Oceanography Seminar

Christina Karamperidou

ASSISTANT PROFESSOR
DEPARTMENT OF ATMOSPHERIC SCIENCES
UNIVERSITY OF HAWAII AT MANOA

"Paleo-perspectives on ENSO diversity"

In the fifty years since the seminal 1969 paper by J. Bjerknes on the El Niño-Southern Oscillation (ENSO), which shaped early understanding of this coupled atmosphere-ocean phenomenon and its impacts on global weather and climate, instrumental observations, paleoclimate records and numerical modeling have revealed the many aspects of ENSO complexity and diversity. Despite the significant progress in understanding and modeling ENSO, questions remain open about the origins and nature of ENSO flavors -Eastern vs Central Pacific events- and their relationship with the background mean climate of the tropical Pacific. Our projections of changes in ENSO diversity and the mean tropical Pacific climate in response to greenhouse-gas forcing are plagued by model uncertainty and biases. In this talk, I will first present a study of ENSO diversity in a suite of paleoclimate model simulations of the Holocene, and show how they can provide emergent constraints to help narrow model uncertainty in projections of tropical Pacific climate change. Then, I will address the