

# 12th Meeting of the EC Capacity Development Panel

## Country Capacity Assessments: Tools and Resources

16-17 February 2026



WORLD  
METEOROLOGICAL  
ORGANIZATION

# Country Hydromet Diagnostics (CHDs)

- State of development of NMS
- A standardized methodology
- Using a peer review approach
- In-situ visits
- Public reports to foster information uptake and evidence-based project design



Weather  
and climate  
data for  
resilience



## COUNTRY HYDROMET DIAGNOSTICS

Informing policy and investment decisions  
for high-quality weather forecasts, early warning  
systems, and climate information  
in developing countries



2022 Update  
24 January 2022

### Acknowledgement

The prototype of the Country Hydromet Diagnostics (CHD) was developed in 2020 as a priority action of the Alliance for Hydromet Development and under WMO leadership and with guidance from a multi-party Working Group. The 2022 update reflects lessons learned and feedback from the CHD road-testing with 16 countries that took place in 2021, further consultations with Working Group members, WMO Secretariat staff and members of the Alliance for Hydromet Development. Grateful thanks are extended to all of those involved in the original process and in the preparation of this update.

# CHD: Methodology

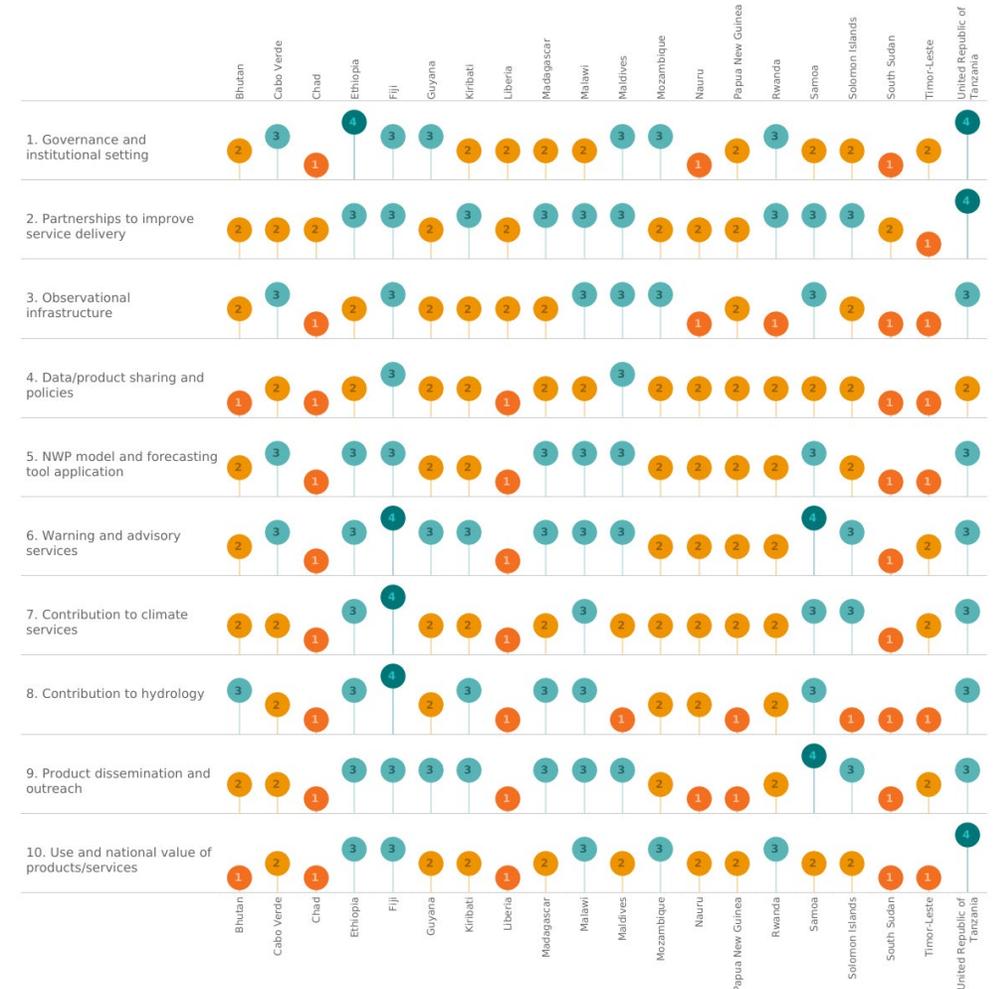
- **Standardized**, structured methodology assessing defined indicators and capacity aspects of NMSs

- **10 elements along the meteorological value chain:**

1. Governance and institutional setting
2. Effective partnerships to improve service delivery
3. Observational infrastructure
4. Data and product sharing
5. NWP model and forecasting tool application
6. Warning and advisory services
7. Contribution to climate services
8. Contribution to hydrology
9. Product dissemination and outreach
10. Use and value of products and services

- **A maturity score assigned for each element**

→ from 1 (less mature) to 5 (most mature)



Weather and climate data for resilience

# CHD: Country Reports

56 CHDs completed and published

- Mostly LDCs and SIDS

[Access reports](#)



Weather and climate data for resilience

## Africa



Cabo Verde

PEER REVIEWER:  
Royal Netherlands Meteorological Institute (KNMI)



Chad

PEER REVIEWER:  
GeoSphere Austria



Comoros

PEER REVIEWER:  
General Directorate of Meteorology, Morocco



Democratic Republic of the Congo

PEER REVIEWER:  
MeteoSwiss, Switzerland



Ethiopia

PEER REVIEWER:  
Norwegian Meteorological Institute & Finnish Meteorological Institute



Guinea-Bissau

PEER REVIEWER:  
Portuguese Institute for Sea and Atmosphere (IPMA)



Liberia

PEER REVIEWER:  
Nigerian Meteorological Agency



Madagascar

PEER REVIEWER:  
Deutscher Wetterdienst, Germany



Malawi

PEER REVIEWER:  
Norwegian Meteorological Institute & Icelandic Meteorological Office



Mozambique

PEER REVIEWER:  
South African Weather Service



Niger

PEER REVIEWER:  
Nigerian Meteorological Agency (NiMet)



Rwanda

PEER REVIEWER:  
Finnish Meteorological Institute



São Tomé and Príncipe

PEER REVIEWER:  
Royal Netherlands Meteorological Institute (KNMI)



Senegal

PEER REVIEWER:  
Royal Netherlands Meteorological Institute (KNMI)



South Sudan

PEER REVIEWER:  
GeoSphere Austria



Tanzania

PEER REVIEWER:  
Danish Meteorological Institute



Uganda

PEER REVIEWER:  
Royal Netherlands Meteorological Institute (KNMI)



Zambia

PEER REVIEWER:  
Met Office, United Kingdom of Great Britain and Northern Ireland

## Asia



Bangladesh

PEER REVIEWER:  
Norwegian Meteorological Institute & China Meteorological Administration



Bhutan

PEER REVIEWER:  
Finnish Meteorological Institute



Cambodia

PEER REVIEWER:  
Met Office, United Kingdom of Great Britain and Northern Ireland



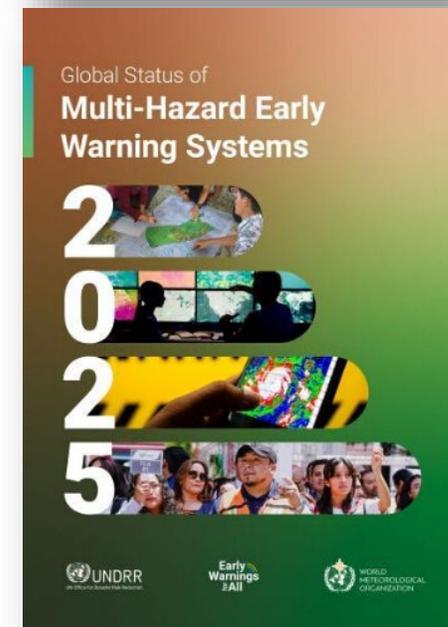
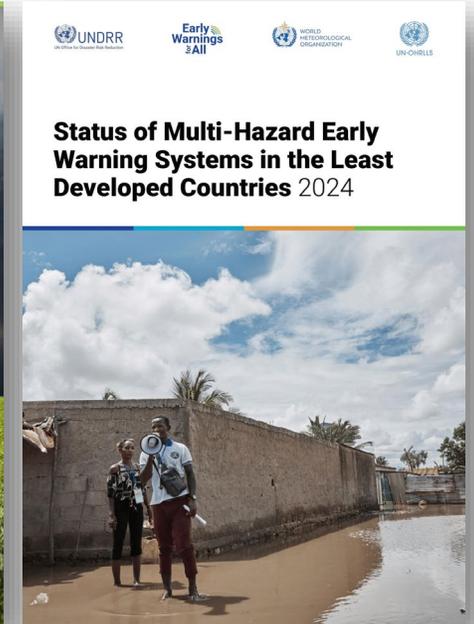
Maldives

# CHD: Analytical Reports

- [Hydromet Gap Report 2024](#) released based on the analysis of the 20 reports first completed between 2023 and early 2024.
- **Data, findings, and recommendations mainstreamed** in major publications:
  - [Global Status of MHEWS reports](#) (2023-to date)
  - [Status of MHEWS in LDCs](#) (2024)
  - [State and Trends in Adaptation Report 2025: Small Island Developing States](#)



Weather and climate data for resilience



# CHD: Successes & Challenges

- ✓ First-ever compendium of **public, comprehensive, and comparable assessments of NMSs**
- ✓ CHD data and findings are supporting the **transformation of the narrative about NMSs and how to best support them**
- × **Underused for project** planning and implementation beyond SOFF
- × **Time-bound accuracy**, which is quickly running out
- × Peer-advisor and onsite-visit implementation model provide the best data quality, but is **costly, long and complex to implement regularly at a larger scale** (e.g. middle-income countries)

# EW4All Pillar 2 Rapid Assessments: global view

## Hazard monitoring and forecasting capacity

This page presents an overview of country capacity for hydrometeorological hazard monitoring and forecasting, based on detailed data submitted to WMO by their National Meteorological and Hydrological Services as part of the EW4All Pillar 2 Rapid Assessment. All underlying data is available in the [Country/territory page](#) of this report.



Overall capacity level ● Less than basic ● Basic ● Medium ● Full ● Advanced



### Capacity level distribution

Use the buttons below to show the number of countries at each capacity level in the selected classification



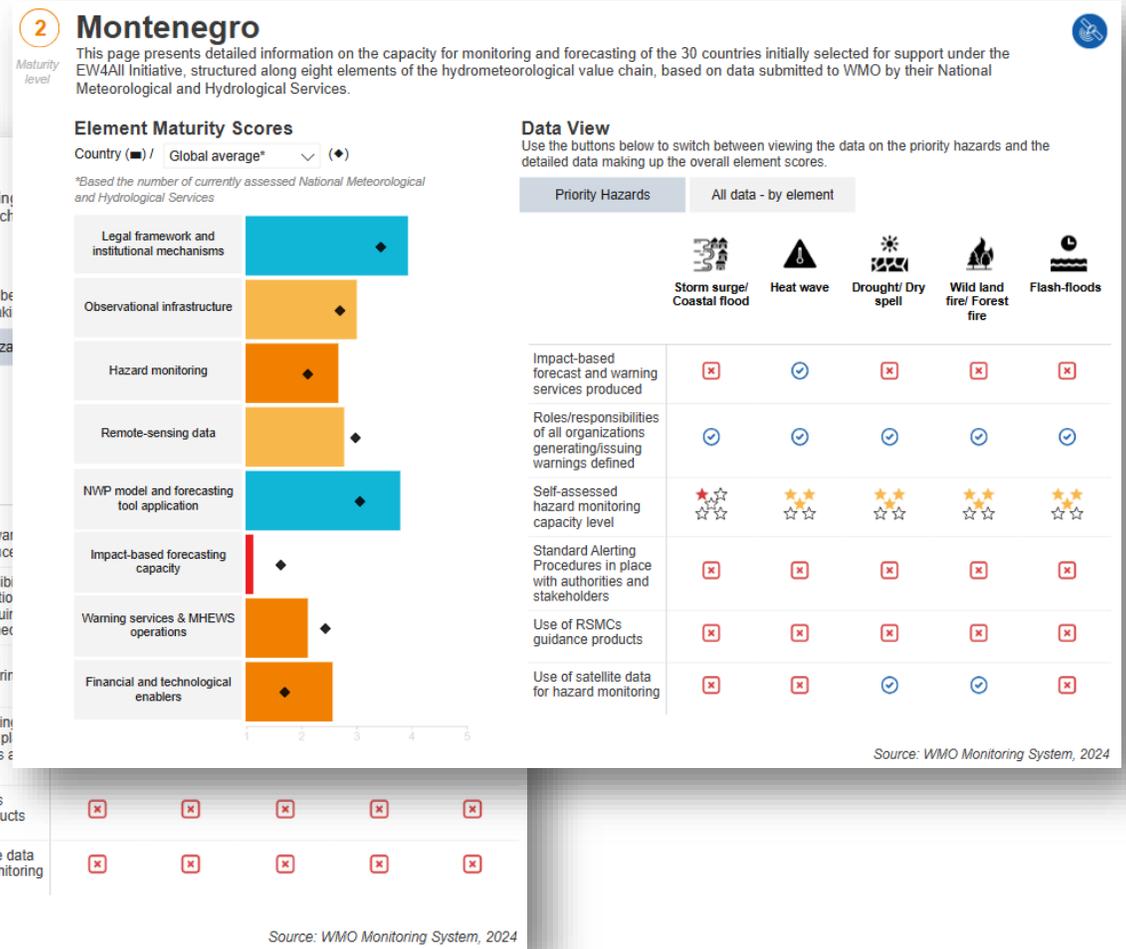
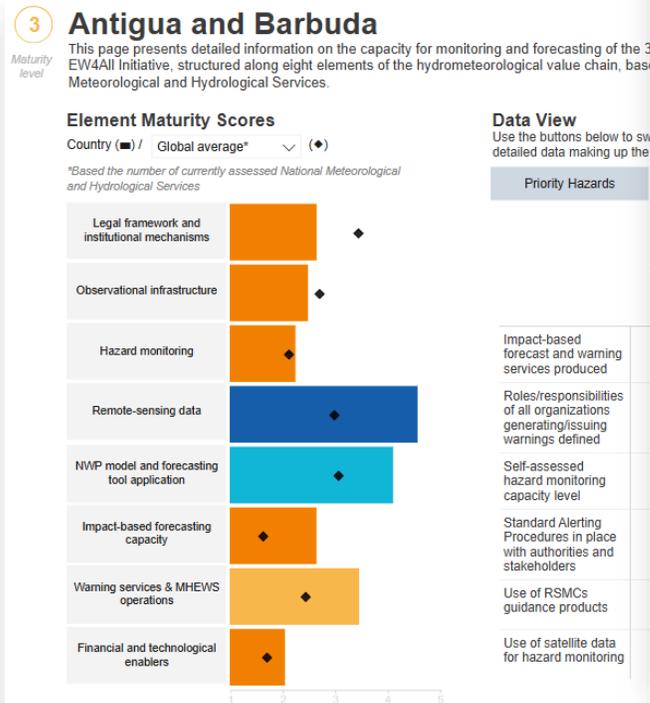
The designations employed in this website are in conformity with United Nations practice. The presentation of material therein does not imply the expression of any opinion whatsoever on the part of WMO concerning the legal status of any country, area or territory or of its authorities, or concerning the delimitation of its borders. The depiction and use of boundaries, geographic names and related data shown on maps and included in lists, tables, documents, and databases on this website are not warranted to be error free nor do they necessarily imply official endorsement or acceptance by the WMO.

Source: WMO Monitoring System, 2025

- Thematic zoom-in (EWS)
- State of hazard monitoring and forecasting capacity
- Based on CHD methodology
- WMO-led, with peer advisors' contribution
- Structured interviews
- Gradually validated through CHDs
- Maturity score across 8 elements

# EW4All Pillar 2 Rapid Assessments: country view

- ✓ 65 scorecards published on the [EW4All Dashboard](#) (see MHEWS Country Capacity)
- ✓ LDCs, SIDS and middle-income countries



# Country Snapshots: all EW4All Pillars

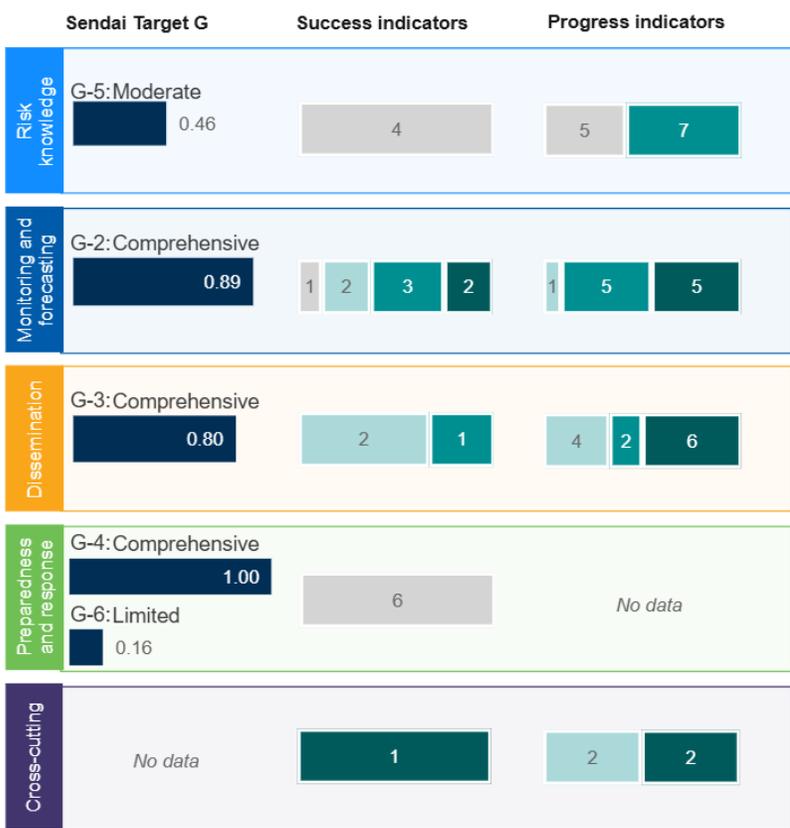
## Fiji

COUNTRY INFORMATION		HYDROMETEOROLOGICAL HAZARDS	
SIDS	Upper middle income	Most frequent	Tropical cyclone
		Highest mortality	Tropical cyclone

- Overview
- Monitoring and forecasting capacity
- Capacity and development projects

This page presents information on the progress made by countries in reaching key milestones towards the development of comprehensive MHEWS capacity.

PILLAR: All | ACHIEVEMENT STATUS: All



### KEY PROGRESS INDICATORS

2	User feedback mechanisms established to validate warnings	Yes
2	Countries supported to close meteorological observation gaps (SOFF)*	Yes
2	Coverage of SWFP Centres providing advisories and guidance for severe weather	Yes
2	Coverage of TCP Centres providing advisories and guidance for tropical cyclones	Yes
2	Coverage of FFGS Centres providing advisories and guidance for flash-floods	Yes
3	EW4All Pillar 3 capacity gap assessment	Yes
3	Legislative/regulatory assessment for mobile EWS	Yes
3	National Emergency Telecommunications Plan	Yes

### KEY SUCCESS INDICATORS

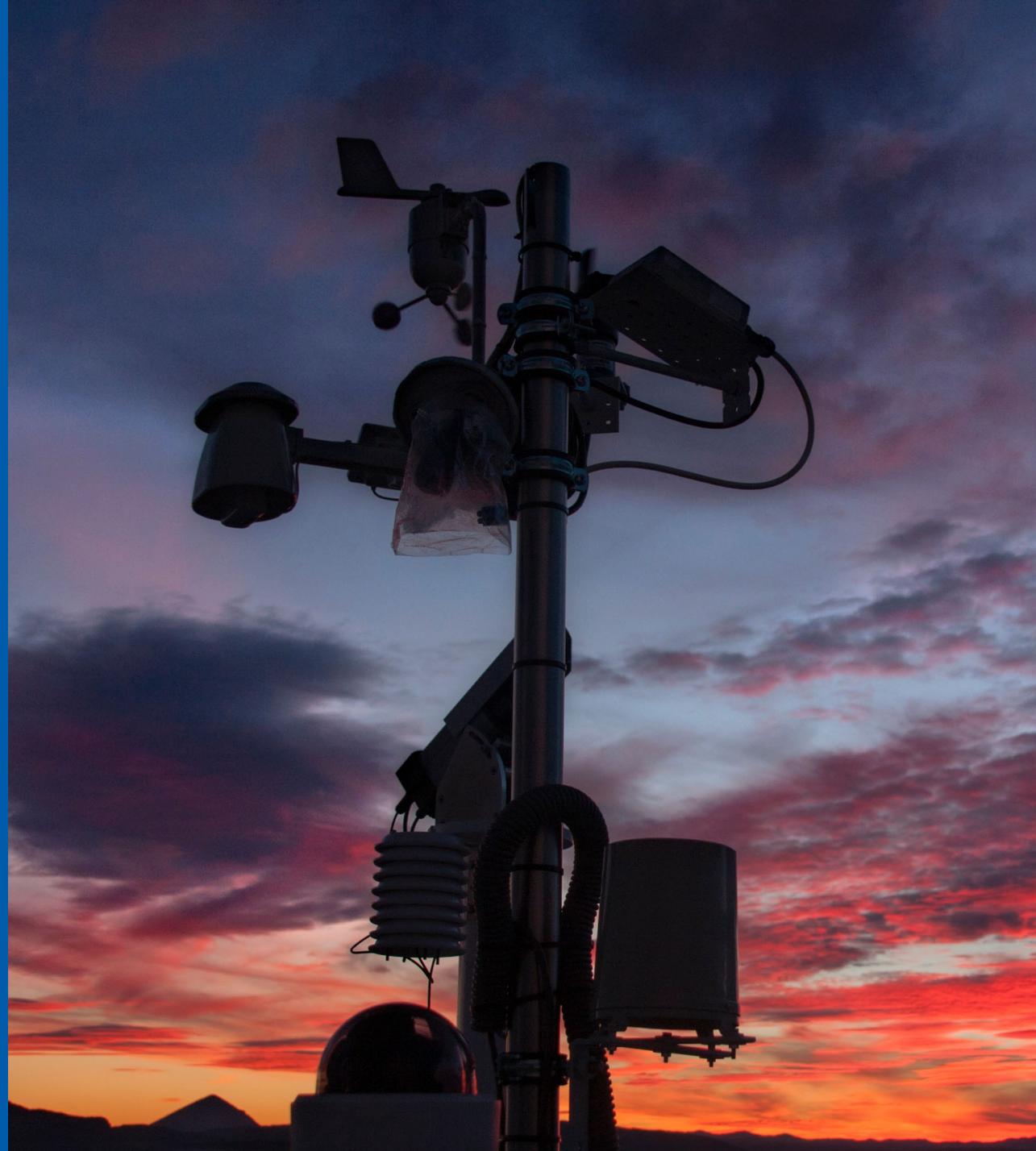
2	Standard Alerting Procedures in place with authorities and stakeholders	Yes
2	Warning services conducted 24/7	Yes
x	Responsibilities of all organizations involved in MHEWS defined/mandated	Yes
2	Use of satellite data for hazard monitoring	In progress
2	Sufficient trained forecasters to provide early warning services	In progress
2	Impact-based forecast and warnings produced	In progress
3	Common Alerting Protocol (CAP) adopted by National Meteorological and Hydrological Services (NMHSs)	Development/Test Mode
2	Exchanging data through WIS 2.0	No
2	Global Basic Observing Network (GBON) compliance	No

- Bring together monitoring and project data
- Capacity vs investment

Legend: No data, No / Less than Basic, In progress / Emerging, Yes / Mature

# Early Warnings for All in Focus: *Hazard Monitoring and Forecasting*

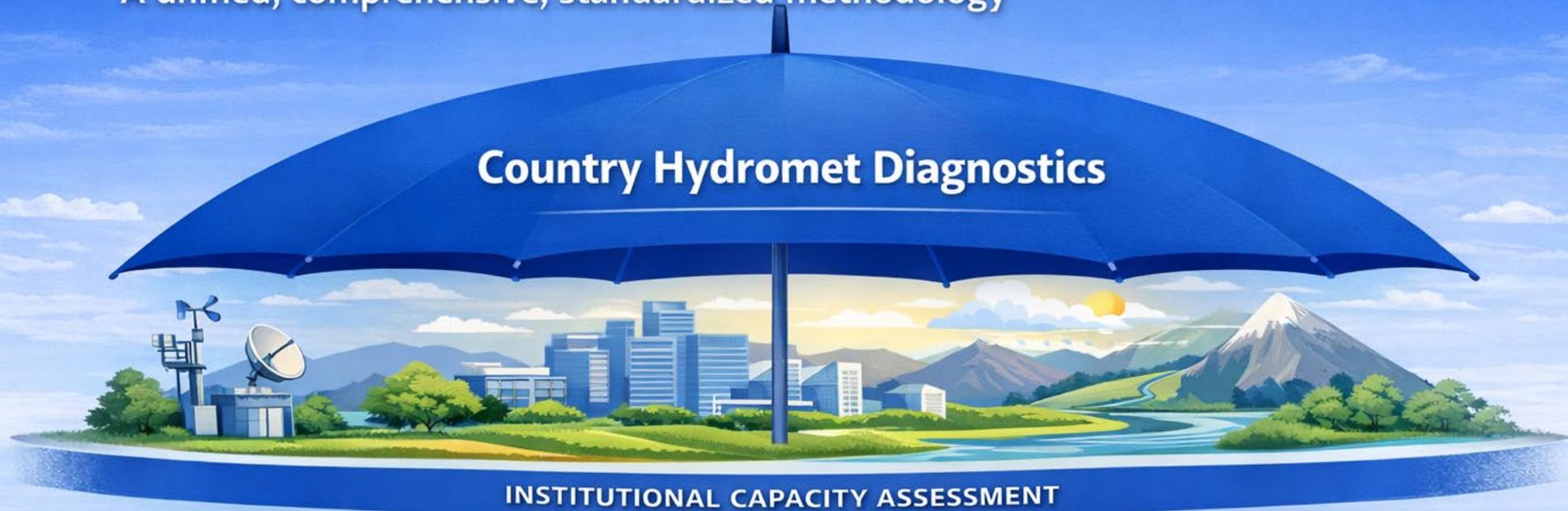
Scan to read the report



# Country Capacity Assessments

A unified, comprehensive, standardized methodology

## Country Hydromet Diagnostics



INSTITUTIONAL CAPACITY ASSESSMENT

Zoom-In Tools for Specific Areas



**GBON**  
Gap Analysis



**Early Warning**  
Services



**Climate**  
Services



**Hydrology**

Tailored Modules for Targeted Assessments

CHD + EWS, CHD + Hydro, CHD + Climate, etc.

The  
Way  
Forward

# Thank you

For more information:

Planning, Foresight and Performance Office

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