

Risk Assessments and Knowledge to inform Comprehensive Risk Management

Perspectives from the Technical Expert Group on
Comprehensive Risk Management

Bonn Climate Change Conference, 6 June 2022



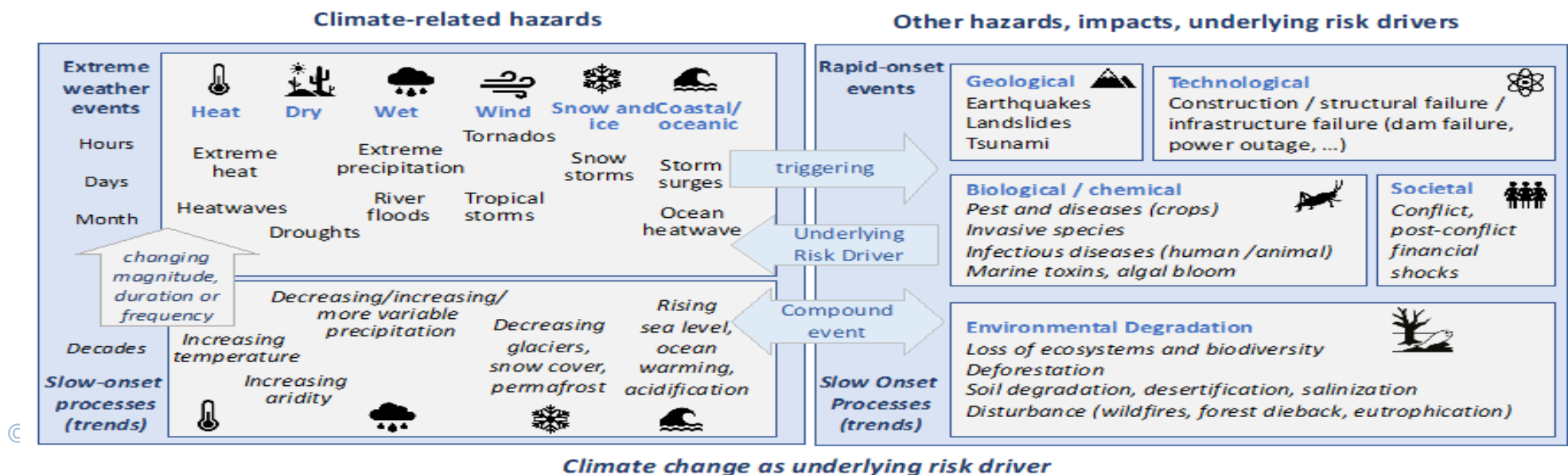
**TECHNICAL GUIDANCE ON
COMPREHENSIVE RISK
ASSESSMENT AND PLANNING
IN THE CONTEXT OF CLIMATE
CHANGE**

SENDAI FRAMEWORK
FOR DISASTER RISK REDUCTION 2015-2030

UNDRR
UN Office for Disaster Risk Reduction

- A joint UNDRR-GIZ publication
- Contribution to the Technical Expert Group on Comprehensive Risk Management (TEG-CRM)
- Flexible and intended for use with existing guidelines and resources
- Examples, case studies and CRA framework which can be customized
- Useful resources, especially:
 - Annex 1: Case Studies
 - Annex 2: Technical Resources and Guidelines

<https://www.undrr.org/publication/technical-guidance-comprehensive-risk-assessment-and-planning-context-climate-change>



Ten Key Principles for a Comprehensive Approach for Risk Assessment and Planning

Putting risk to human and ecological systems at the centre

Fully accounting for the context of climate change

Recognizing the complex and systemic nature of risks

Applying inclusive risk governance

Using multidisciplinary approaches to identify and select measures

Using the concept of risk tolerance

Addressing, minimizing, and averting risks through nature-based solutions

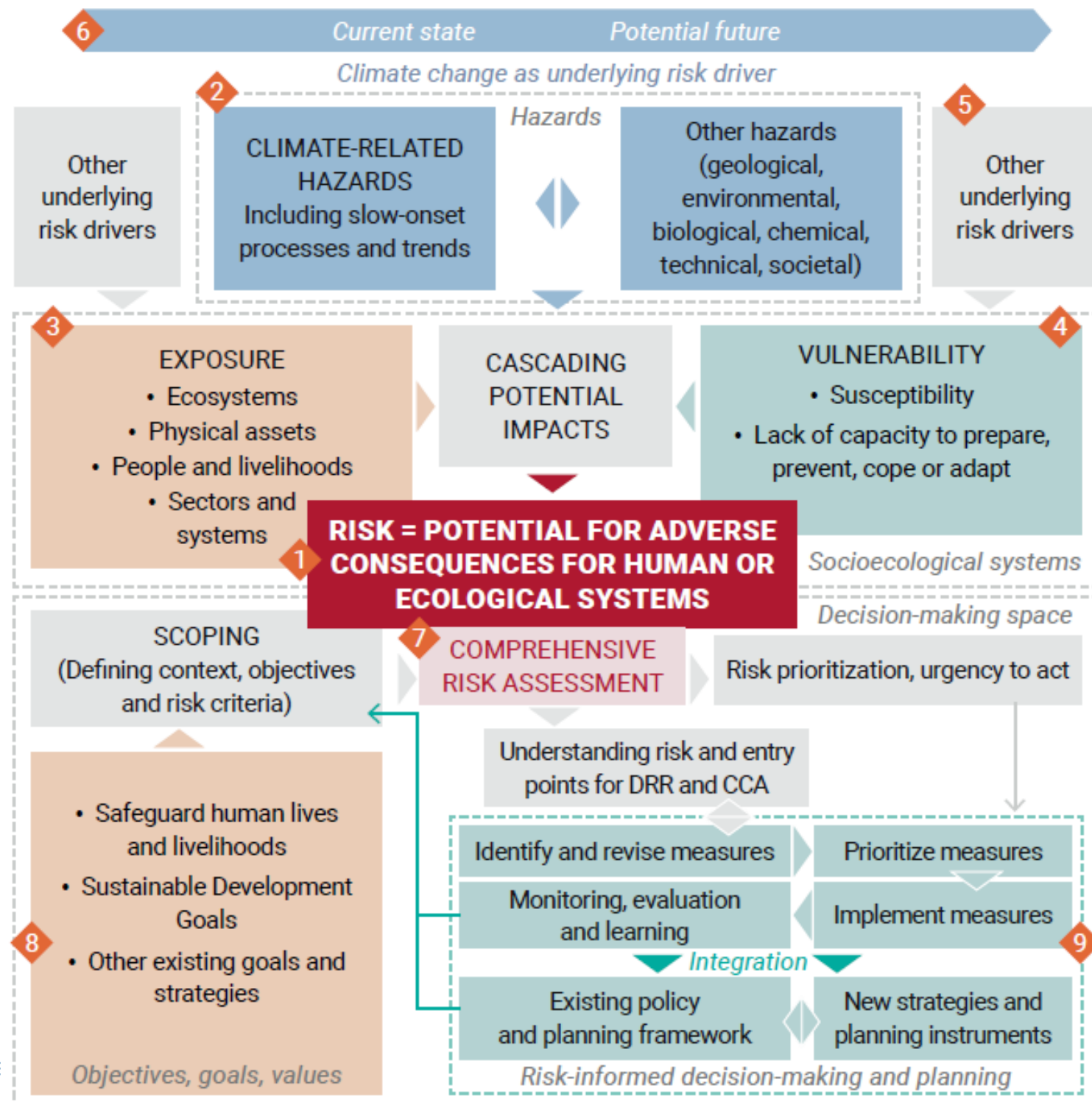
Integrating risks across sectors and levels

Strengthening risk communication, information & knowledge sources

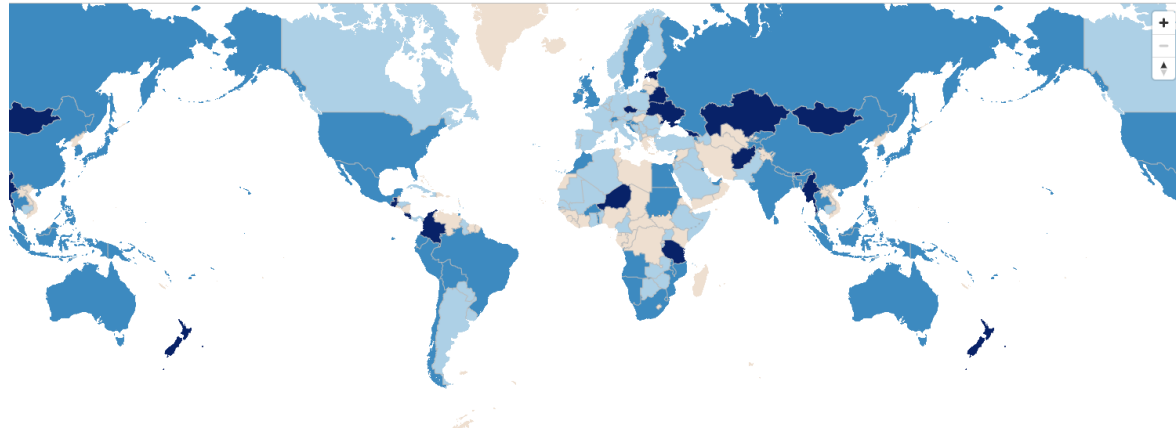
Using iterative and flexible processes

CRM Framework

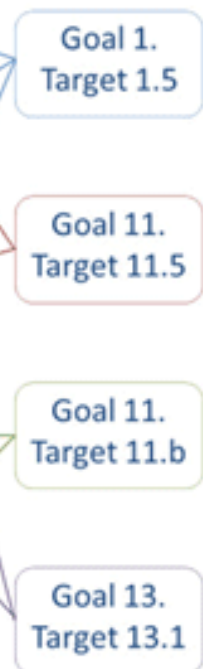
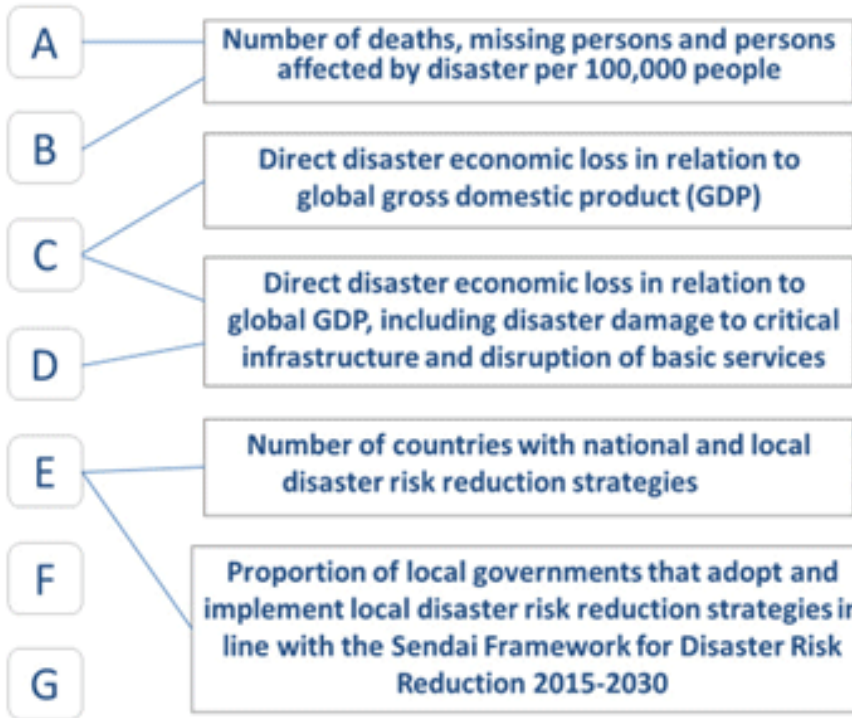
Comprehensive Risk Assessment and Planning in the Context of Climate Change



MEASURING IMPLEMENTATION OF THE SENDAI FRAMEWORK



Sendai Framework for Disaster Risk Reduction 2015-2030



Sendai Framework Monitor

Generating official statistics in **155 countries**
www.sendaimonitor.undrr.org

SFM Analytics SDG Reports



The Sustainable Development Goals Report 2021






SUSTAINABLE DEVELOPMENT GOALS

Enhanced Risk Understanding

Risk Information Exchange

- Multi-purpose, one-stop national risk information clearinghouse
- Aggregates open source risk datasets and information
- *Silo buster* to strengthen national risk data ecosystem
- Linked to UNDRR Hazard Definition and Taxonomy to encourage standardization and harmonization
- Draws on UN, government, global, regional, and third-party datasets (robust, curated, high quality, reliable)
- Designed as low-maintenance, low-cost platform sustained with modest technical requirements














RIX Spotlight¹: Climate Change and Disaster Risk

1. Indices

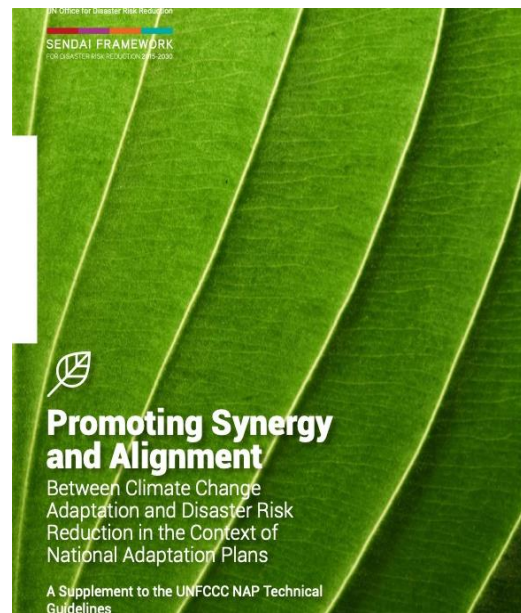
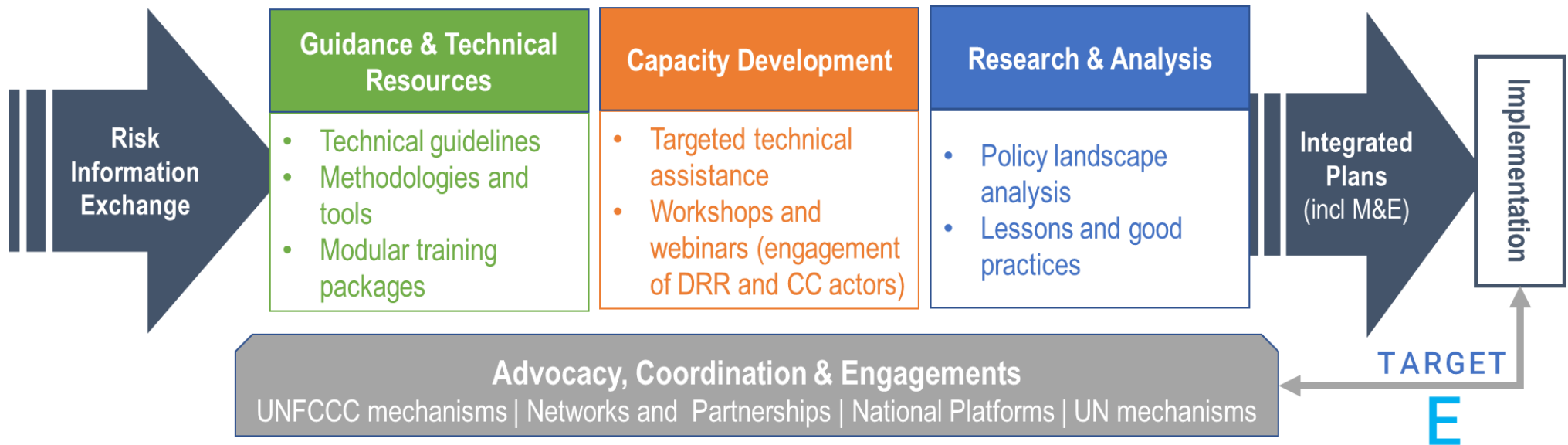
Country Aggregate Risk Rankings			
Human Development Index (HDI) ²	0.546 (rank: 157)	Multidimensional Poverty Index (MPI) ³	0.261 (50% poverty headcount)
Economic vulnerability index (EVI) ⁴	45.2	Gender Inequality Index (GRI) ⁵	0.634
INFORM Index ⁶	5.1 (high risk, rank: 41)	Population (2020), pop. density, % urban:	4.5 m; 2.9 people/km ² ; 30%
• Global Climate Risk Index (CRI) ⁷	58 out of 180 countries		

2. Climate-related Hazards⁸

Hazard Type & Specific Hazard		Current and Anticipated Risks & Longer-term Projections ⁹
Meteorological and Hydrological	 Coastal Flood (MH0004)	<ul style="list-style-type: none"> • Up to 25m crest (mainly affecting capital) • >35% of total pop. exposed to coastal flooding • Nouakchott vulnerable to coastal floods <p>Source¹⁰</p>
	 Flash Flood (MH0006)	<ul style="list-style-type: none"> • Medium risk • 90% emanating in the eastern shores between 1816-2006 <p>Source¹¹</p>
	 River Flooding (MH0007)	<ul style="list-style-type: none"> • life-threatening river floods are expected to occur at least once in the next 10 years • 42.86% average annual flood risk • flooding damaged infrastructure including bridges, river embankments, houses and water supply. <p>Source¹²</p>
	 Sand Storm (MH0015)	<ul style="list-style-type: none"> • storms can also be triggered and exacerbated by climate change, drought, land degradation and unsustainable management of land and water resources <p>Source¹³</p>
	 Ocean Acidification (MH0021)	<ul style="list-style-type: none"> • Calcification rates may decrease by up to 60% with a doubling of atmospheric CO₂ concentrations by end of 21st century, affecting Mauritania's fish stocks.
	 Sea Water Intrusion (MH0023)	<ul style="list-style-type: none"> • Sea level rise by 10 cm projected by 2030, 19 cm by 2050, and 36 cm by 2080, threatening Mauritania's coastal communities and causing saline intrusion in coastal waterways and groundwater reservoirs
	 Storm Surge (MH0027)	<ul style="list-style-type: none"> • heavy precipitation events are expected to become more intense
	 Drought (MH0035)	<ul style="list-style-type: none"> • Projections point to an increase in crop land exposure to drought. Yields of maize are projected to decline, while yields of millet and sorghum are projected to benefit from CO₂ fertilisation. • Precipitation trends are highly uncertain with projections ranging from a slight increase to an annual precipitation decrease of up to 11 mm by 2080. Future dry and wet periods are likely to become more extreme. <p>Source¹⁴</p>
	 Heat Wave (MH0047)	<ul style="list-style-type: none"> • Population affected by one heatwave/year projected to rise from 6% in 2000 to 35% in 2080. • 18 more very hot days/year in 2030 projected than in 2000, 27 more in 2050, 49 more in 2080. • heat-related mortality is estimated to increase by a factor of three by 2080. • temperature in Mauritania is projected to rise by between 2.0 and 4.5 °C by 2080, compared to pre-industrial levels, with higher temperatures and more temperature extremes projected for the south and west of Mauritania <p>Source¹⁵</p>

- Collection point for risk information tailored to national user needs & priorities
- Promotes evidence-based & risk-informed planning, tailored to multiple use-cases and users:
 - **Use-cases:** national plans (incl. DRM Strategies & Resilience Strategies); sector plans; NAPs; CCAs; HCT planning; roadmap to strengthen nat'l risk data ecosystem
 - **End-users:** NDMAs, sector ministries (transportation, health, industry, finance); bilateral & multilateral development partners; NGOs/INGOs, Humanitarian Country Teams, etc.
- Multi-purpose infographic generator
- Companion training / capacity building modules on risk data & analysis

An integrated planning approach



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www.undrr.org/crm

