

First PICSC/PICCC Science Review Symposium



Monday, July 15, 2013

Campus Center Ballroom, University of Hawai`i at Mānoa

Over the last few years the US Department of Interior (DOI) has created innovative regional partnerships with academic institutions and other community stakeholders as part of its strategy to incorporate the effects of climate variation and change in its mission to protect the nation's natural and cultural resources. Specifically a network of 22 Landscape Climate Cooperatives and a network of 8 regional Climate Science Centers (CSCs) have been established across the US. As part of the DOI strategy, Hawai`i and the US affiliated Pacific islands are served by the Pacific Islands Climate Science Center (PICSC) and the Pacific Islands Climate Change Cooperative (PICCC). The Pacific Islands region is unique in having a single LCC with the same footprint as the regional CSC. The PICSC was founded last year and is a partnership of the DOI with the University of Hawai`i at Mānoa, the University of Hawai`i at Hilo, the University of Guam and a number of other institutions. The PICCC was formed in 2009 and includes a wide range of partners including agencies of the federal, state and local governments, academic institutions and other community organizations. Both the PICCC and PICSC have sponsored research projects related to climate variation and related effects in the insular Pacific. This Symposium will provide an opportunity for an initial review of progress in these projects.

Session I (Chair: Kevin Hamilton)

9:00-9:15 Introductory Remarks

David Helweg, PICSC Interim Director & Jeff Burgett, PICCC Science Coordinator

9:15-9:45 Keynote Lecture

Peter Vitousek, Dept. of Biology, Stanford University

Atmospheric and Geological Sources of Nutrients for Forests and for Traditional Agriculture: Thresholds and Irreversibilities Associated with Climate and Climate Change

Session II (Chair: Jeff Burgett)

9:45-10:00 Oliver Elison Timm, IPRC, UH Mānoa

A first look at Downscaling CMIP5 Climate Change Scenarios onto Regional Scales in Hawai'i: Rationale, Results, and Residuals

10:00-10:15 Kevin Hamilton, IPRC, UH Mānoa

Fine Scale Climate Simulation and Climate Change Projection for the Hawaiian Islands

10:15-10:30 Yuqing Wang, IPRC, UH Mānoa

Dynamical downscaling of climate simulations for Guam and American Samoa: Model configuration and preliminary results

10:30-10:45 BREAK

Session III (Chair: Sharon Ziegler-Chong)

10:45-11:00 Axel Timmermann, IPRC, UH Mānoa

Stable Carbon Isotope Variations of Mamane Trees - a Paleo Rain gauge for Hawai'i?

11:00-11:15 Tishanna Ben, Dept. of Biology, UH Hilo

Demonstrating Annual Tree Rings in Akoko, an Endemic Hawaiian C4

11:15-11:30 Ryan Longman, Dept. of Geography, UH Mānoa

Solar Radiation at High Elevations In Hawai'i

11:30-11:45 Mallory Barnes, Dept. of Natural Resources and Environmental Management, UH Mānoa

An Assessment of Diurnal and Seasonal Cloud Cover Changes Over the Hawaiian Islands Using Terra and Aqua MODIS

11:45-noon Presentation by Jeff Burgett of brief slide shows from Jeffrey Maynard (Centre de Recherches Insulaires et Observatoire de l'Environnement, French Polynesia), Curt Storlazzi (USGS Pacific Coastal and Marine Science Center), David Beilman (Dept. of Geography, UH Mānoa)

Noon-1:00 LUNCH

Session IV (Chair: David Helweg)

1:00-1:15 Lucas Fortini, PICCC

A Landscape-Based Assessment of Climate Change Vulnerability for all Native Hawaiian Plants

1:15-1:30 Tamara Wong, Dept. of Geography, UH Hilo

Adding to the Conservation Toolbox: Modeling Climate-Driven Changes to Dominant Hawaiian Vegetation

1:30-1:45 Paul Krushelnycky, Dept. of Plant and Environmental Protection Sciences, UH Mānoa

The Role of Drought Tolerance in Haleakala Silversword Viability

1:45-2:00 Alison Ainsworth, Dept. of Botany, UH Mānoa

Predicting Effects of Climate Change: Ecosystem Drivers in the Hawaiian Subalpine Shrubland

2:00-2:15 Rebecca Ostertag or Creighton Litton, Dept. of Biology, UH Hilo

Long-Term Permanent Plot Measurements in Hawai'i

2:15-2:30 Sara Hotchkiss, Dept. of Botany, University of Wisconsin

The Past as Prologue: Using Present Distributions and Past Dynamics to Inform Future Scenarios for Cloud Forest and High-Elevation Species in Hawai'i

2:30-2:45 BREAK

Session V (Chair: Kevin Hamilton)

2:45-3:00 Jordie Ocenar, Department of Plant and Environmental Protection Sciences, UH Mānoa

Modeling Endemic Parasitic Wasp Elevational Range Shift as a Result of Climate Change

3:00-3:15 Carter Atkinson

Immunological Markers for Tolerance to Avian Malaria in Hawai'i `Amakihi: New Tools for Restoring Native Hawaiian Forest Birds?

3:15-3:30 Pablo Oleiro, Dept. of Fisheries and Wildlife Sciences, University of Missouri

Avian Population Responses to Climate Change and Anthropogenic Landscape Alterations in Insular Micronesia

3:30-3:45 Joy Liao, Dept. of Forest and Wildlife Ecology, University of Wisconsin

How Climate Changes Affect Malaria Transmission in Hawaiian Forest Birds -Preliminary Evaluation

3:45-4:00 Scott Shaffer, Dept. of Biological Sciences, San Jose State University

Effects of Interannual Variability in the Transition Zone Chlorophyll Front on the Habitat Use and Reproductive Success of Laysan and Black-Footed Albatrosses

4:00-4:15 Tiffany Anderson, Dept. of Geology & Geophysics, UH Mānoa

Shoreline Data Analysis

4:15-4:30 Steven Colbert, Program in Marine Science, UH Hilo

Real-Time Observations of Benthic Ocean Chemistry on Two Coral Reefs in West Hawai'i

4:30-4:45 Rusty Brainard, NOAA Pacific Islands Fisheries Science Center

Monitoring the Ecological Impacts of Ocean Acidification on Coral Reef Ecosystems of the Pacific Islands

4:45-5:00 Keisha Rodriguez, Dept. of Biology, UH Mānoa

*Response of Hawai'i Reef Coral, *Montipora capitata*, to Temperature, Irradiance, and pCO_2*

5:00-5:15 Mark Lander, University of Guam

Micronesia's Climatic Hockey Stick: The Effects of a Recent and Abrupt Shift to a La Niña Dominated Climate System

5:15-5:30 Christian Giardina or Richard MacKenzie, Pacific Southwest Research Station, USDA Forest Service

Decision Support Tools for More Effective Watershed Management in the Face of Climate Change and Increased Spread of Invasive Species