The Attribution of Causes of Current Decadal Droughts

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It is shown that the current decadal drought (or rainfall decrease) in Southeast Australia (essentially the Murray-Darling Basin) since the mid-1990s is coincident with corresponding rainfall decreases in the continental United States, Hawaii, equatorial Africa and the South American Altiplano. There are corresponding increases in Northwest Australia and the Amazon basin, and these are all part of a global pattern of variability that includes sea surface temperature (SST), atmospheric motion, and a general increase in rainfall in the equatorial oceanic tropics and a decrease in the subtropics and mid-latitudes. The causes of this pattern of variability are investigated by taking SST as a representative variable, and examining the correlation of this pattern over a much longer time period with identifiable patterns of SST. The procedure gives quantitative estimates that show that the current drought is attributable to a mixture of global warming, the Atlantic meridional oscillation and Pacific processes, and numbers will be given in the presentation.

Seminars held in Room 345, Building 28, Fridays 1pm-2pm
All Welcome!
For more information, contact Laura Davies or Jo Brown (room 215, x20110)