Geophysical Research Abstracts
Vol. 12, EGU2010-12843, 2010
EGU General Assembly 2010

Predictability of Indian summer monsoon onset and withdrawal using dynamical seasonal forecasts

Andrea Alessandri (1), Andrea Borrelli (1), Annalisa Cherchi (1,2), Antonio Navarra (1,2)

(1) Centro Euro-Mediterraneo per i Cambiamenti Climatici (CMCC), Numerical Applications and Scenarios, Bologna, Italy (alessandri@bo.ingv.it), (2) Istituto Nazionale di Geofisica e Vulcanologia (INGV), Bologna, Italy

In this study dynamical seasonal forecasts are used to investigate the predictability of Indian Summer Monsoon (ISM) onset and withdrawal. Nine member ensemble forecasts performed with the latest version of the CMCC-INGV Seasonal Prediction System (SPS) are used.
We applied objective large scale methods (both hydrological and circulation indexes) to the forecasts in order to diagnose the onset and the withdrawal of the monsoon. The capability of the probabilistic forecasts to discriminate earlier than normal (i.e: before the lower quartile of the sample distribution) and later than normal (i.e: after upper quartile of the sample distribution) onsets/demises is evaluated. Further, the probabilistic attributes of the forecasts are assessed together with their potential economic value that is measured through a simple Cost-Loss decision Model.
The predicted relationship between the onset/withdrawal dates and the length/intensity of the monsoon is as well investigated and compared with observations. The influence and predictability coming from external factors such as the El Nino Southern Oscillation (ENSO) are analyzed.