Need for a knowledge gathering function for the Member States: Experience of CRED

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Context and Needs

- Lack of accessible information remain major barrier for better disaster prevention, mitigation, preparedness and reduction

- Need of comprehensive understanding of complete human, economic and social impact of disasters

- Decision-makers need to be informed on where to invest and how to design sustainable project

Content

EM-DAT contains core data on the occurrence and effects of over 18,000 disasters from 1900 to present, including:

- **Natural disasters (62%)**
- **Technological disasters (38%)**

EM-DAT Criteria

- **10 or more people reported killed**

and/or

- **100 or more people reported affected**

and/or

- **Call for international assistance/ declaration of a state of emergency**

Natural disasters: Definitions

- **WHO**: “Any occurrence that causes damage, ecological disruption, loss of human life, or deterioration of health and health services on a scale sufficient to warrant an *extraordinary response from outside the affected community* or area” (WHO 2007: 9)

- **UNITED NATIONS**: “A serious disruption of the functioning of society, causing widespread human, material or environmental losses which exceed the ability of the affected people to cope using their own resources” (UN-DHA 1992:27)

- **CRED EM-DAT**: “A situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering”

Measuring human impacts

- **Number of killed**= “persons confirmed as dead and persons missing and presumed dead”
- **Number of injured**= “people suffering from physical injuries, trauma or an illness requiring medical treatment as a direct result of a disaster”
- **Homeless**= “people needing immediate assistance for shelter”
- **Affected**= “persons requiring immediate assistance during a period of emergency, including displaced or evacuated people”
- **Total number of affected**= Injured + Homeless + Affected
- **Economic damages**= value of the immediate damage at the time of the event (direct damage in US$)

EM-DAT standard data template

Disaster information

- Disaster Number (Unique ID)
- Disaster Group/Type/Subtype
- Name
- Criteria

Geographical information

- Country/Continent/Region
- Location
- Latitude/Longitude

Temporal information

- Year
- Start and End dates
- Local time

Characteristics

- Origin
- Associated Disasters
- Magnitude / Scale

International appeal

- OFDA Response
- Request for Int. Assistance
- Declaration State of Emergency
- Aid Contribution

Human impact

- Deaths
- Injured
- Homeless
- Affected
- Total Affected= Injured+Homeless+Affected

Economic impact

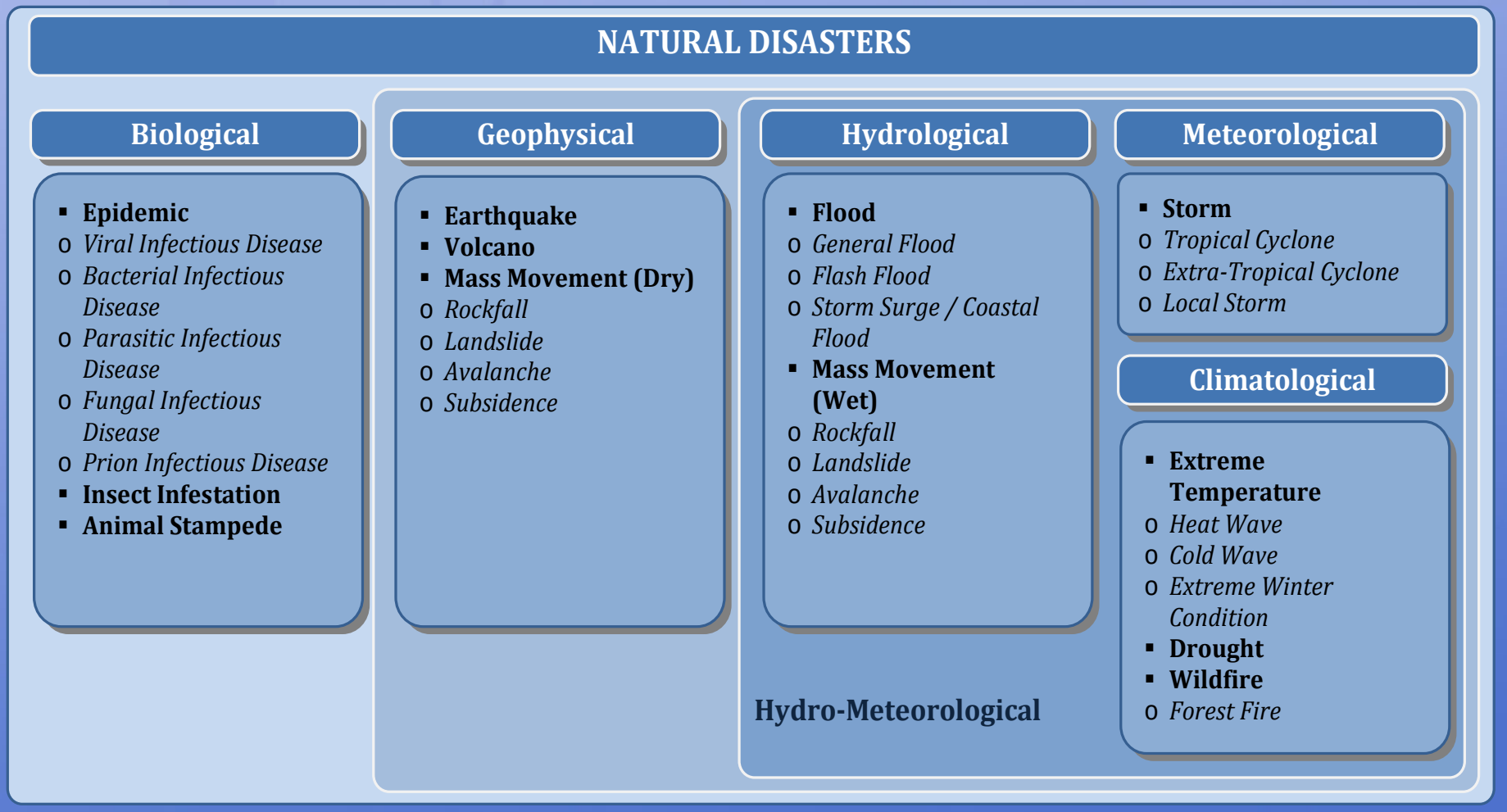
- Estimated Damages (direct/indirect; by sector)
- Insured Losses
- Reconstruction Cost

Sector impact

- Impact on Infrastructure: houses, bridges, hospitals, crops, roads .... damaged/ destroyed
- Sectors affected: Industry, Sanitation, Communication, ...

Source: EM-DAT - The OFDA/CRED International Disaster Database

Natural disasters: How are they classified?



Source: Centre for Research on the Epidemiology of Disasters (CRED) & MunichRe, 2009: "Disaster Category Classification for Operational Databases - Common Accord", June (unpublished)

Main data sources

UNITED NATIONS
- OCHA, IRIN, WHO

GOVERNMENTAL SOURCES
- Official Country Figures

US GOVERNMENT
- OFDA, NOAA, DFO, USGS

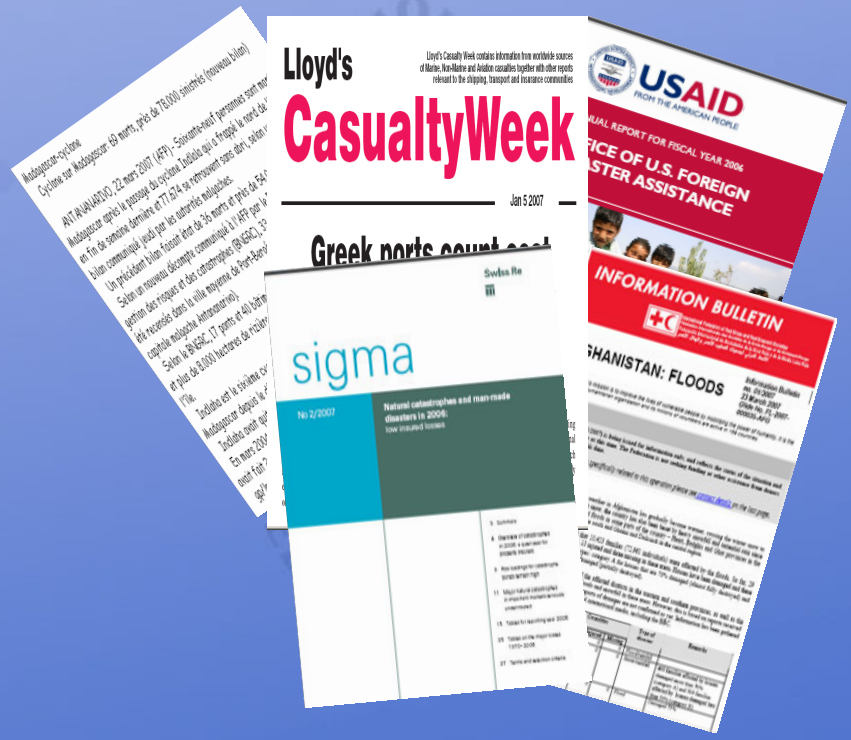
IFRC AND NGO's

REINSURANCE COMPANIES
- SwissRe, MünichRe

INSURANCE MAGAZINE
- Lloyd Casualty Week

RESEARCH CENTRES

PRESS/MEDIA
- AFP, Reuters



Partnerships network

UN AGENCIES

WHO
OCHA
UN-ISDR
UNDP

GOVERNMENT/MULTILATERAL AGENCIES

US Government
NOAA
World Bank
European Union

NON-GOVERNMENTAL INSTITUTIONS

IFRC
ADRC

PRIVATE COMPANIES

MünichRe
SwissRe

What are the strengths of EM-DAT?

- Unique free accessible database

- Acts as a reference point for global analysis of disaster occurrence and impact

-Unique basis for policy papers on disaster reduction and risks

-International recognition and CREDibility

-Capacity to provide methods and guidelines
(20 years experience)

What are the limitations of EM-DAT?

-Global database

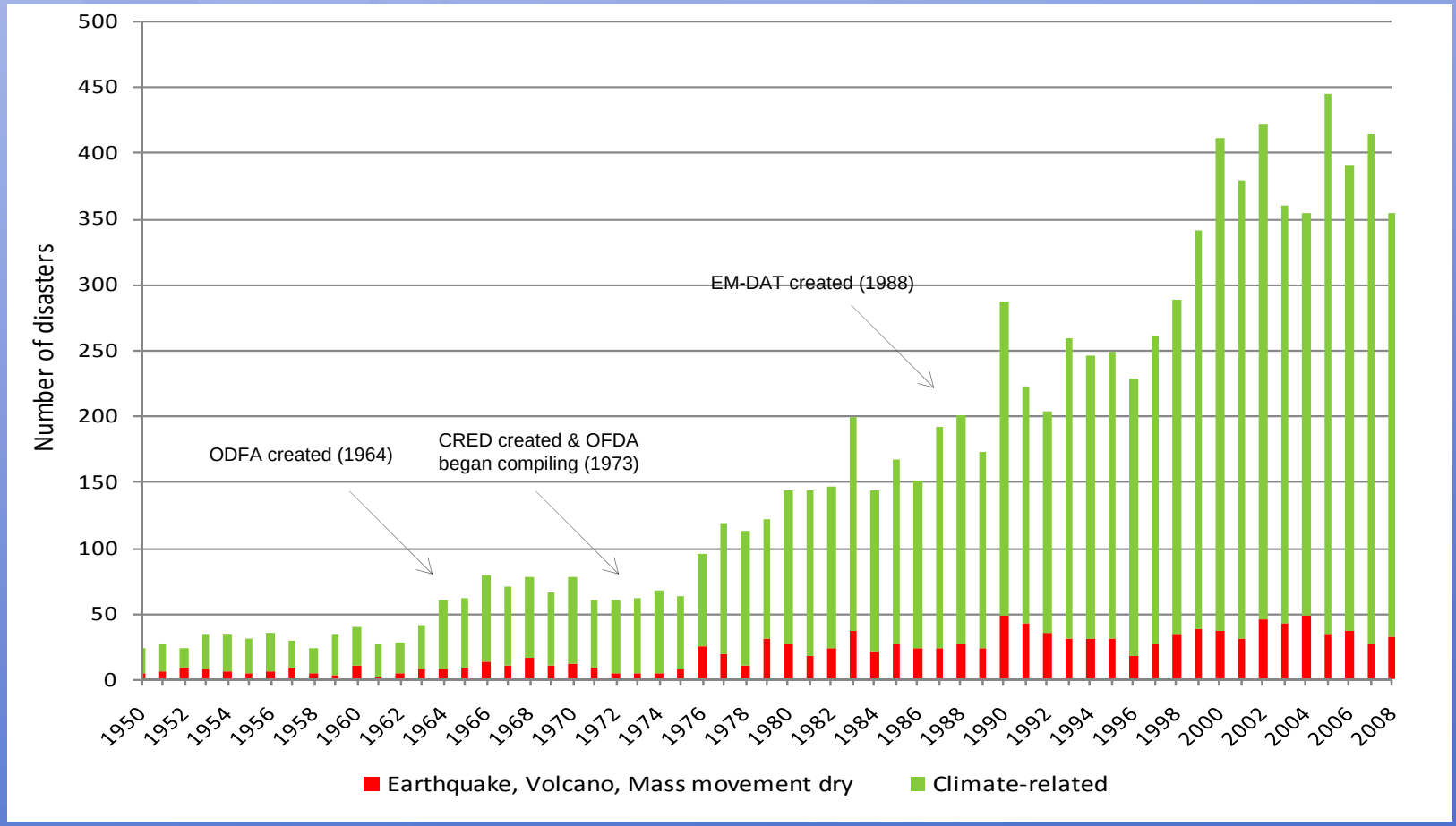
-Limited potential for analysis in terms of disaster occurrence and impact on smaller, intra-country spatial scales

-Public aspect of EM-DAT may lead to inappropriate use of data

EM-DAT users

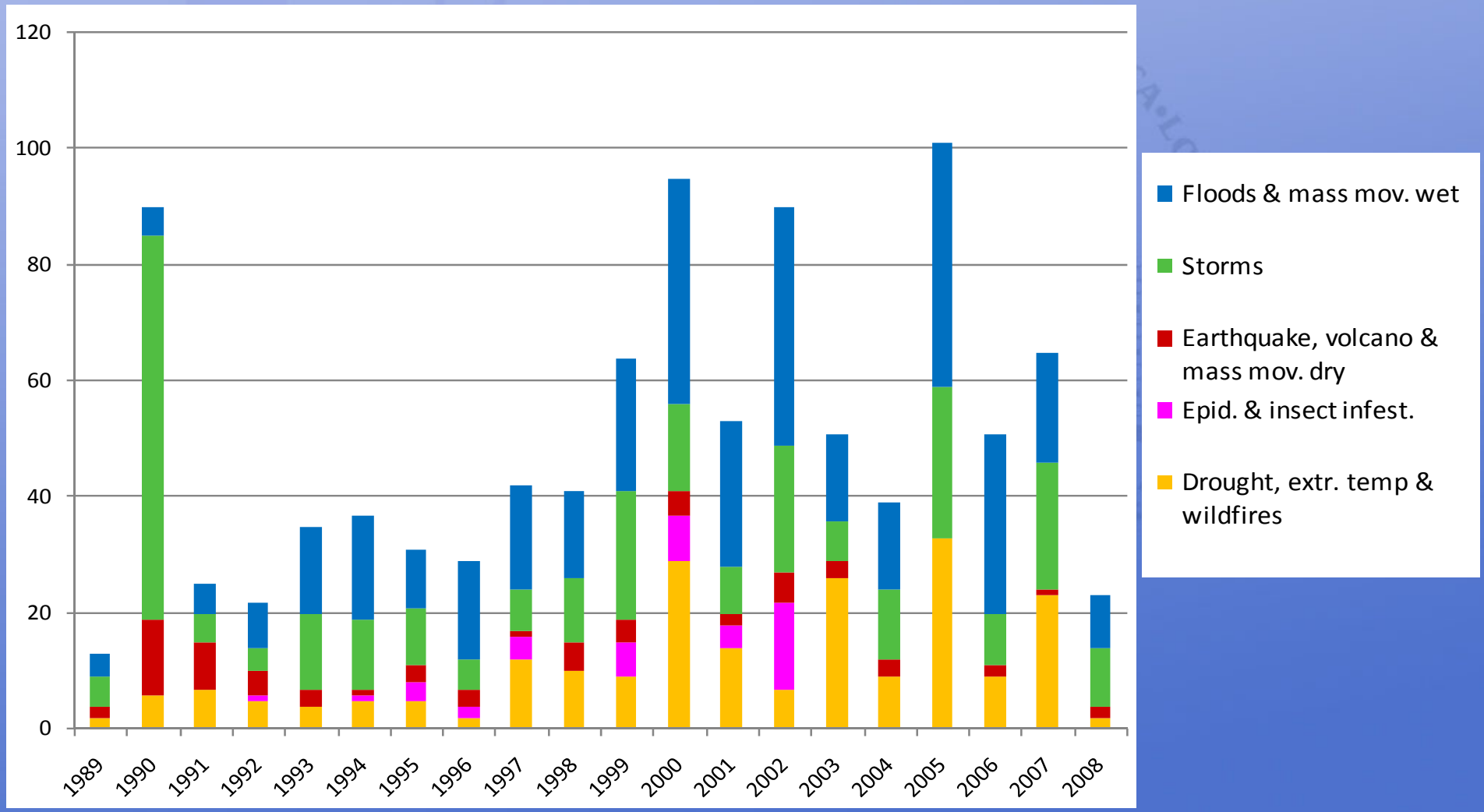
- National ministries and specialised agencies (white & policy papers, budget justifications, planning, priority)
- Red cross
- Consultant firms (environmental, land use)
- Insurance firms'
- High school teachers, Undergraduate University projects
- Research (environment, geography, urbanization, tourism)

Climate-related disasters compared to geophysical disasters



- Geophysical disasters follow a relatively stable trend

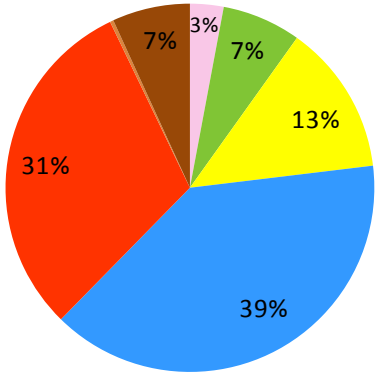
Disasters in Europe: What kinds occur most frequently?



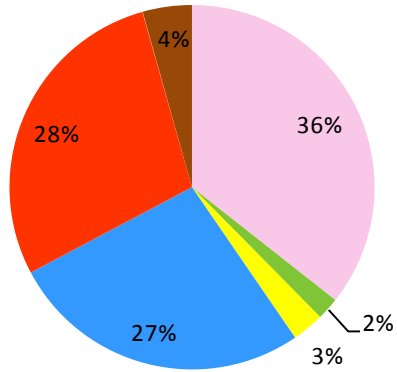
Source: EM-DAT - The OFDA/CRED International Disaster Database

Natural disasters in Europe: shares of the pie 1989-2008

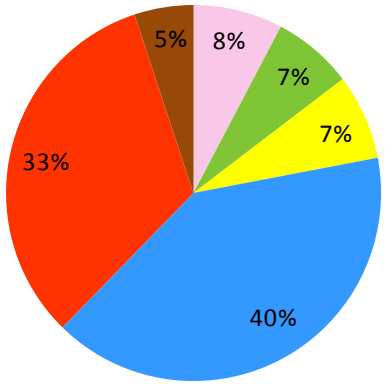
Disaster occurrence



No. affected people



Economic damages

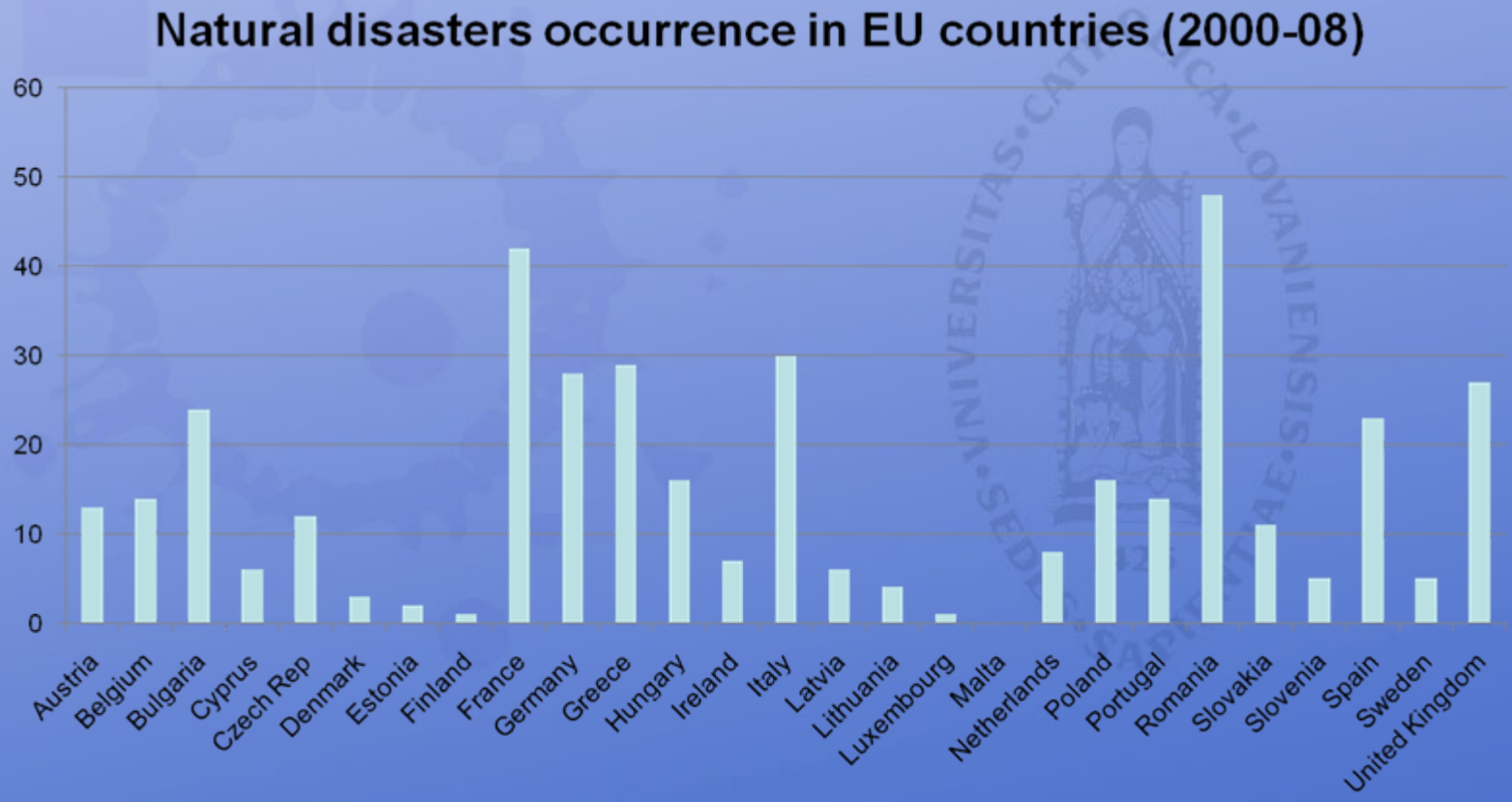


Drought
Earthquake*
Extreme temperature
Flood**
Storm
Volcano
Wildfire

- Floods and storms are the major sources of natural perils
- Drought affected the largest number of people

* Includes dry mass movements
** Includes wet mass movements

Natural disasters in Europe: Comparisons across the 27 EU Countries



Training for disaster personnel

Strengthen local / regional skills for disaster preparedness

- ✓ Short training for national administrative personnel
- ✓ EU Standard curricula for Red Cross and civil protection personnel
- ✓ Training in Universities – public and veterinary medicine,engineering, geography, urban planning

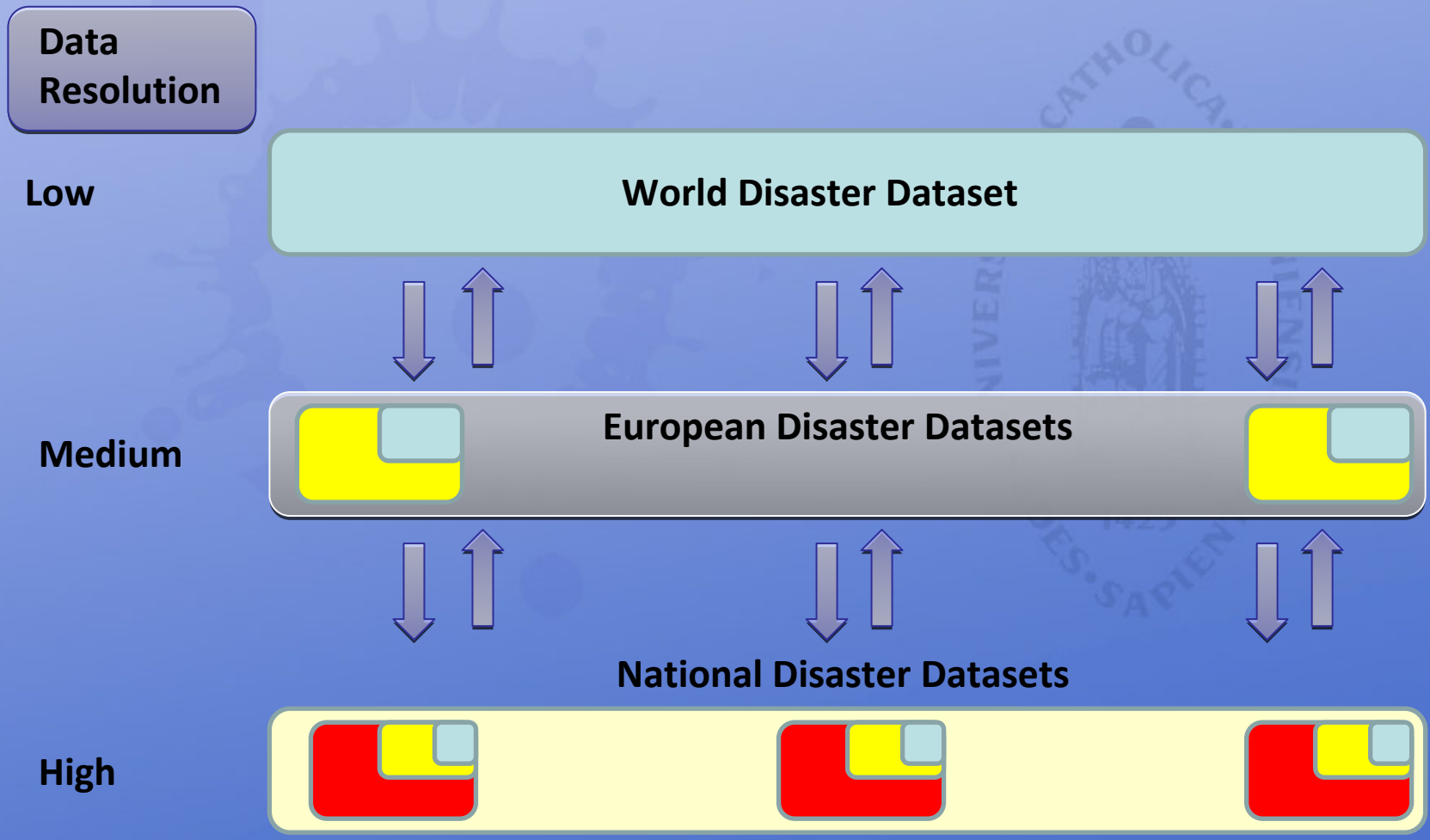
Research: Concrete priorities

- Associations between climate signals and natural disasters
- Social and economic costs of disasters
- Methodologies for policy applications of satellite images
- Links between building design and injuries and trauma
- Risk factors for deaths

Need for EU-wide Data System

- Assessment of impact across country borders (ex, floods affecting Austria and Italy)
- Effective use of response resources (ex, specialized expertise in avalanche management)
- More accurate cost-benefit analyses based on historical data
- Evidence-based disaster policy at province, national and inter-country levels

Schematic Plan of Hierarchical Disaster Data Sets



EURODIS (Characteristics)

- Comparability across provinces and countries (ex, landes in Germany)
- National overview of past disasters and their human and economic impacts
- Free public access for all users through web-based interface

CONCLUSION

EFFECTIVENESS OF YOUR PREPAREDNESS PROGRAMME

DEPENDS ON

QUALITY OF YOUR EVIDENCE BASE

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