



World Meteorological Organization

Weather • Climate • Water

# Severe weather monitoring and Disaster Risk Reduction

WMO activities and commitments made for the implementation of the  
Sendai Framework for DRR 2015-2030

Alasdair Hainsworth (C/DRR)  
Disaster Risk Reduction Services Division (DRR)  
Weather and DRR Services Department (WDS)

# Observations requirement

Goes without saying: NMHS must have the fundamental underlying observations if we are going to provide **EFFECTIVE** MHEWS for severe/high impact weather.

Not dictating how, but system must contain **comprehensive** data to allow complete analysis and ongoing monitoring of the environment.

Cannot provide a warning system if we can't observe the hazard and we cannot improve what we don't measure.

To cope with amount of data generated, expert systems are increasingly important component.

Not only to monitor, but provide first guess solutions for expert analysis and in most cases, transmission. Some exceptions to this, e.g. tsunami warnings

But what is "Comprehensive data"? – Along came Sendai....



# The Sendai Framework for DRR 2015-2030

- Emphasis is on **prevention** of **new risks** in the course of development.
  - Calls for **coherence** in policies and programmes across **sustainable development, environment** and **climate** to ensure the reduction of disaster risk.
  - Calls for **international cooperation mechanisms and practices** to mobilize funding, especially for developing countries.
  - Strong call to ensure the integration of disaster risk reduction in the **sustainable development strategy** of the UN.
- *The Framework tasks UN system entities and other international organizations to support countries within their respective mandates through the UN Plan of Action on DRR for Resilience, UN Development Assistance Framework, the International Health Regulations (2005), and other frameworks*



# Notable innovations of the Sendai Framework

- A shift from **disaster** management to **disaster risk** management
- Recognition of the importance of well-functioning **health systems**
- A strong call for strengthening the use of **science and technology** in policy-making
- An articulation of the **governance for disaster risk**
- Focus on the recovery, rehabilitation and **reconstruction** phase, which needs to be prepared ahead of disaster (“**Build Back Better**”)
- **Scope** that encompasses disaster risks which were not sufficiently discussed or explicitly mentioned previously, e.g. biohazards, slow-onset disasters
- A set of **guiding principles**.
- A dedicated section on the **role of stakeholders**
- A strong call for the mobilization of **investment**
- Strengthened Global Platform, regional platforms & national platforms



# Sendai Framework provisions especially relevant to WMO

- Call of States to **enhance and strengthen MHEWS** (par 14, 25), **develop and invest in regional multi-hazard early warning mechanisms** (par 34-c), and **achieve the global target for MHEWS** (par 18-g).
- Calls for **support to strengthen and implement global mechanisms on hydrometeorological issues**, in order to raise awareness and improve understanding of **water-related disaster risks** (par 43-e)
- Importance of **international cooperation for DRR** (par 39), and **requests enhanced coordination of DRR strategies of UN and international and regional organizations** and institutions (par 48-a).
- Maintaining and strengthening **in situ and remotely sensed Earth and climate observations**; promoting the collection, analysis, management, and use of relevant data and practical information and ensure its **dissemination and accessibility**, taking into account the **needs of different categories of users**;



# Monitoring progress – targets and indicators

- **Expected outcome** of the Sendai Framework: → substantial reduction of disaster risk and losses of lives, livelihood, health and assets
- **Goal:** → Prevent new and reduce existing risk and thus strengthen resilience
- **7 global targets:** → g) Substantially increase the availability of and access to MHEWS and disaster risk information and assessments to the people by 2030

## How to monitor?

- Progress with the WMO DRR Roadmap (milestones met, extent expected benefits have been realized, etc.) and the Work Plans for the WMO DRR Programme → input to WMO Operating Plan (incl. KPIs for each programme)

## Utilizing and contributing to:

- Sendai Framework Monitor (national targets and indicators)
- Revised UN Plan of Action on DRR for Resilience (incl. Indicators)



# Conclusions of WCDRR for WMO

- Prominence of **MHEWS & hydrometeorological issues in the Sendai Framework**;
- Unprecedented **involvement of PRs and NMHS representatives in a World Conference on DRR** as members of national and major group delegations and invited experts;
- Elaboration of the **concepts of MHEWS and impact-based forecasts and risk-informed warning services** in the WCDRR Sessions;
- Articulation of the linkages and importance of **synergies among DRR, CCA, and SDGs also through MHEWS**;
- Proposed development of a multi-stakeholder approach to international cooperation and collaboration on MHEWS through **IN-MHEWS**;
- **Enhanced visibility of WMO among DRR stakeholders**;
- Resonance of **WMO Key Messages** and **Statement** for WCDRR;



# WMO contributions and participation in the Multi-Stakeholder Segment (Working Sessions)

- **Early Warning**

→ Commitment to International Cooperation: International Network on Multi-Hazard Early Warning Systems IN-MHEWS (suggested with expressed support from delegates of China, France, Germany, and India)

- **Integrated Water Resource Management**

→ Highlighted examples for effective partnerships: APFM and IDMP

- **Applying Science & Technology to DRR Decision-Making**

→ commitments and international partnership to mobilize science for action on DRR and resilience building with the support of the UNISDR Scientific and Technical Advisory Group (STAG)

- **Earth Observations & High Technology to Reduce Risks**

→ Suggested framework initiative: Earth observations in support of national strategies for disaster-risk management (GEO, CEOS, UNESCAP, UNISDR, UNITAR-UNOSAT, UNOOSA-UN-SPIDER)

- **Others:**

→ Food Security, Disaster-Resilient Agriculture & Nutrition, Disaster and Climate Risk, Underlying Risk Factors, Standards for DRR





# Observation Requirement for DRR

- **Observations** that deal with risks and hazards – not necessarily natural hazards
- Increasing emphasis on **health**
- Strong requirement for Governments to **measure** progress on Sendai → May require measurements of elements we haven't recorded before
- Databases that are **interoperable** to allow easy cross referencing
- Cg17, Resolution 9: “The World Meteorological Congress, ... **Decides** to standardize the weather, water, climate space weather and other related environmental hazard and risk information and develop identifiers for cataloguing weather, water and climate extreme events;...”



# THANKS!

Alasdair Hainsworth  
C/DRR  
WMO

