



CP and EP ENSO teleconnections in an idealised atmospheric IGCM

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A series of highly idealised experiments has been carried out using an intermediate AGCM (Reading IGCM1), to explore the atmospheric dynamical response to CP and EP ENSO events. This IGCM version is a dry model, forced simply by relaxation to a prescribed temperature field.

A basic climate state is first established: zonal variations in the tropics sustain representation of a Walker circulation, and for some scenarios a stratospheric winter polar vortex is also represented. Further heat sources in the tropics are then added to represent El Nino and La Nina events of various locations and amplitudes.

In the extratropics idealised topography is added to create further zonal variations to the flow. The tropical ENSO-like perturbations generate Rossby wavetrains with tropospheric and stratospheric pathways that then interact with the extratropical features.

The displacement of mid-latitude jets is of particular interest. Ensemble experiments are being analysed to explore the circumstances that favour substantial changes, and the associated dynamical mechanisms.