



Community-wide Consultation on Model Evaluation and Improvement

Please complete the following template by writing your answers into the boxes below the questions, sending any supplementary material such as clearly labeled figures in a separate file. Please submit your response electronically by **15 January 2010** to Anna Pirani at apirani@princeton.edu.

Q1: Please state your particular area of interest, e.g. global or regional climate or NWP modeling, seasonal prediction, sea-ice feedbacks, monsoons, troposphere-stratosphere exchanges, etc.

- regional climate modelling
- evaluation of near-surface climate variables which are important for climate impact modelling
- decadal climate forecast

Q2: Given your interest, what would you consider/identify as the KEY uncertainties/deficiencies/problems of current models? What do you think should be evaluated/improved as a priority in models in terms of parameterization and/or interactions among processes? (Give references and/or one key figure where possible)

- the water cycle with a focus on atmospheric humidity
- the diurnal cycle of temperature
- Parameterizations to be improved: turbulence, boundary layer and soil processes

Q3: Do you see a particular gap (in knowledge, in observations or in practice) that would need to be filled, or a particular connection between different modeling communities or between modeling, process studies and observations that should be made a priority?

- One major difficulty in model evaluation: the lack of suitable observational data for comparison, especially on long time scales
- Therefore, it is highly desirable to increase efforts in gathering, improving and extending available data records on long (climatological) time periods.
- Another problem: interannual observations are often not easily accessible

Q4: Do you see any particular resource or opportunity within the modeling/process study/observational/theoretical community (e.g. new results, new observations) that would be particularly useful and should be exploited to tackle this problem?

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Q5: What would best accelerate progress on the topics raised in questions 1-4? Do you have suggestions for new initiatives (new process studies, field campaigns, or new collaborative approaches, eg international Working Groups, Climate Process Teams)?

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Q6: Any other suggestions/issues to be raised?

