PACIFIC DISASTER CENTER

2015-2016 ACCOMPLISHMENTS
Fostering disaster-resilient communities through
information, science, technology, and exchange

Information that saves lives, protects assets, rebuilds communities, offers hope

Delivering information for all who need it is key to helping save lives through informed decision making.

A devastating 7.8 magnitude earthquake in Nepal, numerous extreme flooding events, communities destroyed by volcanic activity, and record-breaking wildfires were among the disasters affecting our world in 2015. In addition, a strong El Niño event increased the frequency and power of tropical cyclones around the world. PDC scientists, analysts, and developers worked together to give disaster managers access to one of the world's largest open-source hazard and related data inventories and provided life-saving information wherever natural disasters struck. During the year, in response to requests, PDC created more than 375 situational awareness products to support hazard and disaster events that occurred worldwide.

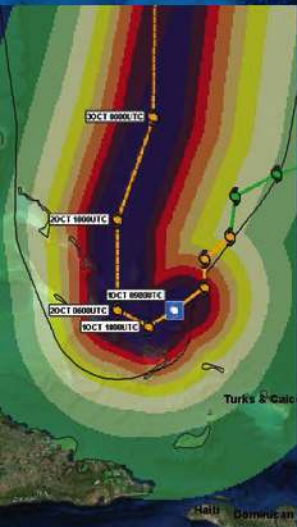## 2015 Response Events Supported

61 TOTAL EVENTS

| 48 | 5 | 4 | 3 | 1 |

+287% from 2011

60
40
20

2011   2012   2013   2014   2015

Anatomy of PDC's disaster response

Tropical Storm Joaquin

MONITORING AND EARLY WARNING

- Monitor potential hazards and disaster events, worldwide
- Disseminate early warning and notifications
- Provide initial situational awareness

PRE-IMPACT

- Real time data to support informed decision making
- Advanced situational awareness products
- Country-level risk and vulnerability analysis
- Potential impacts and losses modeling
- Assessment of anticipated needs

POST-IMPACT

- Facilitate Civil-Military information sharing
- Provide HA/DR SME support (on the ground/reachback)
- Integrate field data and observations into DisasterAWARE™
- Evaluate preliminary damage assessments and needs
- Identify and communicate status of key response activities
- Support partners on-the-ground to assess required data and info needs
- Monitor secondary hazards (i.e. health impacts, flooding, etc.)
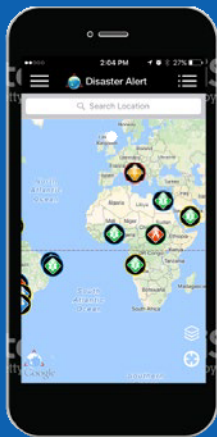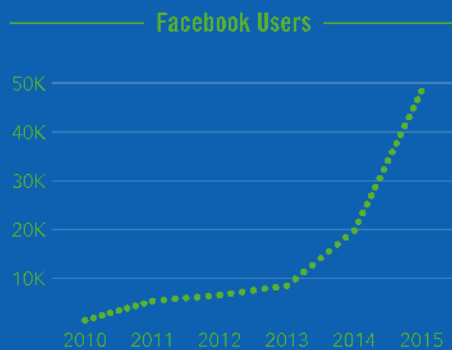- Refine pre-impact models to support response and recovery

Saving lives through early warning

IMPROVED PUBLIC OUTREACH

The more people we reach through applications and social media, the better we can deliver timely disaster-prevention and lifesaving information. Our mobile app, Disaster Alert, surpassed 1.5 million downloads and was recognized as one of the top disaster apps available to the public. In addition, our social network followers nearly doubled, allowing us to expand our reach.

Disaster Alert App Downloads

over 1.5 million

Facebook Users

DISASTER PREPAREDNESS AND RELIEF TRAINING SUPPORT

Training and exercise events are critically important to test and improve existing processes and stay ready for disaster relief operations. PDC collaborated with a variety of partners to provide exercise scenario, modeling, staff planning, and DisasterAWARE™ integration for various hazards.

Exercise Events

Exercise sponsors included: US DoD, SOUTHCOM, PACOM, NORTHCOM, USMCU, HING, and HI-EMA.

- Annual Tropical Cyclone Exercise (Haiti)
- Noble Eagle (Honduras)
- 9 Innings (US National Capital Region)
- Ardent Sentry (California, US)
- Vigilant Guard (Guam/Marianas)
- Makani Pahili (Hawaii, US)
- Tempest Express 27 (Hawaii, US)
- FAHUM (Honduras)
- Pacific Endeavor (Philippines)
- Great Hawaii Shakeout Earthquake Drill
- Continuing Promise (Caribbean, Central & South America)

EMPHASIS ON BIOSURVEILLANCE

In response to a demand for increased situational awareness of disease outbreaks around the globe, PDC worked with U.S. government partners to develop BioServ, software that integrates information from disparate biological, medical, and health reporting agency sources. The focus of BioServ is on addressing specific operational needs and has supported decision making in response to:

- Ebola Virus Disease in West Africa
- Influenza (H7N9) in China
- Middle East Respiratory Syndrome in the Arabian Peninsula
- Chikungunya Virus in the Americas
- Measles Outbreak in Mexico, United States, and Canada

"Thanks much… We hold PDC in high esteem—your professionalism is second to none."

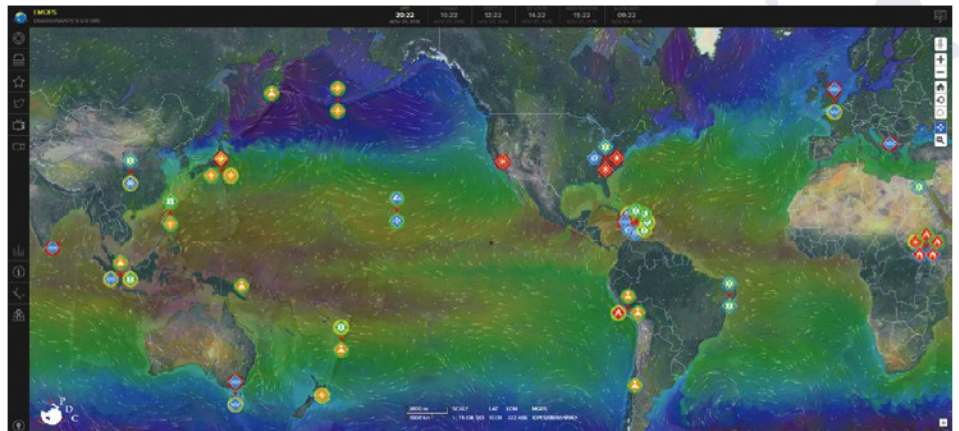MR. SCOTT A. WEIDIE, CDR USPACOM J372

Time saves lives

MAKING A "QUANTUM" LEAP FORWARD IN DisasterAWARE™

The DisasterAWARE™ upgrade, code-named Quantum, revolutionizes access to information with hundreds of new feature enhancements. Quantum pushes the limits of high availability, cloud computing, and analytical reporting. It streamlines user interfaces for ease-of-use and mobile access, including optimization for battery usage, speed, and bandwidth limitations. Notification systems are redesigned to provide "just-in-time" alerting. This greatly enhances awareness and readiness, particularly for quick onset hazards such as tsunamis and tornados. Through the valuable hazard, modeling, and risk information made available via DisasterAWARE™, PDC is "there" no matter where and when disaster strikes.

EARLY WARNING AND DECISION SUPPORT SYSTEMS

The DisasterAWARE™ platform aggregates data for use with a variety of applications. This provides the civil and military disaster management community access to the information required to make critical decisions in hazard preparation and response. Upon request, PDC worked with ASEAN and national disaster management organizations (NDMOs) in Nepal, Vietnam, and Indonesia to create customized DisasterAWARE-supported applications that serve specific regions of the world.

Quantum Highlights

- Intuitive, integrated dashboard
- Time-series animation
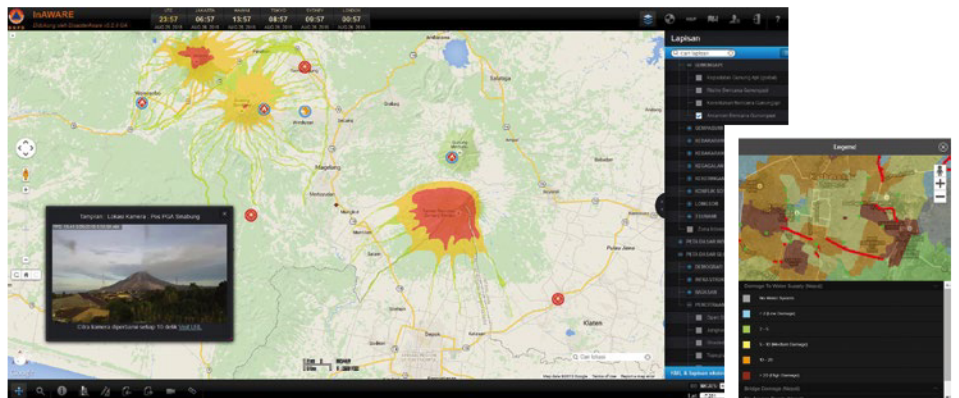- Customizable user layers
- Responsive design for compatibility with desktop and mobile devices
- Improvements to automated analysis and reporting
- New Tropical Storm Needs Assessment Report

User-Specific Applications Improved or Developed

✓ **Emergency Operations (EMOPS) –** Significant upgrades were made to this open, free, and powerful state-of-the-art DisasterAWARE™ application. EMOPS is widely used by disaster managers around the world—United States agencies, the United Nations, NDMOs, and intergovernmental and nongovernmental organizations (I/NGOs)—and supports critical decision making in preparation for and response to disasters.

✓ **Regional and Country-specific DisasterAWARE™ –** Applications have been deployed under USAID funding for:
- ✓ DMRS for the ASEAN AHA Centre
- ✓ VinAWARE for Vietnam's DMC
- ⊘ InAWARE for Indonesia's BNPB

Empowering people to protect their future

NATIONAL DISASTER PREPAREDNESS BASELINE ASSESSMENT (NDPBA)

The NDPBA program is a multi-year program, sponsored by SOUTHCOM, designed to support effective disaster preparedness decision-making through targeted capacity and capability building. The output provides the necessary temporal and spatial data to serve as the underpinning of effective disaster risk reduction decision making through the creation of a common foundation (baseline) for data sharing and evaluation. A five-year plan for investment, developed in partnership with stakeholders from each country, focused on reducing vulnerabilities and to increase coping capacities, ultimately building a more resilient region.

— Key Tasks —

⊙

Subnational assessments for Peru and El Salvador were completed.

⊙

Assessments in Jamaica, Honduras, Guatemala, and Dominican Republic were initiated.

⊙

Utilized a stakeholder-driven approach to assessing the comprehensive disaster management capabilities as well as the risk and vulnerabilities of the nation.

ANNUAL PDC GLOBAL RISK AND VULNERABILITY ASSESSMENT

To facilitate the examination of global trends RVA data were published in five year increments in DisasterAWARE™. To address the increased interest in health-related hazards, PDC published the Lack of Health Resilience Index in response to the Ebola virus disease. Regional reporting of assessment results was initiated in order to further extend the utility of the RVA.

— 5-year Coping Capacity Trends: Peru —

Legend:
- Global Average - Coping Capacity
- Regional Average - Coping Capacity
- Peru - Coping Capacity
- Trendline - Regional
- Trendline - Peru

Index	Peru		Total Countries
Year	Score	Rank	
2000	.42	84	112
2005	.45	101	158
2010	.51	87	171
2015	.51	93	174

"Your website has been a source of relevant information that we use to inform and prepare communities at risk. We deeply appreciate the services that PDC provides."

GERARD GANABA, WORLD VISION INTERNATIONAL
HUMANITARIAN & EMERGENCY AFFAIRS DIRECTOR - PACIFIC & TIMOR LESTE

Partnerships

During the year we engaged with 104 partners globally, and performed significant work with the following:

- Armed Forces Health Surveillance Center (AFHSC)
- Asia-Pacific Economic Cooperation (APEC)
- Association of Southeast Asian Nations (ASEAN): AHA Centre, ACDM
- Badan Nasional Penanggulangan Bencana-Indonesia (BNPB) and BPBD offices
- Centers for Disease Control and Prevention (CDC)

- Centro Nacional de Estimación, Prevención y Reducción del Riesgo de Desastres (CENEPRED), Perú
- Humanitarian OpenStreetMap Team (HOT)
- International Centre for Integrated Mountain Development (ICIMOD)
- Joint Program Executive Office-Chemical and Biological Defense (JPEO CBD) BioSurveillance Program (BSP)
- National Aeronautics and Space Administration (NASA)

- Nepal Ministry of Home Affairs (MoHA)
- Philippine Disaster Recovery Foundation (PDRF)
- U.S. Army Corps of Engineers (USACE): AGC, IWR, POD, ERDC
- U.S. Department of Defense: PACOM, NORTHCOM, SOUTHCOM, EUCOM, AFRICOM, USSOCOM
- United Nations: UNOCHA, UN SPIDER, and others including IAEA
- University of Hawaii (UH)