



UNIVERSITY
of HAWAI'I
MĀNOA

Department of Atmospheric Sciences Seminar Announcement

Department of Atmospheric Sciences, S.O.E.S.T., University of Hawai'i at Mānoa
2525 Correa Road, HIG 350; Honolulu, HI 96822 ☎956-8775



Inter-basin teleconnection between tropical Pacific and Atlantic

Ms. Leishan Jiang

Ph.D. Candidate

Department of Atmospheric Sciences
University of Hawai'i at Mānoa

Date: Wednesday, November 13, 2019
Refreshments: 3:00pm at MSB courtyard
Cookies, Coffee & Tea Provided
Seminar Time: 3:30pm
Location: Marine Sciences Building, MSB 100

Abstract:

El Niño-Southern Oscillation (ENSO) is the most dominant mode on interannual timescale over the globe. Classic ENSO dynamic frameworks emphasized local precursory signals in the Pacific (such as equatorial Warm Water Volume, WWV) according to the recharge oscillator. But recent studies demonstrated that ENSO prediction could be improved with information from tropical Indian and Atlantic Oceans. In this seminar, I will mainly focus on discussing the inter-basin teleconnection between tropical Pacific and Atlantic on interannual timescale. Previous observational and modeling evidence indicate that the Tropical North Atlantic (TNA) and Equatorial Atlantic (EA) are two dominant centers for this two-way interaction. For TNA variability, it can be forced by ENSO-induced atmospheric heating through extratropical and tropical pathways. The relative contribution of ENSO-induced extratropical and tropical forcing in inducing TNA SST (Sea Surface Temperature) anomalies will be discussed based on observational analysis and numerical experiments. How the TNA anomalous SST affects ENSO evolution will also be mentioned. For EA variability, previous studies suggest that the impact from ENSO is not robust, however, the influence of EA variability on ENSO is pointed out to be significant since the 1970s. In this part, I will describe some details about the interaction between ENSO and EA variability based on observational analysis and GCM (General Circulation Model) simulations.