Name: William Stern
bill.stern@noaa.gov
GFDL/NOAA
GFDL/NOAA
Princeton University Forrestal Campus
201 Forrestal Road
Princeton, NJ 08540-6649
Country: USA
Title: Seasonal Predictions of the Anomalous Heat and Dryness during the Summer of 2012 using GFDL GCMs
Additional authors: R. Gudgel, G. Vecchi, L. Jia, S. Zhang
Additional Affiliations: R. Gudgel, G. Vecchi, A. Rosati, L. Jia, S. Zhang
Abstract:
The Geophysical Fluid Dynamics Laboratory (GFDL) is actively involved in producing predictions as part of the National Multi-Model Ensemble (NMME) real-time seasonal forecast system and the International Research Institute (IRI) Multi-Model real-time seasonal forecasts. The coupled, CM2.1, GCM is used for the NMME forecasts and the atmospheric, AM2.1, GCM (forced with forecast and persisted SST anomalies) is used for the IRI forecasts. The summer of 2012 was among the hottest on record across much of the US, particularly in the mid-west, and both of these forecast models produced significant warm and dry anomalous forecasts. In an effort to explain how these GCMs were able to produce these very skillful forecasts, our study explores the sensitivity to ocean and land initial states, as well as the impact of radiative forcing. In addition those real-time forecasts are compared to more recent hindcasts with a higher resolution GCM.

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