



Northeast Monsoon Seasonal Outlook Forum- 2026 (NEMSOF-2026) – Chennai, 1st October, 2026

Forecast Outlook for The 2026 Northeast Monsoon Season (October to December) Precipitation and Temperature over South Peninsular India

Highlights

- a) Seasonal rainfall during Northeast Monsoon Season (October to December (OND)) over South Peninsular India consisting of five meteorological subdivisions (Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe, and South Interior Karnataka) is most likely to be normal (88-112% of Long Period Average (LPA)).
- b) During the season, southern parts of Kerala and Tamil Nadu are likely to experience normal to above-normal and most areas of the remain region are likely to receive below-normal rainfall.
- c) In October 2026, many areas of south Tamil Nadu, some areas of north Tamil Nadu and hilly areas of Kerala are likely to experience normal to above normal rainfall, and most of the remaining areas of the region are likely to receive below normal rainfall.
- d) During the 2026 Northeast Monsoon Season, above-normal maximum and minimum temperatures are likely over most parts of the south Peninsular India.
- e) Strong El Niño conditions are currently prevailing over the equatorial Pacific Ocean, with sea surface temperatures well above average (especially in the central-eastern and eastern Pacific) and the coupled ocean-atmosphere system shows strong consistency with El Niño. Forecasts from the Monsoon Mission Coupled Forecast System (MMCFS) and other major global climate models indicate that El Niño will continue to strengthen through the end of the year and likely to continue in the early part of the next year.
- f) Neutral Indian Ocean Dipole (IOD) conditions are currently prevailing over the Indian Ocean. The latest MMCFS forecast indicates that neutral IOD conditions are likely to continue during NE Monsoon season.

Introduction:

The Climate Outlook Forums (RCOFs) are being conducted in many parts of the world with the aim to provide consensus seasonal climate information on a regional scale. Such forums also serve to interface with user sectors to understand and enhance the use of climate information as orchestrated and supported by the Global Framework for Climate Services (GFCS). Since 2010, India Meteorological Department (IMD) has been leading the South Asian Seasonal Climate Outlook Forum (SASCOF) supported by the World Meteorological Organization (WMO) by organising the SASCOF Sessions every year before both the summer and winter monsoon seasons and issuing regional seasonal climate outlook for the seasons. Following the growing recognition of the benefits of SASCOFs in articulating and sharing seasonal climate information at regional level led to conducting the outlooks at national and sub national levels. In India, during the last few years, the India Meteorological Department (IMD) in collaboration with state government organizations has been conducting state level monsoon outlook forums for both southwest and northeast monsoon seasons across the country. However, these state level forums need to be conducted regularly every year.

The South Peninsular India along with many other parts of South Asia receives significant amounts of rainfall during October to December which coincides with the second major agricultural season. The reestablishment of prevailing north easterly trade-wind regime over South Asia associated with the southward movement of the Intertropical Convergence Zone (ITCZ) ushers-in the so-called “Northeast Monsoon” (NEM), bringing rainfall to the extreme southern parts of India, Sri Lanka, Maldives and southern coastal areas of Myanmar.

The south Peninsula consisting of five subdivisions (Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, Kerala and south interior Karnataka) receives about 30% of its annual rainfall during the NE monsoon season (October to December). Tamil Nadu in particular receives about 48 % of its annual rainfall during this season. Due to this important fact, India Meteorological Department (IMD) has been preparing forecast outlook for the NE monsoon season rainfall over south Peninsula since 1998.

Looking into the crucial role of NE Monsoon rains for the region (South Peninsular India), there is a need to develop a system for providing improved state level climate information including monsoon forecast outlook, and tailor-made climate services to the climate sensitive sectors like water, agriculture and food security, disaster risk management, health etc. and discuss their changing needs regularly. This will help the states to develop a process for an effective state level action plan that includes diverse stakeholder perspectives, collective learning, and collaborative decision making. As a first step towards this, a monsoon forum meeting involving various Stakeholders from the south Peninsula was conducted on 1st October, 2026 in collaboration with Tamil Nadu Disaster Risk Reduction Agency (TNDRRRA) and National Institute of Ocean Technology (NIOT). The forum was attended by operational weather and climate services providers and experts from the climate sensitive sectors like agriculture, water, disaster management, health, energy etc.

The major objectives of the Forum are to:

- a) **Share the forecast outlook for the 2026 Northeast Monsoon**, including rainfall and temperature outlook over South Peninsular India.
- b) **Discuss the weather and climate information currently used by various user sectors** and understand their requirements.
- c) **Facilitate the application of the 2026 Northeast Monsoon outlook** in sector-specific planning and decision-making and identify requirements for customised products and decision-support tools.
- d) **Strengthen coordination** for monitoring, early warning and exchange of weather and climate information between service providers and user sectors.

This year the forum meeting is particularly important due to the ongoing very strong El Niño conditions over the equatorial Pacific, which has got significant impact on climate patterns across the globe including the monsoons over Indian region.

It is recognized that the seasonal predictability of the south Peninsula during the NE Monsoon season is limited to some extent by the strong day to day atmospheric variability, caused by the passage of disturbances in the tropical easterlies and eastward moving Madden Julian Oscillation (MJO), which represents the major global scale intra-seasonal variability pattern.

The forecast outlook for the rainfall and temperatures during the 2026 NE monsoon season over south Peninsula released and discussed in the forum meeting was prepared based on the IMD's newly developed Multi-Model Ensemble (MME) based long range forecasting system. The MME technique use coupled global climate models (CGCMs) from various international climate prediction and research centers, including IMD's own Monsoon Mission Climate Forecast System (MMCFS). The forum meeting also discussed 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 having significant influence on the year-to-year variability of the NE Monsoon rainfall as well as the surface temperatures over South Asia.

Strong El Niño conditions are currently prevailing over the equatorial Pacific Ocean, characterized by significantly above-average sea surface temperatures, particularly across the central-eastern and eastern Pacific. The coupled ocean-atmosphere system also exhibits a strong and consistent El Niño signal. Forecasts from the Monsoon Mission Coupled Forecast System (MMCFS), along with those from other major global climate models, indicate that El Niño conditions are likely to persist throughout the year.

Conditions over the Indian Ocean

In addition to ENSO conditions over the Pacific, other factors such as Indian Ocean sea surface temperatures have some influence on the climate of the south Peninsula

Neutral Indian Ocean Dipole (IOD) conditions are currently prevailing over the Indian Ocean. The latest forecast from the Monsoon Mission Coupled Forecast System (MMCFS) indicates that neutral IOD conditions are most likely to persist during the NE monsoon season.

Forecast Outlook for the 2026 Northeast Monsoon Season (October to December) Rainfall over South Peninsula:

The rainfall averaged over south Peninsular India during post-monsoon season (October to December (OND)) **is most likely to be normal (88-112% of Long Period Average (LPA))**. The LPA of rainfall over the South Peninsular India during the post-monsoon season based on data of 1971 to 2020 is about 334.13mm.

The spatial distribution of probabilistic forecasts for the tercile categories (above normal, normal, and below normal) of rainfall over the region for the Northeast Monsoon season is shown in Fig.1. The probability forecast indicates that the southern parts of Kerala and Tamil Nadu are likely to experience normal to above-normal. Most areas of the remaining region are likely to receive below-normal rainfall. The white shaded areas within the land area represent climatological probabilities.

However, it may be mentioned that in addition to the seasonal impacts associated with El Niño, the influence of ongoing global warming and climate change is expected to increase the frequency and intensity of extreme weather events like heavy rainfall, dry spells, heat waves etc. over the region.

The below-normal rainfalls expected in some areas during the season could lead to increased soil moisture stress and irrigation requirements, and reduced recharge of reservoirs, groundwater water availability and agricultural productivity.

In view of these potential risks, anticipatory preparedness and mitigation measures may be initiated well in advance. IMD's early warning and advisory services, including weather forecasts, Impact-Based Forecasts (IBF), and risk-based advisories, may be effectively utilized to support timely decision-making. Authorities and stakeholders are advised to regularly assess water availability, optimize irrigation resources, promote water conservation and efficient water use, and implement appropriate agricultural contingency measures. Timely action based on IMD advisories can help strengthen preparedness, improve resource management, and minimize potential impacts on agriculture and livelihoods.

Forecast Outlook for the Rainfall Over the South Peninsular India During October 2026

The spatial distribution of probabilistic forecasts for tercile categories (above normal, normal, and below normal) of rainfall over the South Peninsular India during October 2026 is shown in Fig.2. The Forecast suggests that many areas of south Tamil Nadu, and some areas of north Tamil Nadu and hilly areas of Kerala are likely to experience normal to above normal rainfall. The most of the remaining areas of the region are likely to receive below normal rainfall during October 2026.

Forecast Outlook for the 2026 Northeast Monsoon Season (October to December) Maximum and Minimum over South Peninsula

Fig.3a and Fig.3b show probabilistic forecast of the maximum and minimum temperatures respectively during the 2026 post-monsoon season (October to December (OND)).

During the season, both the maximum and minimum temperatures are likely to be above normal over most parts of the region.

Extended Range Forecast and Short to Medium range forecast Services

In addition to seasonal forecasts, IMD prepares and provides extended range forecasts (7–day averaged forecasts for the next four weeks) of rainfall and maximum and minimum temperatures over the country updated every week on Thursday. This is based on the Multi-model ensemble dynamical Extended Range Forecasting System currently operational at IMD. The extended range forecasts are available through the IMD website

https://mausam.imd.gov.in/imd_latest/contents/extendedrangeforecast.php.

The extended range forecast is followed by a short to medium range forecast issued daily by IMD. The forecasts are available through the IMD website https://nwp.imd.gov.in/gfsproducts_cycle00_mausam.php.

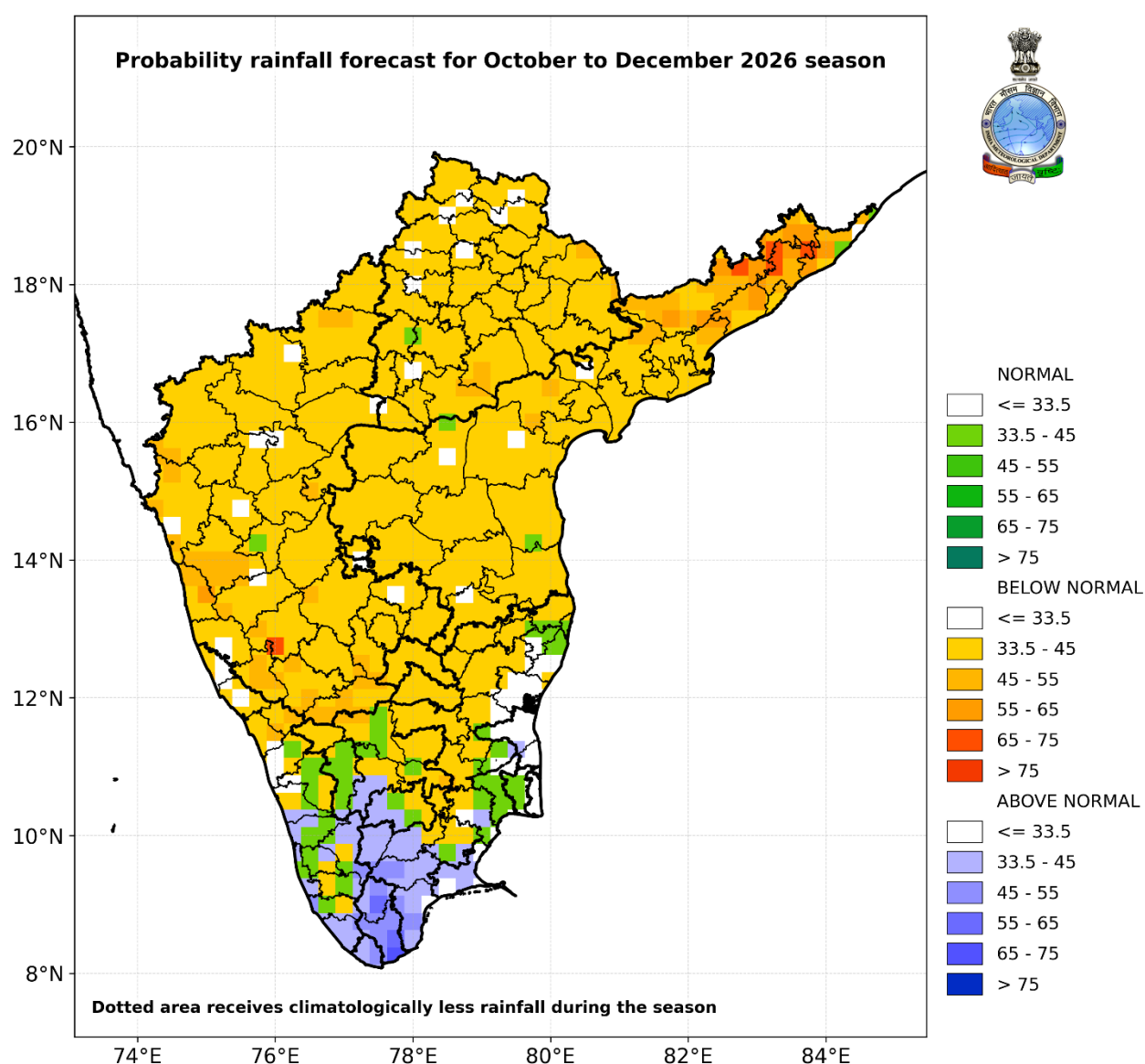


Fig.1.Probability forecast of tercile categories* (below normal, normal, and above normal) of rainfall over South Peninsular India during October to December, 2026 period. The figure illustrates the most likely categories as well as their probabilities. The white shaded areas within the land area represent no signal from the model.

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

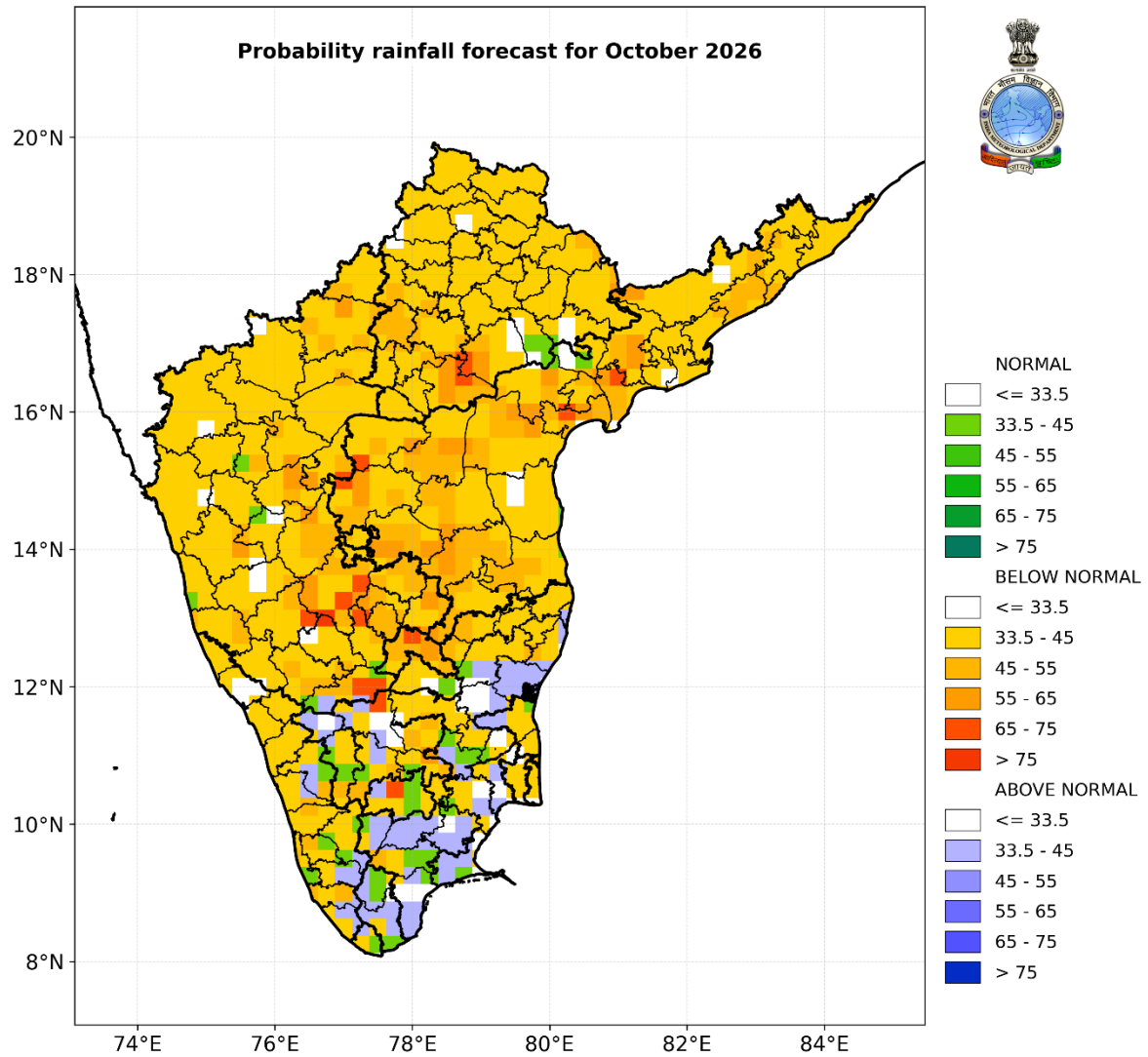


Fig.2.Probability forecast of tercile categories (below normal, normal, and above normal) of rainfall over South Peninsular India during October, 2026. The figure illustrates the most likely categories as well as their probabilities. The white shaded areas within the main land represent no signal from the model.

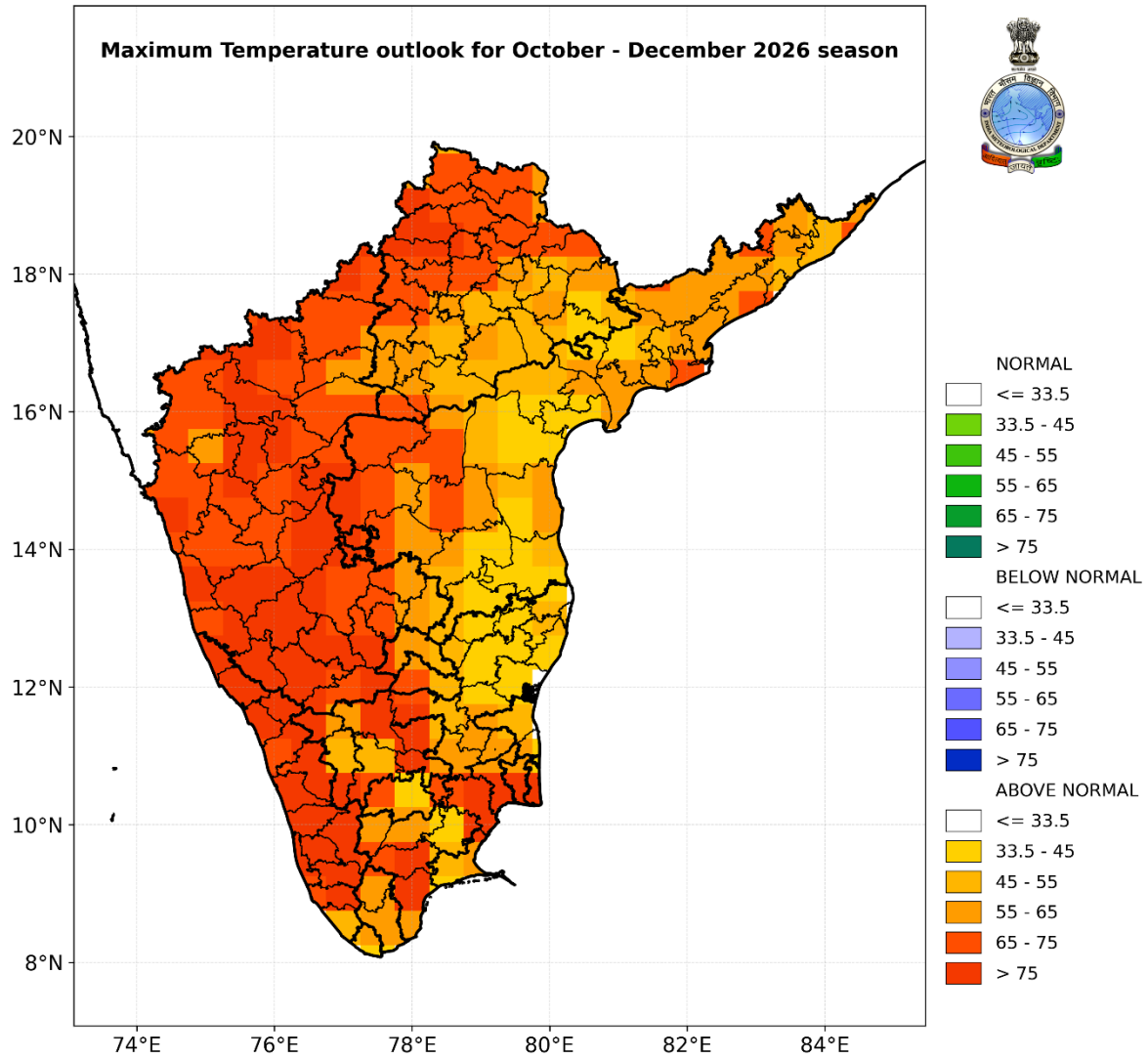


Fig.3a. Probability forecast of Maximum Temperature over South Peninsular India during October to December, 2026 period. The figure illustrates the most likely categories as well as their probabilities. The white shaded areas within the land area represent no signal from the model.

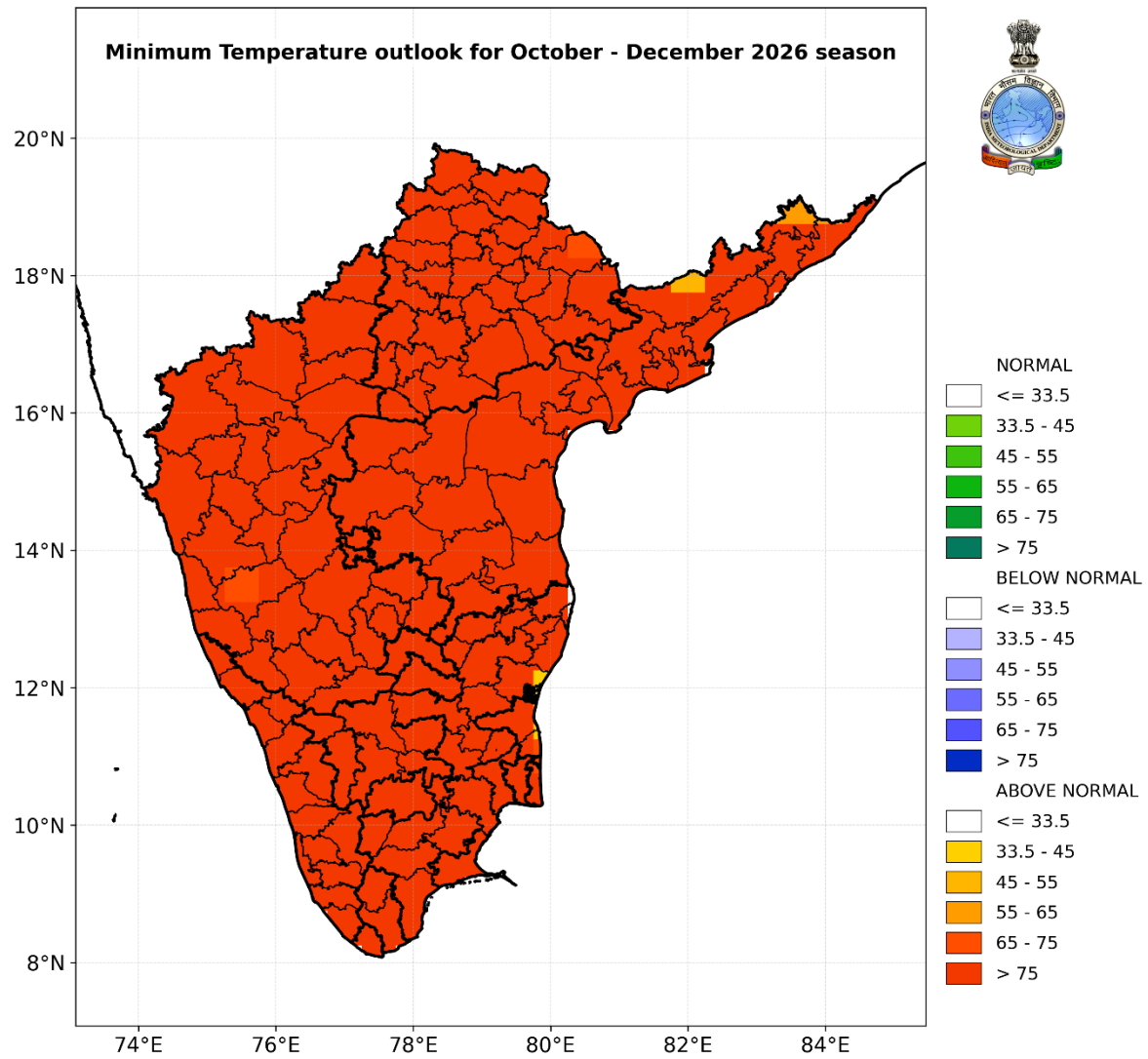


Fig.3b. Probability forecast of Minimum Temperature over South Peninsular India during the October 2026.