

Tropical Atlantic and Indian Ocean Influences on the Terrestrial and Marine Resources of Africa

Prof. Mark R. Jury

Head of Environmental Sciences, University of Zululand

mjury@pan.uzulu.ac.za 27 35 9026326

Abstract: Resource indices for water supplies, food crop, fisheries and economic resources in selected African countries are statistically related to ocean climate conditions. Ocean climate variability is found to play a major role in determining productivity. For example in South Africa, economic growth rate is closely linked with summer rainfall and sea surface temperatures in the surrounding oceans. Dynamical concepts are provided to understand the relationships and predictive models are examined. Convective variability in the Indian Ocean monsoon is shown to be modulated by ENSO and coupled rossby waves. In the tropical Atlantic, coastal SSTs off Angola give indication of the potential for floods, fisheries production and malaria incidence at one year lead. The advantages of mitigating risks through ocean prediction are outlined in the African context. New observing systems that are likely to facilitate this are outlined.