



27-31 March 2023
Brussels, Belgium



Disaster Risk Management at the Joint Research Centre

Systems, services, data and networks useful for Delegations

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27/03/2023

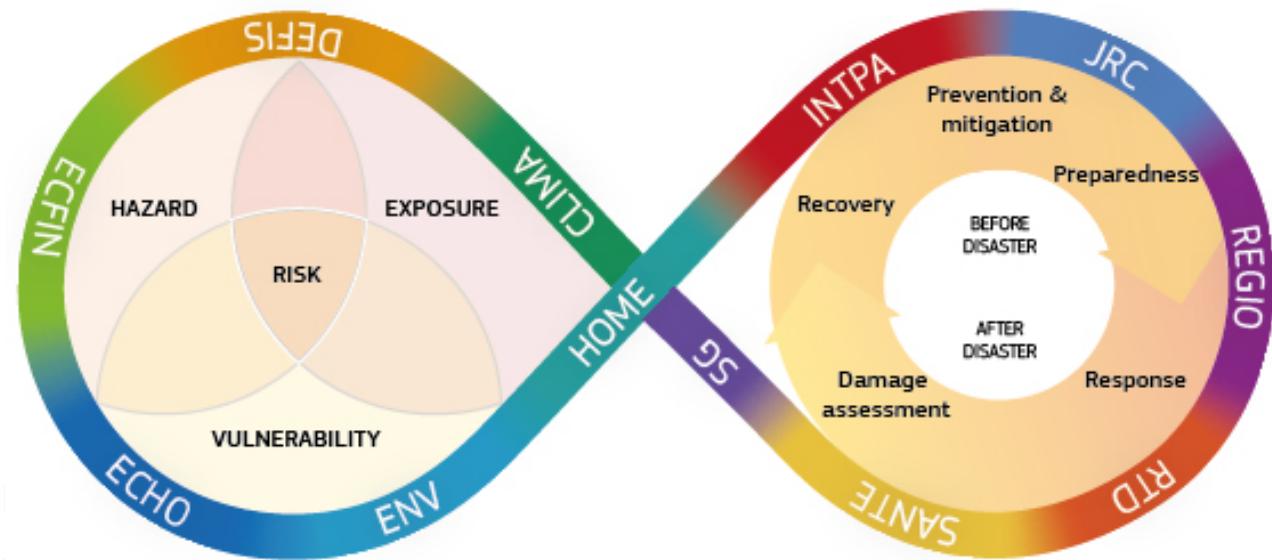
Disaster Risk Management: science & systems

- **Understanding disaster risk**

- Hazards
- Exposure
- Vulnerability and resilience

- **Managing disaster risk**

- Prevention
- Preparedness
- Response
- Damage Assessment
- Recovery

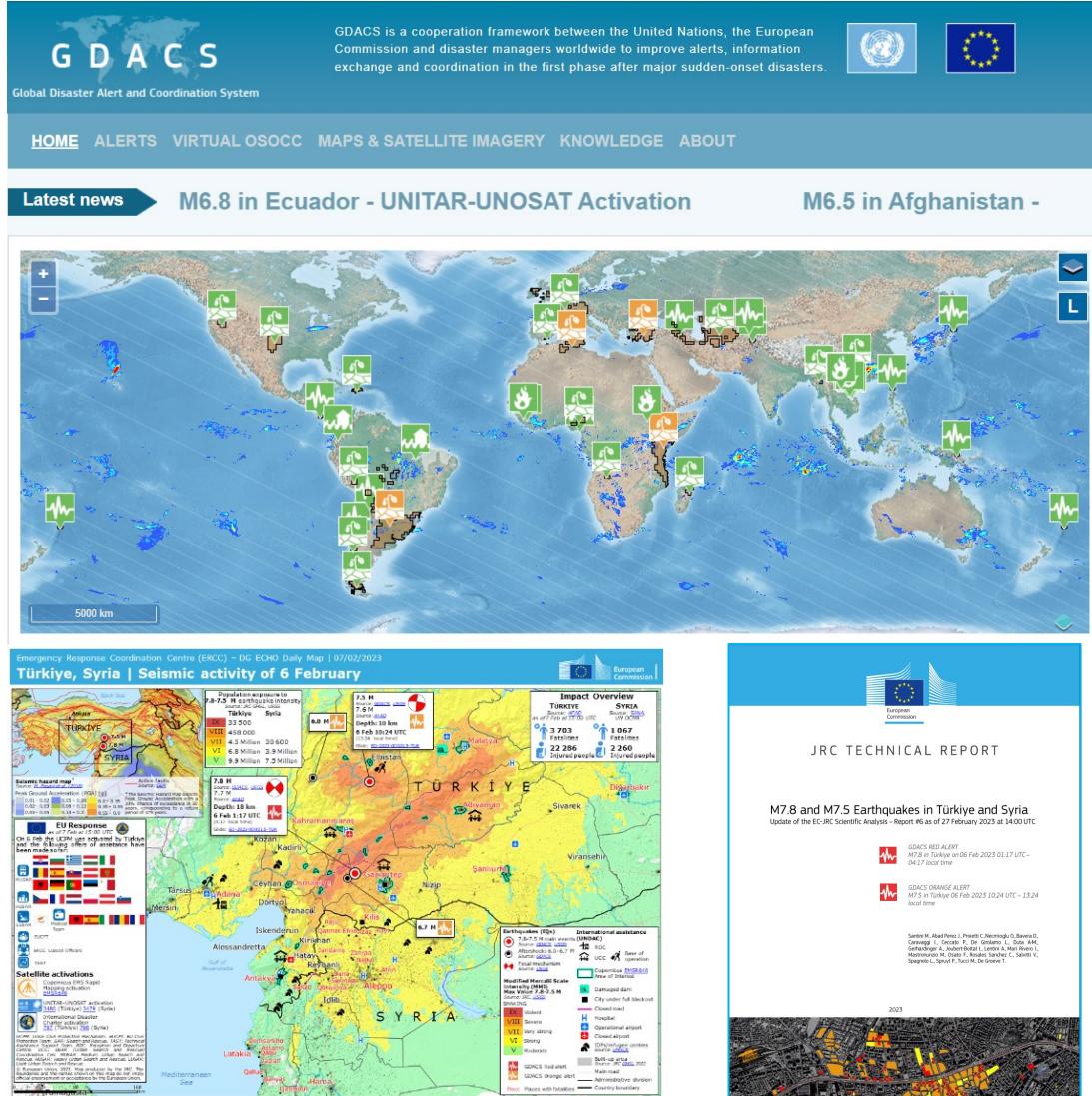


Knowing for managing, our journey around the risk



The Emergency Response Coordination Centre in Brussels. JRC provides systems and scientific support on daily basis to the **Union Civil Protection Mechanism**.

Global Disaster Alert and Coordination System



GDACS is a cooperation framework between the United Nations, the European Commission and disaster managers worldwide to improve alerts, information exchange and coordination in the first phase after major sudden-onset disasters.

Global Disaster Alert and Coordination System

HOME ALERTS VIRTUAL OSOCC MAPS & SATELLITE IMAGERY KNOWLEDGE ABOUT

Latest news → M6.8 in Ecuador - UNITAR-UNOSAT Activation M6.5 in Afghanistan -

5000 km

Emergency Response Coordination Centre (ERCC) - DG ECHO Daily Map | 07/02/2023

Türkiye, Syria | Seismic activity of 6 February

JRC TECHNICAL REPORT

M7.8 and M7.5 Earthquakes in Türkiye and Syria

GDACS RED ALERT

GDACS ORANGE ALERT

European Commission

What is it?

- **Alerts** for earthquakes, tsunamis, cyclones, floods, wildfires, droughts, volcanoes
- **Real-time situation reports and maps** from best scientific data
- 18 year collaboration between EC/JRC, UNOCHA & UNOSAT

What can you do?

- Register and set up custom alerts
- Download reports and satellite maps
- Get field updates on the Virtual OSOCC

Contacts:

- <https://www.gdacs.org>
- marzia.santini@ec.europa.eu



Copernicus Emergency Management Service

On demand mapping



On demand mapping

Copernicus EMS On Demand Mapping provides on-demand detailed information for selected emergency situations that arise from natural or man-made disasters anywhere in the world.



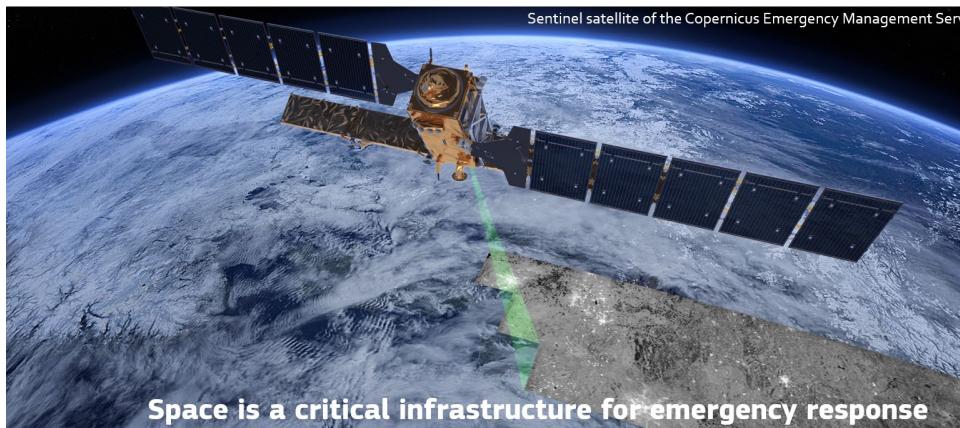
Rapid Mapping

Rapid Mapping provides geospatial information within hours or days of a service request in order to support emergency management activities in the immediate aftermath of a disaster.



Risk and Recovery Mapping

Risk & Recovery Mapping supplies geospatial information in support of Disaster Management activities including prevention, preparedness, risk reduction and recovery phases.



Sentinel satellite of the Copernicus Emergency Management Service

Space is a critical infrastructure for emergency response

What is it?

- Satellite-based **maps on request**
- **Rapid Mapping:** immediate aftermath
- **Risk & Recovery:** preparedness or recovery

What can you do?

- Trigger the service on behalf of the local authorities
- Access maps and impact data:
<https://emergency.copernicus.eu/mapping/list-of-activations-rapid>

Contacts:

- <https://emergency.copernicus.eu/>
- jean-francois.pekel@ec.europa.eu

Copernicus Emergency Management Service

Early Warning & Monitoring



Early Warning & Monitoring

Copernicus EMS Early Warning and Monitoring offers critical geospatial information at European and global level through continuous observations and forecasts for floods, droughts and forest fires.



Floods

The European Flood Awareness Systems (EFAS) and Global Flood Awareness Systems (GloFAS) provide complementary flood forecast information to relevant stakeholders that support flood risk management at the national, regional and global level.



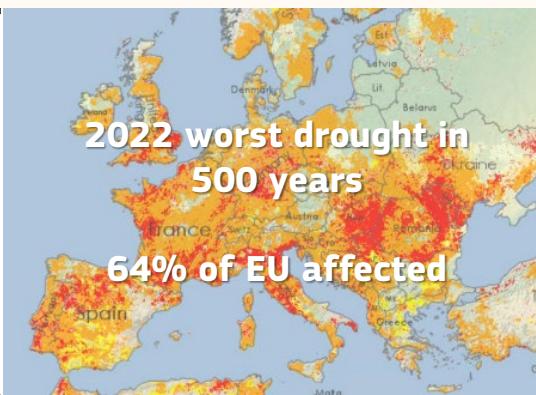
Fires

The European Forest Fire Information System (EFFIS) monitors forest fire activity in near-real time. EFFIS supports wildfire management at the national and regional level for EU member states and across the Middle East and North Africa.



Droughts

The Drought Observatory (DO) provides drought-relevant information and early-warnings for Europe (EDO) and globally (GDO). The service publishes short analytical reports (Drought News) in anticipation of an imminent drought.



What is it?

- **Early warning system** for floods and droughts
- **Monitoring system** for wildfires

What can you do?

- Use the services
- Promote the system with local emergency management authorities
- Download period information bulletins

Contacts:

- <https://emergency.copernicus.eu/>
- peter.salamon@ec.europa.eu

Exposure: Global Human Settlement Layer

GHSL - Global Human Settlement Layer

Open and free data and tools for assessing the human presence on the planet

Home Copernicus Data and tools ▾ Visual analytics ▾ Degree of urbanisation ▾ Knowledge and training ▾ News



GHS-BUILT-S GHS-BUILT-H GHS-BUILT-V GHS-BUILT-C GHS-DUC



GHS-POP GHS-SMOD GHS-LAND GHS-SDATA

What is it?

- **Only free and open data** on built-up area and population, with global coverage from space data
- Trends and statistics on urbanisation, exposure, SDGs

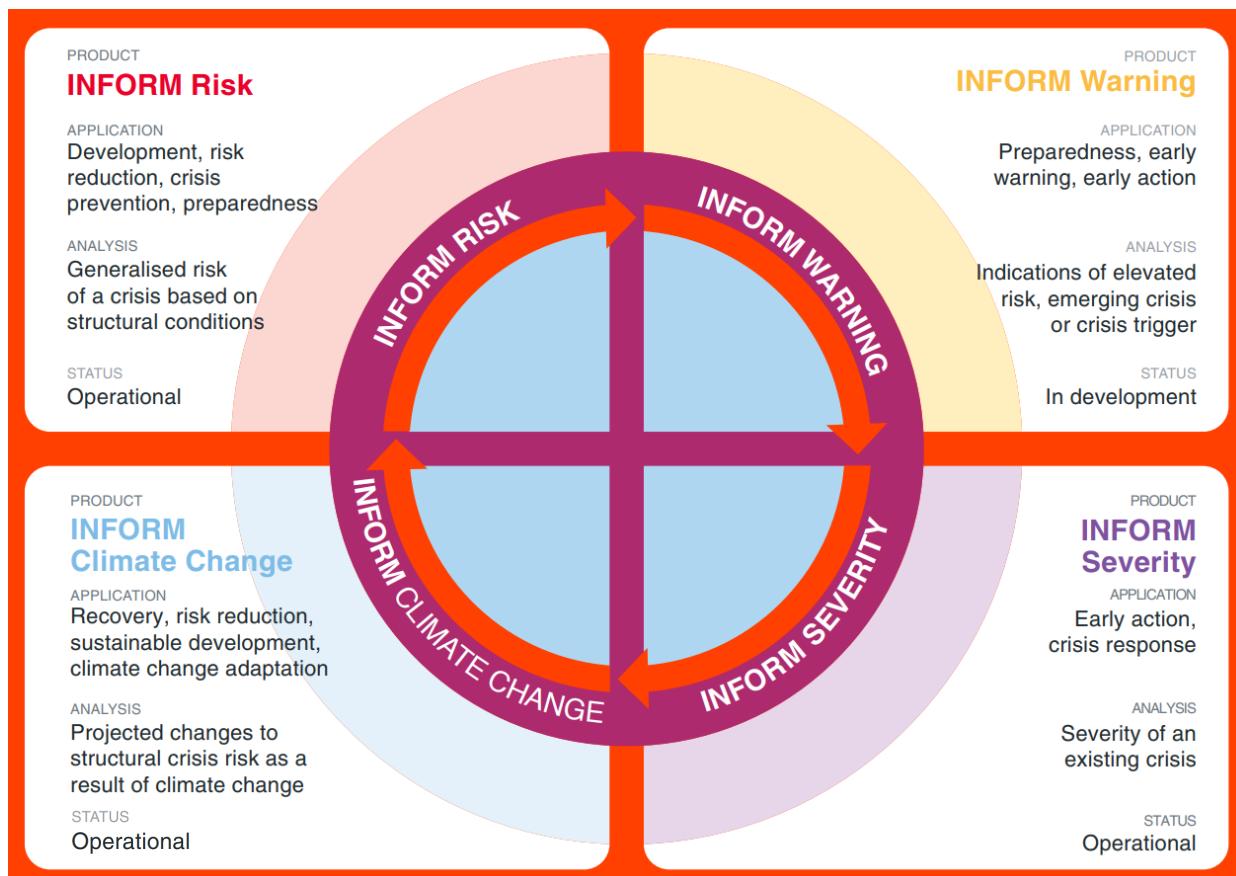
What can you do?

- Promote the data with local authorities, in particular for SDG 11
- Download the layers and analysis products

Contacts:

- <https://ghsl.jrc.ec.europa.eu/>
- thomas.kemper@ec.europa.eu

Humanitarian risk: INFORM



What is it?

- **Risk:** Data-driven risk assessment to identify where and why a crisis might occur
- **Severity:** Measure impact of crises and conditions of people affected
- **Climate Change:** Analyse risk change with climate and socioeconomic projections

What can you do?

- Use the results with partners (UN)
- Promote INFORM under Sendai Framework

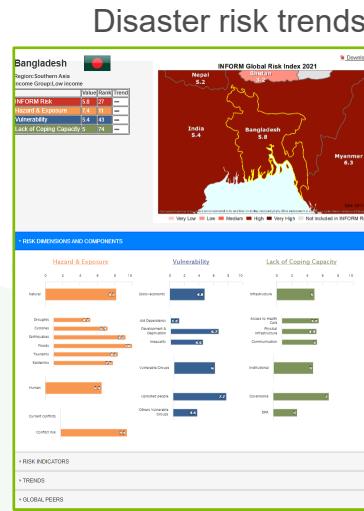
Contacts:

- <https://drmkc.jrc.ec.europa.eu/inform-index>
- karmen.poljansek@ec.europa.eu

Country fact sheets

- Population and built-up area:
<https://ghsl.jrc.ec.europa.eu/CFS.php>
- Wildfires:
<https://gwis.jrc.ec.europa.eu/apps/country.profile>
- INFORM Risk trends:
<https://drmkc.jrc.ec.europa.eu/inform-index/INFORM-Risk>
- Conflict risk trends:
<https://science4peace.jrc.ec.europa.eu/>

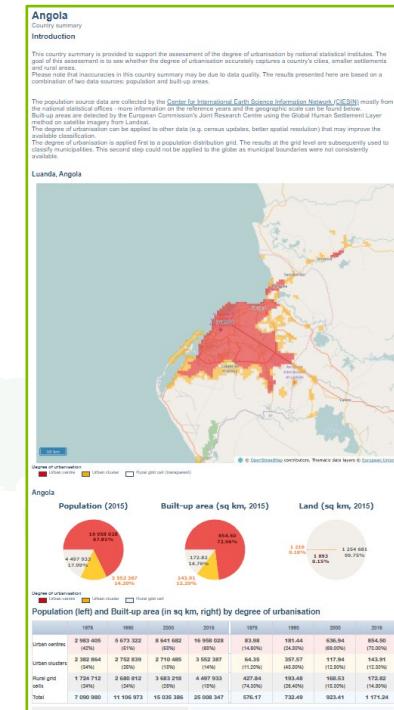
Built-up and population



Wildfire statistics and trends



Conflict risk trends

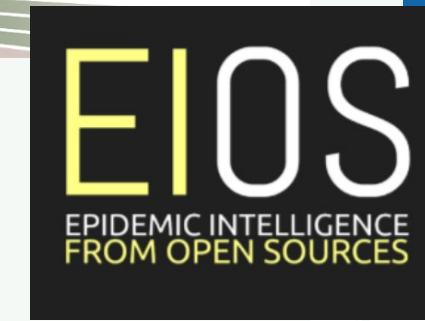


And much more...

The Disaster Risk Management Knowledge Centre (DRMKC) is the Science Pillar of the Union Civil Protection Knowledge Network.

Its goal is working on Disaster Risk Management as ONE European scientific community.

Find out more at: <https://drmkc.jrc.ec.europa.eu/>





Thank you



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