

US CLIVAR MJO WG

Telecon Minutes

March 19, 2007; 11:00am-12:30pm US West Coast

Telecon Participants: Stern, Waliser, Weickmann, Maloney, W. Wang, Sperber, Moncrieff

1. Relevant Meetings

Systematic Errors Workshop (Feb 2007, San Francisco; attended by Sperber).

Ken reported that the MJO metrics were well received, and seen as a model for metrics to be assembled for other modes of variability (e.g., ENSO). R. Neale gave a paper with a revised convection scheme to be used in the new (NCAR) CCSM climate model. With this scheme the new model produced an improved spectrum of variability on diurnal, intraseasonal, and ENSO time scales. Mitch indicated that one of the additions was convective momentum transport. B. Stern indicated the use of CMV had a positive impact on the GFDL model, but led to a very strong ENSO, similar to NCAR's experience (*see the email Sperber sent out from the Atmospheric Modeling Working Group, and the photo of the Neale et al. poster from the Systematic Errors Workshop*).

CMMAP (Feb 2007, Kuai, attended by Moncrieff, Donner, and Waliser)

Mitch reports that the MJO has been picked as 1 of 4 focus themes as part of the new NSF STC that is PI'd by D. Randall. This will provide an opportunity to determine in detail how the super-parameterization affects the simulation of the MJO. This was viewed as a very positive development and a great opportunity for synergism between CMMAP and the MJOWG that was strongly encouraged by Randall at the CMMAP meeting. In August 2007 Mitch and Marat will chair a CMMAP strategy meeting at CSU to put forward MJO metrics to be tested on high resolution simulations. Pending agreement by D. Randall, we will post the synopsis of the CMMAP MJO focus on the MJOWG web site.

CLIVAR AAMP (Feb 2007, Honolulu, attended by Wang, Hendon, Sperber, Kang, Waliser).

Ken presented the MJO metrics to the panel, and as at the Systematic Errors Workshop, they were well received. It was suggested that the website include a flow chart of the metrics, and brief discussion (or indication) of decision points for determining whether or not to calculate more advanced metrics. Ken also discussed the findings presented that indicated a 20 km version of the CES (Korea, Seoul National University) atmospheric model had a better representation of the MJO than the 300km climate version. The improvement was noted in the 200hPa velocity potential (*maybe this is a candidate model for webpage MJO diagnostics; discuss with In-sik*). The results regarding the beneficial impact of increased resolution suggest an opportunity for systematic simulations of the effect of horizontal resolution on diurnal through MJO time scales.

2. Metrics Webpage

The group was happy with the progress to date on the MJO simulation metrics and their posting to the web site. Remaining additions were discussed and summarized to include:

- a. Composites of surface fluxes (e.g., shortwave and latent) and SST.

- b. Multi-scale interaction metrics such as the Wheeler-Kiladis diagrams and the more recent coh^2 plots devised by Wheeler and Hendon.
- c. An additional analysis product (e.g., ECMWF) for some of the 3D structures.
- d. One or two low-order indices of MJO interannual variability (e.g., those explored by Slingo et al. 1997 and Hendon et al. 1999).

Eric (SST) and Duane (fluxes) will provide data links to Daehyun for a). Matt will be contacted to provide needed code and guidance on b). Harry will be contacted to provide guidance for d) based on those tested in Hendon et al. 1999.

In addition, we want to begin exploring how to post the actual code and final data used to produce the plots on the web site. Duane will contact Daehyun to determine the feasibility of this addition. Finally, we would like to expand the webpage to include that analysis of models. Candidates include the data from the standard CAM3 (e.g., poor MJO model) and the new CAM3.5 model with the Neale-Richter convection scheme, the CMMAP/CSU model, ECHAM4/OPYC, and/or the Korean CES models discussed above. We would prefer to send the data to Daehyun in a standard format to facilitate processing but it was also recognized that the students at CSU/CMMAP might play a role in this. We expect all the above activities to feed into the proposed workshop (see below).

3. MJOWG Webpage

It was proposed that we add the WGENE Systematic Errors workshop presentation on the MJO metrics to the website, along with the CMMAP MJO focus theme document. In addition, we will note the occurrence of the above meetings on the website.

4. MJO Forecast Metrics

Klaus and Wangqui, hopefully with help from Matt and possibly Hai Lin (CMA) who has expressed interest in helping, have agreed to take the lead in developing a strawman of MJO forecast metrics to be discussed at next month's telecon. Suggested to be included are the combined EOF approach in which the forecast data is projected onto the observed modes, and the evaluation of coherent modes. Skill metrics will include rms and correlations. Other candidates that might have a particular focus on the boreal summer MJO need to be considered.

5. Workshop Plans

Duane, Ken, and Eric (possibly entraining Siegfried and/or Chidong) agreed to work toward arranging a November MJO Workshop of 2.5 days duration to possibly be held at the Beckman Center in Irvine, CA. The suggested format will see every half-day session broken into thirds, with an hour for 3 keynote talks, an hour for posters, and an hour for discussion. The suggested sessions are (1) metrics and models, (2) vertical structure, (3) multi-scale modeling, (4) forecasting, and (5) summary and planning. We anticipate the meeting to be invitation only with attendance of ~70 people. Based on previous experience the cost would be ~\$40K w/breakfast and lunch included, shuttle service to/from the airport. Travel support limited to keynote speakers that do not have an alternate method of funding, to a limited number of attendees from overseas and WG members that need it.