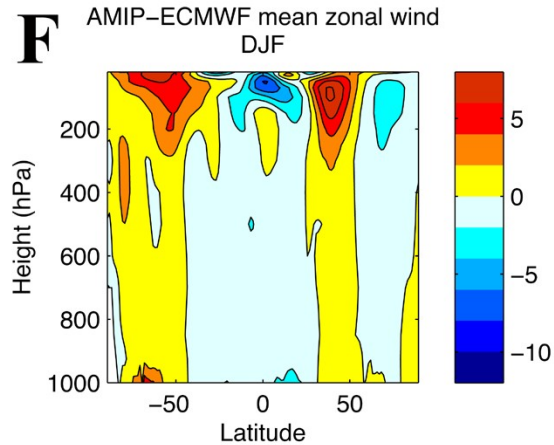
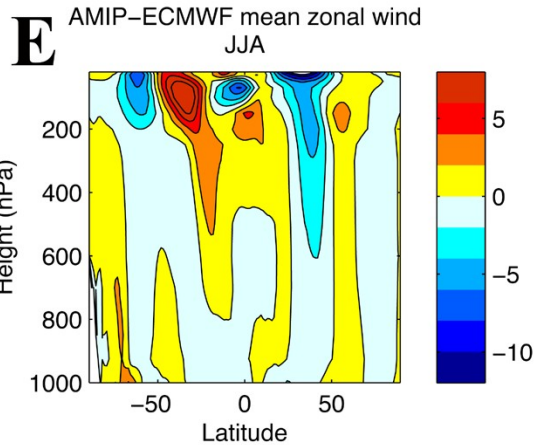
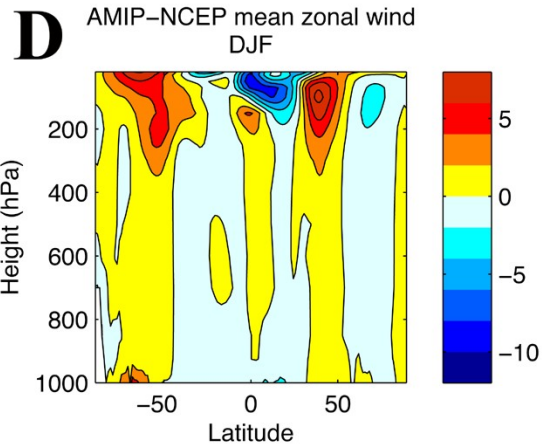
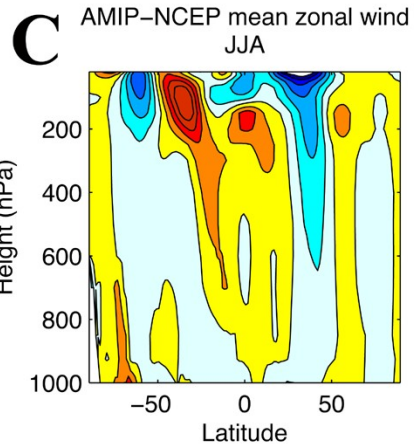
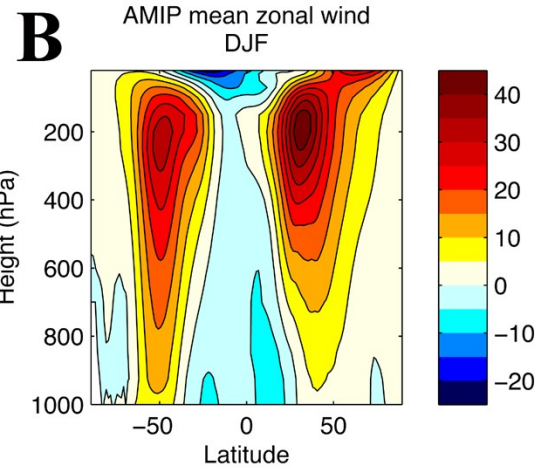
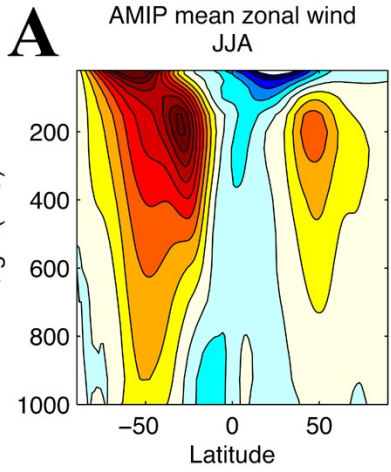


# **Aspects of the global winds in the AMIP simulation**

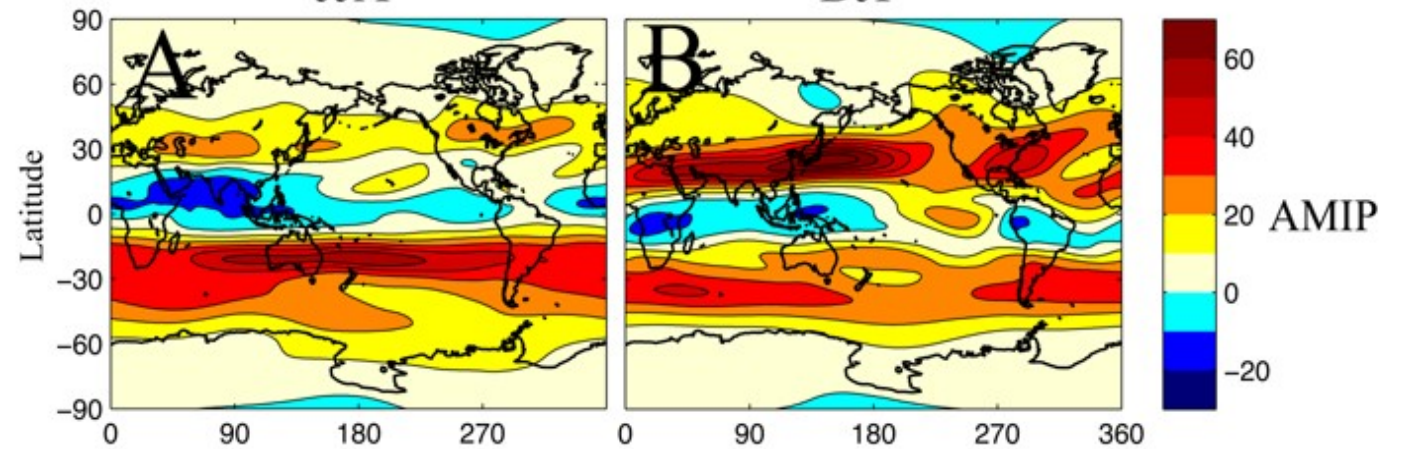
Frank Drost  
University of Melbourne  
CAWCR meeting 15/5/2009



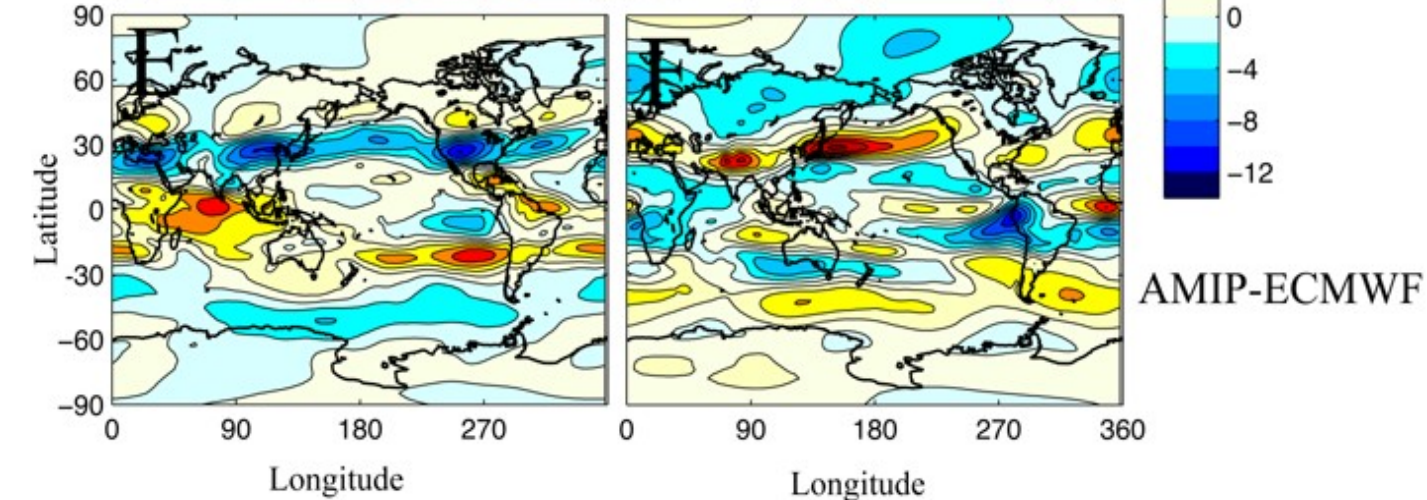
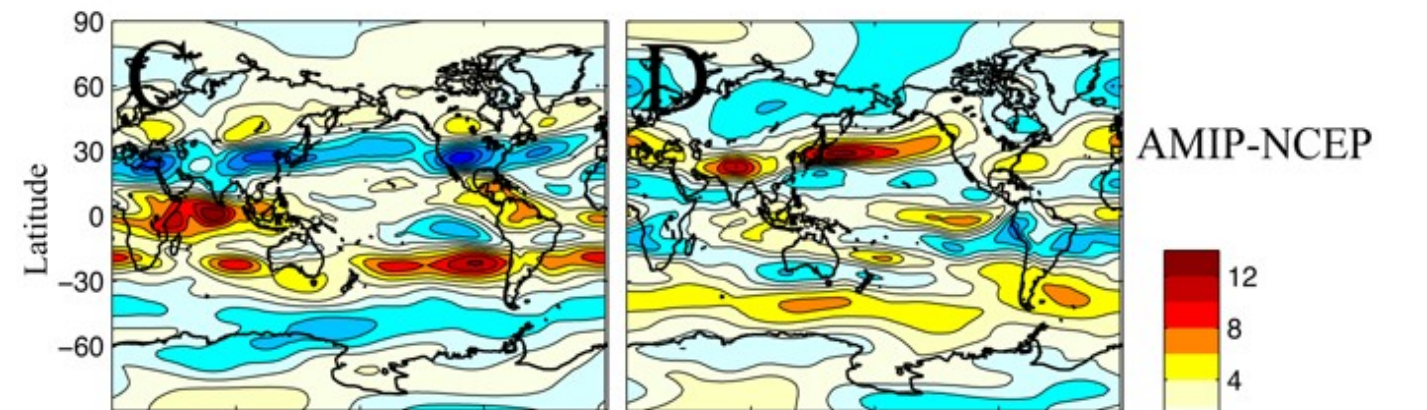
# Mean zonal winds

JJA

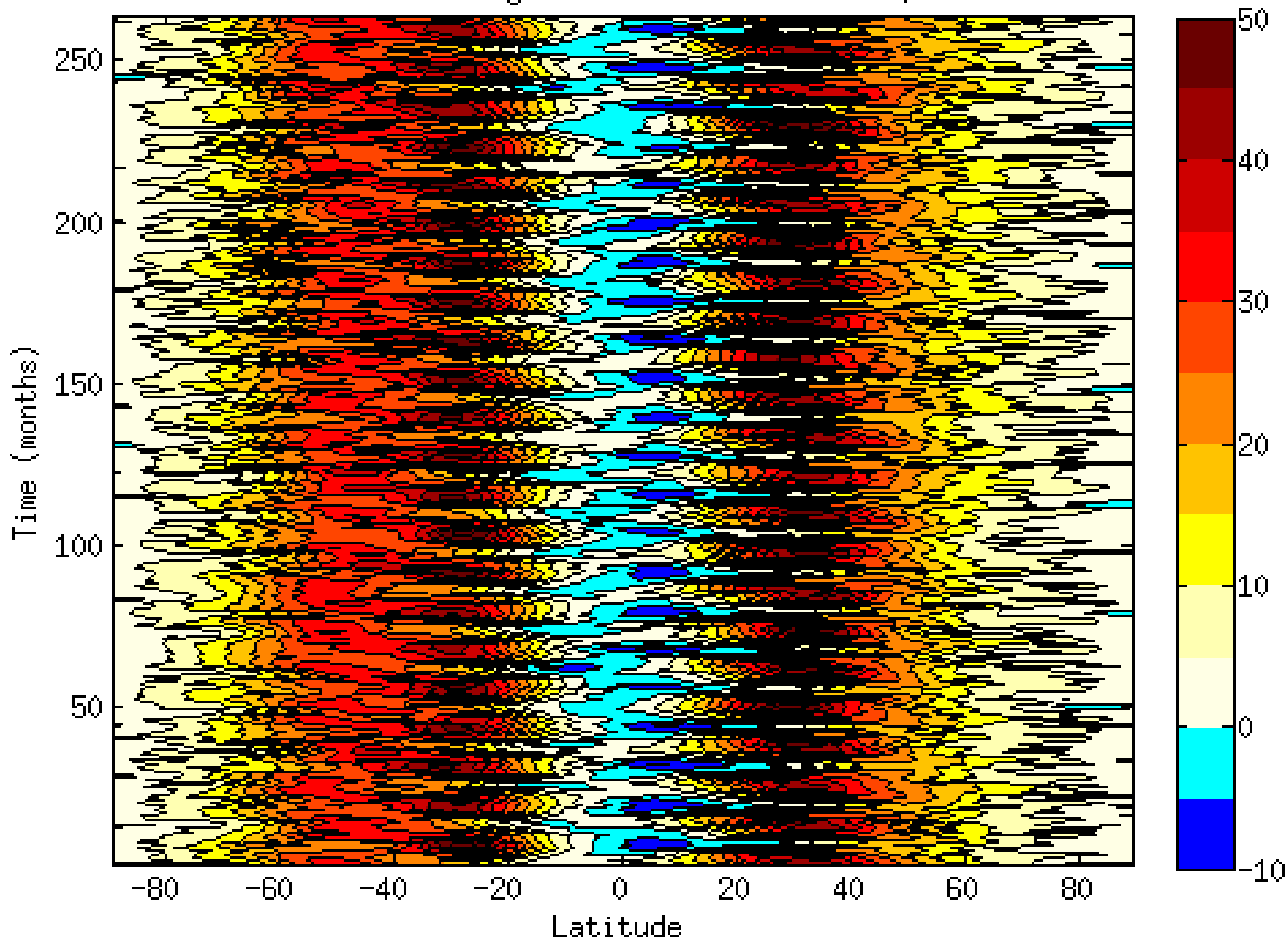
DJF

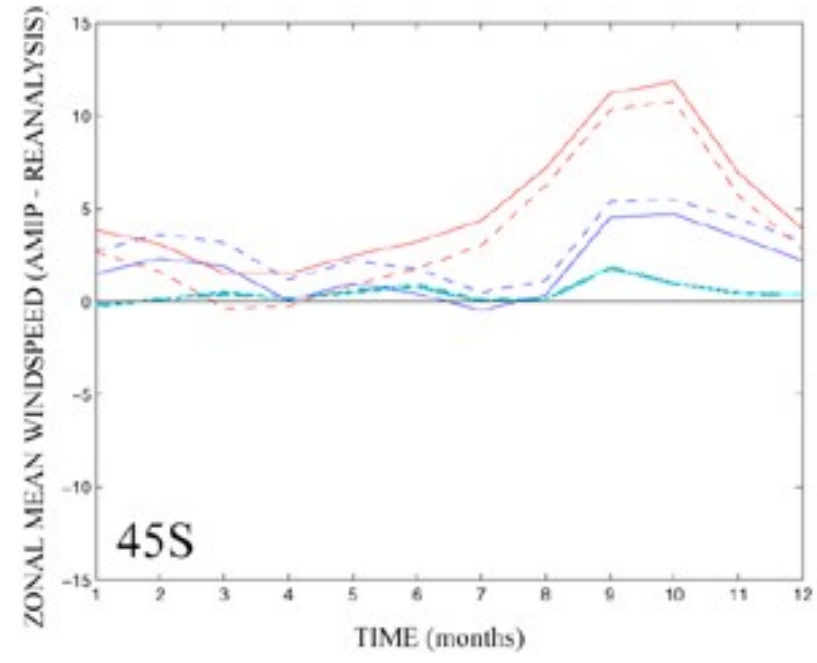
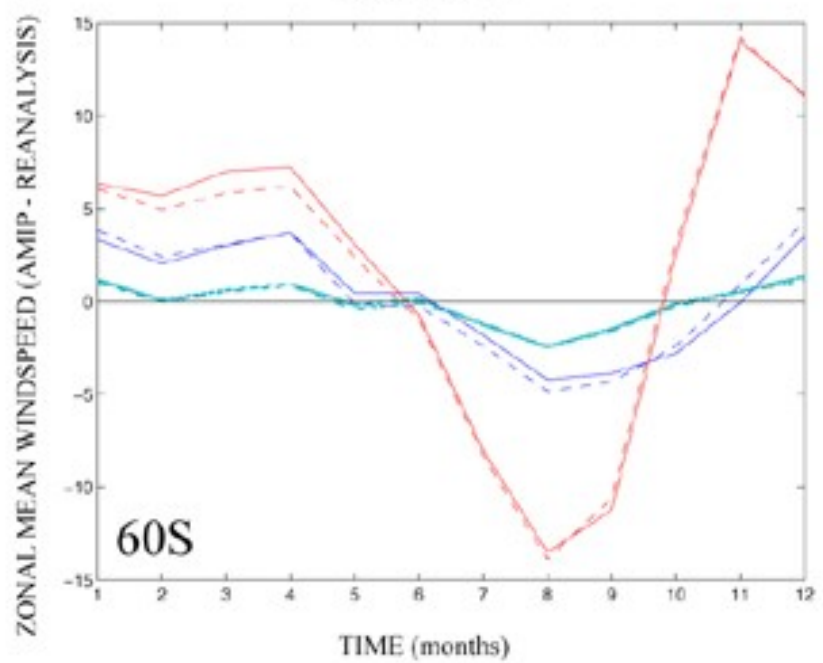
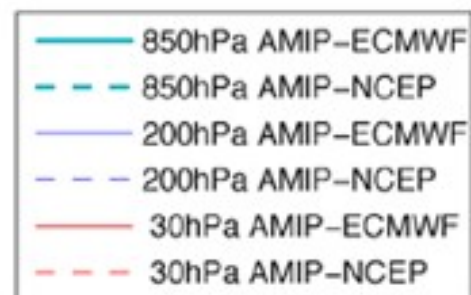
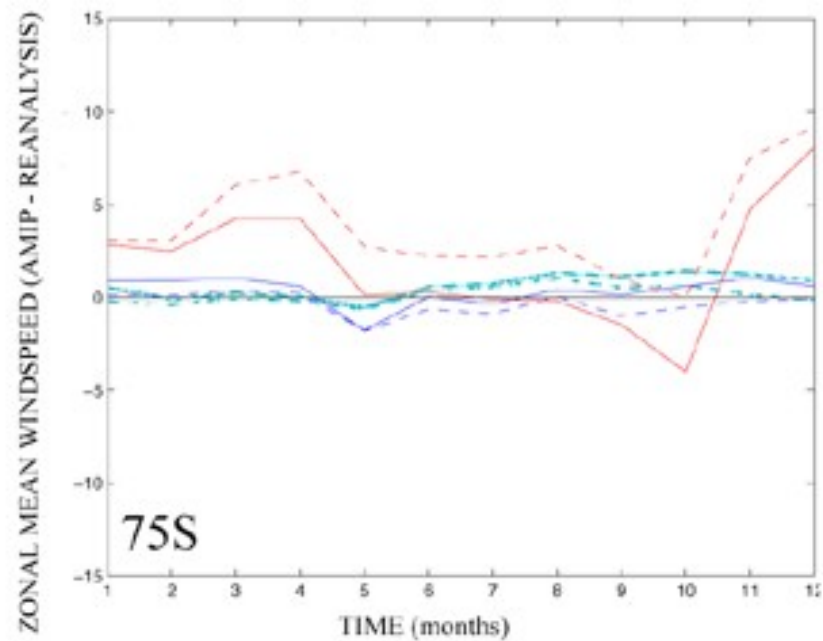


# Mean 200hPa winds

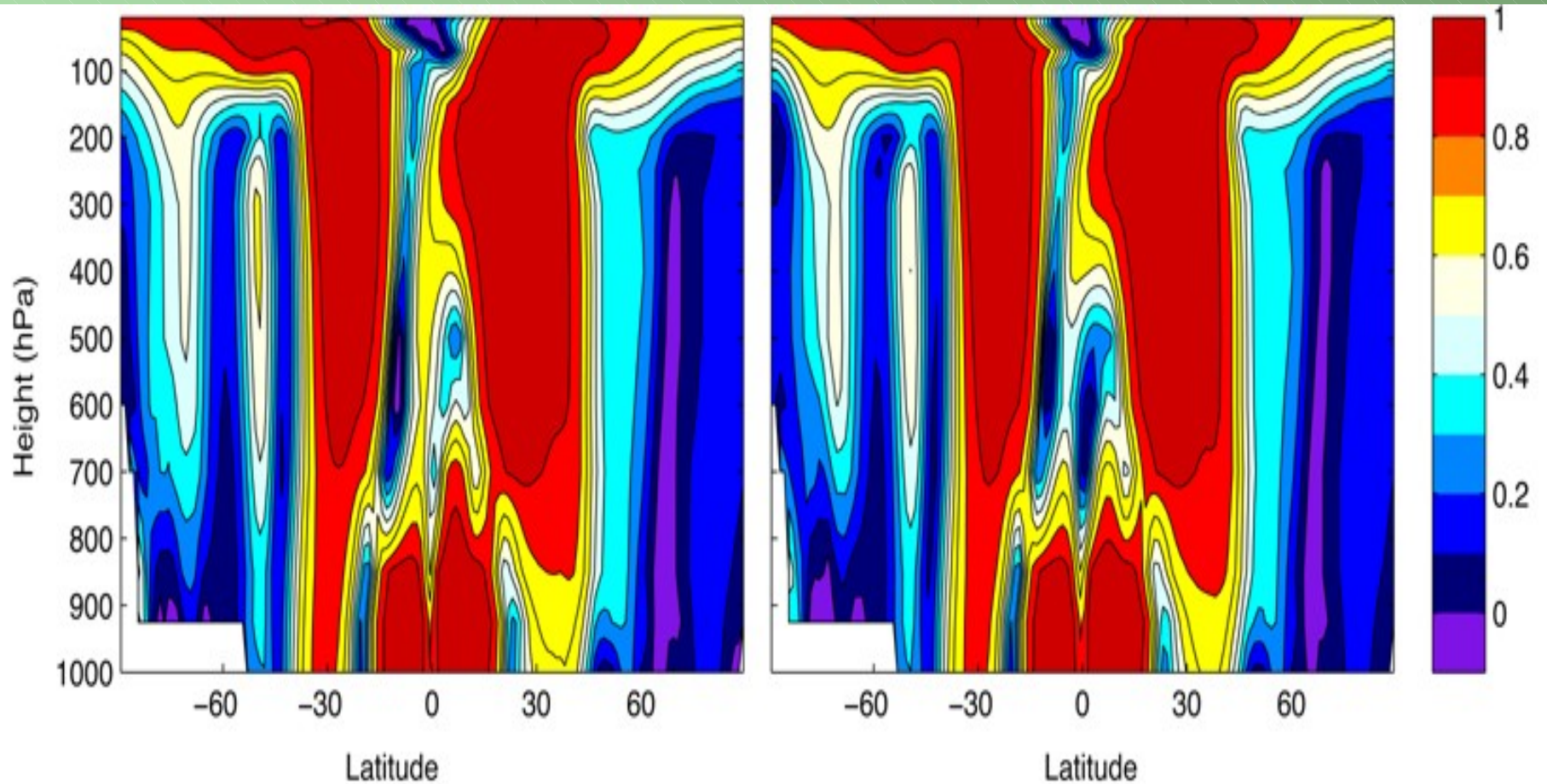


Hovmuller monthly mean zonal wind 200hPa; AMIP



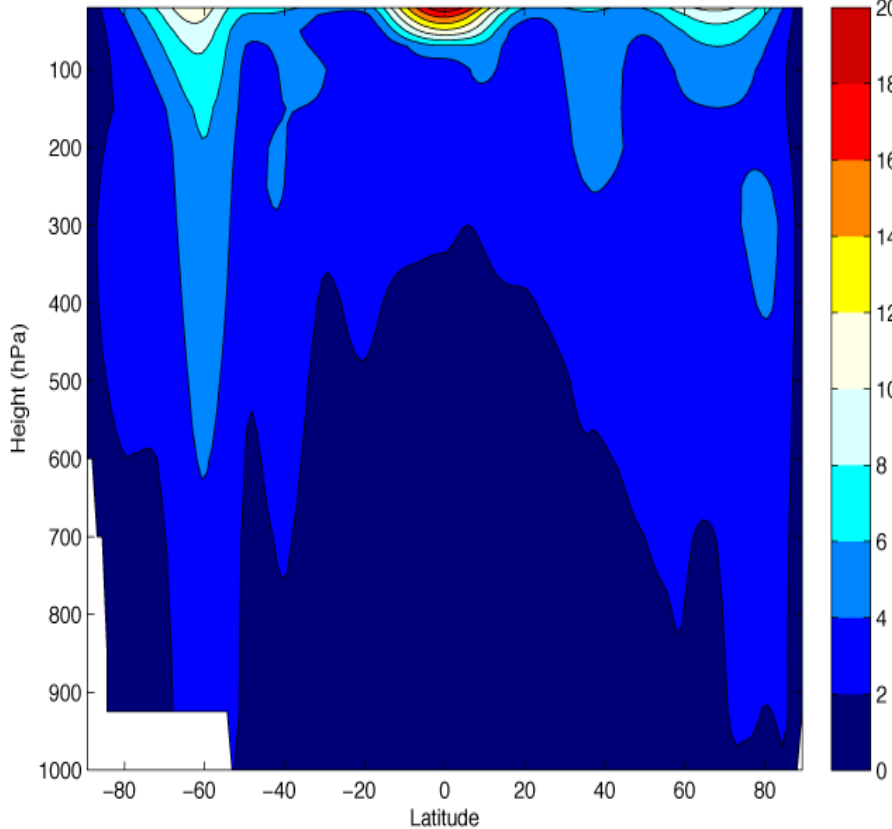


**Correlation of the time evolving monthly mean zonal wind in the AMIP simulation with those in ECMWF (left) and NCEP (right).**

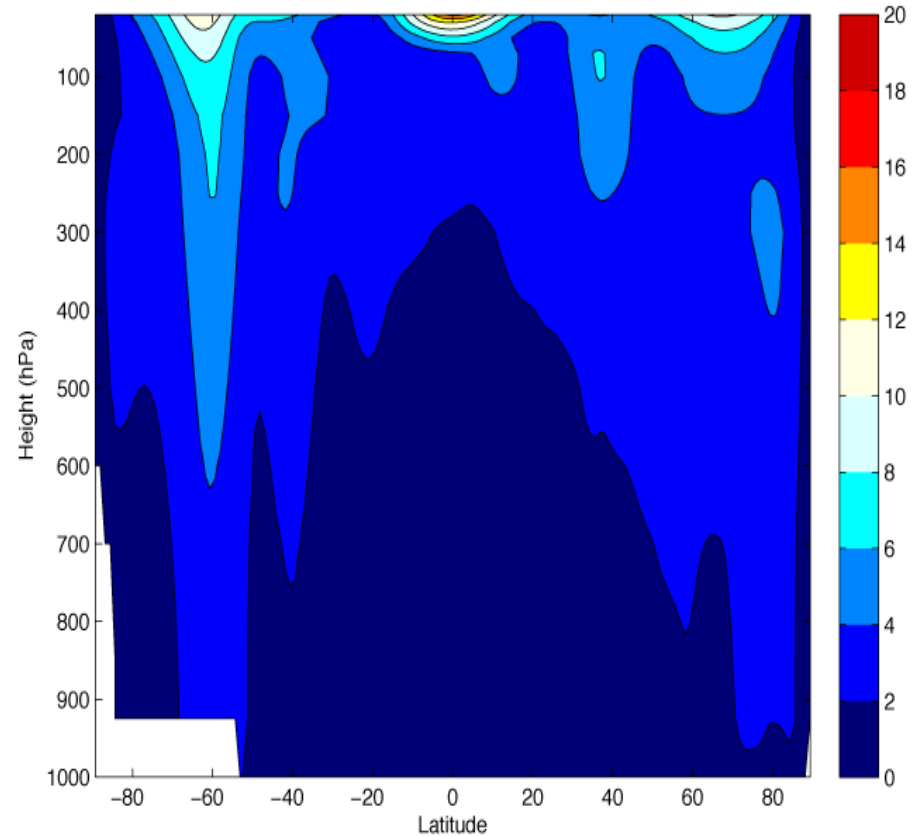


**Differences in the standard deviation in the mean zonal wind at each point in latitude-height between AMIP and ECMWF (left) and AMIP and NCEP (right).**

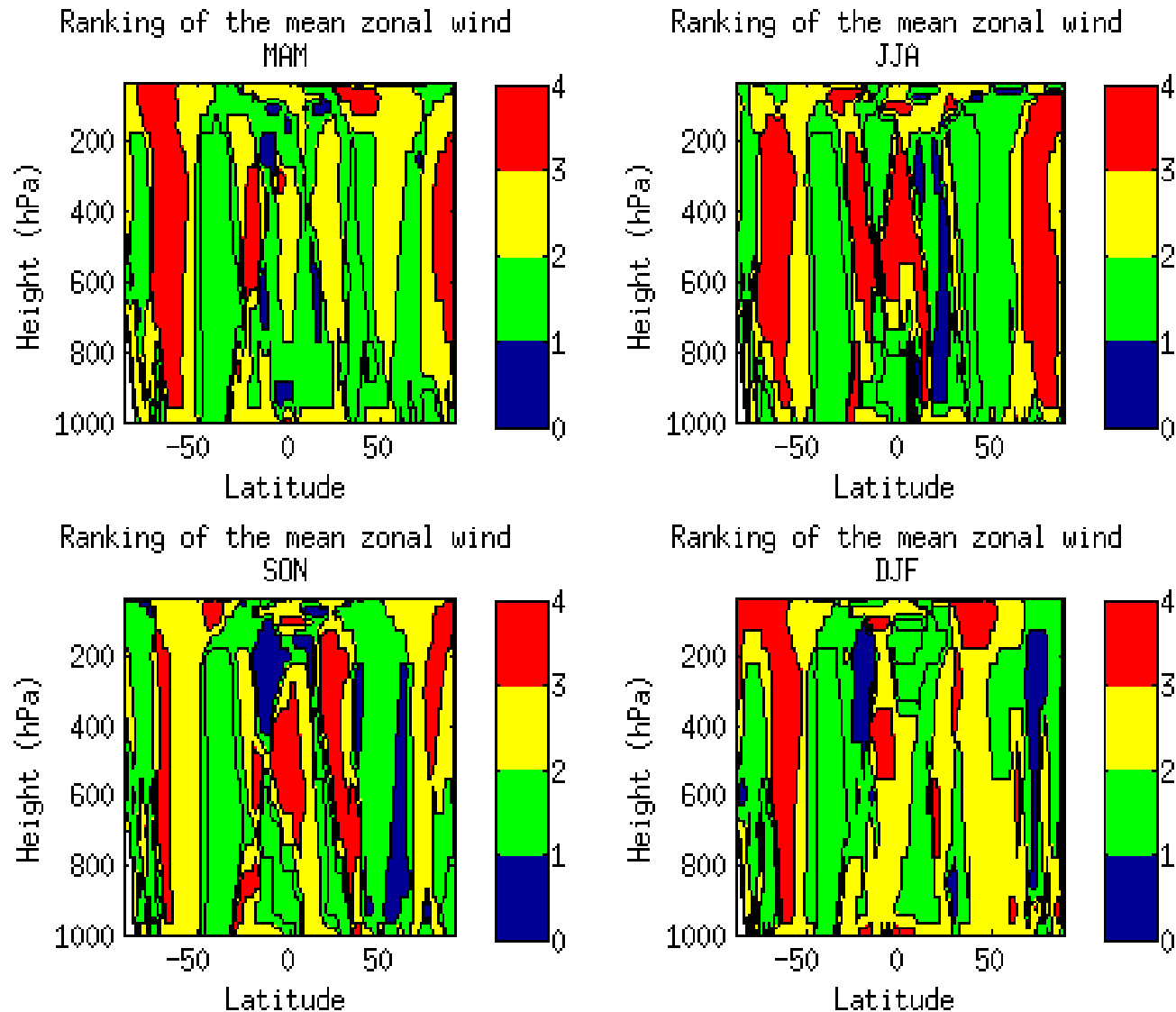
std AMIP-ECMWF



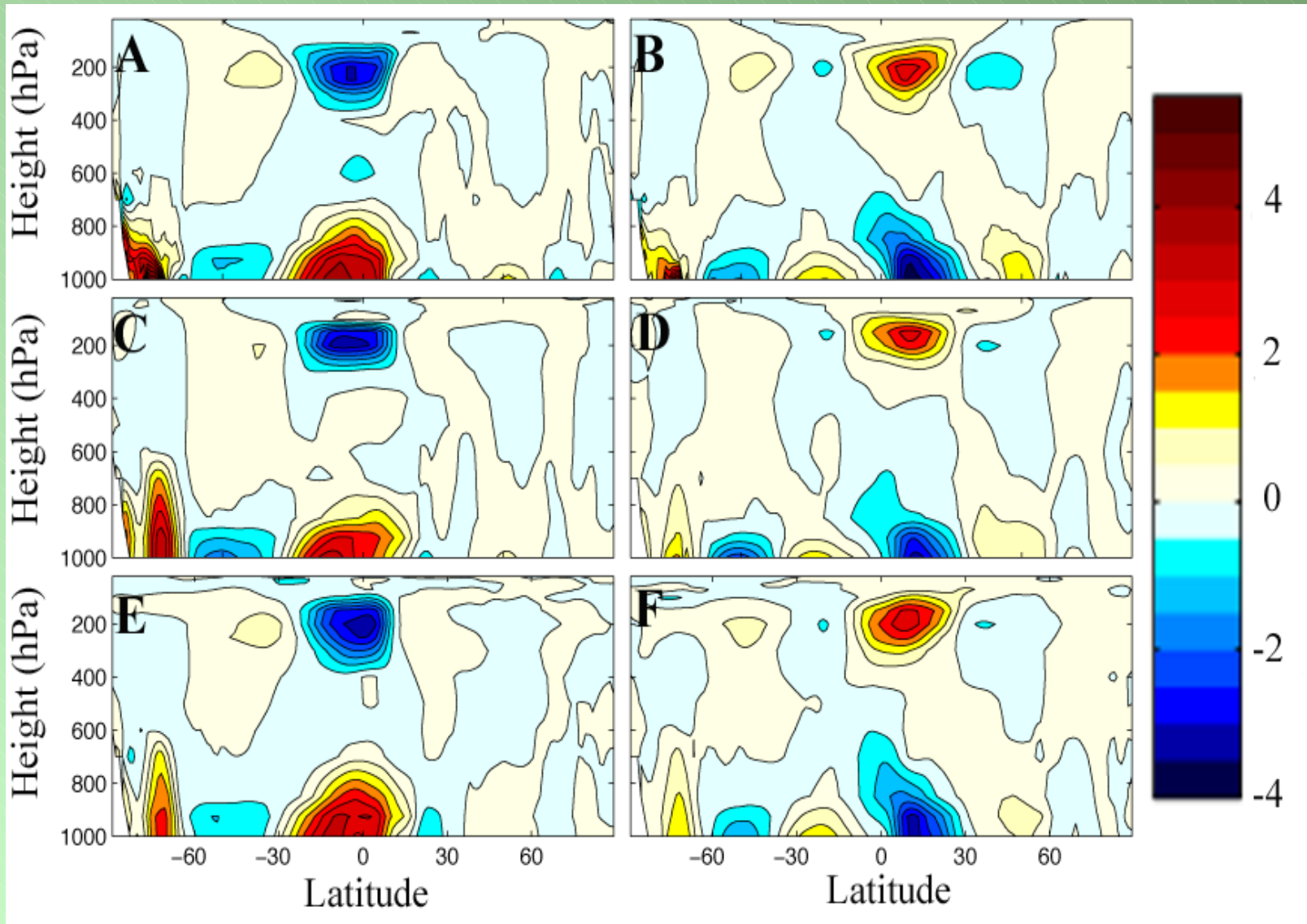
std AMIP-NCEP

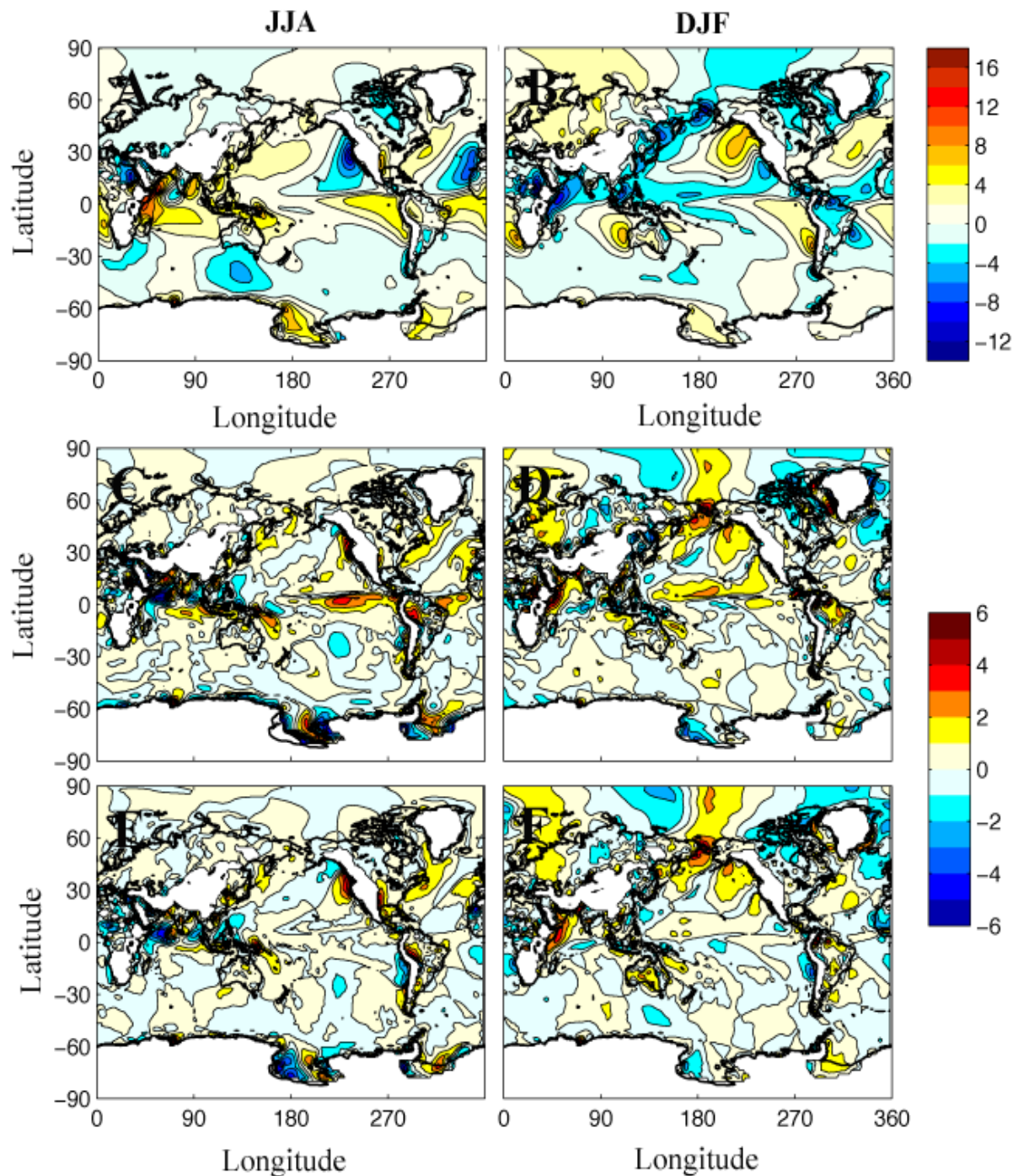


**Ranking of the ACCESS AMIP mean zonal wind against mean zonal wind of 3 other IPCC models (HadGEM, CCSM and ECHAM ). A ranking of 1 means lowest, and a ranking of 4 means highest value among the 4 models.**



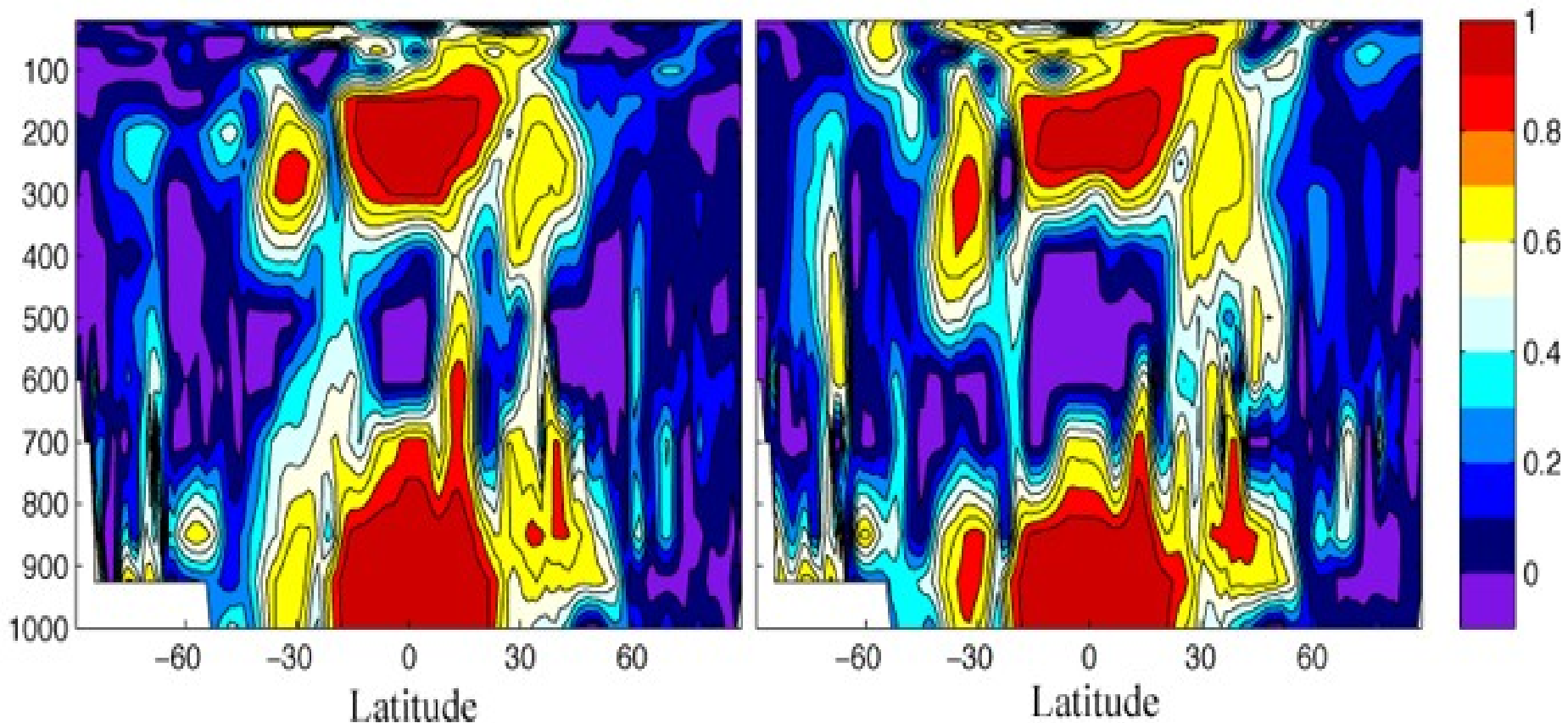
**Seasonal zonal mean meridional winds for JJA (left) and DJF (right) in the AMIP simulation (A and B), NCEP (C and D) and ECMWF (E and F) in m/s. Northward wind is positive.**



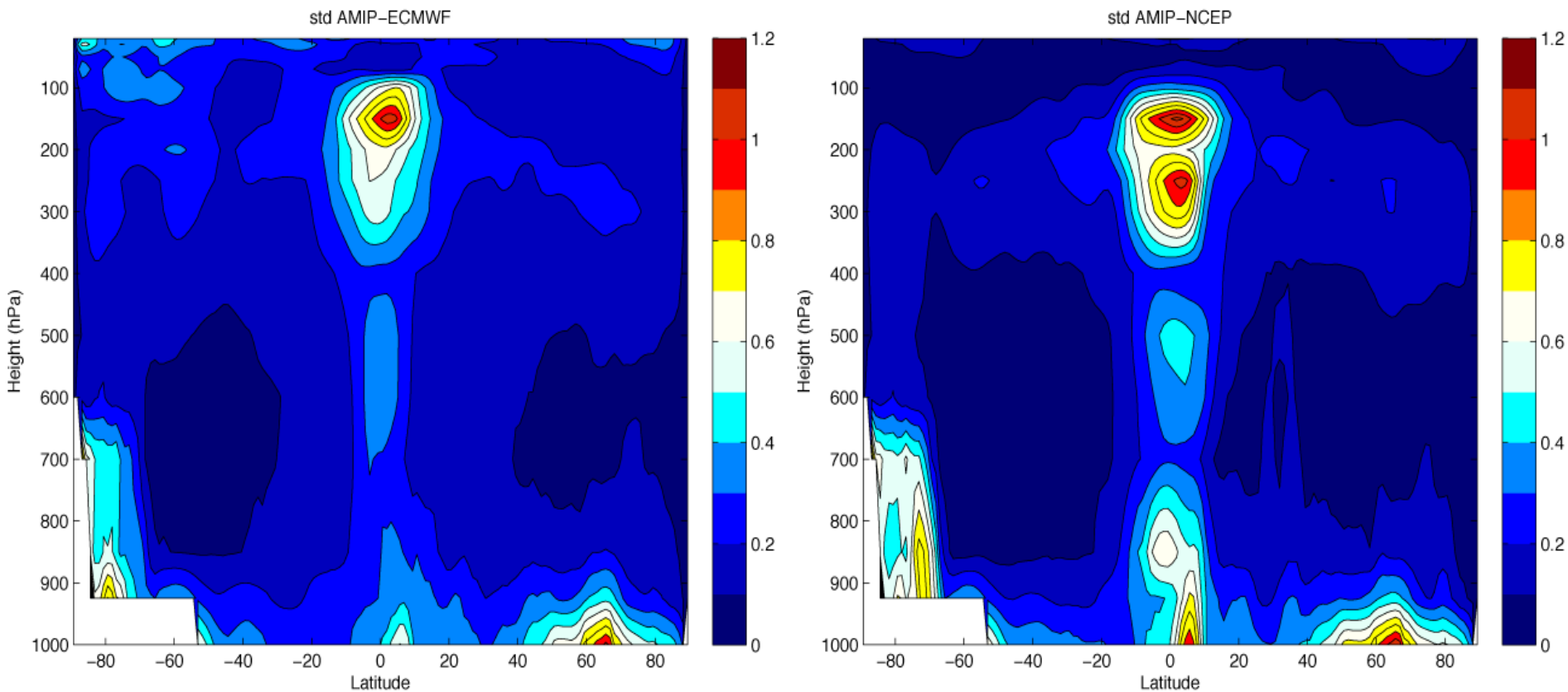


**Mean 925hPa seasonal meridional winds for JJA (left) and DJF (right) in the AMIP simulation (top row) and the differences in the mean 925hPa meridional winds between AMIP and NCEP (middle row) and AMIP and ECMWF (bottom row). Northwards is positive. Units are in m/s.**

**Correlation of the time evolving monthly zonal mean meridional wind in the MIP simulation with those in ECMWF (left) and NCEP (right).**



# Differences in the standard deviation in the zonal mean meridional wind at each point in latitude-height between AMIP and ECMWF (left) and AMIP and NCEP (right).



# Summary

- The mean zonal winds at mid-to-high latitudes are too strong in the AMIP simulation. The differences with reanalysis data increase with height.
- Time evolving monthly mean zonal wind in AMIP correlates well with the reanalysis data at low latitudes, but poorly at mid latitudes.
- The general structure of the mean meridional winds at 925hPa is simulated correctly. Hadley Cell circulation is well captured in magnitude and in time. Some differences in variance at mid latitudes and around the equator at high altitudes.
- Poor/no correlations of the mean meridional wind at mid latitudes with those in the reanalysis.