



Pacific Disaster Center
on behalf of the
Pacific Risk Management Ohana
Observations and Data Management Hui

Final Project Report
2005 NSDI CAP, Geographic Information Coordination
Award #05HQAG0120

Hazards Data Framework
Development and Workshop

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Collaborating Organizations

Pacific Risk Management Ohana (PRiMO)
PRiMO; <http://www.csc.noaa.gov/psc/FHMPPI/>

U.S. Geological Survey/Western Region Geography (USGS)
USGS/WRG; <http://geography.wr.usgs.gov/>

National Oceanic & Atmospheric Administration/Pacific Services Center (NOAA)
NOAA/PSC; <http://www.csc.noaa.gov/psc/>

NOAA Integrated Data and Environmental Applications Center (IDEA Center)
<http://research.eastwestcenter.org/PacIOOS/noaaideta.html>

1 Project Narrative

This project leverages initial work undertaken by the Pacific Risk Management Ohana, a consortium of governmental organizations and institutions in the Pacific dedicated to supporting regional risk management activities, and its Observations and Data Management Hui (working group), by forging ties across technical, institutional, and financial barriers. The Hui supports collection, management, and sharing of hazards-related geospatial information and is dedicated to improving interoperability and sharing resources including data, standards, systems, and expertise to increase the overall effectiveness of regional risk management activities.

Several data framework development tasks have been initiated in the last year to begin to bridge existing gaps for existing hazards-related themes and data standards. These include: 1) Defining a natural hazards theme categorization; 2) Creating theme structure folders; 3) Creating data templates of standard contents for each theme; 4) Developing a series of island-based database dictionaries of existing holdings; and 5) Defining the parameters of a distributed information sharing mechanism.

Under 2005 NSDI CAP funding, work continued towards the development of a framework for data characterizing natural hazards and their impacts in the Pacific region. The two major tasks undertaken were: 1) Organizing and conducting a workshop bringing together key stakeholders to further the development of a natural hazard data framework, with initial focus on waves and water level (WWL) data, and 2) Modifying PRiMO's regional geospatial information portal, the PDC-hosted Asia Pacific Natural Hazards Information Network (APNHIN; <http://apnhin.pdc.org>), to adopt the framework.

1.1 *Natural Hazard Data Structure Workshop*

The workshop was convened on December 5-6, 2005, at the East-West Center in Honolulu, Hawaii. The workshop involved significant participation of key NOAA organizations, other U.S. Federal agencies including USGS and DHS/FEMA, and EWC, PDC, University of Hawaii, private sector companies and representatives from the Secretariat for the Pacific Regional Environment Programme (SPREP; <http://www.sprep.org.ws/>) and the South Pacific Applied Geosciences Commission (SOPAC; <http://www.sopac.org/tiki/tiki-index.php>) responsible for international climate and ocean observing programs in the Pacific. The workshop helped advance development of a wave and water level product line as an early focus for NOAA's support for both PRiMO and the Pacific Islands Integrated Ocean Observing System (PacIOOS; <http://research.eastwestcenter.org/PacIOOS/index.html>). With the participation of SPREP and SOPAC, the workshop also helped to advance the goal of aligning wave and water-level data collection, archiving, integration and sharing throughout the Pacific region.

Follow-up actions to the workshop included: 1) Posting of workshop materials, including the agenda, participants list, presentations, and summaries of discussions (<http://research.eastwestcenter.org/PacIOOS/wwl.html>), 2) Circulation of the WWL framework and data dictionary for subject matter expert review, and 3) Membership recruitment to participate in the waves and water level "product" and/or "expert" teams.

1.2 Natural Hazard Data Structure Implementation within a GIS Portal

The overarching goal of the PRiMO-APNHIN partnership is to bridge institutional, technical and financial barriers within the region through the establishment of an interoperable data sharing network and supporting application. Under the NSDI funding, the APNHIN GIS Portal / Search Engine was adapted to support PRiMO's natural hazards data structure and related framework documentation, including draft elements of the WWL component. Figure 1 shows the PRiMO "key words" pull down menu that was implemented within APNHIN's user interface. Additionally, existing APNHIN datasets were coded with the appropriate PRiMO natural hazard keywords. Figure 2 illustrates the results when the "Tsunami" keyword is specified. (See figures, next page.)

This effort provides the groundwork for the eventual incorporation of the other major hazard framework components, weather/climate, and seismic/volcanic data. It greatly enhances the ability of PRiMO's diverse members to share vital information to support disaster management activities throughout the Pacific region and will establish user community familiarity with hazard and risk data sharing and access applications and tools. This task followed the convening of the workshop and was completed during the second half of the award period. The modified APNHIN Search Engine will be showcased at the next annual PRiMO meeting, tentatively scheduled for March 2007 in Maui, Hawaii.

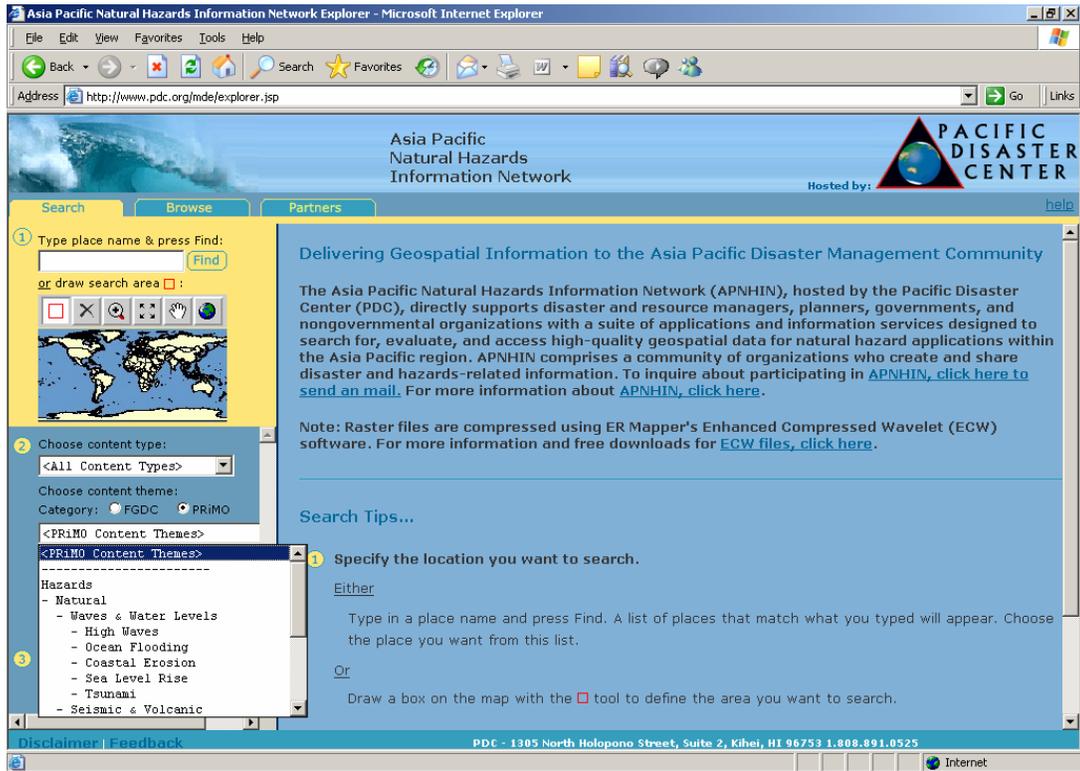


Figure 1. The APNHIN Metadata Search Engine has been modified to utilize the PRiMO natural hazards data structure, refined as part of this NSDI-funded activity.

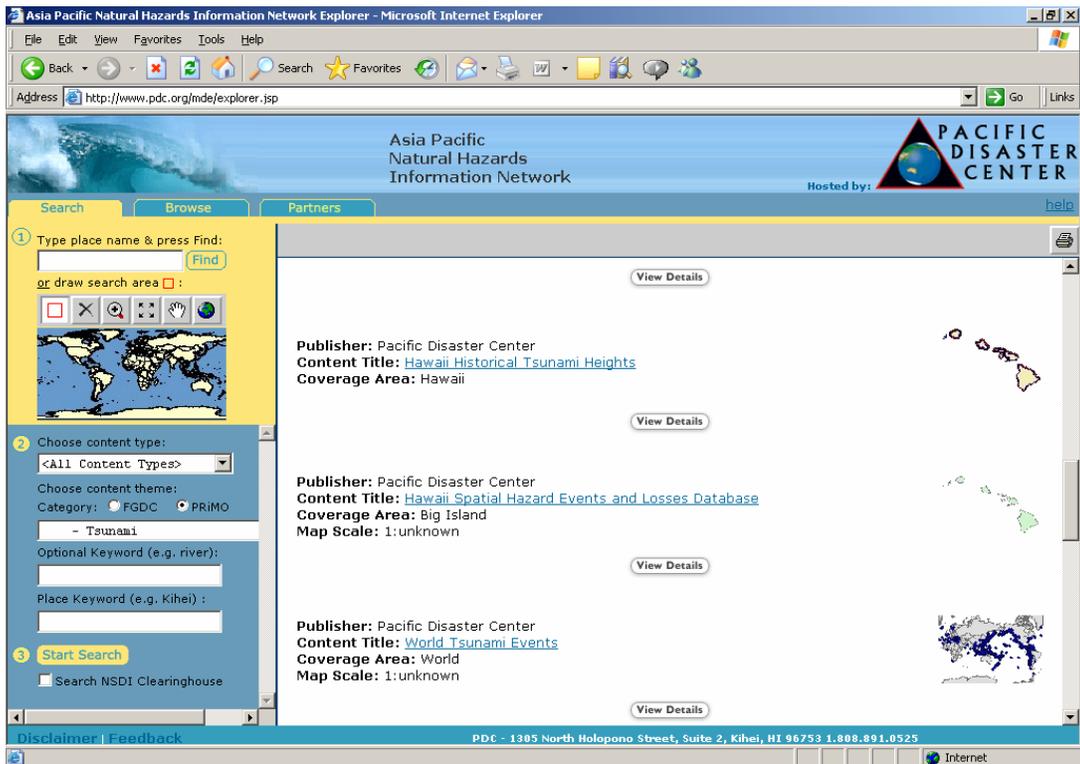


Figure 2. The keyword "Tsunami" returns a number of Hawaii-based and Global data sets.

2 Next Steps

The activities undertaken as part of this project promoted multi-agency representation across public and nonprofit sectors within the Pacific region. They support “Next Step” activities involving expanded development of the hazards data framework to increase the region’s capacity to share digital geographic resources and to strategically align geographic data collection and management efforts.

The tasks were geared towards a sustained dialogue among the current network of regional risk management partners and stakeholders. They help to establish a sense of community and an appreciation for the challenges and opportunities of working in the Pacific, given unique issues of geography, culture, politics, and risks.

Overall, the workshop and the PRiMO-APNHIN partnership activities helped to bridge institutional, technical and financial barriers within the region. Strong participation from a wide and growing range of partner agencies will aid in further establishing hazard and risk data management relationships that will enhance geospatial information program and initiative sharing, and foster opportunities for greater collaboration.

3 Feedback on Cooperative Agreements Program

The assistance received has been effectively used in addressing the task focus areas. The NSDI was appropriately credited as a key supporter and the primary funding mechanism of the workshop and PRiMO-APNHIN partnership activities. An NSDI Framework summary was also presented.

There are challenges of working in the Pacific, given unique issues of geography, culture, politics, and natural hazards. If our activity is to be successful and if PRiMO’s goal of wide-spread data sharing is to be met, strong participation from a wide range of agencies will aid in further establishing hazard and risk data management relationships that will enhance geospatial information program and initiative sharing, and foster opportunities for greater collaboration. A key challenge area to which more funds can be applied is expenses associated with workshop logistics and travel expenses for selected workshop participants, primarily including those from Pacific Island nations and states that would not otherwise be able to attend.