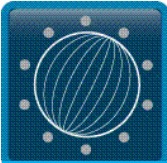


WP4.1 : Exploiting CCI products in CMIP like experiments



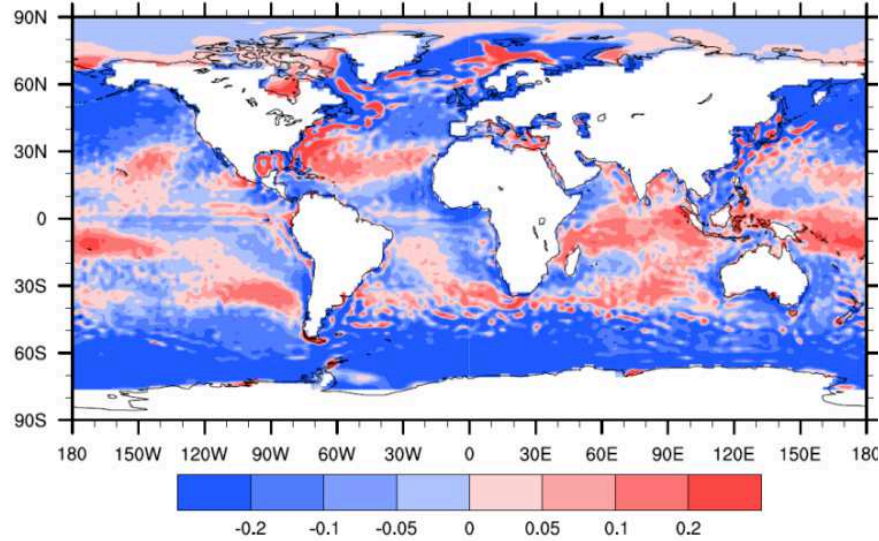
- AMIP-like simulations performed as part of sensitivity experiments to the L4 CCI-SST product (v1.0; monthly means) with Arpege-Climat v6 T127L91 (close to the version that will be used for CMIP6)
- 5-member ensemble simulations with either the “recommended” AMIP forcing or a forcing where only SST is substituted with the CCI product (same sea ice).
- The covered period is 1992-2010.



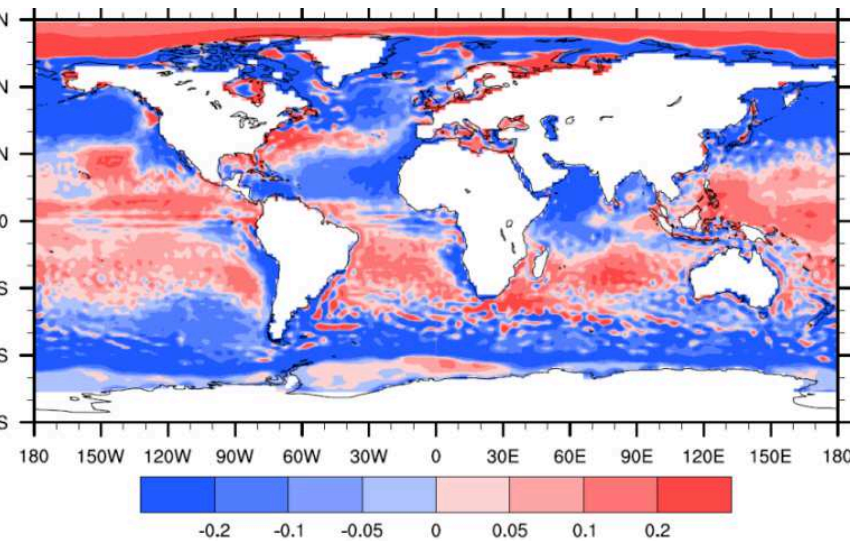
CCI-AMIP Climatology



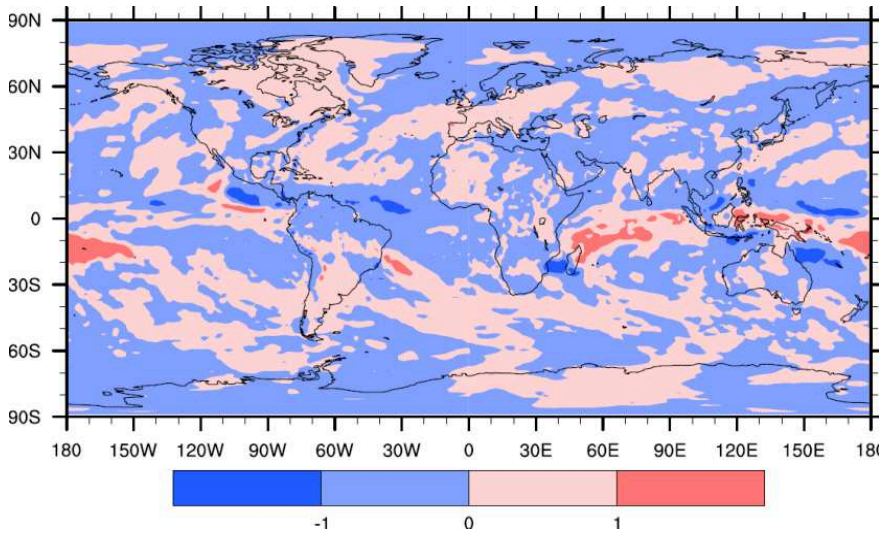
Jan SST Climatology



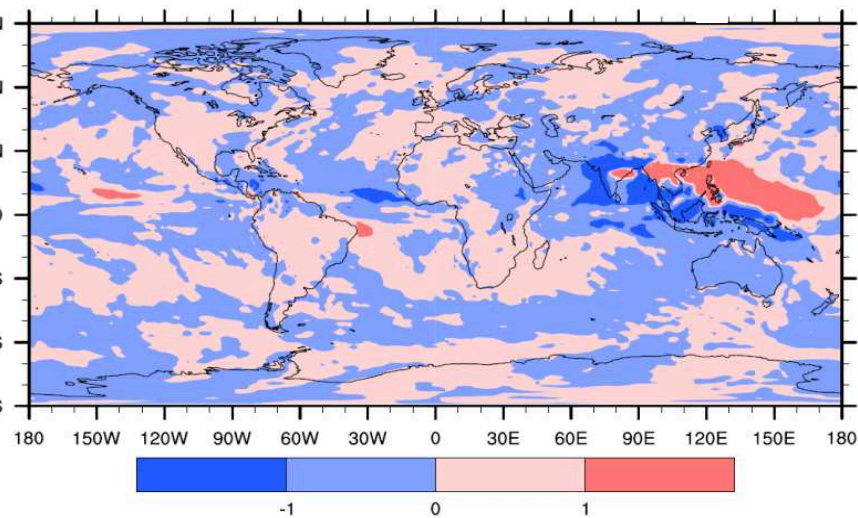
July SST Climatology



Jan PRECIP Climatology



July PRECIP Climatology

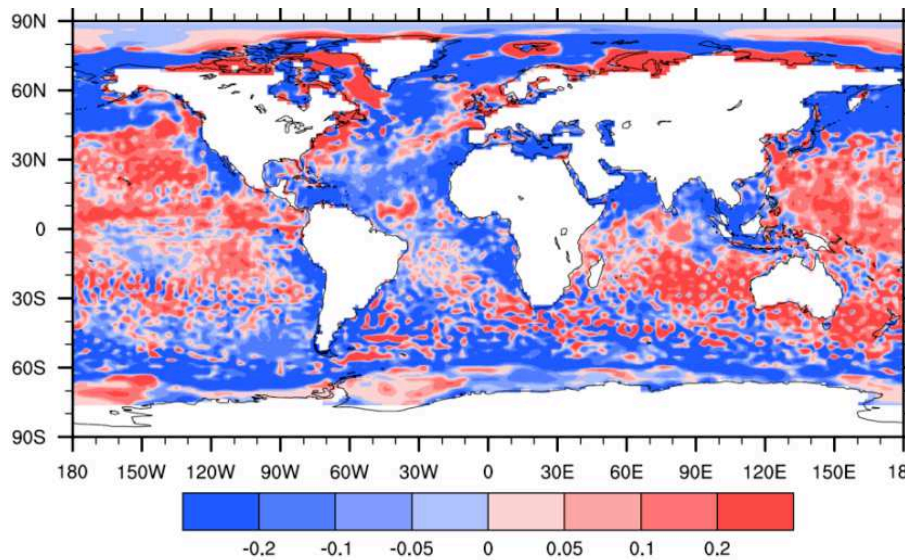




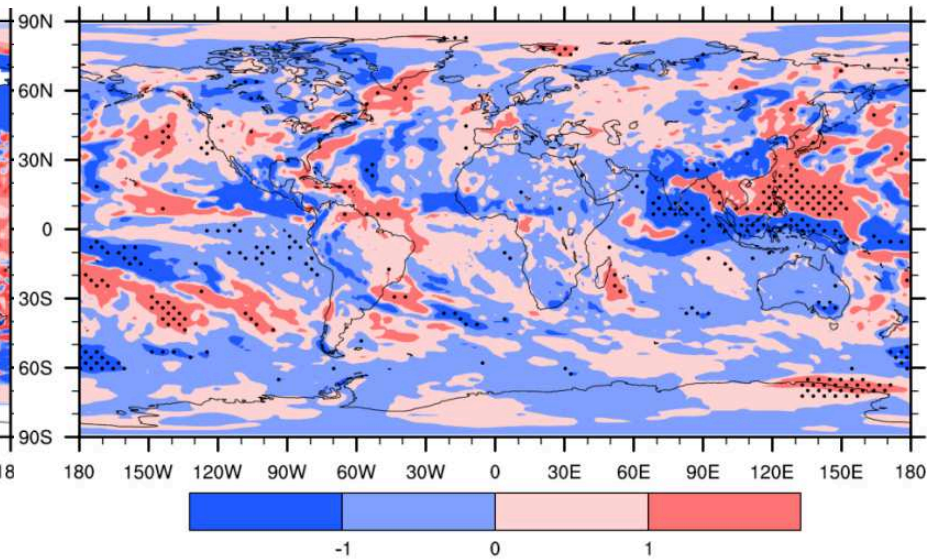
CCI-AMIP: August 2006



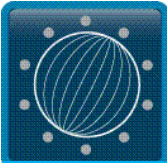
SST Aug 2006



PRECIP Aug 2006



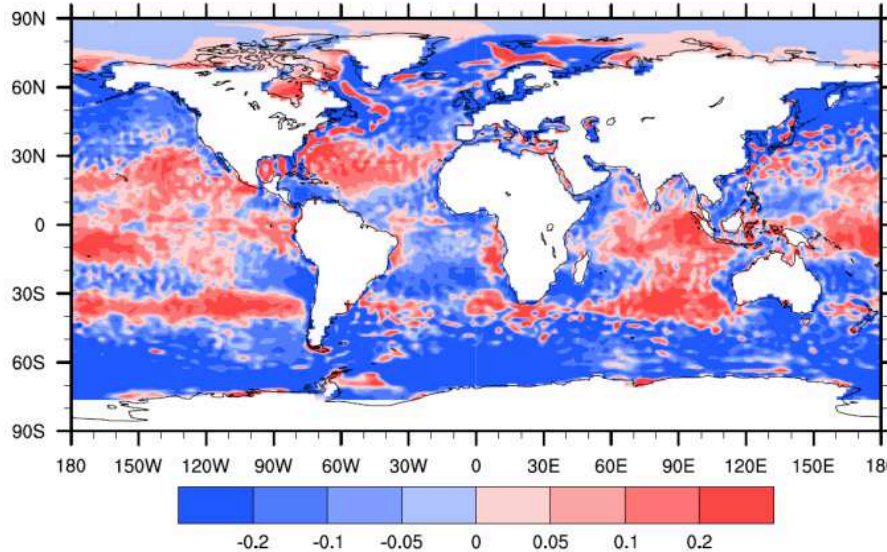
- Precipitation: 5% significance level (t-test) in August 2006 over the Western tropical Pacific



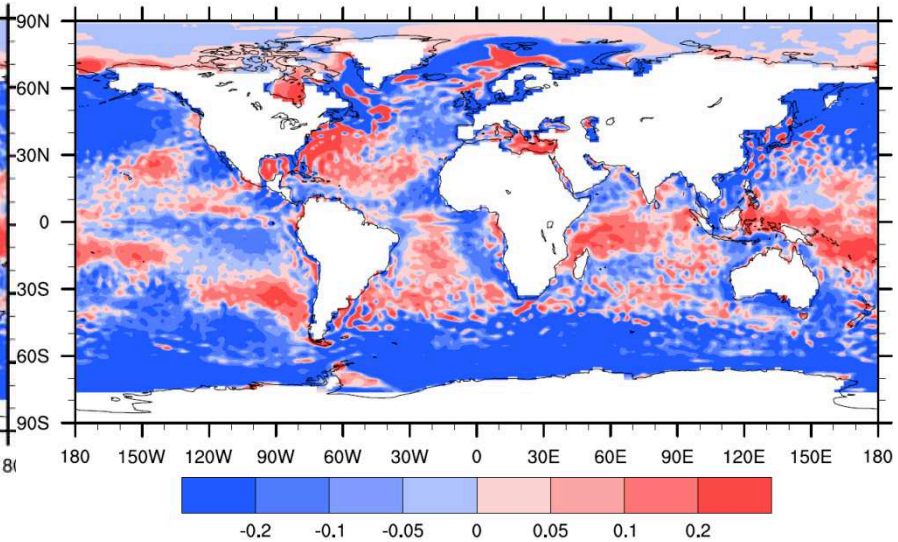
CCI-AMIP Climatology niño and niña years

January

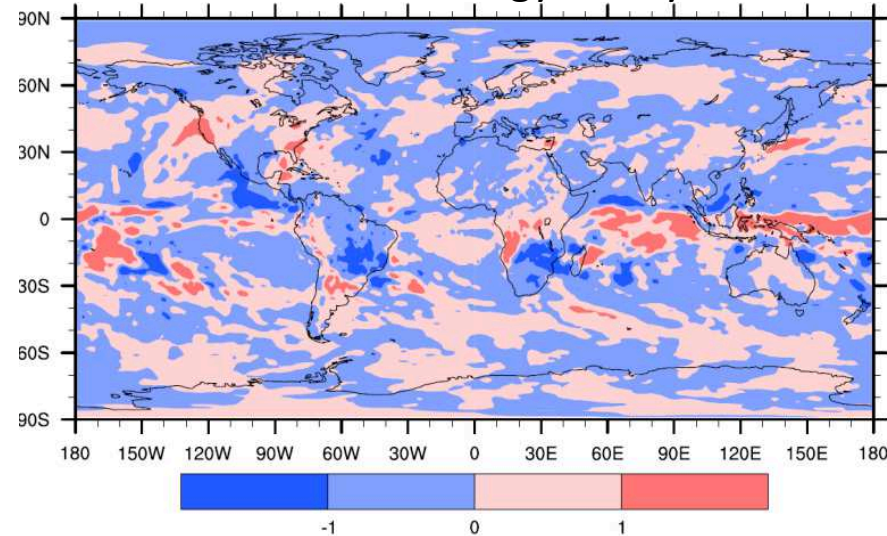
Jan SST Climatology niño years



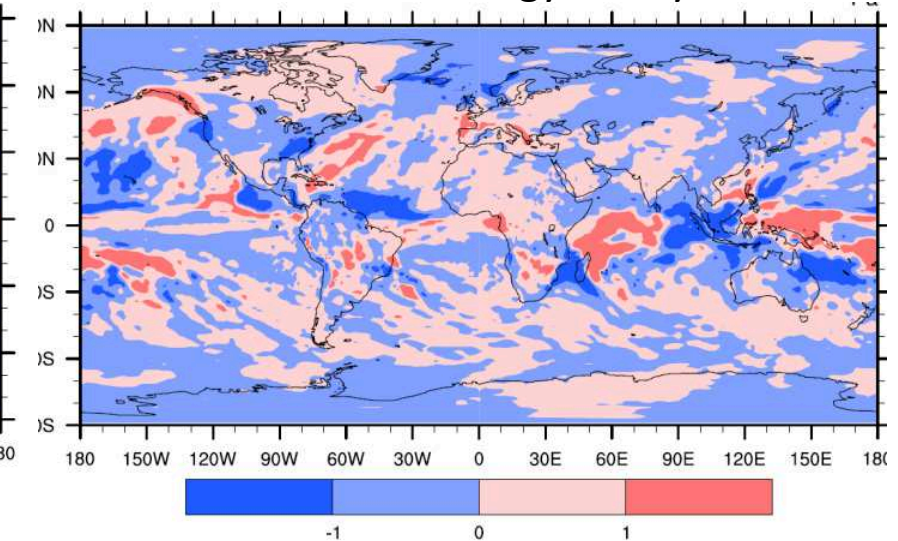
Jan SST Climatology niña years

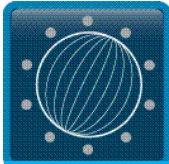


Jan PRECIP Climatology niño years



Jan PRECIP Climatology niña years





- **RESULTS:**

- This new analysis shows a slight but significant impact of higher temperatures by 0.1 to 0.2 °C compared to the AMIP recommended SST on the simulated precipitation over the Western tropical Pacific (change within about 10%) as the climate sensitivity response in this region is large through the convection intensification over warmer waters.

- **PERSPECTIVES :**

- A new CMIP6 AMIP-like simulation is currently prepared with Arpege-Climat (T359 close to the higher resolution version that will be used for CMIP6) using CCI SST (v02.0; monthly means) and sea-ice (v2.0 ; monthly means) forcings over the period 2003-2010.
- The simulation will be compared with an existing AMIP experiment performed with the same model version.