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Preliminary results from Cape Verde during the NASA African Multidisciplinary Analysis Mission

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The NASA African Monsoon Multi-disciplinary Analysis (NAMMA) mission, part of a multi-national mission to identify among many other parameters, West African-originating easterly waves that may develop into damaging hurricanes as they move westward over the southern Atlantic Ocean, took place between 15 August 2006 and 14 September 2006. Easterly wave and tropical convective activity interacting near the Intertropical Convergence Zone (ITCZ) are known to trigger the formation of tropical cyclones. Radiosondes with Global Positioning System (GPS) capability were released every 4 hours from Cape Verde Islands as part of the NAMMA investigation. These radiosondes are able to obtain 4-D position information (time, altitude, latitude, and longitude) and are contributing to a better understanding of the morphology of easterly wave development and their sustainment. High-resolution measurements of temperature, relative humidity, and wind at a vertical resolution of 4-6 meters effectively captured significant temporal features of convective and easterly wave activity. We present preliminary time series of temperature, water vapor, and wind covering the 30-day campaign period. A brief example of interaction of the Saharan Aerosol Layer (SAL) with water vapor, wind, and wave passage is discussed.