

SEA ICE VARIABILITY IN THE CSIRO MK3.0 AND MK3.5 MODELS IN THE ANTARCTIC REGION

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The variability in sea ice in two versions of the CSIRO Mk3 coupled climate model will be examined to determine the links between the forcing on the ice and major Southern Hemisphere climate modes, in particular SAM, Antarctic Dipole and ENSO, to see which sectors around the continent are most influenced by these effects. The analysis will include coincident and lagged correlation patterns and EOF's of the main modes. Two versions of the model will be employed as they differ in their ENSO characteristics, background model drift in the Southern ocean and Southern ocean stratification conditions. The ENSO link, as expected, is strongest in the Pacific sector, with limited correlations outside this region, whilst other modes of variability have more circumpolar characteristics. The linkage of ice concentration anomalies with those seen in other sectors will be investigated, and whether co-variability is linked through faster propagating atmospheric or slower oceanic modes.