

Rainfall and Temperature Forecast of Bhutan
for
Post Summer Monsoon
(October – December 2026)

Meteorological Services Division
National Centre for Hydrology and Meteorology
Royal Government of Bhutan
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Table of Contents

1. Background **3**
2. SASCOF-35 consensus on prevailing conditions **3**
2.1 ENSO Conditions over the Pacific Ocean 3
2.2 Conditions over the Indian Ocean 3
3. SASCOF-35 Outlook for 2026 October to December over South Asia **4**
4. October to December 2026 Outlook from International and Regional Climate Centres **6**
4.1 WMO Lead Centres 6
4.2 International Research Institute for Climate and Society (IRI) 6
4.3 Copernicus Climate Change Service (C3S) 7
4.4 Japan Meteorological Agency (JMA) forecast 7
4.5 APEC Climate Centre forecast 8
4.6 Forecast from NCHM using Climate Predictability Tool (CPT) 9
5. ENSO and IOD outlook OND 2026 **10**

1. Background

Seasonal forecasting and climate prediction are key adaptation measures for addressing climate variability and climate change. To support these efforts, Regional Climate Outlook Forums (RCOFs) were established to bring together countries with similar climatological characteristics and to produce joint assessments of regional climate conditions. In this context, the South Asian Climate Outlook Forum (SASCOF) was initiated in 2010 with a specific focus on the information needs of countries influenced by the South Asian monsoon.

Seasonal forecasts typically provide an outlook of precipitation and temperature for a defined region and period. For Bhutan, the seasonal forecast is developed using inputs from global and regional prediction centres, national climate datasets, and the consensus outlook of SASCOF. Additional guidance is drawn from products issued by the World Meteorological Organization (WMO) Global Producing Centres (GPCs) for Long-Range Forecasts, various international sources, and the prevailing global climate drivers such as the El Niño–Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD), which influence monsoon behaviour.

This outlook, which is for the months of October to December (OND) 2026 should be used in conjunction with extended-range, medium-range, and daily weather forecasts, as well as other advisories issued by the Centre, to support effective decision-making and risk management.

2. SASCOF-35 consensus on prevailing conditions

2.1 ENSO Conditions over the Pacific Ocean

The ENSO is one of the global scale climate forgings that significantly influence the year-to-year variability of the northeast monsoon rainfall and the surface temperatures over South Asia. The sea surface temperatures are above average in the eastern equatorial Pacific Ocean. Currently, very strong El Nino conditions are observed over the equatorial Pacific. Latest forecasts from many climate models indicate an enhanced probability of very strong El Nino conditions during the upcoming OND season.

2.2 Conditions over the Indian Ocean

In addition to ENSO conditions over the Pacific, other factors, such as Indian Ocean sea surface temperatures, influence the region's climate variability. Above-average sea surface temperatures (SSTs) are currently seen across most of the Indian Ocean. Currently, neutral Indian Ocean Dipole (IOD) conditions prevail over the Indian Ocean. The latest model forecast indicates that the neutral IOD conditions will likely continue for the next OND season.

3. SASCOF-35 Outlook for 2026 October to December over South Asia

A consensus outlook for October to December season rainfall over South Asia has been prepared based on the expert assessment of prevailing large-scale global climate indicators mentioned above and experimental as well as operational long-range forecasts based on statistical and dynamical models generated by various operational and research centers of the world. There is unanimity among the experts that the very strong El Niño conditions in the equatorial Pacific Ocean will continue during the upcoming OND season, and the neutral Indian Ocean Dipole conditions over the Indian Ocean are likely to continue during the October to December season. The relative impact of all these parameters needs to be considered to determine the expected state of the climate over the region during the season.

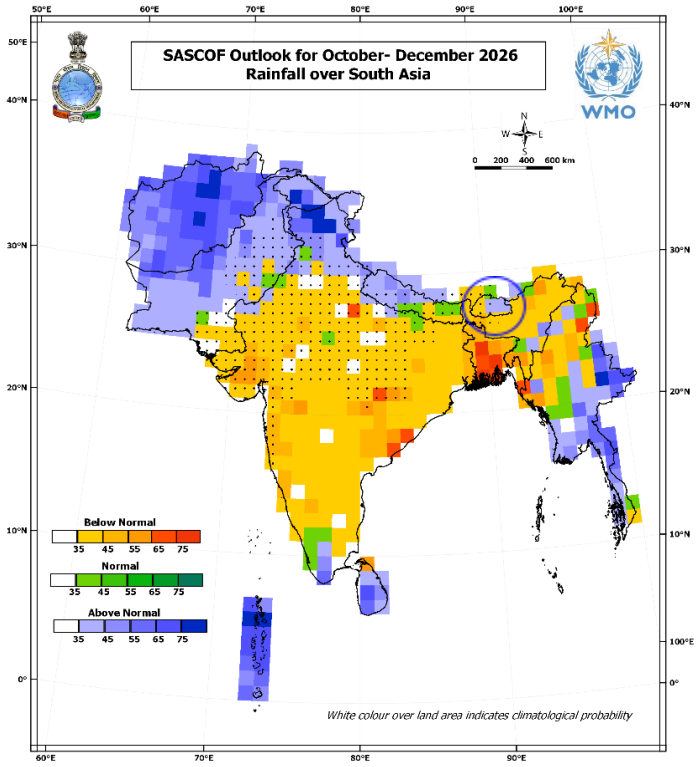


Figure 1a: Outlook for 2026 October to December season Rainfall over South Asia. The dotted area shown in the map climatologically receives very low rainfall and experiences dry weather during the OND season.

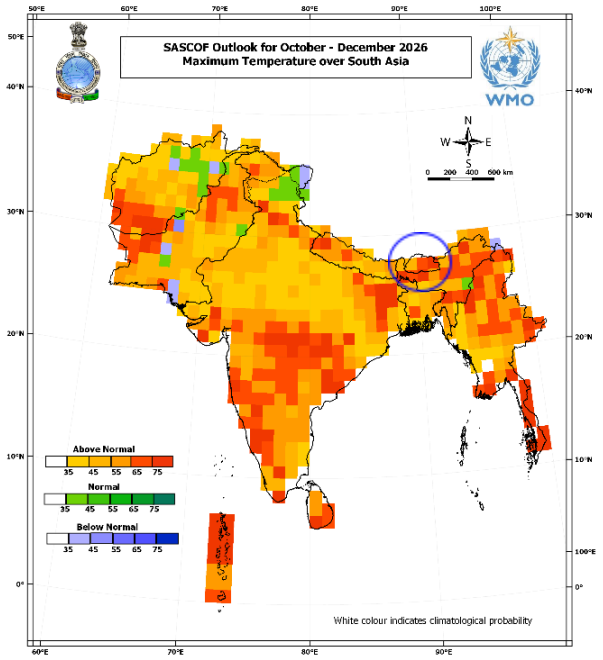


Fig.1b. Outlook of probability of the most likely category for the 2026 October to December season maximum temperature over South Asia.

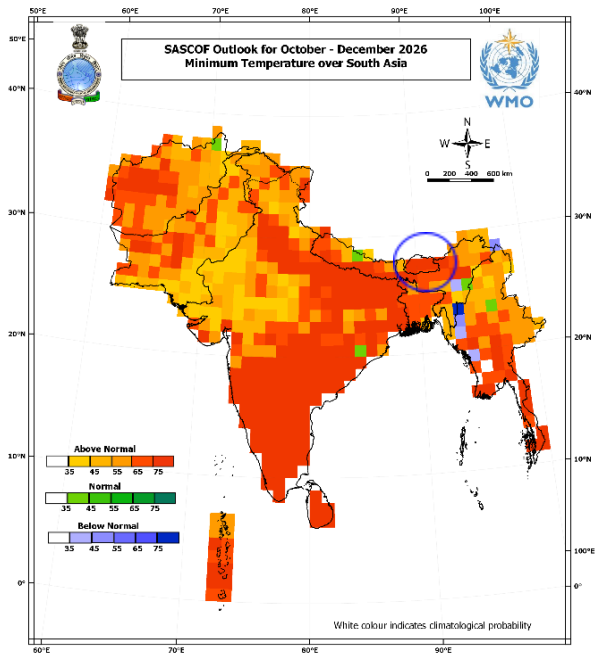


Fig.1c. Outlook of probability of the most likely category for the 2026 October to December season minimum temperature over South Asia.

The outlook for the 2026 October to December season rainfall over South Asia is shown in Fig.1a. The figure illustrates the most likely tercile category as well as its probability for each of the 1° latitude x 1° longitude spatial grid boxes over the region. The dotted area shown in the map climatologically receives very low rainfall and experiences dry weather during the OND season. The box-wise tercile probabilities were derived using an objective approach from an initial set of gridded forecasts from multiple GCMs and consolidated through a consensus-building discussion among climate experts.

The outlook suggests that during the 2026 October to December (OND) season, normal to above-normal rainfall is likely over northwestern parts of South Asia and parts of eastern and southern South Asia, including the Maldives and Sri Lanka. Below-normal rainfall is likely over most parts of central and southern peninsular South Asia and some parts of eastern South Asia. The remaining parts of the region are likely to experience climatological probabilities for seasonal rainfall.

The consensus outlook for the 2026 October to December maximum and minimum temperature over South Asia is shown in Fig.1b and 1c. During the season, normal-to-above-normal maximum and minimum temperatures are likely over most parts of South Asia.

4. October to December 2026 Outlook from International and Regional Climate Centres

4.1 WMO Lead Centres

Probabilistic multi-model ensemble forecasts of all the GPCs of WMO forecast show below normal rainfall and above normal temperature during OND 2026 over Bhutan.

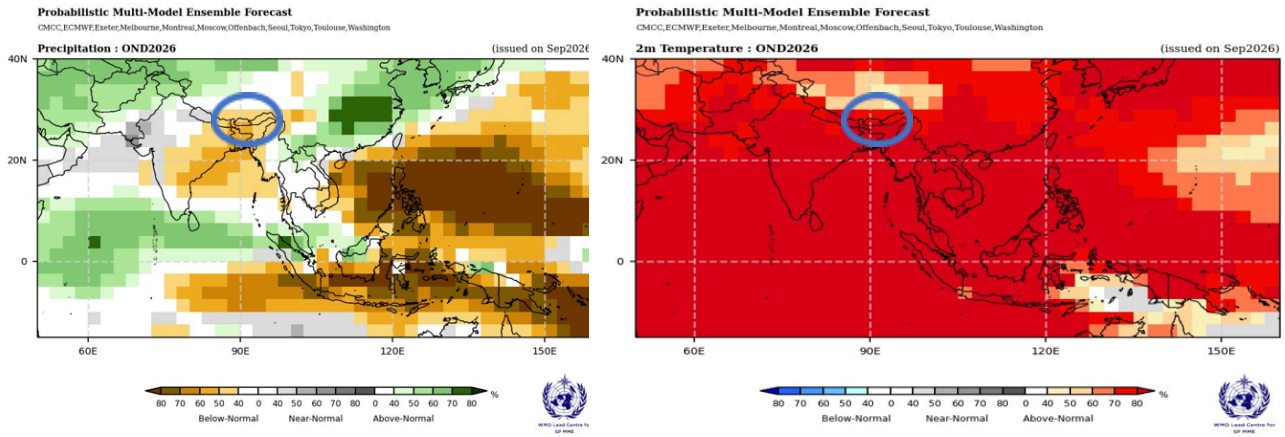


Figure 3: OND 2026 rainfall (left) and temperature (right) forecast from WMO GPCs

4.2 International Research Institute for Climate and Society (IRI)

The IRI forecast indicates below normal rainfall and above normal temperature during OND 2026 over Bhutan.

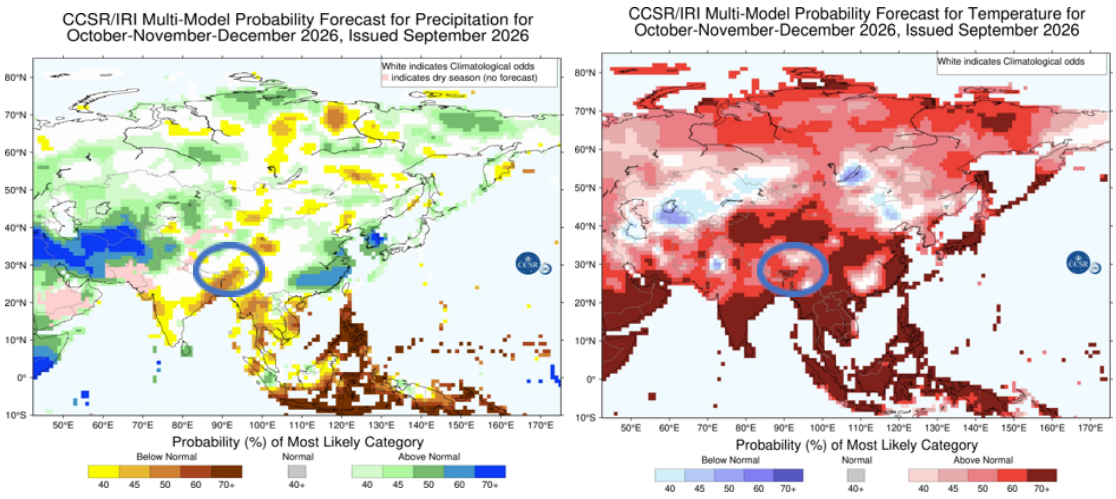


Figure 4: OND 2026 rainfall (left) and temperature (right) forecast from WMO GPCs

4.3 Copernicus Climate Change Service (C3S)

According to the C3S forecast, there is below normal rainfall and above normal temperature during OND 2026 over Bhutan.

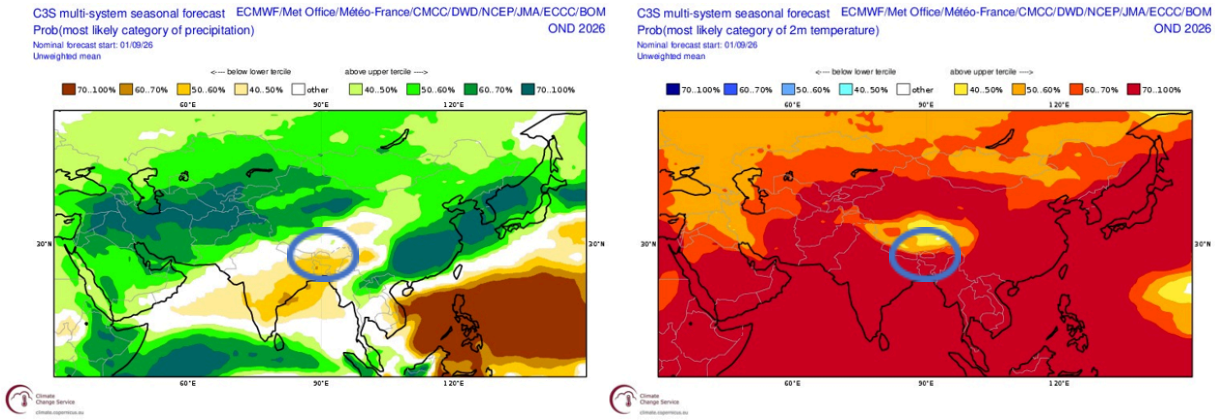


Figure 5: OND 2026 rainfall (left) and temperature (right) forecast from IRI

4.4 Japan Meteorological Agency (JMA) forecast

The JMA forecast indicates below normal rainfall and above normal temperature during OND 2026 over Bhutan.

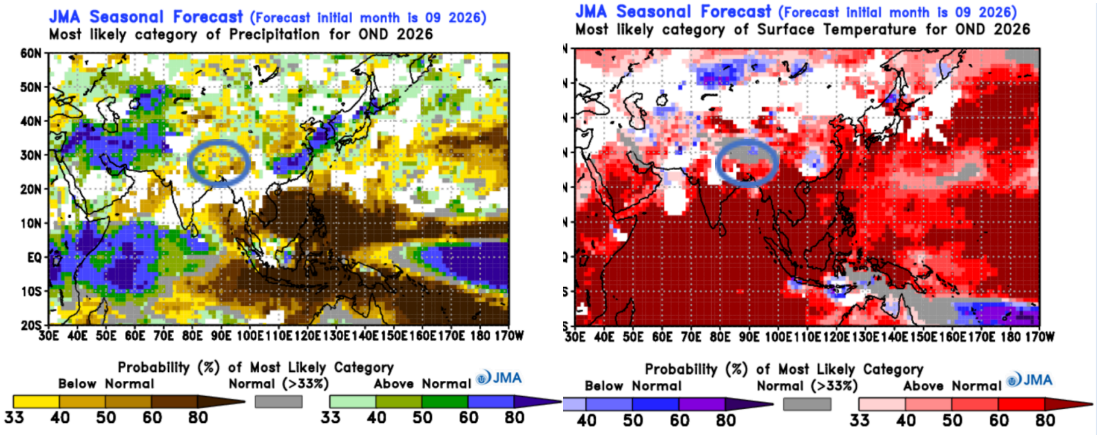


Figure 6: OND 2026 rainfall and temperature forecast from JMA

4.5 APEC Climate Centre forecast

The APEC climate centre forecast indicates below normal rainfall during OND 2026 over Bhutan.

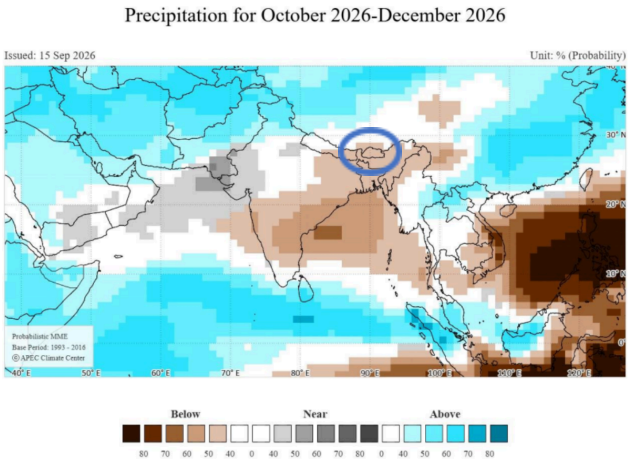


Figure 7: OND 2026 rainfall forecast from APEC climate centre

4.6 Forecast from NCHM using Climate Predictability Tool (CPT)

The CPT forecast indicates normal rainfall, slightly above normal maximum temperature and above normal minimum temperature during OND 2026.

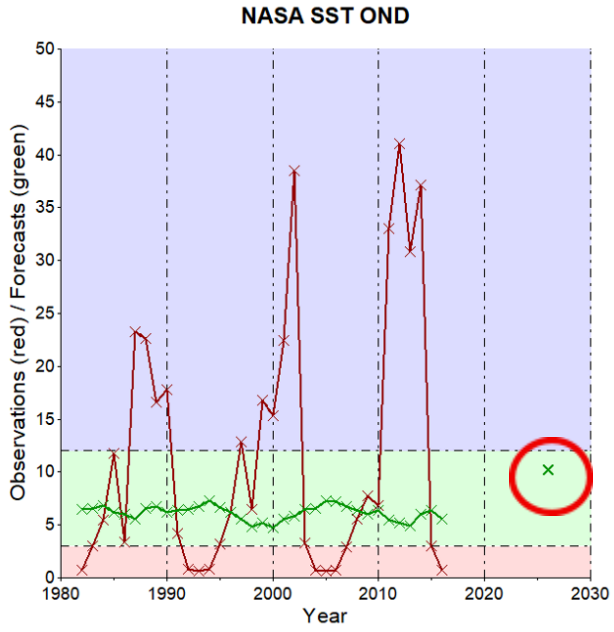


Figure 8: OND 2026 rainfall forecast from CPT

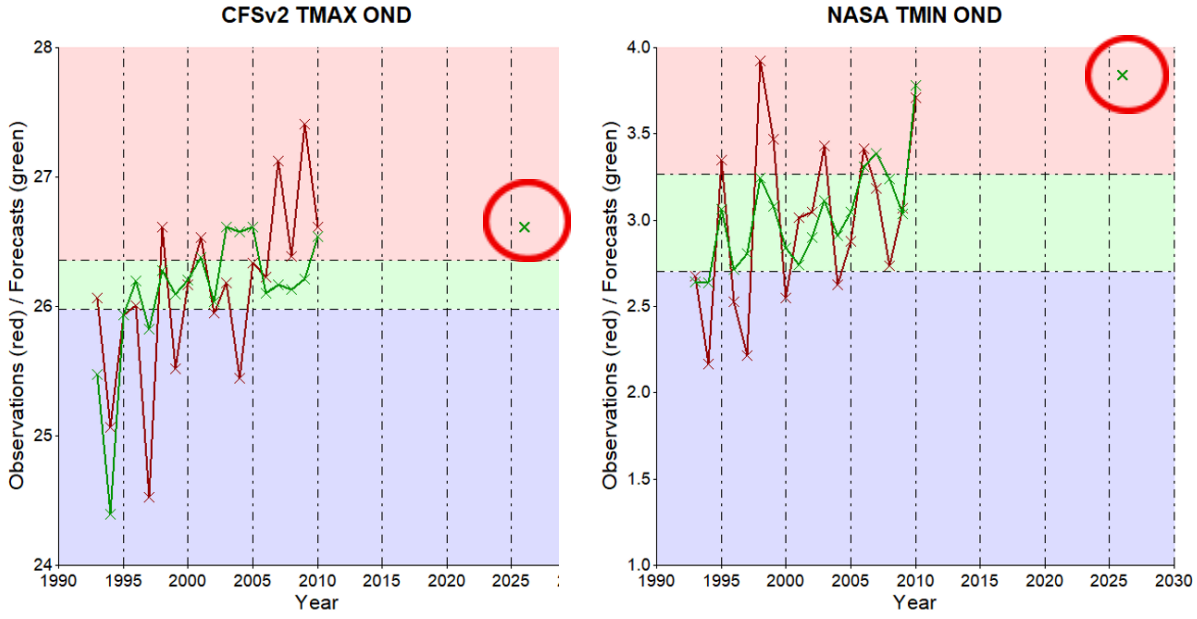


Figure 9: OND 2026 maximum (left) and minimum temperature (right) forecast from CPT

5. ENSO and IOD outlook OND 2026

Strong El Nino and neutral IOD conditions are likely to prevail during this upcoming season.

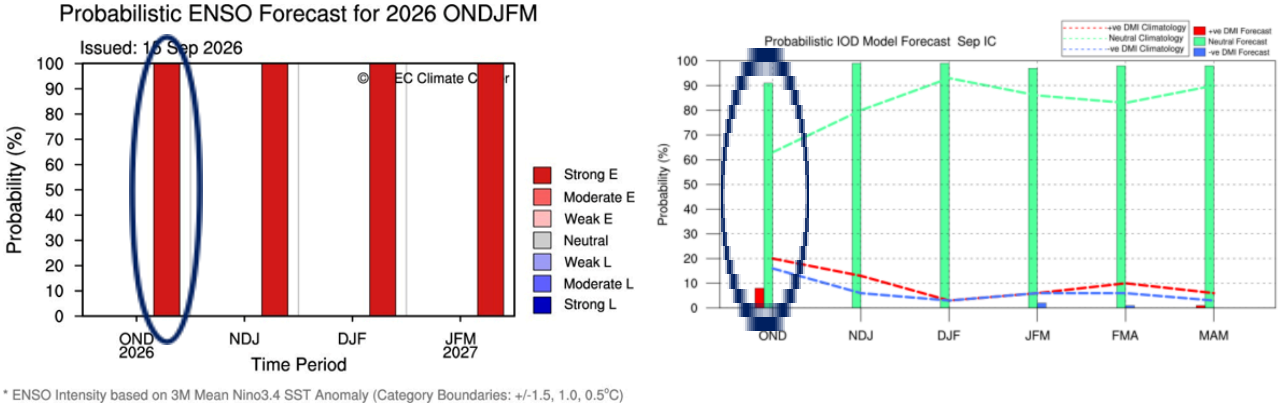


Figure 10: El Nino condition (left) and IOD condition (right)

The final outlook of October to November 2026 over Bhutan is based on the forecast products from various sources.

Sl No.	Indicators	Precipitation	Maximum Temperature	Minimum Temperature
1	CPT	Normal	Slightly Above Normal	Above Normal
2	GPCs	Below Normal	Above Normal	
3	IRI	Below Normal	Above Normal	
4	C3S	Below Normal	Above Normal	
5	JMA	Below Normal	Above Normal	
6	APEC	Below Normal		
7	SASCOF	Normal	Slightly Above Normal	Above Normal
8	ENSO	El Nino		
9	IOD	Neutral		

Table 1: Summary of results from various sources