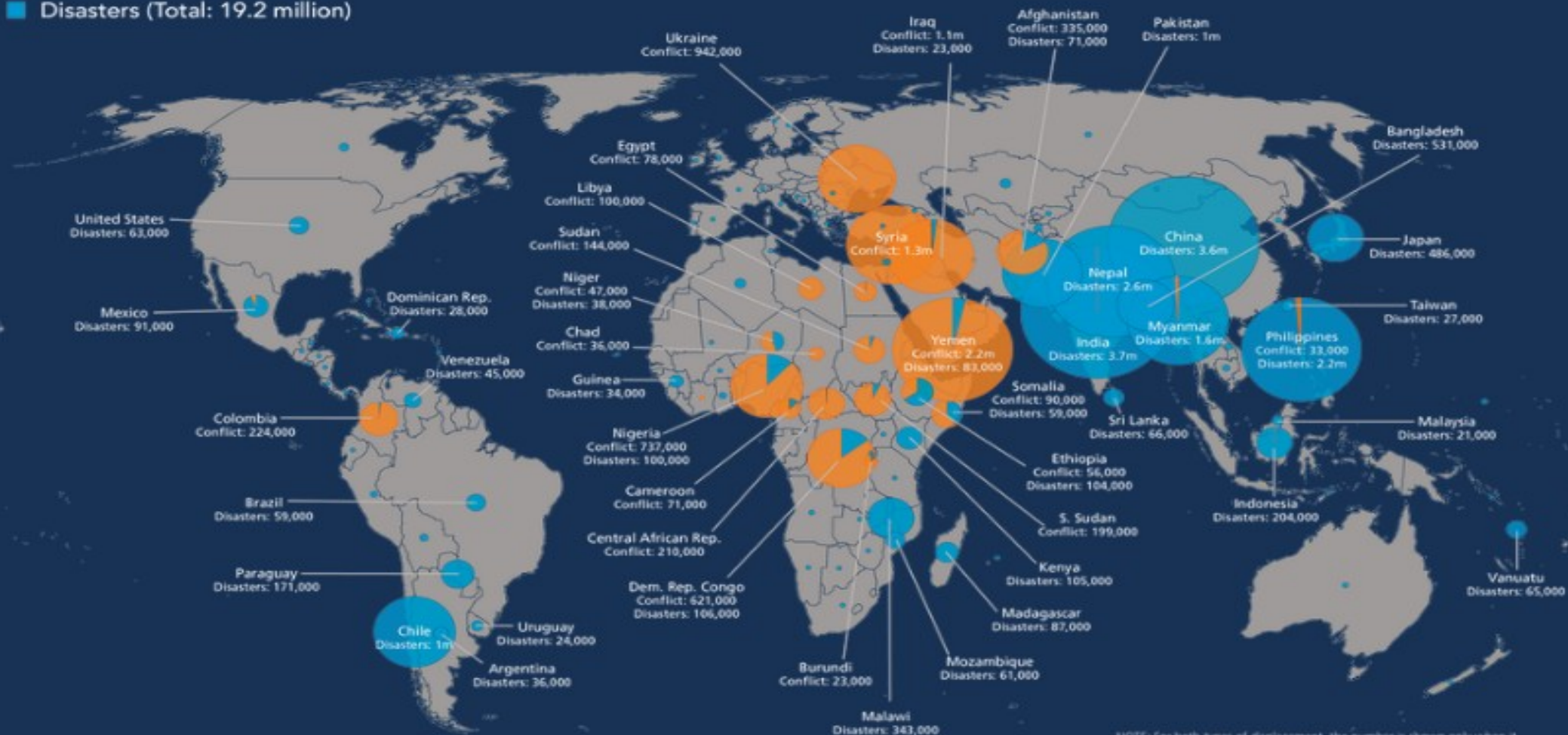


Reducing Disaster Risk in a Changing Climate - *Human Settlements*

New displacements associated with conflict and disasters in 2015

- Conflict and violence (Total: 8.6 million)
- Disasters (Total: 19.2 million)



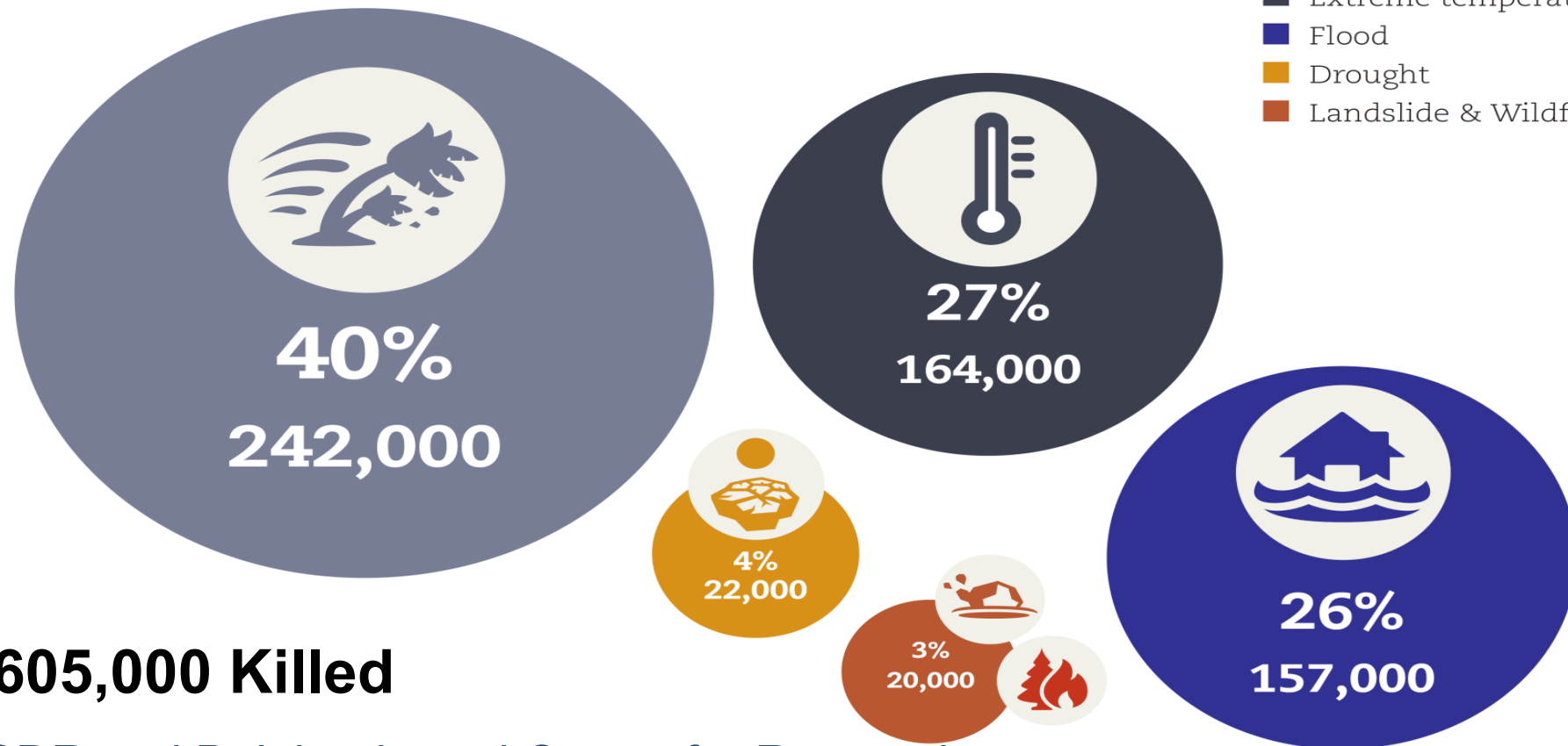
NOTE: For both types of displacement, the number is shown only when it exceeds 20,000. The size of the pie charts is fixed for estimates of 5,000 or less. In a few cases, the same person may be displaced more than once.

19.2 MILLION PEOPLE IN 113 COUNTRIES DISPLACED BY DISASTERS IN 2015; 8.6 MILLION DISPLACED BY CONFLICT AND VIOLENCE – Internal Displacement Monitoring Centre (IDMC), report published May 2016

The Human Cost of Weather Related Disasters 1995 to 2015

Numbers of people killed by disaster type (1995-2015)

- Storm
- Extreme temperature
- Flood
- Drought
- Landslide & Wildfire

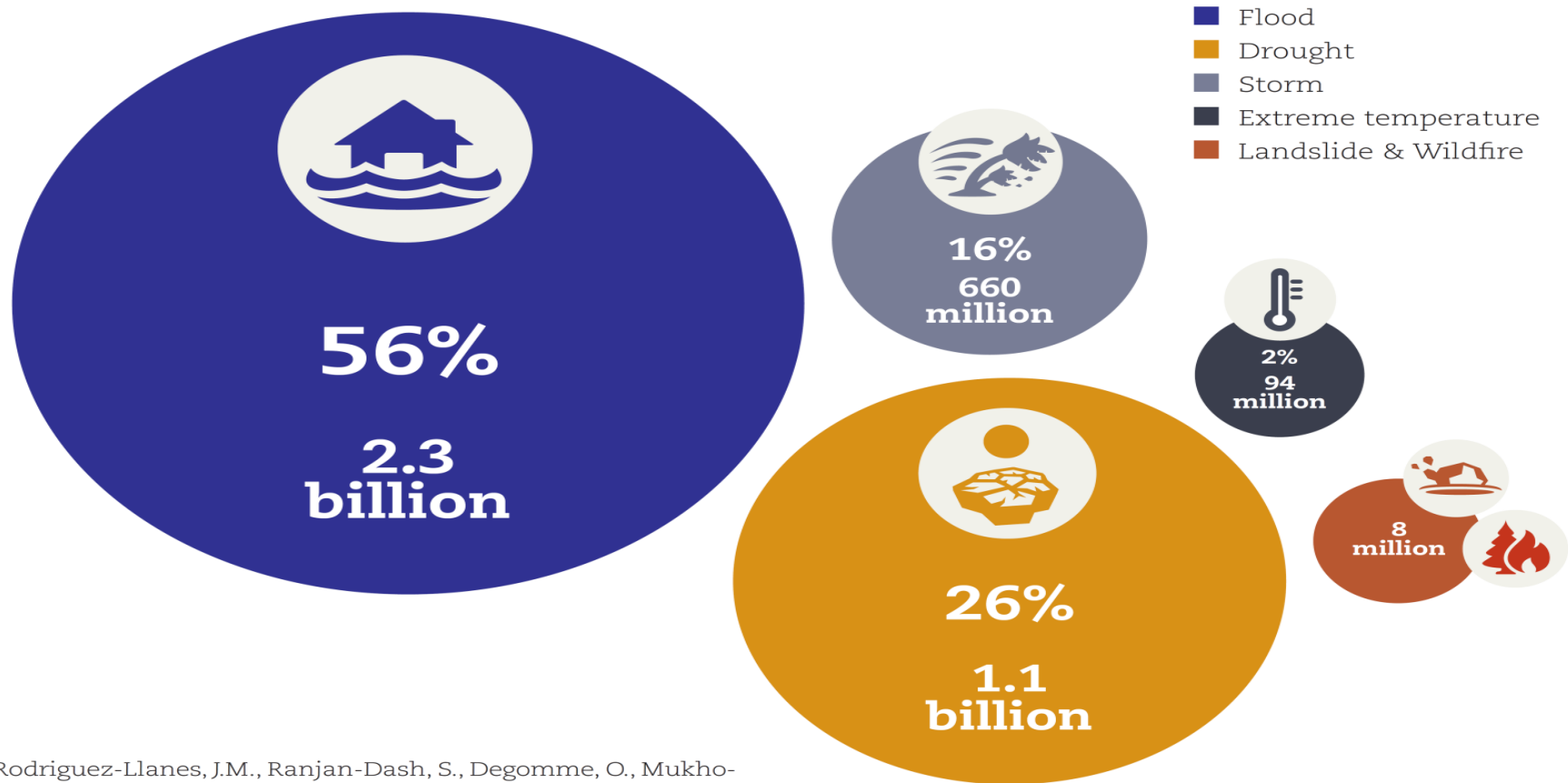


605,000 Killed

UNISDR and Belgian-based Centre for Research on the Epidemiology of Disasters (CRED) report (2015) shows that since 1995, 90% of major disasters have been caused by 6,457 recorded floods, storms, heatwaves, droughts & other weather events.

The Human Cost of Weather Related Disasters 1995 to 2015

Numbers of people affected by weather-related disasters (1995-2015)
(NB: deaths are excluded from the total affected.)



³ Rodriguez-Llanes, J.M., Ranjan-Dash, S., Degomme, O., Mukhopadhyay, A., Guha-Sapir, D. (2011). "Child malnutrition and recurrent flooding in rural eastern India: a community-based survey". BMJ Open 2011;1: e000109.

4.1 Billion Affected

1980 – 2011

Lebanon

2527 records

156 deaths

48 million US\$ estimated losses

181 houses destroyed

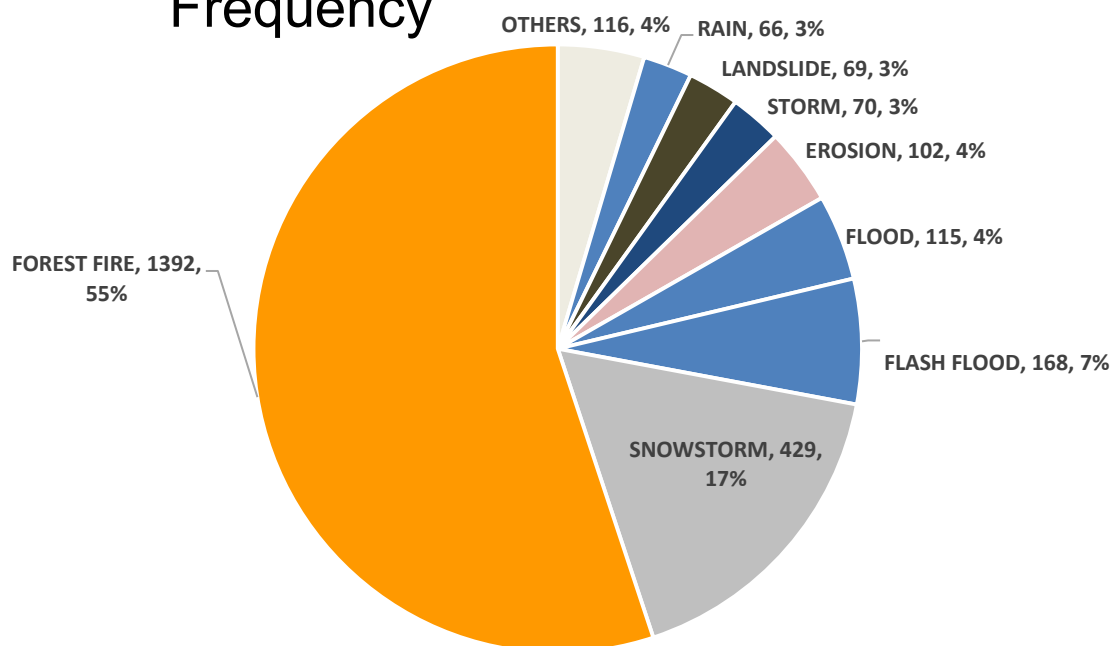
1366 houses damaged

17700 ha of crops damaged



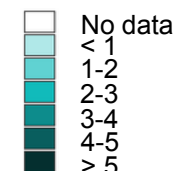
Spatial footprint of frequency

Frequency



Hydro-meteorological related impacts:

75% of all records
100% of mortalities.
86% of economic losses.



1982 – 2013

Tunisia

1918 records

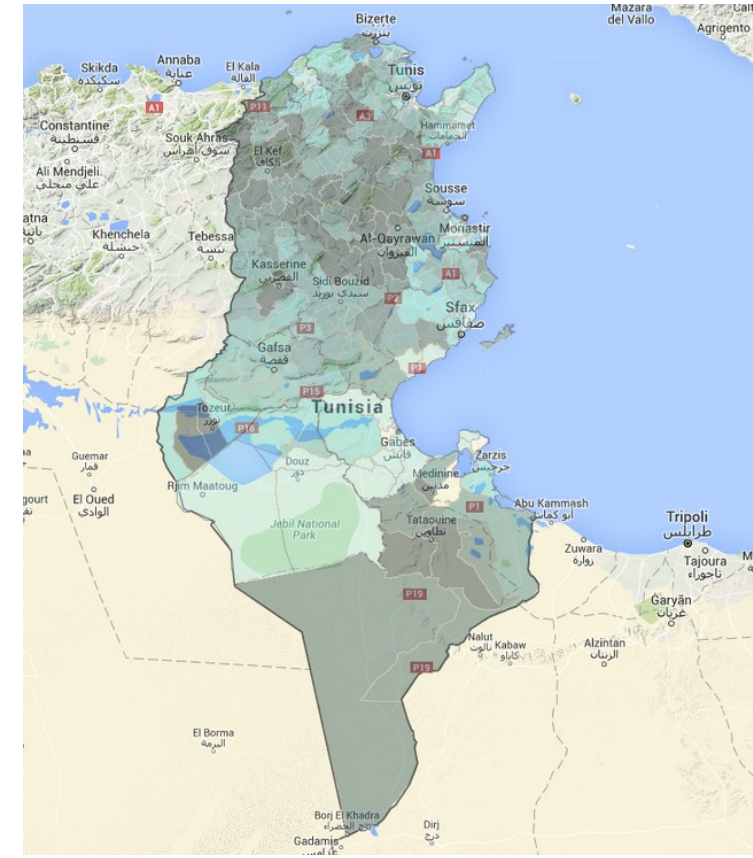
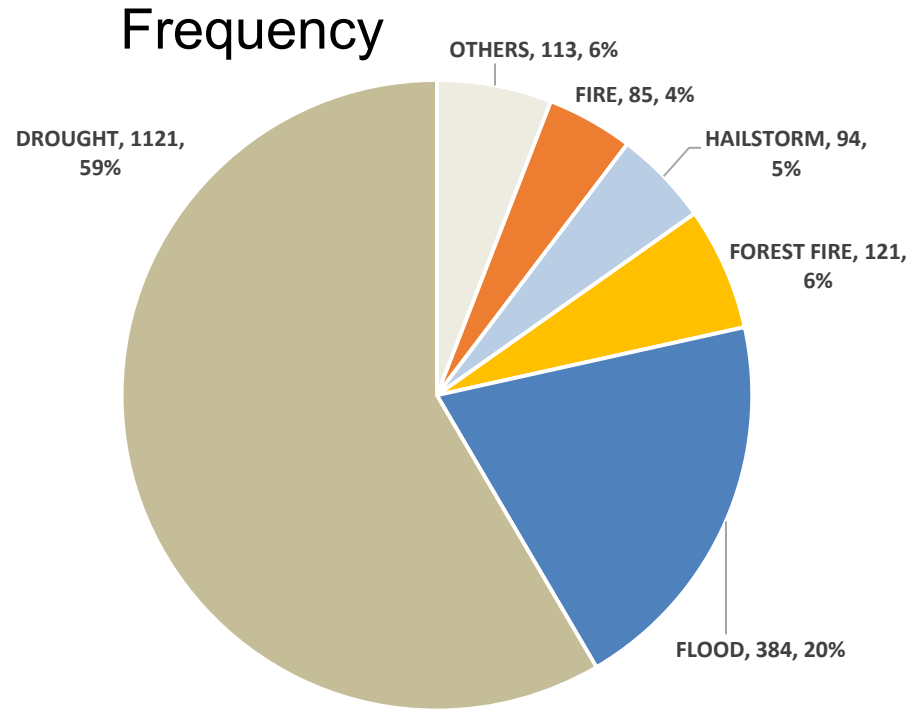
330 deaths

684 million US\$ estimated losses

17821 houses destroyed

24728 houses damaged

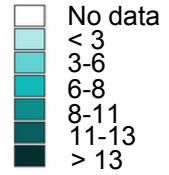
837000 ha of crops damaged



Spatial footprint of frequency

Hydro-meteorological related impacts:

**99% of all records
100% of mortalities!
98% of economic losses.**



1990 – 2013 Morocco

713 records

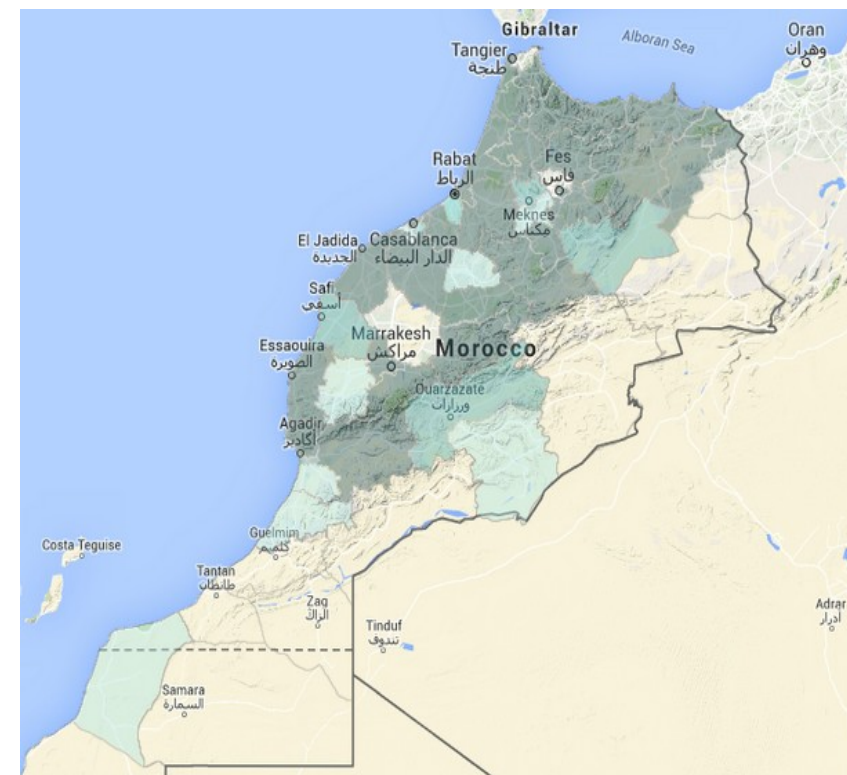
2165 deaths

530 million US\$ estimated losses

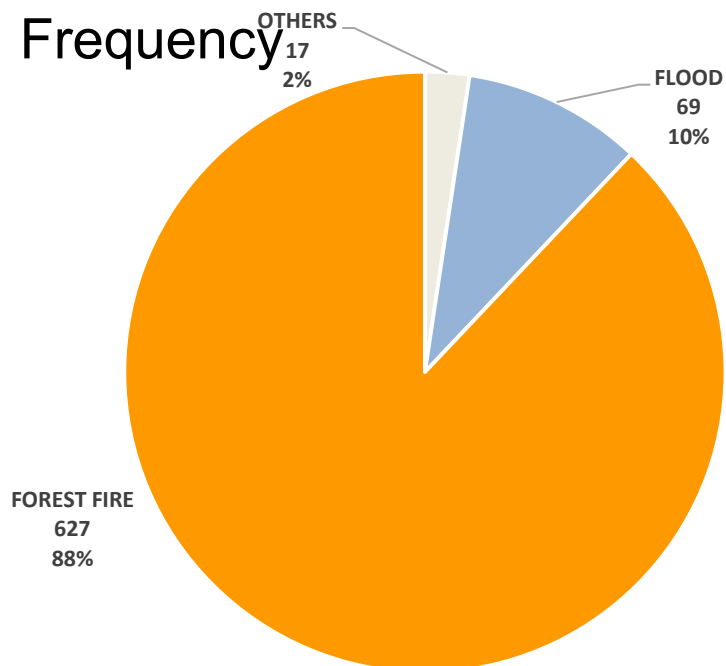
5109 houses destroyed

21915 houses damaged

281000 ha of Crops damaged

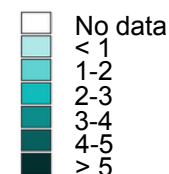


Spatial footprint of frequency



Hydro-meteorological related impacts:

88% of all records
70% of mortalities
75% of economic losses.



1981 – 2012 Jordan

593 records

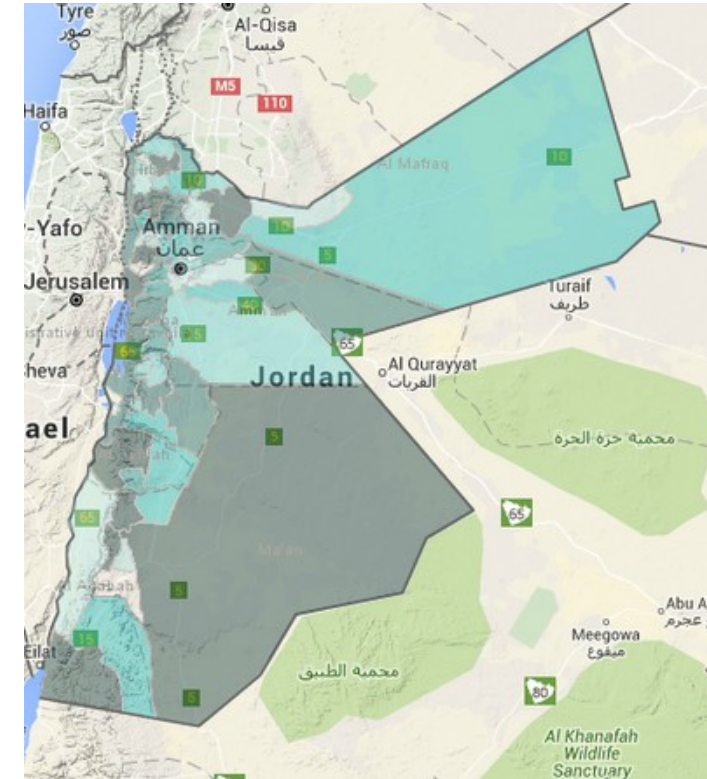
145 deaths

29 million US\$ estimated losses

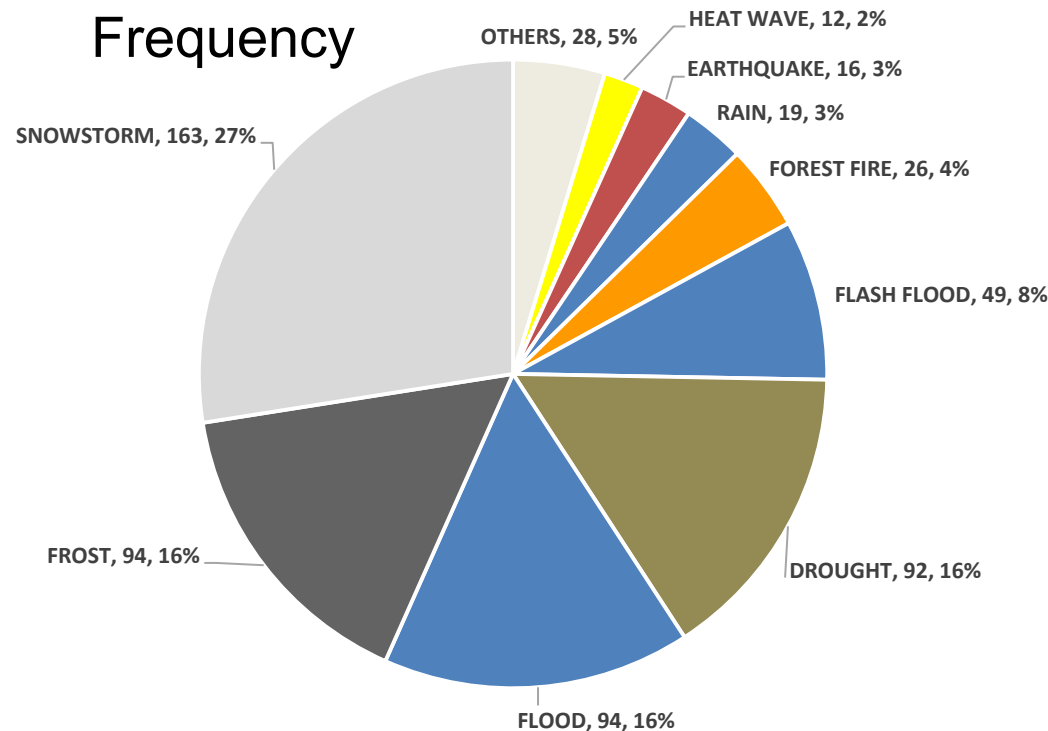
83 houses destroyed

594 houses damaged

840 ha of crops damaged

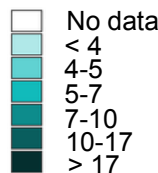


Spatial footprint of frequency



Hydro-meteorological related impacts:

97% of all records
97% of mortalities.
95% of economic losses.



388 records

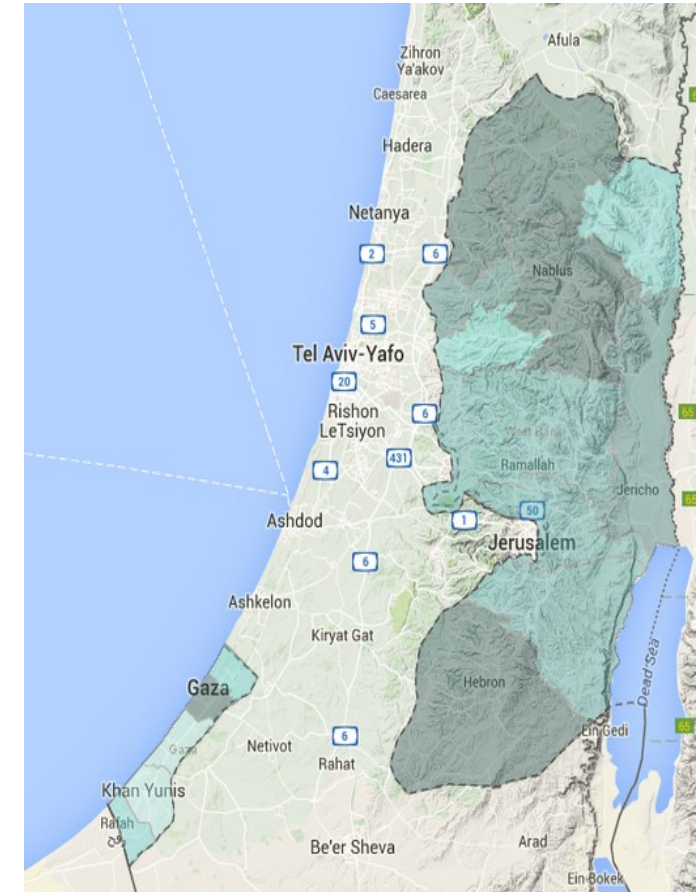
45 deaths

11 million US\$ estimated losses

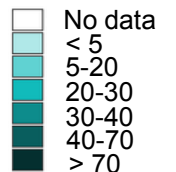
65 houses destroyed

798 houses damaged

1980 – 2013 Palestine



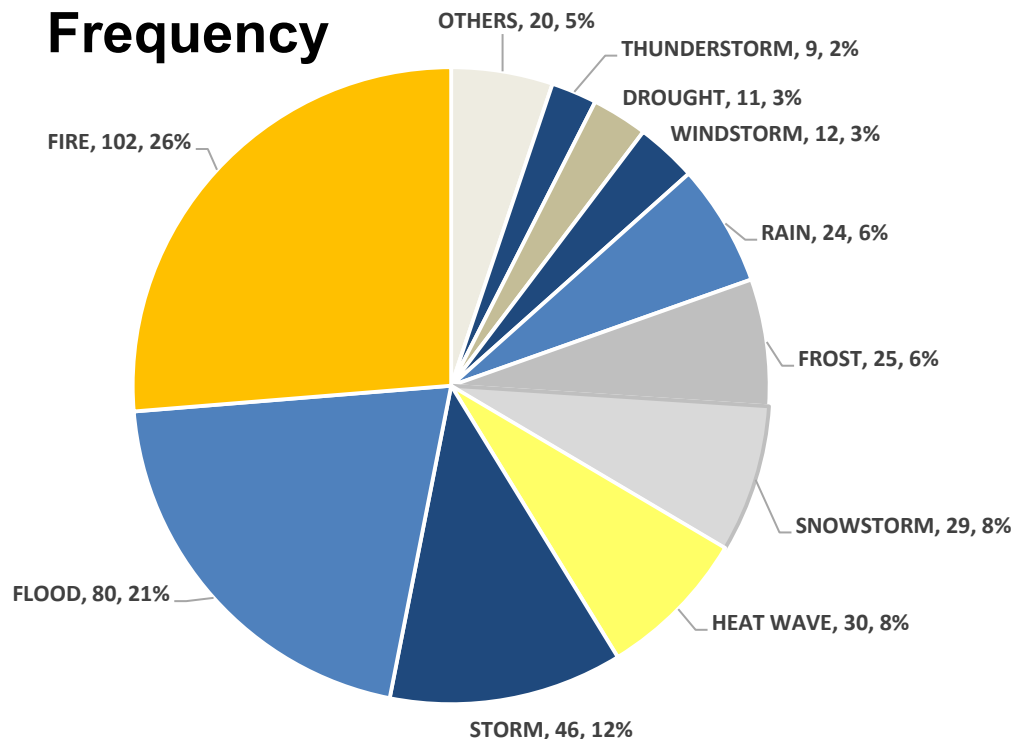
Spatial footprint of frequency



Hydro-meteorological related impacts:

99.23% of all records
69% of total mortality
92% of total economic losses

Frequency



1971 – 2013 Yemen

1637 records

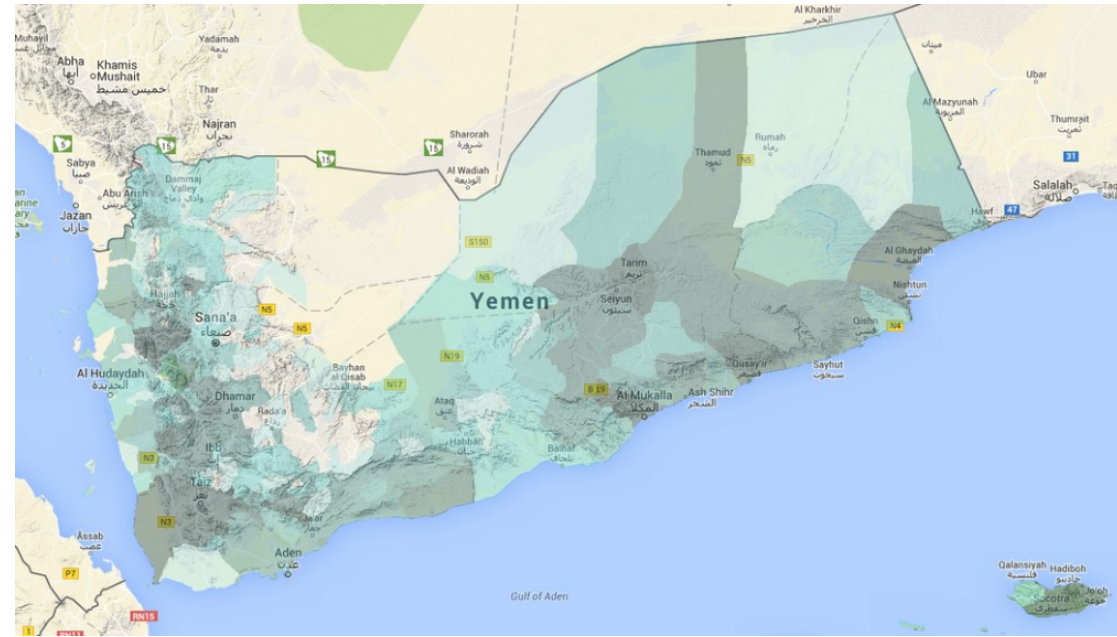
4126 deaths

3 billion US\$ estimated losses

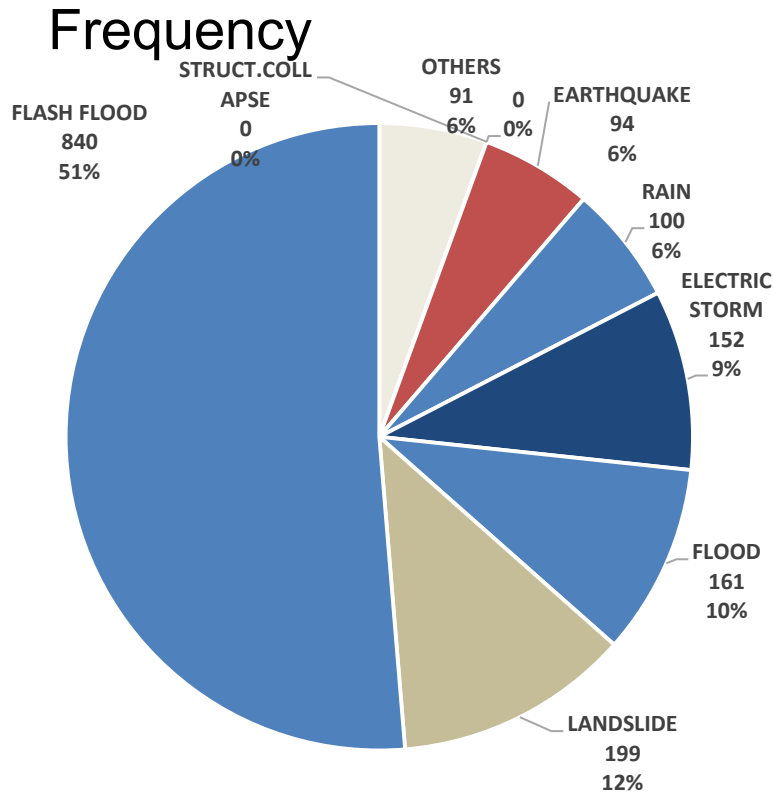
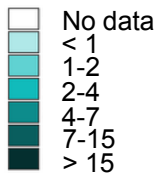
22392 houses destroyed

37311 houses damaged

20200 ha of Crops damaged



Spatial footprint of frequency



Hydro-meteorological related impacts:

95% of all records (out of which 51% of records refer to flash flood)

Flash flood is the deadliest disaster.

97% of 3 billion USD due to flash and flash floods events.

Changing Risk Environment !

- *Intensifying **disasters trends** & more frequent events*
- ***Resource scarcity** and degradation (land, water, food, energy, biodiversity)*
- *Climate change [extreme events, slow onset disasters (drought)]*
- *Increasing risk of «unchecked» urbanization coupled with high exposure of population and assets in high risk areas.*
- ***Increasing governance** challenges, coordination, accountability, legislations, institutional mechanisms, migration, conflict, all affecting human security*
- *Equity, poverty, inclusion – all being fundamental development challenges contributing to vulnerability*
- *Inter-dependency and **complexity of risk drivers***



SPECIAL REPRESENTATIVE
OF THE SECRETARY-GENERAL

PRESIDENT

Sendai Framework for Disaster Risk Reduction 2015-2030

WCDRR Sen

WCDRR Sendai

WCDRR Sendai

7 GLOBAL TARGETS

Reduce

**Mortality/
global population**

2020-2030 Average << 2005-2015 Average

**Affected people/
global population**

2020-2030 Average << 2005-2015 Average

**Economic loss/
global GDP**

2030 Ratio << 2015 Ratio

**Damage to critical infrastructure
& disruption of basic services**

2030 Values << 2015 Values

Increase

**Countries with national
& local DRR strategies**

2020 Value >> 2015 Value

**International
cooperation**

to developing countries

2030 Value >> 2015 Value

**Availability and access
to multi-hazard early warning
systems & disaster risk
information and assessments**

2030 Values >> 2015 Values

4 PRIORITIES FOR ACTION

Priority 1 Understanding disaster risk

Policies and practices for DRR should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment.

Priority 2 Strengthening disaster risk governance to manage disaster risk

Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk.

Priority 3 Investing in disaster risk reduction for resilience

Public and private investment in DRR are essential to enhance the economic, social, health & cultural resilience of persons, communities, countries, their assets, as well as environment

Priority 4 Enhancing disaster preparedness for effective response, and to “Build Back Better” in recovery, rehabilitation and reconstruction

Strengthened disaster preparedness for response, recovery, rehabilitation and reconstruction are critical to build back better

National and local dimensions

Regional and global dimensions

Sendai Framework and Human Settlements

Priority 2: Strengthening disaster risk governance to manage disaster risk

To formulate public policies, where applicable, aimed at addressing the issues of prevention or relocation, where possible, of human settlements in disaster risk-prone zones, subject to national law and legal systems.

Priority 3: Investing in disaster risk reduction for resilience

To encourage the revision of existing or the development of new building codes and standards and rehabilitation and reconstruction practices at the national or local levels, as appropriate, with the aim of making them more applicable within the local context, particularly in informal and marginal human settlements, and reinforce the capacity to implement, survey and enforce such codes through an appropriate approach, with a view to fostering disaster-resistant structures.

Sendai Framework and Human Settlements

Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction.

To promote the incorporation of disaster risk management into post disaster recovery and rehabilitation processes, facilitate the link between relief, rehabilitation and development, use opportunities during the recovery phase to develop capacities that reduce disaster risk in the short, medium and long term, including through the development of measures such as land-use planning, structural standards improvement and the sharing of expertise, knowledge, post disaster reviews and lessons learned and integrate post-disaster reconstruction into the economic and social sustainable development of affected areas. This should also apply to temporary settlements for persons displaced by disasters

Disaster Risk in Human Settlements in the Arab Region

- **Flash floods:** growing urban hazard due to poor infrastructure lacks adaptability to climate change impacts, population growth and risk scenarios.
- **Landslides:** Heavy rains or seismic activity are a danger to residents living in homes on/below steep slopes or cliffs.
- **Earthquakes:** No building codes in high risk seismic zones, law enforcements is poor, lack of risk-sensitive planning, highly vulnerable slum areas
- **Tsunami:** long coastlines exposed to tsunami hazards with concentrated investments in tourism, service sector, and urban development though early warning systems, preparedness plans and minimum risk management standards are not in place.
- **Droughts:** These can endanger food supply and often result in migration to urban areas, putting pressure on housing, services and employment opportunities.
- **Sandstorms:** These are among the most severe and unpredictable natural hazards. High winds lift sand into the air - releasing a turbulent, suffocating cloud of particulates and heavily decreasing visibility in a few of seconds.
- **Tropical cyclones:** Urban areas might be exposed to cyclones, strong winds and heavy rains.

Disaster Risk in Human Settlements in the Arab Region

- The total population of the Arab region is more than 357 million
- Over **55 %** of the Arab population lives in **large cities and small towns**
- In some Arab countries the percentage of people living **in urban areas is as high as 80% of the total population.** The urban population is also growing at a faster rate than the overall growth in population.
- The overall **population growth rate is amongst the highest** in the world
- Between 1970 and 2010, the urban population of the Arab region increased by more than four times and will probably double again over the next 40 years
- Arab urban areas are a major source of economic and human development due to the opportunities they provide in the form of employment, education, health, communications facilities, transportation, trade and tourism
- A number of Arab cities and towns hold major world cultural heritage sites and are a source of cultural identity
- **Human settlements Urban population**, as a percentage of total population, registers very high values for many countries in the region (e.g. it reaches **79, 88 and 90%** in **Saudi Arabia, Libya and Lebanon** respectively).
- **Slum to urban ratios** registers at **40, 50, 57, 86, 92 and 94 %** in **Egypt, Iraq, Lebanon, Sudan, Mauritania and Somalia** respectively.

Main trends and challenges in DRR practices related to human settlements

- Rapid urbanization has pushed people to settle in high risk and vulnerable human settlements developed on unstable hills, flood-prone lowlands or coastal territories. **Due to a lack of appropriate housing, people move into unsafe buildings, which do not withstand earthquakes or strong storms.**
- Increasing extensive risk corresponding to **high frequency and low severity hazardous events** such as yearly **floods and storms**, thus affecting the infrastructure in poor neighborhoods (i.e. Slums and informal settlements), in both rural and urban areas
- These communities are also highly vulnerable to intensive risk corresponding to **low frequency and high severity hazardous events such as earthquakes and tsunamis.**
- **Limited investment** in urban risk reduction practices including enforcement of building codes, drainage infrastructure, etc.

Sendai Framework: an Instrument for Making Cities Resilient & Sustainable

Following the adoption of Sendai Framework at the 3rd United Nations World Conference on DRR, the [Ten Essentials](#) for making cities resilient have now been updated to align with the Sendai Framework, with inputs of more than 2000 cities and 50 global agencies. The new indicators of the Ten Essentials being developed will support the implementation of the Sendai Framework at the local level, as well as contribute significantly to the implementation of [Sustainable Development Goal 11](#), the [Paris Agreement](#), and the to be adopted [New Urban Agenda](#). These new essentials and their indicators will support the development of a new ISO [37121](#).

Ten Essentials for Making Cities Resilient (revised in 2015)

Enabling Essentials

- 1 Organize for disaster resilience
- 2 Identify, understand and use current and future risk scenarios
- 3 Strengthen financial capacity for resilience

Build back better Essentials

- 9 Ensure effective preparedness and disaster response
- 10 Expedite recovery and build back better

Operational Essentials

- 4 Pursue resilient urban development and design
- 5 Safeguard natural buffers to enhance the protective functions offered by natural ecosystems
- 6 Strengthen institutional capacity for resilience
- 7 Understand and strengthen societal capacity for resilience
- 8 Increase infrastructure resilience

Way forward...

- UNISDR will continue to advocate and strengthen commitment to DRR by encouraging municipalities **to commit to the Ten Essentials and implementation of the Sendai Framework.**
- The focus of the campaign will continue but with **transition from advocacy and awareness, to greater emphasis on supporting implementation of DRR at local level.**
- With the overall goal to **create resilient cities and communities, by 2020**, UNISDR in collaboration with partners will **support local governments in understanding their risks** through risk assessments and capacity building, based on which risk-sensitive investments can be mobilized.
- Through the **Resilient Cities Connect platform** launched March 2016, the campaign will support the implementation of the plans by assisting cities in discovering potential services providers, acting as a conduit to scale up resilience solutions to the thousands of cities in need worldwide.

www.wcdrr.org www.unisdr.org



GAR

Global Assessment Report
on Disaster Risk Reduction

2015

GAR

Global Assessment Report
on Disaster Risk Reduction

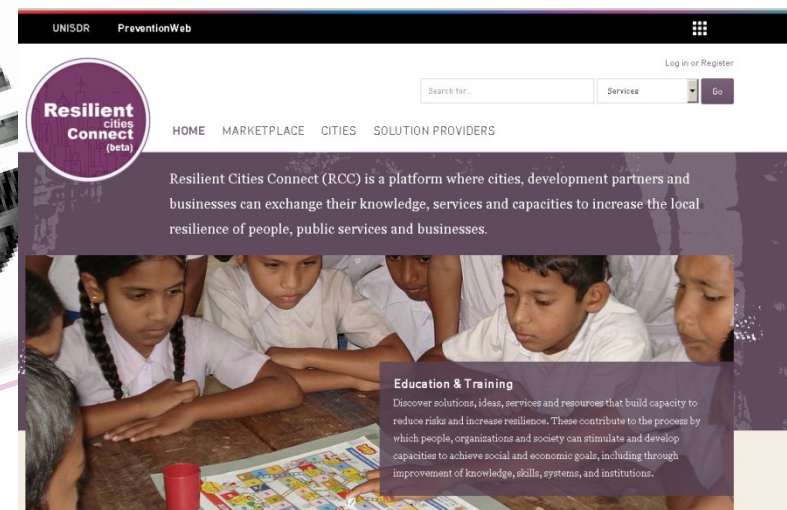
2013



<http://www.preventionweb.net/gar>

<http://www.wcdrr.org/>

Sendai Framework
for Disaster Risk Reduction
2015 - 2030



<http://www.preventionweb.net/rcc/>