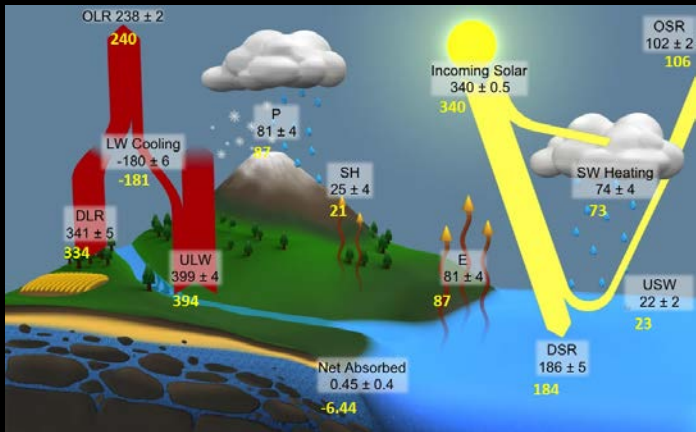




# 7km GEOS-5 Nature Run (7km-G5NR)

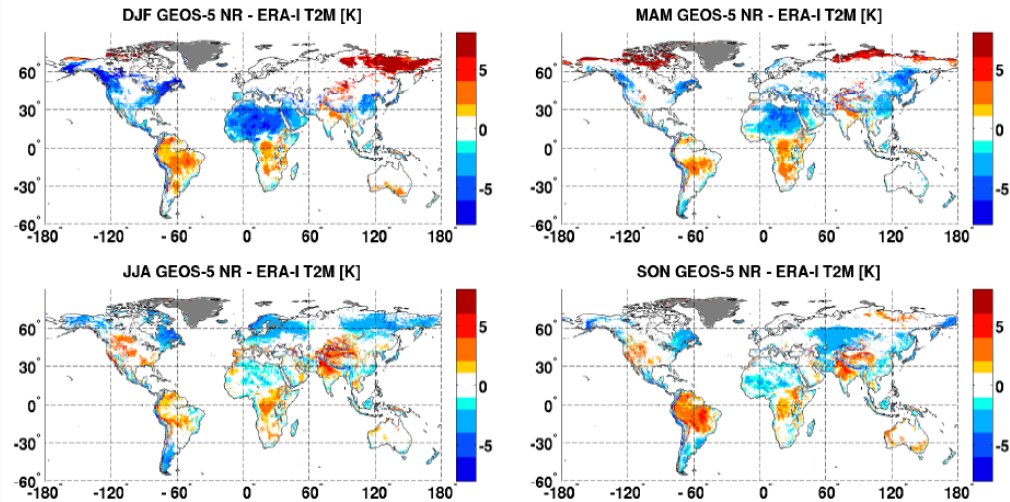
## Realism of Global Energy Budget and Land-Surface Features Global Modeling and Assimilation Office

The realism of the GEOS-5 Nature Run (NR) long term energy budget and low-level atmospheric temperatures over land are tested by comparison to independent estimates. In addition to being directly relevant to applications of the NR simulated energy fields, these comparisons also provide a useful diagnostic for the realism of the physical processes modeled by the Nature Run, including the land surface processes, and the atmospheric processes that interact with the land surface.



Energy budget estimates in  $Wm^{-2}$  in the Nature Run (yellow) compared to estimates obtained from the NEWS project, (L'Ecuier et al, 2014)

## 2m Air Temperatures over Land



Because  $T_{2m}$  observations are assimilated in the ERA-I land surface analysis, this field is expected to be close to observations (where available). Hence, the general agreement between the ERA-I and NR seasonal mean  $T_{2m}$  is very encouraging: over most of the globe the plotted difference is less than 2 K. There are however, some large regional differences, most notably in Dec-Jan-Feb (DJF).