

US CLIVAR MJO WG

Telecon Minutes

July 9, 2008; 10:00-11:30am US West Coast

Telecon Participants: Duane Waliser, Ken Sperber, Anne Shelly, Augustin Vintzileos, Bill Stern, Chidong Chang, Daehyun Kim, Eric Maloney, Frederic Vitart, Jon Gottschalck, Kathy Pegion, Nick Savage, Siegfried Schubert and Wangqui Wang.

1) Publication issues:

a) MJOWG Workshop BAMS summary - in press – available as electronic BAMS formatted copy in approximately 1 week. When available, this version will be circulated to the WG. Presently, the submitted version is posted on the MJOWG Workshop webpage: http://www.joss.ucar.edu/joss_psg/meetings/Meetings_2007/MJO/index.html and also at <http://ams.allenpress.com/EOR>.

b) MJO Simulation Diagnostics (paper 1) – submitted to Journal of Climate – further AMS action pending submission of outstanding copyright forms (expected to be sent to AMS in about 1 week).

c) Application of MJO Simulation Diagnostics to Climate Models (paper 2) - D. Kim, K. Sperber, and B. Stern presented a preliminary set of figures based on the application of MJOWG diagnostics to WG climate simulations. The goals of the paper are to (i) demonstrate the application of MJOWG diagnostics to models, (ii) provide a benchmark of model performance, (iii) evaluate operative MJO mechanisms in models, and (iv) present experimental diagnostics that may give insight into improving model simulations of MJO.

Useful suggestions included the addition of information about the separation of the leading modes from the higher order modes (North criteria), inclusion of summary information regarding propagation/decay time scale from different phases of the MJO, the approach to the discussion of MJO mechanism and the caveats of experimental diagnostics that might suggest areas of model improvement of MJO simulation. Daehyun expects to finish a draft of the text in about two weeks, after which he, Ken, and Bill will generate a working copy to circulate to the MJOWG for comment.

d) MJOWG Forecast Metrics (paper 3) – J. Gottschalck will take the lead in drafting a BAMS article – starting with material in the WGNE/MJOWG letter of invitation and the related article submitted to the 4TH WMO International Monsoon Workshop - to introduce the MJOWG forecast metric to the wider atmosphere/ocean communities. The article will highlight the diagnostic methodology behind the forecasts and emphasize the international interest and coordination behind these forecasts. It is hoped that such presentation will garner further contributions to our experimental forecast effort, and alert the community to important applications of MJO forecasts.

Pending the development/completion of more comprehensive hindcasts/forecasts, a 4th MJOWG paper will be considered to present verification/validation diagnostics of the experimental forecasts.

2) Experimental Forecast Updates

a) J. Gottschalck gave a presentation on the status of the forecast metrics contributions and website construction. With the recent endorsement of the MJOWG forecast metric by the Working Group on Numerical Experimentation (WGNE), seven NWP centers are (or shortly will be) contributing MJO forecasts to Jon (NCEP) on a daily basis to as part of the MJOWG experimental forecast evaluation effort. It is expected that in a week or two data formatting issues will be rectified such that all contributions will be available and posted to the website in real-time. Jon envisions “launching” the website in time for his presentation at the ITCP meeting (see item 3).

The main scientific issue under consideration is the impact of the lack of lead-dependent forecast climatologies from some of the models. In such cases the anomalies are calculated with respect to NCEP reanalysis. The forecasts may be found at:

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http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/clivar_wh.shtml

b) A. Vintzileos presented an update of NCEP-CFS seasonal hindcasts applied to the MJO. These hindcasts were initialized during boreal spring and summer, 2002-2006. The hindcasts tested the skill sensitivity to horizontal resolution of the atmospheric model (T62, T126, and T254) and initial conditions. Skill was essentially invariant as a function of horizontal resolution, with the most skillful hindcasts being initialized with GDAS data compared to the older Reanalysis-2 data. The latter sensitivity experiments highlighted the importance of initializing hindcasts/forecasts with the most accurate atmospheric state possible. The impact of oceanic initial conditions will be the subject of future model experimentation. K. Pegion will be extending the suite of MJO hindcasts with the NCEP CFS system to provide a more comprehensive evaluation of the system.

3) ITCP Workshop on Multi-scale Predictions of the Asian and African Summer Monsoon (August 2008)

The MJOWG will have a session devoted to the presentation of its simulation and in particular the forecast metrics. A key issue to be introduced by the MJOWG is the potential necessity to development a targeted metric for boreal summer simulation/forecasts that will provide regional fidelity of the state of the MJO/ISO over the Asian monsoon domain. Another issue is the development of a MJO forecast / predictability hindcast experiment.

4) US Participation in the Cooperative Indian Ocean Experiment on Intraseasonal Variability in Year 2011

Chidong sought and was given MJOWG endorsement of a white paper seeking US participation in an upcoming observational/process study referred to as: Cooperative Indian Ocean Experiment on Intraseasonal Variability in Year 2011. Further comments from the MJOWG are welcome in anticipation of presentation (by Duane) to the Process Study and Model Improvement Panel at the upcoming US CLIVAR Summit.

5) CLIVAR Summit/Future of the MJOWG

Today's discussion and presentations have provided adequate material for Duane's plenary briefing at next week's US CLIVAR summit. The WG members are enthusiastic and committed to remaining active despite the formal end of the WG based on the 2-year limited lifetime established at panel inception. Numerous "Follow-on" activities have been identified, including (i) establishment and daily updating of the MJO Forecasts Metrics website, (ii) development of regional MJO metrics for boreal summer monsoon forecasts to make them more valuable regionally over the heterogeneous Asian monsoon domain (iii) promoting and entraining forecast diagnostics/metrics to/from the broader NWP community with the purpose of establishing MJO test case benchmarks for model development, and (iv) develop a MJO prediction/predictability hindcast experiment that investigates and promotes the value of MJO forecasts; this should also address impacts and the applications community (e.g., importance for hurricane prediction, extratropical rainfall, etc.). With these long-term goals in mind we will ask that US CLIVAR continue to recognize us as a formal working group. It is anticipated that no direct funding will be necessary for at least one year, with the commitment from US CLIVAR to continue to update and maintain our website.

6) Action items

(a) Pending submission of the MJOWG journal articles 2 and 3, Duane and Ken wish to step down as co-chairs of the MJOWG, though both wish to remain active members of the MJOWG. Consideration is being given to nominating new co-chairs who would represent the climate modeling and forecast elements the MJOWG research effort.

(b) Add Ann Shelly (ann.shelly@metoffice.gov.uk) to the MJOWG at-large email list.