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Maldives Meteorological Service

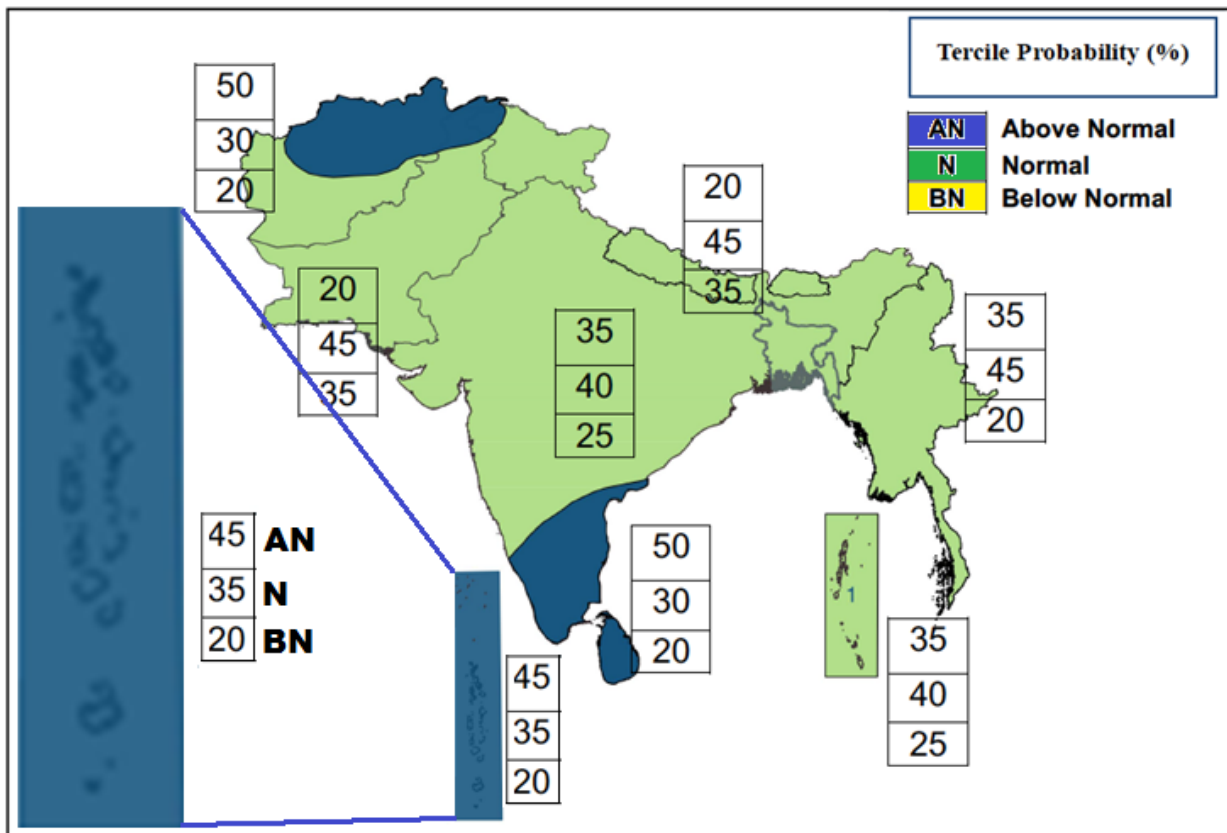


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"Dhivehin" – Always Maldivian, Forever Independent

2015 Rainfall Outlook for the Maldives (October-December)

Map below shows most likely categories of rainfall over South Asia for the October-December 2015 period. For the Maldives region, near normal to above normal rainfall is expected during October-December 2015. For more information and further updates on the seasonal outlook over the Maldives, Maldives Meteorological Service can be consulted. For further details, you are advised to refer consensus statement issued (attached below) during Winter South Asian Climate Outlook Forum (WinSASCOF-1) held at Chennai, India, from 14-15 October 2015.





First Session of
**Winter South Asian Climate Outlook Forum
(WinSASCOF-1)**

Chennai, India, 14-15 October 2015

**Consensus Statement on the Forecast for the 2015 Northeast Monsoon
Season (October – December) Rainfall and Temperature over South Asia**

Summary

Normal to above normal rainfall is likely during the 2015 Northeast monsoon season (October – December) over southern parts of South Asia including southeast peninsular India, Sri Lanka and Maldives. Above normal rainfall is likely over northern most parts of the region. Other areas of the region that generally receive very little rain during the season are likely to receive normal rainfall. During the season, normal to above normal temperatures are likely, over most parts of the region.

This consensus forecast outlook for the 2015 northeast monsoon season rainfall and temperature over South Asia have been developed through an expert assessment of the prevailing global climate conditions and forecasts from different climate models from around the world. Currently strong El Niño conditions prevail in the Pacific Ocean and it is almost certain that El Niño conditions will continue to prevail during the northeast monsoon season. However, it is recognized that there is

uncertainty about the impacts of El Niño on the seasonal rainfall and temperature patterns of the region. It is also recognized that other regional and global factors can affect the rainfall and temperature patterns over the region.

For more information and further updates on the northeast monsoon outlook on national scale, the respective National Meteorological and Hydrological Services (NMHSs) may be consulted.

A separate consensus statement for winter season (December 2015 to February 2016) will be issued in the second half of November 2016.

Introduction:

During the northeast monsoon season (October to December), many parts of South Asia receive significant amounts of rainfall which coincides with one of the major agricultural seasons of the region. The reestablishment of prevailing north easterly trade-wind regime over South Asia associated with the southward movement of the ITCZ ushers-in the so-called “Northeast Monsoon” (NEM), bringing rainfall to the southern parts of India, Sri Lanka and Maldives. In Sri Lanka, the October to November period is known as second Inter Monsoon (SIM) season. It was also recognized that there is moderate seasonal predictability for the NE Monsoon circulation over the region as the seasonal variability is strongly influenced by the slowly varying boundary forcings like sea surface temperatures. However, the predictability is limited to some extent due to the strong day to day atmospheric variability caused by the passage of the synoptic scale systems such as easterly waves, lows, depressions, cyclones etc. The seasonal predictability of the northeast monsoon over the region is also limited by the Madden Julian Oscillation (MJO), which represent the major global scale intraseasonal variability pattern.

The climate outlook for the 2015 northeast monsoon season (October to December) was prepared during the first session of the Winter South Asian Climate Outlook Forum (WinSASCOF-1), held at Chennai, India, 14-15 October 2015. The forum meeting was attended by several experts from India and various other countries of South Asia such as Afganistan, Bangladesh, Bhutan, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka. The Forum deliberated on various observed and emerging climatic features that are known to

influence the climate of the region such as the El Niño-Southern Oscillation (ENSO) conditions over the equatorial Pacific, Indian Ocean Dipole (IOD) conditions over the Indian Ocean etc. The key features of these conditions are as follows.

ENSO Conditions over the Pacific Ocean

The El Niño/Southern Oscillation (ENSO) is one of the global scale climate phenomena that have significant influence on the year-to-year variability of the northeast monsoon rainfall as well as the surface temperatures over South Asia. In March 2015, weak El Niño conditions were established over the equatorial Pacific which strengthened to moderate level in early June and then to strong level in middle of July. Currently, the atmospheric conditions over the Pacific also reflect patterns consistent with El Niño conditions. Latest forecasts indicate that the El Niño conditions are nearly certain to persist until early part of the next year. Models and expert opinion also suggest that sea surface temperatures in the east-central tropical Pacific Ocean are likely to exceed 2° Celsius above average, potentially placing this El Niño event among the four strongest events since 1950 (1972-73, 1982-83, 1997-98). El Niño conditions are known to strengthen the northeast monsoon circulation and enhance the rainfall over the region. However, their impact on the regional rainfall distribution varies from year to year. The El Niño conditions are also known to cause above normal temperatures over the region.

Conditions over the Indian Ocean

In addition to ENSO conditions over the Pacific, other factors such as Indian Ocean SSTs have some influence on the climate of the region. At present, positive SST anomalies are observed over most parts of the tropical Indian Ocean with slight positive Indian Ocean Dipole (IOD) over equatorial Indian Ocean. Recent forecasts from coupled models suggest positive IOD conditions to weaken and turn to neutral IOD conditions during the northeast monsoon season.

Consensus Outlook for the 2015 Northeast Monsoon Rainfall over South Asia:

A consensus outlook for northeast monsoon 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 centres of the world.

There is unanimity among the experts that the prevailing strong El Niño conditions in the equatorial Pacific is near-certain to continue during the northeast monsoon season. However, it is recognized that there is some uncertainty on the potential impacts of El Niño on the climate of the region due to strong day to day atmospheric variability generally observed in the region. Based on the historical data, it has been observed that during El Niño years, in general, southern parts of the region including southern Peninsular India, Sri Lanka and Maldives receive above normal rainfall. However, it is important to note that El Niño is not the only factor that decides the performance of northeast monsoon over the region. Other relevant climate drivers such as the state of the Indian Ocean Dipole, the Tropical Atlantic SST etc. are also important. The relative impact of all these parameters needs to be considered to determine the expected state of the monsoon over the region.

The outlook for northeast monsoon rainfall over South Asia is shown in Fig.1. The figure illustrates the most likely categories over the region, as well as the probabilities for each tercile category¹. The tercile probabilities were derived by synthesis of the available information and expert assessment.

The outlook suggests that during the 2015 northeast monsoon season (October – December), normal to above normal rainfall is highly likely over southern part of the south Asia including southeast peninsular India, Sri Lanka and Maldives. Above normal rainfall is likely over northern most parts of the region. Other areas of the region that generally receive very little rain during the season are likely to receive normal rainfall. During the season, normal to above normal temperatures are likely over most parts of the region.

¹Tercile categories have equal climatological probabilities, of 33.33% each.

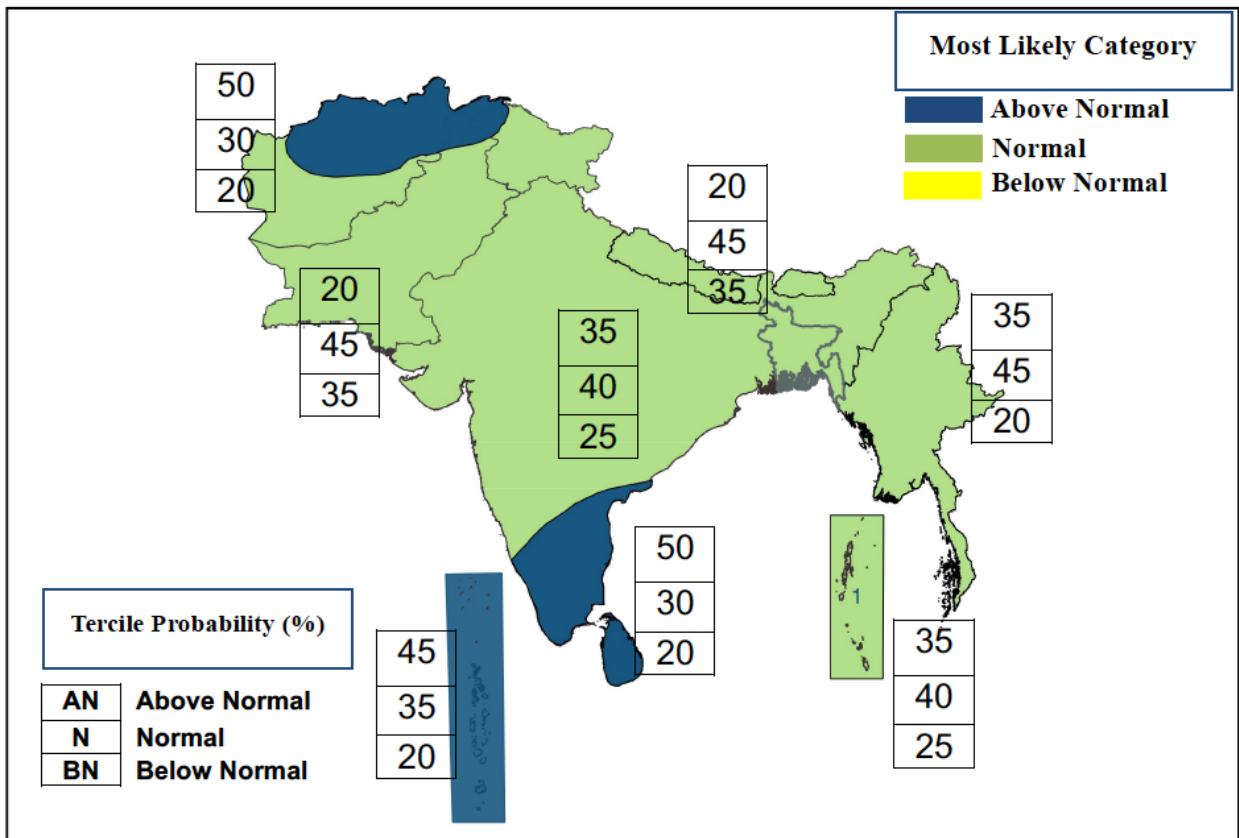


Figure 1 Consensus outlook for 2015 northeast Monsoon Rainfall over South Asia.