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މާލެ 2022

Maldives Meteorological Service

Rainfall and Temperature Outlook over Maldives

For December 2022

Summary

Rainfall is expected to be below-normal over most part of the country.
Temperature is likely to be normal across the country.

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 December 2022.

Indian Ocean Dipole (IOD): Global models indicate the neutral IOD index in December 2022.

Madden-Julian Oscillation (MJO): MJO is over Western Hemisphere and Africa at the beginning of the month. Global models indicate weak amplitude to propagate eastwards over Indian Ocean during the 1st week, over Maritime Continent during the 2nd week and to western Hemisphere 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 below-normal rainfall over most part of the country for December 2022.



www.meteorology.gov.mv | info@met.gov.mv | +960 3323084 | +960 3320021

Hulhule' 22000
Republic of Maldives

@MetMaldives

#MetMaldives





Global Producing Centres and WMO Lead Centre Forecasts

Probabilistic Multi-Model Ensemble of WMO LC-LRFMME indicates below-normal rainfall and normal Temperature across the country for December 2022.

Climatic condition during the month of December

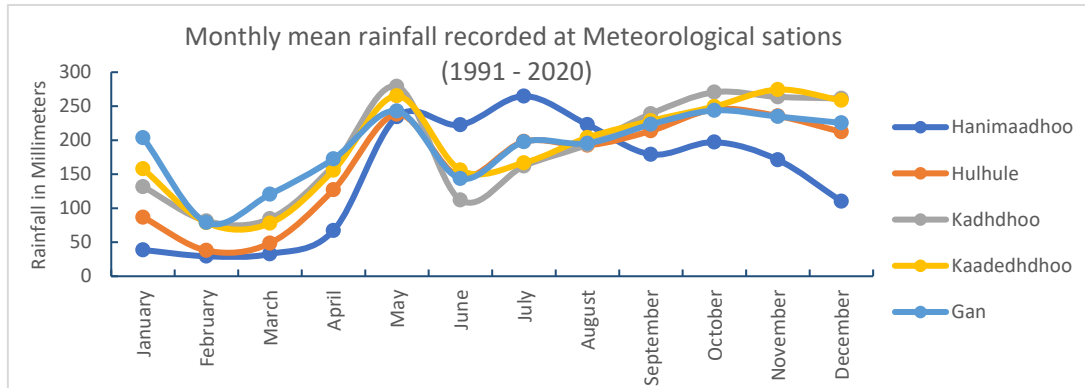


Figure 1- During the period 1991 - 2020, monthly mean rainfall of December were 110, 212, 261, 259 and 225 millimeters in Hdh.Hanimaadhoo, Hulhule, L.Kadhdhoo, Gdh.Kaadedhdhoo and S.Gan, respectively.

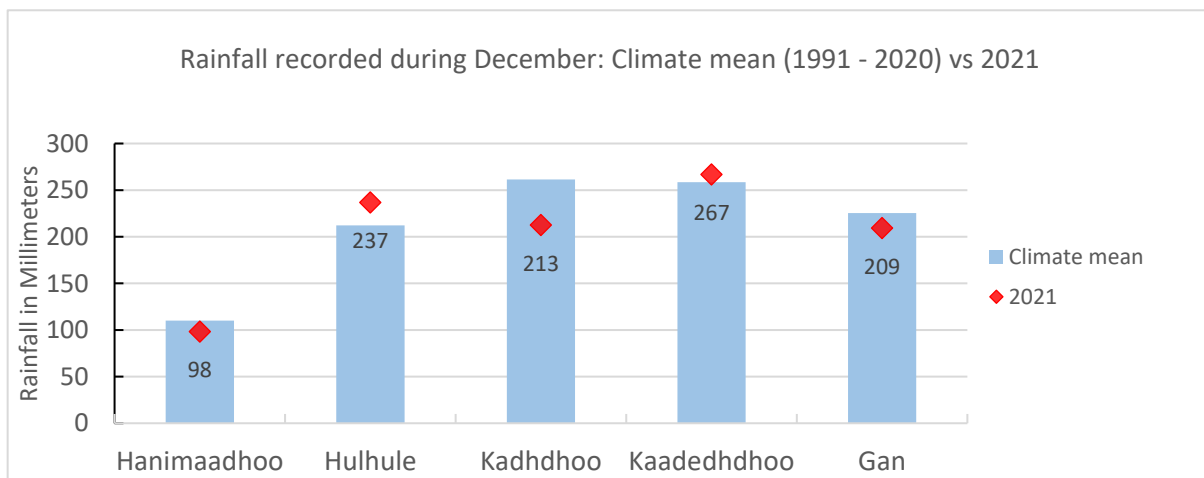


Figure 2- In December 2021, Hulhule received above-normal rainfall, Hanimaadhoo and Kadhdhoo received below-normal rainfall while Gan and Kaadedhdhoo received normal rainfall for the month.

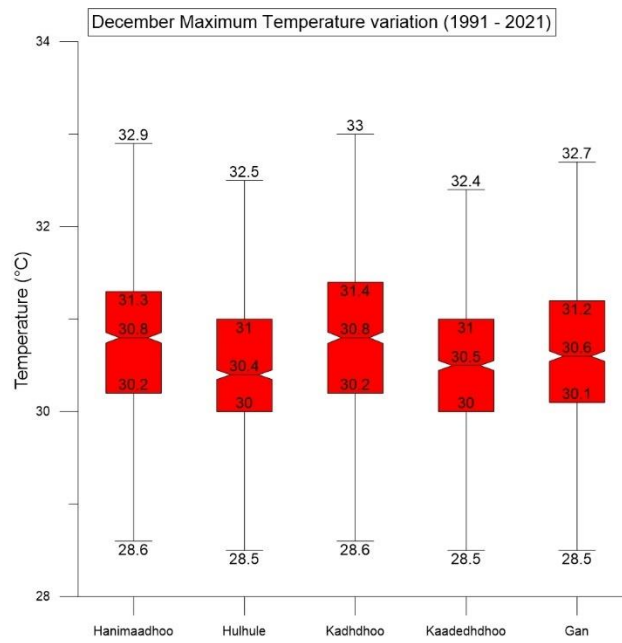


Figure 3: Daily Maximum Temperature range at Meteorological stations during December for the period 1991-2021. Highest maximum Temperature of 33.0°C recorded at Kadhdhoo Meteorological Office.

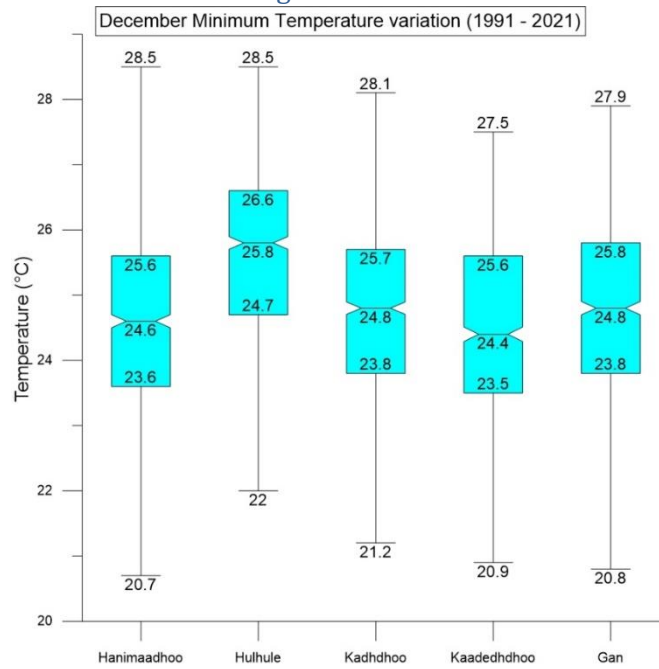


Figure 4: Daily Minimum Temperature range at Meteorological stations during December for the period 1991-2021, showing lowest minimum Temperature of 20.7°C at Gan Meteorological Office and Hanimaadhoo Meteorological Office.

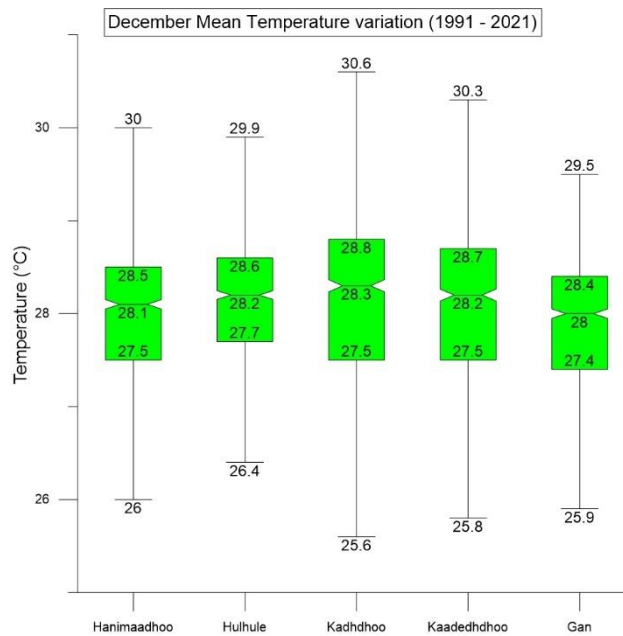


Figure 5: Daily Mean Temperature range at Meteorological stations during December for the period 1991-2021. It shows most (50%) of the times daily average temperature lies between 28.5– 27.5°C in Hanimaadhoo, 28.6 – 27.7 °C in Hulhule, 28.8 – 27.5 °C in Kadhdhoo, 28.7– 27.5 °C in Kaadedhdhoo and 28.4 - 27.4

Conclusion

By considering the active La Niña and neutral IOD condition, weak MJO Indian Ocean, 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 part of the country.

Temperature is likely to be 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