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## Impacts of Tropical Modes of Climate Variations

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Natural modes of climate variations such as Indian Ocean Dipole (IOD), El Nino/Southern Oscillation (ENSO) and recently identified ENSO Modoki have huge impacts on many parts of the world. For example, some of the extreme flooding events in East Africa and droughts in Australia are associated with the positive IODs. The impact was severe when in a rare turn of the history three positive dipole events evolved back to back during 2006, 2007 and 2008. In addition, more number of El Nino Modoki (which causes a different teleconnection pattern as compared to that of ENSO) events are observed in recent decades. These climate phenomena also influence high-frequency weather events by either anchoring or destroying the triggering mechanisms. Furthermore, these climate variations influence the coastal securities by modulating coastal sea level variations on interannual to decadal time scales. Therefore, it has become an essential task to understand these changes in the characteristics of the Indo-Pacific climate variations, apparently related to changes in the background conditions under the global warming stress.

Keywords: Ocean, Atmosphere, Climate, Variations, IOD, ENSO Modoki