

## ENSO Flavors and Their Global Impacts

The global teleconnection responses to the ENSO diversity are assessed by using the series of MPIM-ECHAM5 simulations. The experiments used are 1) the GOGA-type simulations with the time history of observed global SST (1950-2004) prescription, 2) the patch experiments where a hypothetical cosine squared shape patch of SSTAs (2 °C maximum, 0.66 °C on average) was prescribed on top of the climatological seasonal cycle over the 43 different tropical locations, and 3) the experiments with the idealized ENSO patterns derived from the HadISST data set (1950-2011) by using the cyclostationary EOF analysis.

The preliminary results show the insignificant changes in atmospheric teleconnection responses to the EP (represented as EOF-1) and CP-ENSO (represented as EOF-2) during winter (DJF), due to the similar atmospheric diabatic heating patterns generated by two SSTA (EOF) patterns. The most significant changes occur in the late winter to spring season, when the diabatic heating patterns, and the resulting atmospheric teleconnection patterns, are distinctive.