

Responding to Climate Change Workshop Summary

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This past week, participants from Oahu, Kauai, Maui, Hawai'i Island, Palau, New Zealand, Washington, Samoa, American Samoa, and Pohnpei joined together to partake in the *Responding to Climate Change* workshop. NOAA's Coral Reef Conservation Program and the Office of National Marine Sanctuaries through the Papahānaumokuākea Marine National Monument worked with the Hawai'i Institute of Marine Biology to train coral reef managers, scientists and community members to address coral bleaching and climate change in their communities. Participants arrived Monday evening on Moku O Lo'e (Coconut Island) and were treated to a relaxing dinner.



Workshop participants from Hawai'i and the Pacific.



Mehanaokalā Hind and Darren King talk about indigenous environmental knowledge.

The first day of the workshop covered topics such as climate change, ocean acidification and mass bleaching. Local case studies were explored including a mass bleaching event in the Papahānaumokuākea Marine National Monument. In addition to these concepts, an introduction to indigenous environmental knowledge was presented by Mehanaokalā Hind looking at the *Kumulipo* (*mele ko'ihonua* – a Hawaiian creation or genealogical chant that includes the coral polyp) and a special presentation on predicting seasonal changes and Maori cultural monitoring by special guest Darren King. Participants worked to learn how to develop their own rapid response coral bleaching plan and learned about Hawaii's plan which is currently in place with lead Dr. Greta Aeby. In the evening, participants got to know each other better by talking about where they are from and what they do over dinner.



Participants get to know each other over dinner at the beach house.



Mahina Pashon Duarte explains how to read the environment to predict the weather and seasons.

On day two of the workshop, participants had an early start where they were treated to an activity at sunrise. Participants were introduced to indigenous ways of knowing and observing weather and seasonal changes. The lectures during the morning continued with assessing ecological impacts, coral resilience and learning to identify coral bleaching. This knowledge was applied in the field while the group got to snorkel in Kāne'ohē Bay, carrying out a group activity examining coral resilience. KHNL news team joined us on our field trip and covered the workshop on their evening news program.



Kāne'ohē Bay sunrise.

On the third morning, the group got to learn about a project that included combining both cultural and biological health indexes presented by HIMB scientist, Dr. Ku'ulei Rodgers and long time Kāne'ohē resident and Paepae o He'eia fishpond executive director, Hi'ilei Kawelo. Later that morning workshop topics moved toward the socioeconomic impacts of coral bleaching and climate change. KHON reporters were also present to interview participants on the workshop. In the afternoon, breakout groups went outside to carry out a management activity and group discussion. Topics of communication strategies and outreach were covered as well.

In the evening the workshop participants worked together to create their own meal from the land and sea including *moi* (Pacific Threadfin) brought from the He'eia fishpond, and invasive *limu* (*Gracilaria salicornia*) salad. The meal was so *ono* and allowed the group to talk and share about food preparation and local cultural values.



Workshop participants prepare their meal together. (From left to right) Workshop participants: scaling the *moi* with an 'opihi shell, cleaning the *limu*, chopping the tomato and onion for the *limu* salad, wrapping the *moi* in tea leaf, enjoying our *ono* meal.

The last day of the workshop presented topics of socio-ecological resilience, and reef management. The group had a final opportunity to work on their bleaching response plans and share with the group. The workshop concluded with a wonderful reception where additional community members, managers and scientists were invited. The evening including live Hawaiian music, heavy *pupus* and remarks from visiting workshop participants. Overall the workshop was a great success and marked an opportunity for both the cultural and scientific community to come together to discuss and plan for coral bleaching and climate change.



The closing reception was enjoyed by both participants and other invitees. (From left to right) Enjoying the evening with some amazing Hawaiian music, talking amongst friends over *pupus*, participants gave thanks and shared their experiences during the workshop.



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Workshop Held to Address Effects of Coral Bleaching and Climate Change in the Pacific

This week marine conservationists are meeting to address the threat of climate change to coral reefs in the Pacific. NOAA's Coral Reef Conservation Program and the Office of National Marine Sanctuaries through the Papahānaumokuākea Marine National Monument are working with the Hawai'i Institute of Marine Biology to train coral reef managers, scientists and community members to address coral bleaching and climate change in their communities.

A four-day workshop is designed to bring together participants from Hawai'i and across the Pacific to identify successful management strategies for marine managed areas. The workshop is taking place at the Hawai'i Institute of Marine Biology (HIMB) on Moku O Lo'e (Coconut Island) following the 2008 U.S. Coral Reef Task Force (CRTF) meeting held in Kona last week.

"Climate change is an emerging threat to our marine managed areas and this workshop is designed to support managers in protecting coral reefs in the Pacific," said 'Aulani Wilhelm, NOAA's superintendent for the Papahānaumokuākea Marine National Monument.

This workshop will present tools to predict mass coral bleaching and rapidly assess the ecological and socioeconomic impacts of bleaching events. "HIMB recognizes the importance of combining Western science and traditional knowledge to address critical management questions necessary for the conservation of coral reef ecosystems," said Jo-Ann Leong, director of HIMB.

This workshop was initially developed by NOAA and Australia's Great Barrier Reef Marine Park Authority (GBRMPA) and has been customized to address Pacific reefs and the vital role traditional knowledge plays in managing coral reefs. Since its inception, two additional workshops have taken place in American Samoa and the Florida Keys.

Related Sites

Responding to Climate Change Workshop:
<http://coralreefwatch.noaa.gov/satellite/education/workshop/>

Hawai'i Institute of Marine Biology: <http://www.hawaii.edu/himb/>

Papahānaumokuākea Marine National Monument: www.papahanaumokuakea.gov



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