SOUTH ASIA HYDROMET FORUM

RIMES

WISER Weather and Climate Information Services

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Met Office

REGIONAL WORKSHOP ON IMPACT-BASED FORECASTING:

Training-of-Trainers and National Demonstration Planning for Temperature-Related Hazards

SAHF IBF Working Group Implementation Plan Project

09-13 February 2026

Kathmandu, Nepal

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Training-of-Trainers and National Demonstration Planning for Temperature-Related Hazards

NATIONAL DEMONSTRATION PLAN
MALDIVES

Azeema Ahmed

Meteorologist,

Maldives Meteorological Service

1. National Demonstration Plan Overview

A1. Proponent Information	**Lead:** Maldives Meteorological Service **Sector Co-Lead:** Health Protection Agency (HPA), Ministry of Agriculture and Animal Welfare (MAAW), State Electric Company, Ministry of Education **Other implementing partners:** Maldives National University(MNU), National Disaster Management Authority (NDMA), Maldives Red Crescent, Local Government Authority and Male' City Council,
A2. Focal Contacts	**NMHS Lead Focal (overall):** Name: Ahmed Rasheed Title: Director Meteorology Email: ahmed.rasheed@met.gov.mv Mobile: +960 7768565 (WhatsApp) **Sector Co-Lead**: TBD
A3. Demonstration Project Title	Inclusive Heat Risks mitigation over Male', Maldives
A4. Geographic Scope	Greater Male' area (Capital City, densely populated
A5. Seasonal Focus	✓ Heat o Cold o Both
A6. Duration of Demonstration	Start – End **Heat-focused demos:** Mar- May 2026 (implementation); Sep-Nov 2026 (review)

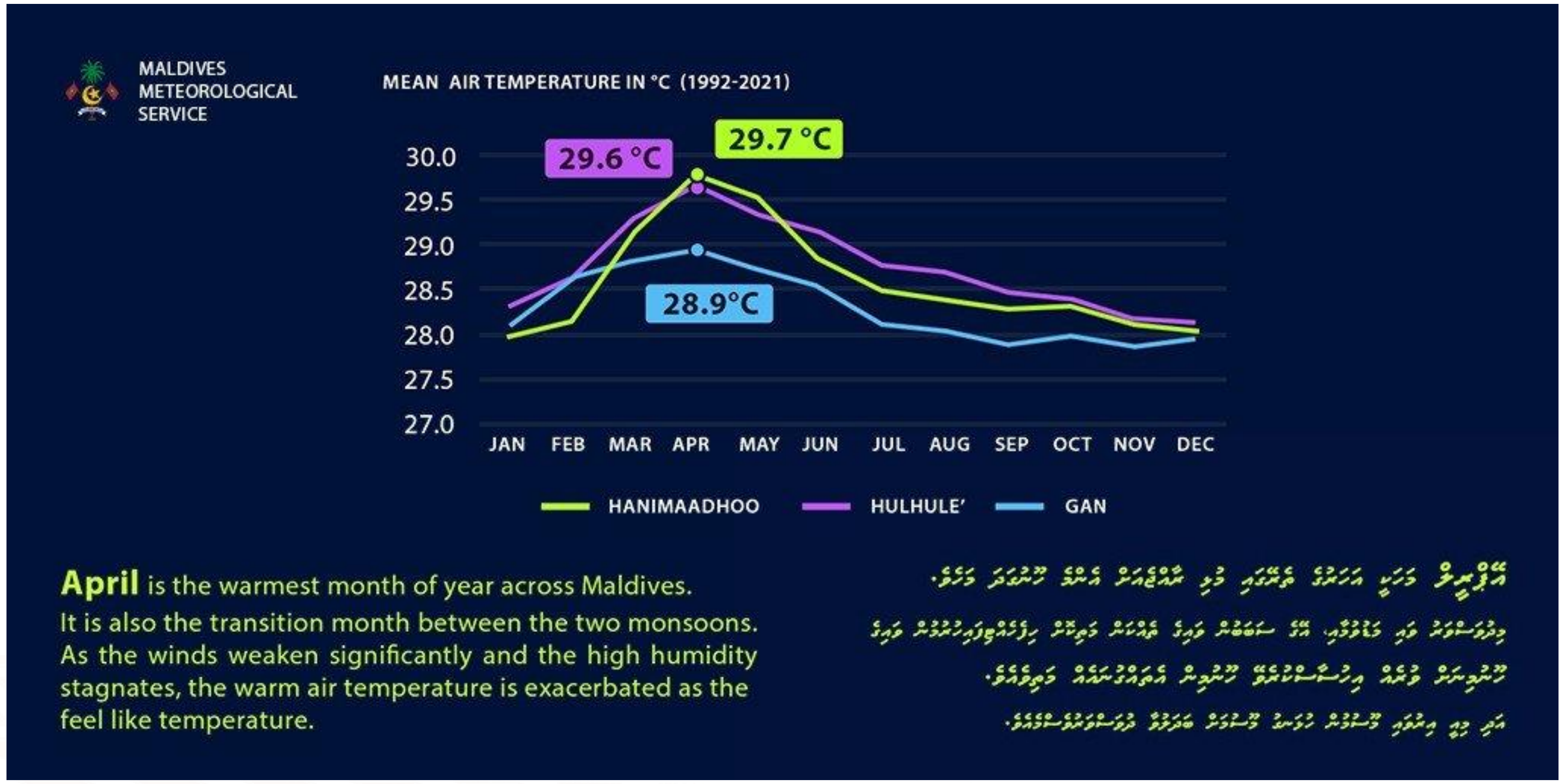
2. Temperature Risk Context & intended outcomes

According to Health National Adaptation Plan (HNAP), mean temperature in the central region increases 0.267°C /decade. Currently, there has been no assessment done in the Maldives to identify extreme heat and related illnesses and deaths.

The warmest period begins in March and extends until the onset of monsoon in mid-May, and the pre-monsoon rainfall activity, the timings of the onset (late onset or weak monsoon) can modulate the severity of heat.

Therefore, it is crucial to provide high temperature information to the public.

Seasonal and monthly temperature outlook in probability categories and lack of synthesis reduces their usefulness for operational planning and decision-making.



Social media post issued by MMS during high temperature period.

2. Temperature Risk Context and Intended Outcomes

- Public exposed to extreme heat are at risk of heat stress, which may result in heat stroke, heat exhaustion, heat cramps or heat rashes. Such groups include:

  Outdoor workers (construction, electricians, bike riders)

  School children, particularly in double-session schools

  Elderly and infants

  Poorly ventilated residences

  People with chronic illness

  Increase Electricity consumption

  Reduce the efficiency of air conditioning units with higher outdoor temperatures

  Increase water usage and rising water bills

Suggestion: Refer to Sections B1 (Problem Statement) and B2 (Objectives & Intended Outcomes) of the Concept Document.

2. Temperature Risk Context and Intended Outcomes

- Main gap in addressing temperature-related hazards is the absence of a Standard Operating Procedure (SOP) for issuing advisories and warnings.
- MMS needs to establish defined criteria based on thresholds to declare heat conditions and considerations for issuing heat advisories.
- Defining temperature thresholds that can cause harm to lives and livelihoods.
- Forecasting the likelihood of crossing thresholds
- Developing modifiable factors related to exposure (both ambient and individual) and vulnerability
- Issuing a warning, based on risk assessments and support developing preventive measures for different levels of stakeholders
- Development of simplified and inclusive messages that can be communicated in multiple languages
- High-resolution temperature models
- Model evaluation and verification
- Heat-related model products

3. Stakeholders, Roles, and Coordination Approach

Conducting a coordination meeting, incorporating best practices for knowledge sharing and focal point selection to minimize temperature hazards.

Stakeholder agencies include:

- Health Protection Agency
- Ministry of Education
- Ministry of Agriculture and Animal Welfare
- State Electric Company
- Maldives National University
- National Disaster Management Authority
- Maldives Red Crescent
- Local Government Authority
- Male' City Counci_{Document.}

Phases	Activities	Lead	Support
Before the target season	• Analyse historical temperature data for 30 years (1996-2025), identifying trends and extremes • Plot temperature hazard maps. • Calculate temperature thresholds • Finalise indices (Heat Index, Humidex, WBGT) to be applied in advisories. • Develop impact tables with 4 categories (Very Low, Low, Medium and High) • Identify community vulnerabilities and exposure levels • Conduct media briefing	MMS	All sectors
During the target season (SASCOF/MONSOON FORUM)	Monitor heat conditions using https://instant-sa.rimes.int/heatindex/ portal and other models, and update them to sector focal points. Issue advisories/warnings if required, based on severity, certainty, and urgency. Conduct media briefing	MMS	All sectors
After the target season	Conduct public perception survey Calculate the exposure score and vulnerability score Conduct a public awareness program Meet stakeholders for review, refine thresholds and formats Media briefing	MMS	All sectors

3. Existing SOP and MoUs

- MMS apply its Standard Operating Procedure (SOP) for advisories and warnings.
- MMS has a MoU with Maldivian Red Crescent to strengthen partnerships and build community preparedness, awareness and resilience regarding the early warning system, disaster management and climate change impacts.

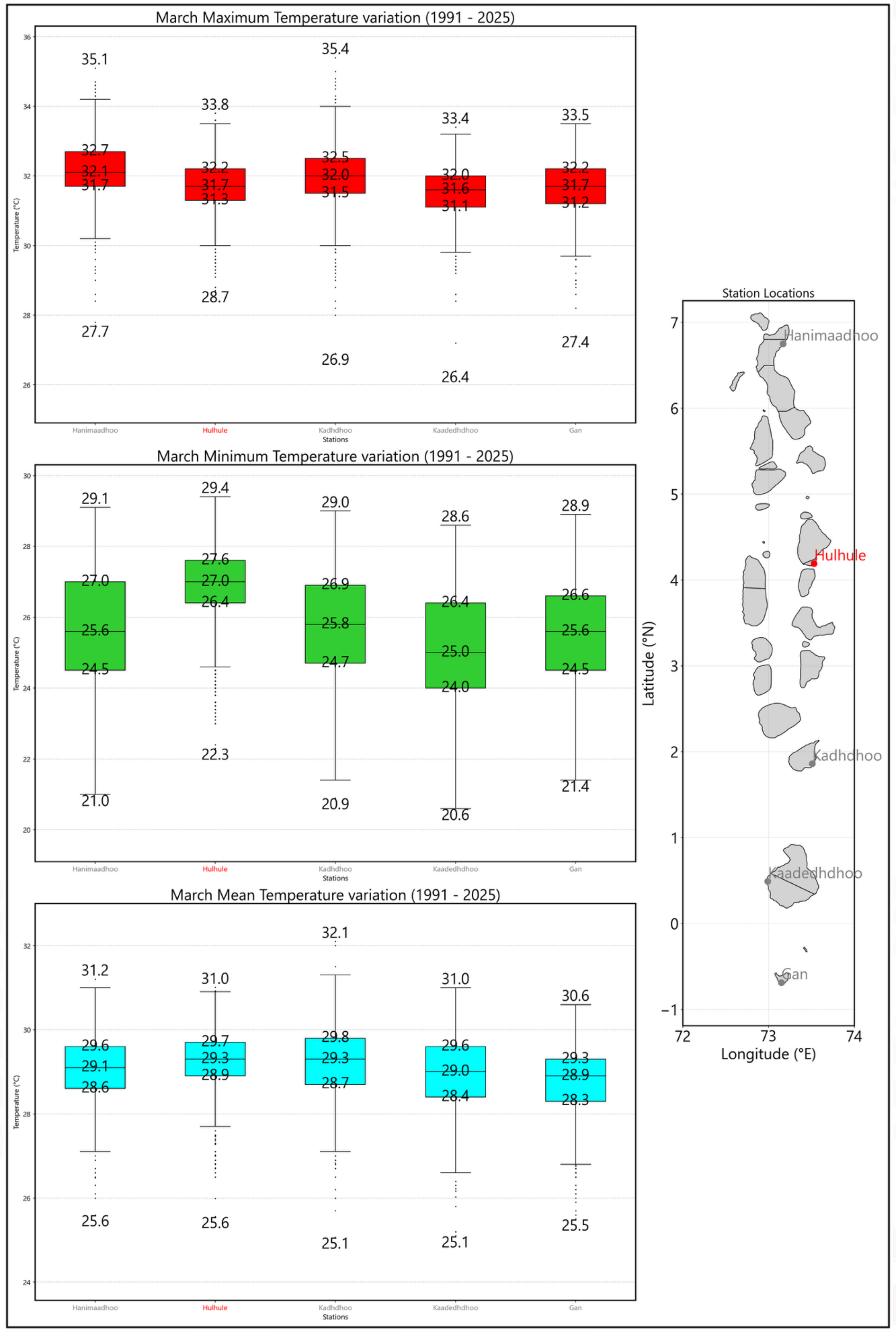
Through this MoU, MRC volunteers will be involved in community-based weather monitoring and early warning activities, along with trainings to be carried out by MRC on climate action, disaster preparedness and response for the Maldives Meteorological Service.

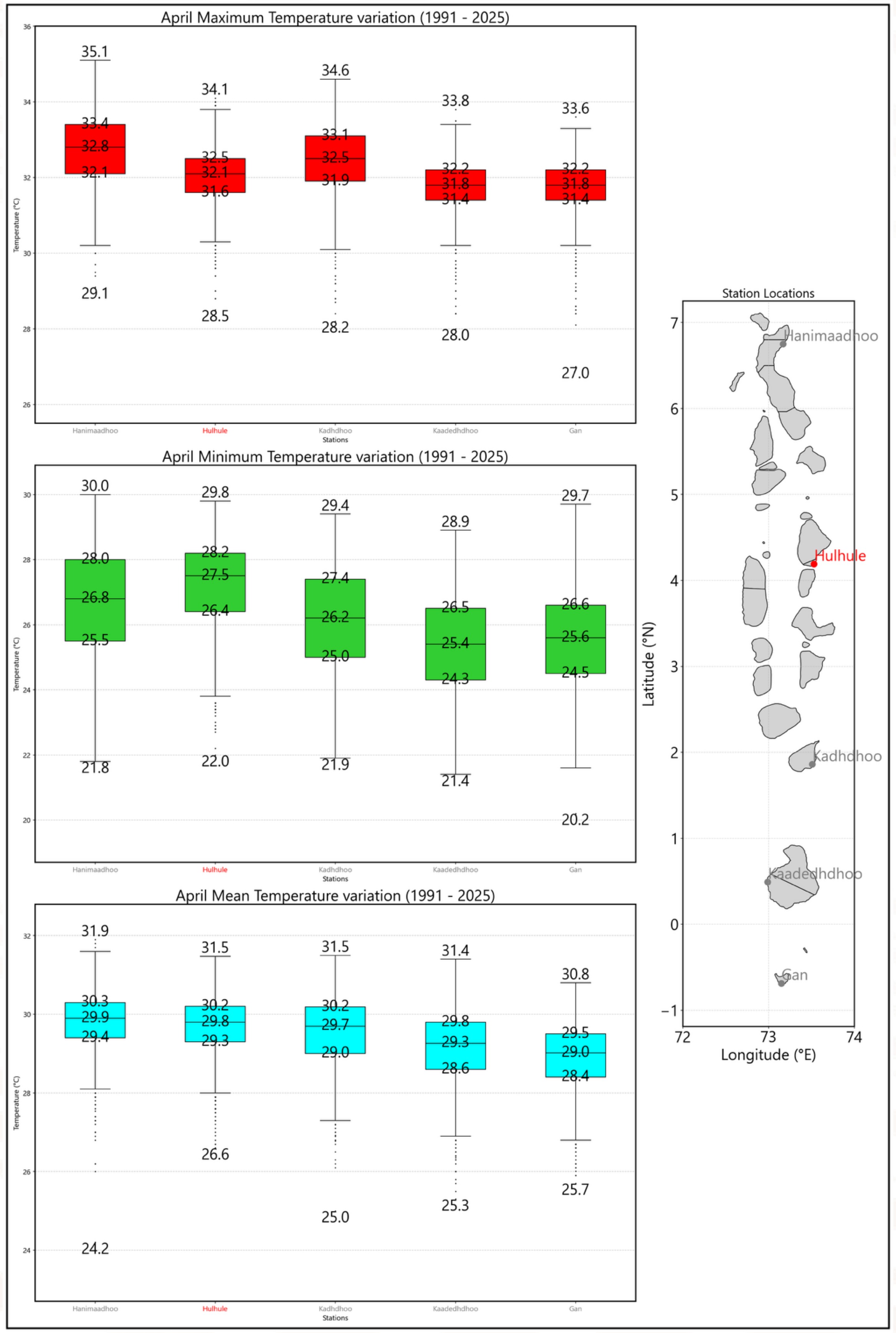
MMS and MRC MoU signing

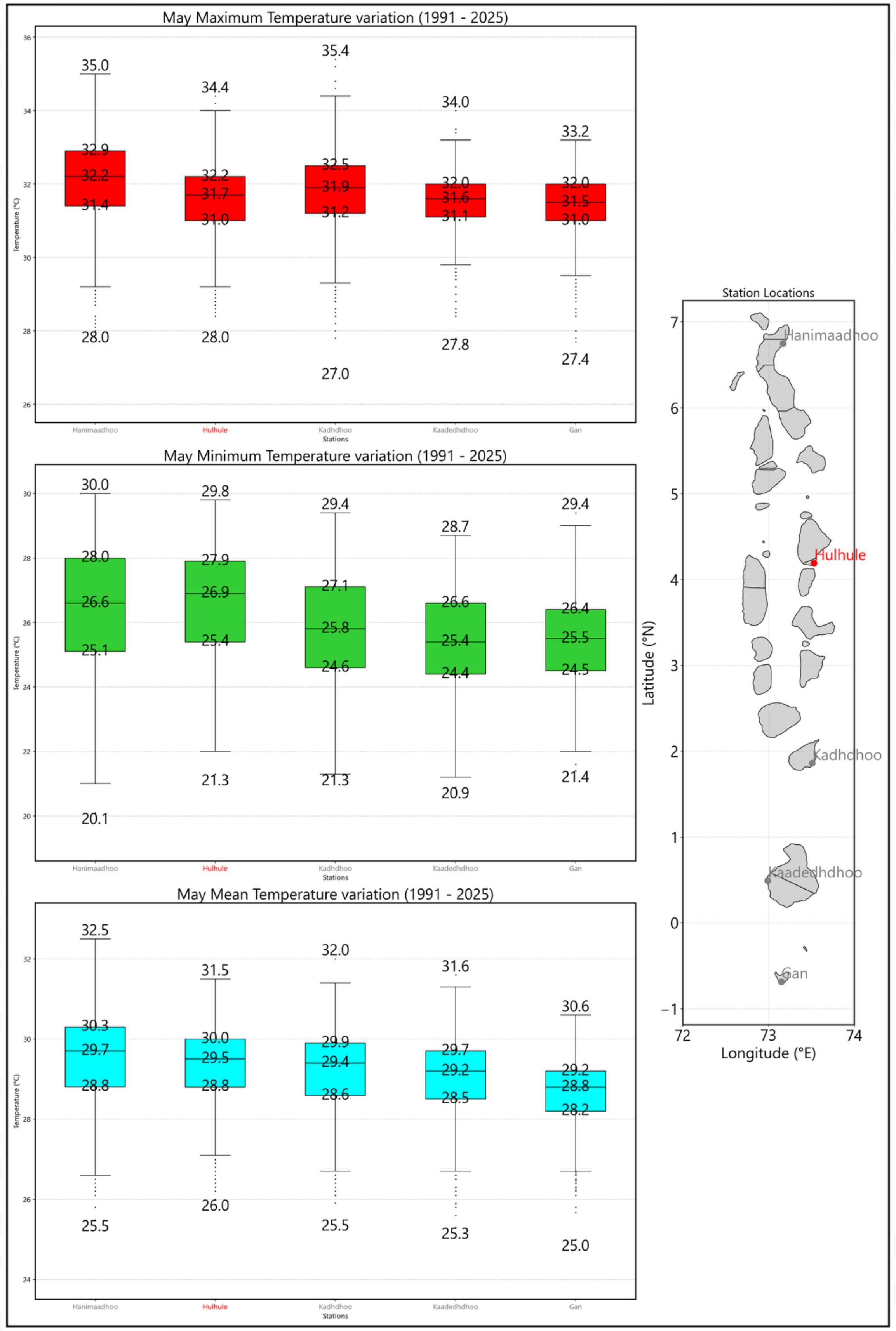
Criteria for CAP format alert message

Alert name	WHITE ALERT(minor)	YELLOW ADVISORY(moderate)	ORANGE WARNING(severe)	RED WARNING(extreme)	GREEN(cancel)
Alert level	1	2	3	4	5
Description	Information	Advisory	Warning	Warning	Cancellation
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	Weather warning will be cancelled if it is not going to affect the country or when the condition becomes normal.
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 1 hr), or forecast to meet this condition	
Squalls (frequent gusts)	50 - 54 mph	55 - 62 mph	63 - 69 mph	above 70 mph	
Swell & Tidal Waves	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 Cyclones (TC)	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 24 hr	TC track towards Maldives and expect to cross Maldives atolls in next 12 hr	TC track towards Maldives and expect to cross Maldives atolls in next 6 hr	
Earthquake	Magnitude > 6 within 400 km of Maldives EEZ. Or mag > 7 in Indian Ocean within 4000 km of Maldives EEZ.	Magnitude > 7 within 400 km of Maldives EEZ. Or mag > 8 in Indian Ocean within 4000 km of Maldives EEZ.	Magnitude > 8 within 400 km of Maldives EEZ. Or mag > 9 in Indian Ocean within 4000 km of Maldives EEZ.	Magnitude > 9 within 400 km of Maldives EEZ.	If the tsunami is not going to affect Maldives, the tsunami warning will be downgraded or cancelled.
Tsunami	Magnitude > 8 in Indian Ocean within 4000 km 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.	

4. Pilot Area


March Maximum Temperature variation (1991 - 2025)
March Minimum Temperature variation (1991 - 2025)
March Mean Temperature variation (1991 - 2025)
Temperature (°C)
Stations
Hanimaadhoo
Hulhule
Kadhdhoo
Kaadedhdhoo
Gan
Station Locations
Latitude (°N)
Longitude (°E)


April Maximum Temperature variation (1991 - 2025)
April Minimum Temperature variation (1991 - 2025)
April Mean Temperature variation (1991 - 2025)
Temperature (°C)
Stations
Hanimaadhoo
Hulhule
Kadhdhoo
Kaadedhdhoo
Gan
Station Locations
Latitude (°N)
Longitude (°E)


May Maximum Temperature variation (1991 - 2025)
May Minimum Temperature variation (1991 - 2025)
May Mean Temperature variation (1991 - 2025)
Temperature (°C)
Stations
Hanimaadhoo
Hulhule
Kadhdhoo
Kaadedhdhoo
Gan
Station Locations
Latitude (°N)
Longitude (°E)

5. Data, Indices, Triggers and Thresholds

Available data for the project include:

Maximum Temperature

Minimum Temperature

Relative Humidity

Wind Speed

Population data

Thresholds:

P85 is 33

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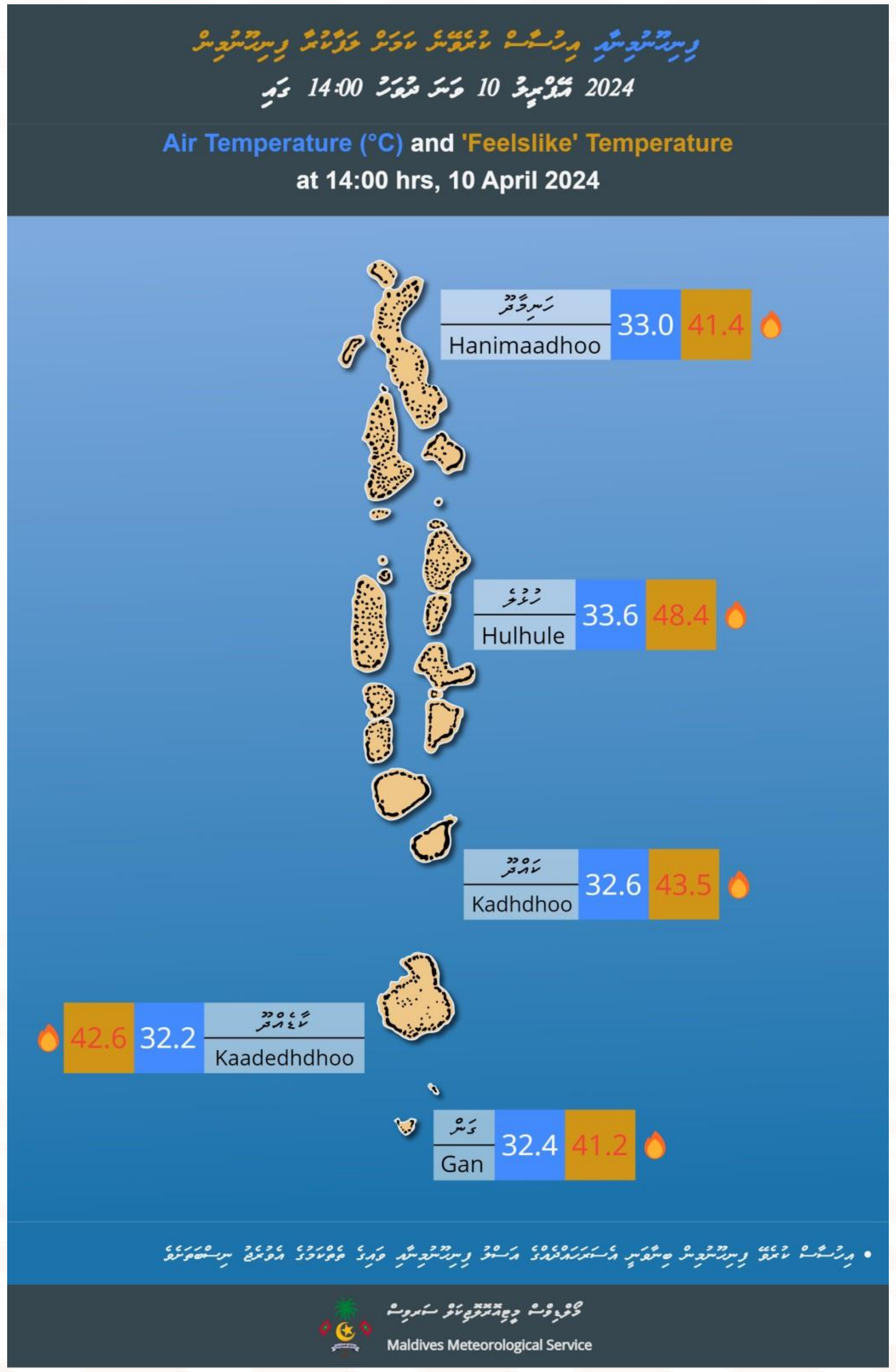
P95 is 33

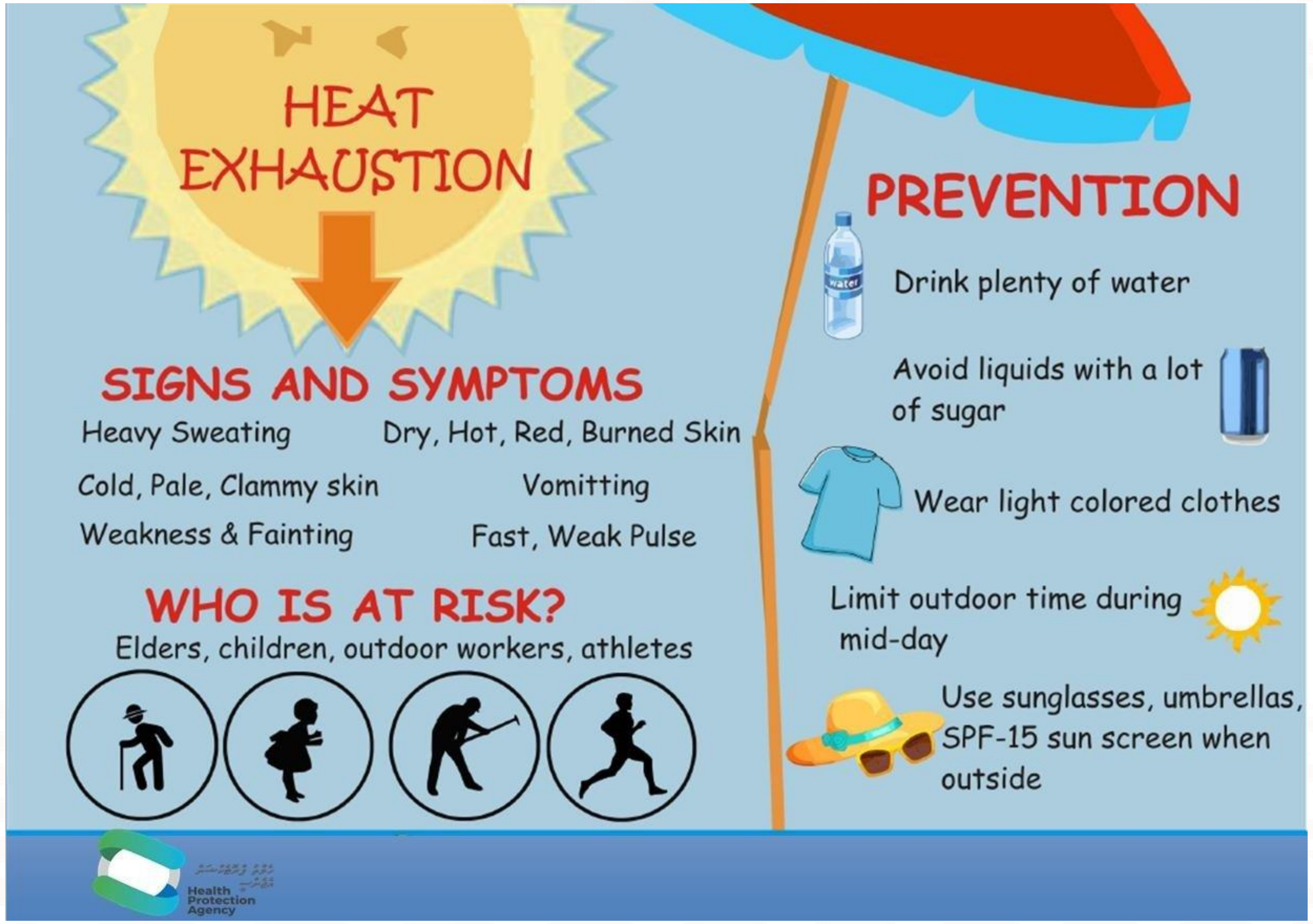
P99 is 34



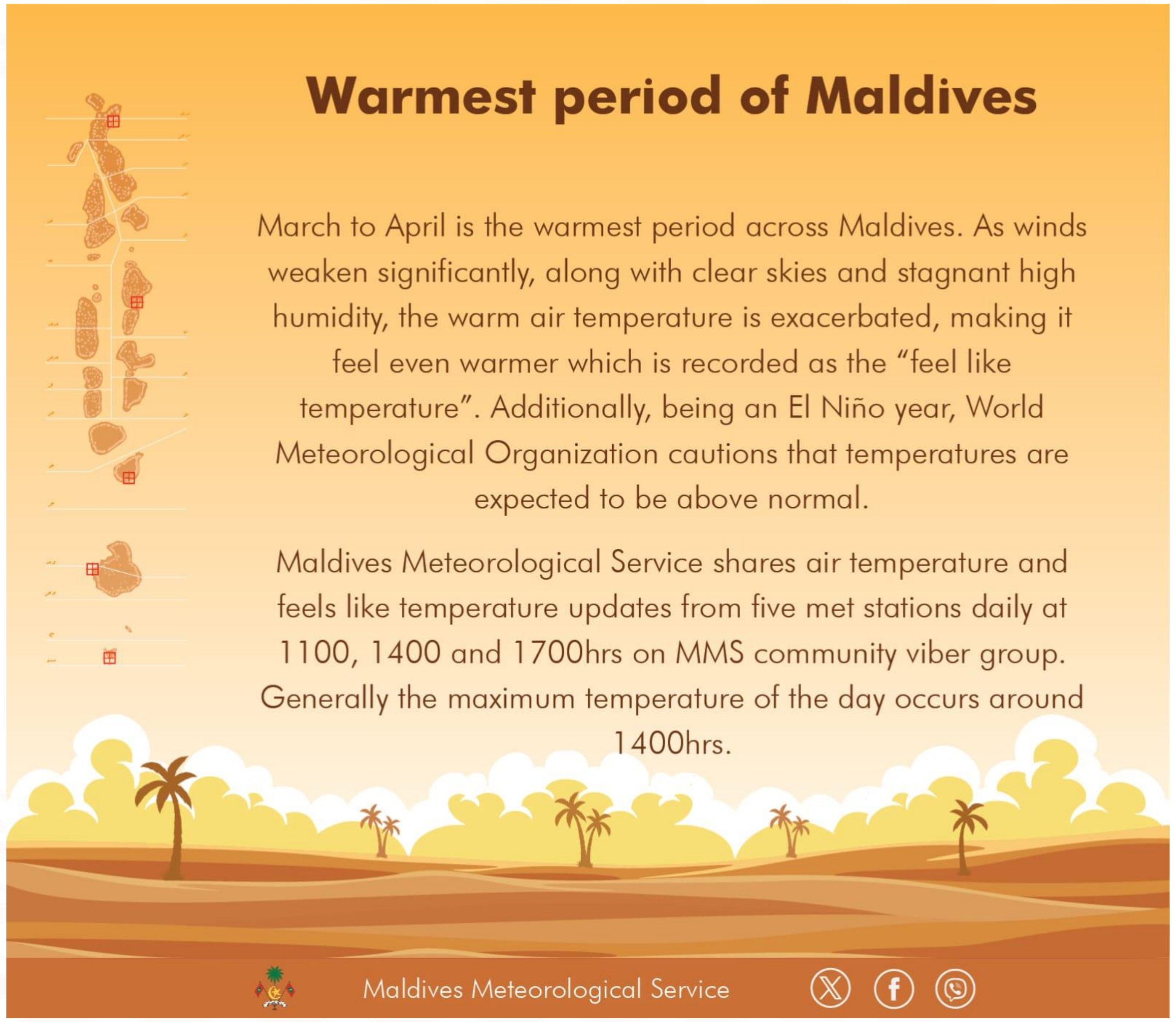
Social media post issued by MMS for high temperature.

Apparent temperature for five locations at 1100, 1400hrs and 1700 hrs. This deviation from the average values for the time of the year. They are neither based on impacts nor on the provision of any advice on suggested actions.

5. Data, Indices, Triggers and Thresholds



Social media post issued by HPA during high temperature period.



Social media post issued by MMS during high temperature period.

From Forecast to Action: Products, Communication & SOPs

- Heavy rain / flood
- Wave surge/flood
- Thunderstorms
- Strong Winds
- Earthquake
- Tsunami

Natural Hazards

Common Alerting Protocol (CAP)

Early warning message in multiple formats

• SMS

Alert Orange: Warning
Strong winds of 34 - 40 mph and gust winds of 55 mph with rough seas expected.
Area: From Noonu Atoll to Dhaalu Atoll
Period: 26/1000 hrs - 26/1230 hrs
Issued: 0955 hrs 26 Sep 2021
Additional Info:
https://cap.meteorology.gov.mv/active_alerts/129
-MetService-

Weather advisories

- PSM
- NDMA
- MNDF
- MPS
- Concern authorities & focal points

Pass the message to the public via Mass Media

Pass the message to the concerned Authorities.
Take necessary action

Pass the message to the concerned sectors within their responsible organization

7. Assistance, Guidance, and Support Required

Specific areas where support from RIMES and/or UK Met Office may be useful before, during, or after the demonstration period

- Need support for monitoring WBGT
- Technical guidance on
  - Developing guidelines on anticipatory action and precautionary measures for different sectors
  - Developing a bias-corrected temperature forecast
  - Forecast verification method
  - Critical infrastructure mapping
  - Access to other regional model data sets and training.

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THANK YOU!