

## Meeting Summary

The May 2008 LBA-MIP workshop allowed us examine the latest set of runs using the revised forcing data. The analysis included 21 different models and 30 different runs. The window for including new models in the analysis is now closed. Summaries of energy balance, water balance, ET partitioning, and carbon dynamics at hourly, diurnal, and seasonal timescales were presented and discussed. A great deal of attention was given to issues and problems associated with model output, with some discussion of minor revisions to the protocol. For long term, we discussed what our analysis methods will be and developed a list of next steps between now and the Manaus meeting, and core papers to be written.

Issues in model output can be summarized as one of the following below. Processing of model output to the format specified by the MIP protocol is not trivial, and we realized that this is a stage where several errors could occur.

1. Model output not in NetCDF format.
2. Variables supplied in units other than those specified in protocol.
3. Required variables not reported.
4. Flux directions incorrect
5. Model presented in UTC 00:00 instead of local time
6. Extra / not enough variables

It is imperative for all of us to be confident in our model output before proceeding with the analysis. These issues introduce unnecessary uncertainty into the analysis. Therefore, we will develop a model diagnostic tool that we will provide to all model groups available in Fortran, R, and Matlab, which each group can run on their data. The tool will take model data in LBA-MIP NetCDF format and output “PASS” or “FAIL” for each variable (assessing appropriate range), as well as water and energy balance.

The protocol will be revised and sent out soon. Main issues to be resolved are to include a few additional variables the group deemed as important, as well as propose additional ecosystem variables that, should groups be willing to report, will be comparable to available biometric data.

A preliminary list of core papers (and tentative lead authors) to be written is presented below. Please note that this list is by no means exhaustive and groups are encouraged to propose new ideas.

- Preview paper of the MIP to be published in IGBP or Eos, which publicizes the project. We can include some sample figures. This will increase the exposure of the MIP to the greater community.
- Core papers (JGR-Bioge, Ecological Modeling, AgForestMet, Earth Interactions):
  - Overview/summary paper describing the goals of the MIP and participating models – provides a reference for future papers.
  - Diurnal, seasonal, interannual variability in carbon, water, and energy: models vs. obs. (3 papers?)

- Specific papers (JGR-Bioge, Ecological Modeling, AgForestMet, Earth Interactions):
  - How does LUE vary across models? (Ben Poulter)
  - Statistical relations among carbon, water, and energy cycles similar to those currently used within the data collection community (Elena Shevliakova)
  - Sensitivity of model-observation comparisons to filtering strategies (Hewlley Imbuzeiro)
  - Sensitivity to soil moisture and characteristics (Julio Tota)

Finally we have proposed the following timetable:

- May 17: Revised protocol & diagnostic tool to be sent out to all groups.
- June 6: Groups will be given a final opportunity to address the above issues associated with processing model output and re-submit runs. No re-run of models is required, but should groups deem a re-run necessary, they are free to do so.