The SINTEX EU FP5 and CGAM/Hadley Centre HadOPA projects provided an unprecedented collection of long coupled ocean-atmosphere GCMs simulations, sharing either the same ocean or the same atmosphere component. The assessment of tropical variability in this modular framework exhibited some unforeseen behavior in that the atmosphere appears to be the dominant player in ENSO variability. These results need to be confirmed in higher atmosphere resolution simulations. The goal of the present project is to add the SINTEX T106 simulation to the already existing SINTEX T30 and T42 simulations. During the first year a 100 year control run will be performed. Sensitivity experiments to the coupling strength will be performed the second year. A corresponding project at the Hadley Centre will explore the sensitivity to the Unified Model’s atmosphere (HadAM3) resolution.