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Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For July 2022

Summary

Rainfall is likely to be above-normal over part of southern and central atolls, normal over rest of the country.

Temperature is expected to be slightly above-normal over the county.

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, Multi-model Ensemble Based Seasonal Climate Prediction of Forecast Customization System (FOCUS), 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 persists with below average equatorial Sea Surface Temperatures across most of the Pacific Ocean. Global models indicate La Niña condition to be continued during July 2022.

Indian Ocean Dipole (IOD): Global models indicate neutral IOD value at the beginning of the month. Sea Surface Temperatures near the coast of Africa and eastern Indian Ocean indicate currently negative threshold value and most models predict possibility to meet negative threshold during July. Thus, westerly winds are likely to be strengthened along the equator with warmer sea surface temperatures in the eastern Indian Ocean

Madden-Julian Oscillation (MJO): Global models indicate enhanced MJO over maritime continent (Phase 4) at the beginning of the month, propagating eastward to phase 5 and become weak over the same area. It is likely to be over Western Hemisphere and Africa through Western Pacific during the 3rd week and over Indian Ocean towards end of the month.





Calibration of climate models

Climate Predictability Tool (CPT) was used to downscale global model outputs to local scale. These results indicate above-normal rainfall over part of southern and central atolls, below-normal rainfall over northern atolls for July 2022.

Global Producing Centres and WMO Lead Centre Forecasts

Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates climatological probability across the country during July 2022. Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates above-normal Temperature across the country for July 2022.

Climatic condition during the month of June

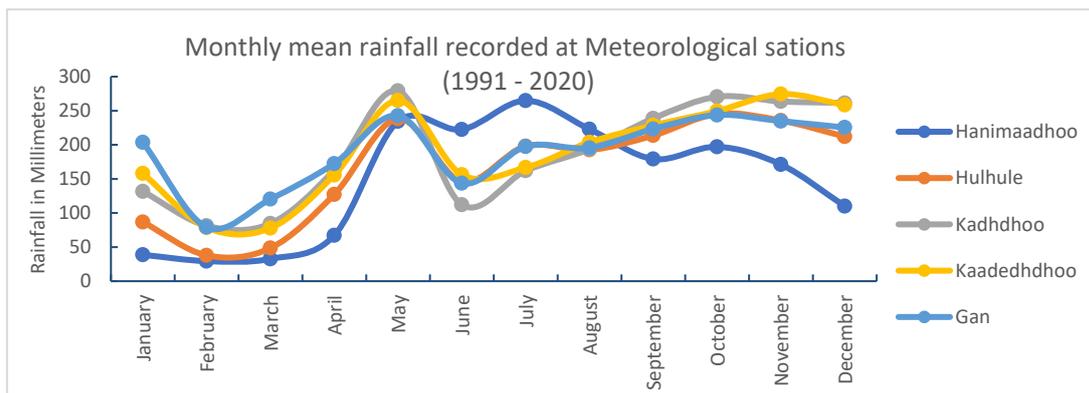


Figure 1- During the period 1991 - 2020, monthly mean rainfall of July are 265, 198, 198, 167 and 162 millimeters in Hdh.Hanimaadhoo, Hulhule, S.Gan, Gdh.Kaadeddhoo and L.Kadhdhoo respectively.

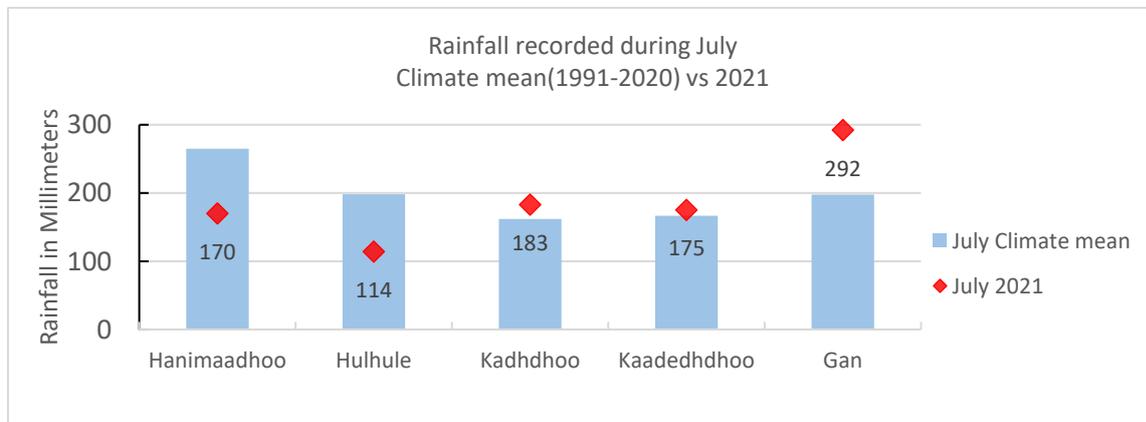


Figure 2- In July 2021, Kadhdhoo, Kaadeddhoo and Gan received higher rainfall than climate mean for the month while rainfall in Hulhule and Hanimaadhoo were lower than climate mean for the month. Highest amount of rainfall received in Gan with an increase of 48% and lowest rainfall received in Hulhule with a decrease of 42% of the average rainfall.

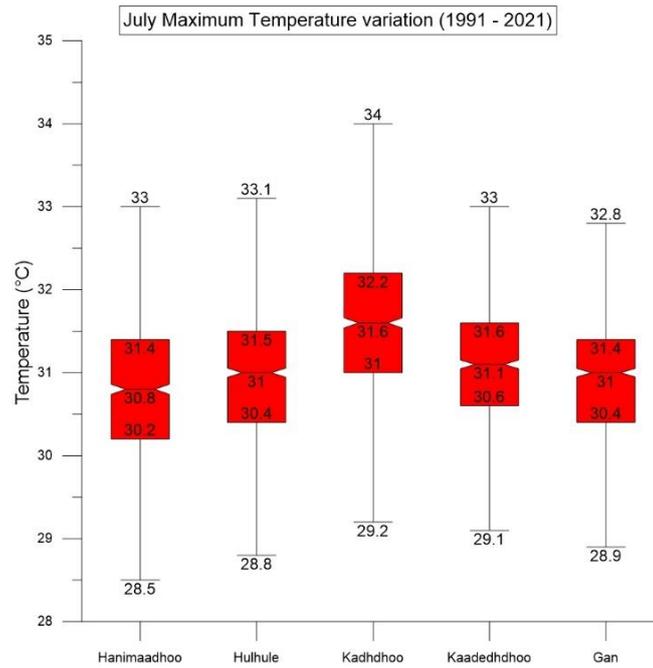


Figure 3: Daily Maximum Temperature range at Meteorological stations during July for the period 1991-2021. Highest maximum Temperature of 34.0°C recorded at Kadhdhoo Meteorological Office.

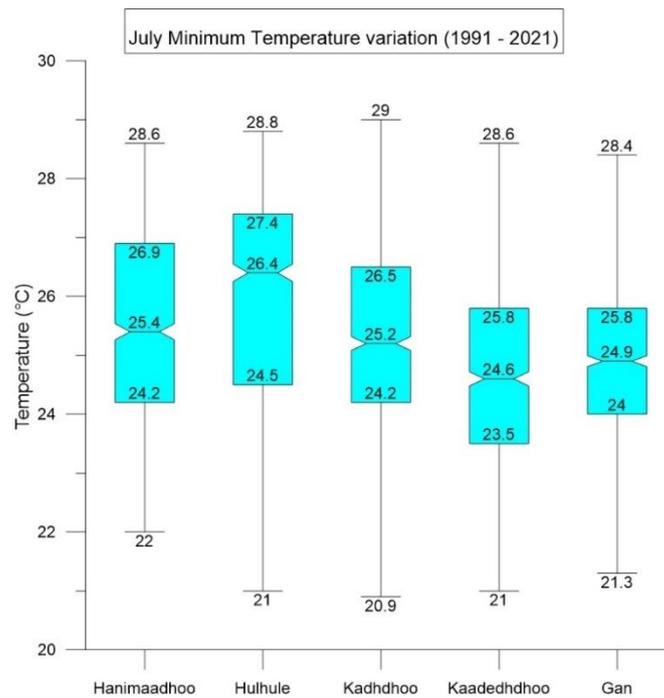


Figure 4: Daily Minimum Temperature range at Meteorological stations during July for the period 1991-2021, showing lowest minimum Temperature of 20.9 °C at Kadhdhoo Meteorological Office.

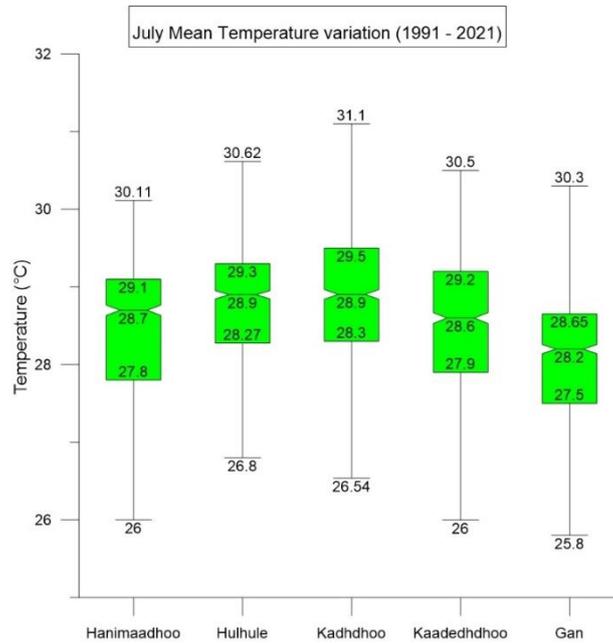


Figure 5: Daily Mean Temperature range at Meteorological stations during July for the period 1991-2021. It shows most (50%) of the times daily average temperature lies between 27.8– 29.1°C in Hanimaadhoo, 28.3 – 29.3°C in Hulhule, 28.3 – 29.5°C in Kadhdhoo, 27.9 - 29.2°C in Kaadeddhoo and 27.5 - 28.7°C in Gan.

Conclusion

By considering the La Niña and IOD condition, expected MJO activity, Multi-Model Ensemble of WMO Lead Centre forecasts, NMME forecasts, FOCUS forecasts and climate data of Maldives, rainfall is likely to be above-normal over part of southern and central atolls, normal over rest of the country.

Temperature is expected to be slightly above-normal over the county.

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