

Four Active Community Partnership Programs

PDC is proud to give back to our community through four active community partnership programs: the Maui Community College PDC Internship Program; the Maui Economic Development Board's Women in Technology Program; Maui Voluntary Organizations Active in Disasters; and Education and Outreach to Hawaii's Schools.

Maui Community College PDC Internship Program

Since 1999, PDC has offered an internship program through Maui Community College in Hawaii, giving students the opportunity to enhance their technical skills. In the past four years, 23 student interns have worked at PDC, earning college credits. Seven of these have become PDC employees and others have begun successful technology careers.



"An invaluable opportunity - get real world experience outside of the classroom!"

-D. Leong, Maui Community College PDC Intern Graduate, now working at PDC full time

Maui Economic Development Board's Women in Technology Program

PDC continues its partnership with the Maui Economic Development Board to encourage young women to consider a career in technology by hosting visits to PDC, demonstrating technologies, and discussing career options.



"We can always count on PDC as a strong partner in our Women in Technology sponsored education initiatives"

- Leslie Wilkins, Vice President, Maui Economic Development Board, Inc., Women In Technology Project, Director

Maui Voluntary Organizations Active in Disasters

PDC supports Maui Voluntary Organizations Active in Disasters (VOAD), an umbrella group of more than 60 volunteer organizations. PDC assists Maui VOAD prepare for Maui's next disaster by serving on their organizing committee, hosting monthly meetings, supporting exercises, and coordinating website updates.



"Without PDC's assistance, Maui VOAD could not prepare as effectively to provide disaster services for our community."

- Chaplain Paul Kaneshiro, Chairman, Maui VOAD

Education and Outreach to Hawaii's Schools

PDC partners with Hawaii's schools to host students interested in Hawaii's hazards, disasters, and technology on a monthly basis.

- Haleakala Waldorf School, Kula, Maui
- Maui High School Native Hawaiians, Super Saturday, Kamehameha School, Maui
- Project EAST (Environmental And Spatial Technology) a national program, brought together students from Chiefess Kamakahelei Middle School (Kauai), Kea'au (Big Island), and King Kekaulike students from Maui.



"It was great to show the students how some of the technology that they have available to them through the EAST Program is used in real-world applications."

--Emily Haines, Project Environmental and Spatial Technology (EAST) Facilitator

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Hawaiian Partnerships Initiative

Providing Technical Support to Hawai'i's Disaster Agencies

As part of our mission to provide applied information research and analysis support, in recent years, the Pacific Disaster Center (PDC) has undertaken key initiatives in Hawai'i to help local officials plan for disasters and implement effective mitigation measures. Hawai'i is our most important partner, and PDC is on call with a full-time Liaison to support Hawai'i response operations.

Highlighted below are nine important projects:

- Hawai'i State Civil Defense Communications and Technical Capacity Development;
- Hawai'i Agency Response Training, Exercise, and Event Support;
- Weapons of Mass Destruction Modeling;
- Critical Infrastructure Protection Program;
- Big Island Remote Information Services Project;
- Hawai'i HAZUS Atlas of Earthquake Scenarios;
- PDC's Automated Tsunami Alert System;
- Dengue Fever Mapping and Analysis; and
- Four Active Community Partnership Programs.

In addition, PDC participates in several Hawai'i Science and Technology Advisory Committees, with respect to earthquake and tsunami hazard mitigation, as well as the Hawai'i Geographic Information Coordination Council.

Hawai'i State Civil Defense Communications and Technical Capacity Development

In cooperation with the Hawai'i State Civil Defense (HSCD), PDC supports HSCD's ongoing efforts of integrating value-added information resources. As part of this endeavor, PDC provides and maintains Internet communications for HSCD, connecting state and federal agencies with local governments and military assets.

Hawai'i Agency Response Training, Exercise, and Event Support

PDC works closely with Hawai'i first responders to apply disaster consequence assessment tools response and planning purposes. For example, while Hawai'i's 93rd Civil Support Team provides first response to its citizens, PDC provides analysis and mapping support for these decision makers. Since 2002, PDC has played a support role in over 20 exercises and events.



Dennis Fujimoto / The Garden Island

"In training we try to replicate the complexities of managing a Weapons of Mass Destruction terror attack. Our success is the result of integrated partnerships who have collectively worked together to take on the asymmetrical challenges of this threat. I see PDC as part of this team effort. The capabilities of PDC's imagery has been an integral part of the 93rd WMD CST's mission readiness for the past two years. As we strive to deliver real-time or near real-time site picture analysis and mapping to on-scene incident commanders, I have always been impressed with the reliability and professionalism of PDC's support crew who have assisted us in this endeavor."

- LTC S. E. Toy, Commander, 93rd WMD Civil Support Team

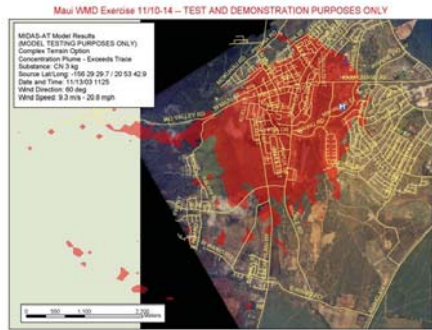


Institutional Capacity Development



"We are very proud that [beginning] in 1995/96 State Civil Defense partnered with the Pacific Disaster Center.... We have relied upon that charter to carry on our day-to-day activities in information management and technology, and, above all, in case we have a disaster."

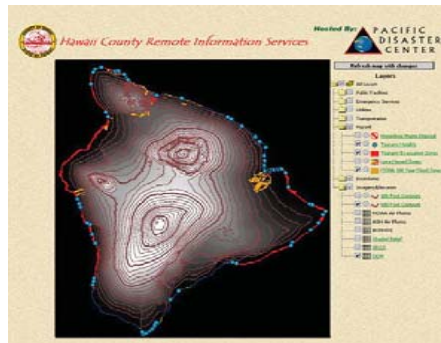
- Ed Teixeira, Vice Director of Civil Defense, Department of Defense, State of Hawai'i



In November 2003, PDC assisted Hawaii State Civil Defense and the 93rd Civil Support Team of the Hawaii Army National Guard during a four-day training exercise on Maui, Hawai'i. PDC products used during the exercise included plume models, GIS maps, and imagery analysis.

"We are grateful for the Pacific Disaster Center's expertise in providing the County of Hawaii's emergency personnel with this critical information service."

- Lisa Wong, County of Hawaii County Data Systems Department on the Hawaii County Remote Information Services



Hawaii County Remote Information Services, developed and hosted by PDC in partnership with Hawaii County.

Weapons of Mass Destruction Modeling

PDC provides technical and modeling support when Hawai'i government agencies conduct training exercises to prepare for Weapons of Mass Destruction events. Using modeling software called Meteorological Information and Dispersion Assessment System - Anti-Terrorism, (MIDAS-AT), PDC supplies valuable plume mapping information to emergency support teams, based on the chemical or biological agent, method of dispersion, amount, source, and origin, as well as ground elevation and weather information. The plume maps provide useful information on aerial photographs giving decision makers rapid situational awareness capability.

Critical Infrastructure Protection Program

PDC and Hawai'i State Civil Defense are collaborating to create a Critical Facilities Database by combining HSCD's Critical Infrastructure Protection program with PDC's Enterprise Geospatial Database. Data for the island of Oahu has been gathered in a geospatial database. Data layers have been added, including high-resolution images, digital elevation models, transportation networks, public safety facilities, and other resources. In all, this project will incorporate 210 critical facilities in the database. Officials from around the state can securely access this data online from different sources using Geographic Information Systems (GIS) software.

Big Island Remote Information Services Project

PDC has worked closely with Hawai'i County's Data Systems Department, Civil Defense, Police and Fire Departments, and the Office of the Mayor to provide secured remote spatial information services for Hawai'i County. This Remote Information Service (RIS) supports the County's strategy to develop these capabilities "in house" in the future. RIS is a PDC-designed and hosted ArcIMS-based map service that utilizes existing data from PDC's Enterprise Geospatial Database. Additional data resources, such as land zoning, have been provided by the Data Systems Department of Hawai'i County. Emergency responders can use the RIS to locate an area of interest, show hazard layers or surrounding sites of importance, and visualize alternative routes to, from, or around an area of interest. Users can also determine the name or ownership of an area of interest. This basic capability has many applications in planning for and responding to emergency situations.

Hawai'i HAZUS Atlas of Earthquake Scenarios

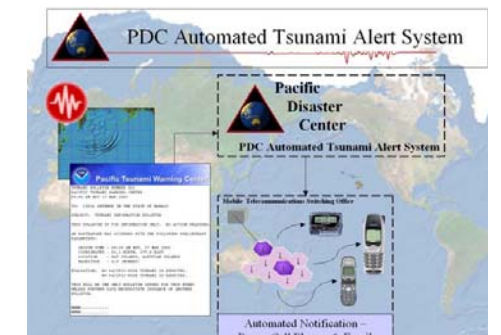
In Hawai'i, the risk of earthquakes is increased due to active volcanoes on the Big Island. In partnership with Hawai'i State Civil Defense and Hawai'i State Earthquake Advisory Committee, PDC is assisting to develop an Internet-based HAZUS Atlas. PDC's modeling analysts run HAZUS software, creating loss estimates that can be transmitted within hours of a destructive earthquake for review by federal, state, and county officials. The Federal Emergency Management Agency's Hazards U.S. (HAZUS) model can also be helpful in mitigation planning by estimating structural damage, as well as the human and economic impact from scenario earthquakes. As part of the Hawai'i HAZUS Atlas, PDC has created maps showing the level of shaking intensity for historical earthquakes on the Big Island. In order to give state officials a realistic damage scenario, PDC has modeled earthquake impacts to the current building inventory.

PDC's Automated Tsunami Alert System

Significant tsunamis occur in the Pacific Ocean on an average of every two years and can occur at any time. Hawai'i has lost more lives due to tsunamis than hurricanes, earthquakes, and floods combined. At the request of Hawai'i State Civil Defense, PDC has successfully implemented a fully-automated tsunami alert system for Hawai'i to provide emergency responders with the maximum warning time possible before a tsunami strikes. Alerts for emergency managers are important because the time between when a tsunami is generated and the time it reaches Hawai'i can range from only a few minutes to several hours.

Dengue Fever Mapping and Analysis

Between May 2001 and May 2002, 119 confirmed cases of Dengue Fever were reported by the Centers for Disease Control and Prevention in Hawai'i, the first major outbreak in 50 years. Although Dengue Fever may not seem like a disaster in a classical sense, it causes major financial and social impacts to the affected communities. PDC products supported a wide range of activities during the project. GIS tools were used extensively to map and analyze spatial and temporal relationships among data. Global Positioning Systems (GPS) and aerial photography were used to code Dengue-positive households along previously unmapped four-wheel drive roads. PDC's mapping efforts aided in identifying the transmission vector of the Dengue outbreak and the location of mosquito larvae, as well as assisted Maui County Vector Control in identifying areas requiring insecticide spraying.



Communications outline of PDC's Automated Tsunami Alert System from actual earthquake to tsunami alert in order to improve response capacity. PDC's Automated Tsunami Alert System: 1) Sends the official Pacific Tsunami Warning Center tsunami bulletin to the cell phones, pagers, and e-mail of emergency managers around the state; and 2) Posts the official bulletins and modeled tsunami travel times to the PDC Emergency Management Operations web site.



PDC Dengue Project Field Mapping - PDC specialists collected field data and provided GIS support to Maui County Vector Control insect eradication efforts during the Dengue outbreak in Maui.