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

Press: Dated: 1 June, 2023

Subject: Current Weather Status and Extended range Forecast for next two weeks (1-14 June 2023)

1. Salient Observed Features for week of 30 May 2023

- Movement of 3 WDs, back to back (23 – 28 May, 27 – 28 May and 29-31 May, all active WDs) and their induced systems during the week had caused very high rainfall over northwest India. The weekly cumulative area weighted average rainfall, over northwest India, with region as a whole is 34.1mm against the normal for the region for the week as 7.8mm and in % departure from its long period average (LPA) for the week, it is +332%. Rainfall activities on day to day were fairly widespread to widespread rainfall/thunderstorm activity over large parts of Western Himalayan Region during almost all dates in the week. Passage of these systems along with the influence of cyclonic circulations over Rajasthan & neighbourhood in the lower tropospheric levels and an east –west trough which lay extending from plains of Northwest India to East/Central India in the lower tropospheric levels on many days of the week supported by moisture incursion over to the area had caused fairly widespread to widespread rainfall/thunderstorm activity over West Rajasthan, Punjab and Haryana, Chandigarh & Delhi on three to four days and over Uttar Pradesh, East Rajasthan and Gujarat Region four days along with isolated to scattered rainfall/thunderstorm activity over the same areas on the remaining days of the week; isolated to scattered rainfall/thunderstorm activity had occurred over Madhya Pradesh also throughout the week; under the influence of these synoptic situations, isolated hailstorm activity had occurred over Western Himalayan Region, Rajasthan and Madhya Pradesh on three to five days and over Uttar Pradesh and Punjab on

one or two days; thunder squall had occurred over the plains of Northwest India on two to three days and over Madhya Pradesh on a single day whereas dust storm activity had been reported over Rajasthan on two to three days; isolated heavy rainfall also had occurred over Rajasthan on three to five days and over Western Himalayan Region (excluding Jammu Kashmir & Ladakh), Punjab, Haryana, Chandigarh & Delhi, Madhya Pradesh and Gujarat Region on one or two days along with. Due to such rainfall and cloudy days, day maximum temperature were below normal by 5-9degC over northwest and central India during many days in the week and there was not any significant heat wave spell conditions observed during the week.

- **Advance of Southwest Monsoon:** Southwest Monsoon has further advanced into some parts of Southwest Bay of Bengal, some more parts of Southeast Bay of Bengal, entire Andaman Sea, Andaman & Nicobar Islands and some parts of Eastcentral Bay of Bengal on 30th May, 2023.The Northern Limit of Southwest Monsoon passed through Lat.5°N/Long.80°E, Lat.6.5°N/Long.83°E, Lat.10°N/Long.88°E, Lat.14°N/Long.92°E and Lat.17°N/Long. 95°E on 30th May 2023 and remained the same till the end of the week(refer Annex 1).
- **Analysis of Weekly overall Rainfall distribution during the week ending on 30 May 2023 and Pre-monsoon Season's Rainfall Scenario (1 March-30 May 2023):** It shows for the country as a whole, the weekly cumulative All India Rainfall in % departure from its long period average (LPA) till week ending on 30 May 2023 was +22%, over south Peninsula as -24%, central India as +13% and northwest India had +337 % while all India Seasonal cumulative rainfall % departure during this year's **Pre-monsoon Season's Rainfall** during **1 March-30 May 2023** is +12% and over northwest India, it is +33%. 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 Annex II and III respectively.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	11.05.2023 TO 30.05.2023			01.03.2023 TO 30.05.2023		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	28.9	52.2	-45%	242.1	373.1	-35%
NORTH-	34.1	7.8	+337%	152	114.4	+33%

WEST INDIA						
CENTRAL INDIA	6.8	6	+13%	84.9	36	+136%
SOUTH PENINSULA	15.3	20	-24%	166.1	121.2	+37%
Country as a whole	20.4	16.7	+22%	146.6	130.6	+12%

2. Large scale features

- Currently, ENSO-neutral conditions prevailing over the equatorial Pacific region. Also, neutral IOD conditions are present over the Indian Ocean and the latest MMCFS forecast indicates that the neutral IOD conditions are likely to continue during the remaining period of the pre-monsoon season.
- The Madden Julian Oscillation (MJO) Index is currently in Phase 1 with amplitude less than 1. It would continue in same phase during first half of week 1. Thereafter, it would move across phase 2 during later part of week 1. During week 2, it would move across phases 3 and 4 with amplitude reaching close to 1 at the end of week 2. Hence, MJO is likely to support the enhancement of convective activity and cyclogenesis over the Bay of Bengal (BoB) and Arabian Sea (AS) from middle of week 1.

3. Forecast for next two week

Forecast for next two week

Weather systems & associated Precipitation during Week 1 (01 to 07 June, 2023) and Week 2 (08 to 14 June, 2023)

Forecast for week 1 (01 to 07 June, 2023):

Advance of southwest monsoon:

- Southwest Monsoon has further advanced into some parts of South Arabian Sea, Maldives & Comorin area and some more parts of South Bay of Bengal & Eastcentral Bay of Bengal.
- The Northern Limit of Southwest Monsoon now passes through 7°N/65°E, 6.5°N/70°E, 6°N/75°E, 6°N/81°E, 8°N/85°E, 10°N/88°E, 14°N/92°E & 19°N/95°E. **(Annexure I)**.
- Conditions are favourable for further advance of Southwest Monsoon into some more parts of south Arabianϖ Sea, Maldives & Comorin area, South Bay of Bengal, Eastcentral Bay of Bengal and some parts of Northeast Bay of Bengal during next 48 hours.

Significant Meteorological features:

- ❖ The Western Disturbance as a cyclonic circulation in middle & upper tropospheric level lies over north Pakistan and an induced cyclonic circulation lies over Punjab at lower tropospheric levels.
- ❖ A cyclonic circulation lies over south coastal Andhra Pradesh in lower tropospheric levels.
- ❖ A cyclonic circulation likely to develop over southeast Arabian Sea around 05th June. Under its influence a Low Pressure Area is likely to form over the same region during subsequent 48 hours.

Forecast and warning over the country during next 5 days:

Northwest India:

- ❖ Light/moderate scattered to fairly widespread rainfall with thunderstorm, lightning & occasional gusty winds (40-50 gusting to 60 kmph) very likely over Western Himalayan region on 01st & 02nd June and over plains of Northwest India today, the 01st June and isolated thereafter for most days of the week. **Hailstorm** very likely at isolated places over Uttarakhand on 01st & 02nd June.
- ❖ **Heavy rainfall** very likely at isolated places over Jammu & Kashmir, Himachal Pradesh today, on 01st June.

South India:

- ❖ Light/moderate fairly widespread rainfall with thunderstorm/lightning/gusty winds very likely over Kerala, Lakshadweep, Coastal & South Interior Karnataka and isolated to scattered rainfall over Tamil Nadu and Andhra Pradesh during the week. **Heavy rainfall** very likely at isolated places over Tamil Nadu and Coastal Karnataka on 01st June and over Kerala during 01st-05th June.
- ❖ Light/moderate fairly widespread rainfall with thunderstorm/lightning/gusty winds very likely over Andaman & Nicobar Islands during the week. **Heavy rainfall also** very likely at isolated places towards end of the week.

Northeast & east India:

- ❖ Light/moderate isolated to fairly widespread rainfall with thunderstorm/lightning/gusty winds very likely over northeast India and Sub-Himalayan West Bengal & Sikkim during the week.
- ❖ Light isolated rainfall with thunderstorm/lightning/gusty winds also very likely over Odisha and Gangetic West Bengal during most days of the week.

No significant weather is likely over rest parts of the country during next 5 days.

Rainfall for week 2 (08 to 14 June, 2023):

- ✓ Light to moderate scattered/fairly widespread rainfall/thunderstorm is also likely over south Peninsular India during most days of the week. Isolated heavy rainfall is also likely over Kerala and South Interior Karnataka during some days of the week.

✓ Light to moderate scattered/fairly widespread rainfall/thunderstorm is likely over northeast India during the week. Isolated heavy rainfall is also likely over Kerala and South Interior Karnataka during some days of the week.

✓ No significant weather likely over rest parts of the country.

✓ **Overall, rainfall activity is likely to be normal to above normal over northeast India and many parts of south Peninsular India and below normal over rest parts of the country.**

Maximum Temperatures and its forecast during Week 1 (01 to 07 June, 2023) and Week 2 (08 to 14 June, 2023):

Maximum Temperature Forecast for week 1 (01 to 07 June, 2023):

Observed Maximum Temperatures and Heat Wave conditions:

❖ Yesterday, Maximum Temperatures were in the range of 40-42°C over many parts of Vidarbha, Marathawada, Gujarat region, East India and below 40°C over rest parts of the country.

❖ Maximum Temperatures were below normal by 4-6°C over most parts of northwest India, by 2-4°C over Madhya Pradesh. Maximum Temperatures were above normal by 2-4°C over most parts of East India, Maharashtra, Karnataka and Kerala; by 4-6°C over Northeast India and near normal over rest parts of the country.

Maximum Temperature Forecast and Heat Wave Warnings:

❖ No significant change in maximum temperature very likely over Northwest India during next 2 days and gradual rise by 3-5°C thereafter. Rise by 2-4°C in maximum temperatures very likely over West & Central India during 1st half of the week and no significant change thereafter. No significant change in maximum temperature very likely over rest parts of the country during most days of the week.

❖ **Heat wave conditions** very likely to continue in isolated pockets over Bihar and West Bengal & Sikkim during 01st-05th June and likely to prevail over Madhya Maharashtra, Vidarbha and Chhattisgarh on 02nd & 03rd June.

❖ Due to humid air & high temperature, **Hot and Discomfort weather** is very likely over Konkan on 01st & 02nd June.

❖ Maximum temperatures are likely to be above normal by 4-6°C over Northeast India during next 2 days.

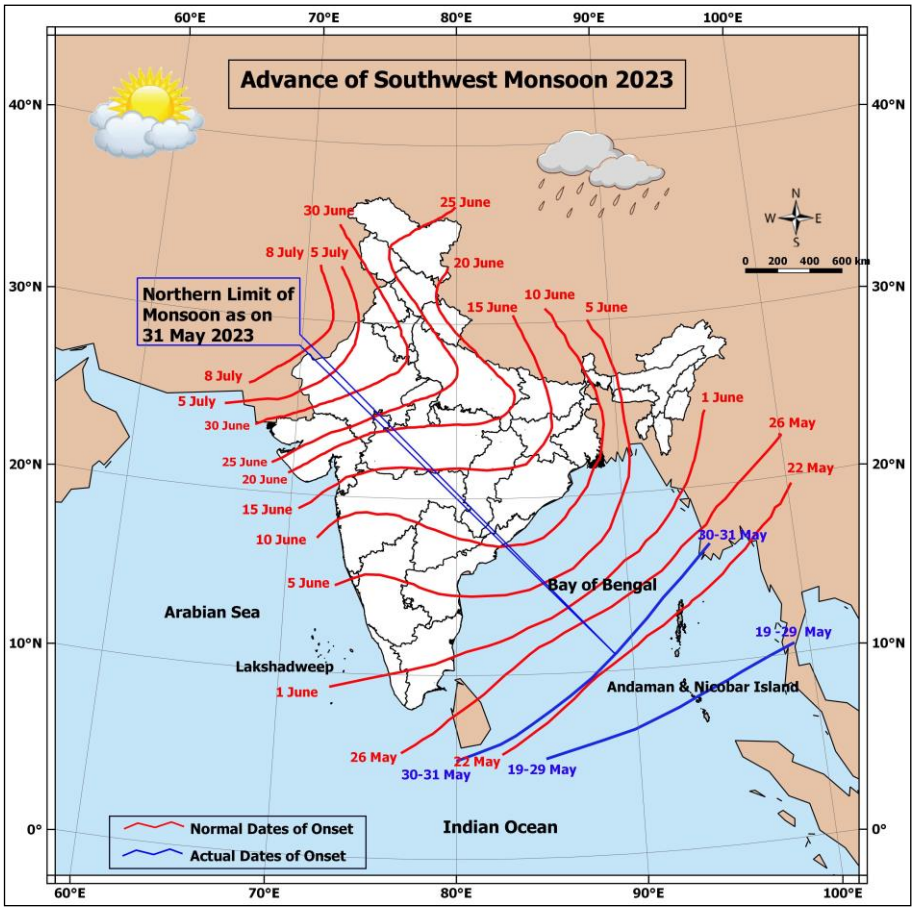
Maximum Temperature for week 2 (08 to 14 June, 2023):

○ Maximum temperatures likely to be normal to above normal over most parts of the country outside Extreme south Peninsular India and parts of Western Himalayan Region, where it is likely to be below normal by 2-3°C.

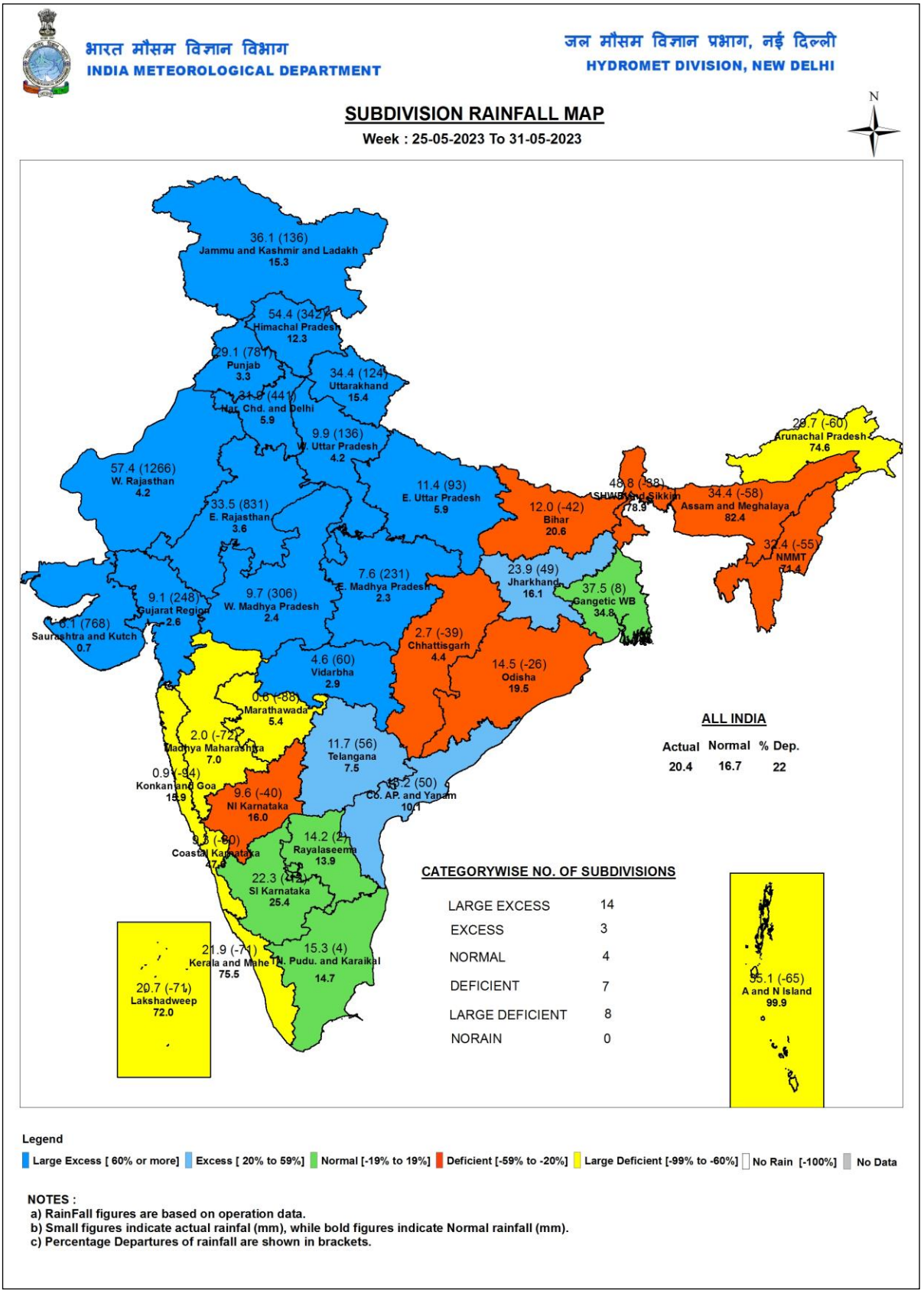
- **Heat wave conditions likely to occur over isolated pockets over Northwest, Central & East India during some days of the week.**

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

Annex: I



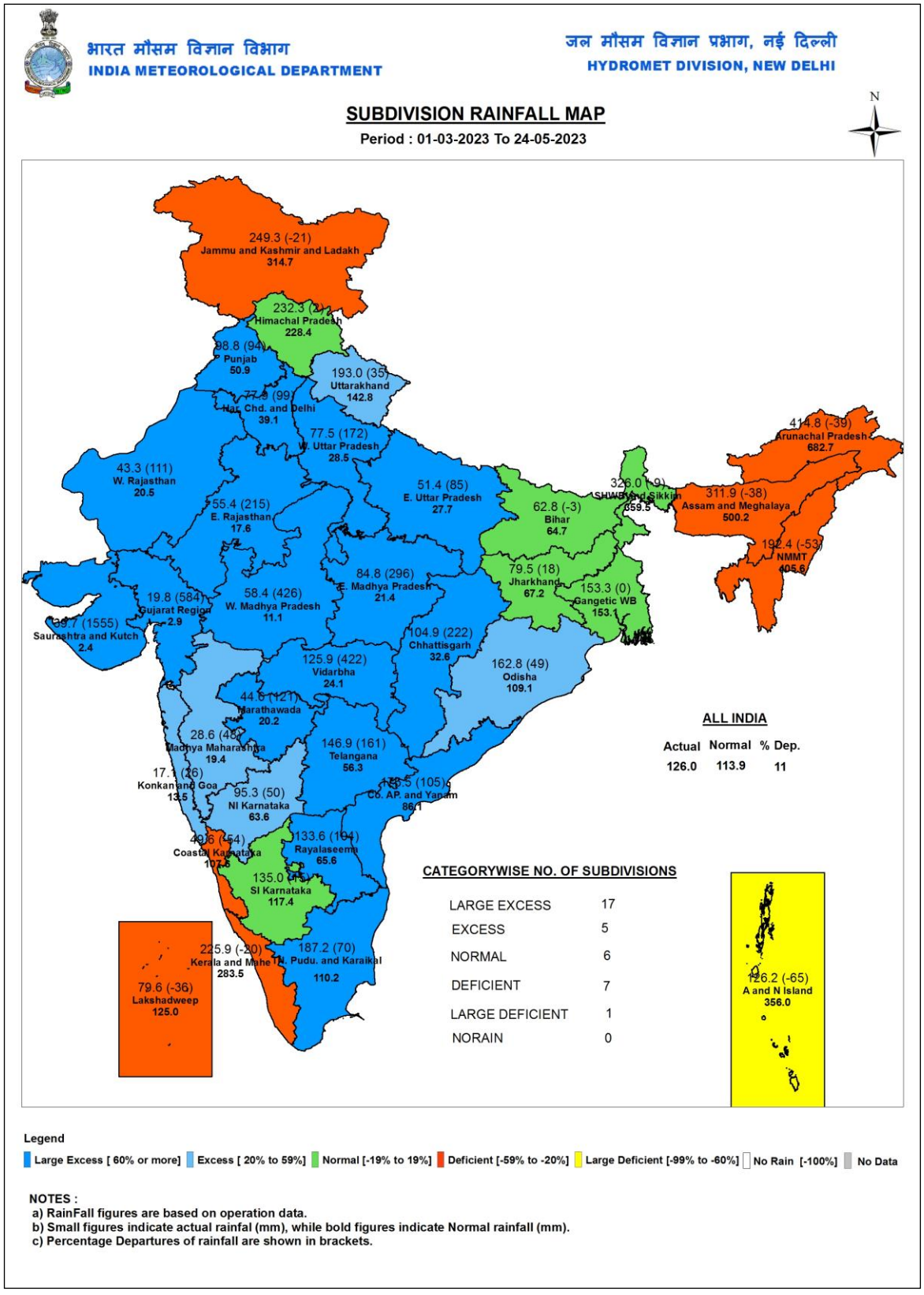
Annex II



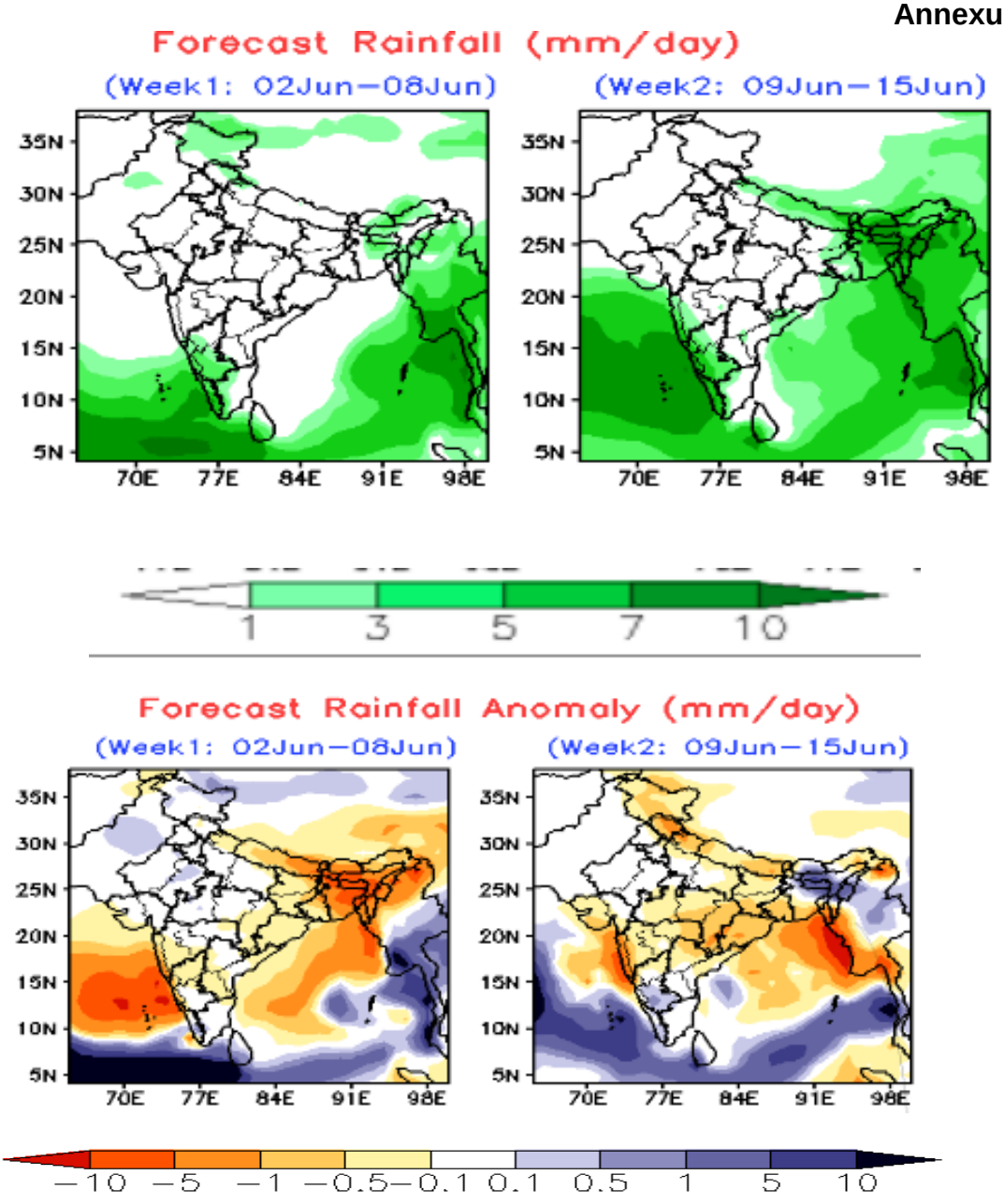
NOTES :

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

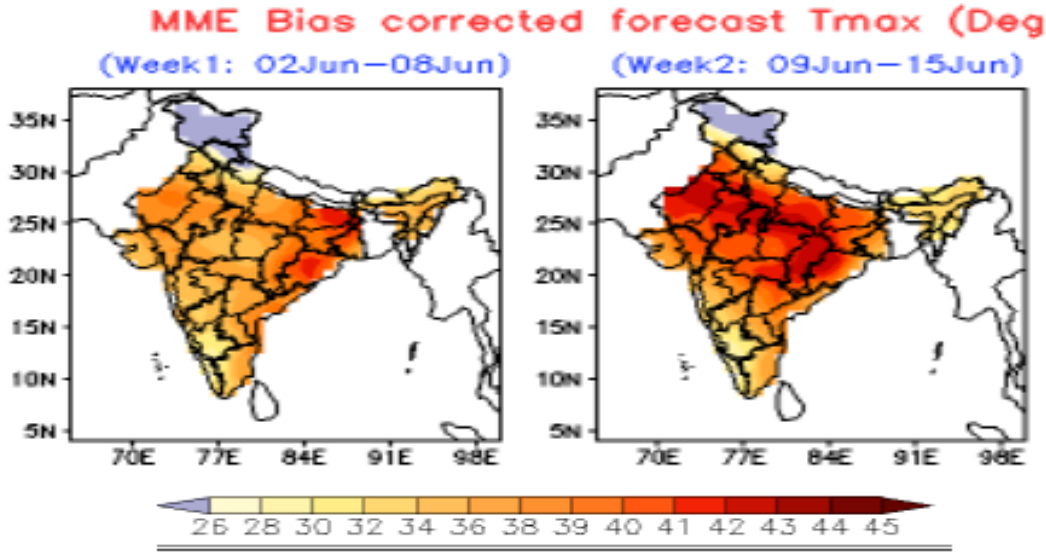
Annex III

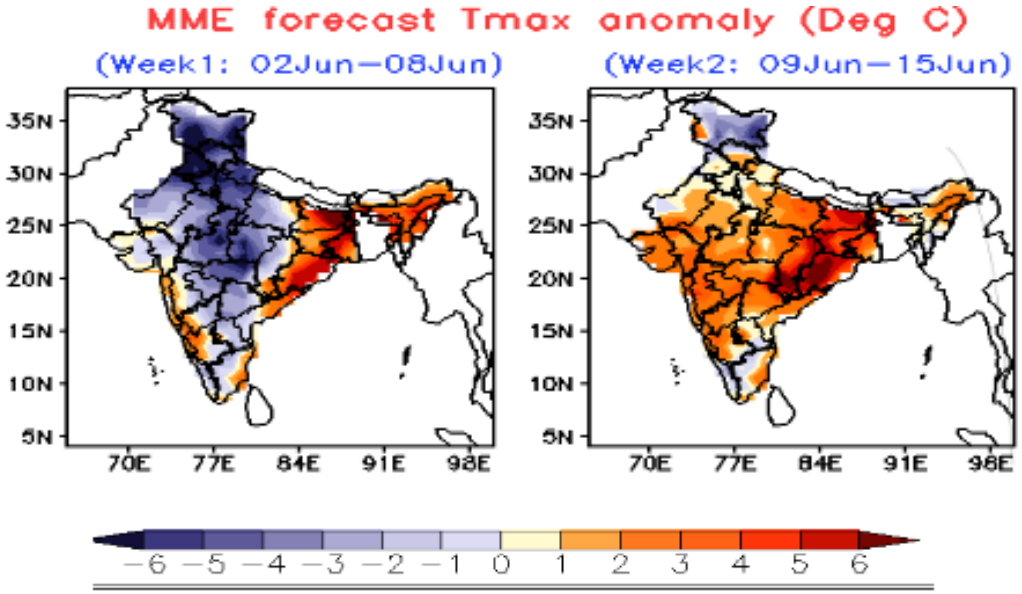

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT
जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI
SUBDIVISION RAINFALL MAP
Period : 01-03-2023 To 24-05-2023
N
249.3 (-21)
Jammu and Kashmir and Ladakh
314.7
232.3 (2)
Himachal Pradesh
228.4
98.8 (94)
Punjab
50.9
193.0 (35)
Uttarakhand
142.8
77.9 (99)
Har. Chd. and Delhi
39.1
77.5 (172)
W. Uttar Pradesh
28.5
43.3 (111)
W. Rajasthan
20.5
55.4 (215)
E. Rajasthan
17.6
51.4 (85)
E. Uttar Pradesh
27.7
326.0 (-9)
SHWB and Sikkim
359.5
62.8 (-3)
Bihar
64.7
414.8 (-39)
Arunachal Pradesh
682.7
311.9 (-38)
Assam and Meghalaya
500.2
192.4 (-53)
NMMT
405.6
79.5 (18)
Jharkhand
67.2
153.3 (0)
Gangetic WB
153.1
84.8 (296)
E. Madhya Pradesh
21.4
58.4 (426)
W. Madhya Pradesh
11.1
19.8 (584)
Gujarat Region
2.9
39.7 (1555)
Saurashtra and Kutch
2.4
104.9 (222)
Chhattisgarh
32.6
125.9 (422)
Vidarbha
24.1
162.8 (49)
Odisha
109.1
44.6 (121)
Marathawada
20.2
28.6 (48)
Madhya Maharashtra
19.4
146.9 (161)
Telangana
56.3
17.1 (26)
Konkan and Goa
13.5
95.3 (50)
NI Karnataka
63.6
189.5 (105)
Co. AP and Yanam
86.1
49.6 (54)
Coastal Karnataka
107.8
133.6 (104)
Rayalaseema
65.6
135.0 (115)
SI Karnataka
117.4
225.9 (-20)
Kerala and Mahe
283.5
187.2 (70)
TN. Pudu. and Karaikal
110.2
79.6 (-36)
Lakshadweep
125.0
126.2 (-65)
A and N Island
356.0
ALL INDIA
Actual Normal % Dep.
126.0 113.9 11
CATEGORYWISE NO. OF SUBDIVISIONS
LARGE EXCESS 17
EXCESS 5
NORMAL 6
DEFICIENT 7
LARGE DEFICIENT 1
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 rainfal (mm), while bold figures indicate Normal rainfall (mm).
c) Percentage Departures of rainfall are shown in brackets.

Annexure IV


Forecast Rainfall (mm/day)
(Week1: 02Jun–08Jun)
(Week2: 09Jun–15Jun)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
1
3
5
7
10
Forecast Rainfall Anomaly (mm/day)
(Week1: 02Jun–08Jun)
(Week2: 09Jun–15Jun)
−10
−5
−1
−0.5
−0.1
0.1
0.5
1
5
10

Annexure V


MME Bias corrected forecast Tmax (Deg
(Week1: 02Jun–08Jun)
(Week2: 09Jun–15Jun)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
26 28 30 32 34 36 38 39 40 41 42 43 44 45


MME forecast Tmax anomaly (Deg C)
(Week1: 02Jun–08Jun)
(Week2: 09Jun–15Jun)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
−6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6