



Highlights of the 2nd Climate Science Symposium

About half of the U.S. population lives in coastal lands and watersheds, and 58% of the U.S. gross domestic product originates from the coasts. In these same regions, the population is projected to double by the year 2100 despite the threat of sea-level rise, changing wave regimes, and increased ocean salinity and acidity. This dire anticipated outcome, pulled from the most recent IPCC (Intergovernmental Panel on Climate Change) Report, and personal observations from her professional experiences, were presented by Dr. Virginia Burkett (USGS Chief Scientist and IPCC Report Co-author), who, as this year's keynote speaker, opened the Second Annual Pacific Islands Climate Science Center (PICSC) and Pacific Islands Climate Change Cooperative (PICCC) Climate Science Symposium with her speech entitled *Hot Spots of Vulnerability to Climate Change: Low-Lying Coasts and Small Islands*.

This year's two-day symposium took place at the East-West Center's Imin International Conference Center on University of Hawai'i at Mānoa (UHM) campus and hosted a diverse collection of climate science talks ranging from the physical and atmospheric sciences to interactions of human and natural communities with their changing physical world. Physical science talks gave insight into historical and predicted cyclone activity in the Pacific, the climate of Guam over thousands of years, hydrology and flooding on O'ahu, ocean acidification, coastal erosion hazards, rainfall and its dependence on the trade wind inversion layer, and changes to low-flow streams on the Main Hawaiian Islands.

Vegetation and wildlife interactions with their physical surroundings above and below the water line encompassed themes on the movement of marine life in coral reefs, the effects of rainfall or temperature on the limits of forests and individual species, the resilience of different plant types to extreme changes in climate, and the ways managers might lessen the impacts of change on endangered plants and animals. Other research focused on human values and



Virginia Burkett gives her key note address. Photo credit, Gisela Speidel.

connection to “place” such as the economic and recreational worth of surfing and fishing spots, the importance of coral reefs in preventing beach erosion and protecting infrastructure, the effects of rising water on natural and cultural coastal sites, and the integration of local knowledge with scientific study.



The second day of the symposium gave voice to two panel sessions on climate policy and stakeholder-driven climate science. Hawai‘i State Representative Chris Lee, Hawai‘i State Sustainability Coordinator Jacqueline Kozak-Thiel, and Associate Professor of Law at UHM’s William S. Richardson School of Law Maxine Burkett led the first panel, entitled *Climate Law and Policy: Emerging Developments from the Local to*

the Global. The panel members brought to the discussion their own experiences of people’s varied perception of the climate change conversation, the decision-making at different governmental levels, and the process of policy creation. The distinguished panelists shed light on the steps the Hawai‘i government is taking to lessen the state’s dependence on fossil fuels, ways in which climate science helps decision-making even at US Administration levels, and the very real challenges to, and impact on, the global community regarding the projected displacement of peoples by climate changes.

The second panel, *Co-producing Knowledge and Adaptation Strategies*, led by Heather McMillen (Department of Botany, UHM), Eva Schemmel (PhD candidate, Hawai‘i Cooperative Fishery Research Unit, UHM), and Noelani Puniwai (PhD candidate, UHM), gave accounts of how the panel members involved the community at their study locations to guide their research. The scientists described the success of their work and the useful tools produced with the knowledge, experience, and collaboration of community members. The panel urged scientists to engage in community participation when determining the goals of their research and to become part of the community as much as possible.

If you would like to learn more about the research presented at this year’s symposium, please visit the symposium [website](#) where you can view the presentations and posters.