Session: B5 Oral presentation

Seasonal prediction of summer monsoon rainfall: Successes and challenges

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The current capability of predicting summer monsoon rainfall with coupled climate models is reviewed. Based on retrospective hindcasts from the EU ENSEMBLES projects, forecast skill for seasonal mean rainfall is shown to be low in all of the major monsoon systems even at short lead times. Although progress has been reported for prediction of Indian summer monsoon rainfall compared to forecasts from earlier generation coupled models (e.g. forecasts from the DEMETER project) and forecast skill is now better than from available statistical schemes, the overall level of skill is probably too low to be of practical utility. The basis for the low skill is explored. It partly stems from poor simualtion of important teleconnections, such as from El Niño, but it is argued to also reflect an inherently lower level of predcitability of land-based monsoonal rainfall. For the Australian summer monsoon, it is shown that air-sea interaction in the warm seas to the north of Australia also acts to limit forecast skill of summer monsoon rainfall.