Recent research has highlighted a weakening of the Walker circulation as a major feature of the response of the Indo-Pacific system to climate change. The Walker circulation also fluctuates on multidecadal time scales and the long-term trend is manifested in variability on shorter time scales. This talk will review the impact of the long-term change on the properties of Indo-Pacific variability, and on regional climate through global teleconnections of El Niño-Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD) in regions affected by these modes. A focus is placed on Australia’s highly variable climate, from bushfires (e.g., Black Saturday, 7 February, 2009), droughts, to floods (Brisbane Floods, 2011).