Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
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Island effects on Rainfall and Airflow under Weak Disturbed Trade-Wind Conditions over Oahu and Characteristics of Rainfall and Airflow over Kauai

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Date: **Wednesday, April 8, 2015**
Refreshments: **3:00pm – 3:30pm at MSB Lanai**
Free Cookies, Coffee & Tea Provided
Seminar Time: **3:30pm**
Location: **Marine Sciences Building, MSB 100**

Abstract:

This work aims to extend our understanding of the effects of topography and local circulations on regional and island-scale weather and climate over the Hawaiian Islands. The diurnal cycle, island-scale weather, and climate under summer trade wind conditions for the islands of Hawaii, Maui, and Oahu have been studied extensively. There are also a few studies on localized heavy rainfall and high wind events during the winter months. In this study, the rainfall and airflow in response to island effects under weak disturbed trade wind conditions during the summer months over Oahu will be discussed. The airflow patterns over Kauai and Oahu share some similarities in that both islands have mountaintops that are below the trade-wind inversion. However, the rainfall characteristics over Kauai show much higher frequency and larger daily accumulation than those over Oahu during the summer months. The impacts of mountain heights and island sizes on trade wind showers and island circulations under typical summer trade wind conditions will be investigated using the Weather Research and Forecasting (WRF) model. Recently, studies of El Niño classifications showed two types based on the patterns of Sea Surface Temperature (SST) anomalies. Using results from high-resolution models, the characteristics of rainfall and airflow over Kauai during two different types of El Niño will be studied and compared with that over the Big Island, where the mountaintops are above the trade wind inversion.