

The Risk Data Hub

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Disaster Risk Management Knowledge Centre

Opening the world of catastrophe models, 16 May 2023

A data store for Europe wide risk and loss data

Risk Data Hub is a GIS web platform of European wide risk data and methodologies for Disaster Risk Assessment.



- **Risk Analysis**

What is likely to be lost? Where damage or losses are more likely? What are the most likely – and potentially impacting - hazards?

- **Disaster Loss data**

What has been lost? Where? Due to What?

- **Facts and Figures**

- **DRM from other projects**

- **Learning space**

- **User Corner**



Risk Analysis

Risk analysis in Map Viewer



Disaster Loss Data

Impacts from past events in Map Viewer



Facts and Figures

Cross-hazard comparative view of both past and future impacts



DRM Data from other projects

Results of DRM related projects: PESETA IV



Learning Space

Documentation and methodological notes on



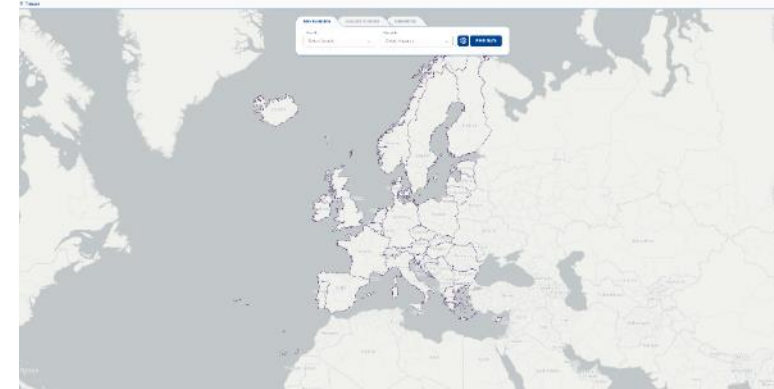
User Corner

Restricted area dedicated to authorized user

General Concepts

- The visualization and analysis of RDH data rest upon a fundamental combination constituted by:
 - (i) one or more hazard onto
 - (ii) one asset
- Metric: Normalized indicator from 0 to 10
- Spatial aggregation:
 - Country,
 - NUTS-2 (Region)
 - NUTS-3 (Province).
 - ...

Fundamental Dyad



Country



NUTS-2



NUTS-3

Risk Analysis

- Asset
- Hazard/s
- Time range
- Geo. entity

Find a location 📍 Europe

+ Navigation

+ Information

- Metadata

Agriculture (Arable land, Permanent crops, Pastures and Forests) area (km²) exposed to COASTAL FLOOD.

Industrial or Commercial built-up area (km²) exposed to COASTAL FLOOD.

Residential built-up area (km²) exposed to COASTAL FLOOD

Population exposed to COASTAL FLOOD

Population exposed to EARTHQUAKE

Residential built-up area (km²) exposed to EARTHQUAKE

Industrial or Commercial built-up area (km²) exposed to EARTHQUAKE

Industrial or Commercial built-up (km²) exposed to LANDSLIDE


Residential built-up area (km²) exposed to LANDSLIDE

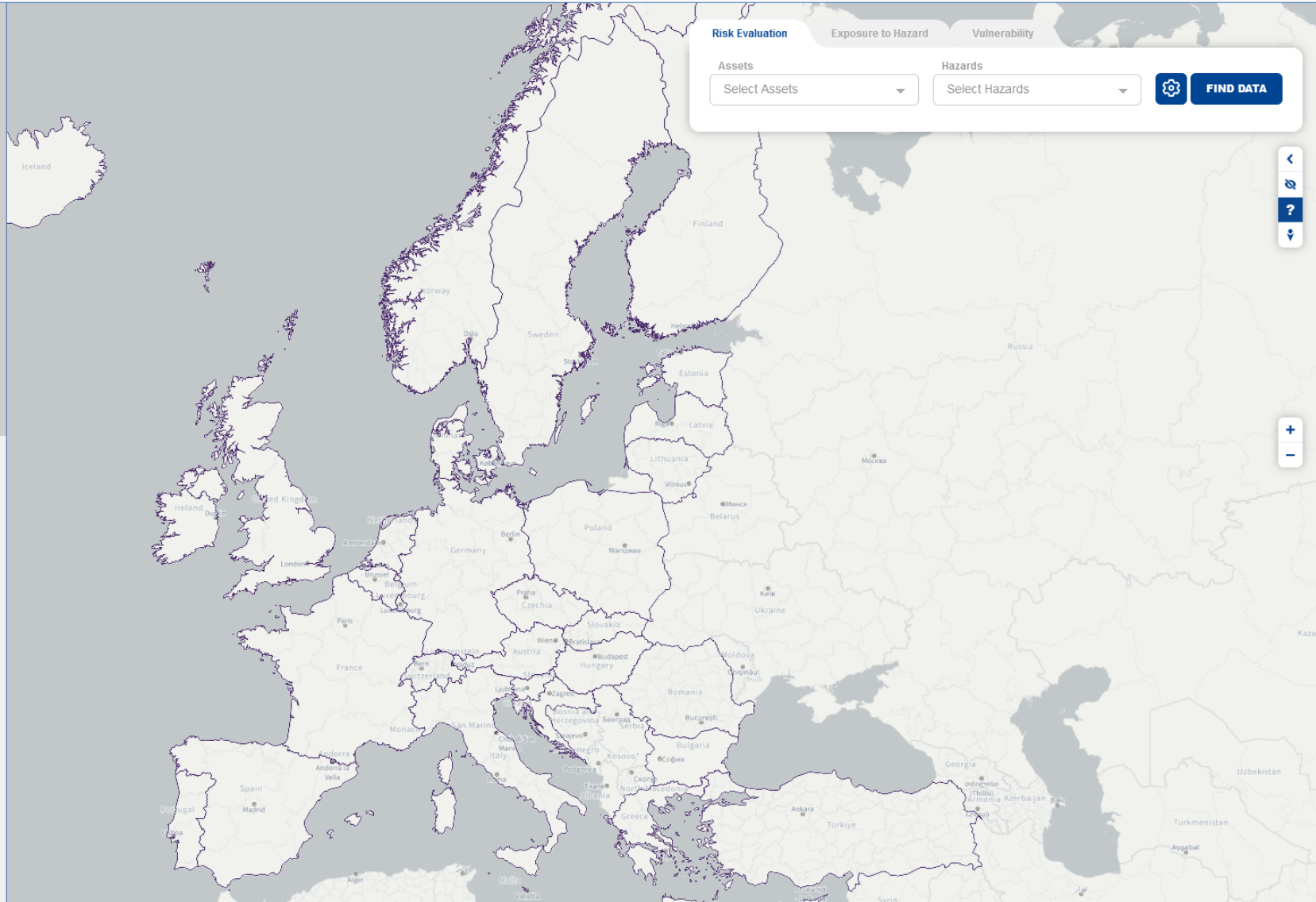
Gas pipelines (k tonnes oil equivalent) exposed to LANDSLIDE

Electricity transmission lines (k tonnes oil equivalent) exposed to LANDSLIDE

Risk Evaluation Exposure to Hazard Vulnerability

Assets Hazards

Select Assets Select Hazards  **FIND DATA**



Risk Analysis

Risk Evaluation | Exposure to Hazard | Vulnerability

Assets: 1 Asset Selected

- Population DATA AVAILABLE
- Buildings
- Administrative
- Commercial

Hazards: 1 Hazard Selected

Geophysical

- Earthquake
- Landslide DATA AVAILABLE
- Tsunami
- Volcano

DATA **FIND DATA**

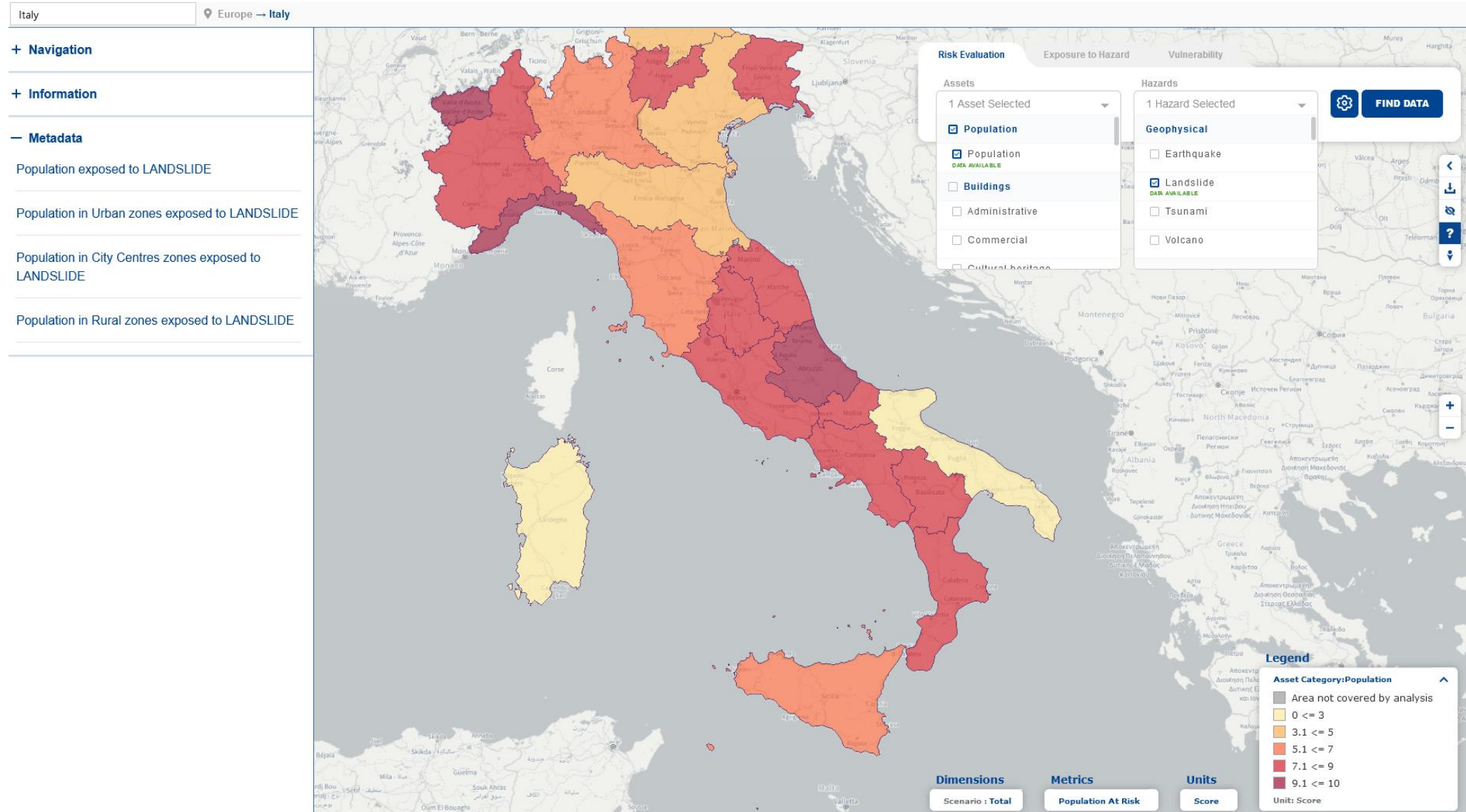
✓ Data Loaded on Map
Map has been populated with the requested information. Available data being displayed:
Assets: Population
Hazards: Landslide
Selected dimensions displayed:
Data sources: Risk Data Hub
Time frame: 25
Scenario: Total

To modify the choices click on icon.

By clicking this icon or scrolling the page you can consult additional graphs and statistics.

Close

Risk Analysis



Risk Analysis

This module presents figures and charts from the DRMKC RDH risk estimation. Please select an Asset, an Hazard, a Year Projection and the desired level of aggregation. For a smoother experience it is advisable to select NUTS-2 and NUTS-3 just for a subset of countries (filter column below this textbox). If no country is selected the gauge charts below show the European average statistics.

- Q Countries
- Italy ✓
 - Andorra
 - Austria
 - Belgium
 - Bulgaria
 - Croatia
 - Cyprus
 - Czech Republic
 - Denmark
 - Estonia
 - Faroe Islands
 - Finland

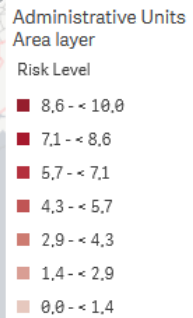
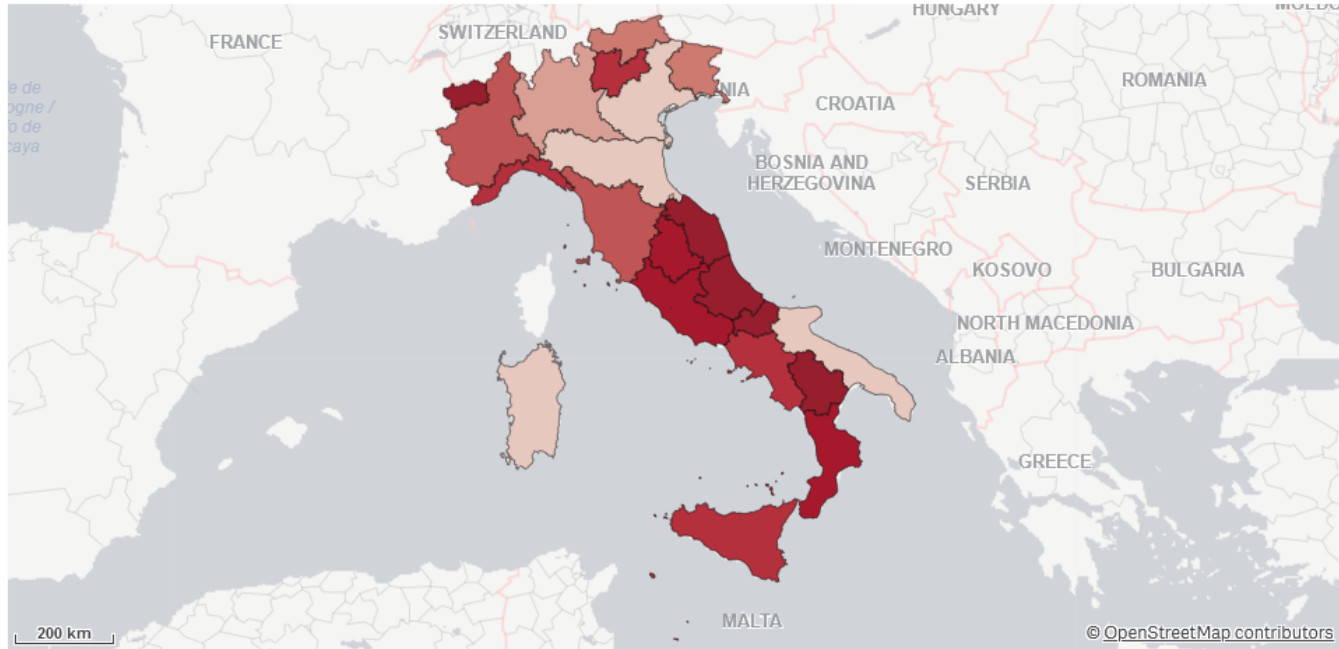
Asset
Population

Hazard
Landslides

Years Projection
25

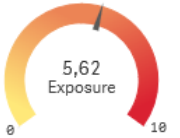
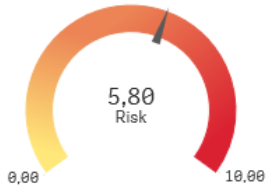
Aggregation
NUTS-2

Risk Map

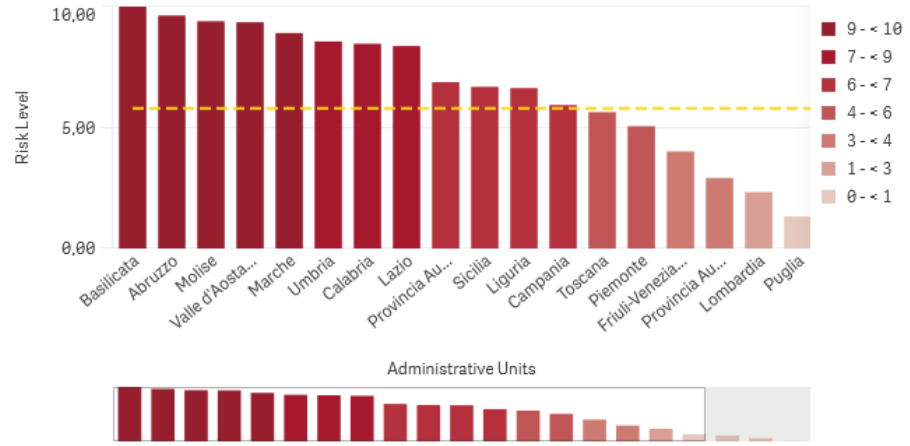


Data Table

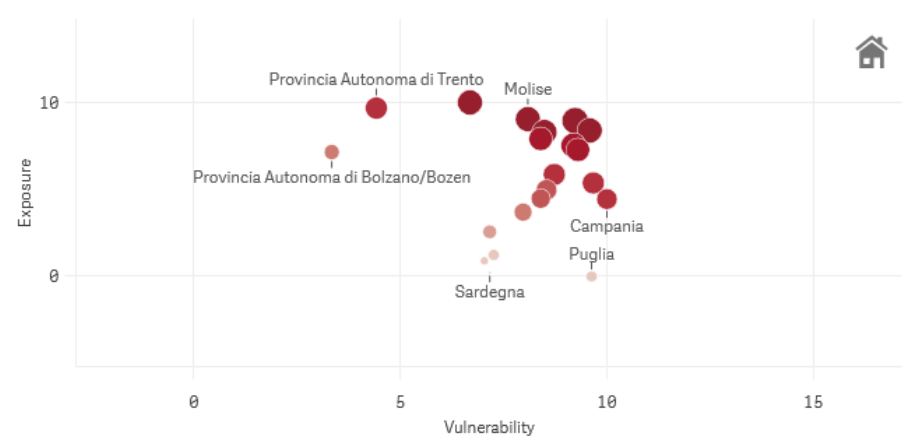
Admin Unit	Risk	Expo..
Average	5,80	5,6
Basilicata	10,00	8,9
Abruzzo	9,64	8,3
Molise	9,40	9,0
Valle d'Aosta/Vallée d'Aoste	9,36	10,0
Marche	8,91	8,3
Umbria	8,56	7,5
Calabria	8,47	7,9
Lazio	8,37	7,2
Provincia Autonoma di Trento	6,88	9,6
Sicilia	6,69	5,3
Liguria	6,64	5,8
Campania	5,94	4,4
Toscana	5,64	4,9
Piemonte	5,06	4,4
Friuli-Venezia Giulia	4,02	3,7
Provincia Autonoma di Bolzano/Bozen	2,92	7,1
Lombardia	2,34	2,5
Puglia	1,32	0,0



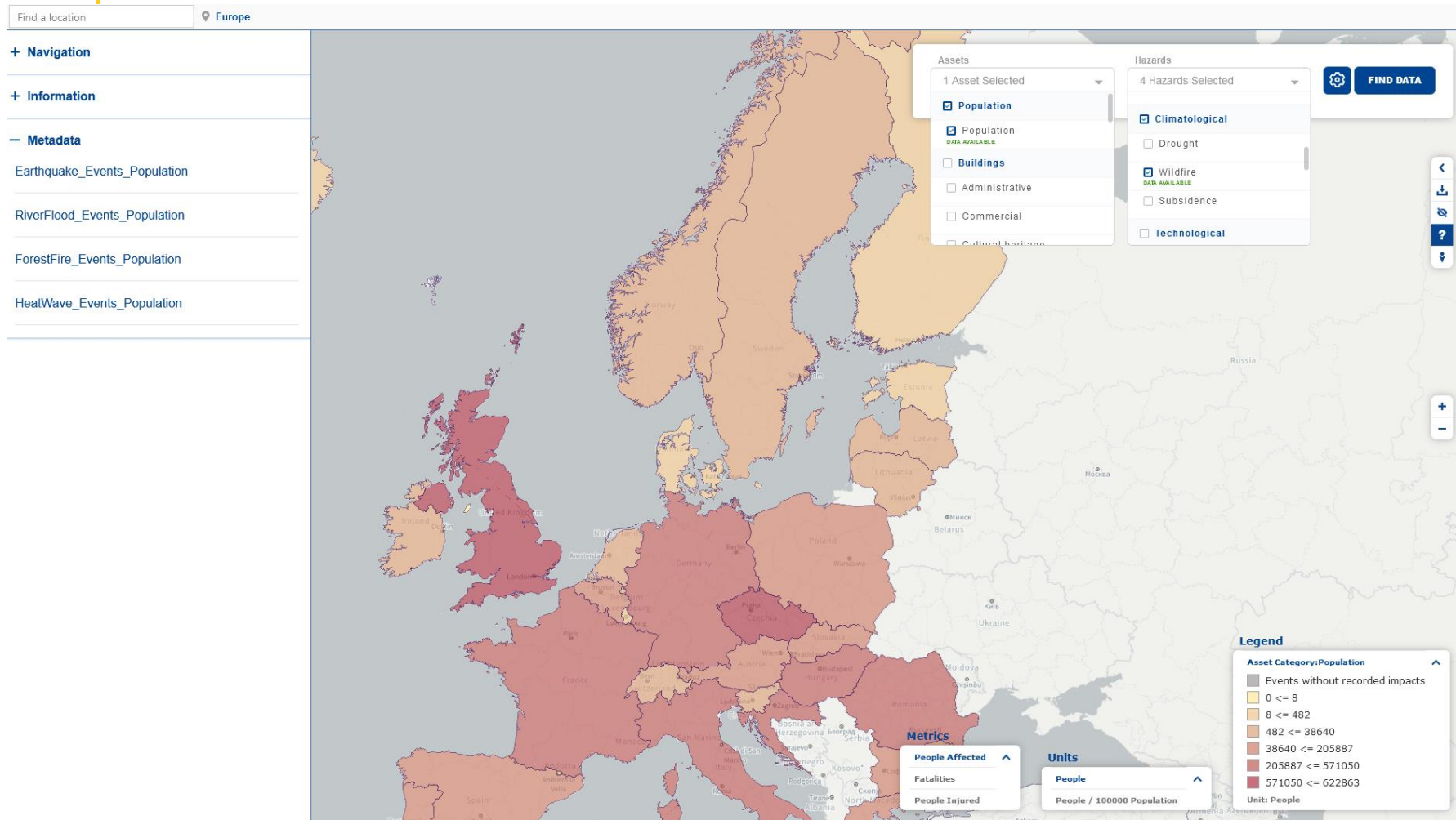
Risk Ranking



Risk Drivers



Disaster Loss Data



DataSource TimeFrame

Select Data Source
Institution or Entity Providing the data

- DFO
- EM-DAT
- GLC
- LRC
- NOAA
- EFFIS
- EMSR
- HANZE
- Media
- Wikipedia

Close Save Data Options

DataSource TimeFrame

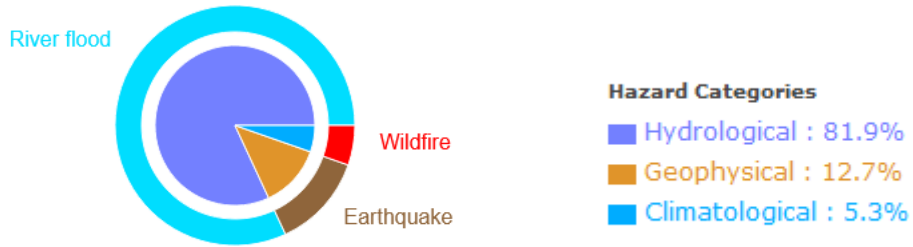
Select TimeFrame
Timeframe control allows to see how yearly losses and damages change, for a given year range

- 1 Years
- 2 Years
- 5 Years
- 10 Years
- 15 Years
- 25 Years

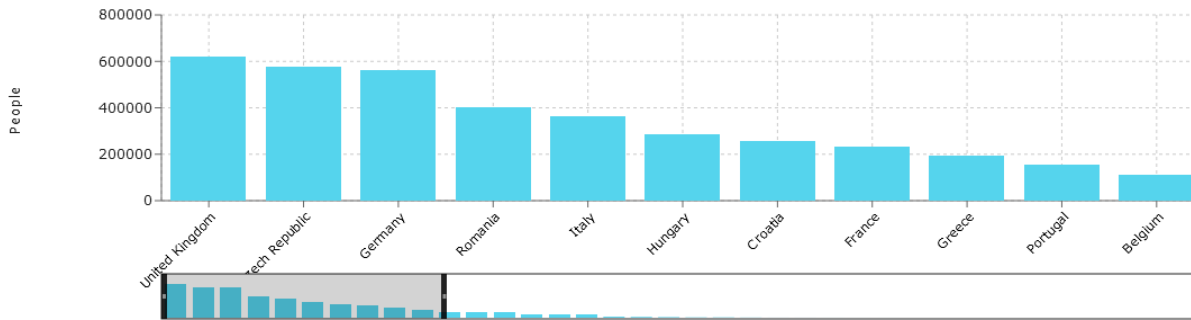
Close Save Data Options

Disaster Loss Data

Loss by Hazard Category

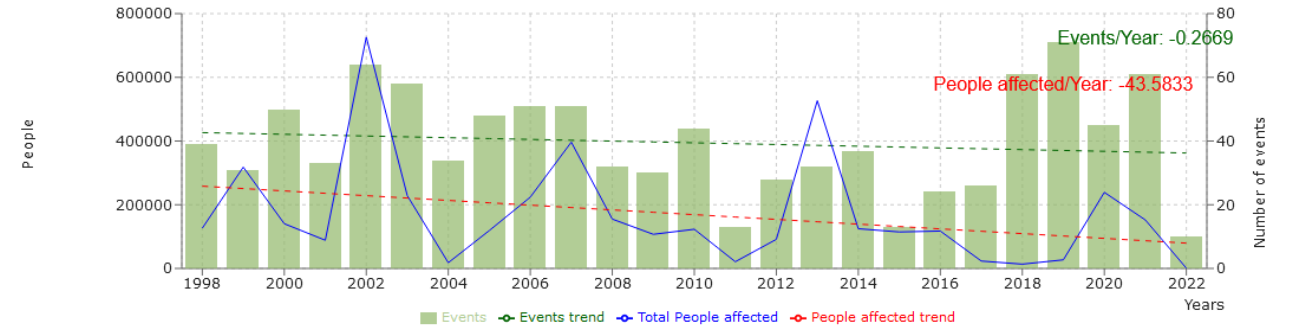


Most affected locations (absolute values over last 25 years)



Trends

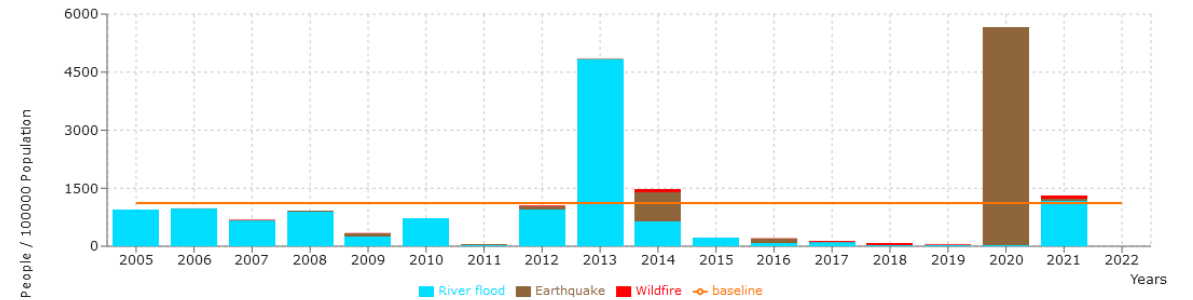
Past trends and yearly rates of change



Sendai Indicator B-1

Number of directly affected people attributed to disasters, per 100,000 population.

Reference Value for years 2005-2015 (baseline): 1114.35035



Disaster Loss Data

This module presents figures and charts from the DRMKC RDH losses and damage. Please select an Asset, a Hazard, a metric and the desired level of aggregation. For a smoother experience it is advisable to select NUTS-2 and NUTS-3 just for a subset of countries (filter column below this textbox). For convenience, users are able to filter the visualization by years and countries.

Countries

- Andora
- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Iceland
- Ireland

Years

- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016

Asset

Population

Hazard

Windstorm

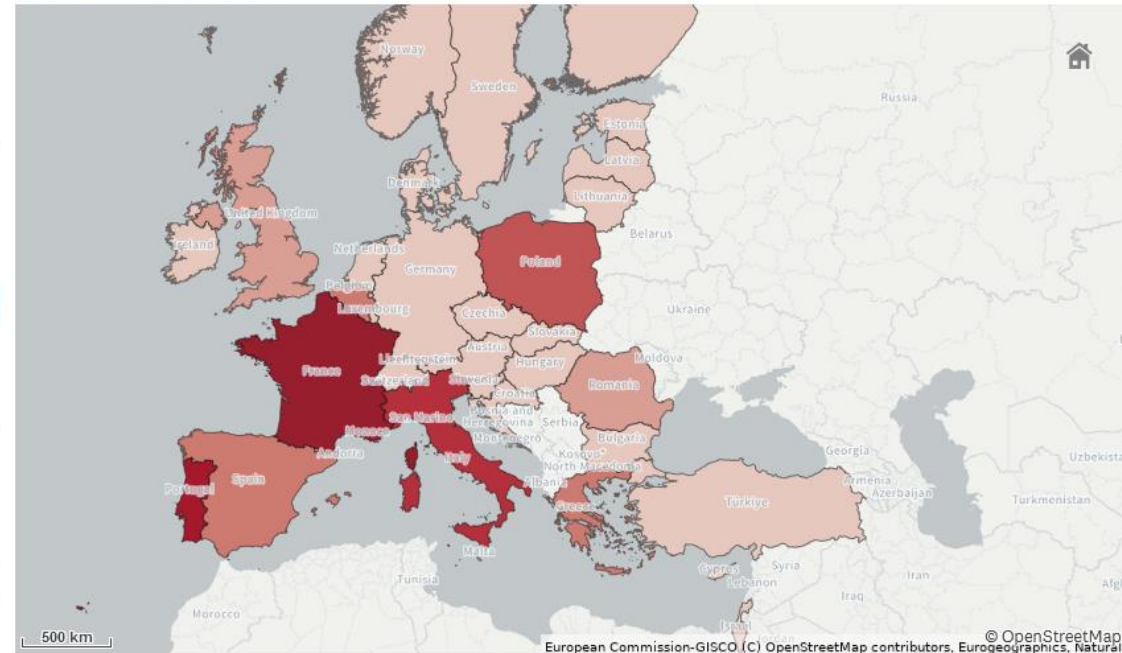
Aggregation

Country

Metric

Fatalities

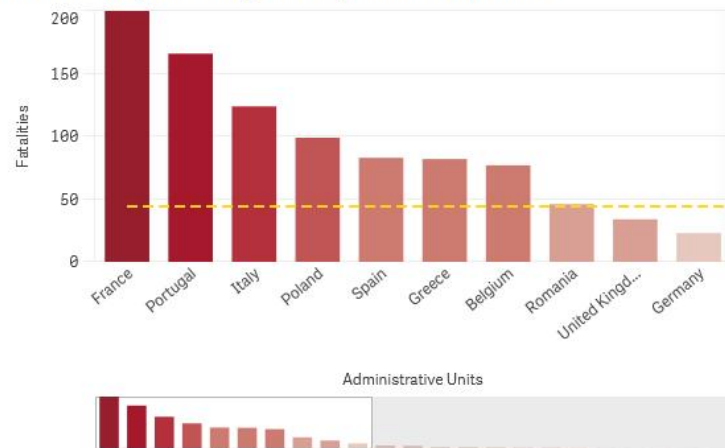
Map of Losses (Windstorm)



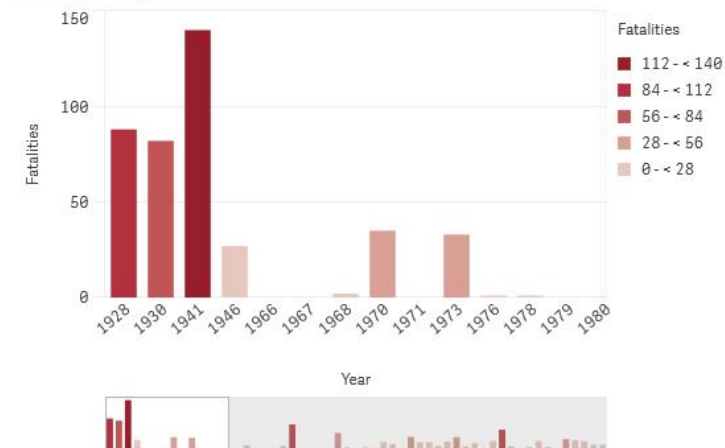
Administrative Units Area layer

- Losses
- 171 - < 200
- 143 - < 171
- 114 - < 143
- 86 - < 114
- 57 - < 86
- 29 - < 57
- 0 - < 29

Total Losses (Windstorm) - Rank by Administrative Units



Total Losses (Windstorm) per Year



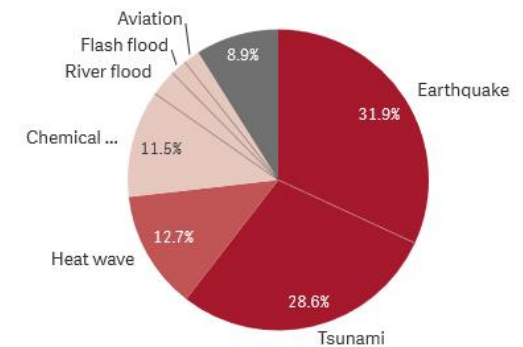
Metadata

Data Table (Windstorm)

Admin Units	Total Losses	No. Impacts Recorded
Total	1017	901
France	200	104
Portugal	166	13
Italy	124	38
Poland	99	41
Spain	83	42
Greece	82	8
Belgium	77	20
Romania	46	11
United Kingdom	34	107
Germany	23	75
Ireland	15	92
Hungary	14	7
Czech Republic	8	26
Denmark	8	37
Switzerland	7	40
Slovenia	6	2
Sweden	6	27
Netherlands	5	35

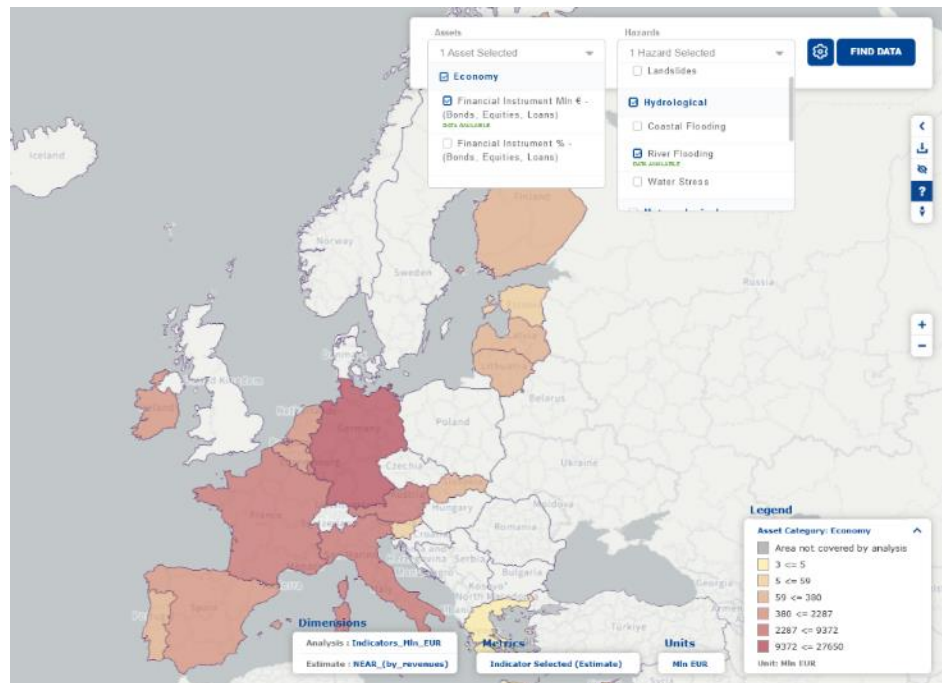
Sharing of Total Losses

All hazards by selected years & administrative units

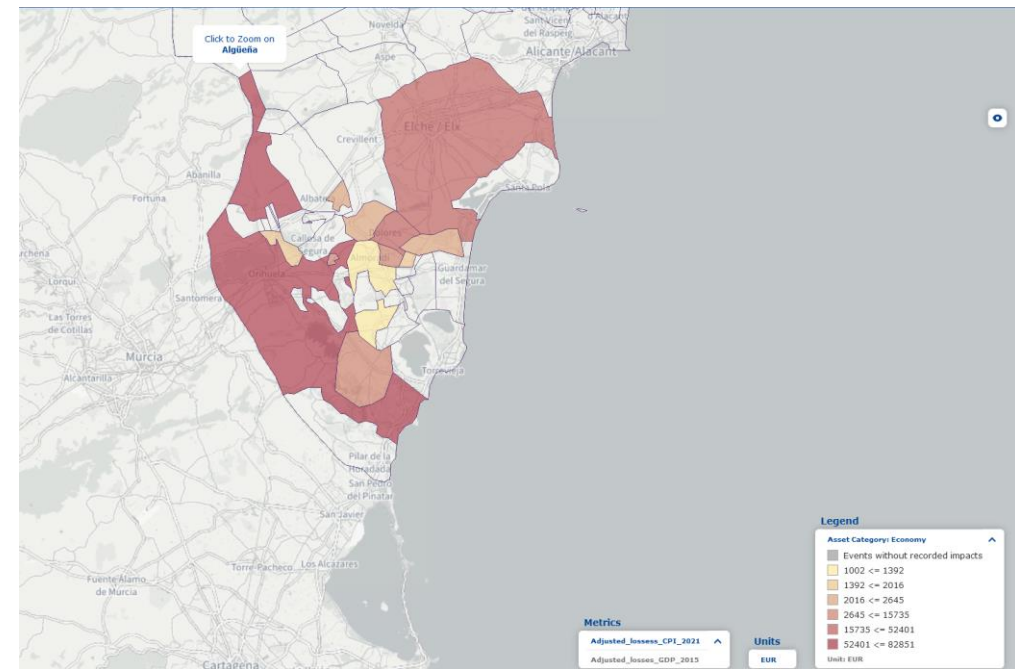


Examples of applications

- Financial Risk Modelling: data from ECB

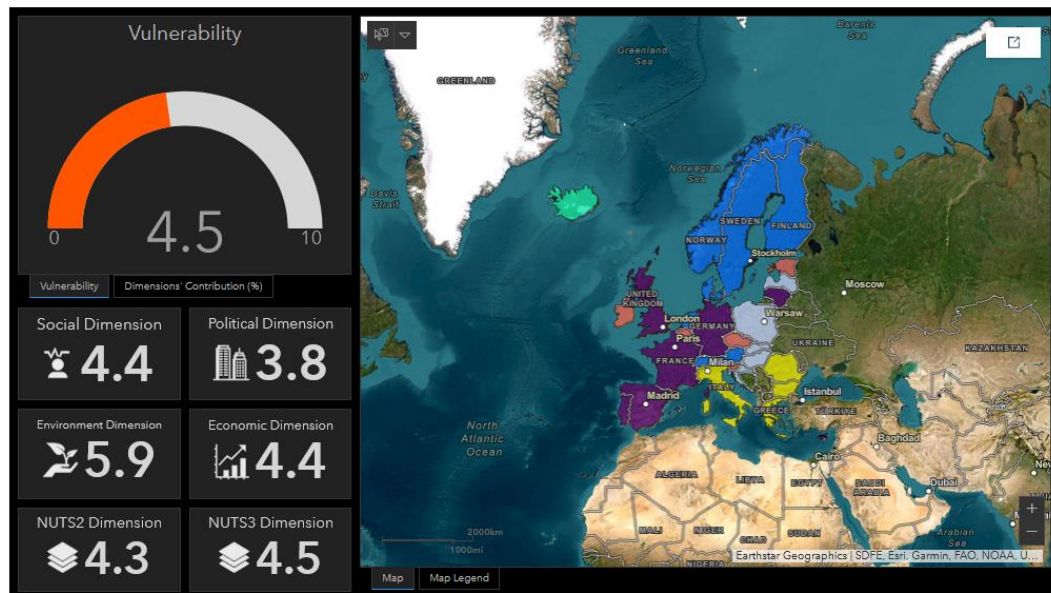


- Supporting regions and local entities in managing risk and loss data

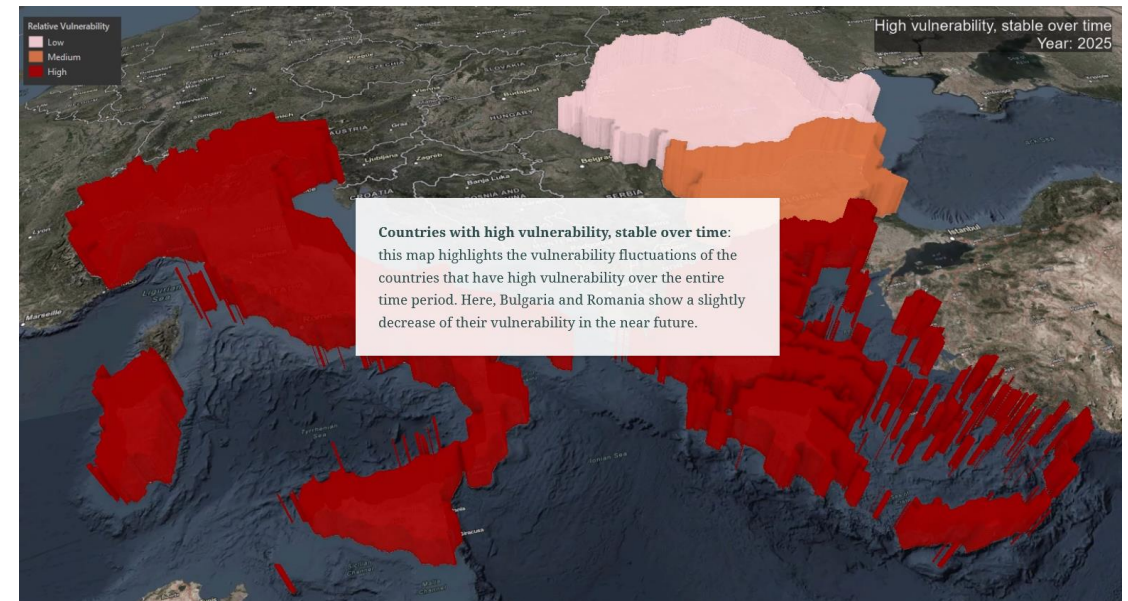


Examples of applications

- Vulnerability to Disasters Trends 2005-2035



- Cluster analysis on countries with similar vulnerability trend profiles



Conclusions

Risk Data Hub is more than a data repository, it is a call for collaboration!

Open source data, transparent methodology and openly available software architecture.

Thank you and keep in touch




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