

How to Think About Risk... in 25 Minutes



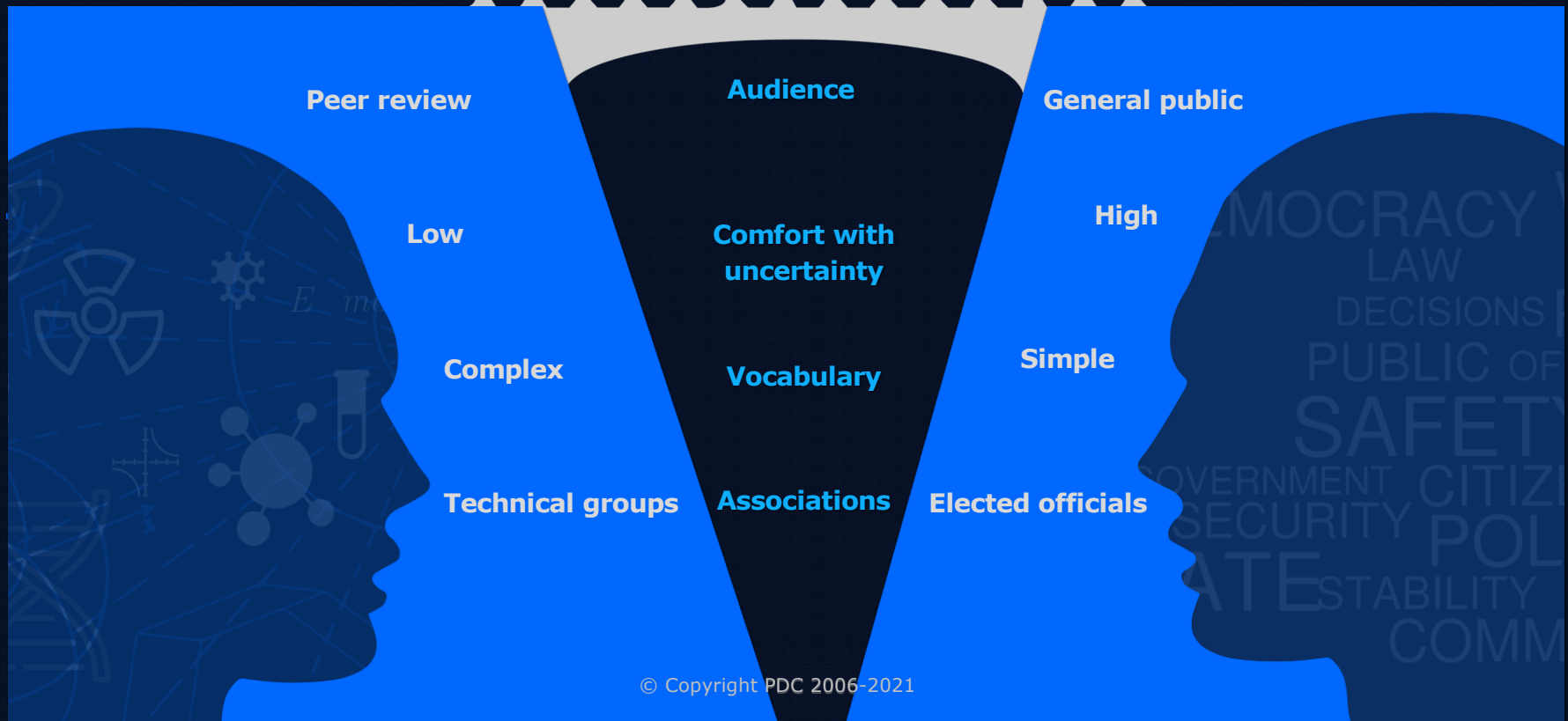
TIEMS Annual Conference

Steve Recca
Pacific Disaster Center

Building a bridge

Science community

Decision Makers

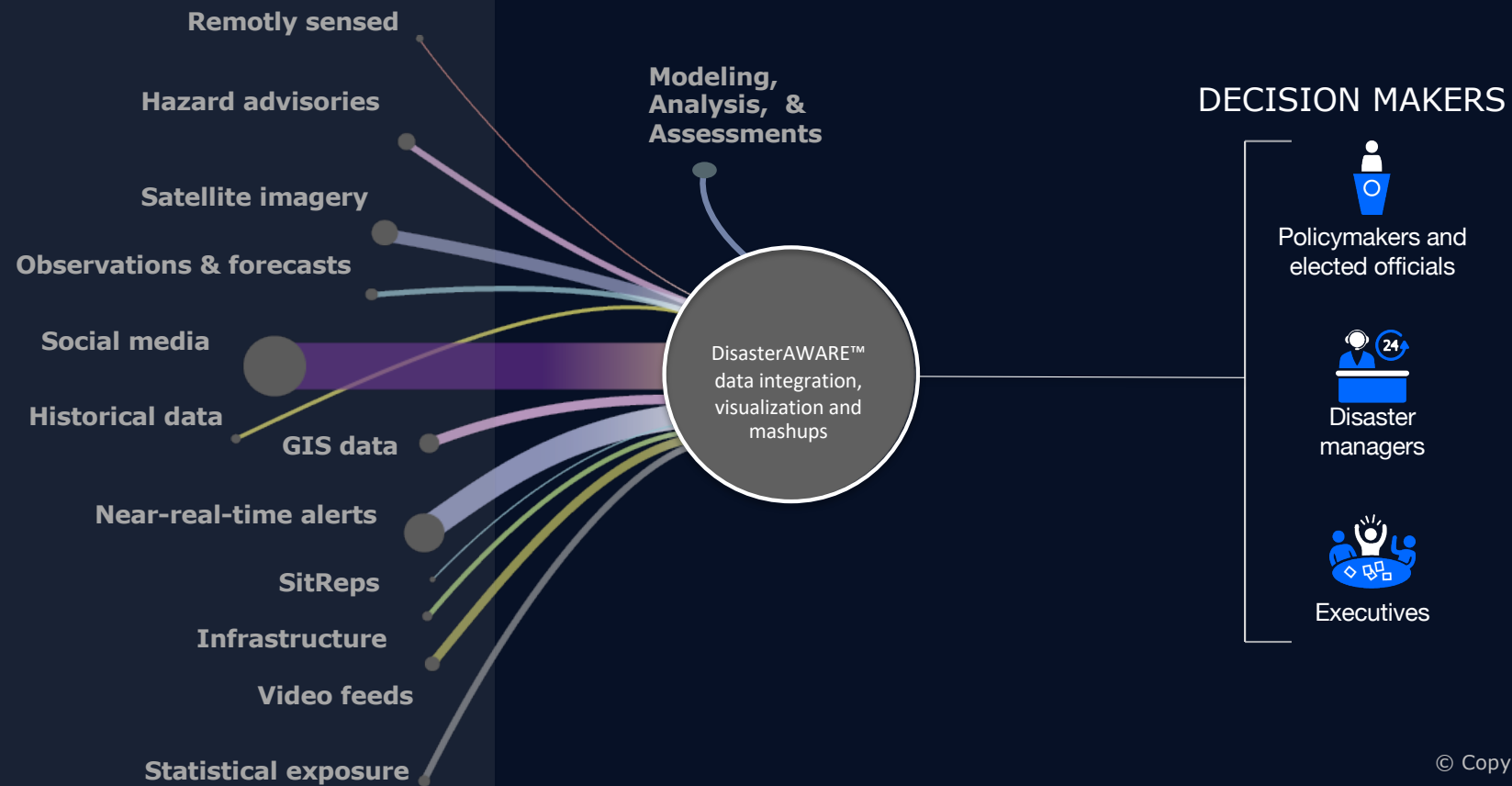


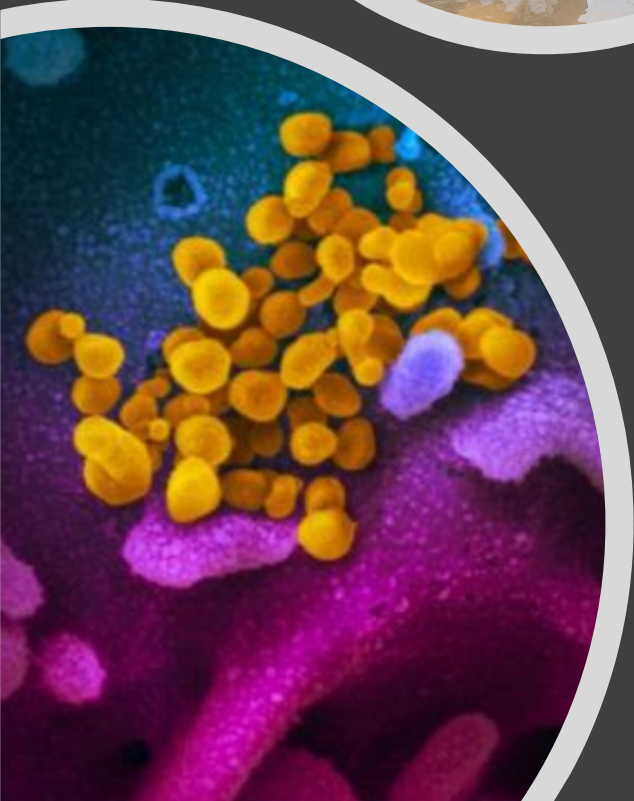
Making Information Meaningful

Unparalleled access to data

Information and Insight

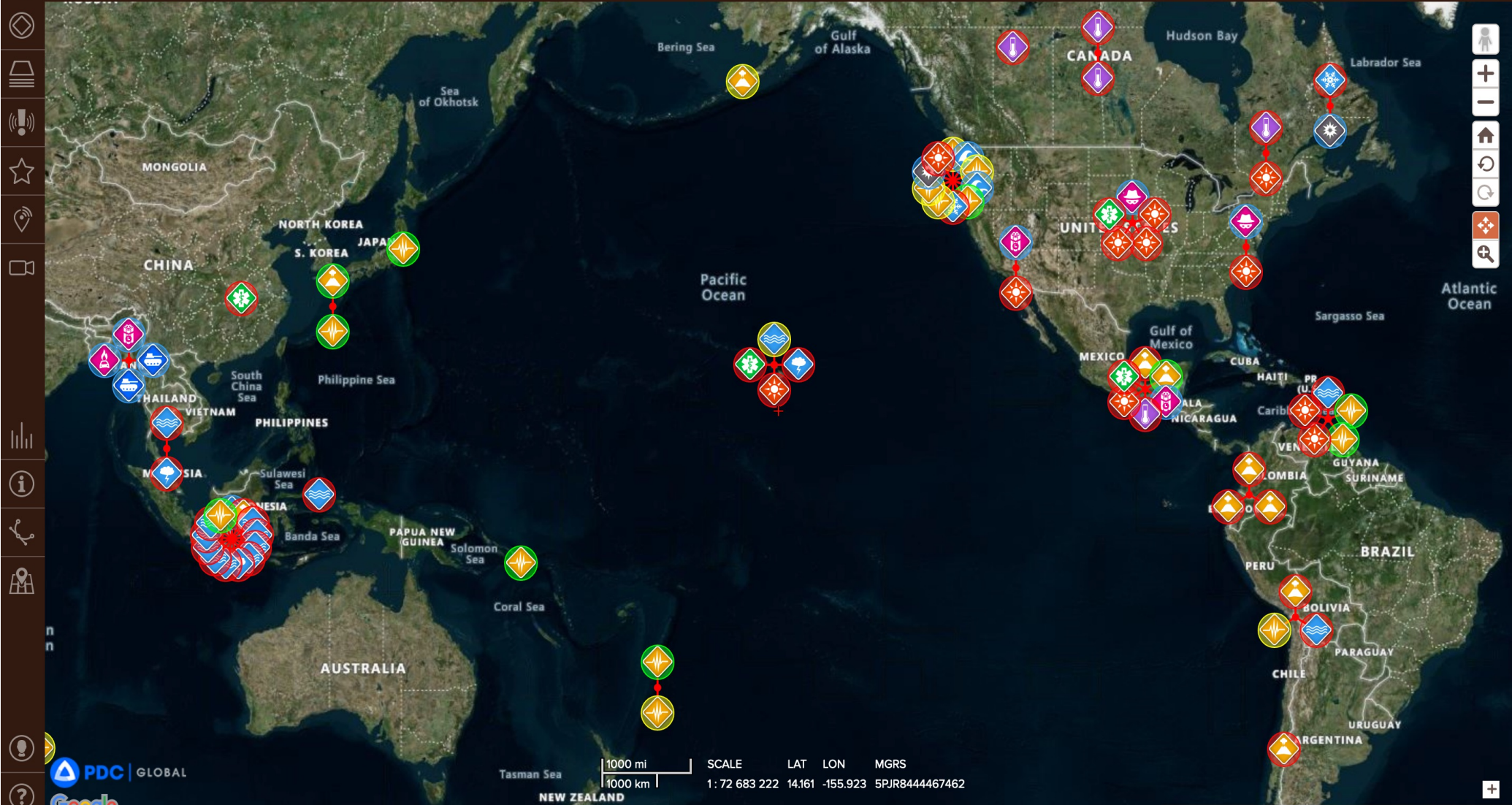
Actionable Risk Intelligence



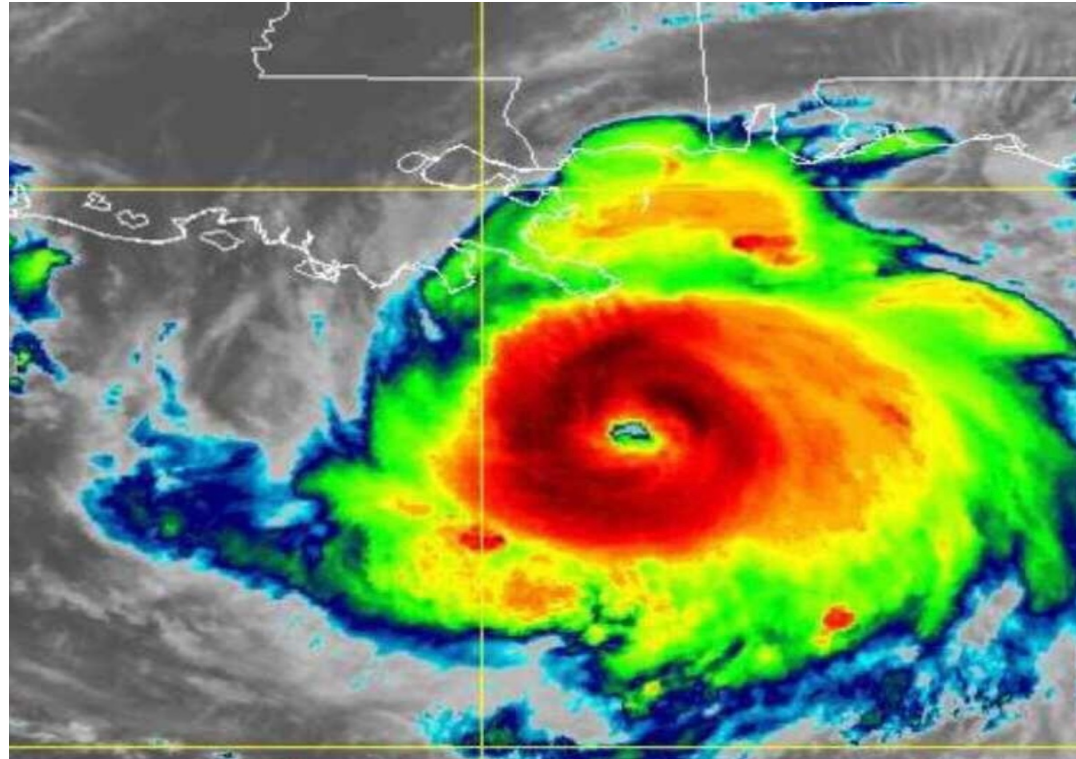


Diverse Challenges





Are Larger, More Frequent Disasters Inevitable?



Are Larger, More Frequent Disasters Inevitable?



Hazard + Impact (humans/infrastructure)



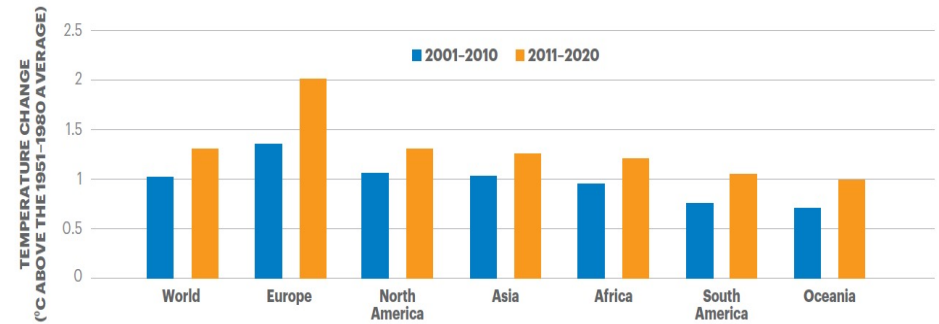
Bad News

Good News (maybe)



Average temperature per decade above the historical average, 2000-2020

The temperature has increased in all regions, with the latest decade being the hottest on record.

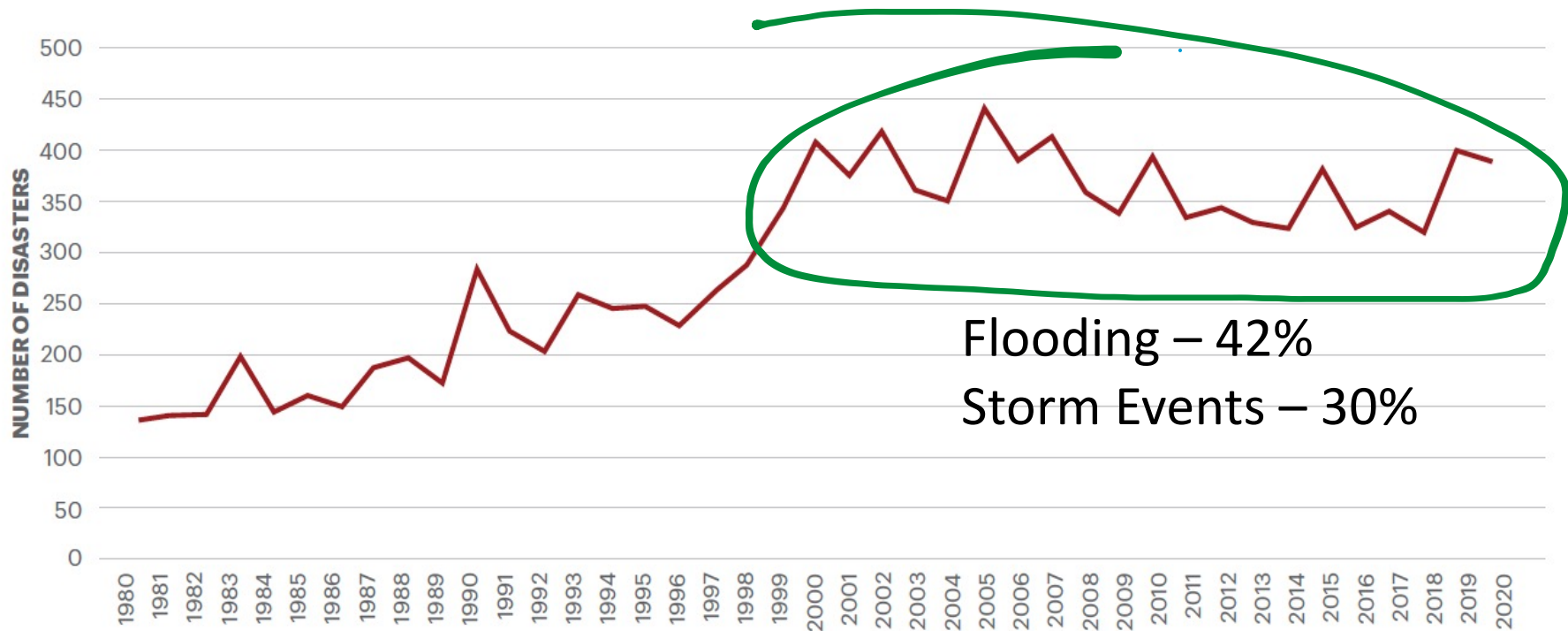


Source: FAOSTAT



Trend in Natural Disasters 1980-2019

Since 2000, the number of disasters has plateaued between 300 and 450 disasters annually.

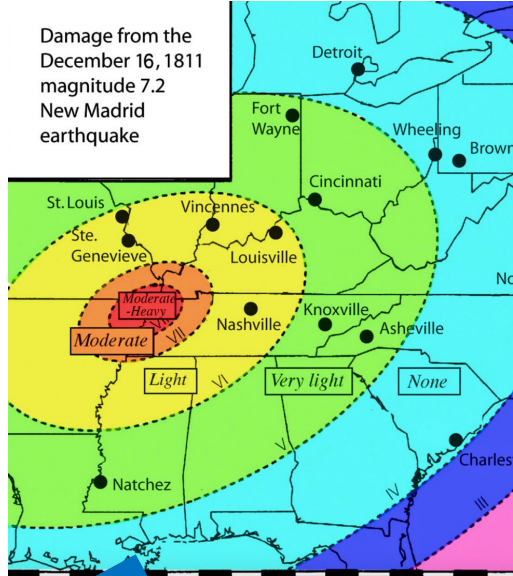


Flooding – 42%
Storm Events – 30%

Source: EM-DAT; IEP

Known Knowns – What we expect

- Geographic Areas
 - South Asia
 - Sub-Saharan Africa
 - Caribbean/Central America/US Gulf Coast
- Hazard Types
 - Flooding
 - Storms (Hurricanes/Typhoons/Tornados)
 - Bio-Medical



Additional Trends

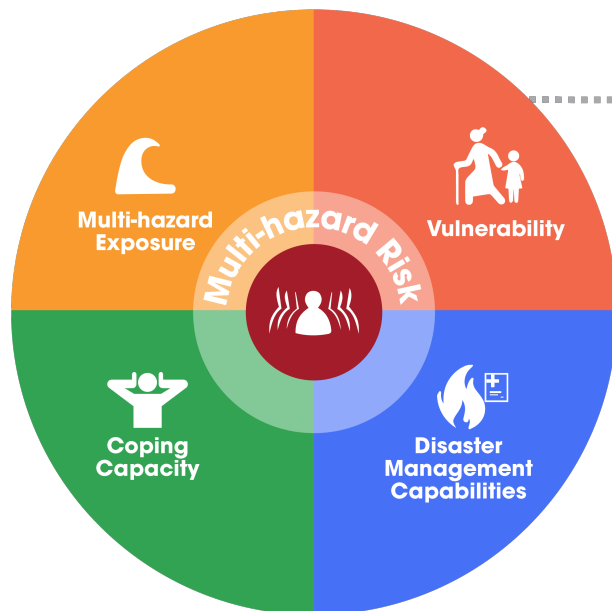
- Rapid

And, then... How do we prepare for Unknown Unknowns?

COVID-22

Methodology

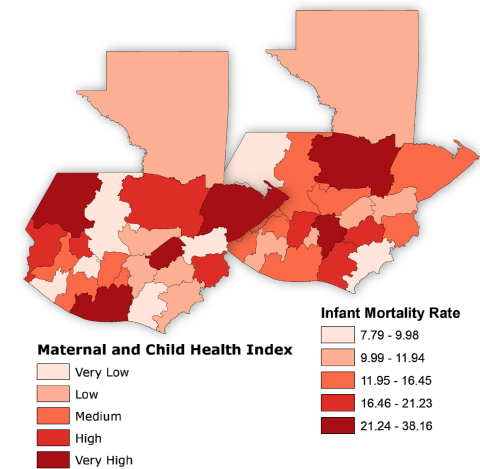
COMPONENTS OF RISK



Subcomponents

-  Population pressures
-  Gender inequality
-  Economic constraints
-  Information access
-  Clean water access
-  Health status
-  Environmental stress
-  Conflict
-  Recent disaster impact

Indicators





DISASTER/AWARE

Disasters happen fast. Make better decisions faster.



6,000+

data layers

www.pdc.org



HAZARD DATA



CRITICAL
INFRASTRUCTURE



UTILITIES



EMERGENCY
SERVICES



GLOBAL / SUBNATIONAL
VULNERABILITY DATA



COUNTRY SPECIFIC
DATA



DEMOGRAPHS



ECONOMICS



ENVIRONMENTAL
FEATURES





DISASTER/AWARE



PDC | GLOBAL



Key Features



Collaboration & SITREPS



Population



Infrastructure and baseline data



Observations and forecasts



Touch friendly for mobile devices



Compatible with all devices



User imports of geospatial data



Smart Alert™ Early Warning



Asset Tracking Mobile and Stationary



Real-time and Historical Hazards



Integrated modeling



Spatial Maps



Analytical reports



Bookmark sharing of geospatial layers



Data file exchange geospatial layers



Offline mode for remote areas or lost network

Key Features

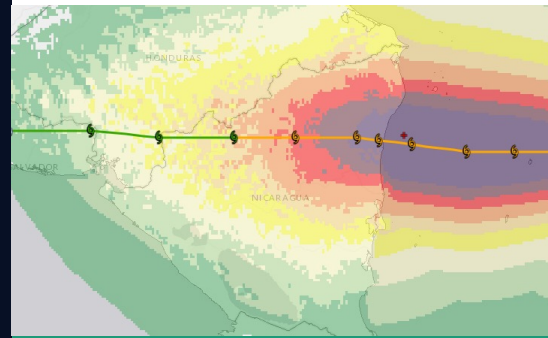
INFORMED-DECISIONS THROUGH DATA

Leverage thousands of data from PDC and vetted partners to enhance help inform your decision-making. (Key highlights below)

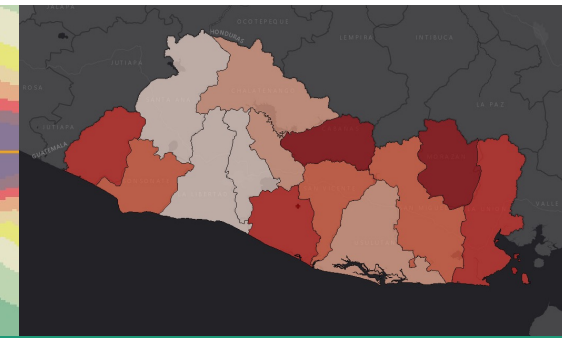
- **Main:** Access data on hazards (current and historical), observations and forecasts, Foreign Humanitarian Assistance and more.
- **Risk and Vulnerability:** Leverage PDC's country-level RVA data for identifying areas at most need of support/most vulnerable.
- **Regional Data:** Include regional or country-specific data, such as critical infrastructure, hazard zones and subnational Risk and Vulnerability (RVA) Data (as available via PDC's NDPBA project).
- **Disaster Response Events:** Access the data specific to major response events, such as damage and needs, status, hazard, etc.

PRO
TIP

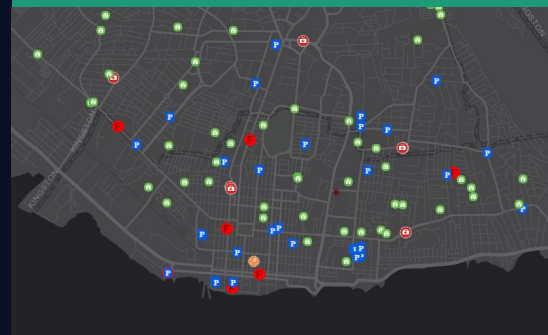
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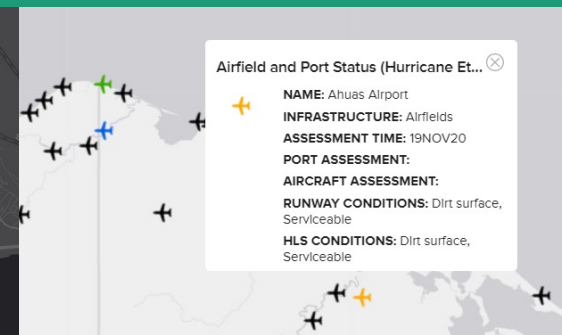
Hazard areas, forecasts and impacts



Risk and Vulnerability



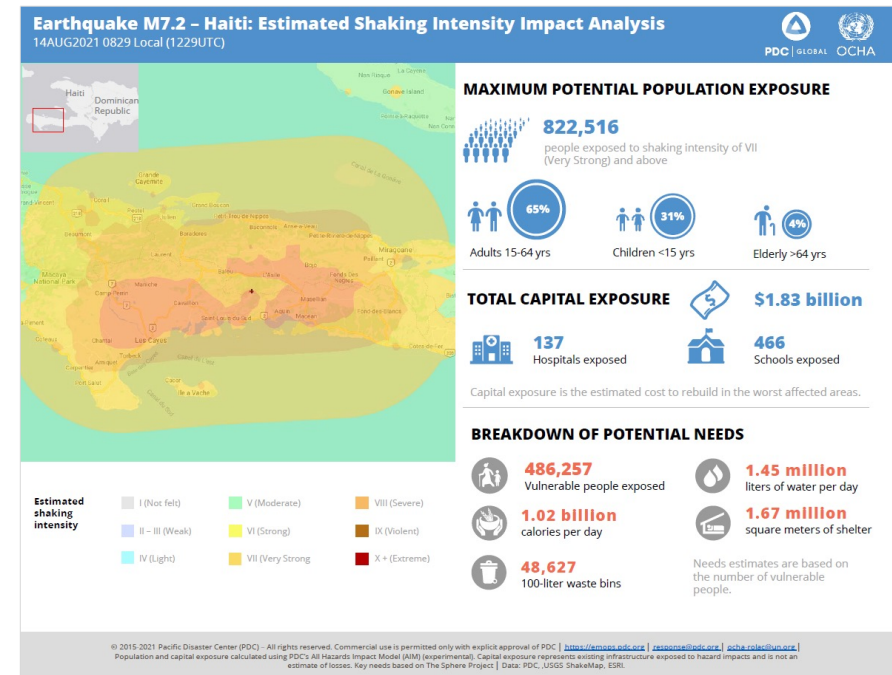
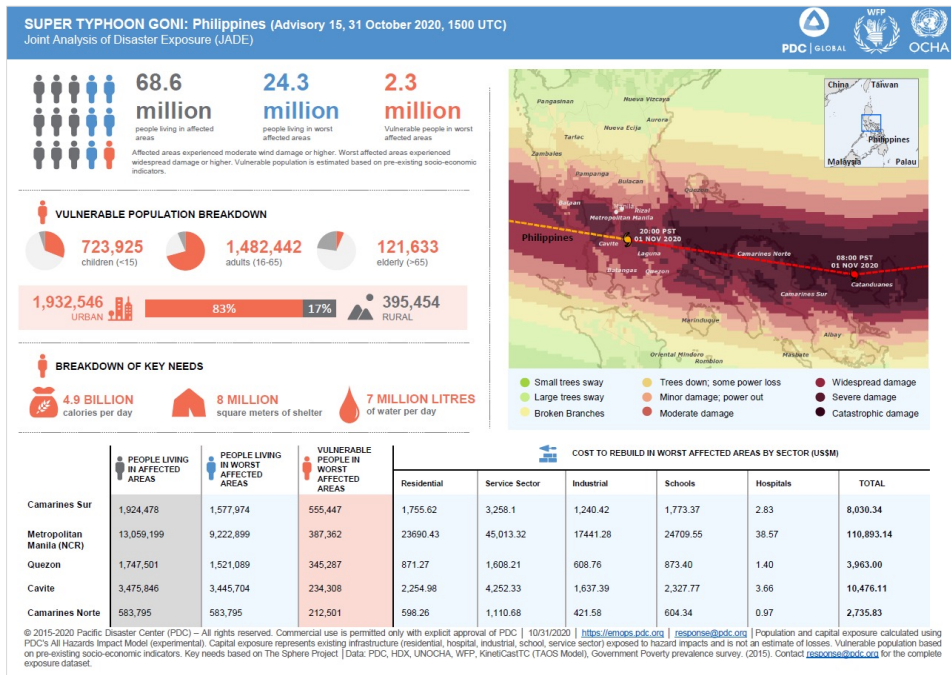
Critical infrastructure



Response-support infrastructure status

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Joint Analysis of Disaster Exposure



TYPHOON 28W (DAMREY),
 222 NM SOUTHEAST OF DA NANG, VIETNAM
 EVENT STATUS AS OF: 03 NOVEMBER 2017 21:00 (UTC)

4 COUNTRIES AFFECTED FILTER BY COUNTRY

HAZARD EXPOSURE | RISK PROFILE | LIVE CAMERAS | ASSISTANCE ACTIVITIES

POPULATION EXPOSED

ESTIMATED POPULATION EXPOSED: **1,400,000**
 ESTIMATED HOUSEHOLDS EXPOSED: **2,980**

ESTIMATED LOW INCOME POPULATION: **500,000**

LIKEHOOD OF IMPACT OF LIFELINES

POWER: LIMITED
 COMMUNICATION: MODERATE
 TRANSPORTATION: SEVERE

BREAKDOWN OF KEY NEEDS FOR LOW INCOME POPULATION

- 5,300** 100-LITRE CONTAINERS FOR WASTE DISPOSAL
- 3 MILLION** LITERS OF WATER PER DAY
- 2,3 MILLION** SQUARE METERS OF SHELTER
- 427 MILLION** CALORIES PER DAY

DEPTH: 15 KM | REPORTED: 13 SEPT 2019 (0:455 UTC)
 COORDINATES: LAT -4.08 | LONG: 152.57

14% 46,000 CHILDREN AGE 0-14
 38% 14,000 ELDERLY AGE 15-46
 48% 143,000 ADULTS AGE 65+

URBAN POPULATION: **46,000** | RURAL POPULATION: **43,000**

Event Brief

CURRENT WEATHER

70°F (21°C) / 59°F (15°C)
 WIND SPEED: **7 MPH** / 11.2 KPH
 PRECIPITATION: **55%**
 SKY CONDITION: PARTLY CLOUDY

Predictions

It's tough to make predictions, particularly about the future

Yogi Berra

Disaster Manager's Self-Help
Advice of the Day:

*Avoid admiring your last shot...
Focus on pivoting to the future*



Questions



Next Annual Conference
HERE!

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<https://www.pdc.org/>