

2023



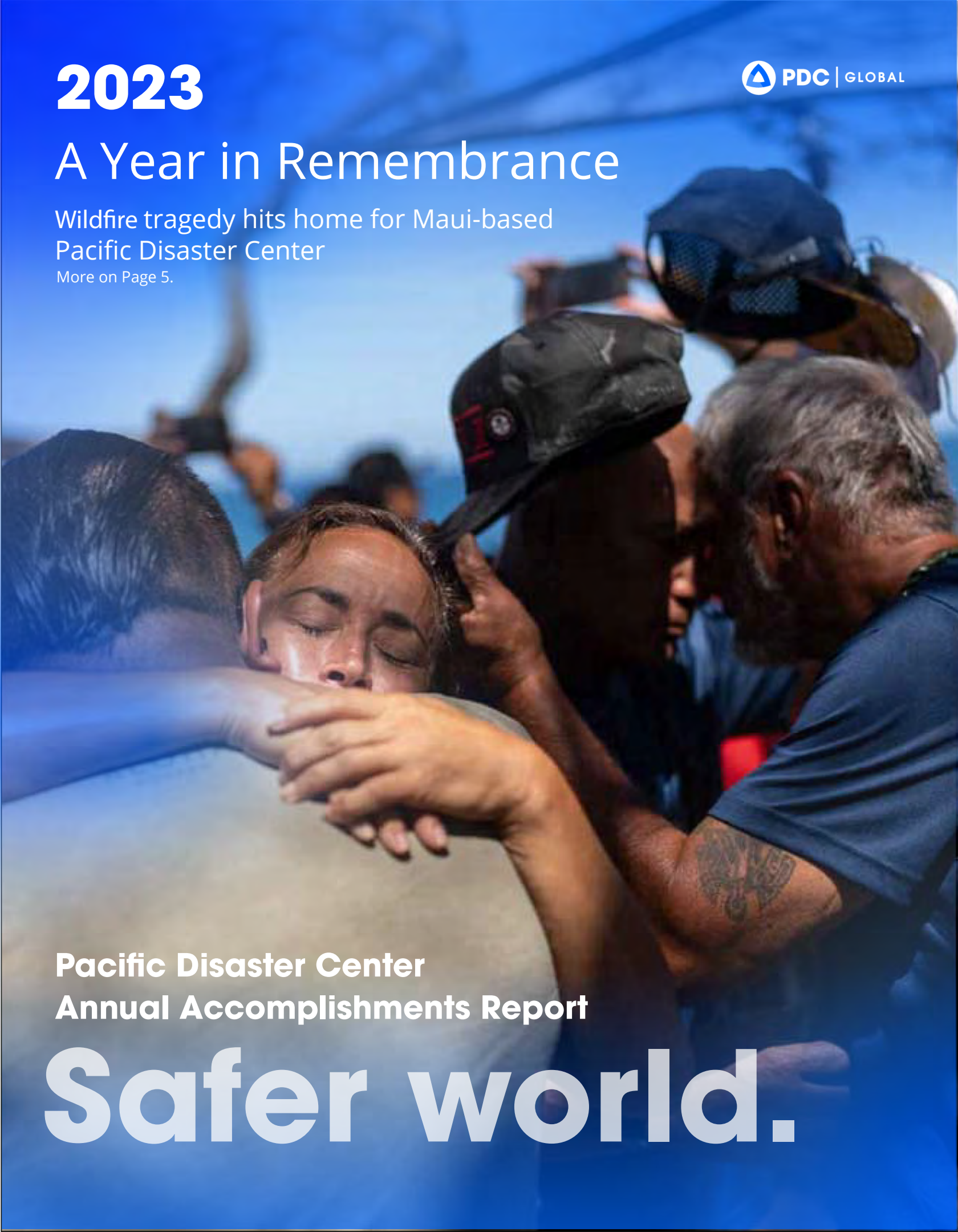
A Year in Remembrance

Wildfire tragedy hits home for Maui-based Pacific Disaster Center

More on Page 5.

**Pacific Disaster Center
Annual Accomplishments Report**

Safer world.





Maui  *Strong*

An Aloha Resilience Movement

Navigating the dynamic realm of emergency and disaster management requires unwavering resilience, profound commitment, and adaptability. For years, the Pacific Disaster Center (PDC) has embodied these virtues, equipping nations globally with the finest science, technology, and information to mitigate disaster risks and respond to crises—often providing our partner nations with onsite support when local resources are overwhelmed.

This year, however, tragedy struck home for Pacific Disaster Center, underscoring that no community, not even our own, is immune to disasters. For the first time in our history, we found ourselves on the receiving end of humanitarian support.

On August 8, 2023, the island of Maui, our headquarters and home to most of our staff, faced the deadliest U.S. wildfire in over a century. Hurricane-force winds which exceeded 80 mph quickly overwhelmed our local emergency response as wildfires broke out across the island of Maui, ravaging its culturally historic town of Lahaina and consuming several homes in the upcountry town of Kula. Lasting only a few hours, the wildfire claimed over 100 lives in Lahaina, destroyed more than 2,000 structures, and displaced over 8,000 residents—including many of our PDC family.

In these darkest hours, the global 'ohana of PDC, a network of humanitarian partners from around the world, rallied to support us and our community.

As our team arrived onsite at the Maui County Emergency Operation Center (EOC) in the early morning hours of August 9, we leaned on our scientific partners at NASA and the National Geospatial Agency for detailed satellite imagery. This facilitated a rapid assessment of the wildfire's impacts and early estimates of affected populations and infrastructure. The imagery also aided large-scale maps for a multi-agency response.

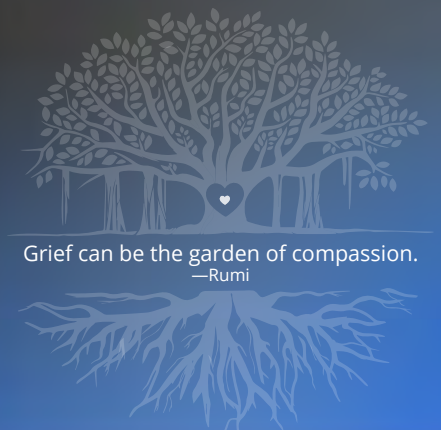
For nearly six weeks, PDC operated within the Maui EOC, utilizing our DisasterAWARE platform to centralize critical information for interagency coordination. Daily updates flowed into DisasterAWARE from Maui's fire, police, and first response agencies, Maui County, Hawai'i National Guard, the Hawai'i Emergency Management Agency, the U.S. Coast Guard, U.S. Army Pacific, FEMA, and others—enhancing the overall situational awareness and enabling a unified operational picture.

Stationed at the EOC, we encountered familiar faces from around the world—colleagues with whom we've collaborated to respond to disasters globally. The immense outpouring of support from organizations such as the World Central Kitchen, Samaritan's Purse, Red Cross, Maui VOAD, Kaiser Permanente, the Maui Humane Society, Maui Rapid Response, Team Rubicon, the Salvation Army, and many others imprinted kindness and offered tangible hope through the warm meals, embraces, medical care, mental health support, shelter, and much more.

We also witnessed the extraordinary spirit of "Aloha" and heroism within our community. Our aunties transformed their home kitchens into line-cooking facilities that fed thousands. Our fishermen, tour boats, local surfers, and residents delivered continuous shipments of water, food, and essential supplies to save and sustain lives. For weeks and months, aloha poured in from the entire Hawaiian community, including other islands, long after the tragedy faded from the global news.

These tremendous acts of kindness and sacrifice have aptly been coined "Aloha Resilience" locally. Reflecting on this, we believe the Hawaiian spirit of

PDC Executive Director
Ray Shirkhodai



Safer through Partnerships

Support pours into PDC during worst U.S. wildfire disaster in over 100 years



Dearest PDC Ohana,
Sometimes words fail.
This will be one of those
times, when no words

can effectively capture the concern, sadness, and incredible disbelief we feel watching the ongoing news footage of the Maui fires. Please know that our thoughts and hearts are with you, and that we hope your team and their families are all safe and accounted for.

In this work we do, PDC's deliverables are profoundly landscape changing. We hope that the response to Maui's fires will be just as profound for all of you, that you are taken care of and able to recover as a team and as an island community.

Respectfully and with deep gratitude for our partnership,

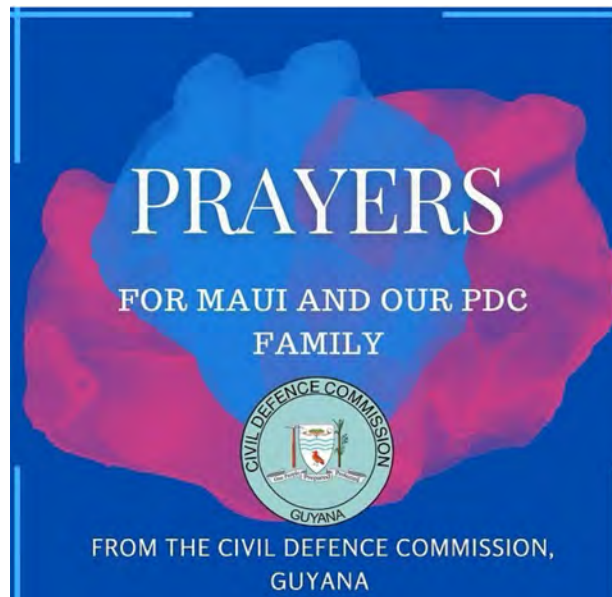
—Rachel Leuck and the Global Support and Development Team

“Ray, I just heard what is happening in Maui. Hope all is well with you and your family.”

—Adelina Kamal, Former Executive Director of the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management (AHA Centre)

“How can we help PDC? You were with us throughout Dorian, and we will be with you through this.”

—Gayle Moncur, Bahamas National Emergency Management Agency



“Ray, James, I want to introduce the two of you. James is working on several mitigation and recovery efforts for the Maui fires. He asked me to introduce you as he will need your assistance and PDC's expertise to address several issues for Senator's Schatz's office.

Ray is the PDC Executive Director and an unbelievable asset and individual.

Thanks both of you for all you do during these very difficult times.”

—Vassilis Syrmos, University of Hawai'i

“You and the entire PDC family have been on my mind, witnessing from afar the devastation of the wildfire. Big hugs from Africa...”

—Nathan Sage, USAID, Former PDC Employee

Aloha Resilience Felt Globally

The spirit of aloha was returned to Hawai'i through PDC partners (too many to name), from every corner of world.



Global offers of assistance

- UNHCR
- United Nations Office for the Coordination of Humanitarian Affairs
- World Food Programme
- International Federation of Red Cross Red Crescent Societies
- AHA Centre
- Crisis Ready
- USSOUTHCOM
- MARFORSOUTH
- National Guard Bureau

“We are in route. Working to quickly understand the ground situation and best way to align our support.”

—World Central Kitchen

“Are you and your families ok? Please let us know if there is absolutely anything you need.”

—LTC Sung Ji, Oregon National Guard

“I extend my deepest condolences to the Hawaiian community and the entire PDC team during this difficult time.

Please know that we fully comprehend the circumstances. Our office remains open to your team.

—Mayleen Cabral, United Nations Office for Disaster Risk Reduction



“So glad to hear everyone is safe and accounted for, though sincerely sorry to hear of the impacts. We will defer to direct requests from your team to support.”

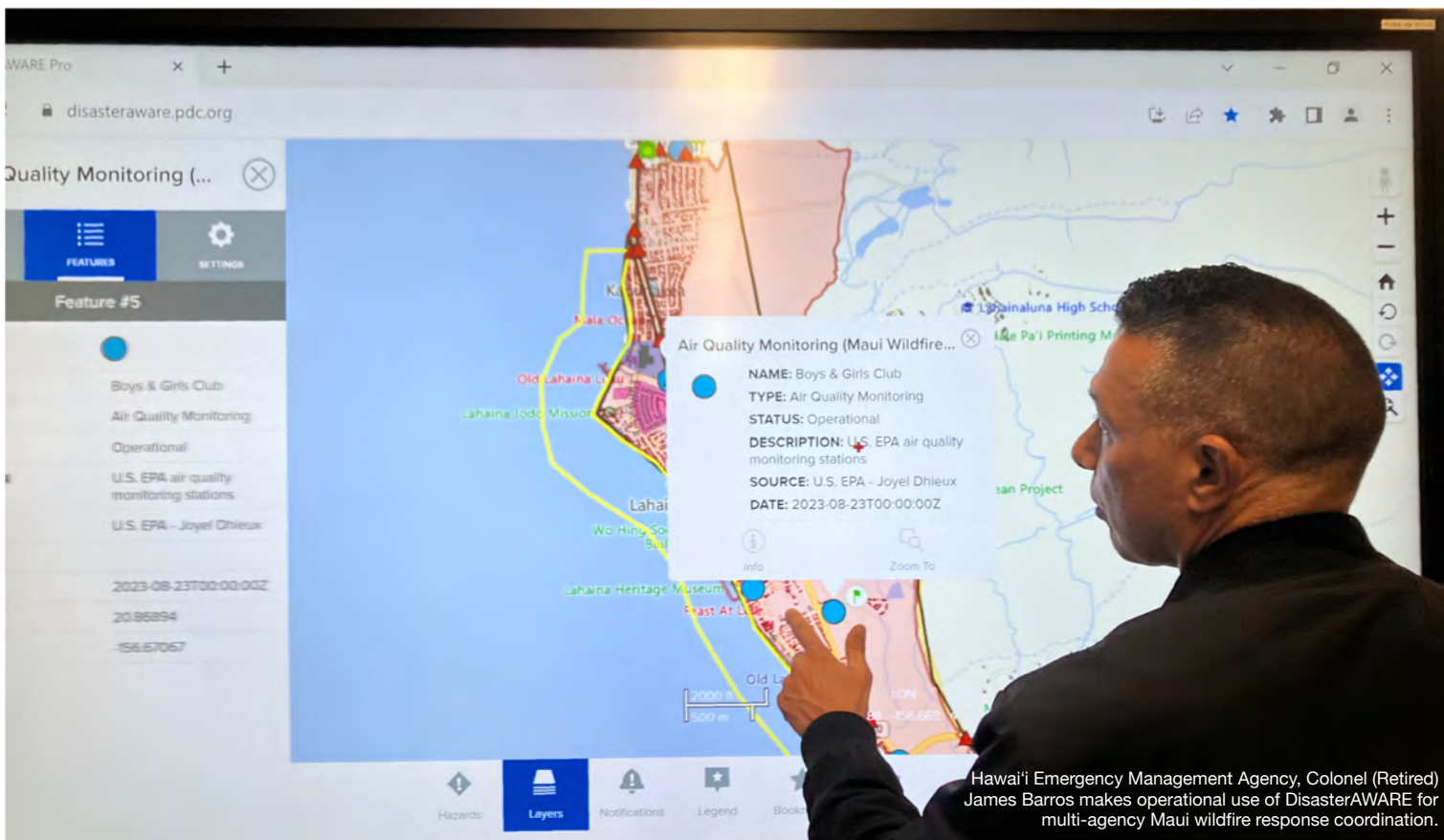
—Shanna McClain, Disasters Program Manager for NASA's Earth Science Applied Sciences Program

“Please let me know what help you need, and I can rally students/faculty from GEO, URP, and/or NDPTC. If there are other areas of assistance, I'd like to do whatever we can.”

—Denise Konan, Dean College of Social Sciences University of Hawai'i



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Hawai'i Emergency Management Agency, Colonel (Retired) James Barros makes operational use of DisasterAWARE for multi-agency Maui wildfire response coordination.

INSIDE 2023

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HIGHLIGHTS

2023

NASA, Pacific Disaster Center launch new landslide monitoring and alerting capability

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PDC | GLOBAL



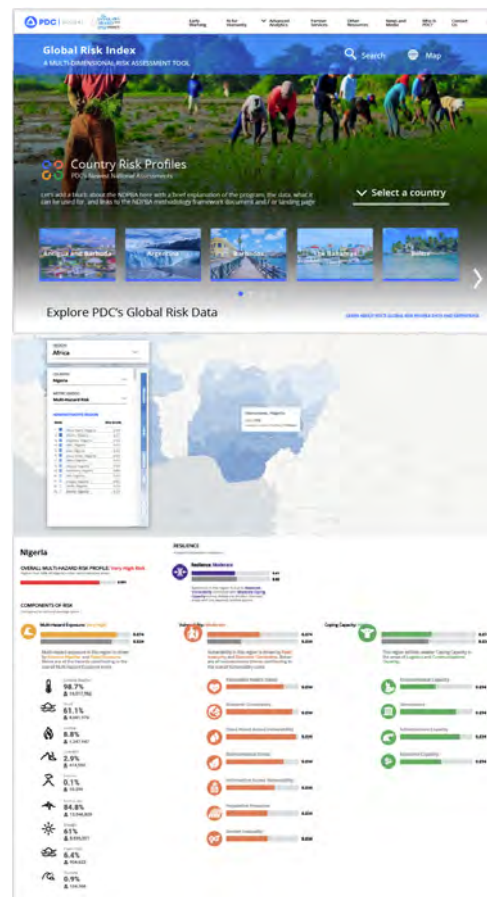
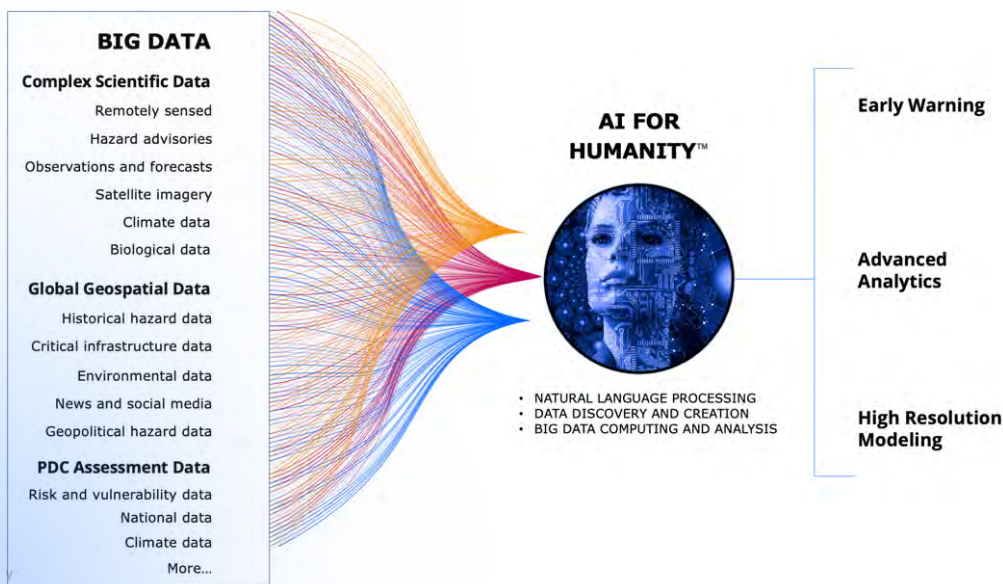
Communities worldwide now have access to a powerful tool to increase their awareness of landslide hazards, thanks to NASA and the Pacific Disaster Center. Following years of development and testing, Pacific Disaster Center's (PDC) multi-hazard monitoring, alerting, and decision-support platform, DisasterAWARE now features scientific data provided by NASA on rainfall-triggered landslide hazards, giving DisasterAWARE® users around the world a robust tool for identifying, tracking, and responding to these threats.



Analytics Lab

Find out what we have brewing in the Analytics Lab™ and how PDC's AI for Humanity™ is accelerating anticipatory action.

More on Page 8



General Laura Richardson Briefs Congress on PDC



USSOUTHCOM partners with the Pacific Disaster Center in Hawai'i to facilitate disaster response training and conduct National Disaster Preparedness Baseline Assessments with our partner nations. These assessments promote a multi-agency approach to disaster risk reduction and national disaster preparedness, in collaboration with partner nations' national disaster management agencies.



Statement Of General Laura J. Richardson
Commander, United States Southern Command
Before The 118th Congress
House Armed Services Committee
March 8, 2023



MILITARY OPERATIONS

GEN. LAURA RICHARDSON
U.S. Southern Command
Commander

C-SPAN2

New ASEAN Region Early Warning System Assessment

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Building island capacity and Aloha resilience worldwide

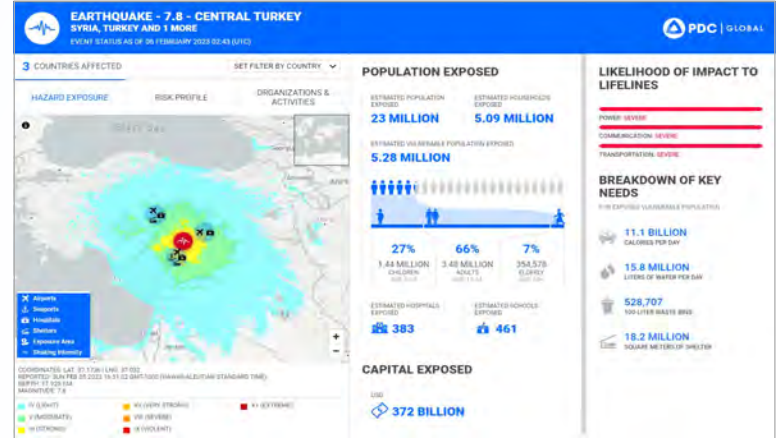
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Partners from around the world come together for a three-day multi-hazards workshop hosted at the University of Hawai'i Manoa Campus and hosted by The Center for Excellence in Disaster Management and Humanitarian Assistance.

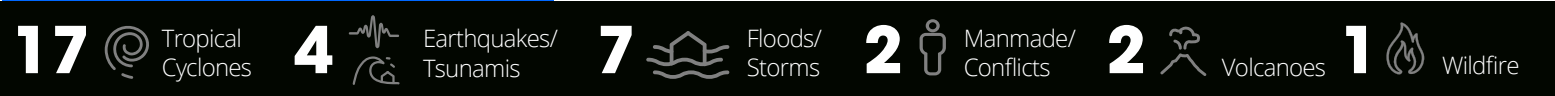
OUR GLOBAL IMPACT

BY THE NUMBERS



Initial impact estimates provided by PDC within 15 minutes of impact. Event Brief (above) was issued within 37 minutes of impact, estimating critical lifeline impacts and key needs.

RESPONSE ACTIVATIONS: 33



DISASTER RESPONSE SUPPORT

1 Full PDC Response Activation
 Maui Wildfires (USA)

EARLY WARNING AND RISK INTELLIGENCE FOR ALL

disasteraware.pdc.org

3.2 Million SmartAlerts Issued Globally (SMS / Email)
2.6 Million Disaster Alert Public Downloads
29k Professional Users

32 Partial PDC Response Activations

- Tropical Cyclones Idalia, Mawar, Mocha, Judy, Kevin, Hilary, Freddy, Bret, Otis, Calvin, Doksuri, Khanun, Saola, Lee, Ophelia, Tammy, Lola
- Flooding in California (Western USA)
- Flooding (Northeastern USA)
- Flooding (Ghana)
- Flooding (Libya)
- Severe Weather, Flooding, Winter Storm (Central/Southern USA)
- Volcano Eruption, Mauna Loa (Hawaii)
- Volcano Eruption, Nevado del Ruiz (Colombia)
- Earthquakes (Turkey/Syria, Morocco, Afghanistan, Nepal)
- Darien Gap Migration Crisis Support
- Sudan Conflict Support



Hundreds of Specialized PDC Analytical Products



3 Joint Products (JADE) by PDC, WFP, UNOCHA

122k+ Automated Analytical Products (Powered by PDC's AI for Humanity™)

35k+ Automated Hazards

1,100+ Hazards Manually Curated by PDC to fill Reporting Gaps

6k+ Automated Landslide Hazards New!

490 New Data Layers to Support Decision Making

44% National Baseline Assessment

25% Climate Change Analysis

31% Other

OUR GLOBAL IMPACT

BY THE NUMBERS



Tradewinds 2023 Latin America and Caribbean region exercise.



92



DisasterAWARE Trainings

77% Increase in Trainings

1,000+

Training Participants Globally

EXERCISES SUPPORTED WORLDWIDE



21

Exercises Worldwide

61

Countries Engaged

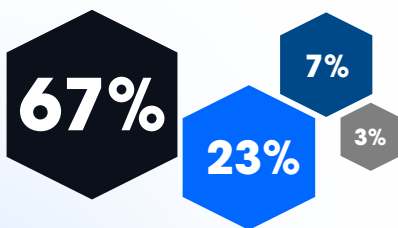


EXERCISE SCENARIOS

- 8 Tropical Cyclones
- 4 Floods
- 4 Earthquakes
- 2 Tsunamis
- 1 Biomedical
- 1 Climate Change
- 1 Oil Spill

OPERATIONAL USE OF DISASTERAWARE

DISASTERAWARE TRAINING PARTICIPANT BREAKDOWN



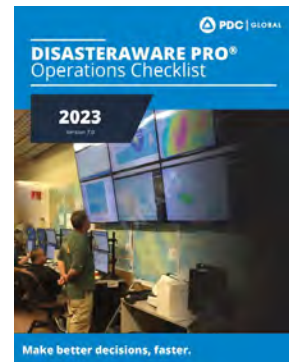
- Partner Nations
- U.S. DoD
- National Guard
- U.S. / Local Govt



New cadre of trainers in The Bahamas to support regional use of DisasterAWARE.

KEY EXERCISES

- | | |
|--------------------------------|----------------------|
| Pacific Endeavor/MCIP | CP Trinidad & Tobago |
| Bahamas RIC 23 | Philippines TTX |
| NGB Hurricane TTX | MECODEX (IADB) |
| Makani Pahili | ASEAN ARDEX |
| Tradewinds 23 | USARPAC DREE |
| Viet Nam DMEA | Nepal DMEA |
| Biosurveillance TTX | USSOUTHCOM HURREX |
| INDOPACOM HURREX | |
| USARPAC HURREX | |
| DCO CERTEX | |
| HURREX 23 | |
| Continuing Promise (CP) Panama | |
| CP Grenada | |
| CP Colombia | |



PDC released a new EOC checklist in 2023 to support operational use of DisasterAWARE for disaster response and disaster management decision making around the world.

WILDFIRE RESPONSE SUPPORT

HIGHLIGHTS



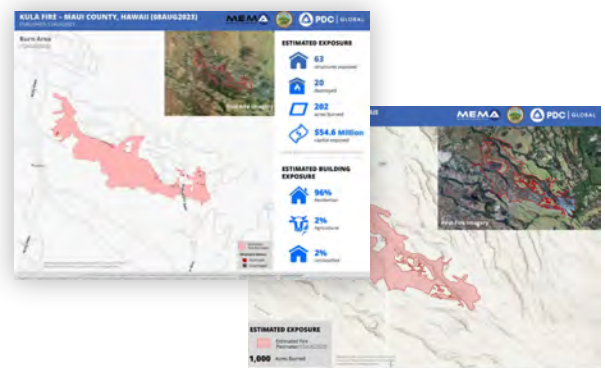
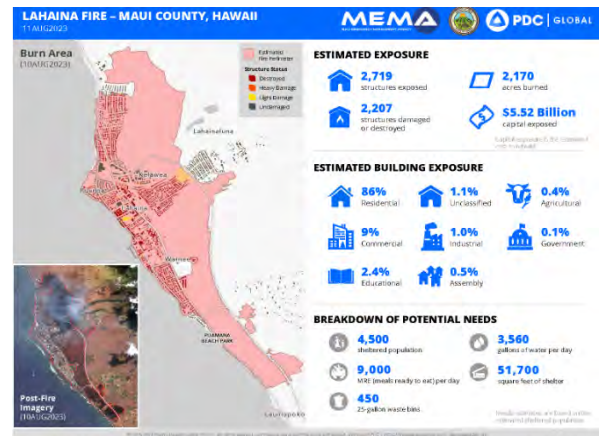
The County of Maui and its first responders, along with Governor Josh Green, the Hawai'i National Guard, and FEMA hold press briefing to communicate the magnitude of catastrophic impacts from the firestorm based on PDC's initial loss estimates (in background).



PDC Support Highlights

8 August – as of 8 Dec 2023 (Response ongoing)

- PDC was the first organization to provide impact estimates of population and economic losses making them available on the morning of 9 August to help expedite response. Those initial loss estimates remain the only estimates available and continue to be used as the baseline for impact to the built environment.
- PDC was the only locally based Maui organization providing updated and validated geospatial data and analytics to support real-time decision-making.
- PDC in partnership with the County of Maui facilitated free and open evidence-based information sharing with the public and to all agencies and organizations responding to the disaster through DisasterAWARE.
- PDC provided data and analytics to the Maui Fire Department, Hawai'i National Guard and ATF to support reconstruction of the fire. (ongoing)



WILDFIRE RESPONSE SUPPORT

BY THE NUMBERS



(Left Monitor): PDC's DisasterAWARE is used to provide a common operational picture among federal, state, and local response agencies. (Center Monitor): DisasterAWARE data updated daily to support field operations. (Right Monitor): Daily public infographic developed by PDC to aid the Joint Information Center's public information about response and recovery progress.



Daily situational awareness updates were provided by Maui County first responders, FEMA Search and Rescue, the U.S. Environmental Protection Agency, numerous County Agencies, and NGOs through the Maui Emergency Operations Center. These data were processed and mapped by PDC GIS experts embedded at the EOC and integrated into a Daily Common Operational Picture served by PDC's DisasterAWARE platform.

WILDFIRE RESPONSE SUPPORT

HIGHLIGHTS



PDC Personnel Support

67%

of PDC staff directly supported response



PDC staff provided support from 6 global locations

6

weeks of onsite support to MEMA EOC

84

EOC shifts supported by PDC staff

Direct onsite support to:



and many more...



WILDFIRE RESPONSE SUPPORT

BY THE NUMBERS



Advanced Analytics, Mapping, Information Management

Hundreds of analytical products created by PDC

800+ responders Accessing real-time information through DisasterAWARE to support life-saving operations

Exposure and Needs Assessments (population, economic, structural impacts)

1,000+ Updates to critical, life-saving information

Public Infographics (for the JIC)

Daily Common Operational Picture Situational Awareness Products

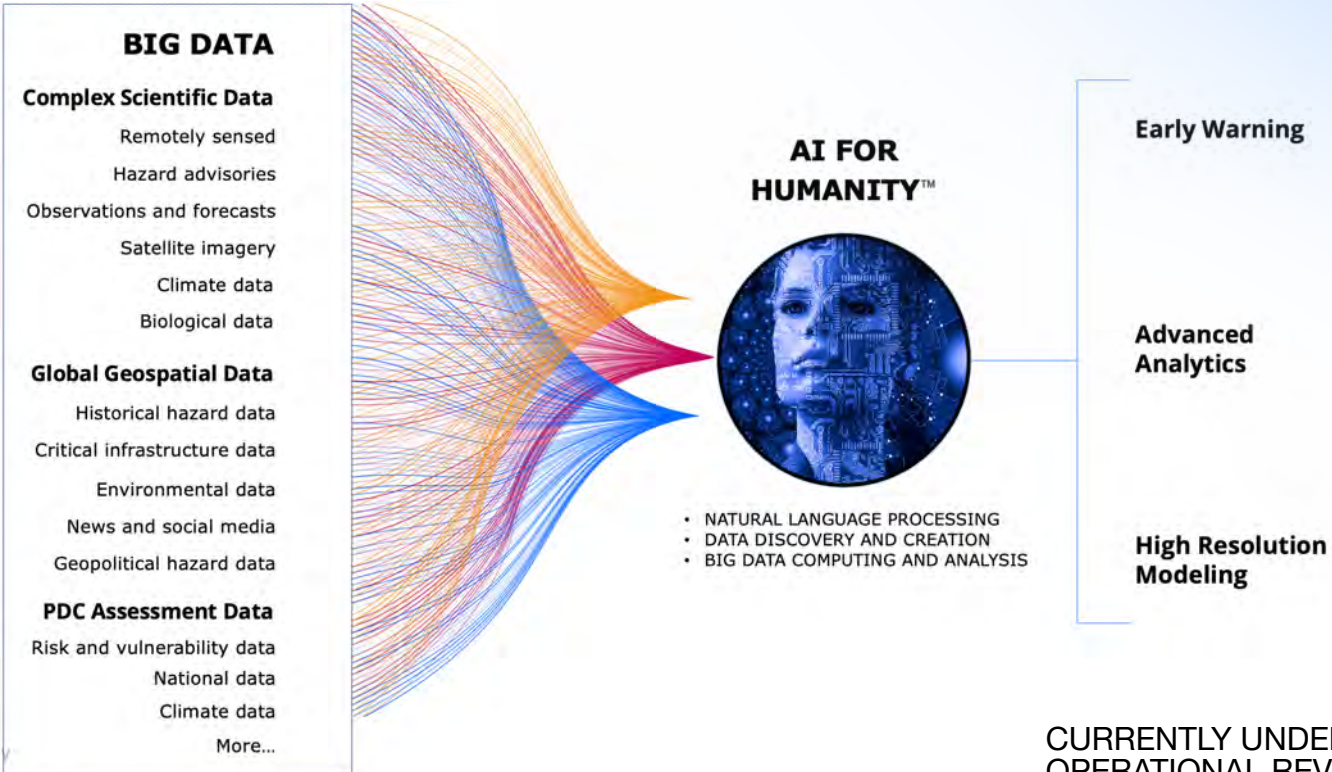
600+ Real-time interagency situational awareness products shared in DisasterAWARE

Other Products

- Damage Assessments
- Post-event Imagery
- Community Resources and Aid
- Emergency and Human Services
- Utilities

ADVANCED ANALYTICS & DATA SCIENCE

AI FOR HUMANITY™



CURRENTLY UNDER OPERATIONAL REVIEW

PDC's AI for Humanity program is creating the underlying frameworks for detecting hidden patterns and correlations within PDC's global hazards big data library. Our Expert System is being trained to suggest actions and provide insights about hazards as well as enable the identification of previously undetectable activities, intentions, or trends beyond the limitations of traditional human analysis.

NEW INNOVATIONS CURRENTLY UNDERWAY

- AI-generated recommendations and actions for all hazards.
- Reduction of time from hazard detection to action at unprecedented scales.
- Massively scaling and enhancement of existing HA/DR decision-support capabilities.
- Discovery of new insights, data gaps, and trends beyond the limitations of traditional human analysis.

Expanded data holdings Integrated into PDC Systems to improve disaster risk knowledge and understanding of hazard impacts **1**

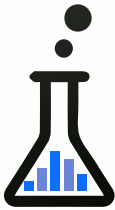
Advanced AI-based analytical framework and integration with Large Language Models (LLM) **2**



Learn more about how deep learning and data discovery are accelerating anticipatory action.

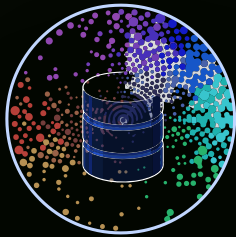
Next page

ADVANCED ANALYTICS & DATA SCIENCE



**ANALYTICS
LAB™**

Many innovations took place in PDC's multidisciplinary Analytics Lab in 2023 including the evolution of scientific methods, processes, algorithms, and systems to extract insights from data and improve risk intelligence.



Processing & Analysis
New Analytics System Pipeline

- Provides a centralized, unified database for all analytics.
- Establishes new protocols for rapidly accessing and analyzing data.
- Improves ability to repeat/update analyses.
- Provides automated data processing/error identification.
- Enhances trend analysis between assessments.



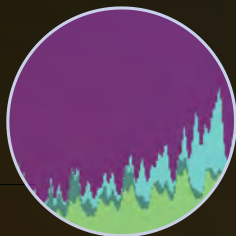
Machine Learning
AI-Powered Predictive Analytics /Trend Analysis

- PDC's scientific advancements in machine learning provide the underlying foundation for prediction of people killed or injured.
- This information is useful for rapid deployment of humanitarian aid and in resource planning for future disaster impacts.



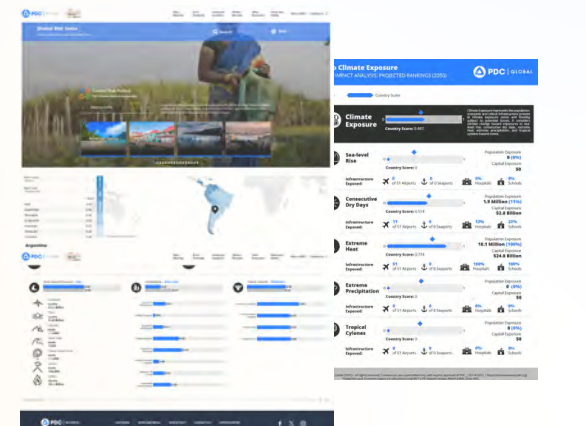
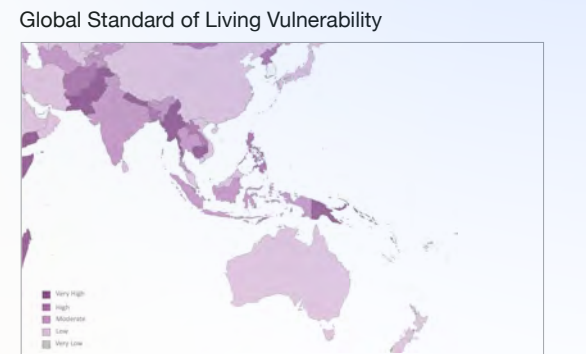
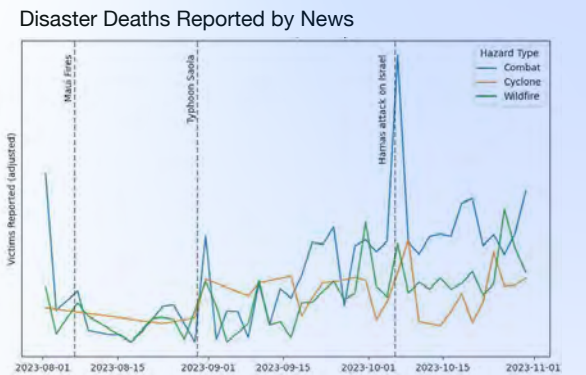
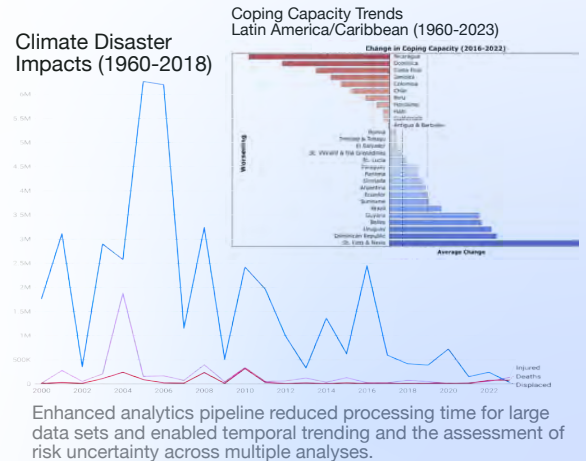
Statistical Methodologies
Assessment Methodology Advancements

- Includes methodological improvements to PDC's Global Risk Index via a newly researched and developed Standard of Living Index.
- Enables further investigation of the intersection of human terrain with any hazard (natural or manmade).
- Creates the foundation for further refinement of personal security and fragility assessments.



Enhanced Visualization & Communication

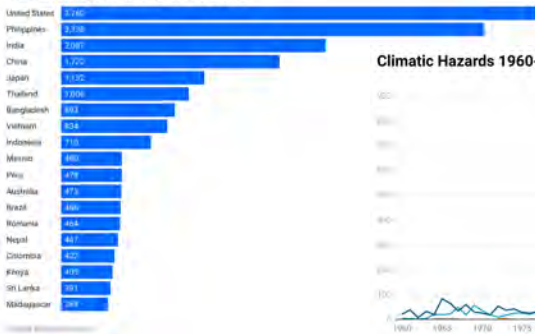
- New web-based tools provide improved visualization and communication of data.
- Access to risk assessment data now available to a variety of audiences— increasing interactivity, engagement, and maintenance of online data.
- Streamlined/automated the creation of analytical reports.



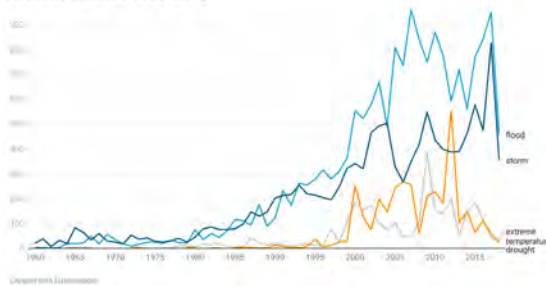
ADVANCED ANALYTICS & DATA SCIENCE

AUTOMATION, MODELING, AND MACHINE LEARNING

Climate-related Hazards 1960-2018



Climatic Hazards 1960-2018



↑ **150%** Increase in automated wildfire hazards

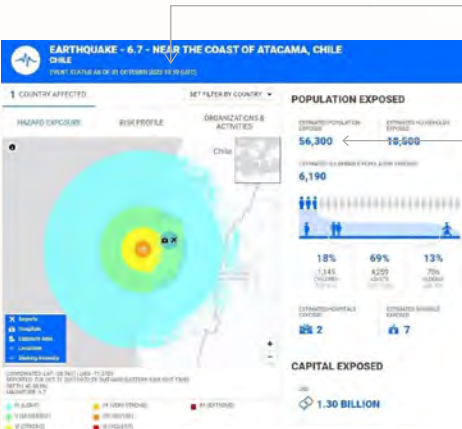


↑ **6,000** new automated wildfire hazards

PDC's climate data and trending analysis is pictured above. These were developed and tested using machine learning algorithms to search, find, and analyze hazard data from unstructured sources as well as to discover new insights from PDC's big data.

PUTTING THE "EARLY" IN EARLY WARNING

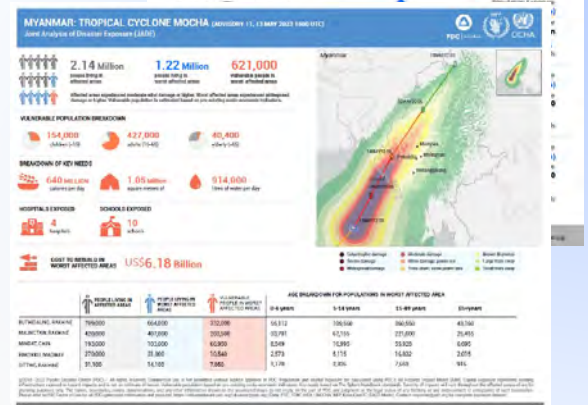
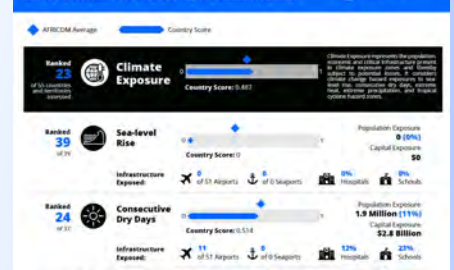
Timing



Accuracy

Because every minute counts during a disaster, PDC continued pressing the limits of possibility in the release of life-saving information—increasing both the speed and accuracy of its modeled impact estimates. These improvements were made possible through ongoing data-sharing and partnership collaboration with WFP, UNOCHA, and the AHA Centre.

Burkina Faso Climate Exposure



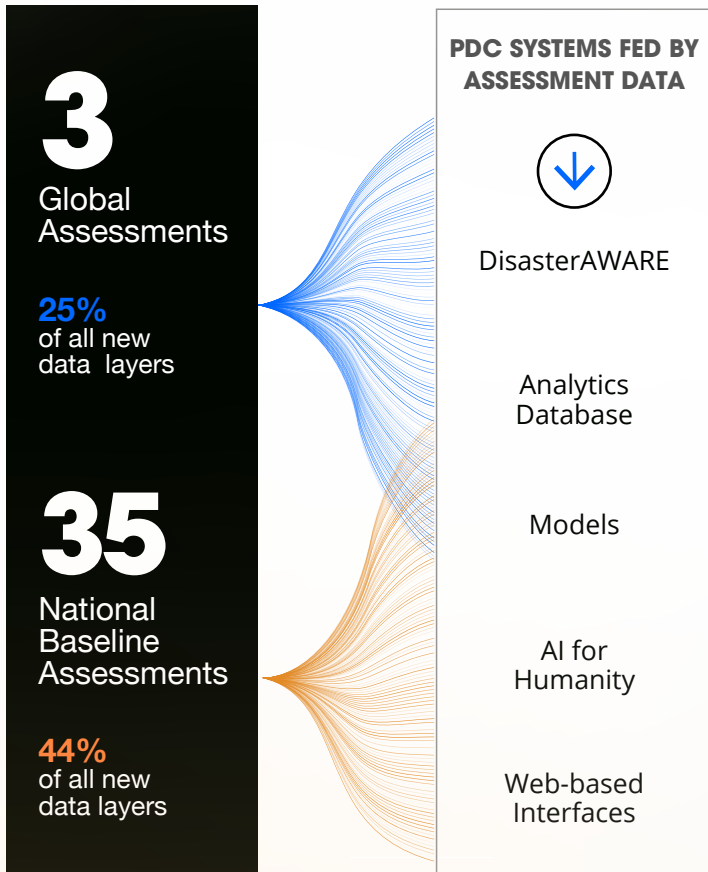
NASA AND PDC LAUNCH FIRST GLOBAL LANDSLIDE ALERTING TECHNOLOGY

PDC's new landslide alerting and automated products leverage machine learning to model a number of factors related to landslide potential. The capability includes NASA's "LHASA" model which helps detect landslide risk by combining various sources of landslide and satellite information globally and then issuing daily updates to PDC's DisasterAware platform.

ADVANCED ANALYTICS & DATA SCIENCE

ASSESSMENTS AND EXPANDED DATA HOLDINGS

FOR MORE EFFECTIVE DISASTER MANAGEMENT DECISION MAKING WORLDWIDE



Data science is quickly becoming the new currency of sound decision making and policy development.

—PDC Director of Applied Science
Dr. Joseph Green

70+ REQUESTS FOR ANALYTICAL SUPPORT BY DATA TYPE



UPDATED CLIMATE CHANGE INDEX INCREASING UNDERSTANDING OF THIS SLOW ONSET MEGA DISASTER

In 2023, PDC's Climate Change Index was showcased by PDC partners at the United Nations Climate Change Conference (COP28) using DisasterAWARE. Insights from the new index were also used to support exercises in the Latin America and Caribbean region. This year's update includes refined global sea-level rise data, among other updates that can now be used for projected impact scenarios using PDC's all-hazards impact model.

NATIONAL BASELINE ASSESSMENTS

www.pdc.org/ndpba

13 Assessments Underway (2023)

4+ New Assessments Expected (2024)

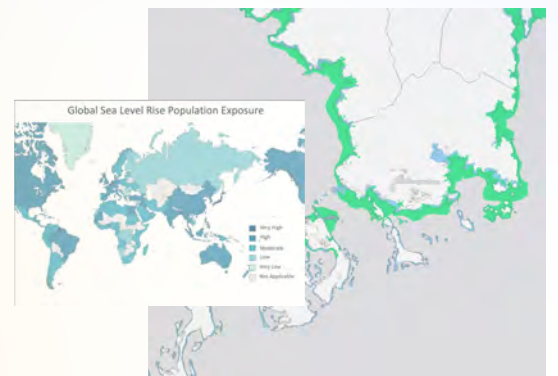
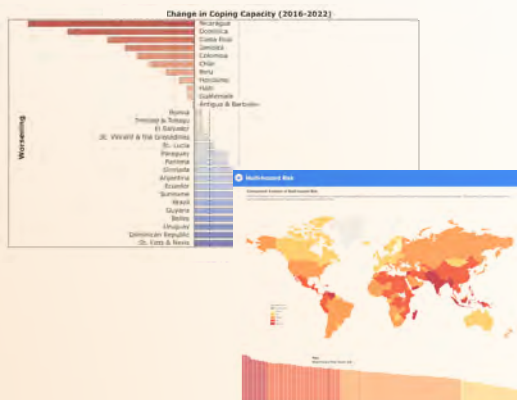


UPDATED GLOBAL RISK AND VULNERABILITY ASSESSMENT

Available soon on www.pdc.org

PDC's updates to this assessment include the creation of a new Standard of Living index, as well as new trend assessment capabilities over time.

Coping Capacity Trends Latin America/Caribbean (1960-2023)



DisasterAWARE

READY-MADE EARLY WARNING
FOR ALL

Operational use of
DisasterAWARE
Globally

45+

National
Governments

4

Remote custom
Deployments



- 1** International Organization
International Atomic Energy Agency
- 1** Regional Organization
ASEAN AHA Centre



BALKANS REGIONAL EARLY WARNING PROGRAM Year two capacity enhancement program continues in partnership with PDC and the U.S. Forest Service (USFS)

PDC joined several nations in the Balkans region in mid-September to kick off the second year of regional early warning capacity enhancement in partnership with the senior leadership of national disaster management organizations representing five nations. The project is generously funded through USFS who was also in attendance.

Years in Service

2

9 Trainings



5 Participating Balkans Nations

Hosted Use of DisasterAWARE

- Albania
- Kosovo
- Montenegro
- North Macedonia
- Bosnia-Herzegovina *New!*



PHILAWARE

Remote Deployment of DisasterAWARE

The Philippines Office of Civil Defense (OCD) continued expansion of its PhilAWARE multi-hazard early warning and risk intelligence platform powered by DisasterAWARE. Through its ongoing partnership with PDC, the nation continues to exercise and train with the system. The nation has also funded continued enhancements to the system and instituted operational use of PhilAWARE into its national policies for disaster management.

Years in Service

3

6 Trainings

1 Exercise

DisasterAWARE

READY-MADE EARLY WARNING
FOR ALL



ASEAN REGION EARLY WARNING
CAPACITY ENHANCEMENT



ONE ASEAN
ONE RESPONSE

DMRS

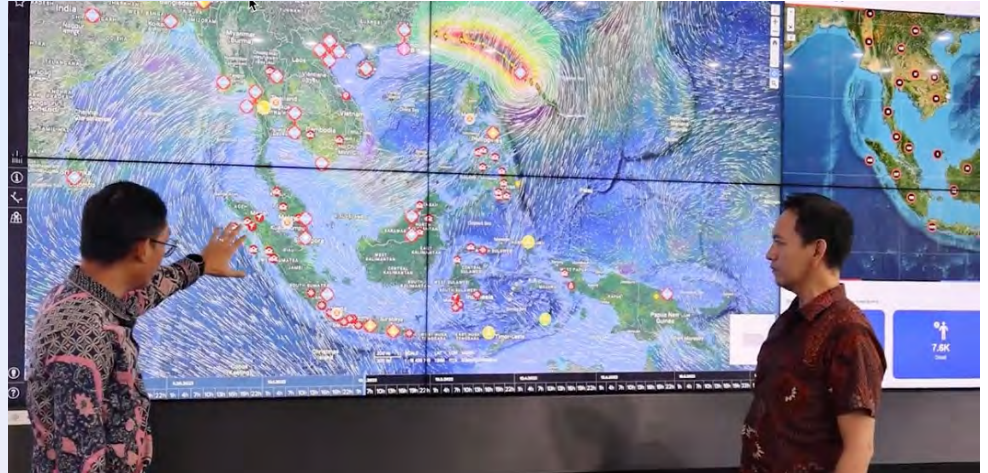
Remote Deployment
of DisasterAWARE

Years in Service

11

New ASEAN Region Early Warning System Assessment

Coming Soon!



668 million people **10 ASEAN Nations**

Millions living within ASEAN are covered by the DMRS multi-hazard early warning system that is powered by PDC's DisasterAWARE platform.



In partnership with USAID, the Department of State, ASEAN, and its 10 member states, Pacific Disaster has published the final draft assessment for strengthening the ASEAN region's end-to-end multi-hazard early warning system. This seminal work provides the foundation for future policy and program development throughout the region by USAID and others over the next five years.

INAWARE

Remote Deployment of DisasterAWARE



PDC and Indonesia's NDMO Badan Nasional Penanggulangan Bencana (BNPB) have just signed a new agreement to continue updates and enhance the country's InAWARE system. The system is used operationally at both the national and regional levels.

TIMOR-LESTE

Hosted Use of DisasterAWARE Trainings

3



In 2023, through the generous funding and partnership support of the International Organization for Migration (IOM), PDC has undertaken a new early warning capacity development initiative with the government of Timor-Leste. Once a member of ASEAN, the nation will migrate to the AHA Centre's DMRS system, powered by DisasterAWARE.

EXERCISING PREPAREDNESS

WORLDWIDE

21

EXERCISES
SUPPORTED
GLOBALLY IN 2023

61

Countries Engaged

1,000+

Training Participants



MAJOR HIGHLIGHTS



PDC provided training to all attendees and supported oil spill and flooding exercises in two different regions of Guyana.

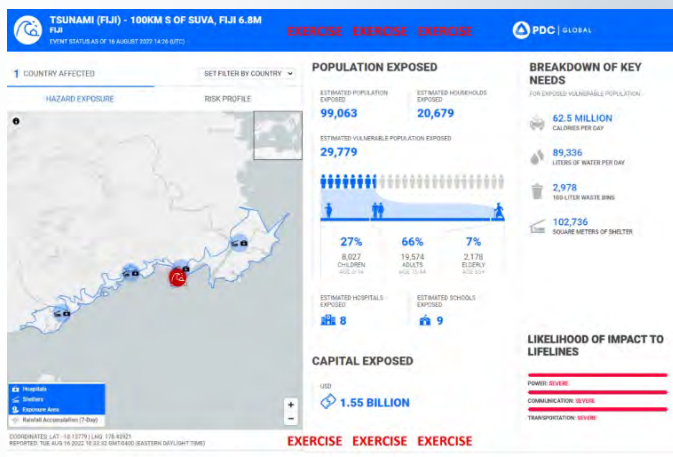


TRADEWINDS 2023 (Guyana)



PDC provided four days of training and eight days of exercise support for Tradewinds 2023 in Guyana. The largest exercise in the Latin America and Caribbean region, Tradewinds brings together several countries for increased cooperation and capabilities development in humanitarian assistance and disaster relief. This year's event was attended by over 1,500 service members and focused on promoting human rights, strengthened partnerships through improved interoperability, training capacity, and capability to mitigate, plan for and respond to regional crises.

PACIFIC ENDEAVOR (San Jose, California)



PDC was able to use real-world historical tsunami data from Oahu to assist in the scenario development and products. Participants discussed how to prioritize and coordinate communication to provide aid.

PDC was invited to provide exercise scenario support and technical expertise to the Pacific Endeavor Multinational Communications Interoperability Program. The Humanitarian Assistance / Disaster Relief (HADR) tabletop exercise was conducted from San Jose, CA and focused on a fictional tsunami scenario.

EXERCISING PREPAREDNESS

WORLDWIDE

PDC PARTICIPATES IN ARDEX ASEAN'S MULTINATIONAL DISASTER SIMULATION EXERCISE (Yogyakarta, Indonesia)



Pacific Disaster Center joined the Association of Southeast Asian Nations (ASEAN) during a full-scale, multinational exercise from August 1-4. The exercise, held every other year, is a full-scale simulation to test, practice, review effectiveness and evaluate regional emergency response mechanisms. This year's exercise which was held in the Yogyakarta province of Indonesia included a tabletop exercise (TTX) followed by a full-scale simulation of a major earthquake—a common occurrence in the region.

EXERCISE COORDINATED RESPONSE EX COORES 2023 (Changi, Singapore)



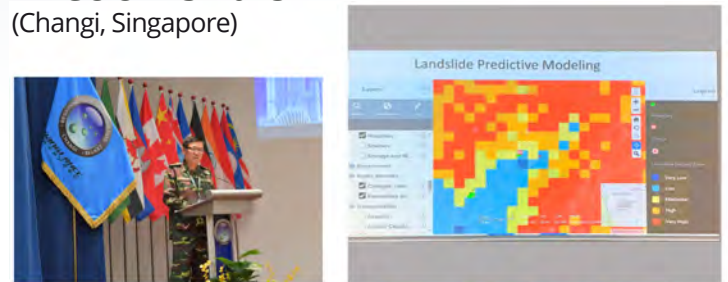
DISASTER MANAGEMENT ENGAGEMENT ACTIVITY WITH OREGON NATIONAL GUARD (Hai Phong, Viet Nam)



PDC was invited by the Oregon National Guard to participate in a Disaster Management Engagement Activity (DMEA) with Members of the Viet Nam National Committee for Incident, Disaster Response and Search and Rescue (VINASARCOM).



PDC's DisasterAWARE platform and data were used during the exercise (left) and followed by a university exchange.



PDC served as an observer to the Ex COORES exercise, providing data from its DisasterAWARE platform into Changi RHCC's OPERA application which supported Ex COORES 23. The exercise scenario involved responding to a simulated typhoon resulting in severe secondary flooding and landslide impacts.



BUILDING A SAFER WORLD

THROUGH GLOBAL PARTNER ALLIANCES



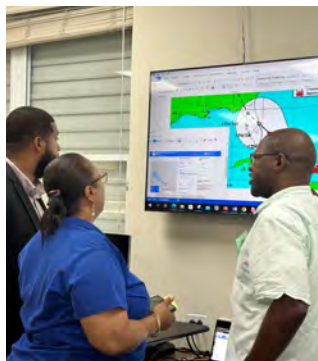
ADVANCING EARLY WARNING FOR ALL (#EW4ALL) WITH THE UN AND IFRC

PDC experts partnered with 'Early Warning for All' leaders and technical stakeholders to expand bilateral data sharing in addition to other efforts including:

- Sharing of the PDC API for real-time hazard monitoring
- Continued operational testing of PDC's AIM Model with IFRC, WFP and UNOCHA
- Semi-automation of JADE Products

BUILDING RESILIENCE TOGETHER

Through improved training and access to early warning



Together in partnership with The Bahamas national government, PDC trained a cadre of new instructors in DisasterAWARE in order to support national and regional training on the system. These are the first Regional Trainers capable of supporting DisasterAWARE training requests and expanded use of PDC technologies, products and services for disaster planning, response, and recovery.

NO HAZARD OR PERSON LEFT BEHIND

Advancements in the application of science expand hazard detection and risk knowledge



PDC and NASA's Earth Applied Sciences Disasters program continue to meld minds and capabilities in order to advance global early warning access for all. In addition to the world's first global landslide alerting capability launched in partnership through PDC's DisasterAWARE platform—including automated landslide impact reports to support life-saving action—the two are exploring broader applications of PDC's risk and vulnerability data in hazard detection and alerting.

BUILDING A SAFER WORLD

THROUGH GLOBAL PARTNER ALLIANCES

SINGAPORE'S CHANGI RHCC RENEWS PARTNERSHIP WITH PDC



Singapore's Changi Regional Humanitarian Assistance and Disaster Relief (HADR) Coordination Centre (RHCC) and Pacific Disaster Center (PDC) have just announced a renewed agreement of their longtime cooperation on humanitarian assistance and disaster relief initiatives which will expand early warning, risk understanding, and capacity development with partners throughout the region.

2023

Focused on innovations in Early Warning for All and Analytics with our scientific, academic, and humanitarian partners (too many to name).
WE THANK YOU ALL!



UNIVERSITY TO UNIVERSITY PARTNERSHIPS

As an applied science and research center under the University of Hawai'i, PDC continues to build bridges between universities to share knowledge and increase research opportunities and collaboration.



SUNWAY UNIVERSITY: CENTRE FOR PLANETARY HEALTH

PDC and Sunway experts have joined forces to operationalize data to better expand understanding of disasters as a result of the planetary health crisis. The two are expanding humanitarian assistance and disaster management to honor a more holistic and integrated understanding of the interaction between humans and the environment. Additional developments include new data, tools, and core communication and tools to support policy guidance.



UNIVERSITY OF HAWAII: COLLEGE OF SOCIAL SCIENCE

PDC and the University of Hawai'i (UH) College of Social Science brought practitioners together for a Disaster Management Working Group on Oahu. PDC supported the working group which included the Association of Pacific Rim Universities (APRU) forum on Disaster Management—chairing a panel session aimed at bridging gaps between researchers and practitioners titled, "Early Warning Risk Communication: Building a Safer World through Effective Multi-Hazard Early Warning Systems." The Center also provided experts from Palau and The Bahamas as well as advanced analytics related to multi-hazard risk for building resilient island communities.

