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Abstract

### **SST Initialisation**

The presentation aimed to convey three main points:

First, that although low frequency global temperature variability has been largely driven by external radiative forcing, both natural and anthropogenic, a significant fraction of the multi-decadal variability may be natural in origin. Evidence for this is provided from both the observed trend patterns and model studies, such as Zhang et al. 2007.

Second, restoring coupled model SST towards observed anomalies drives multi-decadal fluctuations in the Atlantic meridional overturning circulation (MOC), by apparently forcing changes in deep convection in the Labrador Sea. Neglecting salinity is a major deficiency of the method, and most likely gives rise to a too strong response in the MOC.

Third, initialised hindcast skill above that due to radiative forcing was demonstrated for temperature fluctuations in the North Atlantic and Tropical Pacific, and over Europe and North America. Initialised and radiatively forced only predictions for the next decade show major differences, even on a global scale, and argue for initialised near term climate predictions. Although the model suffers from significant biases, I believe the results are promising.