



**Government of India
Earth System Science Organization
Ministry of Earth Sciences
India Meteorological Department**

Dated: 15 June, 2023

Subject: Current Weather Status and Extended range Forecast for next two weeks (15 to 28 June, 2023)

1. Significant Features for week ending on 14 June, 2023

- **Advance of Southwest Monsoon:** The Southwest Monsoon has advanced into remaining parts of South Arabian Sea and some parts of Central Arabian Sea, entire Lakshadweep area, most parts of Kerala, some parts of Tamil Nadu, remaining parts of Comorin- Maldives area, Gulf of Mannar and some more parts of Southwest and Central Bay of Bengal and some parts of Northeast Bay of Bengal on 8th June 2023; **Thus, Southwest Monsoon has set in over Kerala on 8th June, 2023 against the normal date of 1st June;** it has further advanced into some more parts of Central Arabian Sea, remaining parts of Kerala, some parts of Karnataka, some more parts of Southwest Bay of Bengal, entire Eastcentral Bay of Bengal, most parts of Northeast Bay of Bengal, some parts of Northwest Bay of Bengal and most parts of northeastern States on 10th; it has further advanced into some more parts of Central Arabian Sea, some more parts of Karnataka, entire Goa, some parts of Konkan, most parts of Tamil Nadu and Puducherry, some parts of Andhra Pradesh, entire Southwest Bay of Bengal, some parts of Westcentral Bay of Bengal and some more parts Northwest Bay of Bengal and remaining parts of Northeast Bay of Bengal on 11th; it has further advanced into some more parts of Konkan and Karnataka, remaining parts of Tamil Nadu, some more parts of Andhra Pradesh, some more parts of Westcentral and Northwest Bay of Bengal, most parts of Sub-Himalayan West Bengal & Sikkim and some parts of Bihar on 12th June 2023.
- Last week's **Very Severe Cyclonic Storm** "Biparjoy" (pronounced as "Biporjoy") over Eastcentral Arabian Sea moved nearly northwards and lay over the same region with the same intensity in the morning of 8th June 2023; maintaining the same intensity, it tracked nearly northwards/ north-northeastwards slowly and intensified into an **Extremely Severe Cyclonic Storm** in the early morning hours of 11th and lay centered over Eastcentral Arabian Sea; continuing to track north-northeastwards, then nearly northwards and then nearly north-northwestwards, it weakened into a **Very Severe Cyclonic Storm** around midnight of 12th and lay centered at 2330 hours IST of 12th June, 2023 over Northeast and adjoining Eastcentral Arabian Sea; moving nearly north-northwestwards and then nearly northwards, it lay centered in the morning of 14th

June, 2023 over Northeast Arabian Sea; then moving nearly northeastwards, it lay centered over Northeast Arabian Searound midnight of 14th June 2023;

- **Heavy to very heavy rainfall with extremely heavy rainfall at isolated places** had occurred over Assam & Meghalaya and Saurashtra & Kutch on one day each during the week. **Heavy to very heavy rainfall** had occurred **at isolated places** over Andaman & Nicobar Islands and Assam & Meghalaya on three days each; over Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim and Saurashtra & Kutch on one day each during the week.
- **Heat wave to severe heat wave conditions** had occurred **at many places** over Coastal Andhra Pradesh & Yanam on one day; **at a few places** over Bihar on three days and over Odisha, Coastal Andhra Pradesh & Yanam, Chhattisgarh, Gangetic West Bengal and Telangana on one day each; **at isolated places** over Bihar, Odisha, Coastal Andhra Pradesh & Yanam, Chhattisgarh, Gangetic West Bengal and Telangana on one day each during the week. **Heat wave conditions at a few places with severe heat wave conditions at isolated places** had occurred over Odisha on one day during the week. **Heat wave conditions** had occurred **at many places over** Coastal Andhra Pradesh & Yanam on one day; **at a few places** over Gangetic West Bengal on three days, over Odisha and Coastal Andhra Pradesh & Yanam on two days each and over Jharkhand and Vidarbha on one day each; **at isolated places** over Telangana on four days, over Jharkhand and Chhattisgarh on three days each, over Odisha, Bihar, East Madhya Pradesh and East Uttar Pradesh on two days each and over Gangetic West Bengal, Coastal Andhra Pradesh & Yanam, Vidarbha, West Madhya Pradesh and West Uttar Pradesh on one day each during the week.
- The highest maximum temperature of **46.1°C** had been recorded at **Sambalpur (Odisha)** on **12th June 2023** and the lowest minimum temperature of **17.2°C** had been recorded at **Chaparmukh (Assam & Meghalaya)** on **10th & 13th June 2023** over the plains of the country during the week.
- **Analysis of Weekly overall Rainfall distribution during the current week (08.06.2023 to 14.06.2023) and Monsoon Season's Rainfall (01.06.2023 to 14.06.2023):** The country as a whole, the weekly cumulative All India Rainfall till week ending on 14.06.2023 was 49% below from its long period average (LPA) and all India Southwest Monsoon Season (**01.06.2023 to 14.06.2023**) cumulative rainfall during this year is 53% below LPA. Details of the rainfall distribution over the four broad geographical regions of India are given in **Table 1** and Meteorological sub-division-wise rainfall both for week and season are given in **Annexure I and II** respectively.

Table 1: Rainfall status (Weekly and seasonal)

Region	WEEK			SEASON		
	08.06.2023 to 14.06.2023			01.06.2023 to 14.06.2023		
	Actual	Normal	% Departure	Actual	Normal	% Departure
East & Northeast India	56.1	68.6	-18	65.3	124.5	-48
Northwest India	3.7	14.4	-75	18.7	23.3	-20
Central India	8.1	30.3	-73	12.7	46.4	-73
South Peninsula	19.8	38.1	-48	31.4	68.7	-54
Country as a Whole	16.7	33	-49	26.6	56.1	-53

2. Large scale features

- Currently ENSO-neutral conditions are observed and equatorial sea surface temperatures (SSTs) are near-to-above average across most of the Pacific Ocean. The latest Monsoon Mission Climate Forecasting System (MMCFS) forecast indicates the development of an El Niño in the coming season.
- The neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The latest MMCFS forecast indicates that neutral IOD conditions are likely to continue up to July and Positive IOD conditions are likely to develop thereafter.
- The Madden Julian Oscillation (MJO) Index is currently in Phase 4 with amplitude nearly 1. It is very likely to move in Phase 6 across Phase 5 towards end of the week.

3. Forecast for next two week

Weather systems & associated Precipitation during Week 1 (15 to 21 June, 2023) and Week 2 (22 to 28 June, 2023)

Advance of southwest monsoon:

- ❖ The Northern Limit of Monsoon (NLM) continues to pass through lat. 16.5°N/ Long. 55°E, lat. 17.0°N/ Long. 60°E, lat. 17°N/ Long. 65°E, lat. 17°N/ Long. 70°E, Ratnagiri, Koppal, Puttaparthi, Shriharikota, lat. 15.0°N/ Long. 83.0°E, 18.0°N/87.0°E, 22°N/89.0°E, Malda and Forbesganj, 28°N/86°E (**Annexure III**)
- ❖ Conditions are becoming favourable for further advance of Southwest Monsoon over some more parts of south Peninsular & East India and adjoining areas during 18th -21st June.

Forecast for week 1 (15 to 21 June, 2023):

Very Severe Cyclonic Storm “Biparjoy” over Northeast Arabian Sea

The Very Severe Cyclonic Storm “Biparjoy” (pronounced as “Biporjoy”) over Northeast Arabian Sea moved east-northeastward with a speed of 10 kmph during past 6-hours and lay centered at 1430 hours IST of today, the 15th June, 2023 over the same region near latitude 22.8°N and longitude 67.6°E, about 110 km west-southwest of Jakhau Port (Gujarat), 160 km west-northwest of Devbhumi Dwarka, 140 km west-southwest of Naliya and 240 km south-southeast of Karachi (Pakistan).

It is very likely to move northeastwards and cross Saurashtra & Kutch and adjoining Pakistan coasts between Mandvi (Gujarat) and Karachi (Pakistan) near Jakhau Port (Gujarat) by tonight, the 15th June as a very severe cyclonic storm with maximum sustained wind speed of 115-125 kmph gusting to 140 kmph. Landfall process will commence from evening of today, the 15th June and continue till midnight.

Heavy Rainfall warning:

- Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and extremely heavy falls at isolated places very likely over Kachchh, Devbhumi

Dwarka & Jamnagar and heavy to very heavy rainfall at a few places over Porbandar, Rajkot, Morbi & Junagarh districts of Gujarat and Isolated heavy to very heavy rainfall is very likely over remaining districts of Saurashtra and north Gujarat region on 15th June.

- Light to moderate rainfall at most places with heavy to extremely heavy rainfall at isolated places very likely over north Gujarat and adjoining south Rajasthan on 16th and southeast Rajasthan & adjoining North Gujarat region on 17th June.

Wind warning along & off Saurashtra & Kutch coasts (Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts) including Gulf of Kutch:

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph are prevailing along & off Porbandar & Devbhoomi Dwarka district coasts. It would gradually increase becoming gale wind speed reaching 115-125 kmph gusting to 135 kmph during 15th afternoon to night along & off Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts. Thereafter, it would decrease gradually becoming 70-80 kmph gusting to 90 kmph over Kachchh and adjoining districts of Saurashtra & Kutch by 16th early morning and squally wind speed reaching 45-55 kmph gusting to 65 kmph by 16th afternoon.
- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely to prevail along & off remaining districts of Saurashtra coast on 15th June.

Wind Warning for South Rajasthan

- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely over South Rajasthan during 16th noon to evening and 35-45 kmph gusting to 55 kmph till mid-night of 17th June morning.

(iii) Sea condition

Sea condition will be phenomenal over northeast Arabian Sea and rough to very rough over adjoining eastcentral Arabian Sea till 15th evening and would improve thereafter.

Along & off Saurashtra& Kutch coasts:

Sea condition is likely to be very high to phenomenal thereafter till 15th June night and would improve thereafter.

(iv) Storm Surge Warning (Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar and Morbi districts)

Storm surge of about 2 -3 m above the astronomical tide is likely to inundate the low lying areas of above districts during the time of landfall. The astronomical tides along these districts could be upto 3-6 meters in different places.

(v) Damage expected over Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Morbi & Junagarh & Rajkot districts of Gujarat on 15th June:

- Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to Pucca houses.
- Potential threat from flying objects.
- Bending/ uprooting of power and communication poles.

- Major damage to Kutcha and Pucca roads. Flooding of escape routes. Disruption of railways, overhead power lines and signalling systems.
- Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango.
- Small boats, country crafts may get detached from moorings.
- Visibility severely affected due to salt spray.

(vi) Fishermen Warning & Action Suggested (Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts) and for Offshore & Onshore Industries (Graphics Attached):

- Total suspension of fishing operations over northeast and adjoining eastcentral Arabian Sea till 15th June.
- Those out at sea are advised to return to coast.
- Judicious regulation of offshore and onshore activities.
- Ports along the west coast of India may take necessary precautions.
- Naval base operations may maintain necessary precautions.
- Movement in motor boats and small ships all & off these coasts to be avoided.
- Mobilize evacuation from coastal areas of Saurashtra and Kutch (Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts).
- Judicious regulation of rail and road traffic.
- People in affected areas to remain indoors.
- Tourism activities may be restricted over these areas.
- Preparatory actions before the cyclones.

Weather forecast and warning over the rest parts of the country during next one week:

Northeast India:

- ❖ Widespread light/moderate rainfall at most places with isolated **Heavy to Very Heavy falls** very likely over the region during the week. Isolated **extremely heavy rainfall** also likely over Arunachal Pradesh on 15th & 16th and Assam & Meghalaya during 15th-17th June.

East India:

- ❖ Light/moderate fairly widespread to widespread rainfall with thunderstorm/lightning/gusty winds very likely Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands during the week.
- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim during the week.

Northwest India:

- ❖ Light to moderate rainfall at many places with **Heavy to very heavy rainfall with extremely heavy falls** very likely at isolated places over southwest Rajasthan on 16th & 17th June; southeast Rajasthan on 17th & 18th June.

- ❖ **Isolated Heavy to very heavy rainfall** also likely over southwest Rajasthan on 18th and **heavy rainfall** over southeast Rajasthan on 16th & 19th June.
- ❖ Light/moderate isolated to scattered rainfall with thunderstorm & lightning very likely in rest parts of the northwest India during 1st half of the week and its intensity & distribution is very likely to increase thereafter. Isolated **heavy rainfall** is also likely over Uttarakhand and Uttar Pradesh during 2nd half of the week.

South Peninsular India:

- ❖ Light/moderate isolated to scattered rainfall with thunderstorm & lightning very likely over the region during 1st half of the week and its intensity & distribution is very likely to increase thereafter. Isolated **heavy rainfall** is also likely over Kerala, South Interior Karnataka and Tamilnadu during 2nd half of the week.

No significant weather is likely over rest parts of the country during the week.

Rainfall for week 2 (22 to 28 June, 2023):

- ✓ Light to moderate scattered/fairly widespread rainfall/thunderstorm is likely over South Peninsular India during most days of the week. Isolated heavy rainfall is also likely during some days of the week.
- ✓ Light to moderate scattered/fairly widespread rainfall/thunderstorm is likely over east & northeast India during the week. Isolated heavy rainfall is also likely over northeast & adjoining east India during many days of the week.
- ✓ Isolated to scattered rainfall/thundershower is also likely over many parts of northwest India during many days of the week.
- ✓ **Overall, rainfall activity is likely to be above normal over south Peninsular India; normal to above normal over most parts of plains of northwest India, central, east & northeast India during the week (Annexure IV).**

Maximum Temperatures and its forecast during Week 1 (15 to 21 June, 2023) and Week 2 (22 to 28 June, 2023):

Maximum Temperature Forecast and Heat Wave Warnings for week 1 (15 to 21 June, 2023):

- Yesterday, Maximum Temperatures were in the range of 42-44°C over parts of East Uttar Pradesh, Bihar, Odisha and 40-42°C over parts of East Madhya Pradesh, Vidarbha, Chhattisgarh and Coastal Andhra Pradesh & Yanam.
- Yesterday, **Heat Wave to Severe Heat Wave conditions** prevailed over some parts of north Coastal Andhra Pradesh, Bihar, Odisha and in isolated parts of Telangana and Chhattisgarh. **Heat Wave conditions** also observed over some parts of Jharkhand and Gangetic West Bengal.
- No significant change in maximum temperatures very likely over most parts of the country during most parts of the week except over Gujarat state, where temperatures are likely to fall by 4-6°C and by 2-4°C over Northwest India (except Uttar Pradesh)

during 1st half of the week.

- **Heat Wave conditions** very likely to continue in isolated pockets over Odisha, Jharkhand, Chhattisgarh during most days of the week; Gangetic West Bengal, Bihar, Coastal Andhra Pradesh & Yanam and Telangana during 1st half of the week; southeast Uttar Pradesh, East Madhya Pradesh, during next 2 days.
- **Warm night conditions** likely to prevail in isolated pockets over East Uttar Pradesh, East Madhya Pradesh on 15th & 16th June.
- Hot and humid conditions very likely over Tamil Nadu and Rayalaseema during 1st half of the week.

Maximum Temperature for week 2 (22 to 28 June, 2023):

- Maximum temperatures likely to be above normal by 2-3°C over east & north Peninsular India. It is below normal to near normal over rest parts of the country (**Annexure V**).
- **Heat wave conditions likely to occur over isolated pockets over East & north Peninsular India during some days of the week.**

Legends:

Heavy Rain: 64.5 to 115.5 mm **Very Heavy Rain:** 115.6 to 204.4 mm, **Extremely Heavy Rain**> 204.4 mm

SPATIAL DISTRIBUTION (% of Stations reporting)			
% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

Probabilistic Forecast	
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

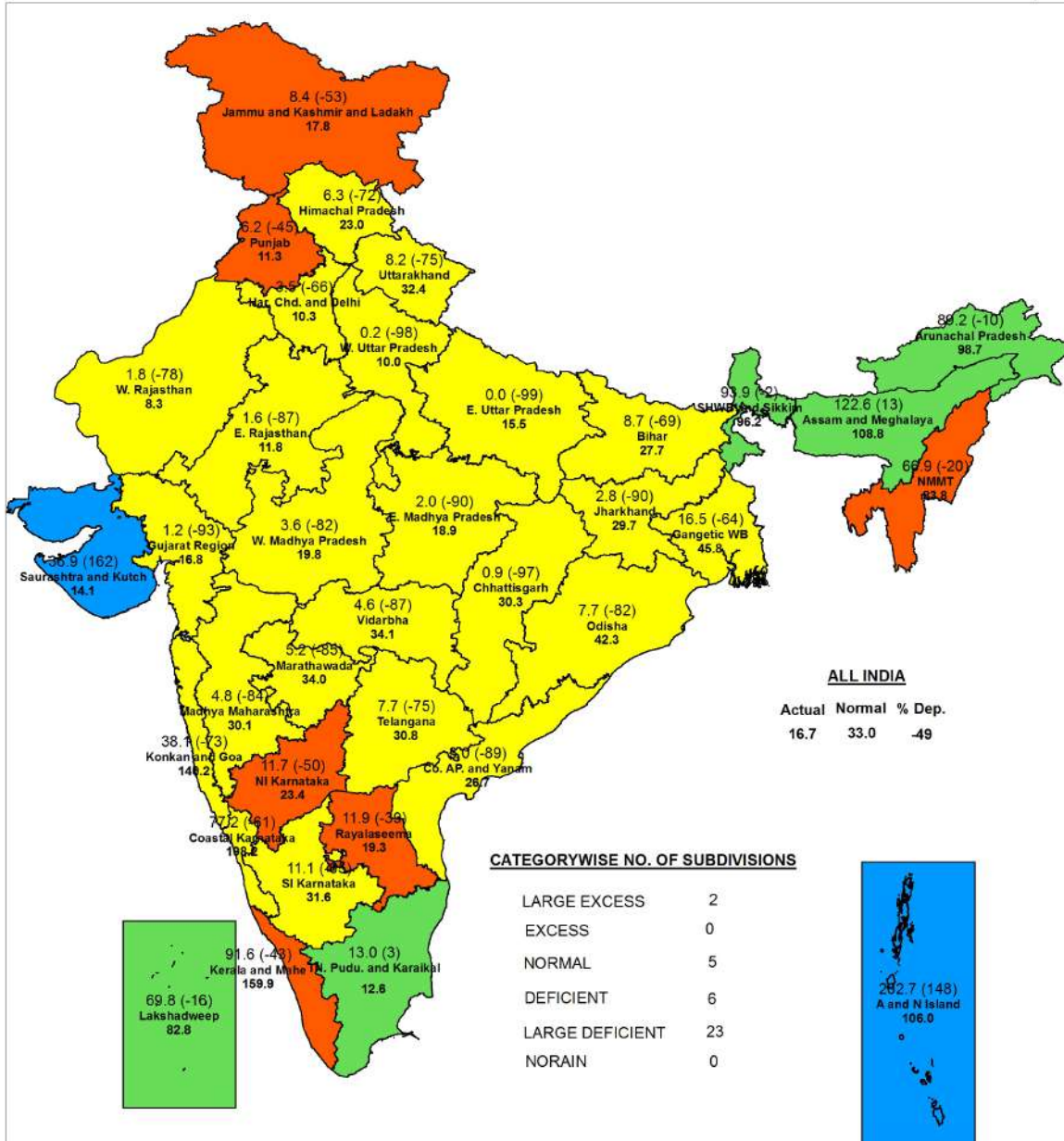


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SUBDIVISION RAINFALL MAP

Week : 08-06-2023 To 14-06-2023



CATEGORYWISE NO. OF SUBDIVISIONS

LARGE EXCESS	2
EXCESS	0
NORMAL	5
DEFICIENT	6
LARGE DEFICIENT	23
NORAIN	0

Legend

Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data

NOTES :

- a) RainFall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.

Annexure II

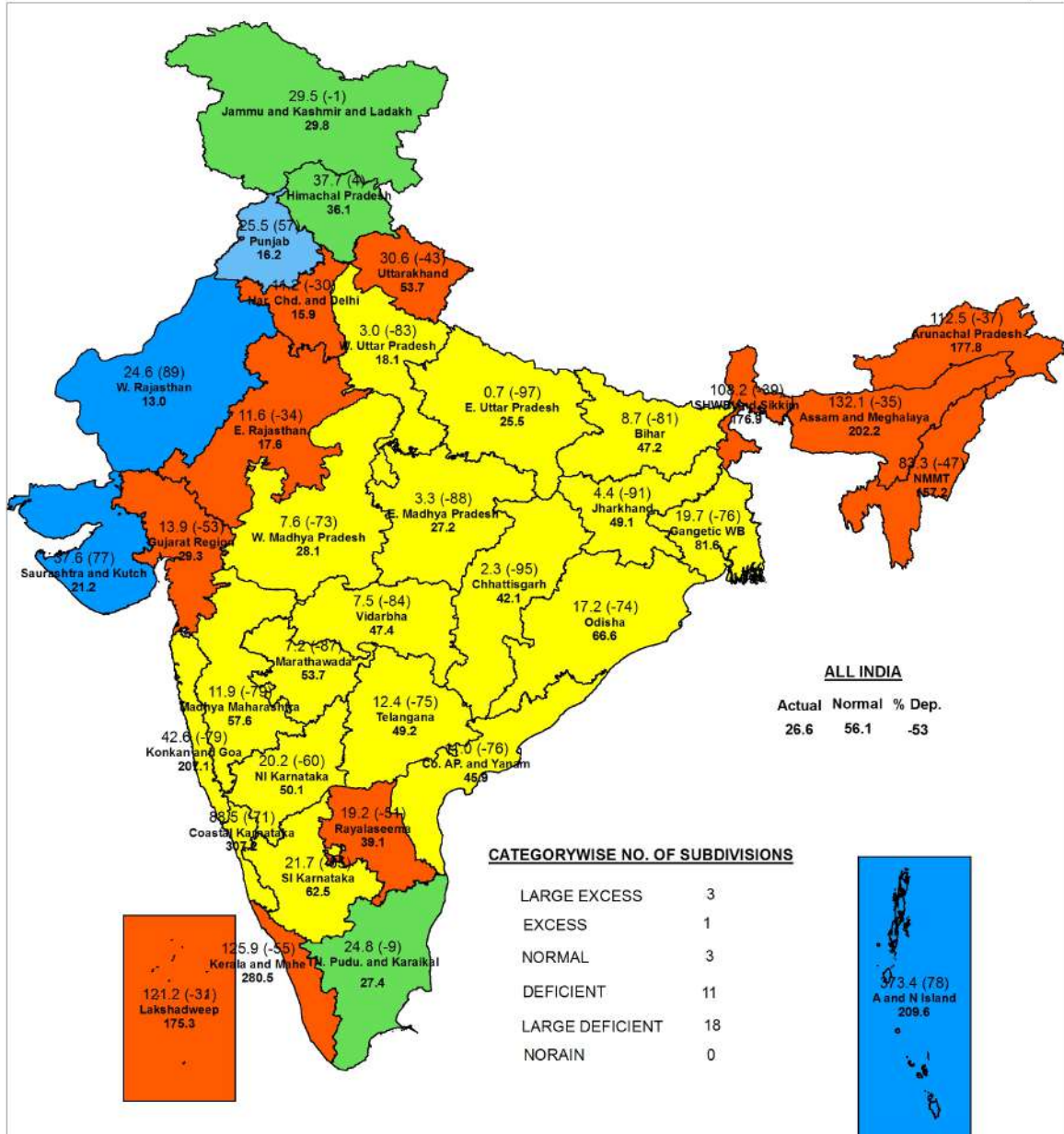


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SUBDIVISION RAINFALL MAP

Period : 01-06-2023 To 14-06-2023

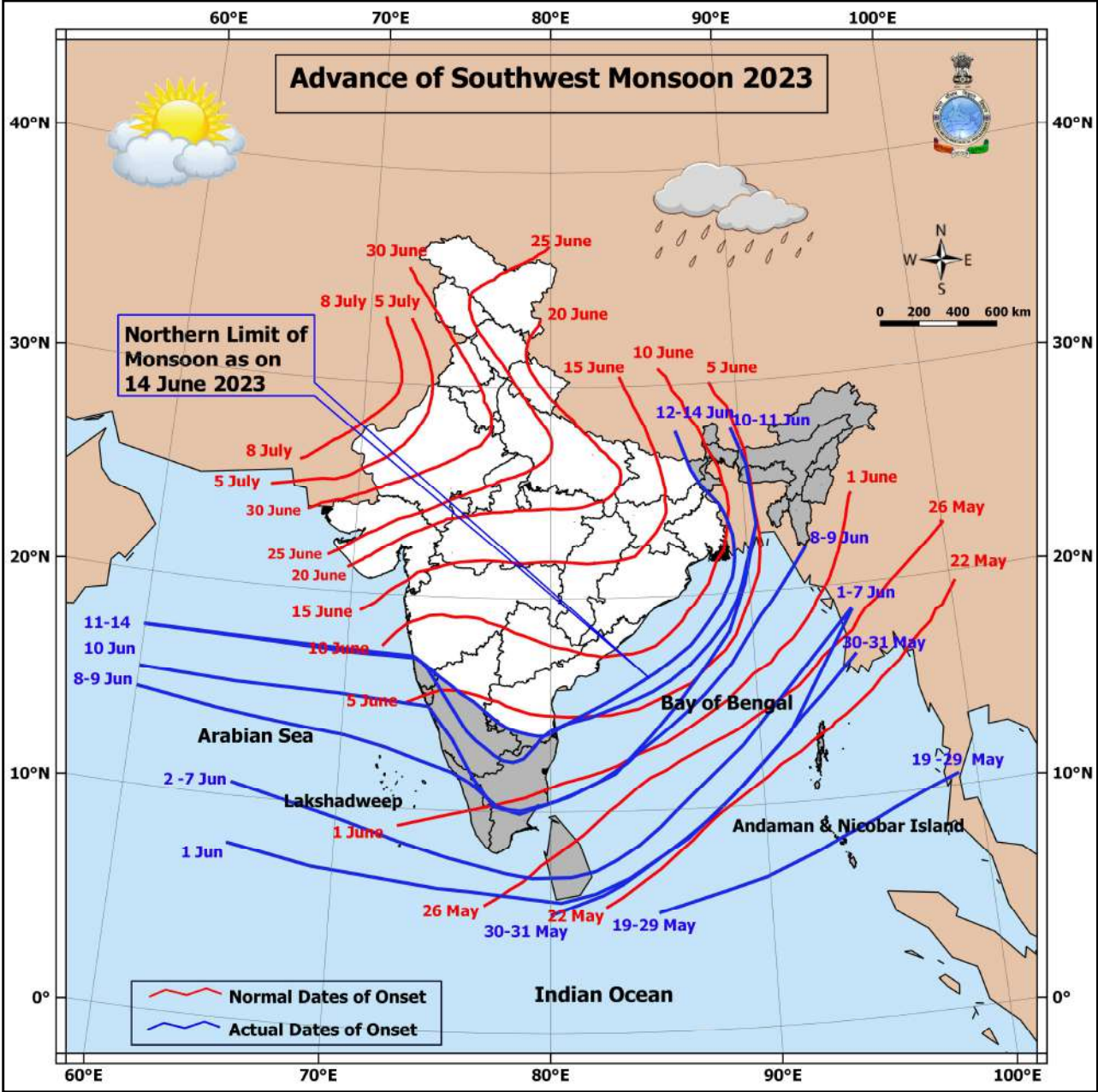


Legend

■ Large Excess [60% or more]
 ■ Excess [20% to 59%]
 ■ Normal [-19% to 19%]
 ■ Deficient [-59% to -20%]
 ■ Large Deficient [-99% to -60%]
 ■ No Rain [-100%]
 ■ No Data

NOTES :

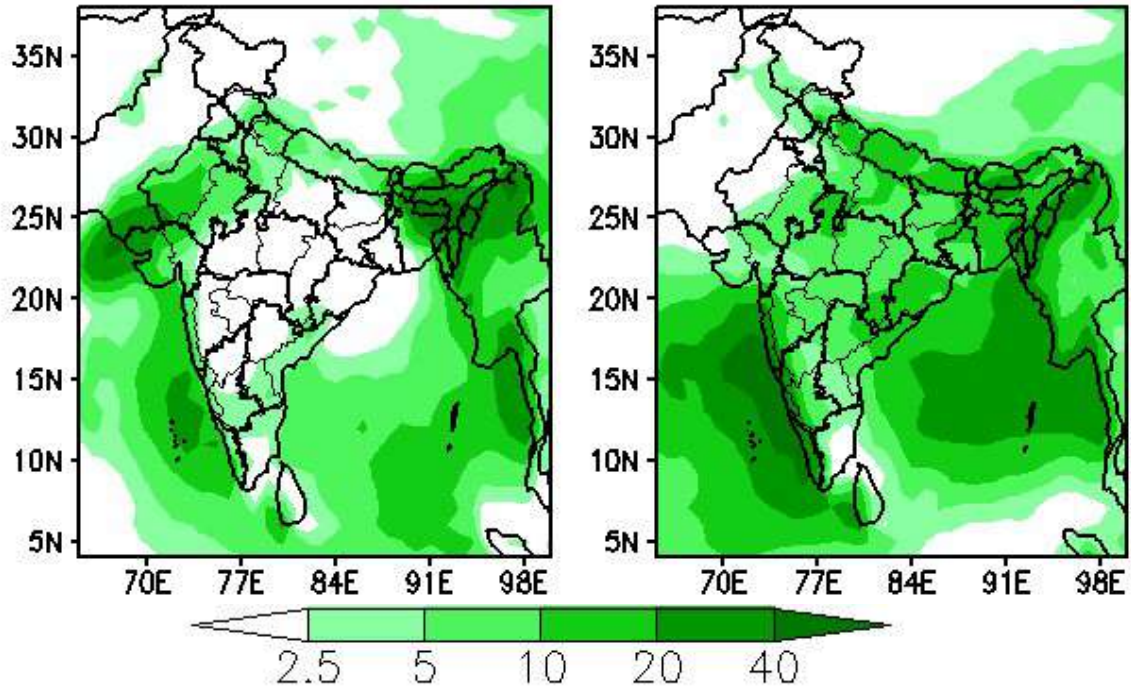
- Rainfall figures are based on operation data.
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- Percentage Departures of rainfall are shown in brackets.



Forecast Rainfall (mm/day)

(Week1: 16Jun-22Jun)

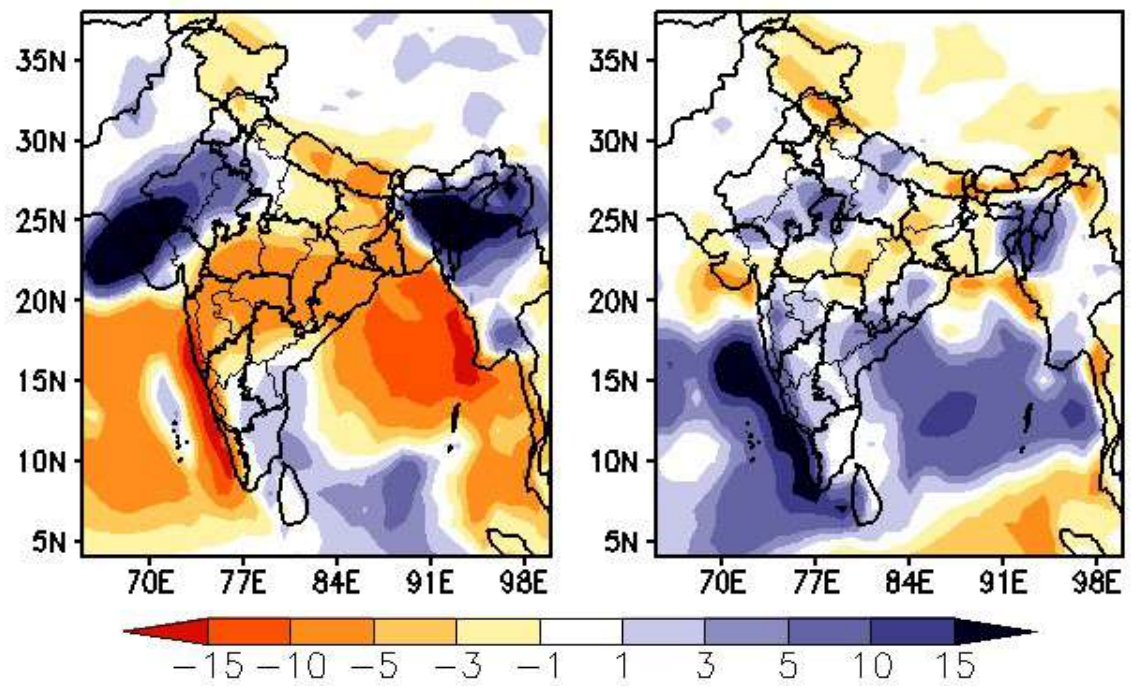
(Week2: 23Jun-29Jun)



Forecast Rainfall Anomaly (mm/day)

(Week1: 16Jun-22Jun)

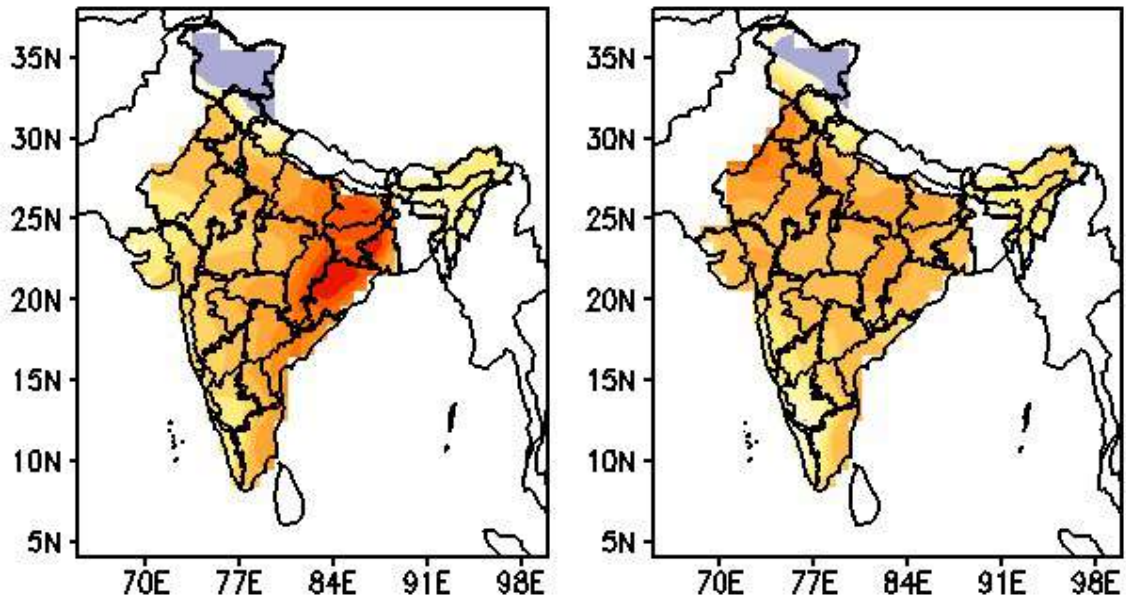
(Week2: 23Jun-29Jun)



MME Bias corrected forecast Tmax (Deg)

(Week1: 16Jun-22Jun)

(Week2: 23Jun-29Jun)



MME forecast Tmax anomaly (Deg C)

(Week1: 16Jun-22Jun)

(Week2: 23Jun-29Jun)

