

ESCWA Committee on Water Resources – 13<sup>th</sup> Session

Beirut, 27-28 June 2019

# Linkages between Climate Change and Disaster Risk Reduction in the Arab Region

Economic And Social Commission For Western Asia



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# Outline

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- ESCWA Water Development Report No. 7: Climate Change and Disaster Risk Reduction in the Arab Region
- Examining Climate change and Disaster Risk Reduction linkages
  - intergovernmental and expert meetings
  - interagency coordination
- Key Messages on Linking Climate Change and Disaster Risk Reduction
- Key Recommendations

# Introduction

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- Climate change and disaster risk reduction are increasingly being linked to one another and to water resources management at the national, regional and global levels.
- At the global level, the Sustainable Development Goals, the Paris Agreement of the UNFCCC and the Sendai Framework on Disaster Risk Reduction demonstrate the importance of linking the two communities together in view of formulating integrated policies.
- Studies on climate change impact assessment in the Arab region (e.g. RICCAR) have proved that natural hazards, and particularly water-related disasters, will be exacerbated due to climate change.

## Climate Change and Disaster Risk Reduction in the Arab Region

- It builds on this regional knowledge base and reviews global processes, regional strategies and action plans related to CCA, DRR and water security.
- It reviews monitoring mechanisms and means of implementation to ensure synergy and coherence between CCA and DRR, within the context of achieving the 2030 Agenda for Sustainable Development.

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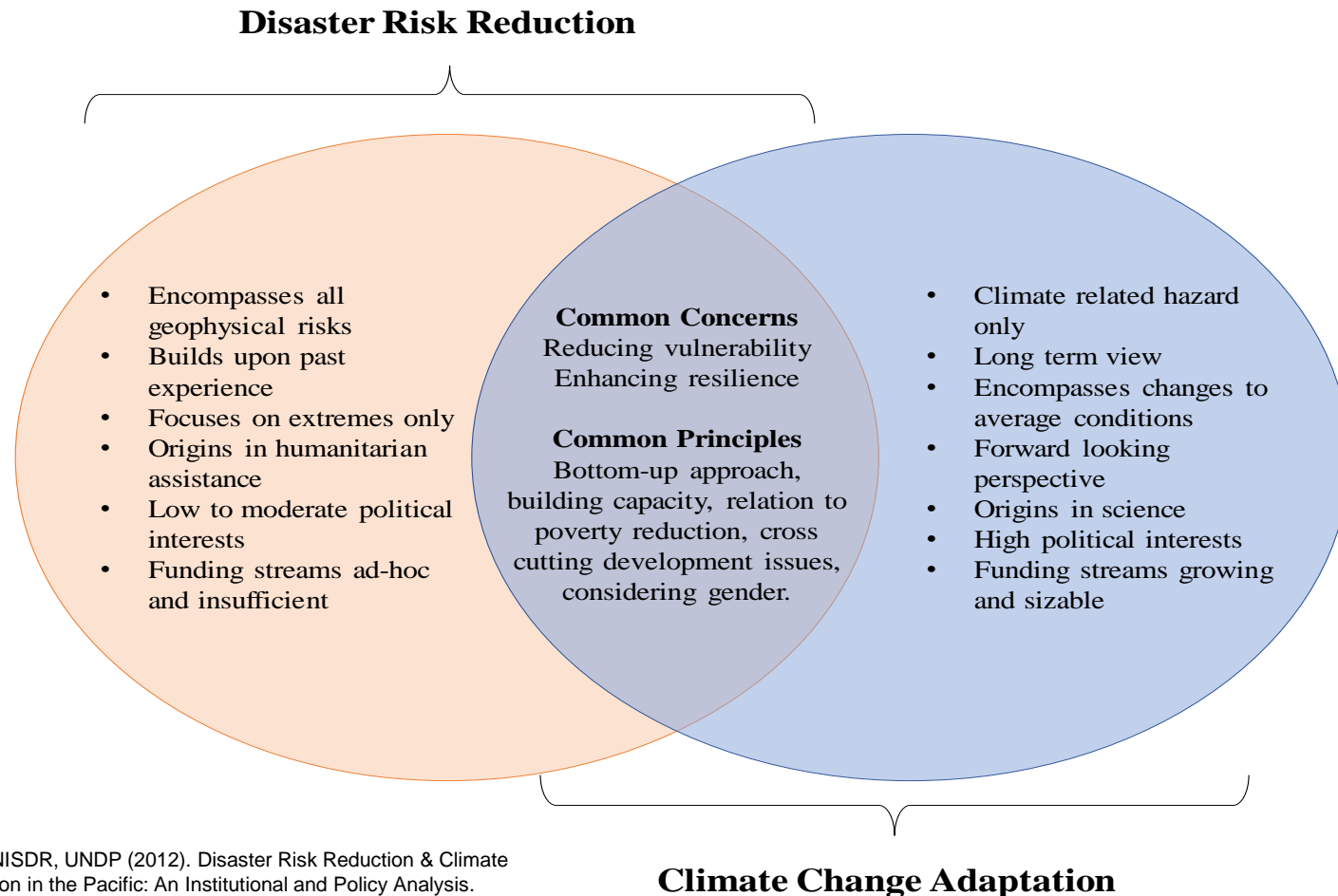


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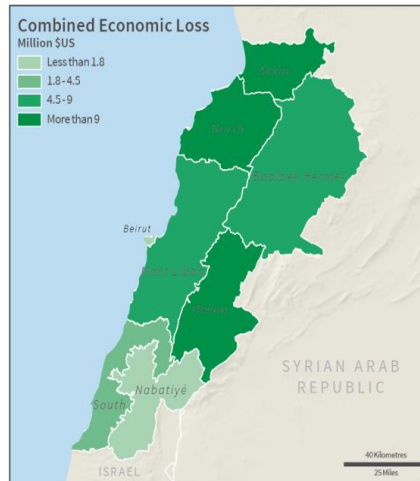
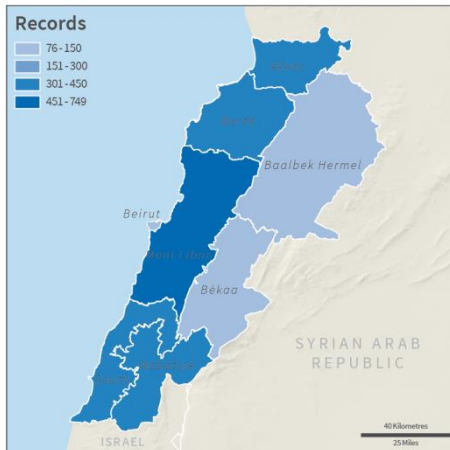
ESCWA Water Development Report 7

Climate Change and Disaster Risk  
Reduction in the Arab Region

# Similarities and differences between DRR and CCA



# Development of the National Disaster Loss Databases in the Arab Region (UNISDR/ROAS)

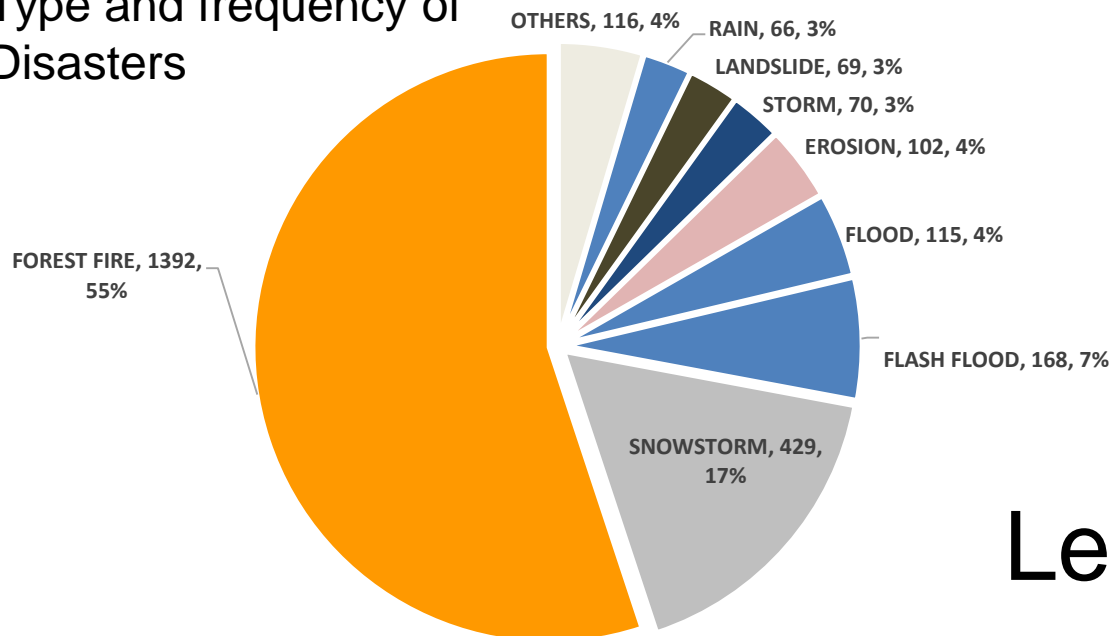


**Total estimated losses of 48 million US\$**

**Hydro-meteorological related impacts:**

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

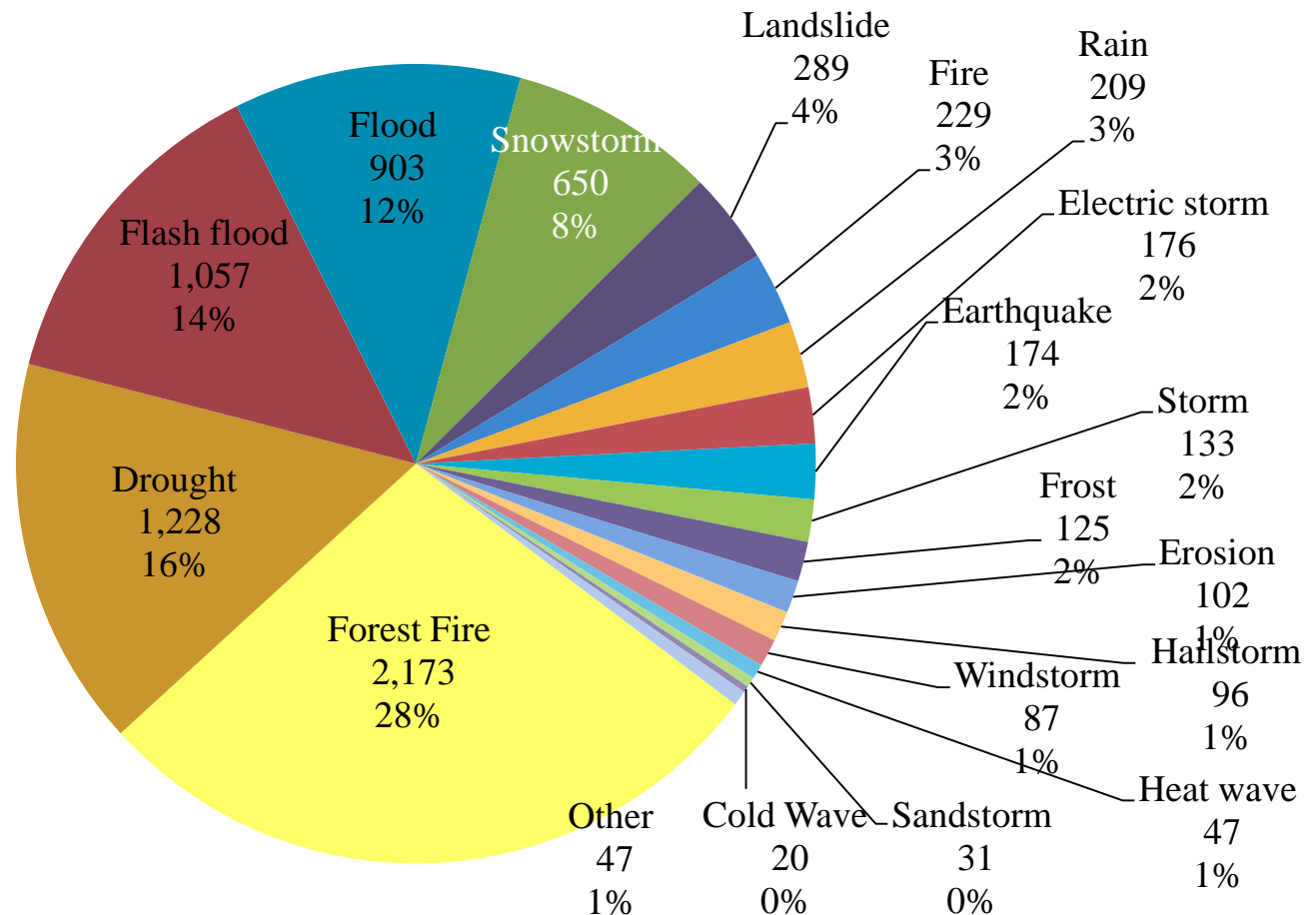
## Type and frequency of Disasters



**Lebanon 1980 - 2011**

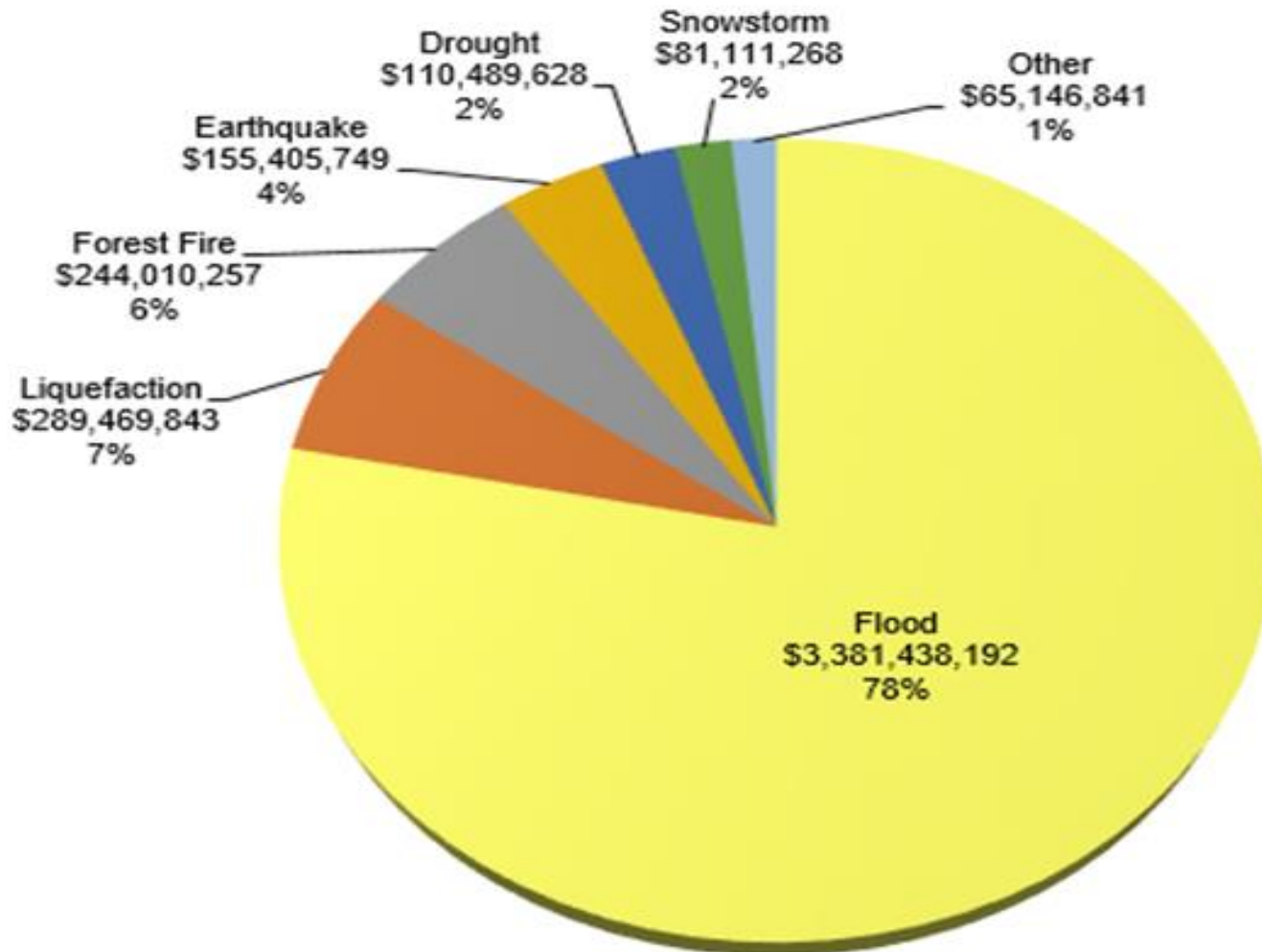
# Development of the National Disaster Loss Databases in the Arab Region (UNISDR/ROAS)

Type of Hazards and Frequency of Disasters for the Surveyed Arab Countries (Morocco, Tunisia, Yemen, Jordan, Palestine and Lebanon)



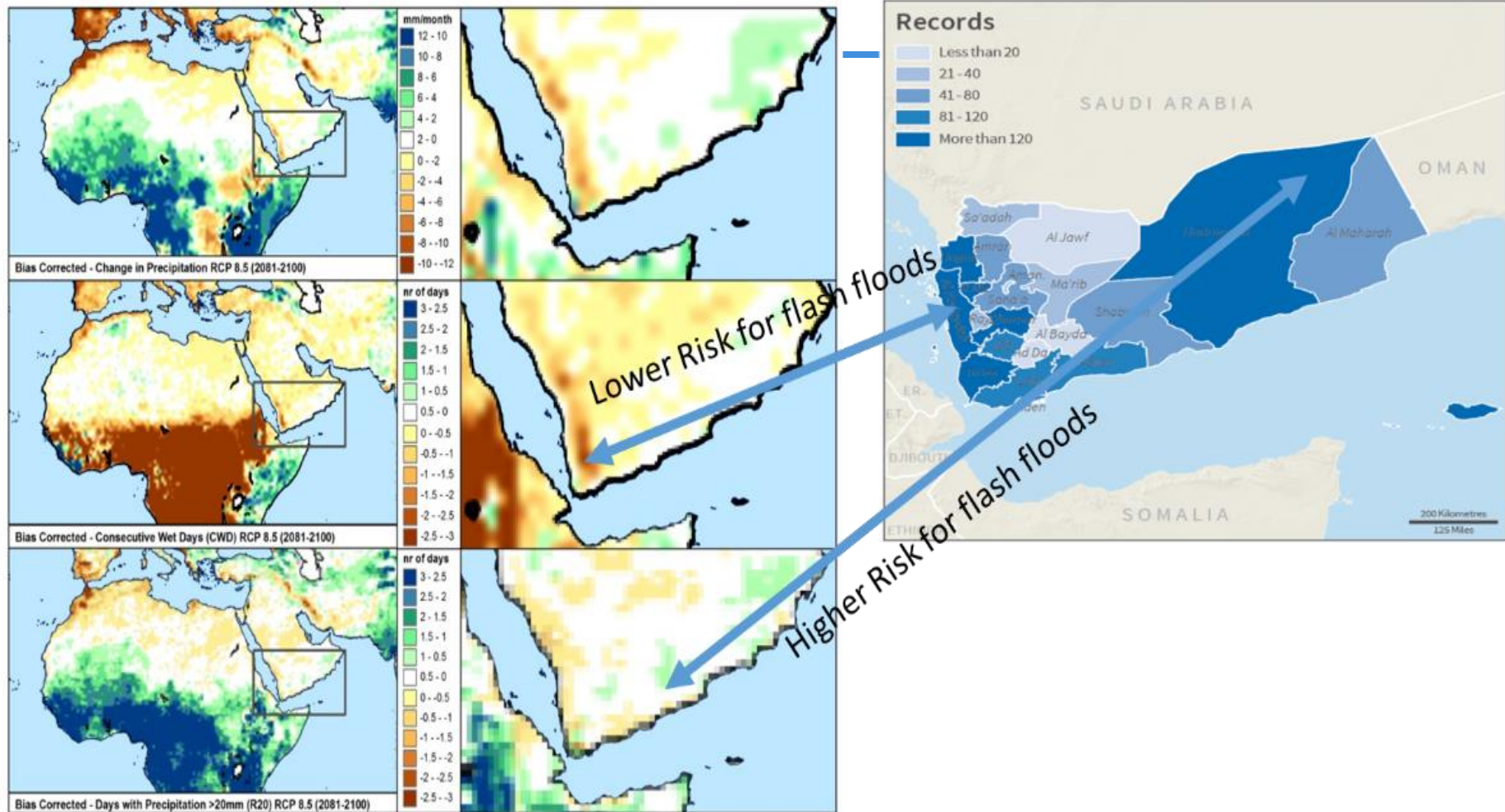
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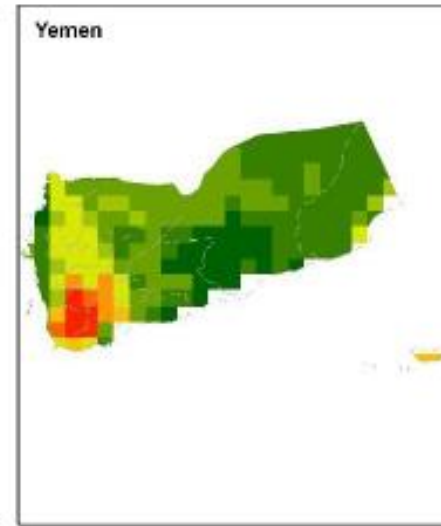
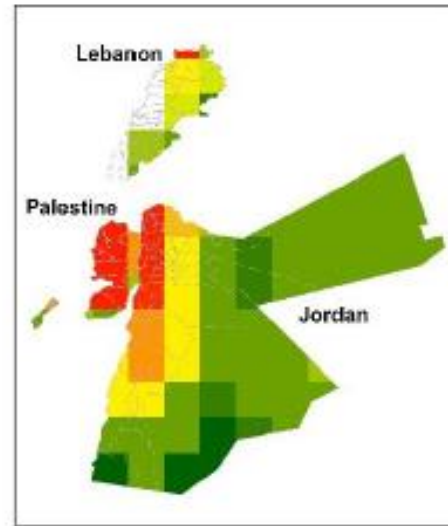
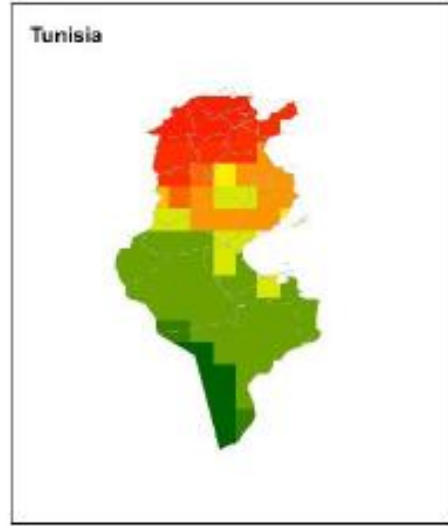
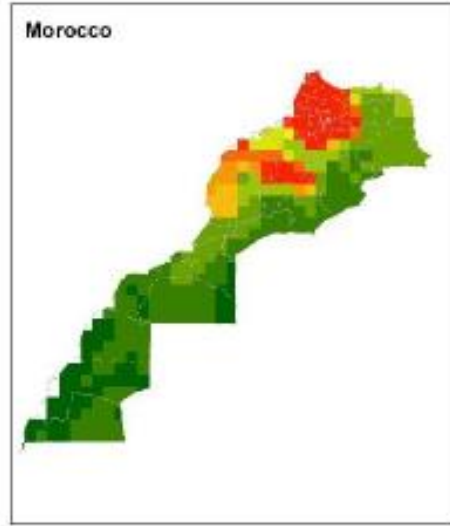
## Economic Losses of Disasters for the Surveyed Arab Countries



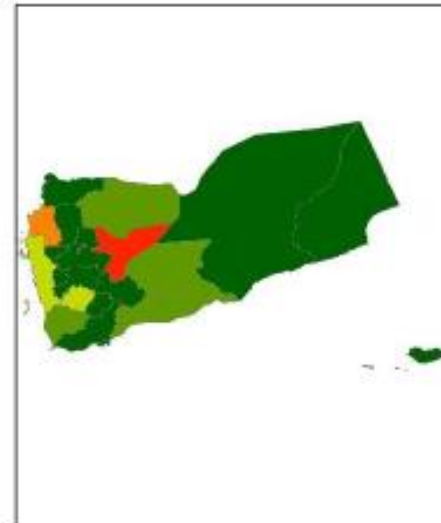
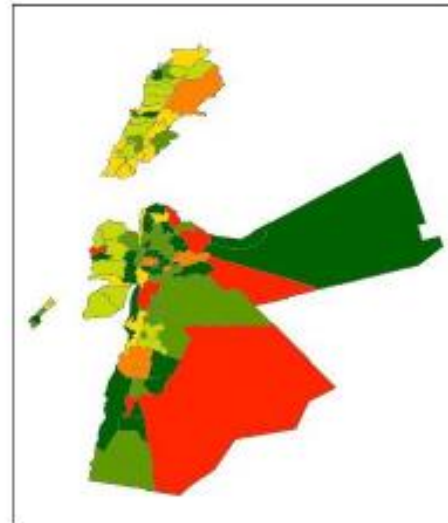


# Future projections for flood related indices in RICCAR (precipitation change, CWD and R20 mm from top to bottom at left) and the spatial distribution of historical disasters (at right) for Yemen





Flood susceptibility based on RICCAR Indices



Flood Risk Class based on historical data

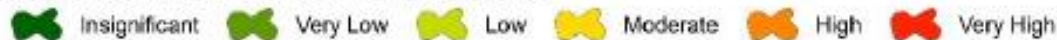


Figure 3. Comparative map between Flood Risk susceptibility due to CWD, Pr10 and Pr20 (for scenario 4.5) and the Flood Risk based on historical data for baseline (1986-2005)

# Global agenda mandates and related action plans for DRR, CC, and SDG's related to water

Components	Disaster Risk Reduction (DRR)	Climate Change Adaptation (CCA)	SDGs related to Water, CCA and DRR
Agency Involved	United Nations Office for Disaster Risk Reduction (UNISDR)	United Nations Framework Convention on Climate Change (UNFCCC)	United Nations Agencies (Regional Commissions, UN-Water, UNDP, UNEP, FAO, UNESCO, etc.)
Policy/Mandates	The Sendai Framework for Disaster Risk Reduction (2015-2030)	The Paris Agreement on Climate Change (2015-2030)	Transforming our world: the 2030 Agenda for Sustainable Development Goal 1. End poverty in all its forms everywhere Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture Goal 6. Ensure availability and sustainable management of water and sanitation for all Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable Goal 13. Take urgent action to combat climate change and its impacts
Priorities of Actions	<ul style="list-style-type: none"> <li>- Understanding disaster risk</li> <li>- Strengthening disaster risk governance to manage disaster risk</li> <li>- Investing in DRR for resilience</li> <li>- Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction</li> </ul>	<p>Article 7. Adaptation</p> <ul style="list-style-type: none"> <li>- The Paris Agreement establishes a global goal on adaptation – of enhancing adaptive capacity, strengthening resilience and reduction of vulnerability to climate change. It aims to significantly strengthen national adaptation efforts, including through support and international cooperation. It also recognizes that adaptation is a global challenge faced by all. All Parties should engage in adaptation planning and are expected to submit and periodically update an adaptation communication on their priorities, implementation and support needs, plans and actions. Developing country Parties will receive enhanced support for adaptation actions.</li> </ul> <p>Article 8. Loss and Damage</p> <ul style="list-style-type: none"> <li>- The Paris Agreement significantly enhances the Warsaw International Mechanism on Loss and Damage, which will develop approaches to help vulnerable countries cope with the adverse effects of climate change, including extreme weather events and slow-onset events such as sea-level rise. The Agreement provides a framework for Parties to enhance understanding, action and support with regard to loss and damage.</li> </ul> <p>Article 12. Climate change education, training, public awareness, public participation and public access to information is also to be enhanced under the Agreement.</p>	<p>1.5 build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters</p> <p>2.4 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality</p> <p>11.5 significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations</p> <p>11.b substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels</p> <p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p> <p>13.2 Integrate climate change measures into national policies, strategies and planning</p> <p>13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</p> <p>13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly \$100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible</p> <p>13.b Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.</p>

# Arab region mandates and related action plans for DRR, CC, and SDG's related to water

Components	Disaster Risk Reduction (DRR)	Climate Change Adaptation (CCA)	Water
<b>Agency Involved</b>	LAS, UNISDR, UNDP, UNEP, WB	LAS, UN-ESCWA, UNDP, UNEP, WB	LAS, UN-ESCWA, UNESCO, WB
<b>Policy/Mandates</b>	Regional Arab Strategy on Disaster Risk Reduction (2015-2030)	The Arab Framework Action Plan on Climate Change (2010-2020)	- Arab Strategy for Water Security in the Arab Region (2010-2030) - Sustainable Development Goals (2015-2030)
<b>Priorities of Actions</b>	<p>Priority 1: Strengthen commitment for comprehensive DRR across sectors</p> <p>Priority 2: Develop capacities to identify, monitor and assess disaster risks</p> <p>Priority 3: Build resilience through knowledge, advocacy, research and trainings</p> <p>Priority 4: Improve accountability for disaster risk management at the sub national and local level</p> <p>Priority 5: Integrate disaster risk reduction into emergency response, preparedness and recovery.</p>	<p>Priority 1: Reduce the risks of climate change and the readiness to confront its potential impacts through programs of mitigation and adaptation.</p> <p>Priority 2: Preservation of the natural and human resources and to ensure a decent standard of living for Arab citizens.</p> <p>Priority 3: Enhancement of the pace of sustainable development in the Arab states, including achieving MDGs.</p> <p>Priority 4: Strengthening and building the national and regional institutional capacities to deal with issues of climate change and cope with disasters.</p> <p>Priority 5: Establishment of favorable conditions to stimulate regional and international cooperation necessary to support national programs.</p>	<p>Priority 1: In the medium term (by 2020), raising water use efficiency by 15 to 25 per cent for meeting increased water demand and ensuring water and food security for facing the future challenges in accordance with the available water resources and the principals of sustainable development.</p> <p>Priority 2: Adoption, in the short term (by 2015), of integrated water policies which secure water for all sectors to achieve a maximum socioeconomic benefits and insure the implementation of the millennium development goals.</p> <p>Priority 3: Develop, in the medium term (by 2020), alternative and practical solutions for using non-conventional water with focusing on the use of renewable energy in water desalination and water treatment for meeting the increasing water demand.</p> <p>Priority 4: By 2020 the signing of permanent agreements on shared water resources in the Arab region according to the "Arab Convention on Shared Water Resources in the Arab Region" and International Water law.</p> <p>Priority 5: In the medium term (by 2020), each Arab countries has defined a national policy for including CCA policy into national water policy.</p>
<b>Regional and National Actions</b>	<ul style="list-style-type: none"> <li>- Regional Arab Strategy on DRR (2015-2030)</li> <li>- The Arab Cooperation Agreement in Organization and Facilitation of Relief Operations (2009);</li> <li>- A draft Arab Protocol (2008) on Cooperation for Speedy and Immediate Response within Arab Countries to Transfer Equipment and Expertise in Cases of Disasters, Crisis and Emergencies;</li> <li>- Statutes for the Arab Centre to Prevent Risks from earthquakes and other natural disasters (2004).</li> </ul>	<ul style="list-style-type: none"> <li>- Regional Action Plan</li> <li>- National Policies</li> <li>- National Adaptation Plans of Actions (NAPA)</li> <li>- Intended Nationally Determined Contributions (INDCs)</li> <li>- National Communication Reports</li> <li>- National Sectoral Action Plans (Water, food, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Regional Action Plans</li> <li>- SDG-based Development Strategies and Action Plans (National)</li> </ul>
<b>Coordination Mechanisms</b>	<ul style="list-style-type: none"> <li>- Regular intergovernmental meetings on DRM</li> <li>- Regional/sub regional disaster risk management center (under development)</li> <li>- Joint Committee on Environment and Development in the Arab Region (JCEDAR)</li> </ul>	<ul style="list-style-type: none"> <li>- The Council of Arab Ministers Responsible for Environmental Affairs (CAMRE)/ TC</li> <li>- Working Group on Climate Change, established by ESCWA</li> </ul>	<ul style="list-style-type: none"> <li>- Arab Ministerial Water Council (AMWC)</li> <li>- The Council of Arab Ministers Responsible for Environmental Affairs (CAMRE) / Technical Committees (TC)</li> </ul>



# Examining Climate Change and Disaster Risk Reduction linkages

## intergovernmental and expert meetings – Support on DRR

- ESCWA and UNDRR organized an expert group meeting on coordinating responses to climate change and disaster risk reduction in the Arab region (Beirut, 19-20 December 2017).
- ESCWA and UNDRR organized a national workshop on the Sendai Framework Monitor and National Disaster Loss Accounting System and linkages between climate change and disaster risk reduction for Iraq (Beirut, 18-21 December 2018)
- ESCWA and LAS convened a regional consultation on climate change for the 2019 Arab Forum for Sustainable Development and the High-Level Political Forum (Beirut, 21-22 March 2019).
- ESCWA organized a special session on SDG13: Advancing Climate Action in the Arab Region (9 April 2019) in coordination with other partners during the Arab Forum for Sustainable Development (Beirut, 9-12 April)

# Examining Climate Change and Disaster Risk Reduction linkages

## intergovernmental and expert meetings – Support to Arab meteorological services

- The Arab Climate Outlook Forum (ArabCOF) was launched by LAS, ESCWA, WMO and Arab meteorological services (Beirut, 29 September 2017). Three meetings held to produce seasonal forecasts in the Arab region
- A training workshop on sand and dust storms (SDS) in the Arab region (Cairo, 10-12 February 2018) was organized by ESCWA in partnership with the League of Arab States, WMO, the United Nations Environment Programme and other partners and hosted by the Egyptian Meteorological Authority.
- ESCWA substantively contributed to the meetings of the Arab Permanent Committee on Meteorology and to the Arab Ministerial Council on Meteorology and Climate during the last two years.
- ESCWA contributed meetings of the Subcommittee on Weather and Climate Risk Information Management during the last two years

# Examining Climate Change and Disaster Risk Reduction linkages

## interagency coordination

- ESCWA contributed to the second and third meetings of the Arab Partnership Platform on Disaster Risk Reduction (Beirut, 17-18 December 2018; and Geneva, 13-14 May 2019), organized by UNDRR.
- The third meeting was held back-to-back with the Global Platform on Disaster Risk Reduction (Geneva, 13-17 May 2019), and focused on the preparation of the Regional Assessment Report on Disaster Risk Reduction.
- ESCWA will contribute to the Regional Assessment Report on Disaster Risk Reduction, which will be published by UNDRR in 2020 to highlight the challenges of DRR and CCA with regard to sustainable development and poverty reduction.

## Key Messages on CC and DRR Linkages

- Adopt an intersectoral approach to respond to climate change impacts and disaster risks that involves policymakers from various sectors, civil society, academia, private sector and media.
- Identify clear roles and responsibilities with respect to risk assessment, risk management and the implementation of DRR and CCA policies and actions, and strengthen governance;
- Develop a comprehensive risk assessment process, based on both climate change modelling and disaster loss surveys specific to the Arab region, and help relevant national institutions in developing natural hazard risk maps and conducting scientific assessments;



# Key Messages on CC and DRR Linkages

- Develop a DRR and CCA regional action plan that makes use of existing regional strategies and plans developed under the League of Arab States, aimed at integrating CCA and DRR into national and sectoral plans and policies.
- Promote technological innovation and the use of geographic information systems and remote sensing in developing hazard and risk maps and early warning systems, and develop a science-policy interface to move from modelling and impact assessment to the formulation of national strategies across sectors.
- Build capacity for scientific research on risk management, climate change modelling and hydrological modelling in the Arab region. International and regional organizations can play a significant role in mobilizing resources, creating platforms, and exchanging experiences and good practices.

# Key Messages on CC and DRR Linkages

- Mobilize financial resources from all sources (public and private, domestic and international) and promote alternative sources of financing.
- Arab countries are also encouraged to take advantage of the Green Climate Fund and its readiness programme, and to enhance the capacity of national institutions in preparing project proposals
- Establish regional scientific platforms to jointly address the issues of CCA and DRR, including sustainable development, water, energy, the environment and natural resource policy frameworks, which are currently under development by UNDRR (e.g. the Arab Science and Technology Advisory Group for DRR)

## Key Recommendations: ESCWA

- Increase the dissemination and use of RICCAR regional knowledge products, including climate projections and disaster loss databases, to help inform the science-policy interface and foster linkages between climate change and DRR communities at the regional and national levels;
- Continue supporting member States on the interlinkages between climate change and disaster risk reduction through the Arab Centre for Climate Change Policies, and through the Regional Knowledge Hub to inform policy and research on climate change assessment, adaptation, mitigation and disaster risk reduction;
- Collaborate with UNDRR on the preparation of the Regional Assessment Report on Disaster Risk Reduction and carry out monitoring under the Sendai Framework in support of Arab countries.

## Key Recommendations: Member States

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- Encourage policy coherence and coordination across climate change and DRR communities to inform regional and national policies, strategies and reports, including nationally determined contributions (NDC's) submitted under the Paris Agreement, national reporting under the Sendai Framework, and voluntary national reports (VNR's) under the 2030 Agenda.

# THANK YOU

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