Flood Risk at IFRC

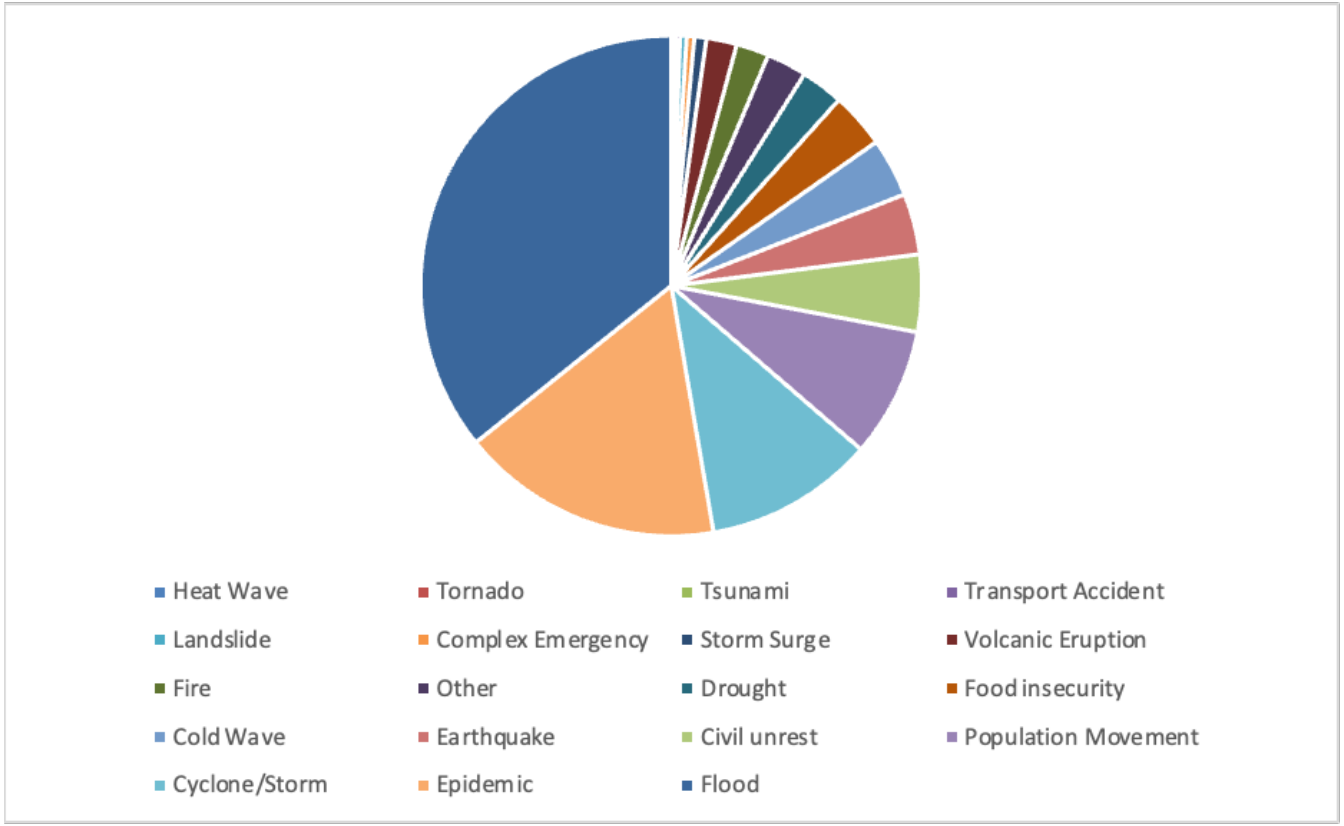
Copernicus EMS Annual Conference 2023

13.10.2023

FROM THE AMERICAN PEOPLE

Why floods?

IFRC-supported disasters by hazard type (2001-2022)



Approximately 35% of our disasters are caused by floods

How is IFRC managing flood risk?

Flood risk management

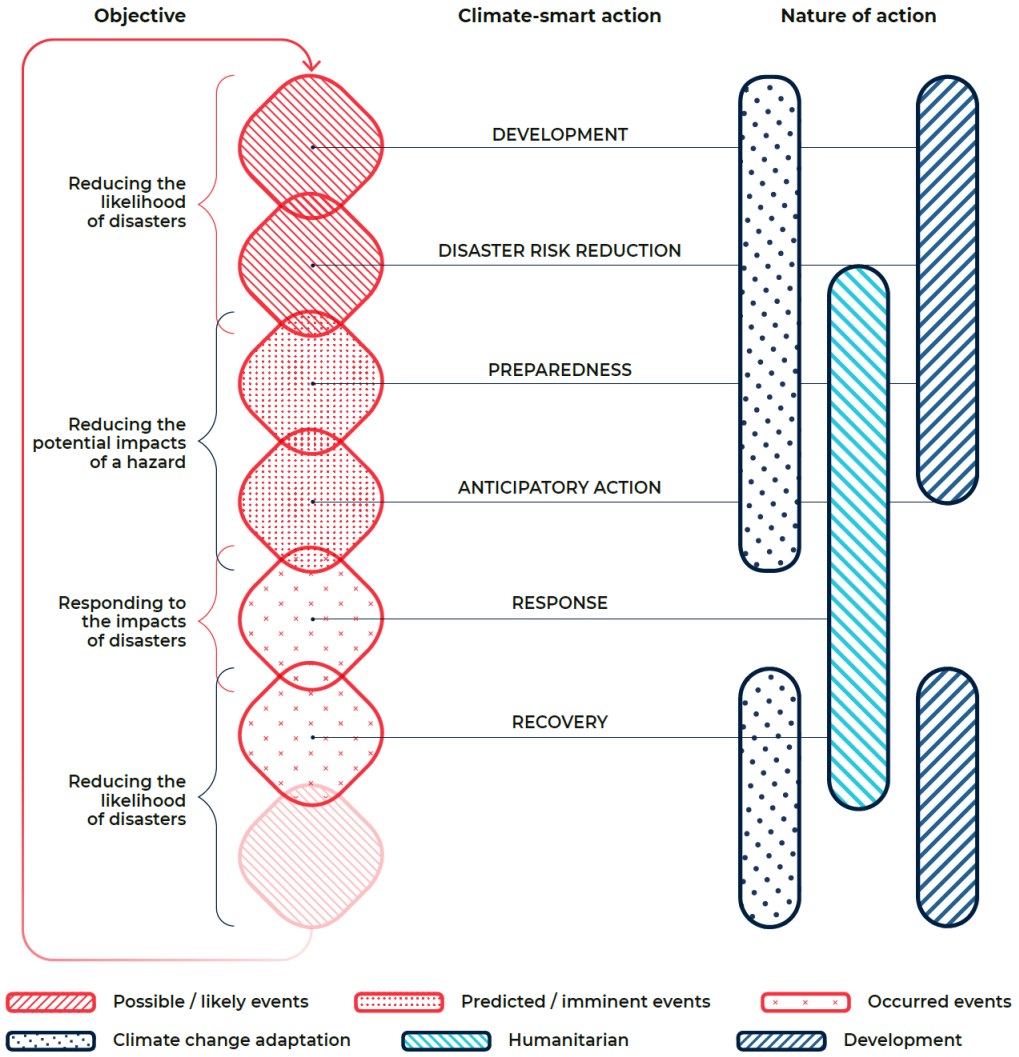
- DRR/CCA projects
- Alerting

Early Action Protocols

- Forecast-based financing and action (~25-30 for floods)

DREF for response – and imminent events

- Disbursement of funds based on likelihood of high impacts



What does this involve?

Flood risk assessment

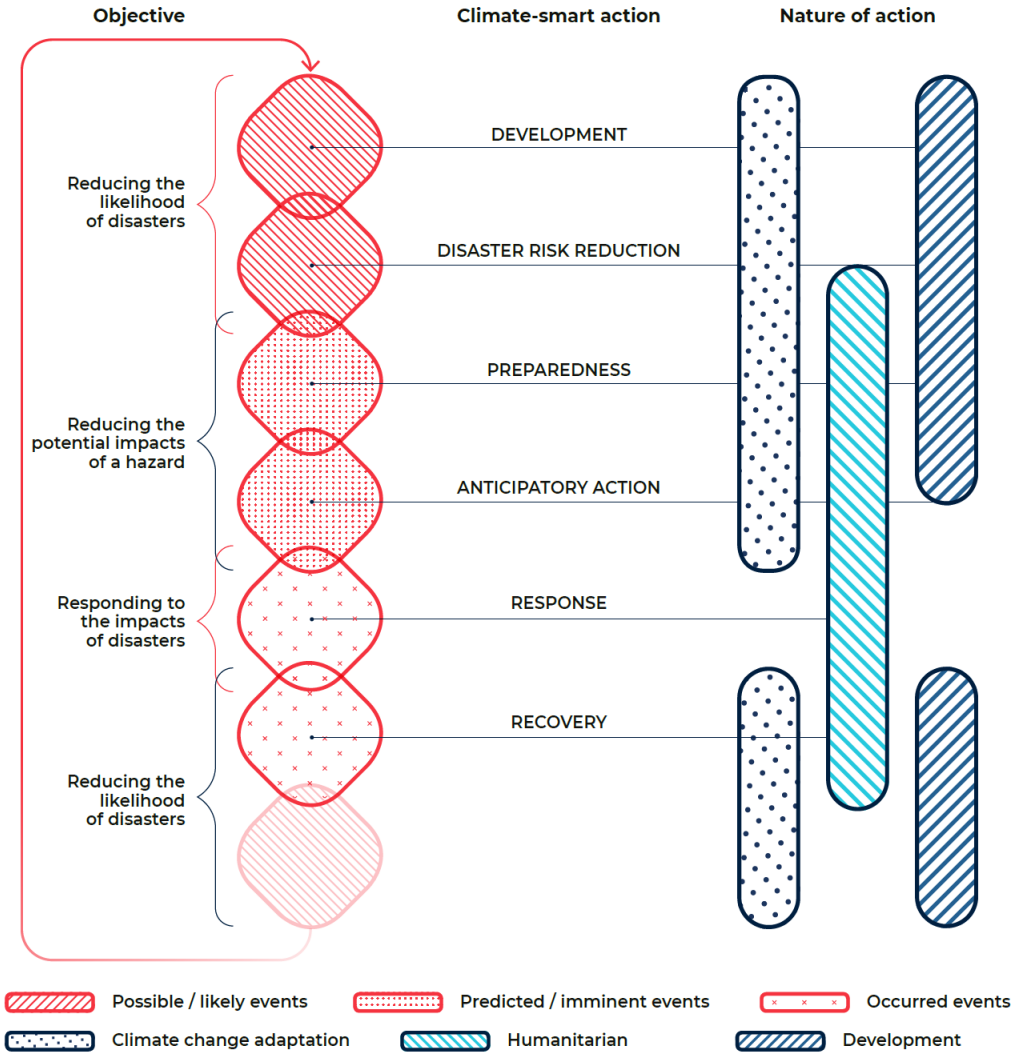
- What areas most at risk?
- What's going to happen during the coming season?

Trigger development

- What is the extent of a 1-in-5-year flood? What are the impacts of a 1-in-5-year flood?

Trigger monitoring

- Where can we get the data to monitor the tigger?
  - *Involves GloFAS most of the time (at least 12 countries at present)*



What tools does IFRC use? The GO platform

IFRC

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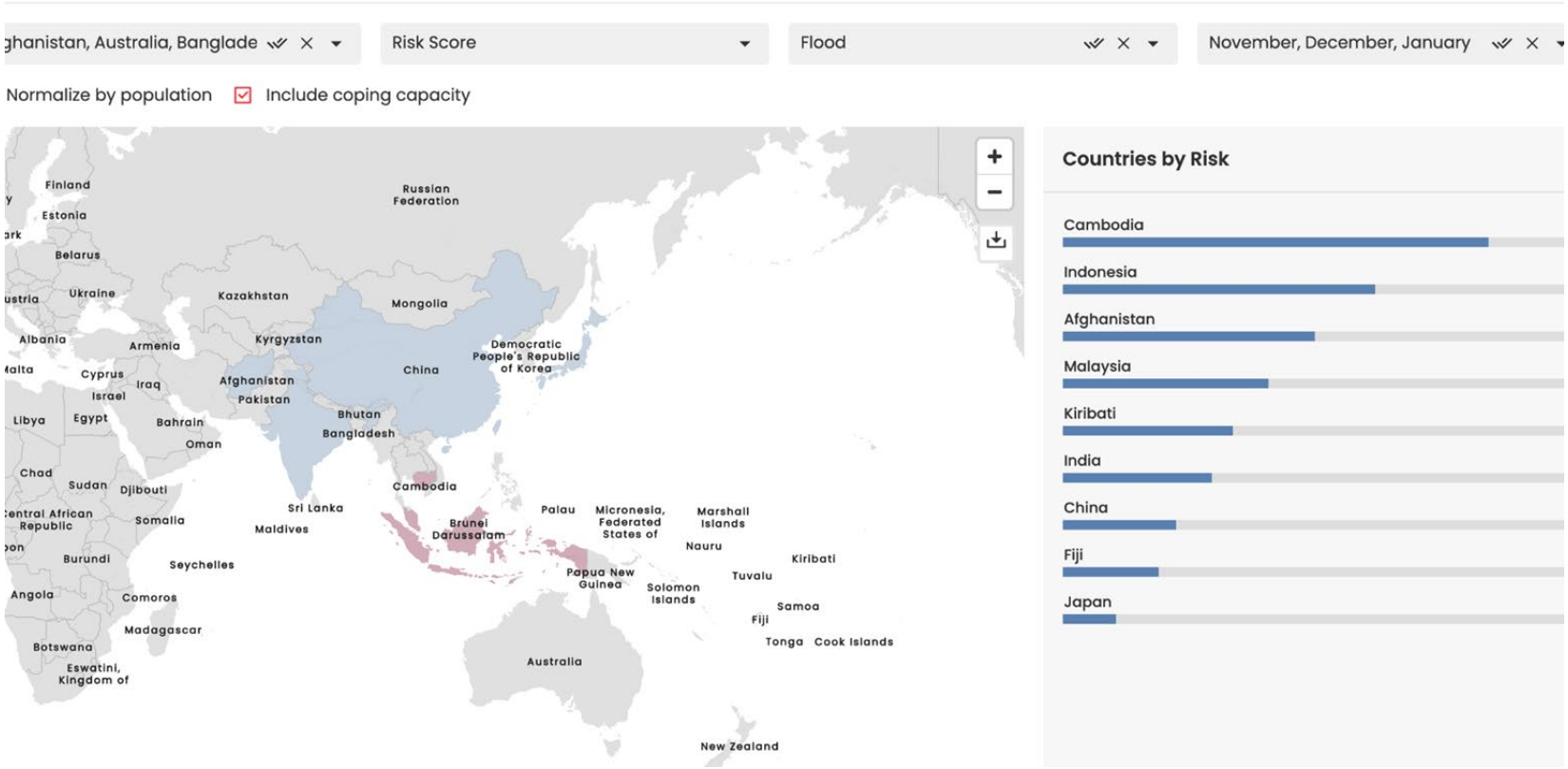


What tools does IFRC use? The GO platform

IFRC

Global Imminent Events

Flood - SE of Cauvery Basin, Sri Lanka
Started on: 2023-10-08

Wildfire - NW of San Ramon, El Beni, Bolivia
Started on: 2023-10-12

Flood - Nile Basin, Egypt
Started on: 2023-10-08

Earthquake - 6.3 - west of Macquarie Island
Started on: 2023-10-11

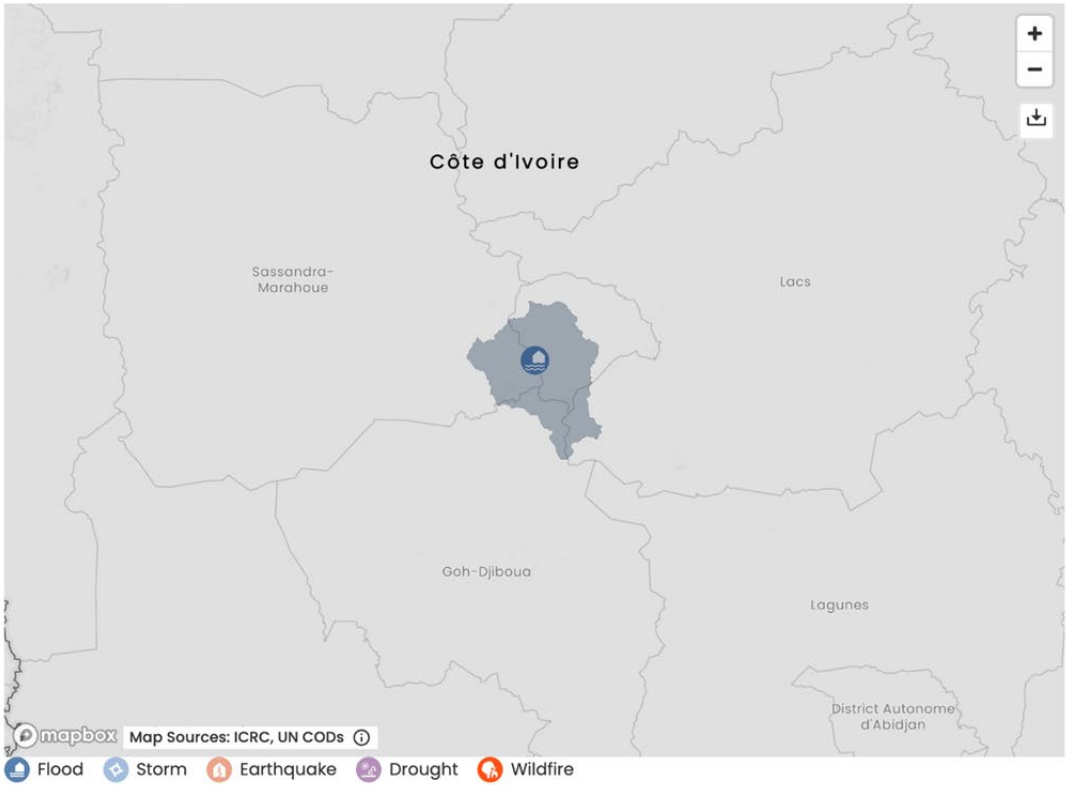
Flood - Yasothon, Yasothon, Thailand
Started on: 2023-10-13

Earthquake - 5.1 - Bougainville region, Papua New Guinea
Started on: 2023-10-12

Earthquake - 6.0 - western Indian-Antarctic Ridge
Started on: 2023-10-13

Flood - Parana Basin, Paraguay and Cuiaba Rivers, Brazil and Bolivia
Started on: 2023-10-11

What tools does IFRC use? The GO platform



Global Imminent Events ‹ Back to events

Flood - Yamoussoukro, Yamoussoukro, Cote dIvoire

View Details: **2023-10-09**
Created on: **2023-10-09**
Updated on: **2023-10-12**

People exposed / Potentially affected: **400,659**
Households exposed: **87,480**
People in vulnerable groups exposed to the hazard: **160,264**
Value (USD) of exposed buildings: **768.65 Million**
Schools exposed: **19**
Hospital exposed: **9**

The NASA Global Flood Model has issued a Flood Warning on October 12, 2023, 19:34:00 UTC for Yamoussoukro, Yamoussoukro, Cote d'Ivoire. Flood Warning areas represent watersheds where the model indicates significant likelihood of flooding or observed inundation. It is estimated that 400,659 people, 87,480 households, and $768.65 Million of infrastructure* are within the affected area(s). *The cost represents the total replacement value of the infrastructure. Affected areas include: Gôh-Djiboua, Lacs, Sassandra-Marahoué and Yamoussoukro

What tools does IFRC use? The GO platform

Green Flood in Malaysia from: 06 Oct 2023 01 to: 09 Oct 2023 01.

Started on: **2023-10-06**

Useful links:

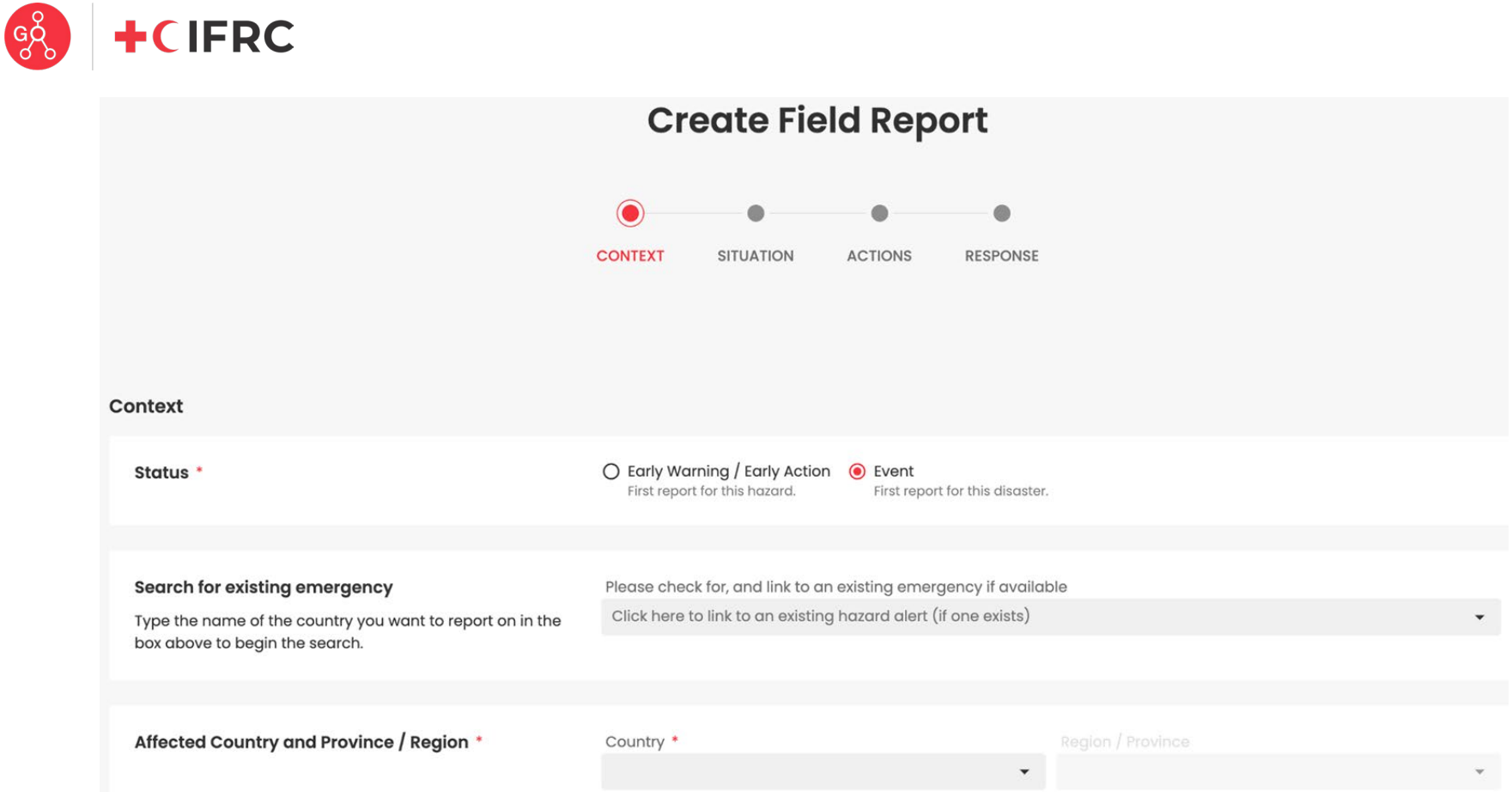
More Details | Geometry | Report

Source: GLOFAS

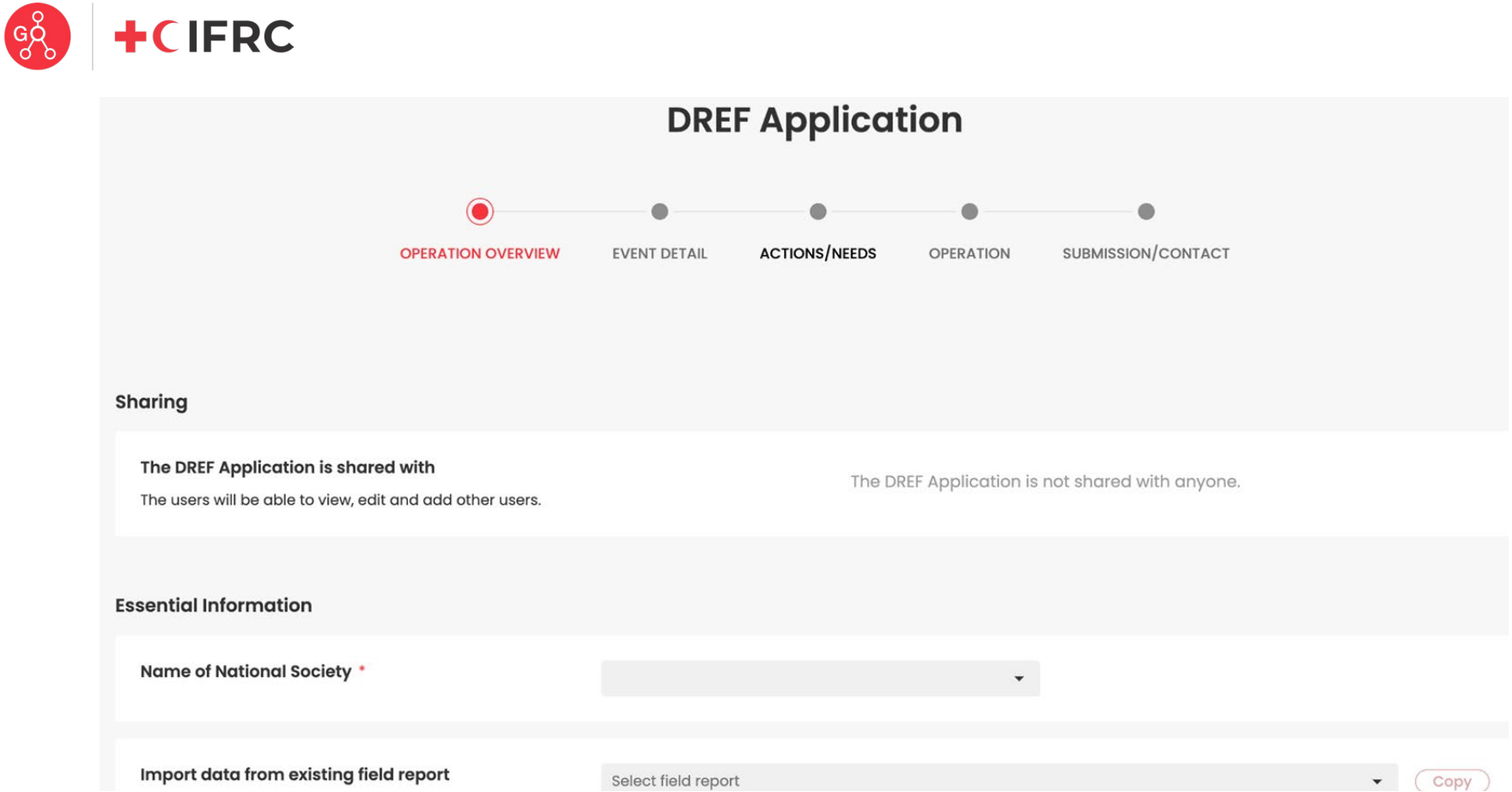
Estimated deaths: 3

Estimated number of people displaced: 43

What tools does IFRC use? The GO platform



What tools does IFRC use? The GO platform



What next?

Project Montandon Global Crisis Data Bank

Cinquième année. — N° 52. Avril 1923.

REVUE INTERNATIONALE
de la Croix-Rouge

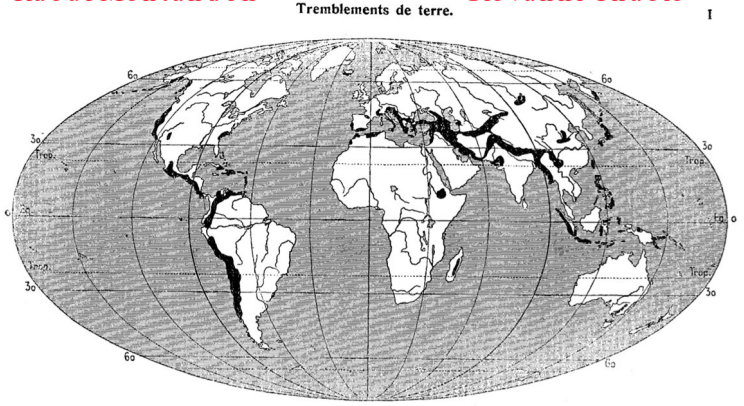
RAOUL MONTANDON,
Président de la Société de géographie de Genève.

A propos du projet Ciraolo.

Une carte mondiale de distribution géographique des calamités.

Raoul Montandon

Giovanni Ciraolo



Répartition de la séismicité (F. de Montessus de Ballore).
D'après le Traité de géographie physique de M. Emmanuel de Martonne. Paris, 1909.

The Global Crisis Data Bank: What does it do?

Inputs: Three kinds of data

1. Data on hazards

- Type
- Location(s)
- Date(s)
- Intensity

Sources include: Nat'l met services, regional orgs, WMO, USGS, NOAA, academia

2. Data on (modeled) impacts

- # of people affected
- # of people displaced
- $ losses
- damage to schools, hospitals, crops, roads

Sources include: IFRC, RC/RC NS, UN, governments (e.g., DesInventar), academia (e.g., EM-DAT), NGOs (e.g., IDMC)

3. Data on (anticipatory) actions

- Anticipatory/response measures taken
- Impacts of those interventions over time

Sources include: RC/RC NS, partners

Intended applications

Understanding spatial and temporal risk trends, especially for small- / medium-sized disasters

Validation of hazard-impact forecast models

Helping to establish triggers for FbF/FbA

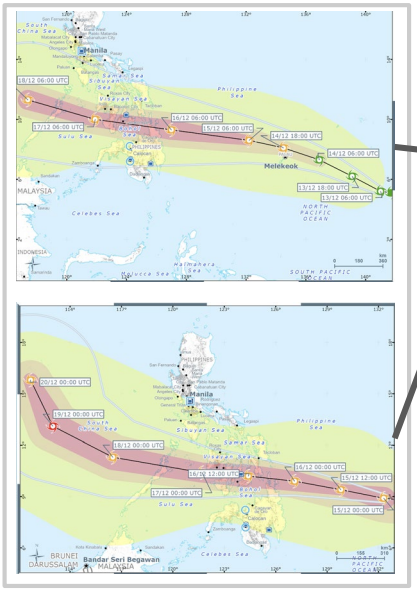
Mobilising resources for anticipatory action and disaster response

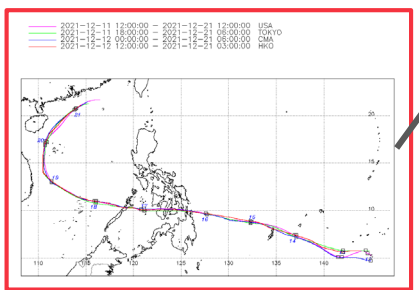
Operational learning and have evidence to identify most effective actions

Prioritising action based on the magnitude of risks and effectiveness of potential interventions (e.g., identifying which risks to address through DRR and adaptation, and which risks to retain and manage)

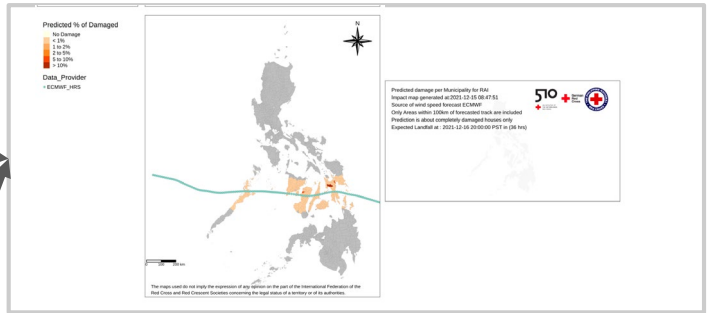
Example based on Typhoon Rai ("Odette")

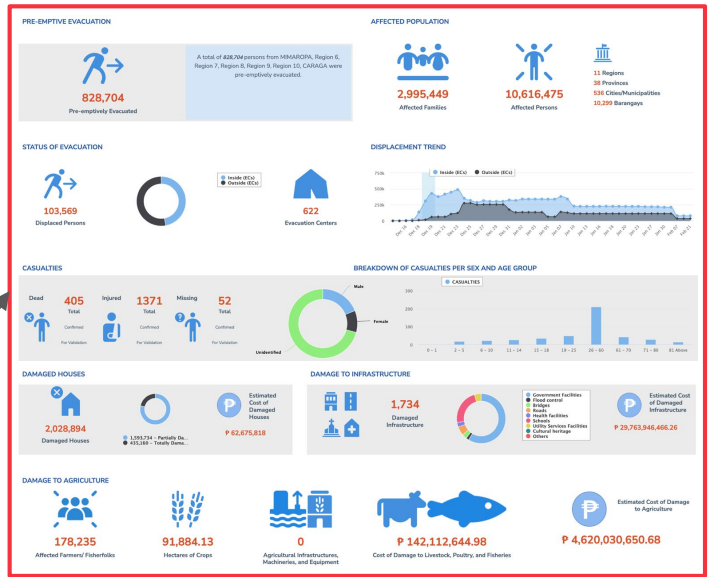
Hazard: forecast and observed





Impacts: modeled and observed



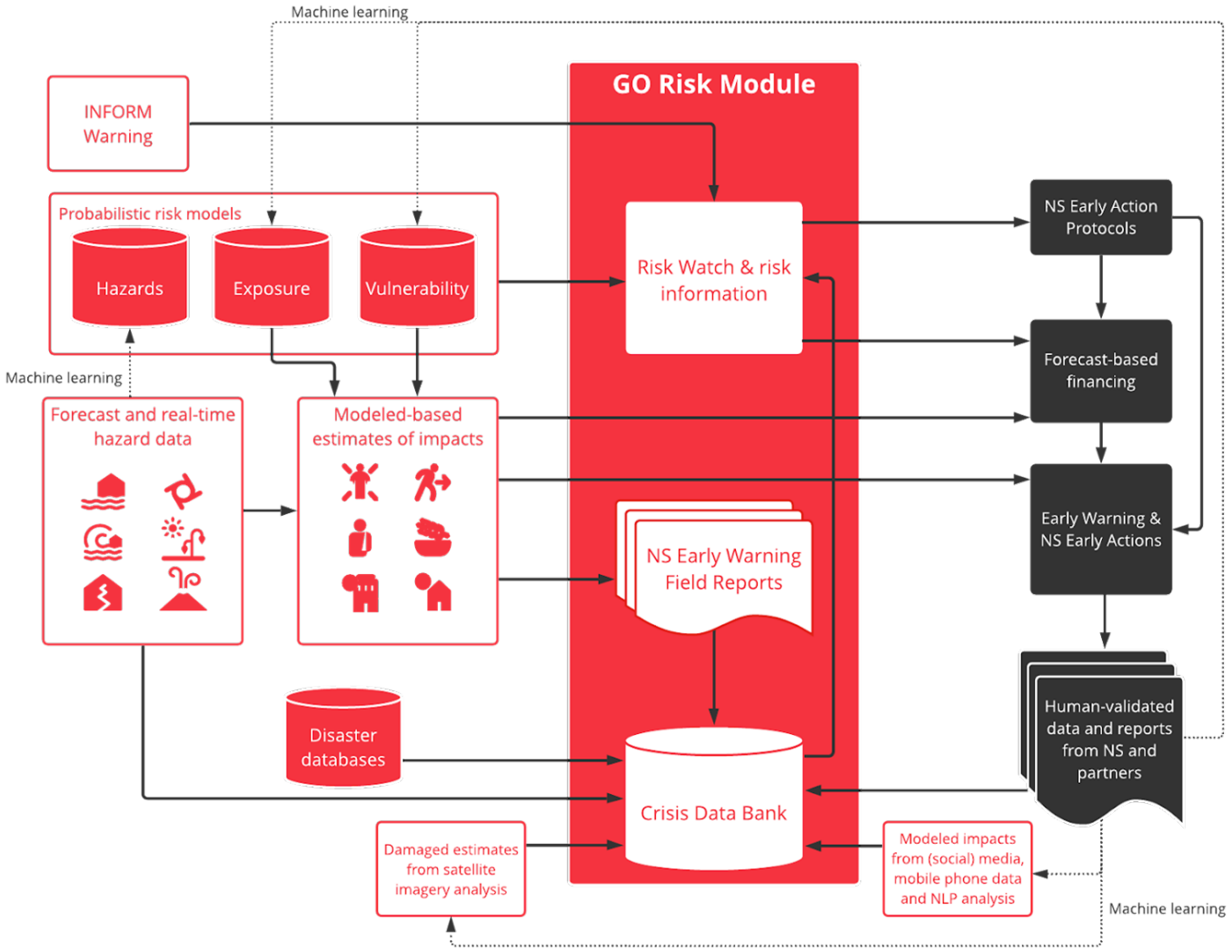


Actions taken (what actions, by whom, to what effect)

PHILIPPINE RED CROSS SUMMARY OF ACTIONS as of 25 DECEMBER 2021

SECTOR	
HEALTH AND SAFETY	• **BP MONITORING:** 1,330 individuals (Sorsogon-31, Iloilo-2, Northern Samar-20, Southern Leyte-14, Cebu-44, Bohol-177, Lapu-Lapu/Cordova-560, Boracay-Malay-27, Negros Occidental-22, Capiz-77, Aklan-50, Surigao Del Sur-43, Surigao del Norte-172, Agusan del Norte-34) • **FA STATION:** 13 stations (Cebu-5, Lapu-Lapu-5, Negros Occidental-2, Negros Oriental-1) • **FACE MASKS:** 2,003 individuals (Bohol-1,428, Negros Occidental-115, Negros Oriental-430, Surigao del Norte-30)
WELFARE	• **HOT MEALS:** 35,542 individuals (Sorsogon-721, Masbate-32, Palawan-4,819, Iloilo-987, Capiz-900, Eastern Samar-1,362, Northern Samar-400, Southern Leyte-6,152, Cebu-2,250, Bohol-1,673, Biliran-300, Guimaras-539, Lapu-Lapu/Cordova-213, Boracay-Malay-775, Negros Occidental-1,082, Negros Oriental-483, Western Samar-876, Cebu-Bogo-331, Ormoc-614, Passi-414, Aklan-353, Gingoog City-54, Surigao Del Sur-3,793, Surigao Del Norte-1,624, Siargao Island-35, Misamis Occidental-Oroquieta-109, Misamis Oriental-CDO-2,678, Davao De Oro-704, Agusan Del Norte-1,269) • **BREAD:** 865 individuals (Lapu-Lapu/Cordova-705,Agusan del Norte-160) • **RICE:** 30 sacks (Lapu-Lapu/Cordova)
RELIEF	• **CLOTHING:** 251 families (Guimaras-181, Negros Occidental-70) • **STANDARD FOOD ITEMS:** 783 individuals (Agusan del Norte-194, Surigao Del Sur-88, Palawan-300, Negros Oriental-150, Misamis Oriental-51) • **NON-STANDARD FOOD ITEMS:** 581 individuals (Palawan-50, Negros Oriental-290, Siquijor-31, Misamis Oriental-210) • **HYGIENE KITS:** 399 individuals (Palawan-50, Negros Occidental-154, Hilongos-195) • **BODY BAGS:** 64 units (Negros Oriental-9,Palawan-55)
WASH	• **HYGIENE PROMOTION:** 10,800 individuals (Capiz-321, Northern Samar-1,411, Southern Leyte-5,740, Bohol-340, Negros Occidental-290, Ormoc-265, Aklan-30, Gingoog-54, Surigao Del Norte-123, Misamis Occidental - Oroquieta-109) • **WATER DISTRIBUTED:** 263,624 L (Total individuals served: 16,862 individuals; Total water tankers deployed: 5) (Cebu-149,750, Agusan del Norte-5,340,Negros Occidental-37,600, Lanao del Norte-13,610, Bohol-24,000)
SRR	• **ASSISTED:** 10 individuals (Cebu-Bogo) • **RETRIEVED:** 3 individuals (Palawan) • **TRANSPORTED:** 15 individuals (Palawan-5, Southern Leyte-5, Cebu-1,Bohol-1, Gingoog-1) • **CLEARING (m^2):** 195 m^2 area (Cebu) • **FIRST-AID:** 71 individual (Palawan-27, Iloilo-1, Southern Leyte-10, Cebu-4, Bohol-1, Lapu-Lapu/Cordova-7, Negros Occidental-17, Gingoog City-1, Agusan del Norte-3)
PSS	• **CFS:** 1,007 stations (Sorsogon-40, Bohol-744, Aklan-30, Negros Occidental-147, Misamis Occidental-Oroquieta-46) • **RFL (TRACING):** 47 successful cases (Siargao island-5, Cebu-14, Palawan-26) • **PFA:** 1,440 individuals (Sorsogon-470, Cebu-22, Bohol-693, Negros Oriental-100, Passi City-41, Surigao del Norte-58, Misamis Occidental-Oroquieta-8, Guimaras-3, Agusan del Norte-45) • **WELFARE DESK:** 15 stations (Cebu-5, Lapu-Lapu-5, Negros Occidental-3, Negros Oriental-2)
BLOOD	• **BLOOD UNITS:** 15 units of blood deployed from Iloilo to Negros Oriental
PERSONNEL	• **VOLUNTEERS MOBILIZED:** 776 volunteers (Palawan-22, Romblon-187, Capiz-454, Southern Leyte-48, Cebu-31, Passi-22, Agusan del Norte-8, Iligan City-4) • **STAFF MOBILIZED:** 43 staff (Cebu-Bogo-10, Agusan del Norte-5)

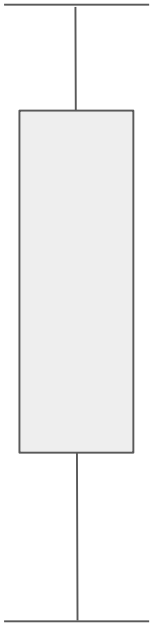
Part of a larger data analysis and decision - support ecosystem



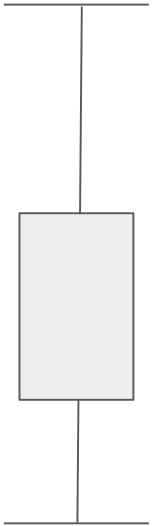
Partners (as of October 2023)

And 192 Red Cross/Red Crescent National Societies

Seasonal risk analysis at present

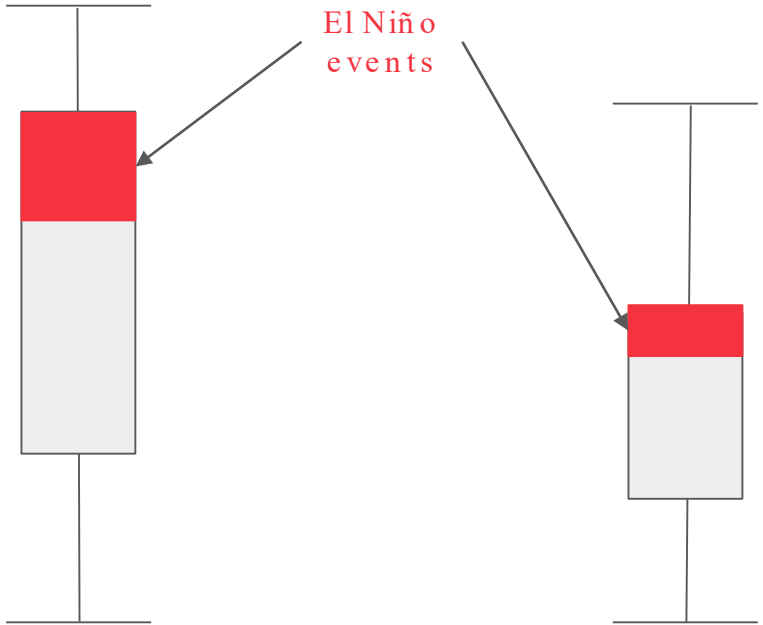


People affected by flooding



People at risk of cholera

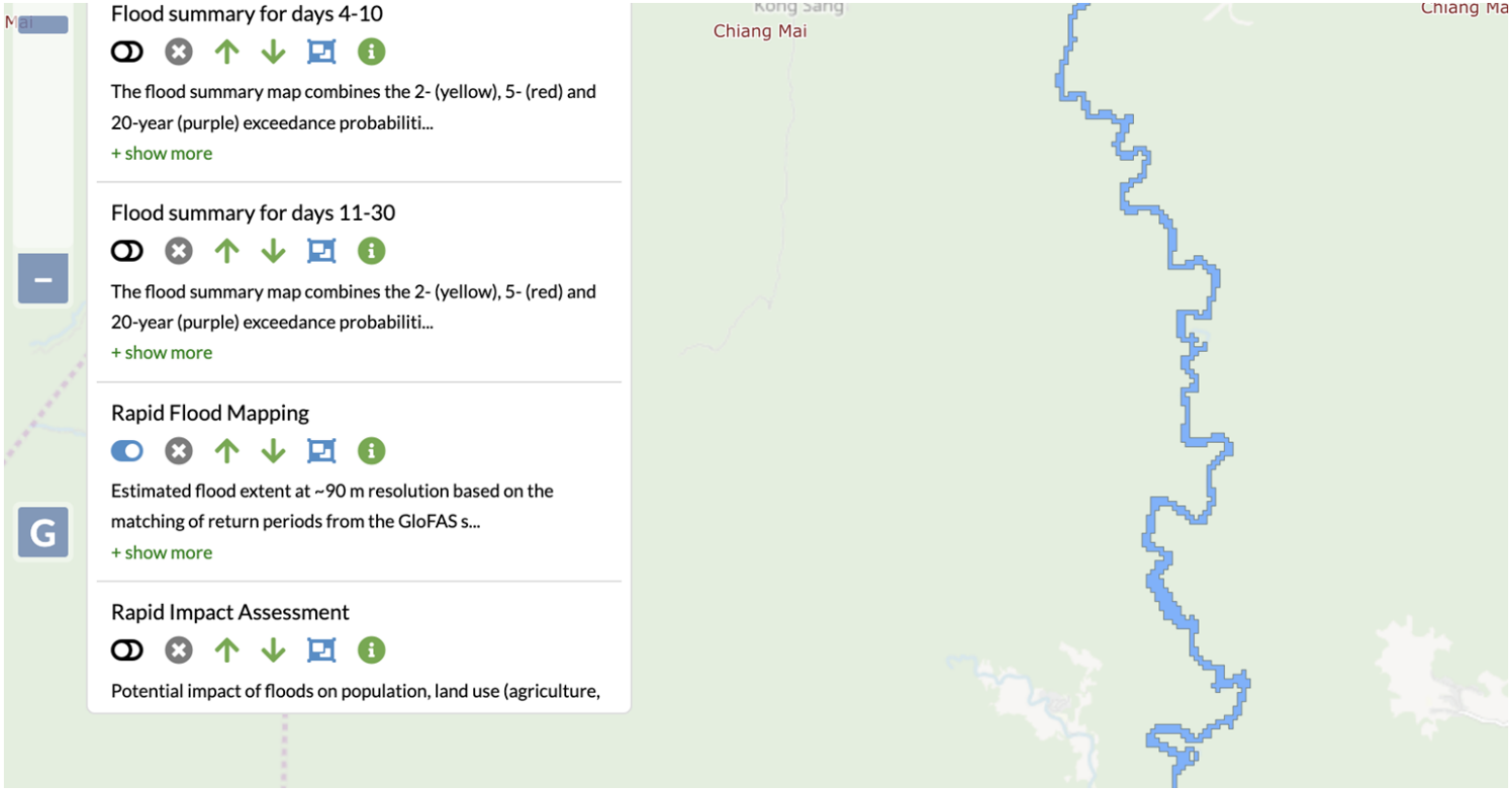
Risk analysis enhanced with more historical data



More integration with GloFAS to enhance FbA

IFRC

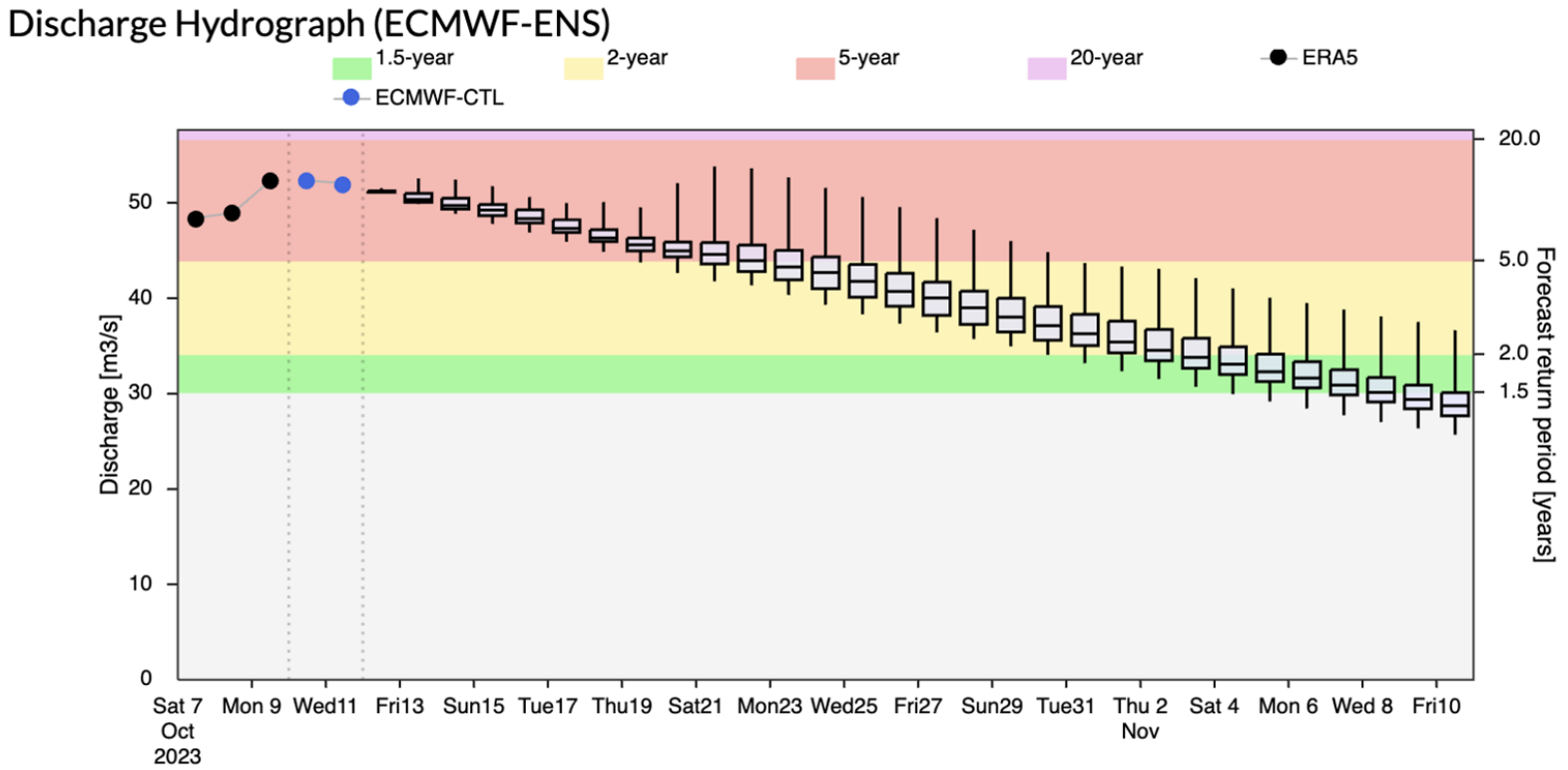
Automated flood inundation maps on GO



More integration with GloFAS to enhance FbA

IFRC

Automated return period information



Thank you!

Contact:

justin.ginnetti@ifrc.org

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