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Maldives Meteorological Service



pages: Page 1 of 3

Rainfall and Temperature Outlook over Maldives

For October 2021

Summary

Rainfall is likely to be below normal over most parts of the country. However, normal rainfall may occur in some parts of northern and southern atolls. Temperature is expected to be slightly above normal during the month.

Introduction

This consensus rainfall and temperature outlook 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), NMME Forecasts of Monthly Climate Anomalies and monthly forecasts of European Centre for Medium-Range Weather Forecasts (ECMWF).

Current status of major climate drivers.

El Niño -Southern Oscillation (ENSO): ENSO-neutral condition presents with near-to-below average Equatorial Sea Surface Temperatures across most of the Pacific Ocean. Global climate models indicate a re-emergence of La Niña.

Indian Ocean Dipole (IOD): Global models indicate that the event of negative IOD has weakened and predict a return to neutral IOD by December.

Madden-Julian Oscillation (MJO): MJO is over Maritime Continent (Phase 4) at the beginning of this month. It is expected to become enhanced and propagate eastwards to Phase 5 during week 1 and become weak over the same region. The weak signal is likely to move eastwards and reach to Indian Ocean towards end of the month.



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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 particularly over northern atolls and some parts of central atolls.

Global Producing Centres and WMO Lead Centre products

Probabilistic Multi-Model Ensemble of WMO Lead Centre for Long Range Forecast Multi-Model Ensemble indicates climatological probability over most parts of southern atolls and below normal rainfall over rest of the country.

Probabilistic Multi-Model Ensemble of WMO Lead Centre for Long Range Forecast Multi-Model Ensemble indicates above normal Temperature across the country for October 2021.

Climatic condition during the month of October

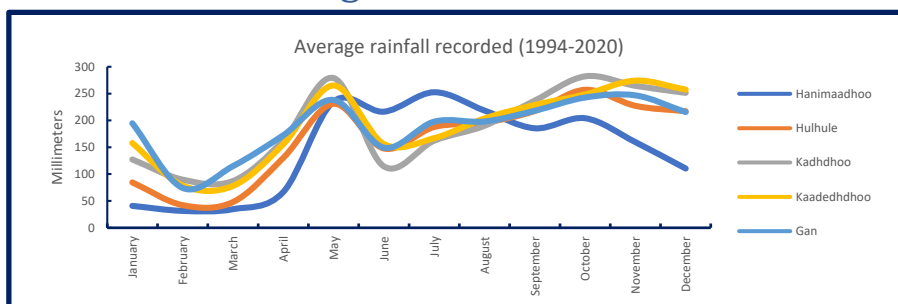


Figure 1- Seasonal distribution of average rainfall showing bimodal characteristics of rainfall in central and southern atolls and unimodal characteristics in northern atolls.

Long term average spatial distribution shows relatively high amount of rainfall over southern and some part of central atolls during October. Rainfall for October 2020, shows a similar pattern as Long Term Average Rainfall. However, total amount of rainfall received during October 2020 was relatively less compared with the average rainfall for the month of October.

Average Rainfall (October 1991-2019)

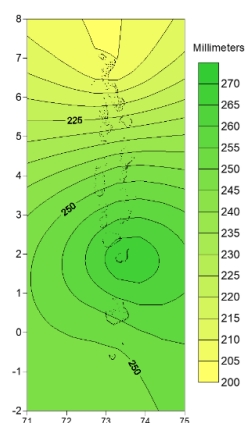


Figure 2- Spatial distribution of rainfall during October (1991-2019),

Average Rainfall (October 2020)

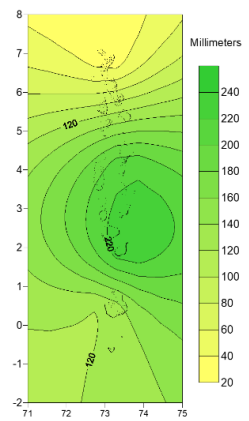


Figure 3- Spatial distribution of rainfall during October (2020),



Conclusion

By considering the neutral condition of ENSO, negative IOD, MJO signal in phase 4, Multi-Model Ensemble of WMO Lead Centres, NMME Forecasts and climate data, rainfall is likely to be below normal over most parts of the country during the month of October 2021. However, normal rainfall is expected in some parts of northern and southern atolls. Temperature is likely to be slightly above normal across the country during the month.

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.

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