

Monsoon Variability and Predictability

CONTEXT: Improved monsoon predictions are necessary to meet the pressure of adjusting to short-term and long-term variations of the global monsoon. Seasonal prediction has a long history, but still not much skill. Intraseasonal (ISO) predictions are perhaps more important, but we have yet to deliver a real-time ISO forecast system. On the longer-term, decadal and interdecadal variations may mask anthropogenic signals.

•Question:

- What are the physical mechanisms responsible for modulating predictability of the global monsoon on subseasonal to interdecadal time scales?

• Key CLIMAR Science Challenges:

- What is the relative role of the oceans and land in contributing to predictability as a function of time scale?
- What is the role of the oceans for interannual to interdecadal variability, especially related to ENSO and its teleconnections?
- What is the role of aerosols for monsoon variability, predictability, and change?
- The observing system and modeling of the monsoon need to be improved.

• Communication challenges

- Communicating forecast/projection products and their uncertainties for the range applications that span the relevant time scales.
- Communicating the assessment of skill in terms of historical performance.