identified as being the most underexploited in terms of the likely potential for near-term gains in the area of subseasonal prediction. As a result, a key recommendation was that a coordinated multi-nation/multi-model experimental prediction program be developed focused on the MJO. Afterward, a preliminary framework for such an experimental prediction program was developed by several MJO enthusiasts including the author, and the NOAA Climate Diagnostics Center (CDC) volunteered to sponsor the program in terms of being the data repository for forecasts, performing some analyses, and serving the data to the community via the web. The second workshop helped refine the actual implementation of the experimental MJO prediction program, into the form as it now appears at <http://www.cdc.noaa.gov/MJO/>. Currently, forecasts are being provided to the program by several numerical modelling agencies and empirical modellers. Among them are two forecast inputs from BMRC; that of the coupled ocean-atmosphere numerical model (POAMA – predictive ocean atmosphere model for Australia), and that from an empirical scheme based on the work of Wheeler and Hendon (2004). Every day, forecasts out to 20 days ahead, of several atmospheric fields, are produced and transferred to CDC for display and verification. This presentation will provide an outline of the goals of the experimental prediction program, its participants, and its results to date.

## References

- Schubert, S., R. Dole, H. van den Dool, M. Suarez, and D. Waliser, 2002. Proceedings from a workshop on “Prospects for improved forecasts of weather and short-term climate variability on subseasonal (2 week to 2 month) time scales”, 16-18 April 2002, Mitchellville, MD, USA, NASA/TM 2002-104606, 23, 171 pp.
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- Wheeler, M. C., and H. H. Hendon, 2004. An all-season real-time multivariate MJO index: Development of an index for monitoring and prediction. *Mon. Wea. Rev.*, 132, 1917-1932.