



Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For February 2023

Summary

Rainfall is expected to be below-normal over southern atolls and normal over rest of the country.

Temperature is likely to be above-normal over southern atolls and normal over rest of the country.

Introduction

This consensus outlook on rainfall and temperature for Maldives has been prepared through assessments including prevailing regional and global climate condition and prediction of various climate models, seasonal forecast of WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME), North American Multi-Model Ensemble (NMME) Forecasts of Monthly Climate Anomalies, climate driver update of Bureau of Meteorology (BoM) and monthly forecasts of European Centre for Medium-Range Weather Forecasts (ECMWF).

Current status of major climate drivers.

El Niño Southern Oscillation (ENSO): La Niña condition continues with below average equatorial Sea Surface Temperatures across most of the Pacific Ocean. Some global models anticipate a transition of sea-surface temperatures to ENSO-neutral condition during February.

Indian Ocean Dipole (IOD): Global models indicate neutral IOD with average sea surface temperatures across most of the Indian Ocean and anticipate neutral condition to persist during February.

Madden-Julian Oscillation (MJO): Enhanced MJO over Indian Ocean is expected to propagate eastward to Maritime Continent and Western Pacific through mid-February and weak thereafter.

Calibration of climate models

Climate Predictability Tool (CPT) was used to downscale global model outputs to local scale. These results indicate below-normal rainfall over southern atolls and above-normal over rest of the country for February 2023.











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Global Producing Centres and WMO Lead Centre Forecasts

Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates below-normal rainfall over southern-most atolls, normal rainfall over central atolls with climatological probability over rest of the country for February 2023. Temperatures are slightly above-normal over southern-most area, and normal over northern atolls with climatological probability over rest of the country during the month.

Climatic condition over Maldives

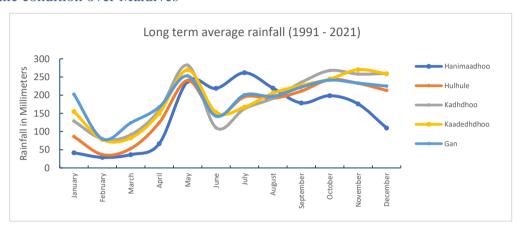


Figure 1- Mean monthly rainfall for the period 1991-2021 shows variation of rainfall in different part of the country, where southern and central atolls have high rainfall peaks during May, beginning of southwest monsoon and towards end of the monsoon period, while northern atolls have peak rainfall during July, mid of the season.

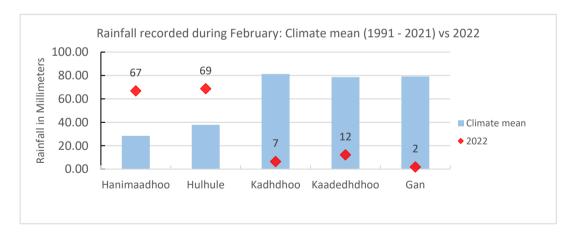


Figure 2- In February 2023, northern and central atolls received above normal rainfall while southern atolls received below-normal rainfall for the month.



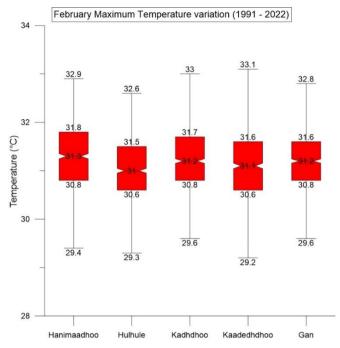


Figure 3: Daily Maximum Temperature range at Meteorological stations during January for the period 1991-2022 showing highest maximum Temperature of 33.1°C recorded at Meteorological Office Kaadedhdhoo.

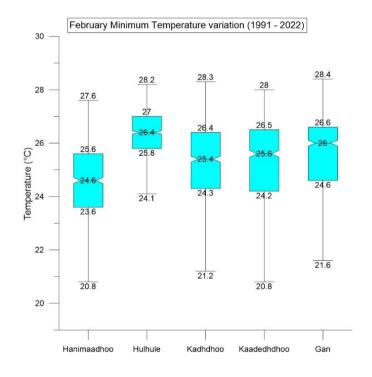


Figure 4: Daily Minimum Temperature range at Meteorological stations during February for the period 1991-2022, showing lowest minimum Temperature of 20.8°C at Meteorological Offices, Hanimaadhoo and Kaadedhdhoo.



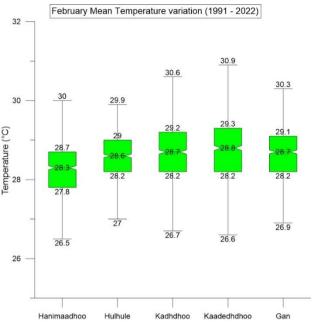


Figure 5: Daily Mean Temperature range at Meteorological stations during February for the period 1991-2022 shows most (50%) of the times daily average temperature lies between $28.7-27.8^{\circ}$ C in Hanimaadhoo, $29.0-28.2^{\circ}$ C in Hulhule, $29.2-28.2^{\circ}$ C in Kadhdhoo, $29.3-28.2^{\circ}$ C in Kaadedhdhoo and $29.1-28.2^{\circ}$ C in Gan.

Conclusion

By considering the ENSO-neutral and neutral IOD condition, suppressed convective phase of MJO over Indian Ocean from 1st week of the month, Multi-Model Ensemble of WMO Lead Centre forecasts, NMME forecasts, CPT analysis and climate data of Maldives, rainfall is expected to be below-normal over southern atolls and normal over rest of the country.

Temperature is likely to be above-normal over southern atolls and normal over rest of the country.



Figure 6: Expected rainfall category for February 2023

Note:

Normal: Amount of rainfall between 90% - 110% of the average for the period. Above normal: Amount of rainfall more than 110% of the average for the period. Below Normal: Amount of rainfall less than 90% of the average for the period