



Leadership and Management Program for Senior Management in National Meteorological and Hydrological Services

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Republic of Maldives

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The Maldives



Maldives is a small island developing state, located in the Indian Ocean.

It consists of about 1200 small islands, with an average elevation of 1 meter above MSL.

More than 99% of Maldives area is sea.

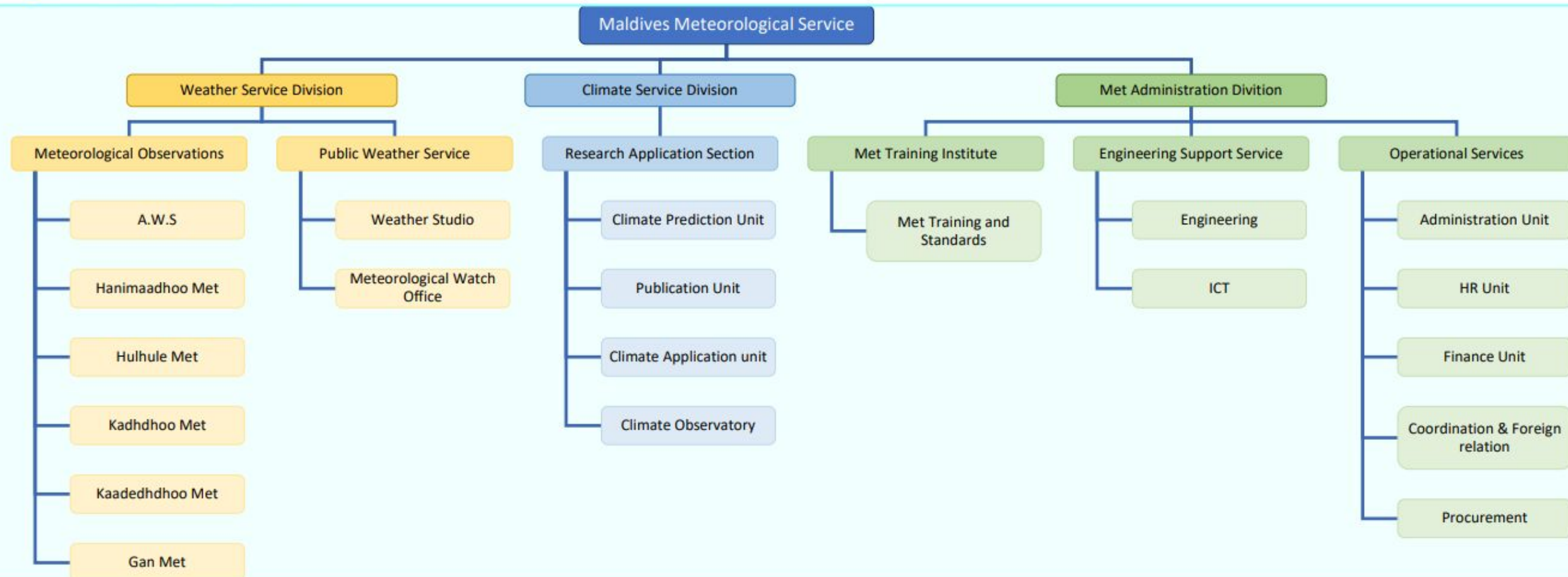
We are in the most disaster-prone region in the world. Current rate of sea-level rise is an existential threat to most of the island nations and low lying coastal communities of the region.

Global warming and climate change is expected to further increase its magnitude and frequency hence will exaggerate its impact on the communities and human settlements.

To add on to it, Rapid economic growth and population expansion over the coming decades, along with the impacts of climate change, will increase the exposure and vulnerability of the region to disasters.



Organisation Chart



Vision

Provide accurate, timely and reliable meteorological information to minimize the impact on life and property while supporting sustainable socio-economic development of the Maldives

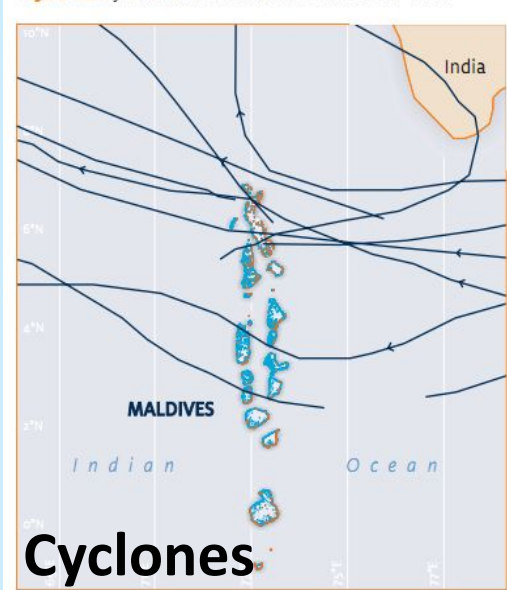
Mission

- ❖ Timely dissemination of alerts and advisories on all natural disasters.
- ❖ Expansion and maintenance of weather observation net-work in accordance with international standards and best practices with well trained professionals.
- ❖ Enable easy access of high quality historical meteorological data to the user community for Sustainable National Socio-Economic Development.
- ❖ Develop meteorological services and capacity building for the national requirement, and contribute to regional and international community. Timely dissemination of alerts and advisories on all natural disasters.

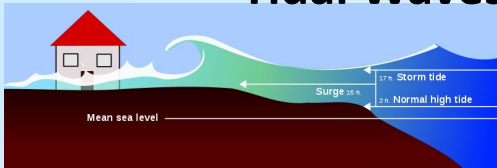
Core Values

- ❖ Integrity, Trust and Honesty,
- ❖ Discipline,
- ❖ Competence,
- ❖ Customer focused, Dedication and Timeliness,
- ❖ Adherence to Scientific principles and professionalism.

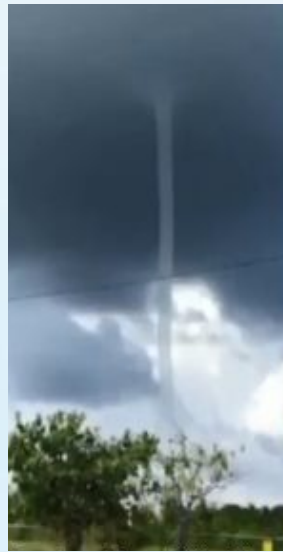
Weather Hazards



Swell & Tidal Waves



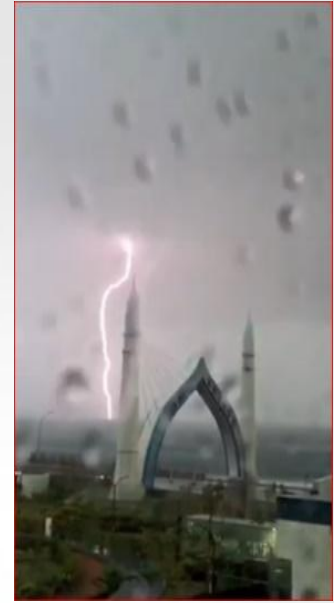
Flood



Tornado / Water Spout



thunderstorms



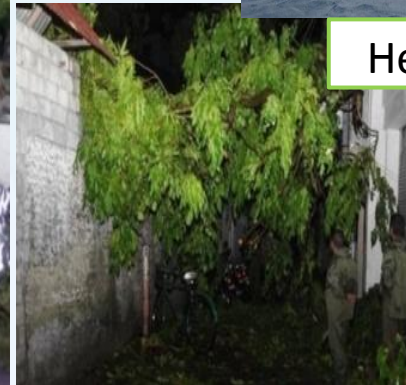
Strong winds & Rough Seas



Drought (prolonged dry period)



Heavy Rain and Flood

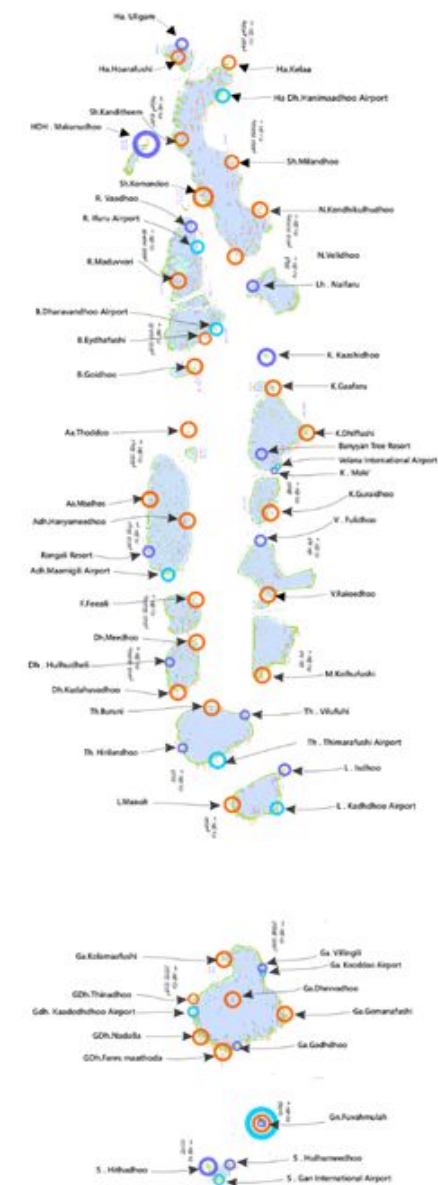


Source: sun.mv (18/10/2016)

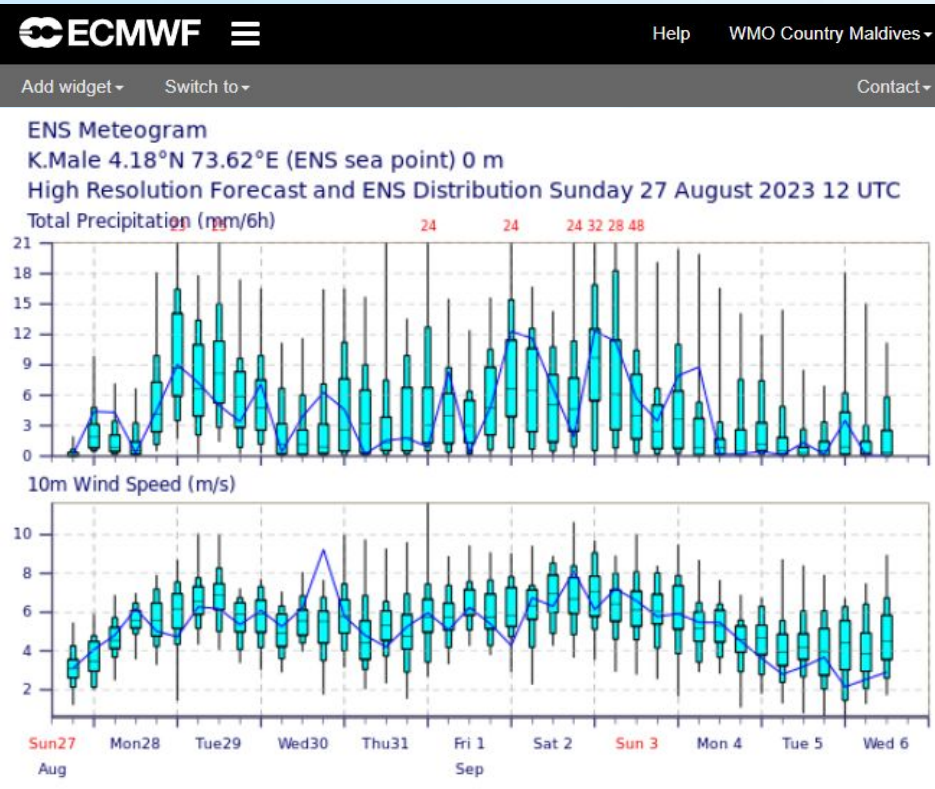
Weather Observation & Data Collection

Observation Network

- 5 Meteorological Observatories
- 43 Automatic Weather Station (25 Operational)
- 1 Radio Sonde (upper air) observation, Daily
- 1 Doppler Weather Radar
- 3 Tide gauges
- 1 Weather studio
- 1 Satellite picture receiving system (CMACast system).

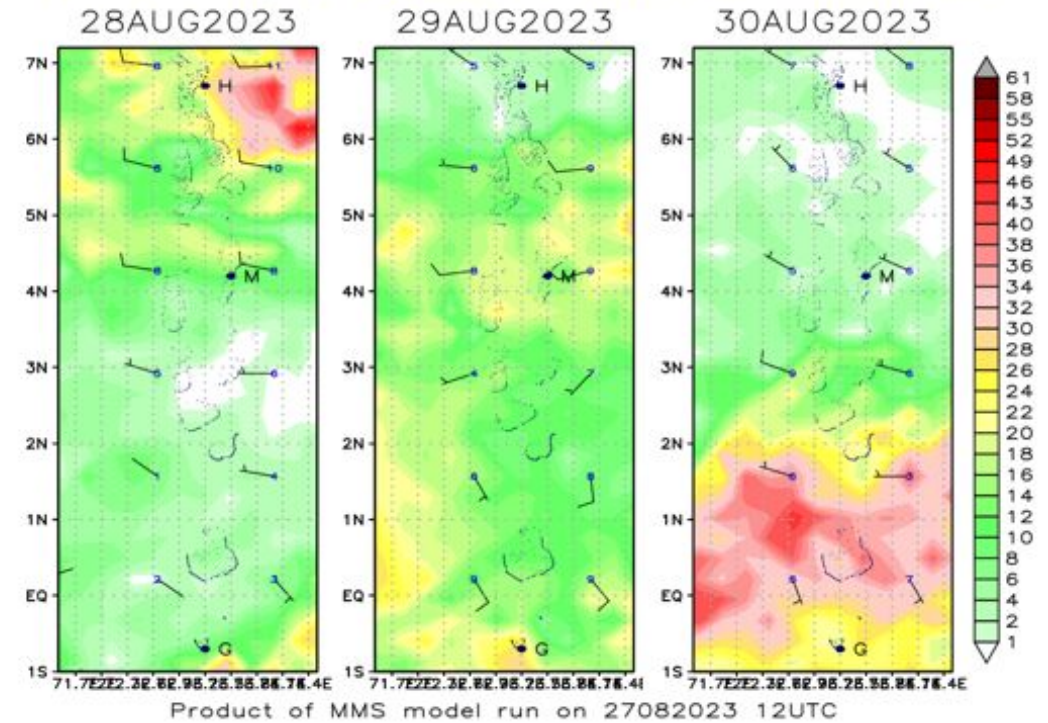


Weather Forecast Products



MMS NWP Model

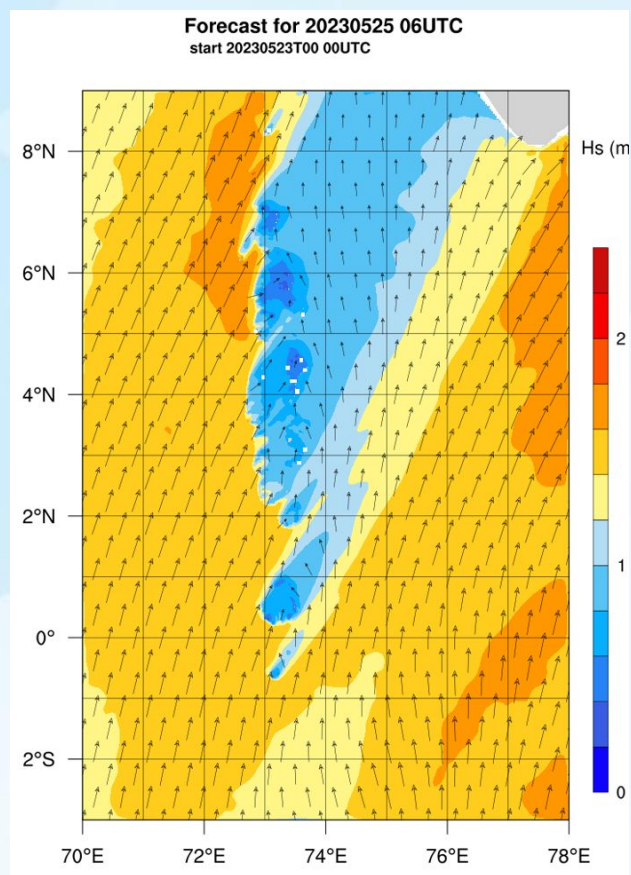
Forecast Daily (00–23Z) Rainfall in millimeters





Weather Forecast Products/ Achievement

Development of a WAVE Forecasting system for the Maldivian archipelago (WAVE4M)



QMS - ISO 9001:2015

Seasonal Forecasting – Since 2022

Rainwater Harvesting Notification

Wave Forecasting NWP model – since 2021

Weather Studio Upgrade

Drafting Meteorological Act (not approved yet)

Enhanced AWS observation network

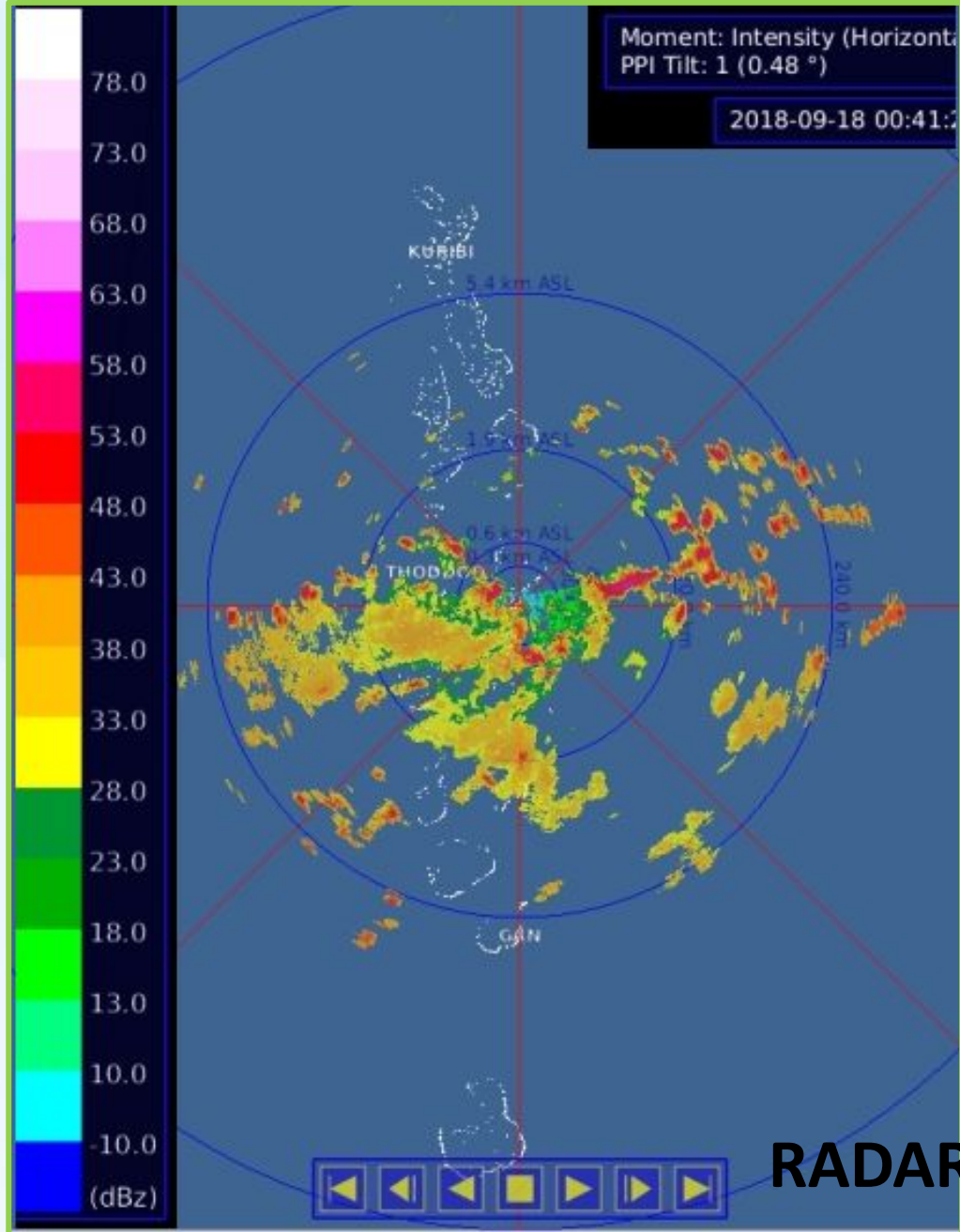
CAMPBELL SCIENTIFIC
WHEN MEASUREMENTS MATTER

COROBOR systems — The Heart of Your MET

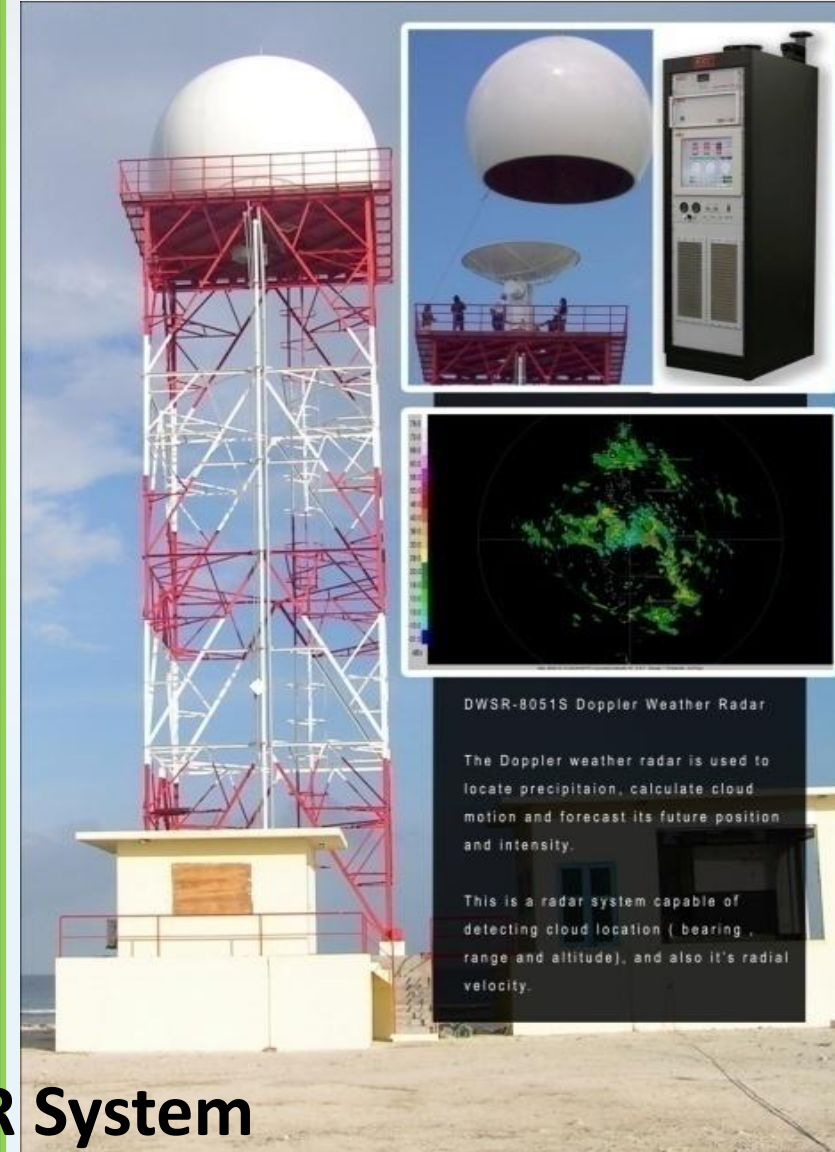
MESSIR-NEO/NeoDPS
Implementation of an Integrated Meteorological and Climatological Information and Decision Support System at the Maldives Meteorological Service

17 - 21 July 2022 – System Administrators and Operators at MMS HQ - Male- Maldives

Gaps & Maintenance issues



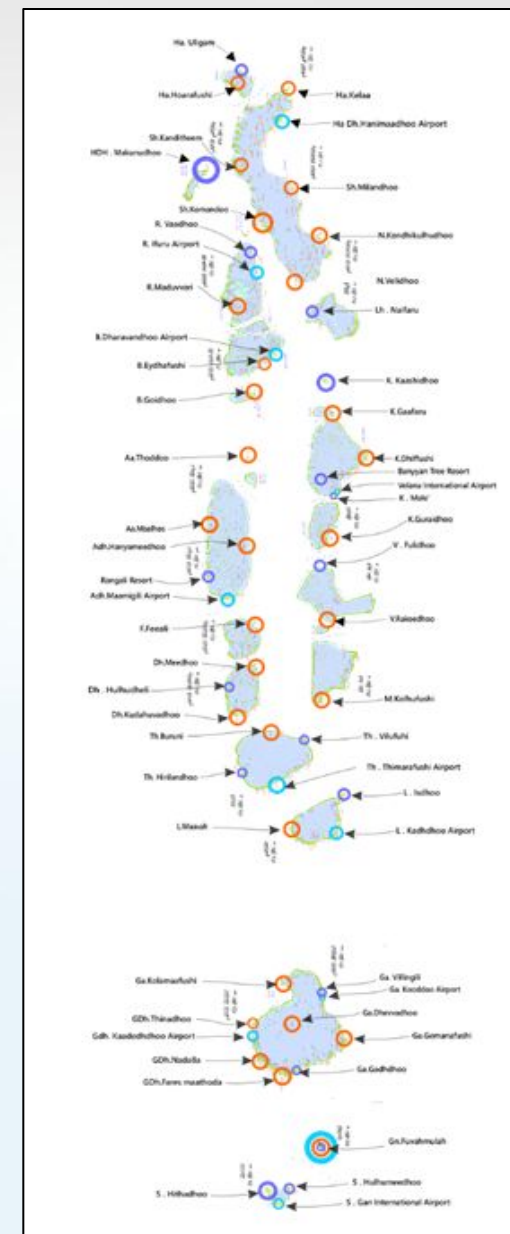
RADAR tower



Gaps & Maintenance issues



Automatic Weather Stations





HR development and training

In-house training – WMO-IV, for meteorological technicians

Short-term training program to upgrade/refresh existing staff

BIP-MT , BIP-M

Instrument maintenance and calibration

NWP , RADAR application and data assimilation

Impact Based Forecasting (IBF)

Early Waning Dissemination & Communication

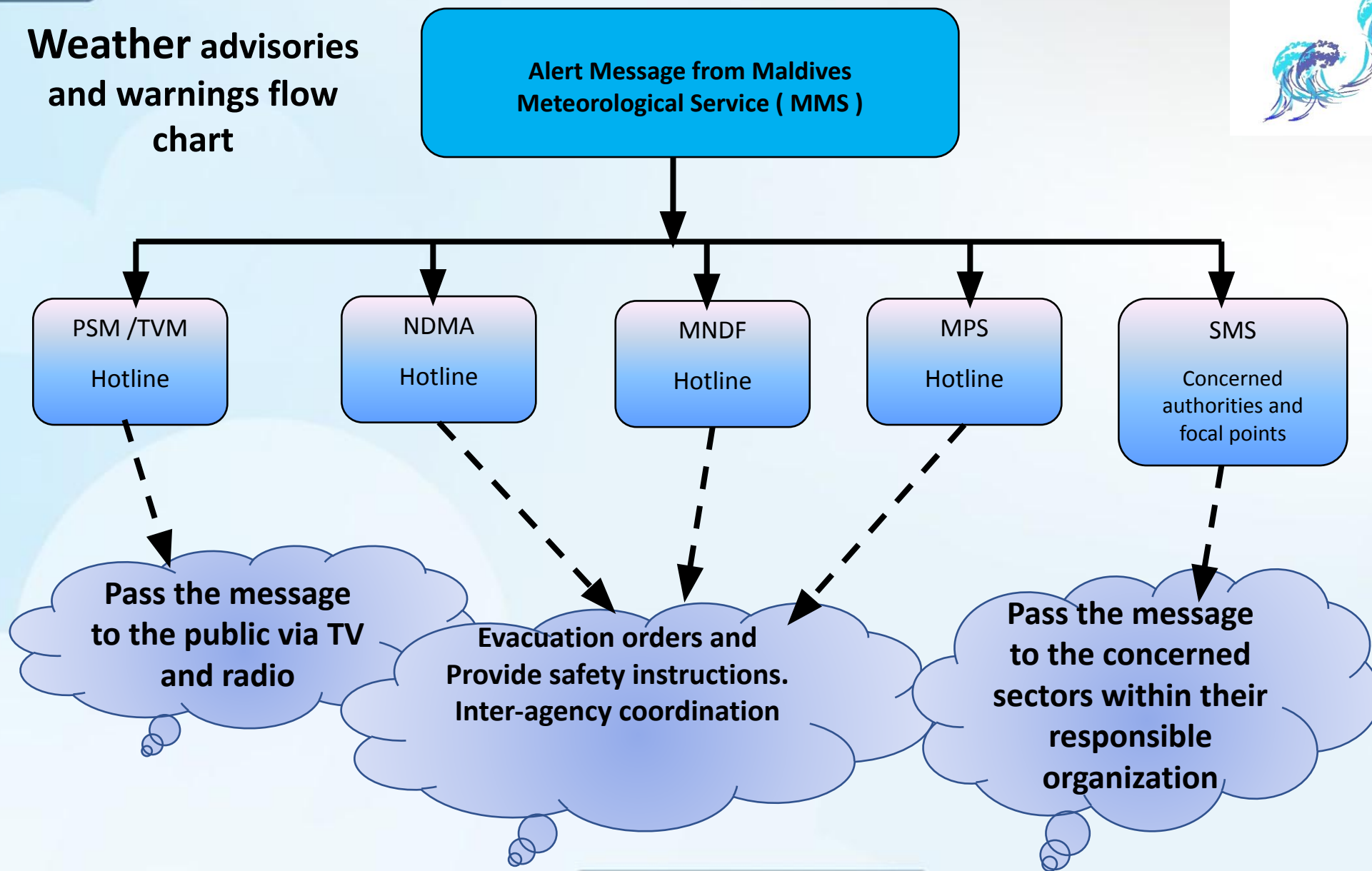
Early Warning Communication

Hazard	CAP categories of Severity			
	Minor (Alert level 1, WHITE)	Moderate (Alert level 2, YELLOW)	Severe (Alert level 3, ORANGE)	Extreme (Alert level 4, RED)
Heavy Rain and Flood	50 mm in 1hrs or 80 mm in 6 hours	70 mm in 1hrs or 100 mm in 6 hours	90 mm in 1hrs or 120 mm in 6 hours	180 mm in 6 hours
Thunderstorms	Significant TS reported and evidence from satellite/Radar/LDN.	Moderate TS observed or evidence from satellite/Radar/LDN.	Severe TS observed or evidence from satellite/Radar/LDN.	-
Wind and Seas	19-24 mph(past 3 hrs) or 22 – 27 mph(past 1hr), or forecast to meet this condition	25-30 mph(past 3 hrs) or 28 – 35 mph(past 1hr),), or forecast to meet this condition	34-40 mph(past 3 hrs) or 36 – 42 mph(past 1hr),), or forecast to meet this condition	>40 mph(past 3 hrs) or >42 mph(past 1hr),), or forecast to meet this condition
Squalls (frequent Gust)	50 mph	55 mph	63 mph	70 mph
Swell & Tidal Waves (observed or forecast)	Observed or forecast (minor impact)	Observed or forecast (affect at least 5 islands)	Observed or forecast (affect at least 10 islands)	Observed or forecast (extreme impact based)
Tropical Cyclone	RSMC declare TC center in the box within lat’ S5-N12, lon’ E66-E81	TC track towards Maldives and expect to cross Maldives atolls in next 24hr	TC track towards Maldives and expect to cross Maldives atolls in next 12hr	TC track towards Maldives and expect to cross Maldives atolls in next 6hr
Earthquake (occurred)	Magnitude >6 within 400km of Maldives EEZ. Or mag>7 in Indian Ocean within 4000km of Maldives EEZ.	Magnitude >7 within 400km of Maldives EEZ. Or mag>8 in Indian Ocean within 4000km of Maldives EEZ.	Magnitude > 8 within 400km of Maldives EEZ. Or mag>9 in Indian Ocean within 4000km of Maldives EEZ.	Magnitude >9 within 400km of Maldives EEZ.
Tsunami	Magnitude >8 in Indian Ocean within 4000km of Maldives EEZ. Or confirmation of Indian ocean wide Tsunami of low impact to Maldives.	Magnitude>9 in Indian Ocean within 4000km of Maldives EEZ. Or confirmation of Indian ocean wide Tsunami of moderate impact to Maldives.	Confirmation of Indian ocean wide Tsunami of high impact to Maldives.	Confirmation of Indian ocean wide Tsunami of extreme impact to Maldives.

Early warning message dissemination Mechanism



Weather advisories and warnings flow chart





Early warning message dissemination Medium

Community **Viber** group with **35,000+** members



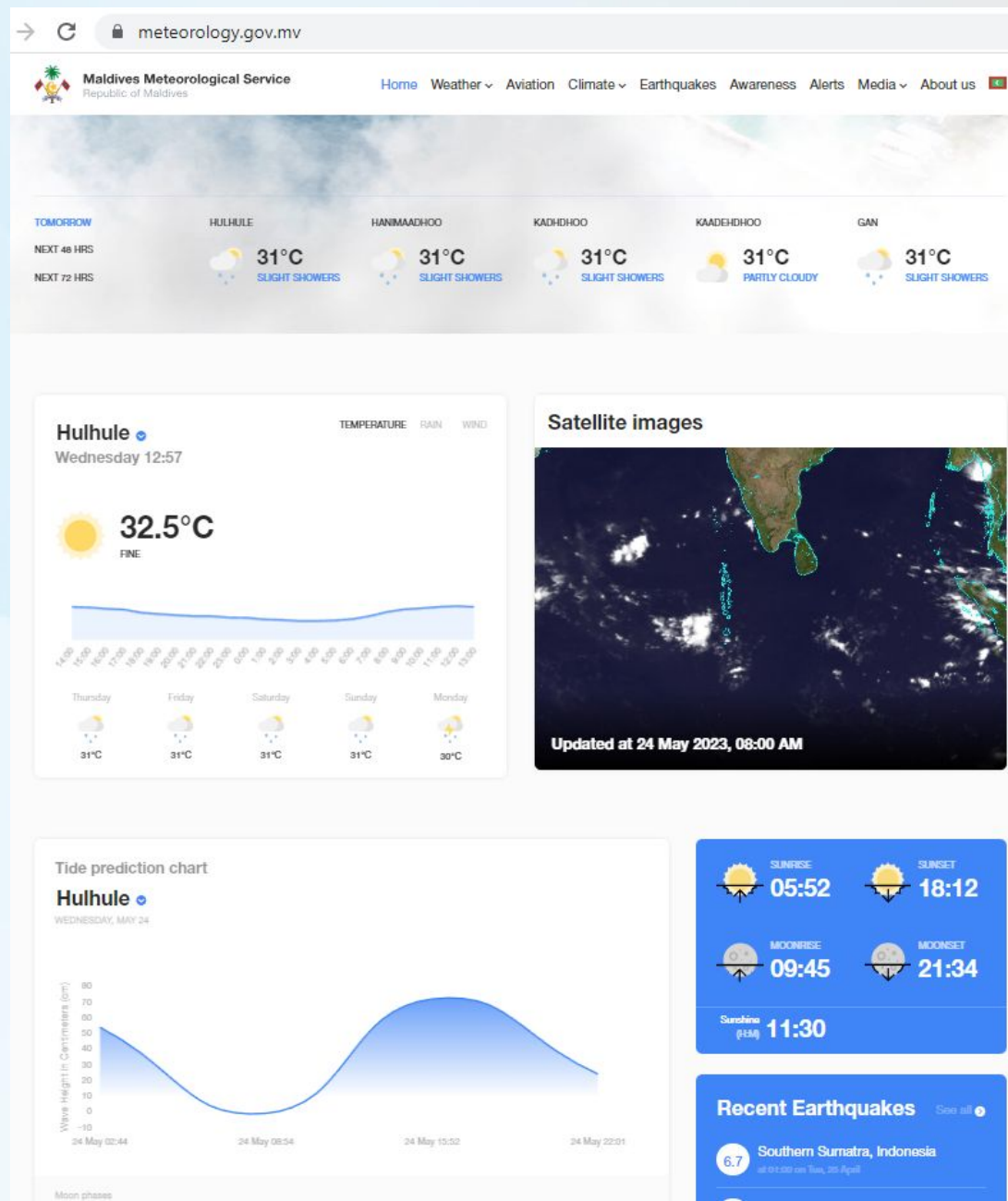
@MetMaldives
24,000+ followers



@MetMaldives
44,000+ followers



Early warning message dissemination Medium





Awareness and Outreach



8TH NATIONAL MONSOON FORUM

10 MAY 2023

LAAMU FONADHOO, MALDIVES

Min. of Environment, Climate Change and T... @MoE... · May 11
Maldives Meteorological Service conducted its 8th National Monsoon Forum on the 10th of May, 2023 at L.Fonadhoo, supported by @RIMES_news and @UNESCAP.



Min. of Environment, Climate Change and T... @MoE... · May 11
The forum was participated by 45 participants, including @NDMAMv and L. Atoll island councils, atoll-based government offices (L. Atoll), SOEs, NGOs and individuals representing Agriculture and Fisheries sector as well.

Min. of Environment, Climate Change and T... @MoE... · May 11
The forum was inaugurated by the President of Laamu Atoll Council Mr. Ismai Ali @laamuatollcouncil.



Maldives
Meteorological
Service

Thank You