NEAMWAVE26

DG ECHO - ERCC
Role, Analytical Tools and Products

Olimpia Imperiali

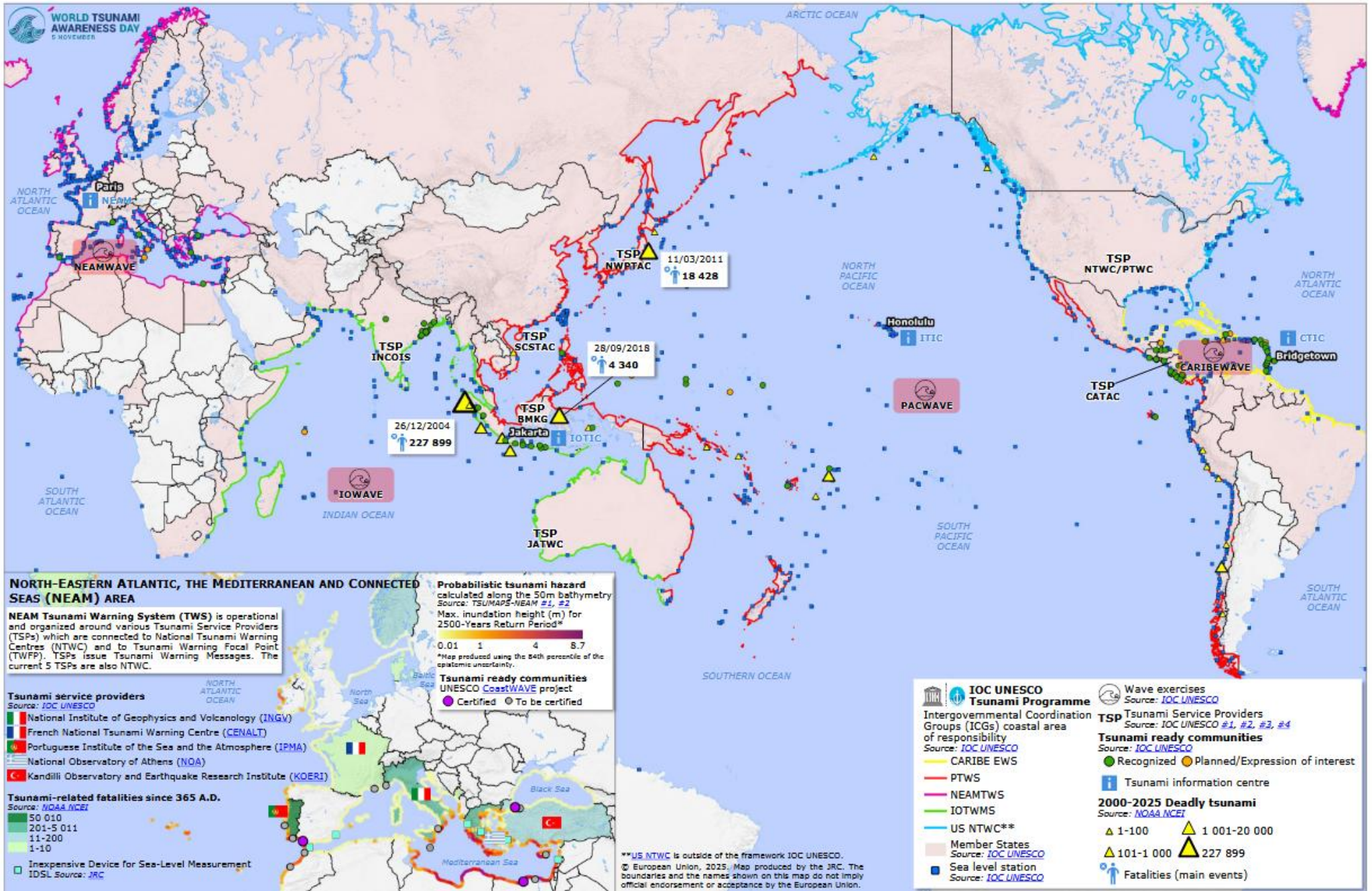
DG ECHO - ERCC Analytical Team

European Commission

Emergency Response Coordination Centre (ERCC) – DG ECHO Daily Map | 05/11/2025

World Tsunami Awareness Day 2025 | Main tsunami preparedness initiatives

European Commission



**US NTWC is outside of the framework IOC UNESCO.

European Commission

Introduction

- **EC Mandate in the field of EWS and specifically to support UNESCO**
- **UCPM** and the **ERCC** – purpose and role
- NEAMWAVE26 – **Phase C**
- **Analytical Products**

European Commission MANDATE

in the field of EWS and to contribute to UNESCO's effort to establish the NEAMTWS

Art. 8 (c) of the decision 1313/2013 establishing the Union Civil Protection Mechanism (UCPM):
The Commission shall "contribute to the development of transnational detection, early warning and alert systems of European interest, in order to (…) to promote the interlinkage between national early warning and alert systems and their linkage to the ERCC/CECIS. Those systems shall take into account and build upon existing (…) systems"

Council Conclusions 15473/2007 and Council Conclusion 7562/2008:
Both emphasised the importance of contributing to UNESCO's efforts to establish the Northeastern Atlantic and Mediterranean and Connected Seas Tsunami Warning System (NEAMTWS).

Commission contribution to UNESCO efforts to establish the NEAMTWS includes:

- Tsunami model in GDACS
- Tsunami Scenario Database
- Tsunami Analysis Tool (TAT)
- Tsunami Alerting Device
- Sea Level Database
- Sea Level Instrumentation activities
- **Full scale UCPM exercise** (e.g. Demonax)
- Contribution to **NEAMWAVE Exercises - phase C**
- NEAMTIC
- NEARtoWARN
- TSUMAPS-NEAM
- Tsunami Last Mile phase 1 and 2 project
- **COASTWAVE phase 1 and 2**
- NEAM COMMITMENT

European Commission

EU Civil Protection Mechanism
UCPM

27 EU member states and 10 additional participating states:

Albania, Bosnia and Herzegovina, Iceland, Moldova, Montenegro, North Macedonia, Norway, Serbia, Türkiye, and Ukraine.

Prevention

- Risk assessment
- Risk management capability
- Risk management planning

Preparedness

- Training
- Exercises
- Early Warning
- CECIS
- Exchange of experts
- Other

Response

- Emergency Response Coordination centre (ERCC)
- European Civil Protection Pool & rescEU
- Transport
- EU CP Teams
- ERCC Liaison Officer

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The Emergency Response Coordination Centre (ERCC)

Monitors disasters and crisis around the globe

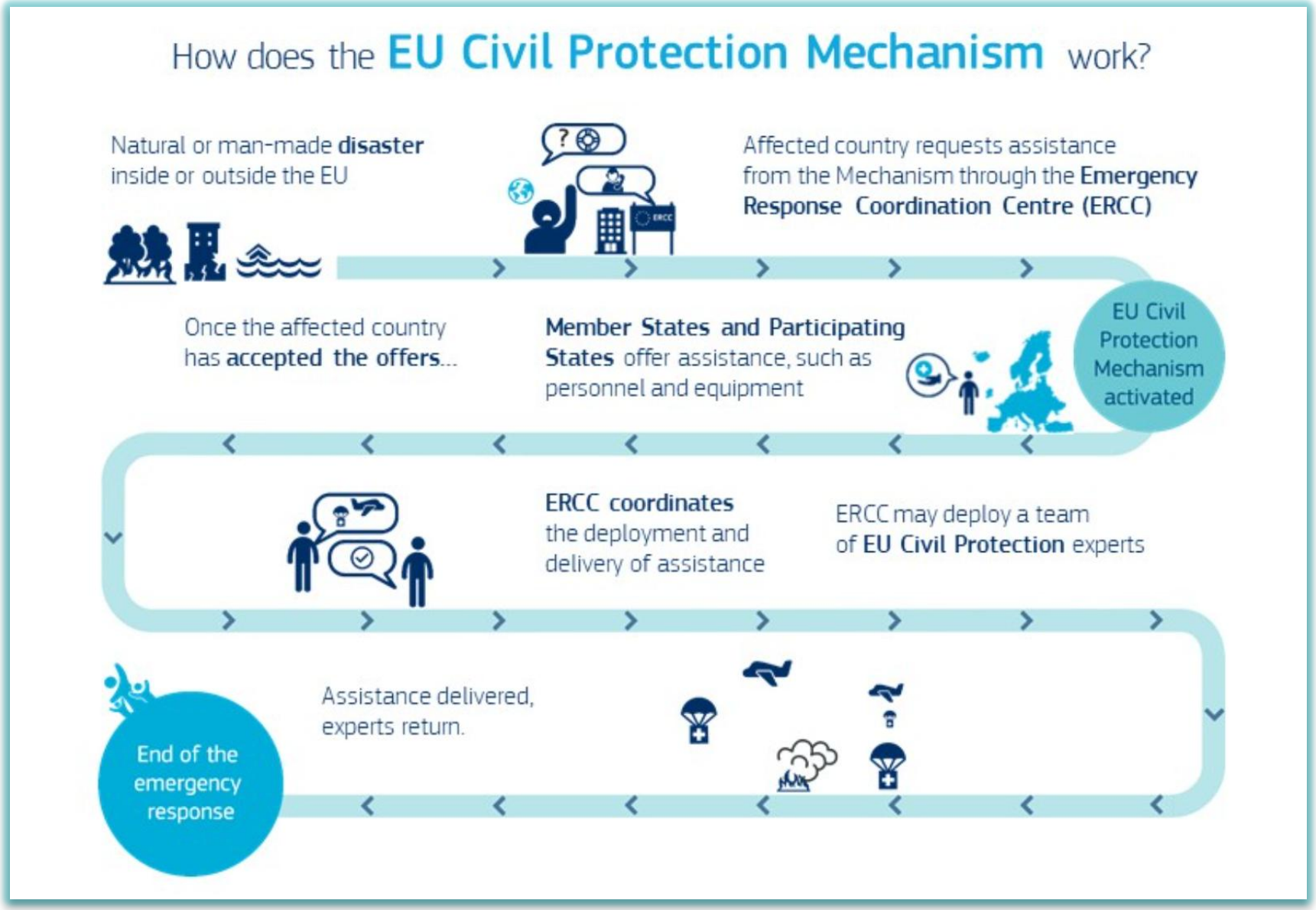
Provides information

Coordinates EU response operations

ERCC ANALYTICAL TEAM – anticipation, early warning, situational awareness and early act

European Commission

Response under the UCPM



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Emergency Response Coordination Centre (ERCC) - DG ECHO Daily Map | 05/02/2025

World | European Union Civil Protection Mechanism (UCPM) activations 2021-2025

European Commission

408 Activations
123 Countries
140 ERCC Liaison Officers Deployed
416 Experts Deployed

Activations per year [1]

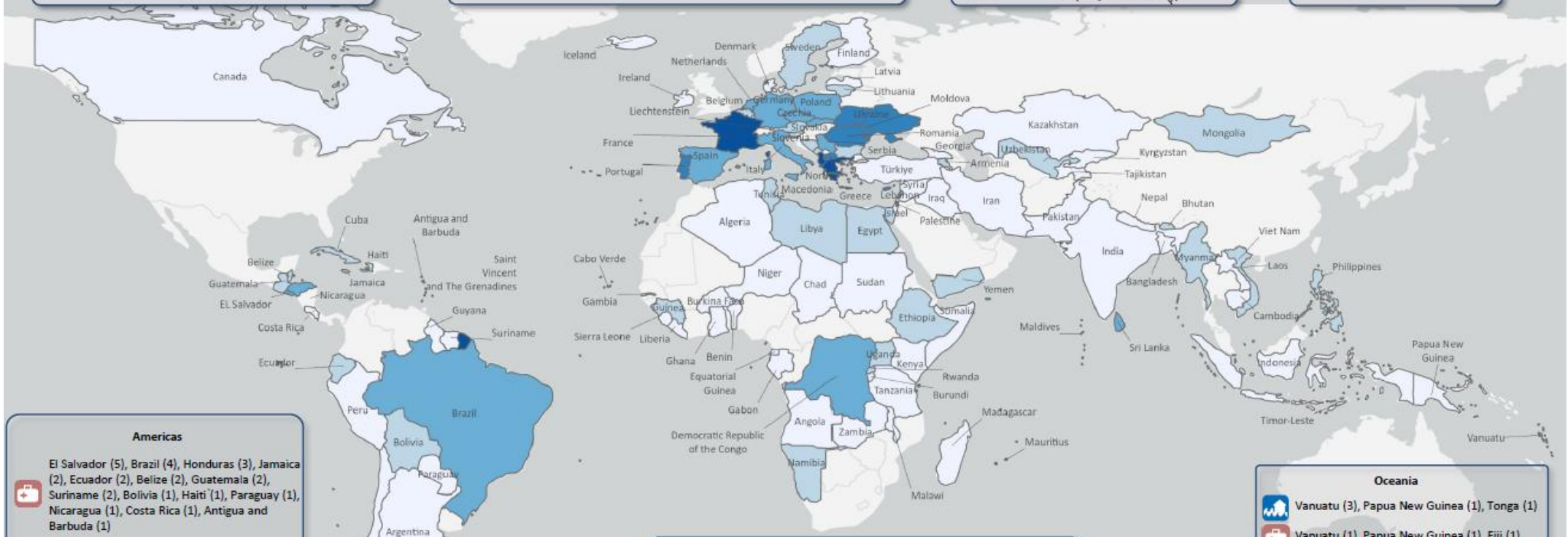
2021	2022	2023	2024	2025
114	106	66	58	64

Activations per disaster category

Health Emergency	Natural Hazard	Consular Support	Technological Event	Conflict	Preparedness Prevention
154	145	34	26	21	5

Activations per country

- 12-15
- 8-11
- 5-7
- 3-4
- 1-2



Americas

El Salvador (5), Brazil (4), Honduras (3), Jamaica (2), Ecuador (2), Belize (2), Guatemala (2), Suriname (2), Bolivia (1), Haiti (1), Paraguay (1), Nicaragua (1), Costa Rica (1), Antigua and Barbuda (1)

Bolivia (3), Saint Vincent and the Grenadines (3), Honduras (2), Jamaica (3), Ecuador (2), Cuba (2), Chile (2), El Salvador (1), Belize (1), Guatemala (1), Haiti (1), Peru (1), Saint Lucia (1), Barbados (1), Canada (1), Guyana (1), Argentina (1), Grenada (1)

Haiti (1)

Cuba (1), Peru (1), Brazil (1)

Cuba (1)

Africa , top 5 countries with most activations by disaster category

Rwanda (4), Cabo Verde (3), Tunisia (3), Namibia (3), Egypt (3)

Congo, Democratic Republic of the (4), Cabo Verde (2), Ethiopia (2), Tunisia (1), Libya (1)

Libya (1), Guinea (1), Sierra Leone (1), Equatorial Guinea (1), Somalia (1)

Sudan (1), Niger (1)

Europe, top 5 countries with most activations by disaster category

Albania (13), Greece (12), France (8), Portugal (8), North Macedonia (6)

Moldova (5), Ukraine (3), Romania (3), Netherlands (3), Slovakia (3)

France (5), Netherlands (4), Romania (3), Spain (2), Germany (2)

Ukraine [2] (4), Moldova (2), Czechia (1), Poland (1), Slovakia (1)

Moldova (4), Sweden (2), Ukraine (2), Greece (1), Romania (1)

Ukraine (2), Latvia (1)

Asia, top 5 countries with most activations by disaster category

Sri Lanka (3), Bhutan (3), Uzbekistan (3), Mongolia (3), Palestine (2)

Cyprus (6), Myanmar (3), Viet Nam (2), Türkiye (2), Syria (2), Tajikistan (1)

Palestine ** (5), Cyprus (2), Yemen (2), Armenia (1), Lebanon (1)

Cyprus (1), Sri Lanka (1), Lebanon (1)

Sri Lanka (1)

Oceania

Vanuatu (3), Papua New Guinea (1), Tonga (1)

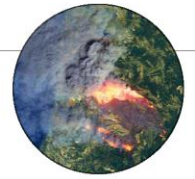
Vanuatu (1), Papua New Guinea (1), Fiji (1)

EARLY WARNING AND MONITORING SERVICES

Global Disaster Awareness and Coordination System (GDACS)

Volcanic activity, earthquakes, and tropical cyclones

European Forest Fire (EFFIS) and Global Wildfire (GWIS) Information Systems



Wildfires

European and Global Flood Awareness Systems (GloFAS and EFAS)

Floods

European and Global Drought Observatory (EDO and GDO)

Droughts and heatwaves

SITUATIONAL AWARENESS PORTALS

Global Situation System (GSS)

SCIENTIFIC PARTNERSHIPS

Location of institutes

Natural hazards (ARISTOTLE)

Radiological and Nuclear hazards

Chemical hazards

Conflict analysis

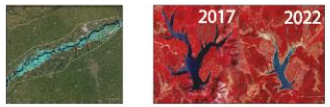
(not yet operational)

ON-DEMAND MAPPING SERVICES

copernicus

Rapid Mapping

Risk and Recovery



External and Security services

Maritime safety

Situational maps

Scientific partnerships 24/7

Natural (multi-)hazards

European Natural Hazards Scientific Partnership (**ARISTOTLE** - ENHSP)

- Scientific advice on (8+) hazards, worldwide
  (including EQs, tsunamis, volcanic activity, floods, wildfires and SW)
- 23 institutions belonging to 14 UCPM countries

Radiological and nuclear

European Anthropogenic Hazards Scientific Partnership (EAHSP - **RN**)

- Scientific and technical support in case of radiological or nuclear emergencies
- Partnership with 5 institutions

Chemical

European Anthropogenic Hazards Scientific Partnership (EAHSP - **C**)

- Scientific and technical support in case of chemical emergencies
- Partnership with Cefic, covering 16 national authorities

Conflict analysis

European Partnership for the Analysis of the Consequences of Conflict
(E - PACC)

not yet operational

- Technical support in the face of sudden-onset conflict
- Partnership of independent institutions combining analytical capacities with geospatial expertise

European Commission

PHASE C – NEAMWAVE

- **24 March – Northeast Atlantic:** IPMA (Portugal) and CENALT (France) will simulate the tsunami generated by the 1755 Lisbon earthquake.

- This event remains the largest natural disaster in Europe in the last 500 years, in terms of loss of lives (60 000 to 100 000 deaths) and destruction (Chester, 2001).

- The tsunami waves caused massive destruction in the southwest **Iberian Peninsula** and Northwest **Morocco** (Baptista et al., 1998; El Mrabet, 2005). They travelled as far north to Newfoundland and Cornwall in the **UK** (Huxham, 1756), and southwards to **Antigua** and **Barbados** in the Caribbean (Sylvanus, 1756), and to the coast of **Brazil** (Ruffman, 2006).

ERCC in NEAMAVE 26

ERCC Duty officers 24/07 with the support of the ERCC Analytical Team

- **Monitor via GDACS**
- **Detect Red Alert in GDACS**
- Receive **TSP alert** (see next slide)
- Activate the European Natural Hazard Scientific Partnership ENHSP-ARISTOTLE
- **Activate CEMS** (Copernicus Emergency Management Service) on behalf of Authorised User
- Receive **UCPM Request for Assistance** from Member State(s) => **Activate UCPM**
- **Coordinate response and exchange information with UCPM Participating States in CECIS and/or Coordinate** with the requesting third country through emails.

European Commission

ARISTOTLE Involvement in NEAMWave 26 Tsunami Exercise

Delivery of a multi-hazard Emergency Report within 3 hours, including:

Earthquake (EQ):

1.Distribution of shaking intensity evaluated through ShakeMap (including EQ magnitude, depth, location, finite fault and maximum intensity).

2.GEM impact assessment: Population Exposure and Vulnerability.

3.Rapid impact estimation provided by CSEM (EQIA) and GDACS.

4.Past events in the region and corresponding impact.

Tsunami (TS):

1. Distribution of forecasted maximum wave amplitude and wave travel times evaluated through HySea numerical simulation (including EQ magnitude, depth, location and focal mechanism); instrumental and reported observations.

2. Coastal impact in terms of fatalities and economic losses by using a software tool developed by NGI to estimate the inundation starting from the results of modelling tsunami wave propagation.

3. Rapid impact estimation provided by GDACS.

4. Past events in the region and corresponding impact.

- **Multi Hazard Board Assessment**: Other hazardous events in the region that may contribute to the evaluation of the **Impact**.
- **Qualitative assessment** of the **Impact** with respect to the Country Lack of Coping Capacity.
- **Expert assessment** on the potentially **required resources** and qualitatively assignation of an **alert level** in the Decision Matrix.

Analytical Products

- Daily map
- Analytical brief

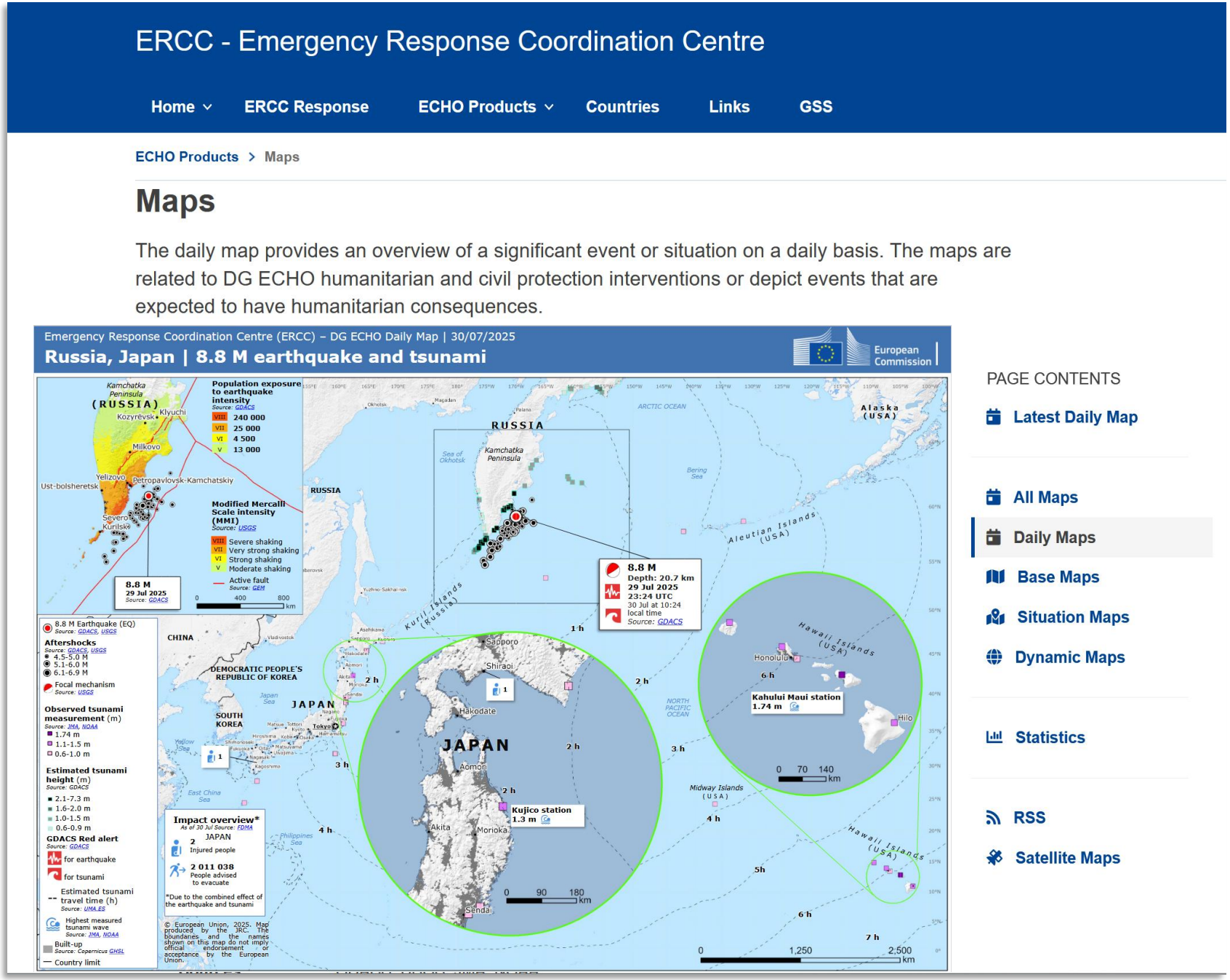
DG ECHO Daily Map

Purpose:

Daily public information product to **raise awareness and provide overview** of a situation at a glance of:

- Emergency
- Humanitarian crisis
- DG ECHO response overview

https://erccportal.jrc.ec.europa.eu



DG ECHO Analytical Brief

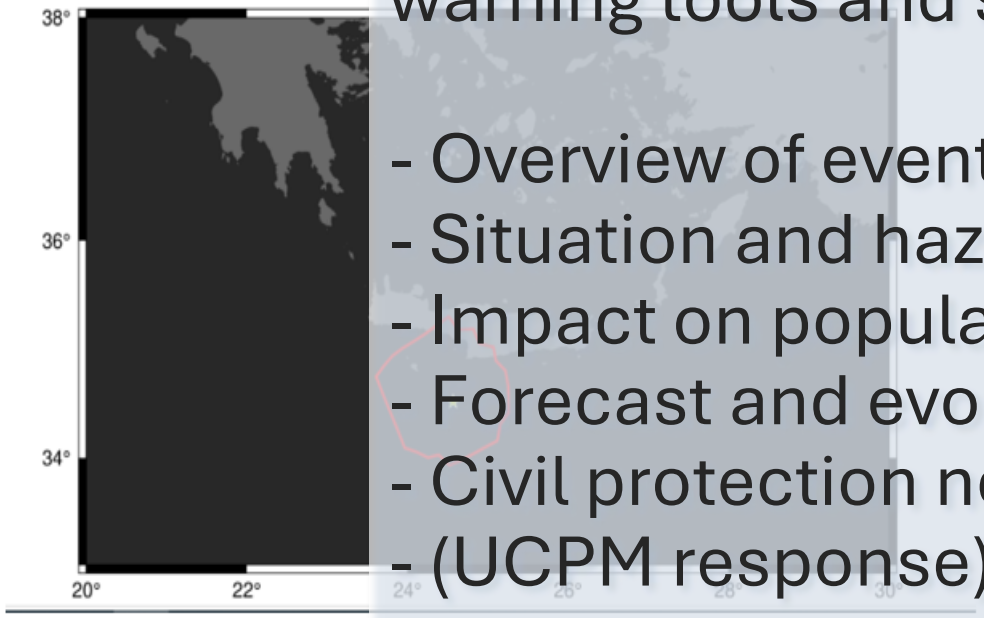
During an emergency the ERCC's Analytical Team provides a brief of the situation gathering all information received from the various early warning tools and scientific partners:

- Overview of event
- Situation and hazards
- Impact on population, infrastructure
- Forecast and evolution
- Civil protection needs
- (UCPM response)

DG ECHO ERCC Analytical Brief

Tsunami off the coast of Portugal – EXERCISE NEAMWAVE

DG ECHO A3 - Situational Awareness Team –7 November 2023



At least 300'000 people (not accounting for non-permanent residents) was exposed to intensities VII and above, damaging poorly built or badly designed structures. The severe shaking has heavy effects on building in Crete. Tsunami alerts were issued from the three following regional Tsunami service Providers (TSPs): INGV, NOA and KOERI. The tsunami waves reached the coast of Libya within 40 minutes, and the coasts of Egypt, Türkiye and south Italy within 70 minutes. In less than 1,5 hours, waves have also arrived to Cyprus.

The waves reached the coast and inundate several meters inland in different countries. The highest waves reaching the coast were in Greece (Crete) and the coasts of Libya.

The ships in the ports are lifted by the tsunami waves while material and weak structures in the first meters to the coast are dragged in, damaging the harbor and other structures near the shore.

The flows and the debris washed in land damage buildings, disrupt roads, airport facilities and railway

Electricity distribution is lost in many coastal towns. The communication lines are overloaded in almost all the area affected for hours after the tsunami.

Although early care is necessary for affected people, the road disruption hinder medical and responders to reach certain coastal towns.

Some hours after the earthquake, Greece officially request assistance to the ERCC, asking for response relief of many types.

REQUESTS FOR ASSISTANCE

On 7 November 2023 at 09:30 UTC Greece requested the following support:

- 10 heavy/medium USAR teams,

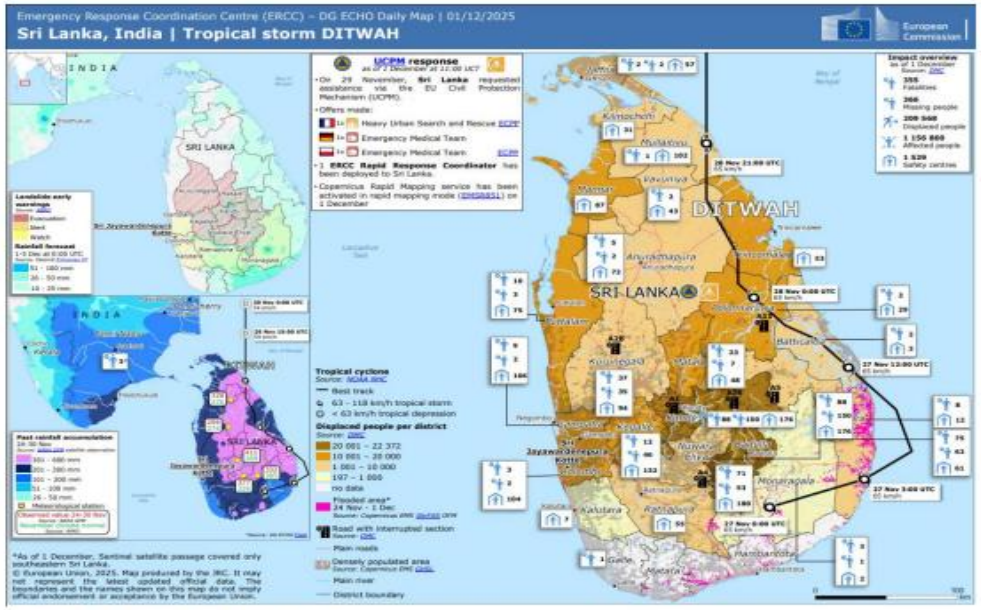


Figure 1. ECHO Daily Map of 1 December 2025.

HIGHLIGHTS

- Tropical Storm Ditwah has triggered a complex hydro-geological disaster, with extreme rainfall (>500mm in mountainous regions) driving the death toll to **355**, with **366** people still missing. The **Central Highlands** (Kandy, Badulla, Nuwara Eliya) account for the highest concentration of fatalities.
- While the cyclone has moved away, the **Kelani River** remains at a critical **Major Flood level (8.50m)**, threatening Colombo's northern suburbs. Simultaneously, **Red Level 3 Landslide Warnings** remain active across six central districts due to extreme soil saturation.
- Landslides and washed-out bridges have severed major logistical arteries (A4, A5, A26), effectively isolating the **Lunugala-Passara** sector. Power generation is critically compromised with **25-30% outages** in Central/Uva provinces following the shutdown of the Kotmale and Rantambe hydropower plants.
- With **210,000 people displaced** and local capacities overwhelmed by the dual flood-landslide crisis, Sri Lanka has activated the **Union Civil Protection Mechanism (UCPM)** requesting Search and Rescue (SAR) and Emergency Medical Team (EMT) support.

DG ECHO ERCC Analytical Brief

Tropical Storm DITWAH – Sri Lanka

DG ECHO A2 – ERCC Analytical Team – 1 December 2025

SITUATION and HAZARDS

Tropical Storm Ditwah caused heavy damage across Sri Lanka, due to floods, landslides and mudslides, as it passed over the island country between 26 and 29 November.

Although TS Ditwah has so far had a maximum intensity of a tropical storm equivalent on the Saffir Simpson scale, with maximum sustained winds around 65 km/h (thus remaining far from reaching hurricane level speed), it has followed a northward trajectory along the entire eastern coast of Sri Lanka, exposing the whole country to very heavy rainfall for several days last week. Therefore, not wind speed, but large amount and high intensity of rainfall is the main hazard that battered the country.

Figure 2. Track of TC Ditwah. Source: India Meteorological Department

In many regions, between 180 and 400 mm of rain fell in 48 hours or less around the 26 and 27 of November, when the rainfall peaked. For instance, **360 mm of rain in one day was recorded in Vavuniya and Anuradhapura, both of which are located in the north of the country**. In the **mountainous regions, rainfall totals of up to 500 mm** have been recorded.

As of 1 December, 07:00 UTC, the national river authorities reported ongoing major flooding along the Kelani Ganga river[1], with water levels at 8,50 m (1,50 m above the threshold for major flood) in Colombo, the capital and largest city of the country , which is close to the river mouth. Major flood levels also persisted along the Malwathu Oya river in the northwest of the country, but with a tendency to decrease. The Kalu Ganga river (southwest Sri Lanka) is still also at minor flood levels but decreasing.

[1] https://www.dmc.gov.lk/images/dmcreports/Water_level_&_Rainfall_2025__1764573566.pdf