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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For October 2022

Summary

Rainfall is likely to be normal over northern atolls and part of central atolls, while below-normal over rest of the country.

Temperature is expected to be below-normal over northern and central atolls, slightly above-normal over southern atolls.

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 remains dominant, with below average equatorial Sea Surface Temperatures across most of the Pacific Ocean. Global models indicate a high probability for La Niña condition to continue during October 2022.

Indian Ocean Dipole (IOD): Negative IOD event continues. Currently, Sea Surface Temperatures are below average in the western Indian Ocean and above average in the eastern Indian Ocean around Indonesia. Models indicate that the ongoing IOD condition would persist throughout the month.

Madden-Julian Oscillation (MJO): MJO is currently over Maritime Continent and a renewed MJO event is expected across the area. Some models indicate a high amplitude with potential for a strong MJO event by mid-October and emergence into Western Pacific by week-2. It is likely to persist over the area and become weak towards end of the month. Active MJO over Pacific increases the chance of below-average rainfall over Indian Ocean.



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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 the country for October 2022.

Global Producing Centres and WMO Lead Centre Forecasts

Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates normal rainfall over northern and part of central atolls, below-normal rainfall over rest of the country during October 2022. Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates above-normal Temperature over part of southern atolls and below normal tempertaure over rest of the country for October 2022.

Climatic condition during the month of October

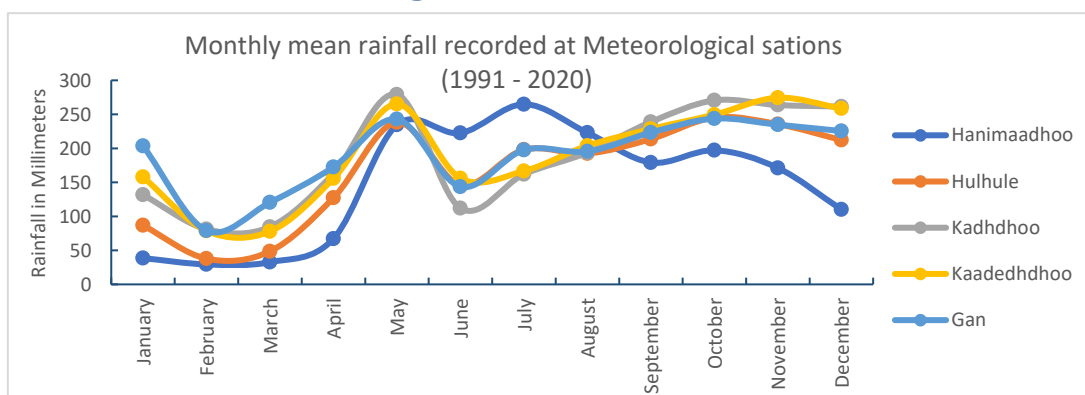


Figure 1- During the period 1991 - 2020, monthly mean rainfall of October were 197, 245, 271, 250 and 244 millimeters in Hdh.Hanimaadhoo, Hulhule, L.Kadhdhoo, Gdh.Kaadeddhoo and S.Gan, respectively.

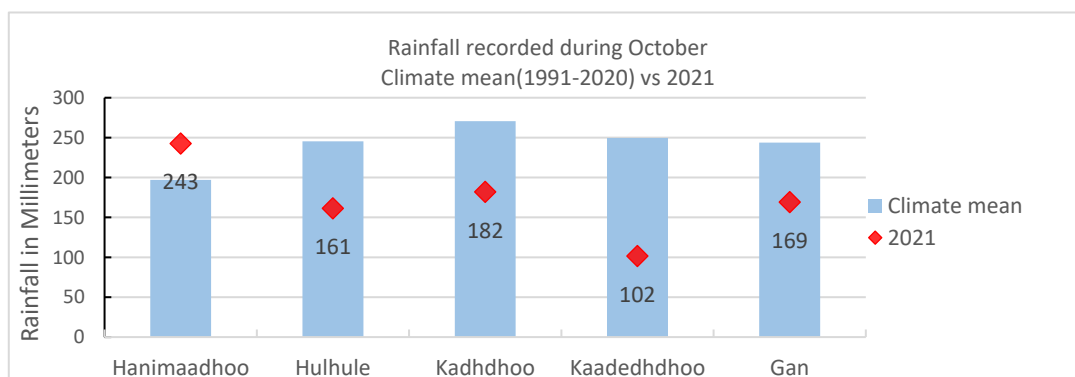


Figure 2- In October 2021, Haimaadhoo received above-normal rainfall and other stations received below normal rainfall than climate mean for the month. Hanimaadhoo recorded 123% of the climate normal while other stations recorded less than 90% of climate normal for the month.

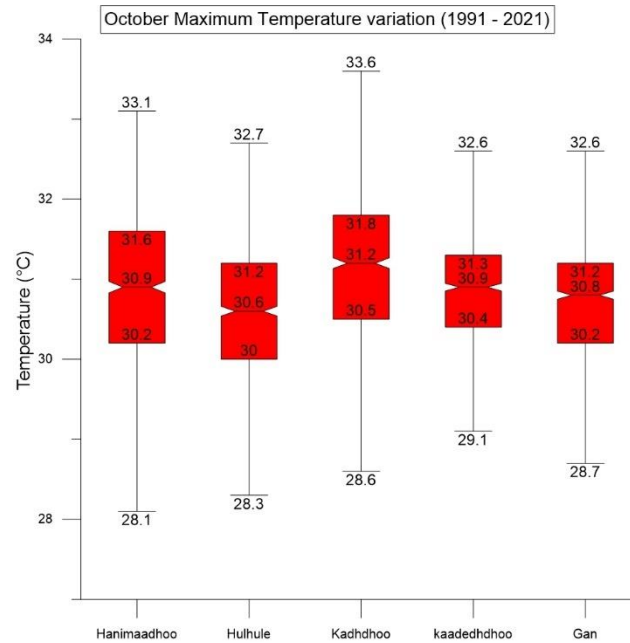


Figure 3: Daily Maximum Temperature range at Meteorological stations during October for the period 1991-2021. Highest maximum Temperature of 33.6°C recorded at Kadhdhoo Meteorological Office.

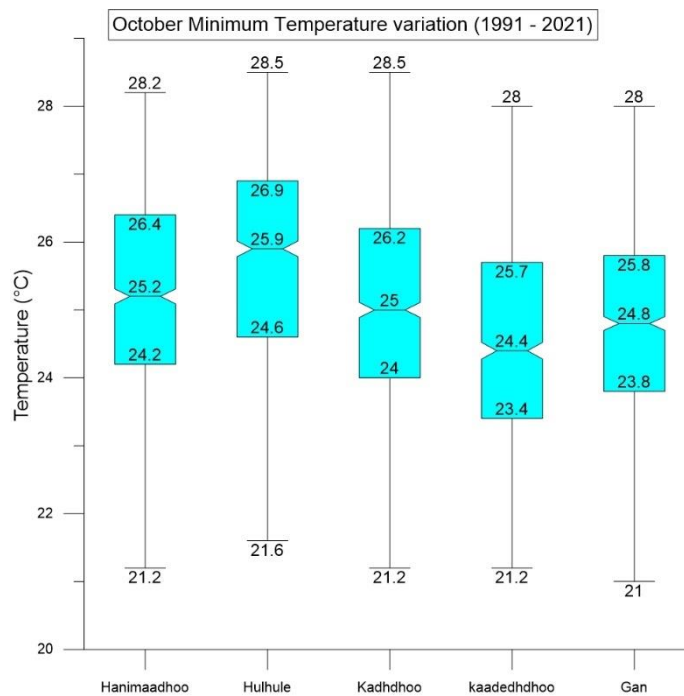


Figure 4: Daily Minimum Temperature range at Meteorological stations during October for the period 1991-2021, showing lowest minimum Temperature of 21.0°C at Gan Meteorological Office.

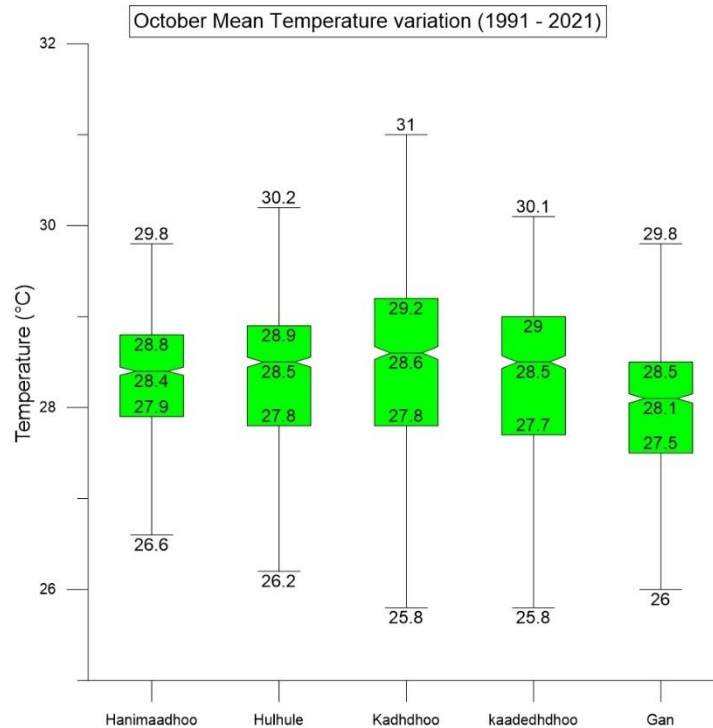


Figure 5: Daily Mean Temperature range at Meteorological stations during October for the period 1991-2021. It shows most (50%) of the times daily average temperature lies between 28.8– 27.9°C in Hanimaadhoo, 28.9 – 27.8°C in Hulhule, 29.2 – 27.8°C in Kadhdhoo, 29.0 – 27.7°C in Kaadedhdhoo and 28.5 - 27.5°C in Gan.

Conclusion

By considering the active La Niña and negative IOD condition, suppressed phase of MJO, Multi-Model Ensemble of WMO Lead Centre forecasts, NMME forecasts and climate data of Maldives, rainfall is likely to be normal over northern atolls and part of central atolls, while below-normal over rest of the country.

Temperature is expected to be below-normal over northern and central atolls, slightly above-normal over southern atolls.

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