PDC | GLOBAL

OUR IMPACT

2017-2018 Accomplishments

Better solutions.
Fewer disasters.

Safer world.

Reduce disaster risk.
Step into a safer world.

As the number of people affected by disasters continues to grow worldwide, so does our track record of protecting communities with the most reliable and timely access to life-saving information. Working together with countries throughout the world, Pacific Disaster Center (PDC) utilizes its research, science, and technology to help organizations with disaster risk reduction (DRR), assessment of potential hazard impacts, and the anticipation of emerging threats.

2017

30+
worldwide DRR partner projects

485+ Million
People living within national DRR project areas

475 Million (98%) Ranked Low Resilience

! National Early Warning and Decision Support Projects

✓ National Disaster Preparedness Baseline Assessment Projects

10 Disaster Preparedness and Response Exercises worldwide

35+ Participating Nations

10 Major U.S. Government Technology and Training Projects Supporting Preparedness and Response

5 National Disaster Preparedness Baseline Assessment (NDPBA) projects

4 National Early Warning and Decision Support Projects

5 Regional Risk and Vulnerability Assessment (RVA)

DOMINICAN REPUBLIC
11 M

GUATEMALA
17 M

HONDURAS
9 M

NICARAGUA
6 M

29 M
NEPAL

53 M
MYANMAR

96 M
VIET NAM
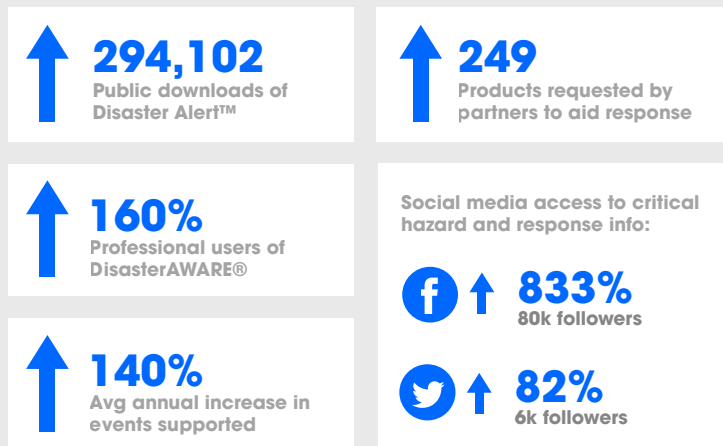
264 M
INDONESIA

PDC Global Response at a Glance

Wildfires, Chiapas
👤 12+ K

Cat 4 Hurricane Harvey
👤 580+ K

M 8.1 Earthquake, Chiapas
👤 12+ Million

Cat 5 Hurricane Maria
👤 920+ K

Flooding, Bangladesh/India
👤 41+ Million

M 7.1 Earthquake, Puebla
👤 250+ K

Flooding, Peru
👤 1+ Million

Landslide, Sierra Leone
👤 6+ K

Flooding, Sri Lanka
👤 415+ K

Volcanic Eruption, Mt. Agung, Bali
👤 120+ K

Resilience Low — High   No Data

10,736 Hazards monitored   **47** Response efforts supported   👤 People Affected

8 Earthquakes and Tsunamis	25 Cyclones	7 Floods and landslides	3 Volcanos	2 Man-made	1 Biomedical	1 Wildfire

5-Year Trends

Natural Disaster Impacts Worldwide

— People Affected (Millions)

Damage ($US Billions)

2013	2014	2015	2016	2017
120		429		337
99				95

Source: CRED
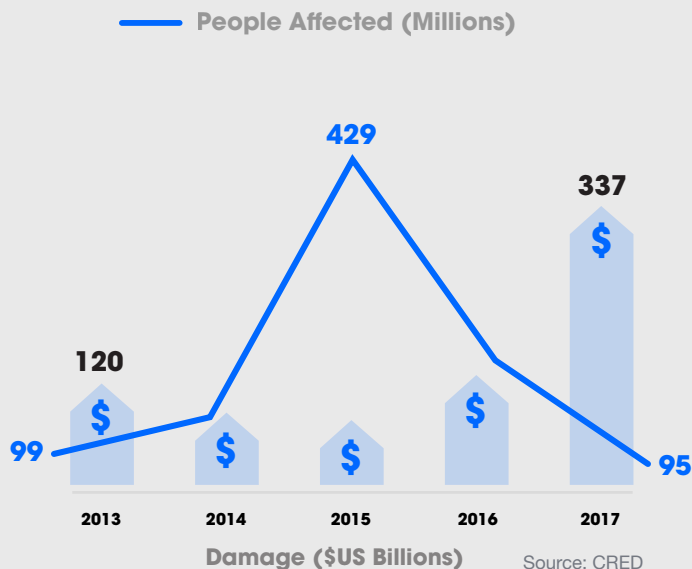
Information saves lives.

Expanded access to critical information and services:

⬆ **294,102** Public downloads of Disaster Alert™

⬆ **249** Products requested by partners to aid response

⬆ **160%** Professional users of DisasterAWARE®

Social media access to critical hazard and response info:

ƒ ⬆ **833%** 80k followers

🐦 ⬆ **82%** 6k followers

⬆ **140%** Avg annual increase in events supported

Record-breaking Triple Hurricane Response

Hurricane Harvey
$125 Billion in Damage
Affected: 580,000 **Exposed:** 17.8 M

Hurricane Irma
$64.8 Billion in Damage
Affected: 10+ M **Exposed:** 16.2 M

Hurricane Maria
$96 Billion in Damage
Affected: 920,000 **Exposed:** 2.3 M

PDC in Action

PDC joined forces with local, federal, and international authorities to help better prepare and plan for protecting vulnerable populations during the most severe back-to-back hurricane event ever recorded in the Atlantic during a single month. PDC leveraged its DisasterAWARE platform and the largest collection of global, scientifically verified geospatial data and modeling tools to support civil and military agencies with assessing potential risk and hazard impacts. Direct pre- and post-impact situational analysis support was also provided.

155+ Products
Providing pre- and post-impact analysis

24-hour Support
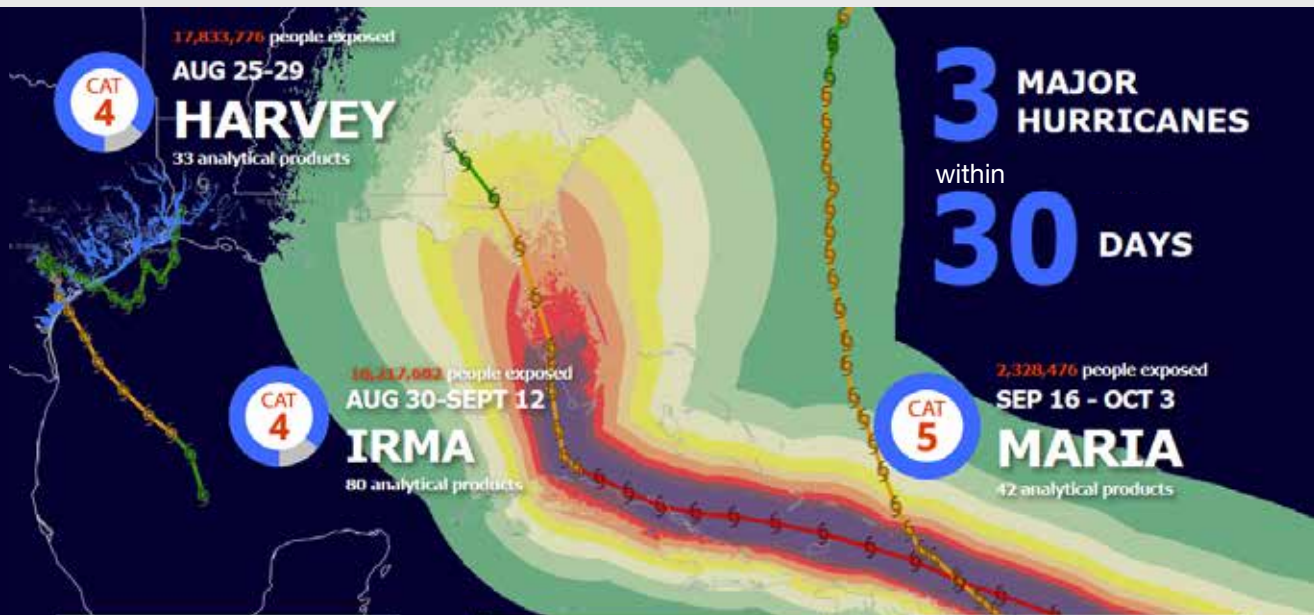with on-site support for JTF-Bravo JOC and SOUTHCOM CAC

> JTF-Bravo sincerely appreciated the HADR [Humanitarian Assistance and Disaster Relief] decision support information provided by the Pacific Disaster Center during Hurricane Irma response. It has been timely and valuable to current operations.

Eric Yarrell, Lt Col, USAF, DCO JTF-Bravo

COMBINED IMPACTS

11.5 Million
People affected

$286 Billion
in Damage

17,833,776 people exposed
AUG 25-29
CAT 4
HARVEY
33 analytical products

3 MAJOR HURRICANES within **30 DAYS**

16,217,082 people exposed
AUG 30-SEPT 12
CAT 4
IRMA
80 analytical products

2,328,476 people exposed
SEP 16 - OCT 3
CAT 5
MARIA
42 analytical products

PDC Supports FEMA

PDC's support with HAZUS modeling and official reports allowed FEMA to be forward-leaning with individual assistance—working with state and local officials to support badly impacted communities and quickly provide financial support to individuals and families.

Texas

Austin
San Antonio
Houston

Observed flood inundation

Florida

- Destroyed
- Major Damage
- Minor Damage

Puerto Rico

- Destroyed
- Major Damage
- Minor Damage

Some of the organizations supported

FEMA | **Joint Staff** | **JTF-Bravo** | **Bahamas NEMA** | **SOUTHCOM** | **DTRA** | **Florida Emergency Management** | **United Nations** | **Dominican Republic** | **City of Houston**

Disaster AWARE®

Custom Early Warning and Decision Support Solutions

We provide out-of-the box and customized disaster management solutions for early warning, hazard monitoring, and decision support built on our industry-leading disaster risk intelligence platform, DisasterAWARE.

6
Projects to Date (2013–2017)

4 National Projects

1 Regional Project

1 International Project

442+ Million
People living within national project areas

100% Ranked Low Resilience

3-year
Process Overview

Government of Indonesia | InAWARE

Continued national and provincial institutionalization and expansion of the operational use of InAWARE. Expanded monitoring and response capabilities with crowd-sourced hazard and critical lifeline data.

Quick Facts:
948 staff trained
264+ M citizens served
Fully Operational System*
Phase II institutionalization at national level and throughout selected provinces

Government of Viet Nam | VinAWARE

Continued capacity development through VinAWARE training and exercise. Expanded dam and reservoir monitoring as well as flood and storm early warning system capabilities.

Quick Facts:
248 staff trained
6.7+ M citizens served
Fully Operational System*
Institutionalization and support phase

Government of Myanmar | DMRS Expansion

Initiated a new project to increase capacity for effective national early warning and decision making by leveraging the AHA Centre's regional DMRS software. Developed SOPs, provided training, and incorporated national data.

Quick Facts:
84 staff trained
53+ M citizens served
Initial System Concept Design*

Government of Nepal | NepalAWARE

Prototyped NepalAWARE and developed concept of operations (CONOPS) for it use within Nepal's disaster management community. Established GIS data committee to expand national data content.

Quick Facts:
84 staff trained
29.3+ M citizens served
Fully Operational System
Phase II begins in 2018

U.S. Government | Global Biosurveillance Portal

PDC and the Joint Program Executive Office expanded earlier BioServ program to field the G-BSP map within the portal. Included new biological / medical data sources and health protection reports.

Quick Facts:
84 staff trained
Global population served
Final Testing Phase

*Ongoing project support provided by USAID/OFDA.

Disaster AWARE®

Reduce disaster risk. Make better decisions faster.

DisasterAWARE is the only platform that provides early warning, hazard monitoring, and impact estimation for 18 hazard types, all in one system, free to disaster professionals worldwide.

- Worldwide hazard monitoring and early warning
- Pre-impact analysis with damage and loss estimation, population risk and vulnerability, anticipated needs analysis
- Post-impact decision tools with field observation data, multi-agency response collaboration, damage assessments

What's new

DisasterAWARE Quantum 6.0 Major Release

Includes increased performance and cyber security, simplified SMS messaging and alerts with quick links to hazard details, enhanced monitoring, administration, and an improved user interface.

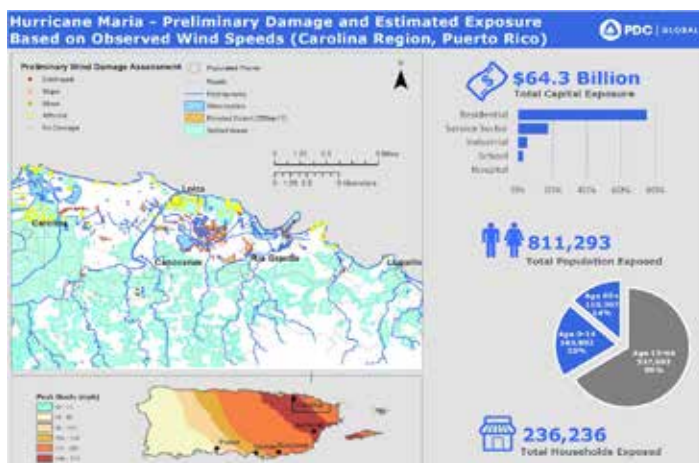**Compatible with all devices and browsers**

Touch friendly for mobile device users

All Hazard Impact Model (AIM)™

PDC released a brand new automated model to help assess capital exposure and population exposure, including at-risk and vulnerable populations. The model utilizes PDC's proprietary exposure data as well as its risk and global vulnerability data.

Automated Hazard Analysis

PDC developed new hazard analysis capabilities that are automatically performed with each new forecast advisory and released through DisasterAWARE. New products provide timely and accurate analytical insight 24/7.

Hurricane Maria - Preliminary Damage and Estimated Exposure Based on Observed Wind Speeds (Carolina Region, Puerto Rico)

$64.3 Billion Total Capital Exposure

811,293 Total Population Exposed

236,236 Total Households Exposed

3 New Products

Tropical Cyclone

Volcanic Ash Cloud

Tsunami Travel Time

Disaster Alert™

Public App Usage
↑ **21%**
(2013-2017)
1.7 million users

Disasters happen fast. We alert you faster.

National Disaster Preparedness
Baseline Assessment (NDPBA) Program

✓ Completed (2016)   ✓ In progress (2017)   📍 Planned (2018-2019)

LATIN AMERICA / CARIBBEAN

17 M GUATEMALA
9 M HONDURAS
11 M DOMINICAN REPUBLIC
6 M EL SALVADOR
6 M NICARAGUA
3 M JAMAICA
4 M PANAMA
49 M COLOMBIA
32 M PERU
44 M ARGENTINA
7 M PARAGUAY

AFRICA

7.5 M SIERRA LEONE

SOUTHEAST ASIA

96 M VIET NAM
105 M PHILIPPINES
264 M INDONESIA

3 Projects (2016)
41+ Million

5 Projects (2017)
139+ Million

7 Projects (2018-2019)
480+ Million

People living within project areas

74% (480+ Million) Ranked Low Resilience

1-year
NDPBA Process Overview

Risk and Vulnerability Assessment

Disaster Management Analysis

Stakeholder Collaboration

Stakeholder Collaboration

Inform DRR Decisions and Increase Resilience

Data and Information Exchange

5-Year DRR Action Plan

Prevention and preparation pay off.

Because PDC's National Disaster Preparedness Baseline Assessment program provides more than just an assessment, it is growing in popularity among some of the world's most disaster-prone countries. Through the program, countries are provided with a sustainable system for accessing, updating, understanding, and applying critical risk information in decision making at the national, subnational, and local level. As an NDPBA partner, countries also receive ongoing PDC support for mapping, modeling, response, and other subject matter expertise.

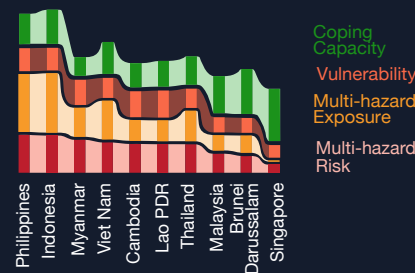# Featured Partner Highlight

PDC | GLOBAL

ASEAN and AHA Centre Collaboration

Following more than a decade of collaboration to enhance disaster management capacities in the Southeast Asia region, PDC and AHA Centre signed an official Memorandum of Intent in 2017. Intended to strengthen the two centers' ongoing partnership in advancing Disaster Risk Reduction and regional cooperation, the memorandum has already resulted in the achievement of new milestones—most notably, a regional risk assessment encompassing ASEAN's 10 member states.

ASEAN Risk Assessment

Coping Capacity
Vulnerability
Multi-hazard Exposure
Multi-hazard Risk

Philippines, Indonesia, Myanmar, Viet Nam, Cambodia, Lao PDR, Thailand, Malaysia, Brunei Darussalam, Singapore

Earthquake Exposure

37% (234 M people)
$2.4 trillion (US dollars)

A special thanks to our many other partners

We partner with so many outstanding organizations—too many to list—all of whom contribute greatly to the success of PDC and for whom we are grateful.

➡ Caribbean Disaster Emergency Management Agency (CDEMA)

➡ Federal Emergency Management Agency (FEMA)

➡ United States Agency for International Development (USAID)

➡ United Nations Office for the Coordination of Humanitarian Affairs

➡ Joint Program Executive Office (JPEO-CBD)

➡ U.S. Department of Defense (PACOM, NORTHCOM, SOUTHCOM, AFRICOM)

Exercises and Exchanges Supported in 2017

1. **Guatemala:** Fuerzas Aliadas Humanitarias (FA-HUM) | Catastrophic / Complex Disaster
2. **Hawaii:** Makani Pahili Statewide Exercise | Hurricane
3. **Poland:** NATO Coalition Warrior Interoperability Exercise
4. **Bangladesh:** Pacific Resilience Disaster Response Exercise and Exchange | Earthquake / Tsunami
5. **Oregon:** U.S.-China Disaster Management Exchange | Earthquake
6. **Viet Nam:** Lower Mekong Initiative (LMI) Disaster Response Exercise and Exchange
7. **Indonesia:** Pacific Partnership Exercise Planning

2017 Select Conferences and Workshops

APEC Emergency Preparedness Working Group

ASEAN Strategic Policy Dialogue

PACOM Humanitarian Assistance and Disaster Relief Geospatial Intelligence

NATO Crisis Disaster Response Center of Excellence

INFORM Annual Global Partners Meeting

OpenStreetMap GeoWeek

CDEMA 10th Caribbean Conference on Comprehensive Disaster Management

SOUTHCOM DEIC Food Security and Climate Change Conference

NASA Summit: Strengthening Disaster Risk Reduction Across the Americas

Safer world.

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