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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For October 2023

Summary

Rainfall is expected to be above normal over most parts of the country. 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 observed with above-average equatorial Sea Surface Temperatures across the central and eastern Pacific Ocean.

Indian Ocean Dipole (IOD): A positive IOD is underway and is expected to continue during the coming months.

Madden-Julian Oscillation (MJO): Weak MJO over the Maritime Continent is likely to propagate eastwards and become enhanced over the western Indian Ocean during the 2nd week. Low amplitude expected towards end of the month.

Calibration of climate models

The Climate Predictability Tool (CPT) was used to downscale global model outputs to a local scale. These results indicate above-normal rainfall over the country for October 2023.

Global Producing Centres and WMO Lead Centre Forecasts

The Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates below-normal rainfall over part of southern atolls and above-normal over rest of the country for October 2023. Temperatures are above normal across the country during the month.





Climatic conditions over the Maldives

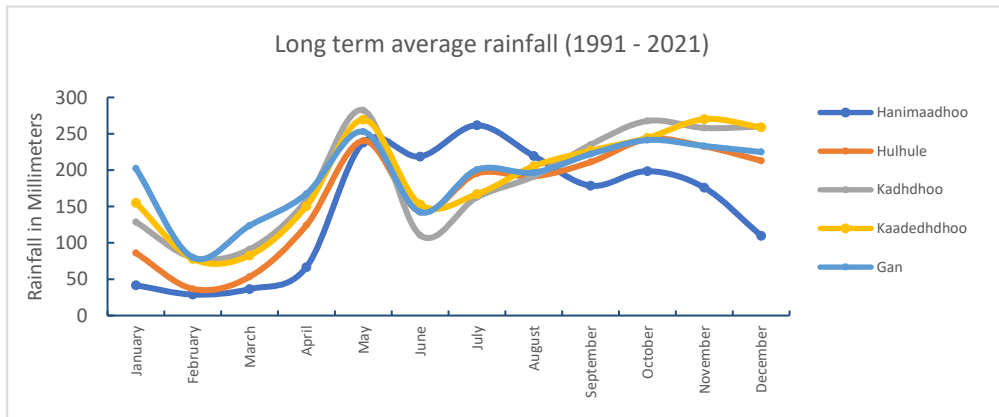


Figure 1- Mean monthly rainfall for the period 1991-2021 shows variation of rainfall in different part of the country, where southern and central atolls have high rainfall peaks during May, beginning of southwest monsoon and towards end of the monsoon period, while northern atolls have peak rainfall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

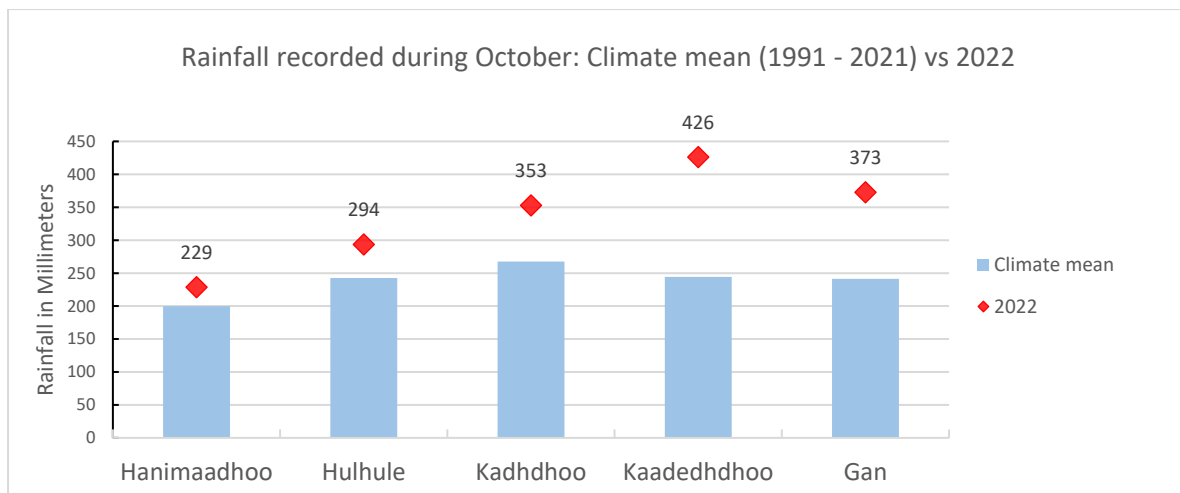


Figure 2- In October 2022, all stations received above-normal rainfall for the month.

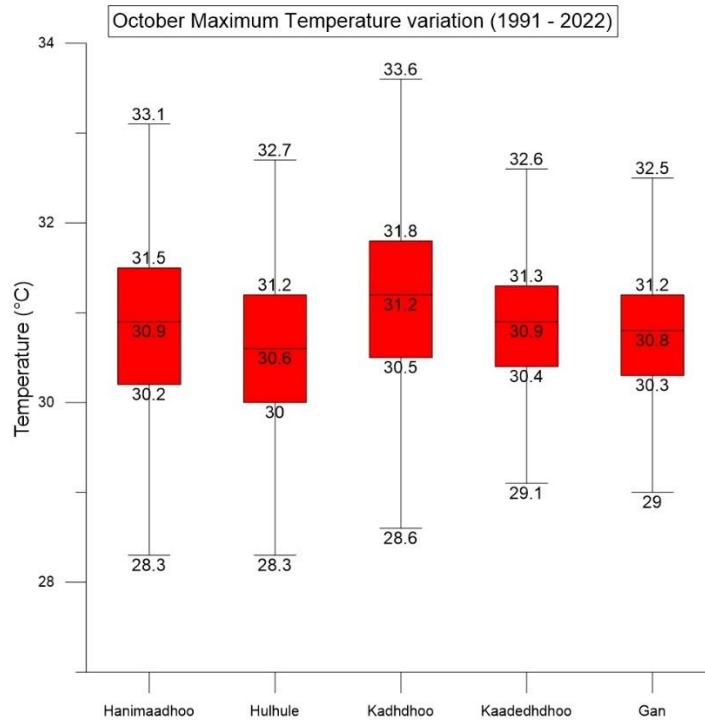


Figure 3: Daily Maximum Temperature range at Meteorological stations during October for the period 1991-2022 showing highest maximum Temperature of 33.6°C recorded at Meteorological Office Kadhdhoo.

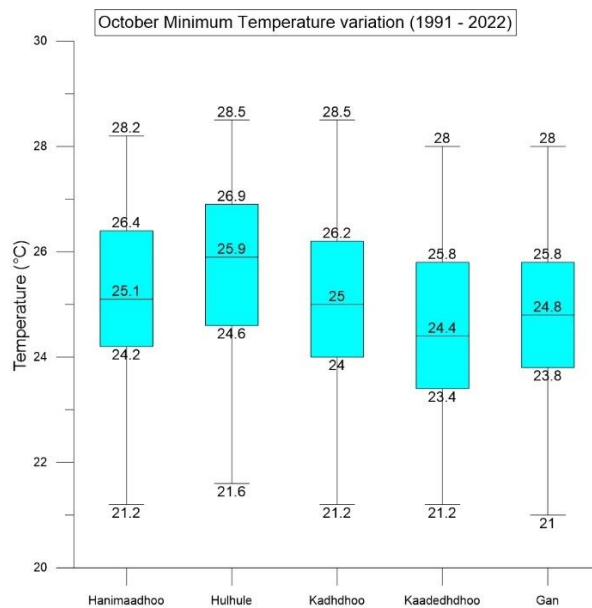


Figure 4: Daily Minimum Temperature range at Meteorological stations during October for the period 1991-2022, showing lowest minimum Temperature of 21.0°C at Meteorological Offices, Gan.

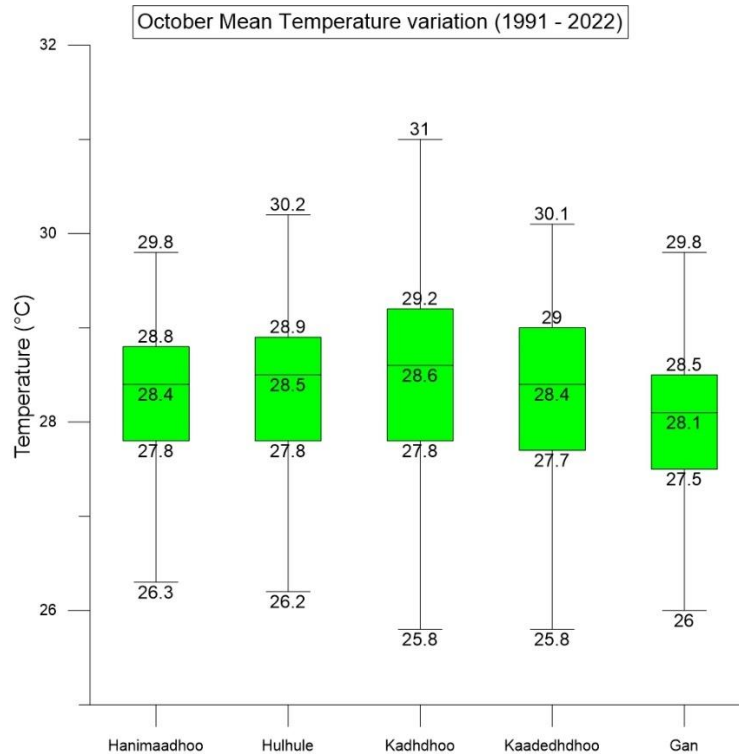


Figure 5: Daily Mean Temperature range at Meteorological stations during October for the period 1991-2022 shows most (50%) of the times daily average temperature lies between 28.8– 27.8°C in Hanimaadhoo, 28.9 – 27.8 °C in Hulhule, 29.2 – 27.8 °C in Kadhdhoo, 29.0– 27.7 °C in Kaadedhdhoo and 28.5 - 27.5 °C in Gan.

Conclusion

By considering the El Niño and positive IOD condition, enhanced MJO over the western Indian Ocean during 2nd week of the month, Multi-Model Ensemble of WMO Lead Centre forecasts, NMME forecasts, CPT analysis and climate data of the Maldives, rainfall is expected to be above normal over most parts of the country. 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