Southwest Monsoon 2021 Forecast Report



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India Meteorological Department (IMD) on 14th of May 2021 published Forecast of the Onset Date of Southwest Monsoon - 2021 over Kerala. According to the press release Southwest monsoon sets over Kerala on 1st June with a standard deviation of about 7 days. However, **This year for 2021, the onset of southwest monsoon over Kerala is likely to be on 31st May with a model error of ± 4 days.**

IMD's operational forecasts of the date of monsoon onset over Kerala during the past 16 years (2005-2020) were proved to be correct except in 2015. Forecast verification for the recent 5 years (2016-2020) is given in the table below.

Year	Actual Onset Date	Forecast Onset Date
2016	8 th June	7 th June
2017	29 th May	30 th May
2018	29 th May	29 th May
2019	8 th June	6 th June
2020	1 st June	5 th June

Table No.1

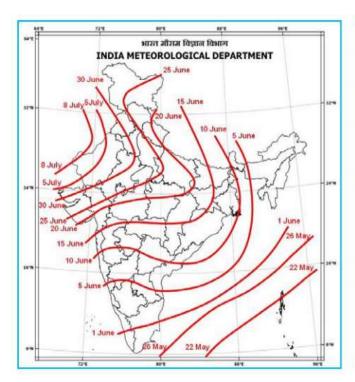


Figure No.1 New dates of normal monsoon onset/progress

Figure No. 1 Map showing the isochrones of normal monsoon onset/progress dates over the country based on the new objective rainfall criteria for the base period of 1961-2019



Figure No.2 New dates of normal monsoon withdrawal

Figure No. 2 Map showing the isochrones normal monsoon withdrawal dates over the country based on the IMD's declared operational dates for the base period of 1971-2019

The salient features of these new normal onset/progress and withdrawal dates of the southwest monsoon over the country are given below:

- There is a delay in the new monsoon onset/progress normal dates compared to the existing normal dates over most parts of the Indian monsoon region except Lakshadweep islands, a few grids from western part of northeast India and western parts of south Peninsula, and some areas of north and extreme northwest India where monsoon advance is relatively faster in the new onset dates than the existing normal dates.
- The Monsoon sets for Kerala around 1st June, nearly same as the existing normal date.
- Monsoon advances over most parts of Northeast India by around 5th June with a delay of about 1-4 days compared to the existing normal.
- Monsoon covers most parts of the country except extreme northwest India by end of June close to the existing normal date. But covers the entire country by 8th July exactly one week before the existing normal date of 15th July.
- Monsoon onset/progress over most parts of central India between 2nd week of June and early July in the new normal dates is delayed by 1-8 days compared to existing normal dates.
- As per the new normal, monsoon start its **withdrawal from northwest India around 17**th **September, which is a delay of more than 2 weeks** compared to the existing normal date (i.e., 1st September).
- Further monsoon withdrawal is much faster. By 20th September, it withdraws from more parts of Rajasthan and some parts of north Gujarat state, and some western areas of Punjab and Haryana with a delay of only around 5 days compared to existing normal date of 15th September.
- Monsoon withdraws from most areas of Gujarat, Rajasthan, Jammu &Kashmir, Gilgit, Baltistan, Muzzafarabad, Ladakh, Punjab, Haryana, Chandigarh, Delhi, Himachal Pradesh, Uttarakhand, west Uttar Pradesh (UP) and some parts of east UP and west Madhya Pradesh (MP) by 1st October with a delay of only about 2-3 days compared to existing normal dates.
- Monsoon withdraws from most parts of the country except south Peninsula and some parts of neighboring central India by 15th October coinciding with the existing normal dates of withdrawal.
- After 15th October, southwest monsoon retreats from the country and northeast monsoon gets established over south Peninsula.



Normal monsoon onset (1961-2019) dates based on new rainfall criteria suggested in this study and withdrawal (1971-2019) dates based on the operational data over 140 major cities of the country

Station List	New (1961-2019)	Existing (1901-1940)	New (1971-2019)	Existing (1901-1940)		
		South				
Peninsula						
Port Blair, Andaman Nicobar	21-May	19-May	*	*		
Thiruvananthapuram, Kerala	01-Jun	01-Jun	*	*		
Kochi, Kerala	01-Jun	01-Jun	*	*		
Thrissur, Kerala	03-Jun	02-Jun	*	*		
Kozhikode, Kerala	03-Jun	03-Jun	*	*		
Nagercoil, Tamil Nadu	01-Jun	01-Jun	*	*		
Tuticorin, Tamil Nadu	02-Jun	01-Jun	*	*		
Coimbatore, Tamil Nadu	05-Jun	02-Jun	*	*		
Chennai, Tamil Nadu	07-Jun	29-May	*	*		
Mysuru, Karnataka	03-Jun	02-Jun	*	*		
Bengaluru, Karnataka	03-Jun	02-Jun	*	*		
Mangaluru, Karnataka	03-Jun	03-Jun	*	*		
Medikeri, Karnataka	04-Jun	03-Jun	*	*		
Shivamogga, Karnataka	04-Jun	04-Jun	*	*		
Karwar, Karnataka	04-Jun	05-Jun	*	*		
Gangawati, Karnataka	06-Jun	05-Jun	15-Oct	13-Oct		
Belagavi, Karnataka	07-Jun	05-Jun	14-Oct	08-Oct		
Gulbarga, Karnataka	07-Jun	08-Jun	13-Oct	03-Oct		
Gokak, Karnataka	08-Jun	08-Jun	13-Oct	03-Oct		
Bijapur, Karnataka	08-Jun	08-Jun	14-Oct	08-Oct		
Anantapur, Andhra Pradesh	04-Jun	03-Jun	*	*		
Ongole, Andhra Pradesh	11-Jun	03-Jun	*	*		
Vishakhapatnam, Andhra Pradesh	11-Jun	08-Jun	*	10-Oct		
Kalingapatnam, Andhra Pradesh	11-Jun	08-Jun	15-Oct	13-Oct		
Sompeta, Andhra Pradesh	11-Jun	08-Jun	10-Oct	13-Oct		
Hyderabad, Telangana	11-Jun	08-Jun	13-Oct	13-Oct		
Suryapet, Telangana	12-Jun	06-Jun	*	15-Oct		
Hanamkonda, Telangana	12-Jun	08-Jun	13-Oct	08-Oct		
Sirkonda, Telangana	12-Jun	08-Jun	13-Oct	10-Oct		
Sirpur, Telangana	14-Jun	09-Jun	09-Oct	10-Oct		

Station List	New (1961-2019)	Existing (1901-1940)	New (1971-2019)	Existing (1901-1940)
		East and Northeast India		
Aizwal, Mizoram	04-Jun	01-Jun	15-Oct	09-Oct
Kohima, Nagaland	04-Jun	02-Jun	14-Oct	09-Oct
Dimapur, Nagaland	04-Jun	02-Jun	14-Oct	09-Oct
Shillong, Meghalaya	04-Jun	03-Jun	14-Oct	08-Oct
Imphal, Manipur	05-Jun	01-Jun	15-Oct	10-Oct
ltanagar, Arunachal Pradesh	05-Jun	03-Jun	14-Oct	08-Oct
Agartala, Tripura	07-Jun	31-May	14-Oct	08-Oct
Gangtok, Sikkim	08-Jun	08-Jun	12-Oct	06-Oct
Sivasagar, Assam	04-Jun	03-Jun	14-Oct	08-Oct
Dibrugarh, Assam	04-Jun	03-Jun	14-Oct	08-Oct
Guwahati, Assam	05-Jun	03-Jun	14-Oct	08-Oct
Tezpur, Assam	05-Jun	03-Jun	14-Oct	08-Oct
Jalpaiguri, West Bengal	07-Jun	09-Jun	12-Oct	06-Oct
Kalimpong, West Bengal	08-Jun	08-Jun	12-Oct	06-Oct
Kolkata, West Bengal	12-Jun	07-Jun	14-Oct	08-Oct
Bankura, West Bengal	13-Jun	08-Jun	12-Oct	08-Oct
Purnea, Bihar	13-Jun	12-Jun	10-Oct	08-Oct
Patna, Bihar	16-Jun	11-Jun	08-Oct	03-Oct
Gaya, Bihar	16-Jun	11-Jun	09-Oct	03-Oct
Chhapra, Bihar	18-Jun	13-Jun	06-Oct	04-Oct
Jamshedpur, Jharkhand	13-Jun	11-Jun	12-Oct	08-Oct
Bokaro Steel City, Jharkhand	13-Jun	11-Jun	10-Oct	07-Oct
Gopikandar, Jharkhand	13-Jun	10-Jun	10-Oct	05-Oct
Chakradharpur, Jharkhand	14-Jun	11-Jun	10-Oct	08-Oct
Ranchi, Jharkhand	14-Jun	10-Jun	09-Oct	03-Oct
Daltonganj, Jharkhand	17-Jun	11-Jun	08-Oct	08-Oct

Station List	New (1961-2019)	Existing (1901-1940)	New (1971-2019)	Existing (1901-1940)
	(1961-2019)	Central India	(1971-2019)	(1901-1940)
Panjim, Goa	05-Jun	05-Jun	14-Oct	30-Sep
Kolhapur, Maharashtra	08-Jun	08-Jun	13-Oct	03-Oct
Satara, Maharashtra	09-Jun	08-Jun	12-Oct	03-Oct
Baramati, Maharashtra	10-Jun	08-Jun	10-Oct	30-Sep
Pune, Maharashtra	10-Jun	08-Jun	09-Oct	30-Sep
Udgir, Maharashtra	11-Jun	08-Jun	12-Oct	05-Oct
Mumbai, Maharashtra	11-Jun	10-Jun	08-Oct	29-Sep
Ahmednagar, Maharashtra	12-Jun	08-Jun	08-Oct	28-Sep
Aurangabad, Maharashtra	13-Jun	08-Jun	09-Oct	28-Sep
Parbhani, Maharashtra	13-Jun	09-Jun	09-Oct	01-Oct
Malegaon, Maharashtra	14-Jun	08-Jun	06-Oct	28-Sep
Amravati, Maharashtra	15-Jun	08-Jun	08-Oct	03-Oct
Akola, Maharashtra	15-Jun	08-Jun	08-Oct	03-Oct
Nagpur, Maharashtra	16-Jun	09-Jun	07-Oct	03-Oct
Jalgaon, Maharashtra	18-Jun	11-Jun	06-Oct	29-Sep
Gopalpur, Odisha	11-Jun	08-Jun	14-Oct	10-Oct
Cuttack, Odisha	13-Jun	09-Jun	13-Oct	11-Oct
Bhubaneshwar, Odisha	13-Jun	10-Jun	13-Oct	11-Oct
Puri, Odisha	14-Jun	08-Jun	14-Oct	12-Oct
Sambalpur, Odisha	16-Jun	08-Jun	10-Oct	10-Oct
Jagdalpur, Chhattisgarh	13-Jun	08-Jun	12-Oct	13-Oct
Kondagaon, Chhattisgarh	14-Jun	10-Jun	11-Oct	13-Oct
Ambagarh Chowki, Chhattisgarh	15-Jun	11-Jun	08-Oct	08-Oct
Pendra Road, Chhattisgarh	16-Jun	10-Jun	07-Oct	03-Oct
Raipur, Chhattisgarh	16-Jun	10-Jun	09-Oct	03-Oct
Bilaspur, Chhattisgarh	17-Jun	12-Jun	08-Oct	08-Oct
Balrampur, Chhattisgarh	17-Jun	14-Jun	08-Oct	05-Oct
Khandwa, Madhya Pradesh	16-Jun	10-Jun	05-Oct	23-Sep
Seoni, Madhya Pradesh	18-Jun	10-Jun	06-Oct	03-Oct
Jabalpur, Madhya Pradesh	19-Jun	13-Jun	05-Oct	03-Oct
Bhopal, Madhya Pradesh	20-Jun	13-Jun	03-Oct	26-Sep
Indore, Madhya Pradesh	20-Jun	13-Jun	03-Oct	23-Sep
Satna, Madhya Pradesh	21-Jun	13-Jun	05-Oct	05-Oct
Chhatarpur, Madhya Pradesh	21-Jun	15-Jun	03-Oct	30-Sep
Sagar, Madhya Pradesh	21-Jun	15-Jun	04-Oct	30-Sep

Station List	New (1961-2019)	Existing (1901-1940)	New (1971-	Existing (1901-1940)
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	Central India			
Guna, Madhya Pradesh	23-Jun	15-Jun	01-Oct	18-Sep
Nimach, Madhya Pradesh	25-Jun	16-Jun	26-Sep	17-Sep
Gwalior, Madhya Pradesh	28-Jun	18-Jun	29-Sep	22-Sep
Veraval, Gujarat	18-Jun	11-Jun	05-Oct	18-Sep
Bhavnagar, Gujarat	19-Jun	14-Jun	02-Oct	20-Sep
Vadodara, Gujarat	21-Jun	13-Jun	01-Oct	18-Sep
Ahmedabad, Gujarat	26-Jun	14-Jun	28-Sep	18-Sep
Rajkot, Gujarat	27-Jun	15-Jun	29-Sep	18-Sep
Bhuj, Gujarat	30-Jun	22-Jun	26-Sep	13-Sep
		Northwest India		
Gorakhpur, Uttar Pradesh	18-Jun	13-Jun	04-Oct	03-Oct
Varanasi, Uttar Pradesh	23-Jun	15-Jun	04-Oct	06-Oct
Lucknow, Uttar Pradesh	23-Jun	18-Jun	03-Oct	23-Sep
Allahabad, Uttar Pradesh	23-Jun	17-Jun	04-Oct	02-Oct
Kanpur, Uttar Pradesh	23-Jun	20-Jun	03-Oct	23-Sep
Jhansi, Uttar Pradesh	24-Jun	16-Jun	30-Sep	23-Sep
Bareilly, Uttar Pradesh	24-Jun	20-Jun	29-Sep	23-Sep
Mainpuri, Uttar Pradesh	25-Jun	22-Jun	30-Sep	23-Sep
Agra, Uttar Pradesh	27-Jun	20-Jun	28-Sep	23-Sep
Bijnor, Uttar Pradesh	27-Jun	22-Jun	27-Sep	21-Sep
Delhi, Delhi	27-Jun	29-Jun	25-Sep	21-Sep
Dehradun, Uttarakhand	20-Jun	20-Jun	27-Sep	21-Sep
Nainital, Uttarakhand	20-Jun	21-Jun	28-Sep	23-Sep
Mussoorie, Uttarakhand	20-Jun	26-Jun	27-Sep	21-Sep
Shimla, Himachal Pradesh	22-Jun	23-Jun	24-Sep	21-Sep
Palampur, Himachal Pradesh	22-Jun	26-Jun	23-Sep	18-Sep
Jalandhar, Punjab	26-Jun	05-Jul	21-Sep	17-Sep
Amritsar, Punjab	28-Jun	04-Jul	21-Sep	08-Sep
Bhatinda, Punjab	04-Jul	05-Jul	19-Sep	04-Sep
Chandigarh, Chandigarh	28-Jun	30-Jun	23-Sep	21-Sep
Sonepat, Haryana	27-Jun	29-Jun	25-Sep	21-Sep
Ambala, Haryana	28-Jun	22-Jun	23-Sep	21-Sep
Bhiwani, Haryana	30-Jun	30-Jun	23-Sep	18-Sep
Hissar, Haryana	03-Jul	30-Jun	21-Sep	16-Sep
Leh, Ladakh	24-Jun	24-Jun	22-Sep	18-Sep

Station List	New (1961-2019)	Existing (1901-1940)	New (1971-2019)	Existing (1901-1940)
		Northwest		
		India		
Kargil, Ladakh	27-Jun	24-Jun	22-Sep	17-Sep
Anantnag, Jammu & Kashmir	25-Jun	27-Jun	22-Sep	17-Sep
Jammu, Jammu & Kashmir	28-Jun	29-Jun	21-Sep	17-Sep
Srinagar, Jammu & Kashmir	29-Jun	29-Jun	22-Sep	17-Sep
Ganderbal, Jammu & Kashmir	29-Jun	04-Jul	22-Sep	17-Sep
Jhalawar, Rajasthan	24-Jun	17-Jun	28-Sep	20-Sep
Udaipur, Rajasthan	25-Jun	20-Jun	25-Sep	17-Sep
Kota, Rajasthan	26-Jun	20-Jun	25-Sep	18-Sep
Jaipur, Rajasthan	29-Jun	25-Jun	23-Sep	15-Sep
Ajmer, Rajasthan	01-Jul	23-Jun	21-Sep	08-Sep
Jodhpur, Rajasthan	02-Jul	02-Jul	19-Sep	05-Sep
Churu, Rajasthan	04-Jul	03-Jul	19-Sep	08-Sep
Barmer, Rajasthan	05-Jul	08-Jul	20-Sep	01-Sep
Bikaner, Rajasthan	06-Jul	08-Jul	18-Sep	03-Sep
Pokhran, Rajasthan	06-Jul	08-Jul	17-Sep	05-Sep

*SW Monsoon retreats from the area and Northeast monsoon gets established

Source

Forecast Southwest Monsoon 2021, India Meteorological Department (IMD) press release 15th May 2021

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