



## **The QBO/ENSO connection in climate models**

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A recent study (Christiansen et al., GRL, 2016) reported an alignment of the phase of the QBO in the years after strong warm ENSO events. This was found both in observations and in an ensemble of AMIP type model experiments. Together, these results strongly indicate that the QBO might be influenced by strong ENSO events.

Here we present an analysis of the QBO/ENSO connection in a subset of CMIP5 and CCMVal2 models with spontaneous QBOs. The study includes an investigation of how the models represent the variations of the QBO over the annual cycle and as function of the ENSO. It also includes an investigation of how the modelled QBOs respond to strong ENSO events.

We find that the observed annual cycle in the phase-speed of the QBO is well represented in most model. However, larger discrepancies between observations and models are found in how the phase-speed of the QBO depends on the ENSO. A complicating factor is that the phase-speed of the QBO also depends on the phase of the QBO itself. Also, the modelled QBOs do not respond systematically to strong ENSO events.