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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For August 2023

Summary

Rainfall is expected to be below normal over most parts of the country with slightly above-normal rainfall over northern atolls. Temperature is likely to be slightly above normal across the country.

Introduction

This consensus outlook on rainfall and temperature for the Maldives has been prepared through assessments including prevailing regional and global climate conditions 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): El Niño conditions persist with above-average equatorial Sea Surface Temperatures in the central and eastern Pacific Ocean.

Indian Ocean Dipole (IOD): IOD condition is currently neutral and is expected to develop a positive condition during the coming months.

Madden-Julian Oscillation (MJO): Weak MJO lies over Western Hemisphere at the beginning of the month. It is expected to propagate eastwards to the Indian Ocean by the 2nd week and continue with low amplitude.

Calibration of climate models

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



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Global Producing Centres and WMO Lead Centre Forecasts

The Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates below-normal rainfall over some parts of the country for August 2023. Temperatures are above normal across the country during the month.

Climatic conditions over the Maldives

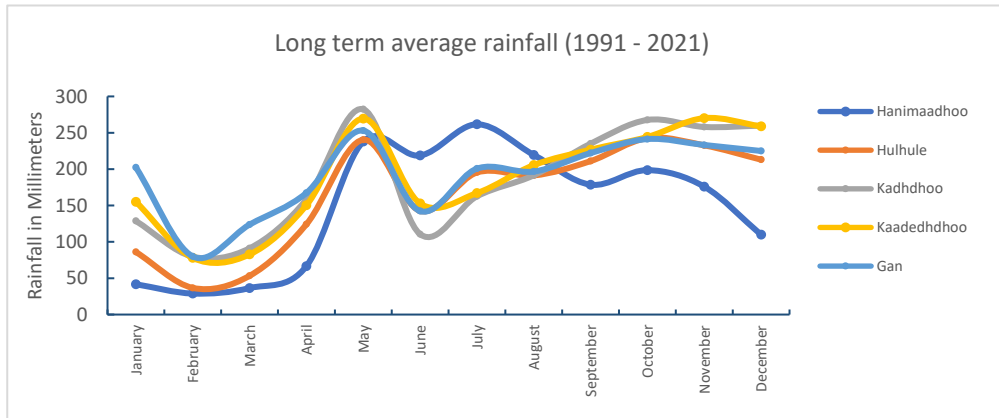


Figure 1- Mean monthly rainfall for the period 1991-2021 shows variation of rainfall in different part of the country, where southern and central atolls have high rainfall peaks during May, beginning of southwest monsoon and towards end of the monsoon period, while northern atolls have peak rainfall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

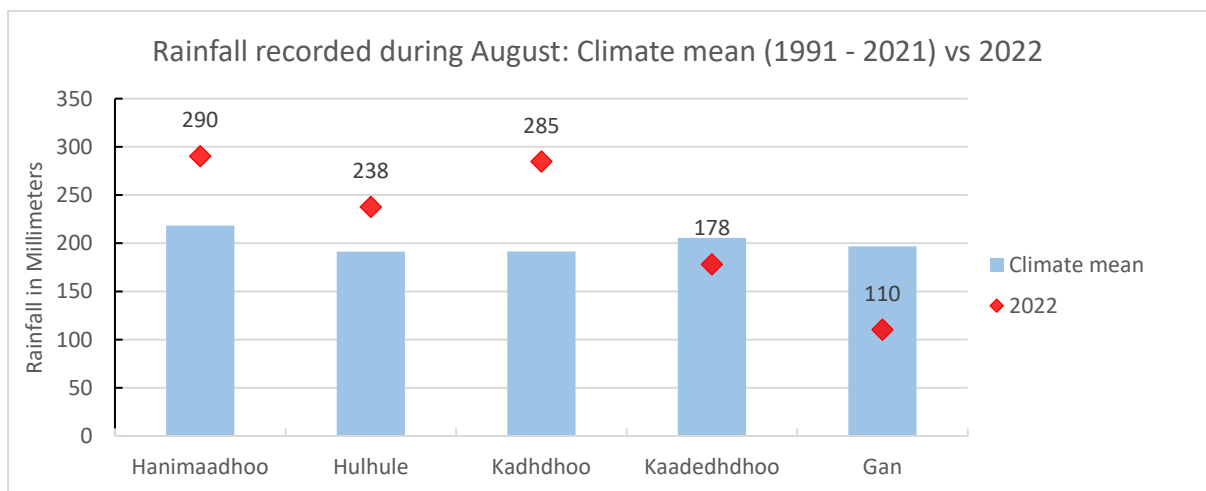


Figure 2- In August 2022, Hanimaadhoo, Hulhule and Kadhdhoo stations received above normal rainfall while the other 2 stations received below-normal rainfall for the month.

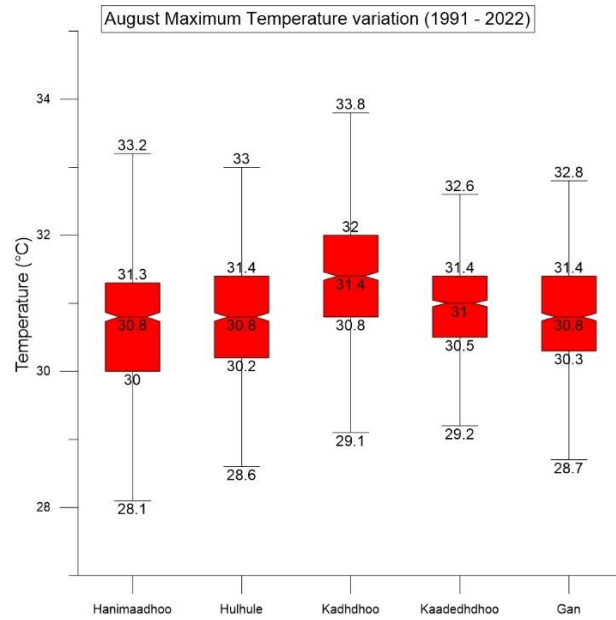


Figure 3: Daily Maximum Temperature range at Meteorological stations during August for the period 1991-2022 showing highest maximum Temperature of 33.8°C recorded at Meteorological Office Kadhdhoo.

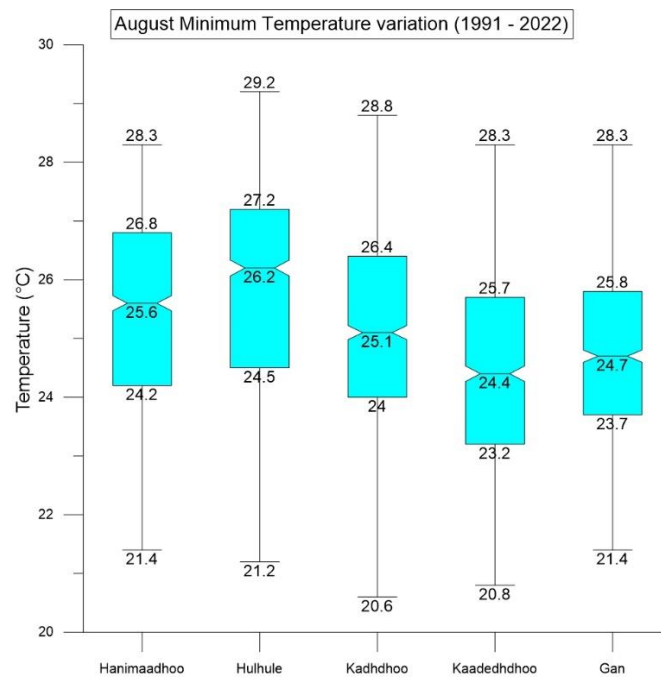


Figure 4: Daily Minimum Temperature range at Meteorological stations during August for the period 1991-2022, showing lowest minimum Temperature of 20.6°C at Meteorological Offices, Kadhdhoo.

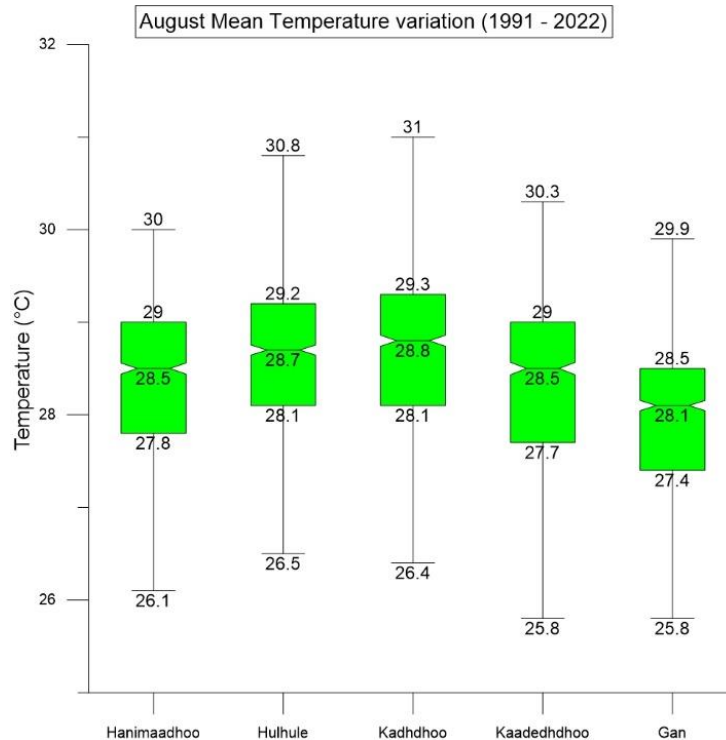


Figure 5: Daily Mean Temperature range at Meteorological stations during August for the period 1991-2022 shows most (50%) of the times daily average temperature lies between 29.0– 27.8°C in Hanimaadhoo, 29.2 – 28.1 °C in Hulhule, 29.3 – 28.1 °C in Kadhdhoo, 29.0– 27.7 °C in Kaadedhdhoo and 28.5 - 27.4 °C in Gan.

Conclusion

By considering the El Niño and neutral IOD condition, weak MJO over the Indian Ocean during 2nd 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 most parts of the country with slightly above-normal rainfall over northern atolls. Temperature is likely to be slightly above normal across the country.

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