CGD SEMINAR

DATE: Tuesday, 2 April, 2013
TIME: 3:30 p.m.
LOCATION: Mesa Lab, Main Seminar Room
             NCAR, 1850 Table Mesa Drive
SPEAKER: Gerald A. Meehl, NCAR
TITLE: Decadal climate prediction: The mid-1970s climate shift and the early-2000s hiatus

ABSTRACT:
The interplay between external forcing and internally generated decadal timescale variability is explored through analysis of case studies of multi-decadal climate shifts, focusing particularly on the Pacific. The Interdecadal Pacific Oscillation (IPO) in its positive phase adds to warming from external forcing to contribute to accelerated warming decades like the mid-1970s shift. The IPO in its negative phase counteracts warming from external forcing to contribute to decades with little warming such as the early-2000s hiatus. In the CCSM4 in future climate simulations, hiatus periods with zero global warming trend can last for 15 years due to this internal variability. Initialization with observations produces improvement over uninitialized free-running 20th century simulations for the mid-1970s shift and early-2000s hiatus. A CMIP5 multi-model data set of 30 year predictions shows about 16% less global warming for the period 2016-2035 partly due to initialization with observations during the cooler hiatus, and partly due to a reduced trend from bias adjustment. Initialization also improves predictions of area-averaged Pacific-region precipitation compared to the uninitialized projections for the mid-1970s shift and early-2000s hiatus.

Seminars are live webcast: http://www.fin.ucar.edu/it/mms/ml-live.htm
* Refreshments are served before seminar. *
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