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# Maldives Meteorological Service

## Rainfall and Temperature Outlook over Maldives

For December 2020

### Summary

While rainfall expected to be above normal in northern atolls, it is likely normal in central atolls and below normal in southern atolls during December 2020. Temperature is expected to be slightly above normal during the month.

### Introduction

This consensus outlook for Maldives has been developed through assessments including prevailing regional and global climate condition and prediction of various models, seasonal forecast of WMO Lead Centre for Long-Range Forecast Multi-Model Ensemble (LC-LRFMME), NMME Probability Forecasts of Monthly Climate Anomalies, forecasts from Regional Integrated Multi-Hazard Early Warning System (RIMES) and calibrating climate models.

**El Niño -Southern Oscillation (ENSO):** La Niña condition presents with currently below average Equatorial Sea Surface Temperatures (SSTs) from west-central to eastern Pacific Ocean. The condition is likely throughout December.

**Indian Ocean Dipole (IOD):** Neutral IOD condition persists and models suggest same condition during the month.

**Madden-Julian Oscillation (MJO):** MJO signal is weak and currently over Maritime Continent (phase 4). Some models suggest eastward propagation during week 1, become enhanced towards end of the week and emerge into phase 5 by 2<sup>nd</sup> week. The signal is likely over Western Pacific towards end of the month with weak signal.

### Calibration of climate models

Some models suggest above normal rainfall across the country during December, while others show above normal rainfall in northern atolls and below normal over the rest.

### Global Producing Centres and Lead Centre



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

22000 22000  
Hulhule' 22000  
Republic of Maldives

@MetMaldives

#MetMaldives





Probabilistic Multi-Model Ensemble of WMO Lead Centre for Long Range Forecast Multi-Model Ensemble indicates normal rainfall over the area north of Kaafu Atoll and below normal for rest of the country during December 2020. Most individual models indicate normal to above normal rain in northern atolls and below normal rainfall in both central and southern atolls during December.

Probabilistic Multi-Model Ensemble of WMO Lead Centre for Long Range Forecast Multi-Model Ensemble indicates above normal Temperature across the country for December 2020.

### Climate condition

December is the transition month from Southwest monsoon (Hulhangu Moosun) to Northeast monsoon (Iruvai Moosun) over Maldives.

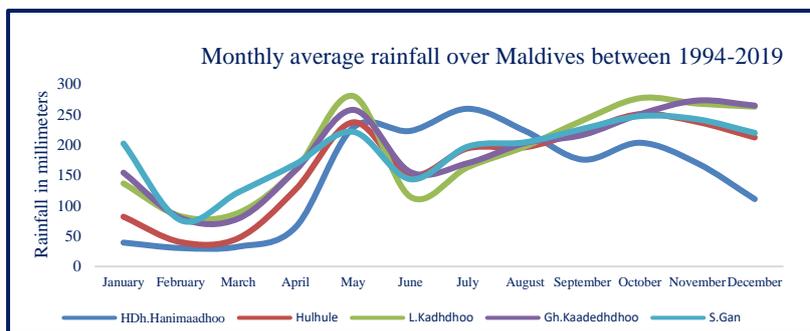


Figure 1 Peak rainfall in May and October.

Figure 1 shows monthly rainfall recorded in five Meteorological stations. There is a decreasing trend in rainfall for all areas during December.

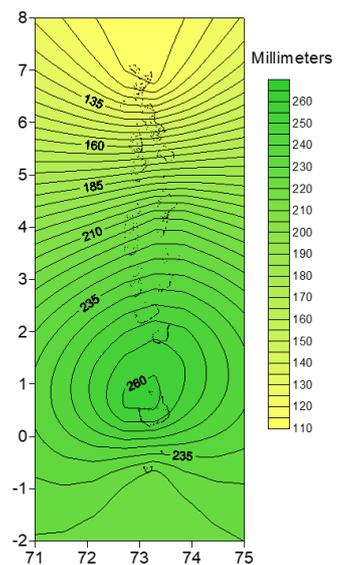


Figure 2 Spatial distribution of rainfall over the country during December

Figure 2 shows spatial distribution of rainfall across the country during December. Highest amount rainfall receives southern atolls. Northern atolls receive relatively less rain than central and southern atolls.

### Conclusion

By considering the Multi-Model Ensemble of WMO Lead Centres, individual models, NMME Probability Forecasts, RIMES forecasts, climate data, expected MJO, IOD and ENSO conditions, during December 2020, rainfall likely above normal over northern atolls, normal in the central and below normal in 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.



## References

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