Geophysical Research Abstracts Vol. 14, EGU2012-6146, 2012 EGU General Assembly 2012 © Author(s) 2012



Modes of forced and internal decadal variability in the Tropics and ExtraTropics from CMIP5 models

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Using a large range of CMIP5 models and type of simulations, we investigate the spatial and time characteristics of both internal and forced tropical variability (mainly using surface air temperature and precipitation) at the decadal time scale. Our analysis covers both the 20th and 21st century. We also analyze possible interaction between different internal modes of tropical to mid-latitude decadal variability as well as their interaction/modulation with the forced variability (due to both natural and anthropogenic external forcings) in a multimodel context. We then try to assess the relative contribution of forced and internal modes to the observed recent (20th century) tropical variability and speculate about the various sources of predictability at the decadal time scales. Finally, we suggest how the partition between forced and internal variability is evolving within the CMIP5 projections.