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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For December 2023

Summary

Rainfall is expected to be above normal in 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 prevail with above-average equatorial Sea Surface Temperatures across the central and eastern Pacific Ocean.

Indian Ocean Dipole (IOD): Positive IOD remains active with warmer than normal temperatures across much of the western Indian Ocean.

Madden-Julian Oscillation (MJO): Enhanced MJO is likely over Indian Ocean 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 most parts of the country for December 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 December 2023. Temperatures are likely to be above normal across the country during the month.





Climatic conditions over the Maldives

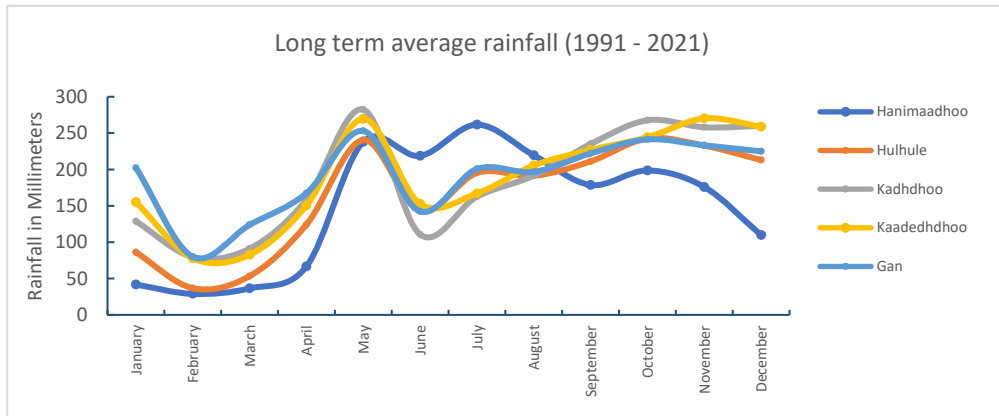


Figure 1- Mean monthly rainfall for the period 1991-2021 shows variation of rainfall in different part of the country, where southern and central atolls have high rainfall peaks during May, beginning of southwest monsoon and towards end of the monsoon period, while northern atolls have peak rainfall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

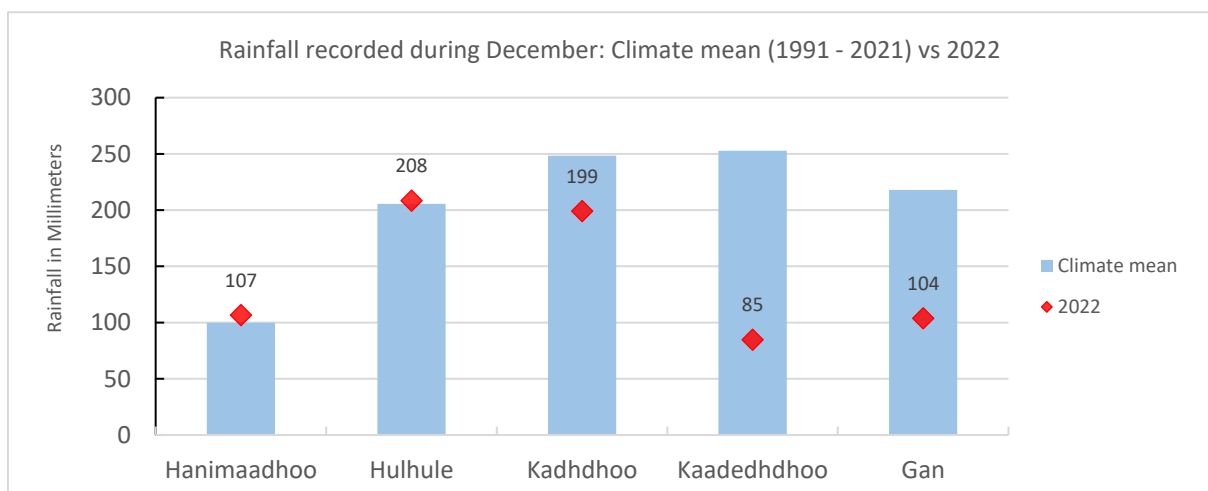


Figure 2- In December 2022, Hanimaadhoo and Hulhule had average rainfall, while all other stations experienced below-average rainfall.

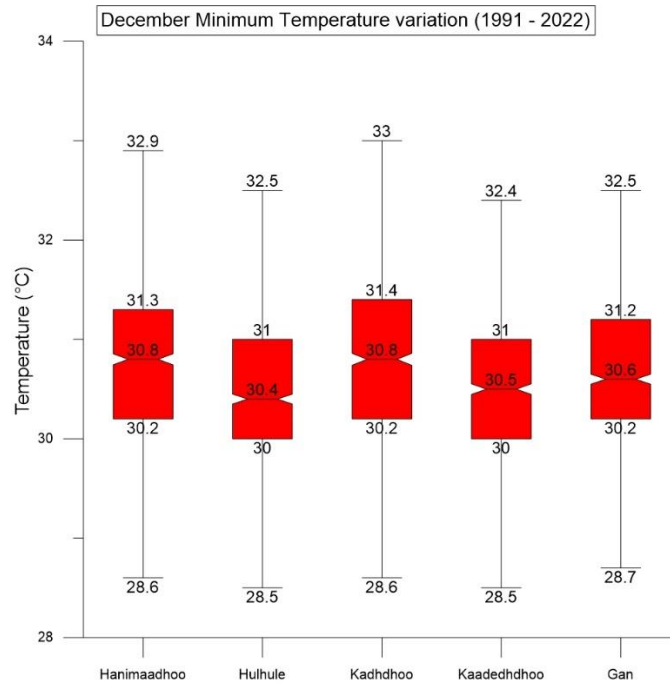


Figure 3: Daily Maximum Temperature range at Meteorological stations during December for the period 1991-2022, showing the highest maximum Temperature of 33.0°C recorded at Meteorological Office Kadhdhoo.

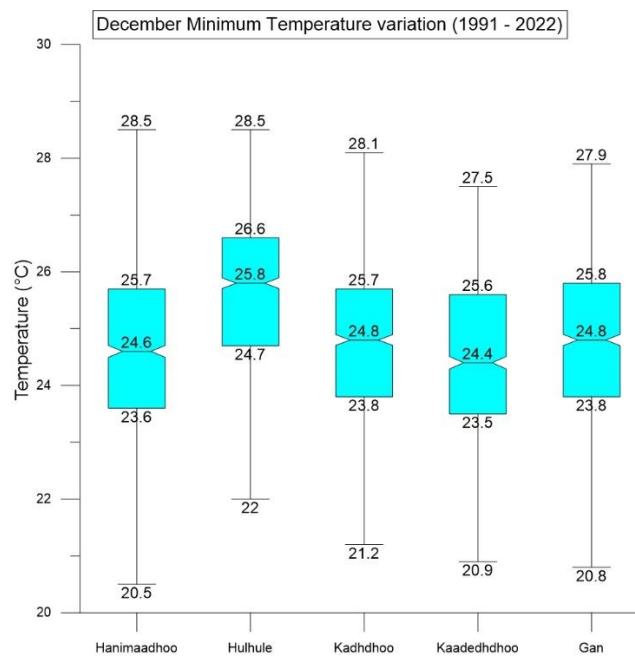


Figure 4: Daily Minimum Temperature range at Meteorological stations during December for the period 1991-2022, showing the lowest minimum Temperature of 21.5°C at Meteorological Offices, Hanimaadhoo.

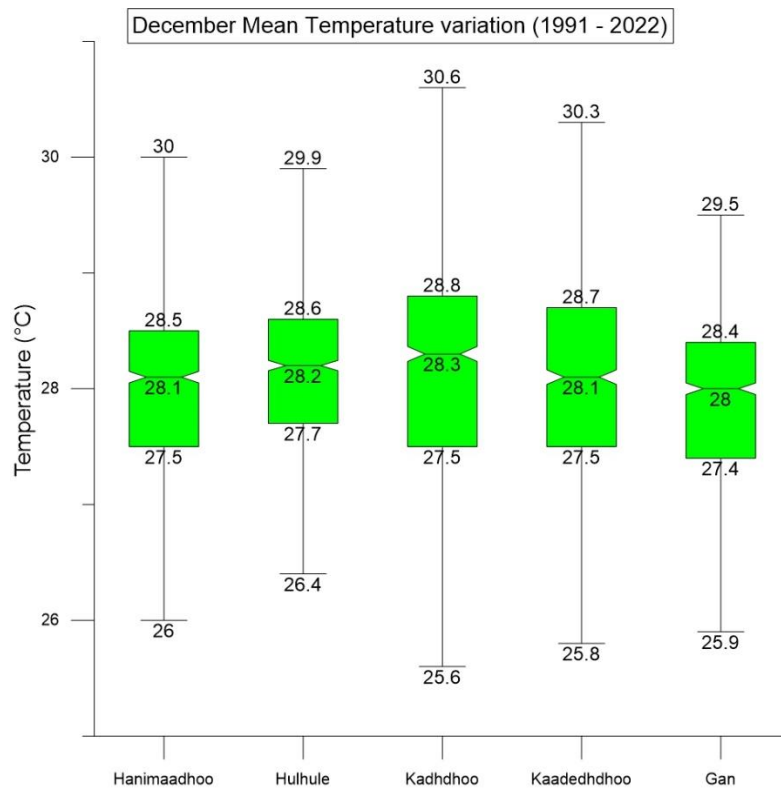


Figure 5: Daily Mean Temperature range at Meteorological stations during December for the period 1991-2022, showing most (50%) of the time, the daily average temperature lies between 27.5– 28.5°C in Hanimaadhoo, 27.7 – 28.6 °C in Hulhule, 27.5 – 28.8 °C in Kadhdhoo, 27.5– 28.7 °C in Kaadedhdhoo and 27.4 - 28.4 °C in Gan.

Conclusion

By considering most climate models, MJO condition, CPT analysis and climate data of the Maldives, rainfall is expected to be above normal in 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