

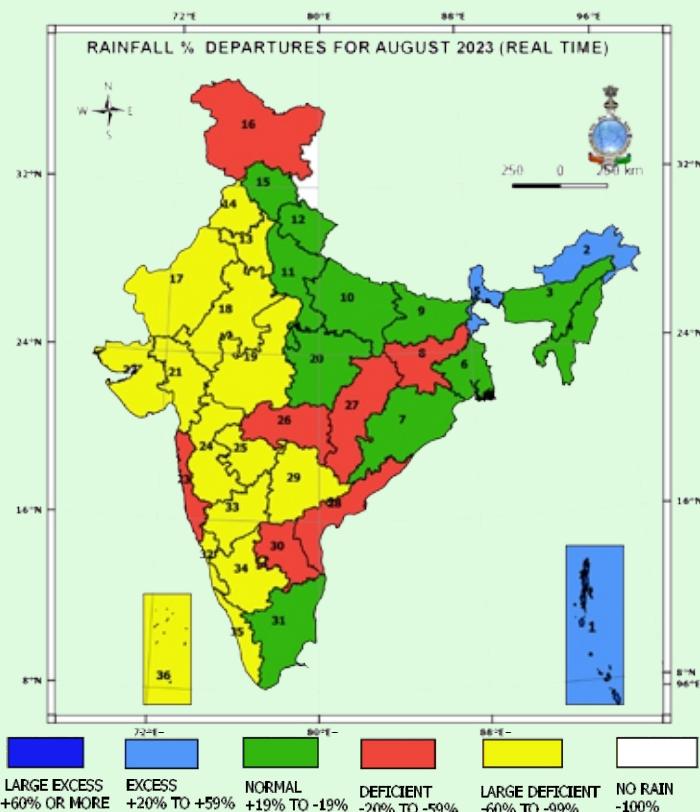


भारत सरकार / GOVERNMENT OF INDIA
पृथ्वी विज्ञान मंत्रालय / MINISTRY OF EARTH SCIENCES
पृथ्वी प्रणाली विज्ञान संगठन / EARTH SYSTEM SCIENCE ORGANIZATION
भारत मौसम विज्ञान विभाग / INDIA METEOROLOGICAL DEPARTMENT

भारत का जलवायु नैदानिक बुलेटीन CLIMATE DIAGNOSTICS BULLETIN OF INDIA

अगस्त 2023
AUGUST 2023

वास्तविक समय के आंकड़ों पर आधारित विश्लेषण NEAR REAL - TIME ANALYSES



द्वारा जारी : जलवायु निगरानी एवं प्रागुक्ती समूह
ISSUED BY : Climate Monitoring & Prediction Group

अगस्त 2023 (सारांश) माह की मुख्य विशेषताएं

प्रमुख बिंदु:

पुरे भारत का माध्य तापमान (28.45°से) 1901 से सबसे अधिक रहा। दक्षिणी प्रायद्विप का माध्य तापमान (28.96°से) 1901 से सबसे अधिक रहा। उत्तर-पश्चिम भारत (28.04°से) और मध्य भारत (27.82°से) का माध्य तापमान (28.96°से) 1901 से चौथा सबसे अधिक रहा। पूर्व और उत्तर-पूर्व भारत का माध्य तापमान (28.74°से) 1901 से पाचवा सबसे अधिक रहा। पुरे भारत की वर्षा (162.7 मि. मी.) 1901 से सबसे कम रही। दक्षिणी प्रायद्विप की वर्षा (76.4 मि. मी.) 1901 से सबसे कम रही। मध्य भारत की वर्षा (165.0 मि. मी.) 1901 से सबसे कम रही। उत्तर-पश्चिम भारत की वर्षा (123.8 मि. मी.) 1901 से आठवीं सबसे कम रही।

वर्षा की विशेषताएं:

36 मौसम उप मंडलों में से 3 में अधिक, 11 में सामान्य, 7 में सामान्य से कम, 15 में सामान्य से काफी कम वर्षा हुई (आकृती 1(ए))। तालिका 1 में, अगस्त 2023 के उप मंडल-वार वर्षा के आँकड़े (मि.मी.) में दर्शाएं गए हैं। आकृती 1(बी) में जून से अगस्त माह के संचित उप मंडल-वार वर्षा के आँकड़े (मि. मी.) में दर्शाएं गए हैं।

आकृती 2(ए) में माह के दौरान देश के विभिन्न भाग में हुई वर्षा (मि. मी.) दर्शायी गयी है। आकृती 2(बी) में माह के दौरान देश के विभिन्न भाग में हुई वर्षा विसंगति (मि. मी.) दर्शायी गयी है। आकृती 3 में अगस्त के चार सप्ताहों का वास्तविक, दीर्घावधि औसत (एल.पी.ए.) और उसका प्रतिशत विचलन का स्थानिक रूप दर्शाया गया है।

आकृती 4 में महीने के दौरान पुरे भारत और चार समरूप क्षेत्रों में दैनिक वर्षा भिन्नता दर्शाता है। पूरे देश में, माह के दीर्घावधि औसत मान का 64% वर्षा हुई। आकृती 5 में वर्ष 1951 से अब तक के सम्पूर्ण भारत की और चार समरूपी क्षेत्रों की क्षेत्र भारित वर्षा शृंखला दर्शाई गयी है।

माह की वर्षा भारत के दक्षिण प्रायद्विप में (एल.पी.ए. का 40%), पूर्व और उत्तर-पूर्व भारत में (एल.पी.ए. का 102%), मध्य भारत में (एल.पी.ए. का 53%) तथा उत्तर-पश्चिम भारत में (एल.पी.ए. का 63%) रही। तालिका 2 में माह के दौरान 24 घंटों में हुई भारी ($64.5 \text{ से } 115.5 \text{ मि. मी तक}$), अति भारी ($115.6 \text{ से } 204.4 \text{ मि. मी. तक}$), या अत्यधिक भारी ($\geq 204.5 \text{ मि. मी. या अधिक}$) वर्षा वाले स्टेशनों की सूची दर्शाई गई है। आकृती 6 में भारी, अति भारी और अत्यधिक भारी वर्षा वाले स्टेशन दर्शाएं गए हैं।

मानकीकृत वर्षण सूचकांक (एस.पी.आई.):

मानकीकृत वर्षण सूचकांक अनावृष्टि मापने का एक सूचकांक है जो केवल वर्षा पर आधारित होता है। यह सूचकांक शुष्क स्थिति में ऋणात्मक और आर्द्ध स्थिति में धनात्मक होता है। जब शुष्क या आर्द्ध मौसम की स्थिति अधिक भीषण होती है, तब सूचकांक अधिक ऋणात्मक या धनात्मक होता है। आकृती 7 (ए, बी, सी) में अगस्त 2023, जून-अगस्त 2023 (3 माह के संचित) तथा जनवरी 2023 - अगस्त 2023 (8 माह के संचित) के मानकीकृत वर्षण सूचकांक दर्शाएं गए हैं।

अगस्त माह के दौरान असाम-चल प्रदेश, आसाम और मेघालय, नागालैंड मणिपुर मिझोराम, त्रिपुरा, उप हिमालयीन पश्चिम बंगाल और सिक्किम बिहार, उत्तराखण्ड और हिमाचल प्रदेश में चरम आर्द्ध / प्रचंड आर्द्ध स्थितियाँ रहीं जबकि आसाम और मेघालय, नागालैंड मणिपुर मिझोराम, त्रिपुरा, ओडिशा, झारखण्ड, उत्तर प्रदेश राज्य, हरयाणा, चंदिगढ़, दिल्ली, पंजाब, हिमाचल प्रदेश, जम्मु कश्मीर और लदाख, राजस्थान राज्य, पश्चिमी मध्य प्रदेश, गुजरात राज्य, गोवा और महाराष्ट्र राज्य, छत्तीसगढ़, आंध्र प्रदेश राज्य, तेलंगणा, तामिलनाडु पुदुचेरी और कर्नाटक राज्य, केरल और माहे और लक्ष्मीपुर में चरम शुष्क / प्रचंड शुष्क स्थितियाँ रहीं।

दाबः

आकृती 8(ए) तथा 8(बी) क्रमशः माध्य समुद्र तल दाब तथा इसकी विसंगति दर्शाते हैं। अधोरेखा द्वारा ऋणात्मक मान दर्शाए गए हैं।

पवनः

आकृती 9(ए) तथा 9(बी), 10(ए) तथा 10(बी), 11(ए) तथा 11(बी) में क्रमशः पवन का 850, 500 और 250 एच.पी.ए. स्तरों पर माध्य परिसंचरण स्वरूप तथा इसकी विसंगति को दर्शाता है।

वेग विभव तथा धारा कृत्य (वेलोसिटी पोटेन्शियल और स्ट्रीम फंक्शन):

आकृती 12(ए) तथा 12(बी) में 250 एच.पी.ए. स्तर पर माध्य वेग विभव तथा इसकी विसंगति को दर्शाया गया है। इसी प्रकार आकृती 13(ए) तथा 13(बी) में माध्य धारा कृत्य तथा इसकी विसंगति को दर्शाते हैं। अधोरेखा द्वारा ऋणात्मक मान दर्शाये गए हैं।

बहिर्गमी दीर्घतरंग विकिरण (ओ.एल.आर.):

भारत के क्षेत्रों तथा आसपास की बहिर्गमी दीर्घतरंग विकिरण ($\text{वॉट}/\text{मी}^2$) आकृती 14 में दर्शाई गई है।

तापमानः

माध्य मासिक अधिकतम तथा न्यूनतम तापमान विसंगति आकृती 15(ए) तथा 15(बी) में दर्शाई गई है।

उष्ण दिनों / शीत रात्रियों का प्रतिशतः:

आकृती 16(ए) तथा 16(बी) में अधिकतम (न्यूनतम) तापमान जब 90वें (10 वें) पर्सेंटाइल से अधिक(कम) वाले दिनों का प्रतिशत दर्शाया गया है। आकृती 17 में पूरे देश में अगस्त माह में 1971 से अब तक के औसत तापमान दर्शाये गए हैं। 5 वर्ष के चल औसत भी दर्शाये गए हैं। इस वर्ष के अगस्त माह का औसत तापमान 28.45°से. रहा, जो 1901 से सबसे अधिक रहा। आकृती 18(ए) तथा 18(बी) में चारों समरूपी क्षेत्रों के वर्ष 1971 से अब तक के अगस्त माह के दौरान रहे अधिकतम और न्यूनतम तापमानों की श्रृंखला दर्शाई गई है।

आकृती 19 (ए) तथा 19(बी) में महीने के दौरान पुरे भारत में दैनिक अधिकतम और न्यूनतम तापमानों विसंगति की श्रृंखला दर्शाई है। तालिका 3 में माह के दौरान की तापमान विसंगति दर्शाई गयी है।

निम्न दाब प्रणालियाँ:

इस माह बंगाल की खाड़ी में एक निम्न दाब क्षेत्र बना।

हिन्द एवं प्रशान्त महासागरों पर समुद्री सतह तापमान विसंगतिः

आकृती 20 उष्ण कटिबंधीय हिन्द एवं प्रशान्त महासागरों पर समुद्री सतह तापमान विसंगति दर्शाता है।

दक्षिणी दोलन सूचकांक तथा प्रशान्त समुद्री सतह तापमान सुचकांकः

दक्षिणी दोलन सूचकांक (तालिका 4) इस माह के दौरान ऋणात्मक (-1.4) रहा।

एन्सो पूर्वानुमानः

आकृती 21 आने वाले ऋतुओं के लिये एम.एम.सी.एफ.एस. एन्सो पूर्वानुमान दर्शाता है।

आपत्कालीन मौसम घटनाएः

आकृती 22 आपत्कालीन मौसम घटनाए दर्शाता है।

AUGUST-2023 **MAIN FEATURES OF THE MONTH**

Highlights:

In August, over the country the mean temperature was 28.45°C with an anomaly of 0.90°C and it is the highest since 1901. Over the country as a whole the maximum temperature was the highest (32.19°C with an anomaly of 1.10°C) and the minimum temperature was the 2nd highest (24.70°C with an anomaly of 0.69°C) after the year 2020 (24.73°C) since 1901.

Among the four homogeneous regions, over South Peninsular India the mean temperature was highest (28.96°C with an anomaly of 1.30°C) since 1901. Over South Peninsular India the maximum temperature was highest (32.66°C with an anomaly of 1.73°C) and the minimum temperature was also highest (25.26°C with an anomaly of 0.86°C) since 1901. Over Northwest India the mean temperature was 4th highest (28.04°C with an anomaly of 0.70°C) after the years 2020(28.24°C), 2009(28.16°C) and 1987(28.05°C) since 1901. Over Northwest India the maximum temperature was 9th highest (32.48°C with an anomaly of 0.70°C) and minimum temperature was the 4th highest (23.61°C with an anomaly of 0.70°C) after the years 2020(24.05°C), 1947(24.00°C), 1905(23.86°C) since 1901. Over Central India the mean temperature was also 4th highest (27.82°C with an anomaly of 0.62°C) after the years 2009(27.94°C), 2015(27.90°C) and 2021(27.88°C) since 1901. Over Central India the maximum temperature was 6th highest (31.05°C with an anomaly of 0.84°C) and minimum temperature was the 3rd highest (24.58°C with an anomaly of 0.40°C) after the years 2009(24.75°C), 1998(24.65°C) since 1901. Over East & Northeast India the mean temperature was 5th highest (28.74°C with an anomaly of 0.62°C) since 1901. Over East & Northeast India the maximum temperature was 9th highest (32.33°C with an anomaly of 0.57°C) and minimum temperature was the 6th highest (25.15°C with an anomaly of 0.67°C) since 1901.

Rainfall over All India (162.7 mm) was lowest since 1901. Rainfall over homogeneous region of Central India (165.0 mm) and homogeneous region of South Peninsular India (76.4 mm) was lowest since 1901. Rainfall over homogeneous region of Northwest India (123.8 mm) was 8th lowest since 1901. Prior lowest rainfall years are 1993 (92.3 mm), 2005 (100.7 mm), 1920 (103.4 mm), 1979 (106.9 mm), 1939 (112.6 mm), 1905 (114.5 mm) and 2009 (120 mm).

Rainfall Features:

Most of the subdivisions received large deficient/deficient rainfall except subdivisions from east and northeast India, some from north India, Tamilnadu, Puducherry & Karaikal and Andaman & Nicobar Islands.

Out of 36 meteorological subdivisions, 3 received excess rainfall, 11 received normal rainfall, 7 subdivisions received deficient rainfall and 15 subdivisions received large deficient rainfall (Fig.1a). Table 1 shows the subdivision wise rainfall statistics (mm) for August 2023. Fig. 1(b) shows the meteorological subdivision wise cumulative rainfall percentage departures for the season from 1st June to 31st August. Cumulative rainfall was excess over 4 sub divisions, normal over 20 and deficient over 12 meteorological sub divisions.

Fig. 2(a) shows the spatial pattern of rainfall (mm) received during the August 2023. Parts of Arunachal Pradesh, Assam & Meghalaya, Sub Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands received more than 500 mm of rainfall.

Fig. 2(b) shows the spatial pattern of rainfall anomaly (mm) during the August 2023. Rainfall anomaly was negative over most parts of the country. Magnitude of negative rainfall anomaly was more than 150 mm over parts of Tripura, Gujarat Region, Saurashtra & Kutch, East Rajasthan, West

Rajasthan, West Madhya Pradesh, Madhya Maharashtra, Vidarbha, Chatisgarh, Coastal Andhra Pradesh, Telangana, Konkan & Goa, Coastal Karnataka, South Interior Karnataka and Kerala & Mahe and Lakshadweep islands. Positive rainfall anomaly more than 150 mm was observed over parts of Assam & Meghalaya and Sub Himalayan West Bengal & Sikkim, Bihar and Andaman & Nicobar Islands.

Fig. 3 shows the spatial pattern of actual, Long Period Average (LPA) rainfall and its percentage departure during the four weeks of August 2023. Fig. 4 shows daily variation of the rainfall over the country as a whole and four homogeneous regions during the August 2023. Fig. 5 shows area weight averaged rainfall series for August over all India and four homogeneous regions since 1951. Rainfall realized over the country as a whole was 64% of its LPA during the August 2023. Rainfall over All India (162.7 mm) was lowest since 1901.

The realized rainfall for the month of August this year was 63% of its LPA over northwest India, 53% of its LPA over central India, 102% of its LPA over east & northeast India and 40% of its LPA over south peninsula. Rainfall over homogeneous region of Central India (165.0 mm) and homogeneous region of South Peninsular India (76.4 mm) was lowest since 1901. Rainfall over homogeneous region of Northwest India (123.8 mm) was 8th lowest since 1901. Prior lowest rainfall years are 1993 (92.3 mm), 2005 (100.7 mm), 1920 (103.4 mm), 1979 (106.9 mm), 1939 (112.6 mm), 1905 (114.5 mm) and 2009 (120 mm).

Table 2 gives the list of stations which received very heavy (115.6 to 204.4 mm) or extremely heavy (≥ 204.5 mm) rainfall in 24 hours during the month. Fig. 6 depicts stations which received heavy (64.5 to 115.5 mm), very heavy (115.6 to 204.4 mm) or extremely heavy (≥ 204.5 mm) rainfall.

Standardized Precipitation Index:

The Standardized Precipitation Index (SPI) is an index used for monitoring drought and is based only on precipitation. This index is negative for dry, and positive for wet conditions. As the dry or wet conditions become more severe, the index becomes more negative or positive. Fig 7 (a, b, and c) gives the SPI values for the month of August 2023, June – August 2023 (3 months cumulative) and January 2023 - August 2023 (13 months cumulative) respectively.

During August, extremely wet/severely wet conditions were observed over parts of Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub Himalayan West Bengal & Sikkim, Bihar, Uttarakhand and Himachal Pradesh while, extremely dry/severely dry conditions were observed over parts of Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Odisha, Jharkhand, Uttar Pradesh state, Haryana, Chandigarh & Delhi, Punjab, Himachal Pradesh, Jammu & Kashmir, Rajasthan state, West Madhya Pradesh, Gujarat state, Maharashtra and Goa state, Chhattisgarh, Andhra Pradesh state, Telangana, Tamil Nadu, Karnataka state, Kerala & Mahe and Lakshadweep.

Cumulative past three months SPI values indicate, extremely wet/severely wet conditions over parts of A & N Islands, Nagaland, Manipur, Mizoram & Tripura, West Uttar Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Himachal Pradesh, West Rajasthan and Saurashtra & Kutch while, extremely dry/severely dry conditions were observed over parts of Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Odisha, Jharkhand, Bihar, Uttar Pradesh state, West Madhya Pradesh, Madhya Maharashtra, Marathawada, Vidarbha, Chhattisgarh, Telangana, Tamil Nadu, Coastal Karnataka, South Interior Karnataka and Kerala & Mahe.

Cumulative SPI values of the eight months indicate, extremely wet/severely wet conditions over parts of Uttar Pradesh state, Uttarakhand, Haryana, Chandigarh & Delhi, Himachal Pradesh, Rajasthan state, Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam and Telangana while, extremely dry/severely dry conditions were observed over parts of A & N Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Odisha, Jharkhand, Bihar, East Uttar Pradesh, Madhya Maharashtra, Marathawada, Chhattisgarh, Tamil Nadu, Coastal Karnataka, South Interior Karnataka, Kerala & Mahe and Lakshadweep.

Pressure & Wind:

Figs. 8(a) and 8(b) show the mean sea level pressure & its anomaly respectively. The pressure anomaly was positive over most parts of the country. It was more than 2.0 hPa over most parts of the country. Pressure anomaly was less than -1.0 hPa over some parts of West Uttar Pradesh, West Bengal & West Rajasthan.

Figs. 9(a) and 9(b), 10(a) and 10(b) and 11(a) and 11(b) show the mean circulation pattern and its anomaly at 850, 500 & 250 hPa levels respectively. At 850 hPa level, an anomalous anticyclonic circulation was observed over central India and adjoining both seas. At 500 hPa level, an anomalous ridge was observed over central India, peninsular India and Bay of Bengal. At 250 hPa level, weak tropical easterly jet was observed over peninsular India.

Velocity Potential & Stream Function:

Figs. 12(a) and 12(b) show the 250 hPa mean Velocity Potential & its anomaly for the month of August 2023. Similarly, Figs. 13(a) and 13(b) show the mean stream function & its anomaly at 850 hPa level. Anomaly in the velocity potential at 250 hPa level was positive throughout the country and anomaly in the stream function at 850 hPa level was positive over most parts of the country, except extreme south peninsula and extreme northern and northeastern parts.

Outgoing Longwave Radiation (OLR):

OLR anomaly (W/m^2) over the Indian region and neighbourhood is shown in Fig 14. OLR anomaly was positive over most parts of the country, except some eastern parts of peninsula and extreme northeast region. OLR anomaly was within 0 to +10 W/m^2 over most of the parts of the country.

Temperature:

Mean monthly maximum and minimum temperature anomaly is shown in Figs. 15(a) and 15(b) respectively. Maximum temperature was above normal over most parts of the country, except some parts of east & northeast India, northwest India and central India. Maximum temperature anomaly was more than 3°C over parts of Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal South Interior Karnataka and Kerala & Mahe. Maximum temperature anomaly was less than -1°C over parts of Arunachal Pradesh.

Minimum temperature was above normal over most parts of the country, except some parts of northwest India, northeast India, central India, South Peninsular India and Lakshadweep. Minimum temperature anomaly was more than 2°C over parts of Himachal Pradesh, West Bengal state, Sikkim state, Bihar, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and South Interior Karnataka.

Some stations recorded highest maximum temperature for the month. A list of stations is given below with their previous record and date.

Highest Maximum				
STATION NAME	NEW RECORD (°C) #	DATE (AUGUST 2023)	PREVIOUS RECORD (°C)	DD/MM/YYYY
AROGYAVARAM	35 @	28,30	35	08-08-2006
BANGLURU(A)	32.6	30	32.2	28-08-2002
CHANDBALI	37.6	31	37.5	31-08-2005
DIGHA	37	29,30	36.6	02-08-2020
HARNAI	32.3 @	12	32.3	15-08-2009
JAMSHPEDPUR(A)	37	16	36.7	07-08-2000
JHARSUGUDA(A)	36.4	31	36.2	03-08-1972
JORHAT (PET)	37.6	2	37.5	22-08-2016
K.PARAMATHY	40	16,24,26	38.8	09-08-2021
KANYAKUMARI	38	4	36.7	15-08-2010
KARWAR	33.8	30	33.4	23-08-2014
KORAPUT	34.1	12	31.6	30-08-2016
KOTTAYAM	35.5 @	23,24	35.5	29-08-2020
KOZHIKODE	32.9	30	32.2	23-08-2014
LENGPUI	35.6	1	35.5	12-08-2019
LUMDING	40.6	1	39	08-08-1979
MADURAI	40.4	3	40	28-08-1990
MADURAI(A)	41.7	6	40.6	23-08-2004
MINICOY	34.7	26	33.4	08-08-2019
NARSAPUR	37.8	8	37.6	07-08-2009
PALAKKAD (PALGHAT)	35.4	23	34.6	02-08-2017
PALAYAMKOTTAI	40.6	28	39.5	13-08-1976
PUNALUR	36.5	26	34.8	28-08-2003
RENTACHINTALA	40.4	6	40	23-08-2016
THIRUVANANTHPURAM (TRIVANDRUM)	35.7	22	35	16-08-2022
THRISSUR	34	23	33.3	19-08-2015
TUTICORIN	40	3,4	39.8	03-08-1997
VALPARAI PTO	28 @	28,29	28	23-08-2014
VISAKHAPATNAM	38.8 @	13	38.8	15-08-1989

#Based on Real Time available data

@ Equals previous record

Percentage of Warm Days /Cold Nights:

Fig 16(a) and 16(b) show the percentage of days when maximum (minimum) temperature was more (less) than 90th (10th) percentile. Over parts of Coastal Andhra Pradesh, Telangana, Rayalaseema, Tamilnadu, Puducherry & Karaikal, Konkan & Goa, North Interior Karnataka, South Interior Karnataka, Coastal Karnataka, Kerala & Mahe and Lakshdweep island maximum temperature was greater than 90th percentile for more than 50 % of the days of the month. Over parts of North Interior Karnataka and Marathawada minimum temperature was less than 10th percentile for more than 50% of the days of the month.

Fig.17 shows the mean temperature time series for the country as a whole for August since 1971. Five year moving average values are also shown. The mean temperature for the month this year over the country as a whole was 28.45°C with an anomaly of 0.90°C and highest since 1901. Over South Peninsular India the mean temperature was highest (28.96°C with an anomaly of 1.30°C) since 1901. Over Northwest India the mean temperature was 4th highest (28.04°C with an anomaly of 0.70°C) after the years 2020(28.24°C), 2009(28.16°C) and 1987(28.05°C) since 1901. Over Central India the mean temperature was also 4th highest (27.82°C with an anomaly of 0.62°C) after the years

2009(27.94°C), 2015(27.90°C) and 2021(27.88°C) since 1901. Over East & Northeast India the mean temperature was 5th highest (28.74°C with an anomaly of 0.62°C) since 1901.

Fig. 18(a) and 18(b) show the maximum and minimum temperature series respectively for the country as a whole and the four homogeneous regions during August 2023 since 1971. Both the maximum and minimum temperature was above normal over all the homogeneous regions. Among the four homogeneous regions, over South Peninsular India the maximum temperature was highest (32.66°C with an anomaly of 1.73°C) and the minimum temperature was also highest (25.26°C with an anomaly of 0.86°C) since 1901. Over Central India the maximum temperature was 6th highest (31.05°C with an anomaly of 0.84°C) and minimum temperature was the 3rd highest (24.58°C with an anomaly of 0.40°C) after the years 2009(24.75°C), 1998(24.65°C) since 1901. Over Northwest India the maximum temperature was 9th highest (32.48°C with an anomaly of 0.70°C) and minimum temperature was the 4th highest (23.61°C with an anomaly of 0.70°C) after the years 2020(24.05°C), 1947(24.00°C), 1905(23.86°C) since 1901. Over East & Northeast India the maximum temperature was 9th highest (32.33°C with an anomaly of 0.57°C) and minimum temperature was the 6th highest (25.15°C with an anomaly of 0.67°C) since 1901.

Over the country as a whole the maximum temperature was the highest (32.19°C with an anomaly of 1.10°C) and the minimum temperature was the 2nd highest (24.70°C with an anomaly of 0.69°C) after the year 2020 (24.73°C) since 1901. Table 3 shows temperature anomalies for the month over all India and all the four homogeneous regions. Fig. 19(a) and 19(b) daily variation of maximum and minimum temperature anomaly over the country and four homogeneous regions during August 2023.

Low Pressure Systems:

During August 2023 one low pressure area formed over Bay during 18 – 20 August.

SST anomaly over the Indian & Pacific Ocean:

Fig. 20 shows the anomaly in sea surface temperature over the tropical Indian and Pacific Oceans. During August 2023, positive SSTs were observed over most of the equatorial Pacific Ocean. In the north Indian Ocean, positive SST anomalies were observed over most parts of the Arabian Sea.

SOI and Pacific SST Index:

SOI (Table 4) was negative (-1.4) during the month. Sea surface temperature anomalies were above normal by about 1°C over all the NINO regions.

Fig. 21 shows the Monsoon Mission Coupled Forecast System (MMCFS) model output forecast for ENSO conditions for the coming seasons. Currently, moderate El Niño conditions are prevailing over the equatorial Pacific, and sea surface temperatures (SSTs) are above average across most of the equatorial Pacific Ocean. The latest MMCFS forecast indicates that El Niño conditions are likely to persist until the first quarter of next year.

Significant Weather events during August 2023:

Fig. 22 shows significant weather events during the month of August (based on real time media reports). During August, total 149 persons reportedly claimed dead, 40 persons injured, 50 persons missing & some livestock perished due to various weather events. The details of causalities given below, which are based on real time media reports.

Lightning: Total 9 persons reportedly claimed dead & 23 persons injured, during August, because of Lightning. The details of the area affected by the events are summarized and given in the table below;

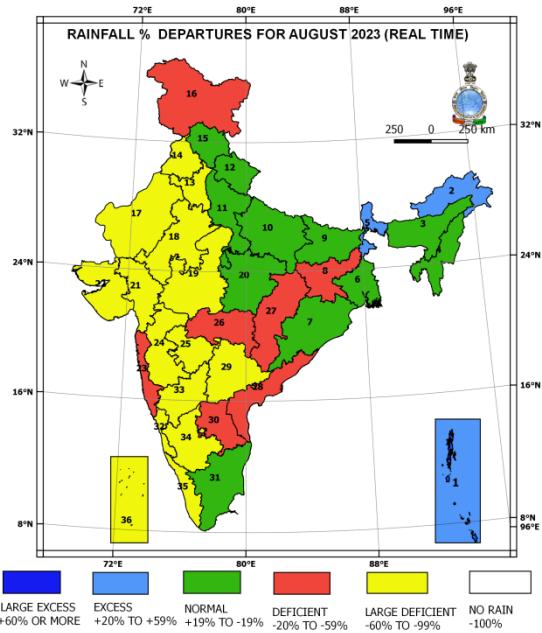
DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE/UT) AFFECTED
12,16 Aug.	5	23			Balasore, Bhadrak, Kendrapara, Mayurbhanj (Odisha)
17 Aug.	2				Bilaspur (Chhattisgarh)
22 Aug.	1				Charkhi Dadri (Haryana)
23 Aug.	1				Bokaro (Jharkhand)

Heavy Rains, Floods & Landslide: Total 140 persons reportedly claimed dead, 17 persons injured, 50 persons missing & some livestock perished during August, because of heavy rains, floods & Landslide. The details of the area affected by the events are summarized and given in the table below;

DATE	DEATH	INJURED	MISSING	LIVESTOCK	DISTRICT (STATE/UT) AFFECTED
9, 11,13,14, 15, 23 Aug.	76	10	6	some	Hamirpur, Kangra, Mandi, Shimla, Sirmaur, Solan (Himachal Pradesh)
4, 6, 7, 9, 10, 14, 15, 21, 23 Aug.	42	7	44		Chamoli, Dehradun, Rudraprayag, Tehri Garhwal, Pauri Garhwal (Uttarakhand)
18 & 19 Aug.	8				Kathua (Jammu & Kashmir)
7, 10,12,13, 27, 30 Aug.	7				Dibrugarh, Golaghat, Sivasagar, Sonitpur (Assam)
20 & 21 Aug.	4				Balasore, Keonjhar, Mayurbhanj (Odisha)
21 Aug.	2				Ashoknagar, Bhopal (Madhya Pradesh)
19 Aug.	1				Gondia (Maharashtra)

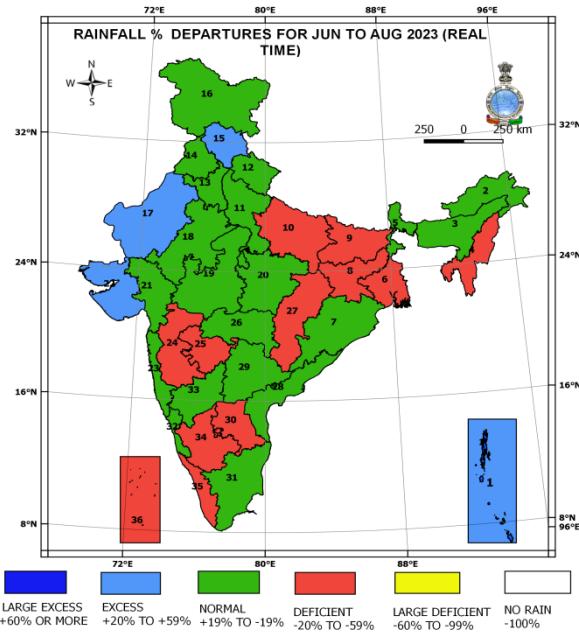
While,

- a) Barpeta, Biswanath, Bongaigaon, Charaideo, Chirang, Darrang, Dhemaji, Dhubri, Goalpara, Jorhat, Kokrajhar, Kamrup Rural, Kamrup (M), Lakhimpur, Majuli, Morigaon, Nagaon, Nalbari, Tamulpur, Udalguri districts of Assam also affected on 7, 10, 12, 13, 27, 30 August.
- b) Bilaspur, Kullu, Una districts of Himachal Pradesh affected on 23 & 24 August.
- c) Bhagalpur, East Champaran, Munger, Muzaffarpur, Purnia districts of Bihar; Raigarh district of Chhattisgarh; Yamuna Nagar district of Haryana; Damoh, Datia, Mandla, Panna, Shahdol districts of Madhya Pradesh; East Khasi Hills, South West Khasi Hills districts of Meghalaya; Angul, Balangir, Boudh, Kandhamal, Keonjhar, Khordha, Mayurbhanj, Sambalpur districts of Odisha; Champawat, Nainital districts of Uttarakhand also affected due to Extremely Heavy Rains.



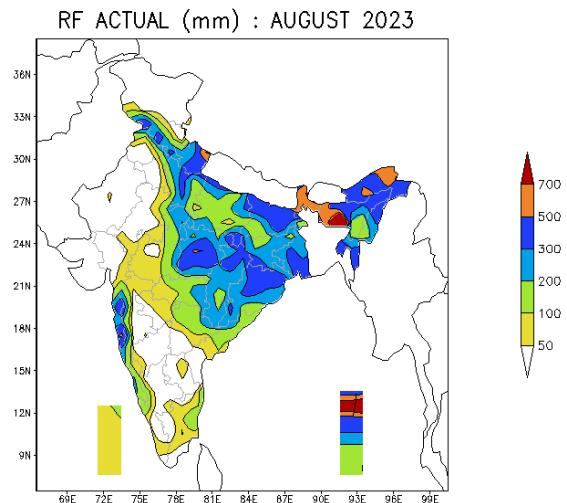
**आकृती १(ए): अगस्त २०२३ के लिए वर्षा प्रतिशत
विचलन**

**FIG. 1(a): SUBDIVISIONWISE RAINFALL
PERCENTAGE DEPARTURE AUGUST 2023**

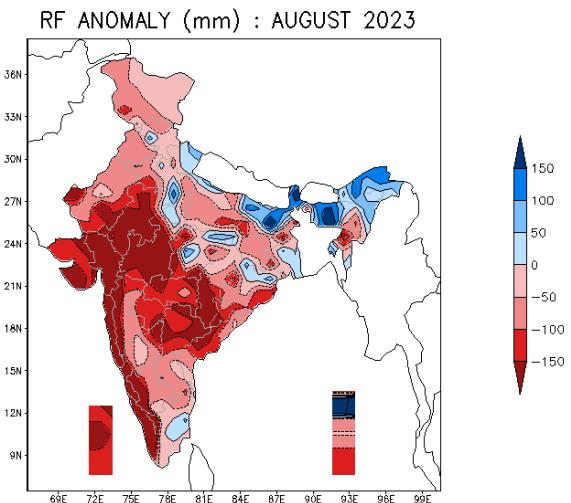


**आकृती १(बी) : जून - अगस्त २०२३ के लिए वर्षा
प्रतिशत विचलन**

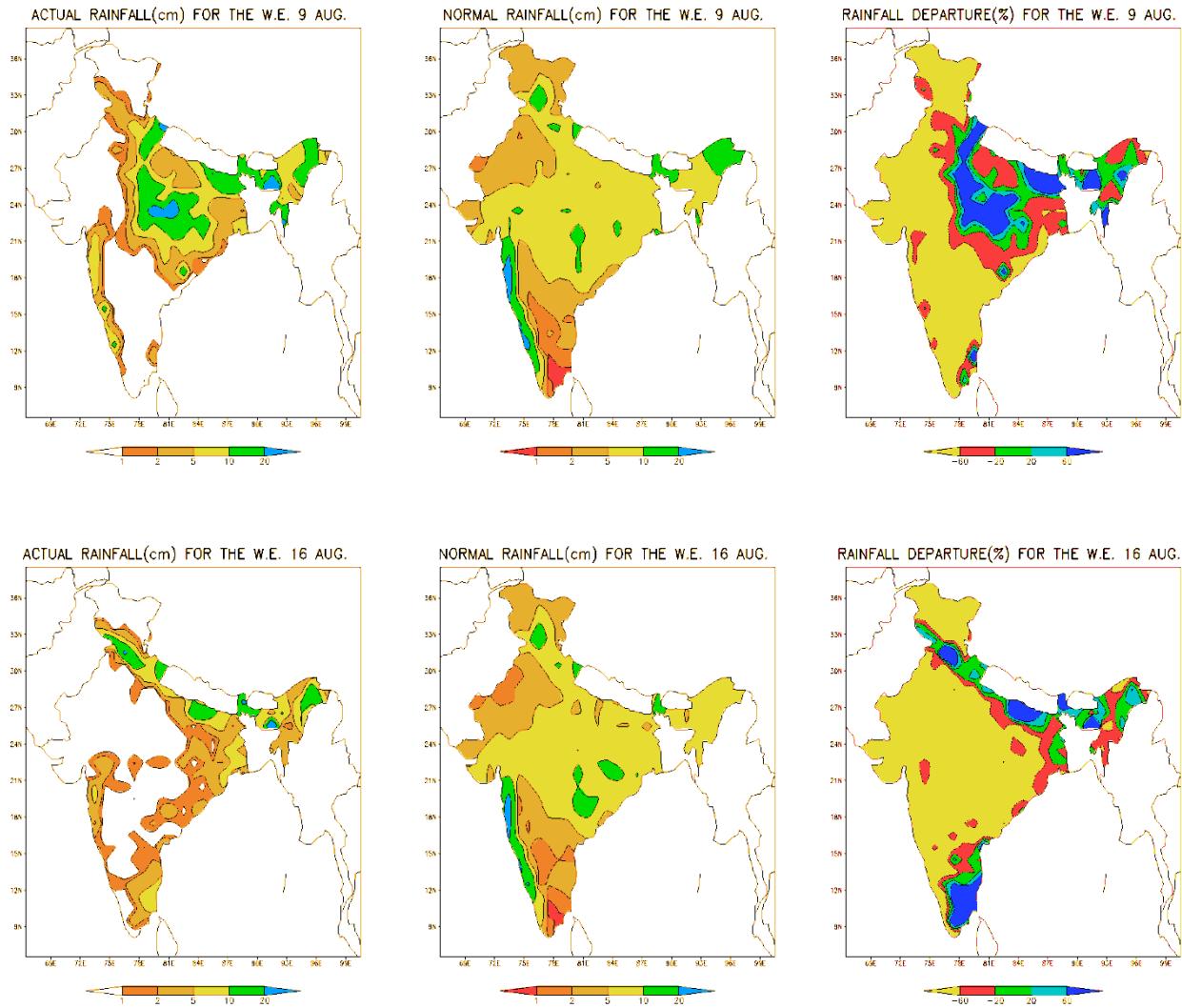
**FIG. 1(b): SUBDIVISIONWISE RAINFALL
PERCENTAGE DEPARTURE JUNE TO AUGUST
2023**



**आकृती २(ए) : (मासिक वर्षा) मिमी(mm)
FIG. 2(a): MONTHLY RAINFALL (mm)**



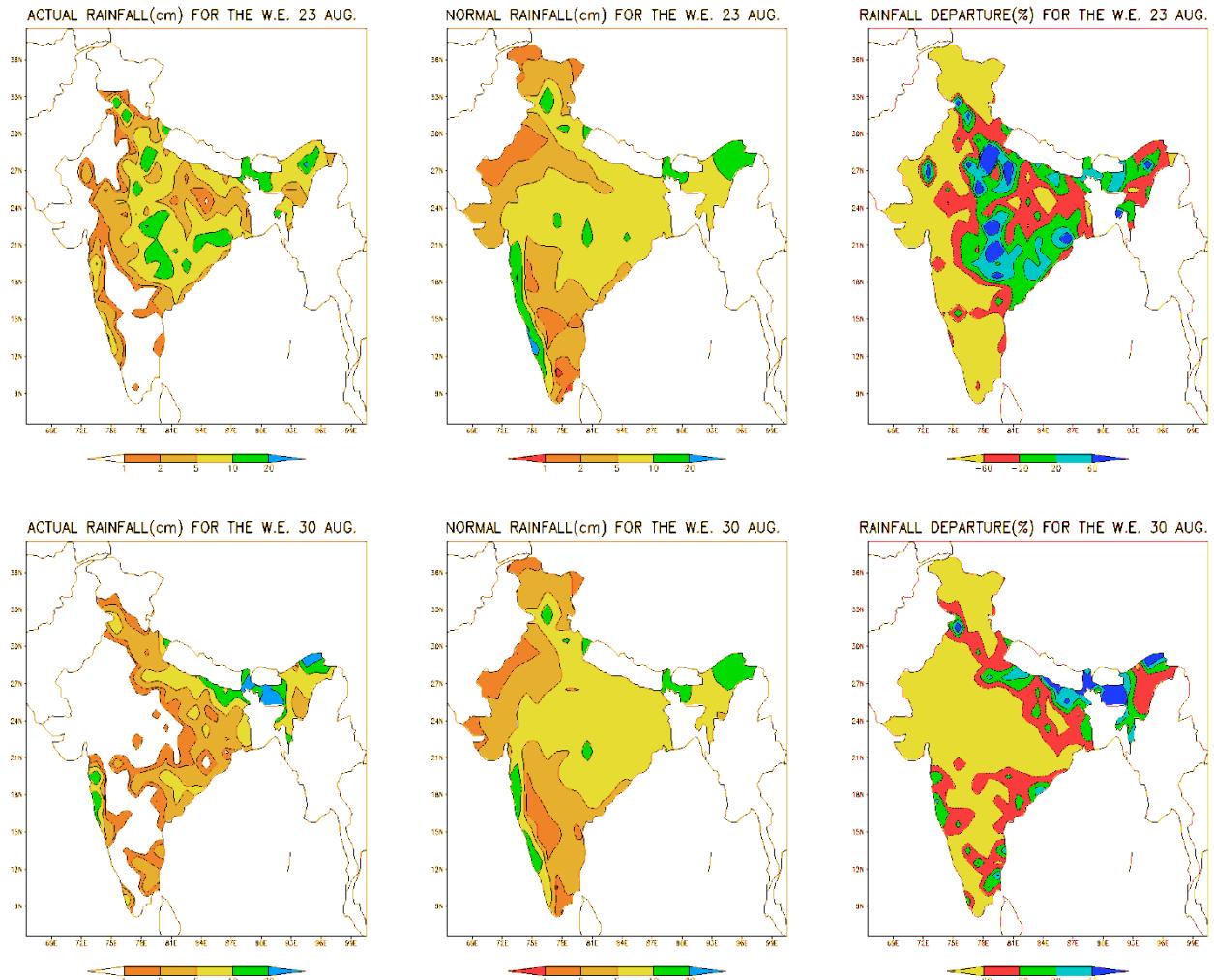
**आकृती २(बी) : (मासिक वर्षा विसंगति) मिमी(mm)
FIG. 2(b): MONTHLY RAINFALL ANOMALY (mm)**



आकृति 3 : अगस्त २०२३ के महीने के दौरान वर्षा के वास्तविक (बाएं), लंबी अवधि के औसत (मध्य) (और प्रतिशत विचलन) दारे (सप्ताह के अनुसार (एलपीए १९७१-२०२० की अवधि के आंकड़ों पर आधारित है)

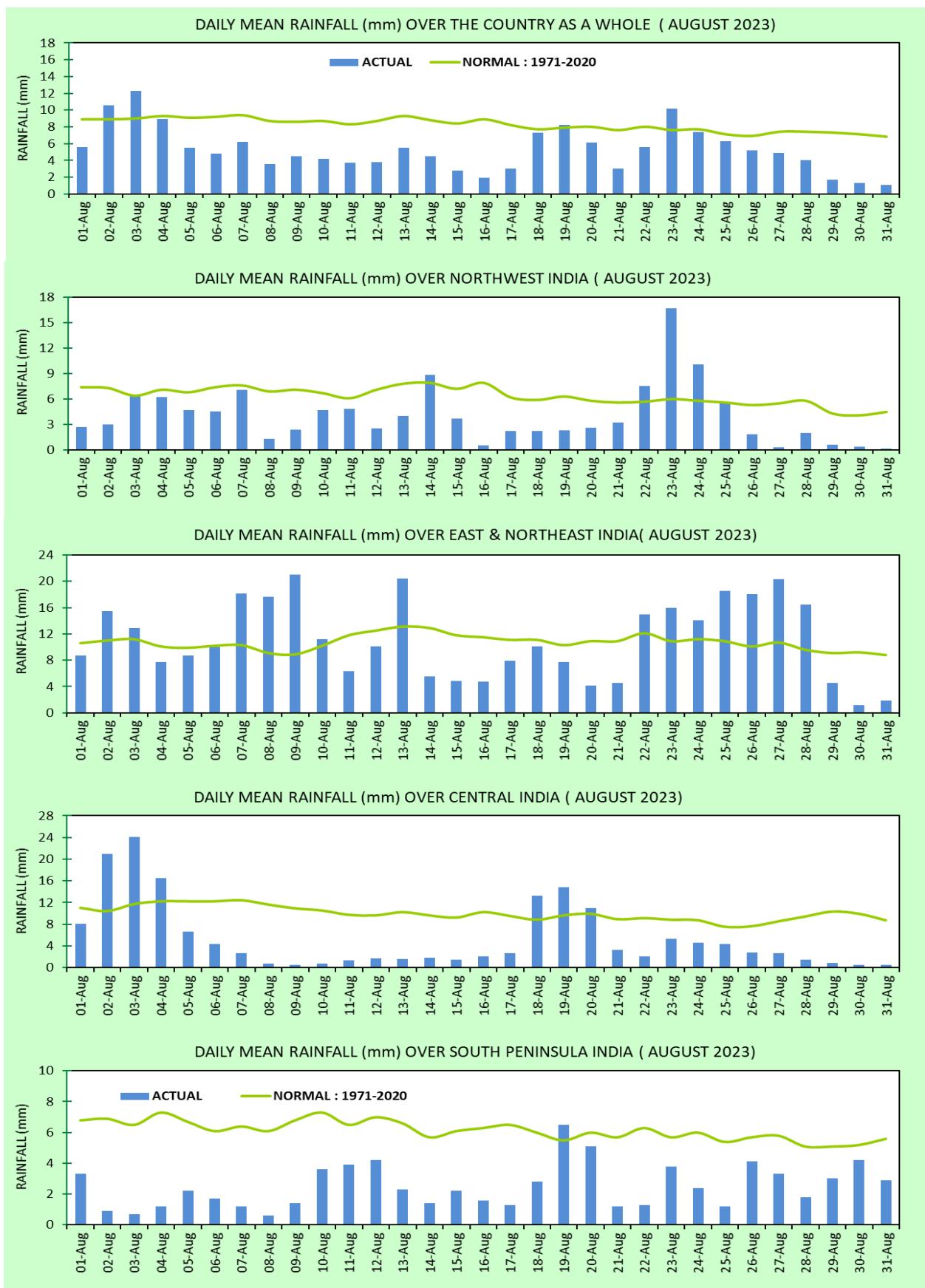
**FIG. 3: WEEK WISE ACTUAL (LEFT), LONG PERIOD AVERAGE (CENTRE) AND PERCENTAGE DEPARTURE (RIGHT) OF RAINFALL DURING THE MONTH OF AUGUST 2023
(LPA IS BASED ON THE DATA FOR THE PERIOD 1971-2020)**

FIG. 3: Contd...

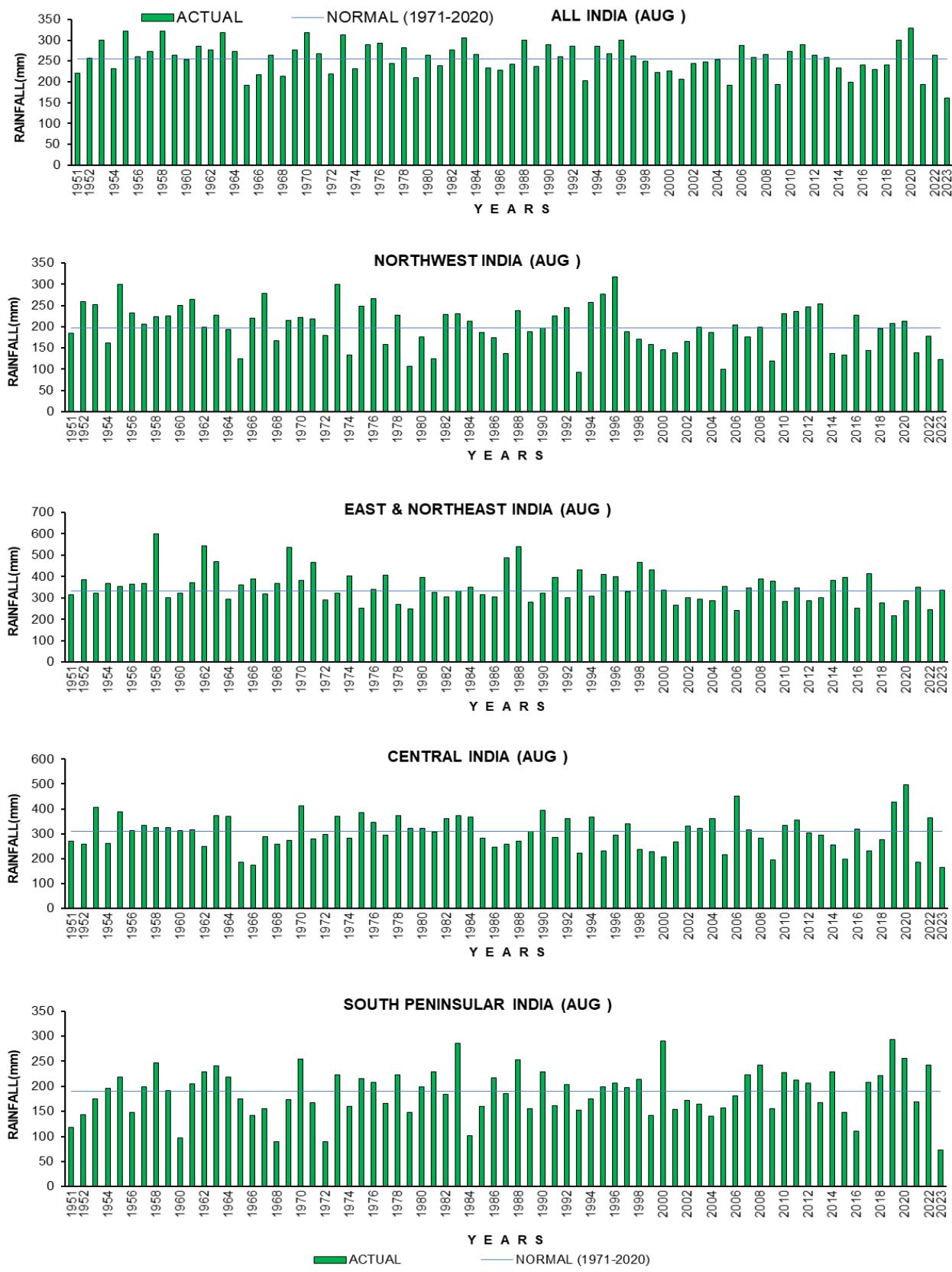


आकृति ३ : अगस्त २०२३ के महीने के दौरान वर्षा के वास्तविक (बाएं), लंबी अवधि के औसत (मध्य) और (प्रतिशतविचलन(दाएं) सप्ताह के अनुसार (एलपीए १९७१-२०२० की अवधि के आंकड़ों पर आधारित है।

FIG. 3: WEEK WISE ACTUAL (LEFT) LONG PERIOD AVERAGE (CENTRE) AND PERCENTAGE DEPARTURE (RIGHT) OF RAINFALL DURING THE MONTH OF AUGUST 2023
(LPA IS BASED ON THE DATA FOR THE PERIOD 1971-2020)

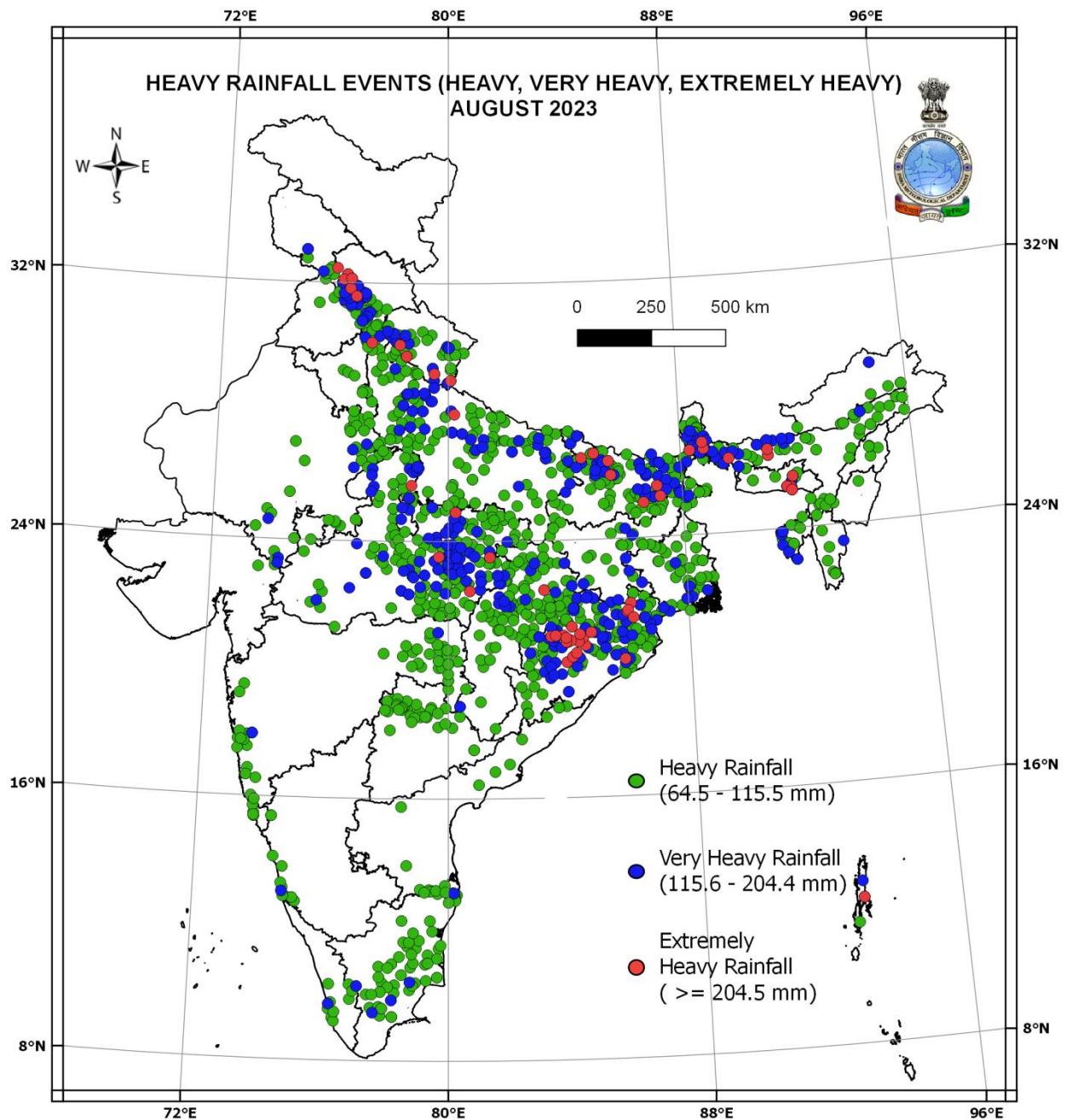


आकृती ४ : अगस्त २०२३ के दौरान अखिल भारतीय और चार सजातीय क्षेत्रों में वर्षा की दैनिक अनिन्ता
FIG. 4: DAILY VARIATION OF RAINFALL OVER ALL INDIA AND FOUR HOMOGENEOUS REGIONS DURING AUGUST 2023



आकृती ५ : १९५१-२०२३ की अवधि के दौरान अगस्त माह के लिए पुरे भारत और चार समरूप क्षेत्रों में क्षेत्र भारित वर्षा की समय श्रंखला

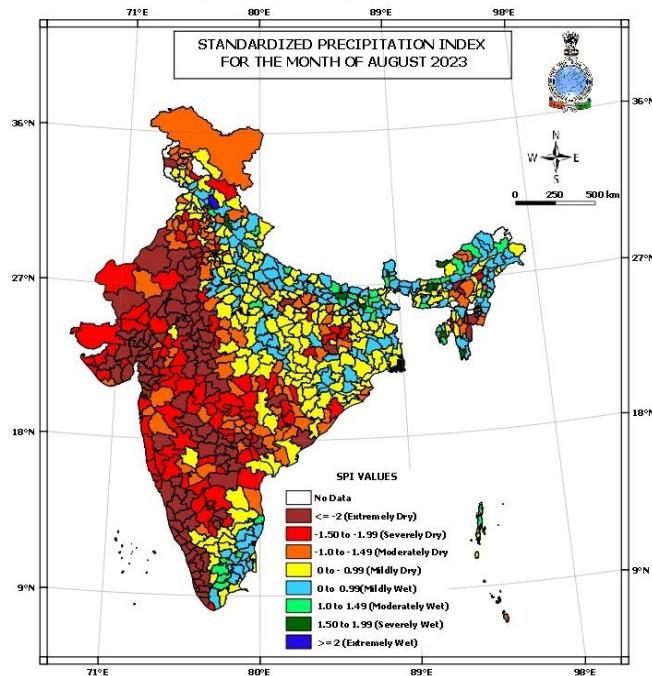
FIG. 5: TIME SERIES OF AREA WEIGHT AVERAGED RAINFALL OVER ALL INDIA AND FOUR HOMOGENEOUS REGIONS FOR AUGUST (1951 - 2023)



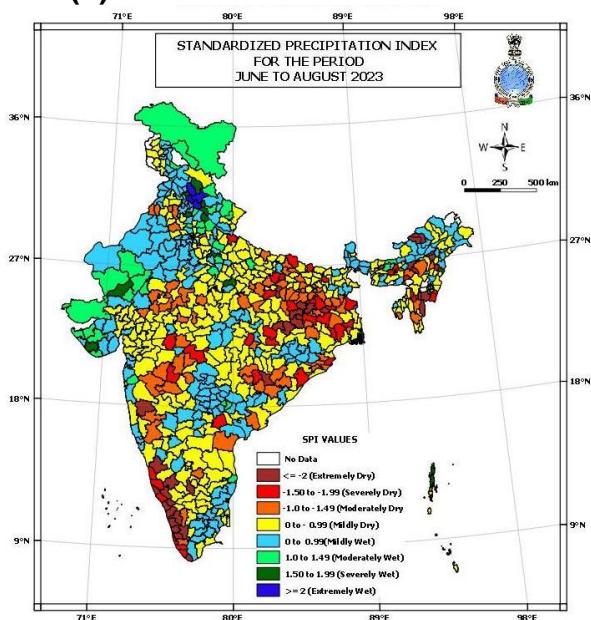
आकृति ६: अगस्त २०२३ के दौरान भारी और बहुत भारी, अत्यधिक भारी वर्षा प्राप्त करने वाले स्टेशन

FIG. 6: STATIONS WHICH RECEIVED HEAVY, VERY HEAVY, AND EXTREMELY RAINFALL
DURING THE MONTH OF AUGUST 2023

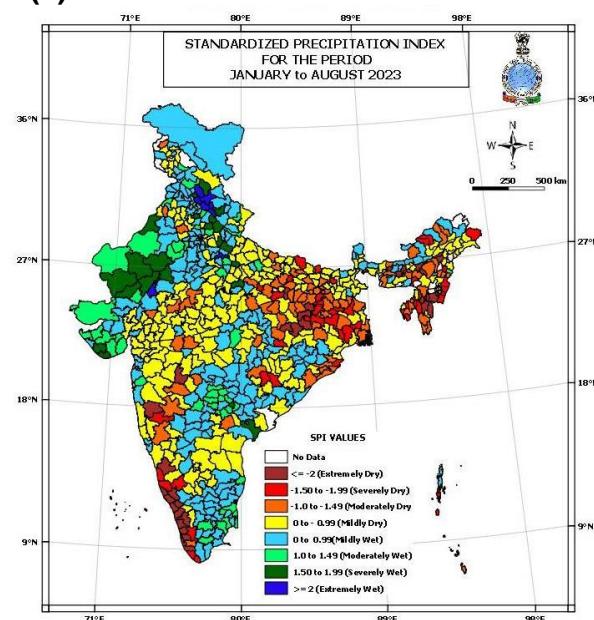
(a) AUGUST - 2023



(b) JUNE 2023 – AUGUST 2023



(c) JANUARY 2023 – AUGUST 2023

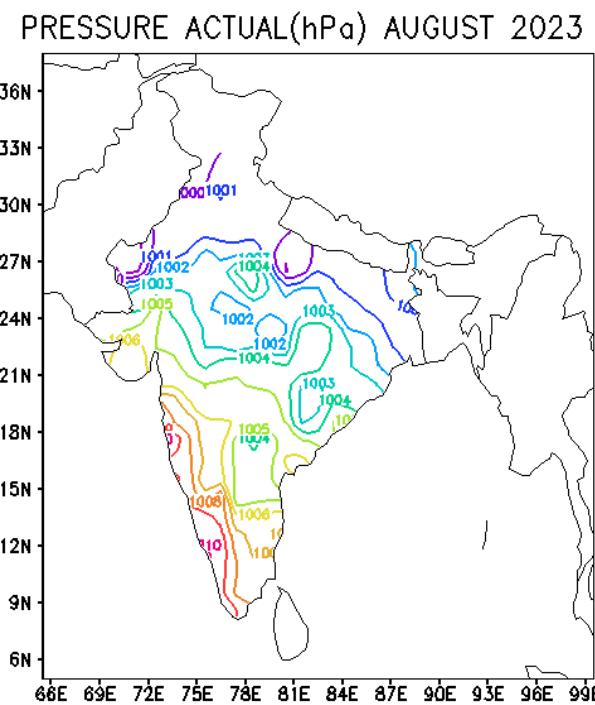


आकृति ७: मानकीकृत वर्षण सूचकांक (एसपीआई)

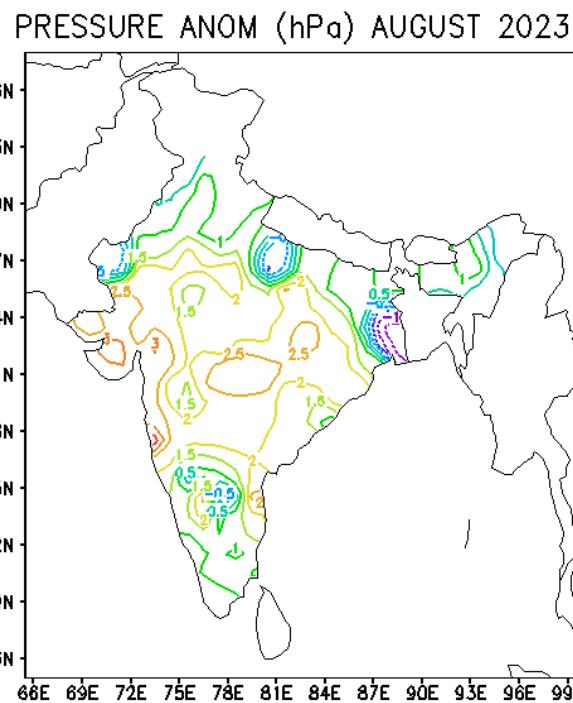
(ए) अगस्त (एक महीना) (बी) जुन से अगस्त (तीन महीने) (सी) जनवरी से अगस्त (आठ महीने)

FIG. 7: STANDARDIZED PRECIPITATION INDEX (SPI) FOR
(a) ONE MONTH (b) THREE MONTHS (c) EIGHT MONTHS

(a) MEAN SEA LEVEL PRESSURE (MSLP)



(b) MSLP Anomaly



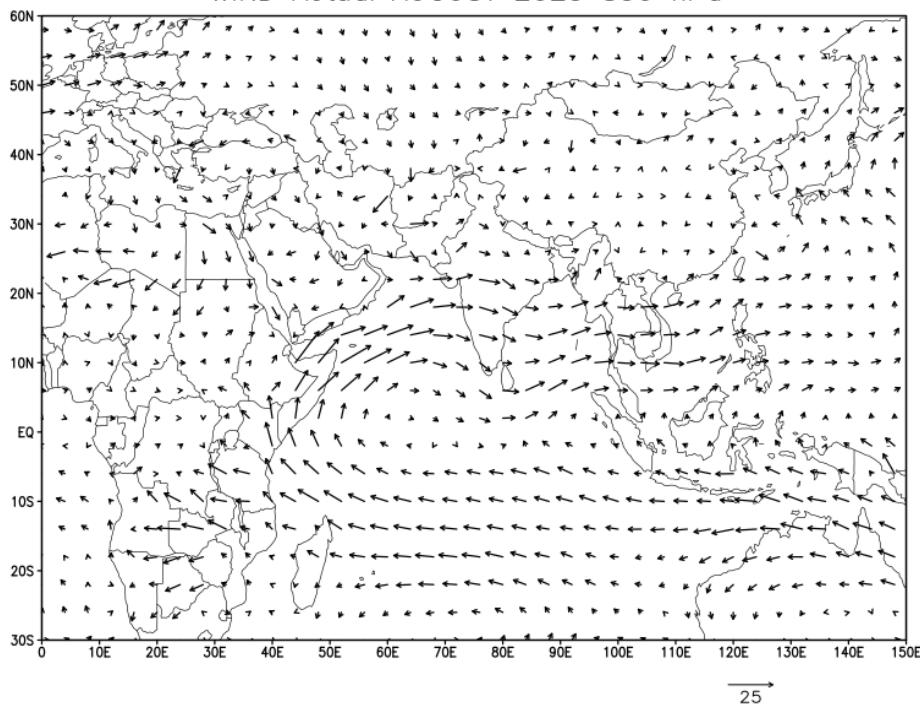
आकृती ८: अगस्त २०२३ के लिए मासिक औसत समद्र स्तर दबाव (एचपीए)

(ए) माध्य (बी) विसंगति (१९८१-२०१० सामान्य पर आधारित)

FIG. 8: MONTHLY MEAN SEA LEVEL PRESSURE (hPa) FOR AUGUST 2023
(a) MEAN (b) ANOMALY
(BASED ON 1981 - 2010 NORMALS)

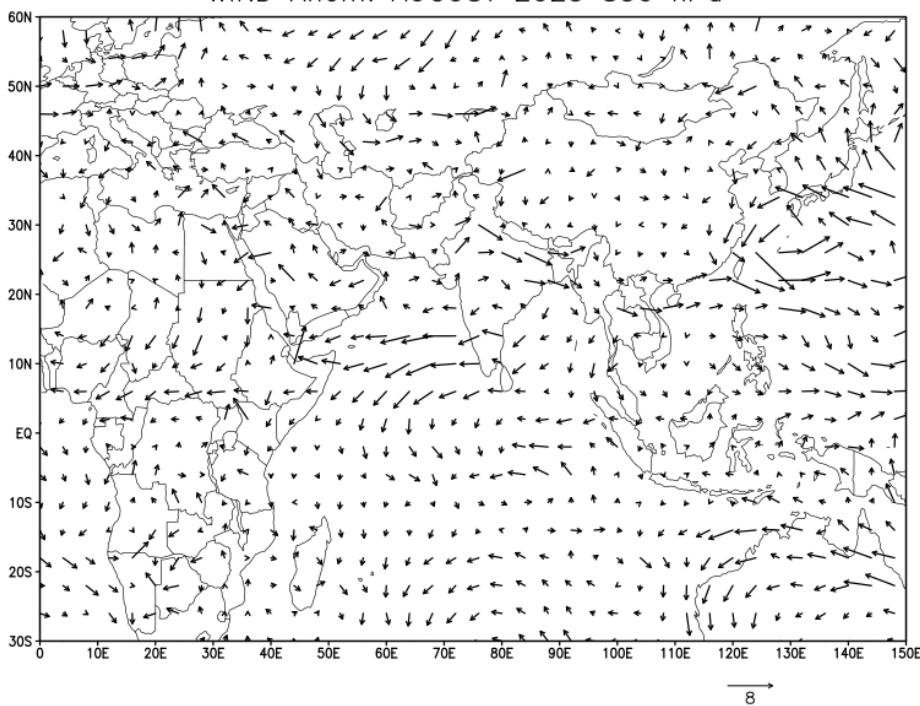
(a) MEAN WIND: 850 hPa

WIND Actual AUGUST 2023 850 hPa



(b) WIND ANOMALY: 850 hPa

WIND Anom. AUGUST 2023 850 hPa



आकृति ९: अगस्त २०२३ के लिए मासिक पवन (मि /से)

(ए) माध्य (बी) विसंगति ८५० एचपीए स्तरपर

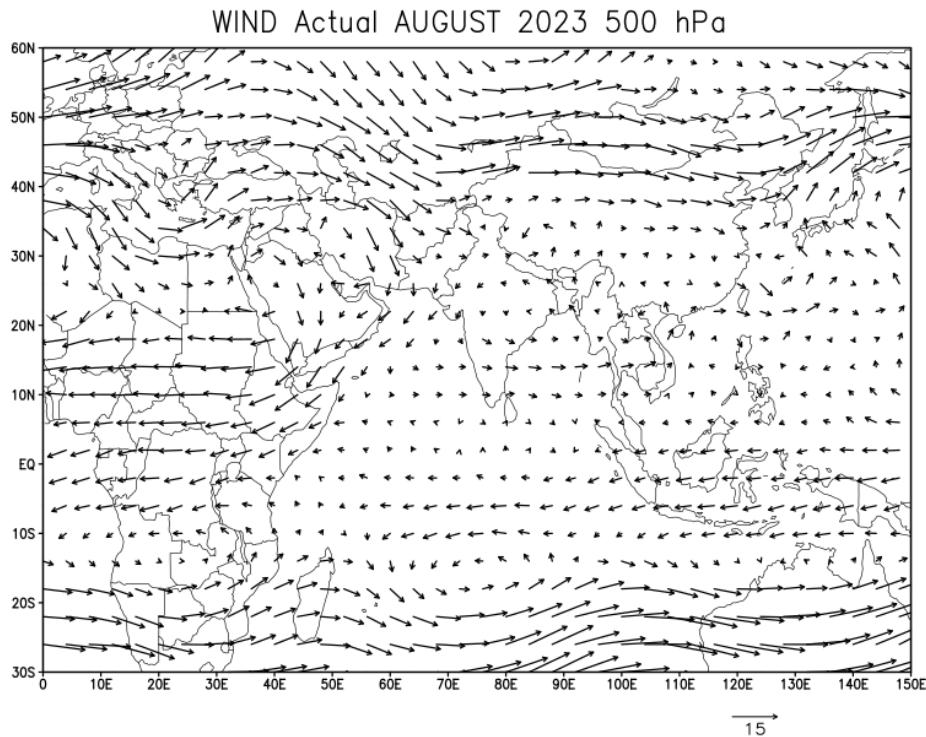
FIG. 9: MONTHLY WIND (m/s) FOR AUGUST 2023

(a) MEAN (b) ANOMALY AT 850 hPa

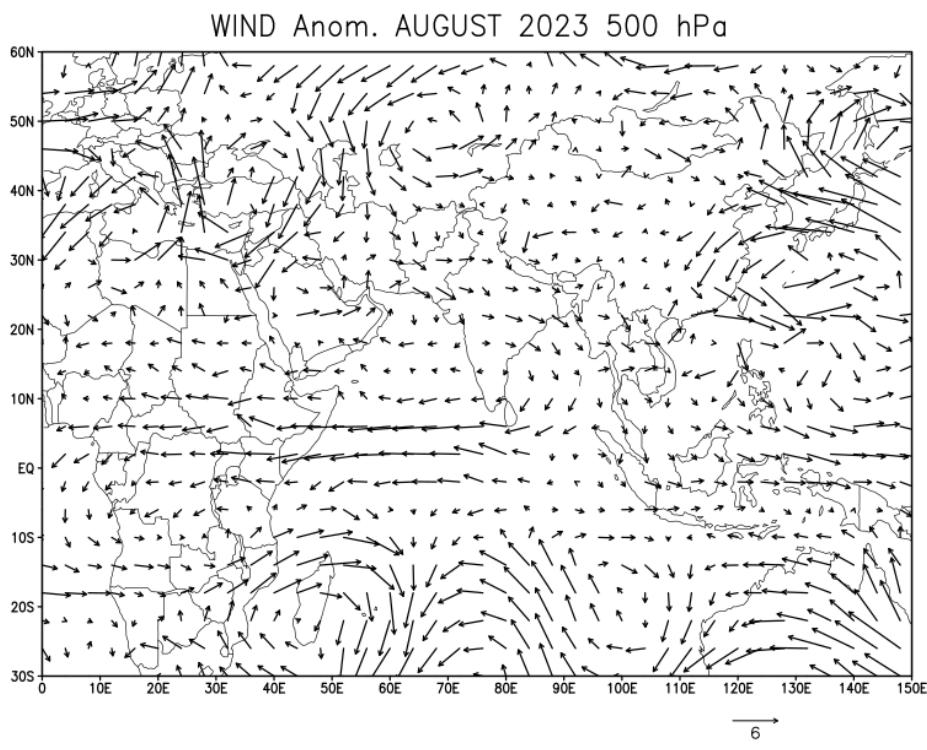
(OPERATIONAL NWP ANALYSIS OF IMD GFS T-574

(ANOMALY IS BASED ON 2000-2018 Climatology, Source: NCMRWF)

(a) MEAN WIND: 500 hPa



(b) WIND ANOMALY: 500 hPa



आकृती १०: अगस्त २०२३ के लिए मासिक पवन (मि /से)

(ए) माध्य (बी) विसंगति ५०० एचपीए स्तरपर

FIG. 10: MONTHLY WIND (m/s) FOR AUGUST 2023

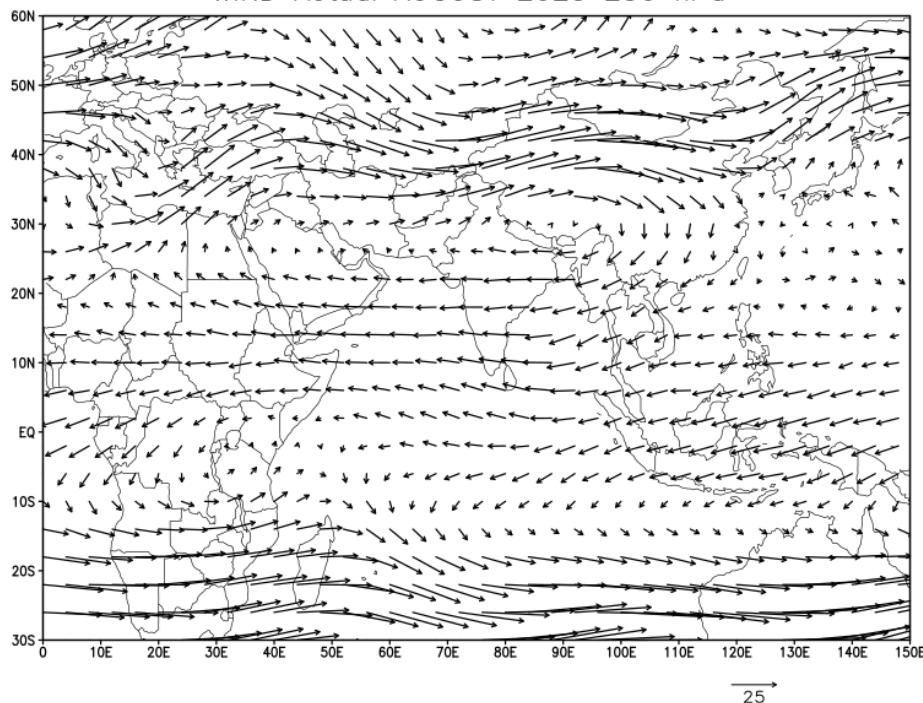
(a) MEAN (b) ANOMALY AT 500 hPa

(OPERATIONAL NWP ANALYSIS OF IMD GFS T-574

(ANOMALY IS BASED ON 2000-2018 Climatology, Source: NCMRWF)

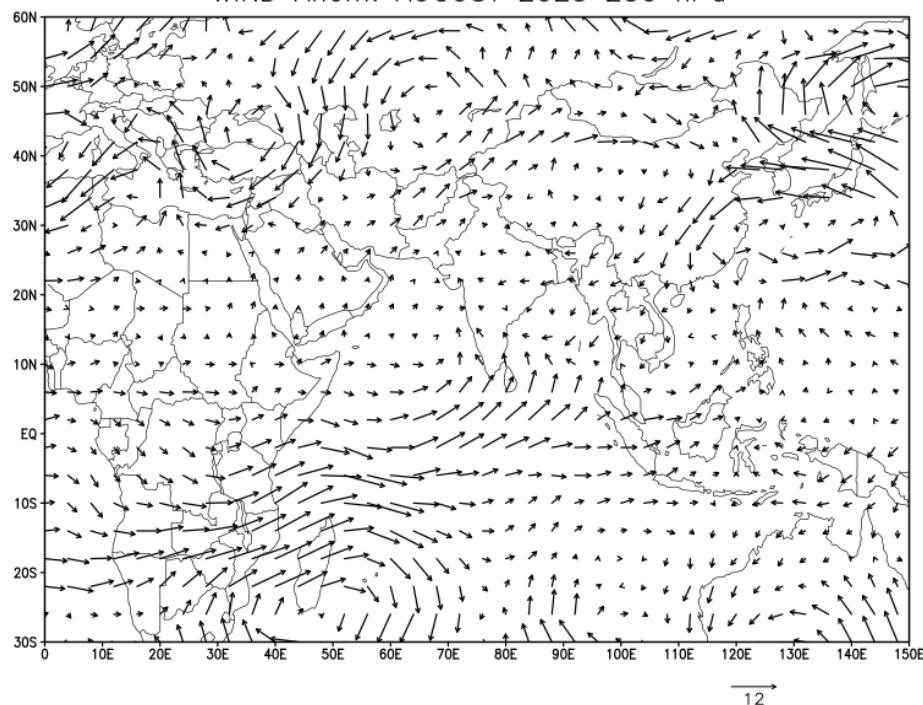
(a) MEAN WIND: 250 hPa

WIND Actual AUGUST 2023 250 hPa



(b) WIND ANOMALY: 250 hPa

WIND Anom. AUGUST 2023 250 hPa



आकृती ११: अगस्त २०२३ के लिए मासिक पवन (मि /से)

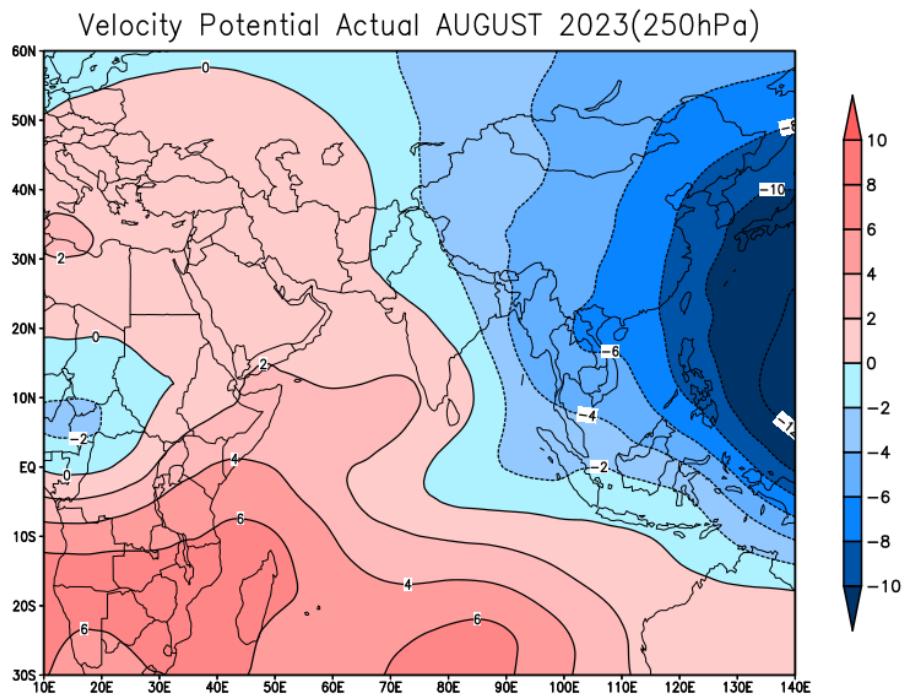
(ए) माध्य (बी) विसंगति २५० एचपीए स्तरपर

FIG. 11: MONTHLY WIND (m/s) FOR AUGUST 2023

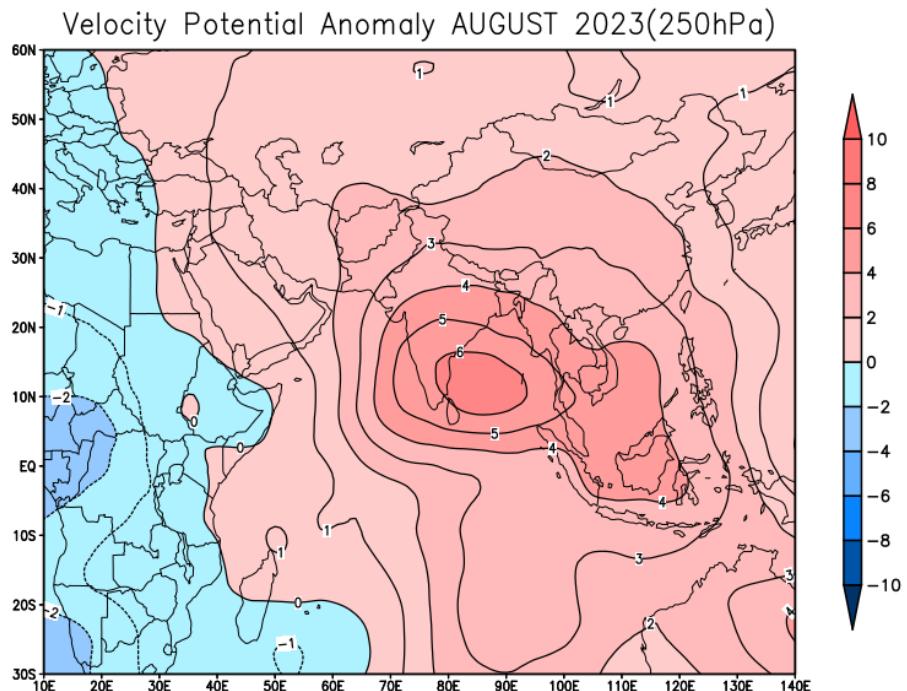
(a) MEAN (b) ANOMALY AT 250 hPa

(OPERATIONAL NWP ANALYSIS OF IMD GFS T-574
(ANOMALY IS BASED ON 2000-2018 Climatology, Source: NCMRWF)

(a) VELOCITY POTENTIAL: 250 hPa



(b) VELOCITY POTENTIAL ANOMALY: 250 hPa



आकृति १२: अगस्त २०२३ के लिए वेग विभव ($10^6 \text{मीटर}^2/\text{सेकंड}$)

(ए) माध्य (बी) विसंगति २५० एचपीए स्तरपर

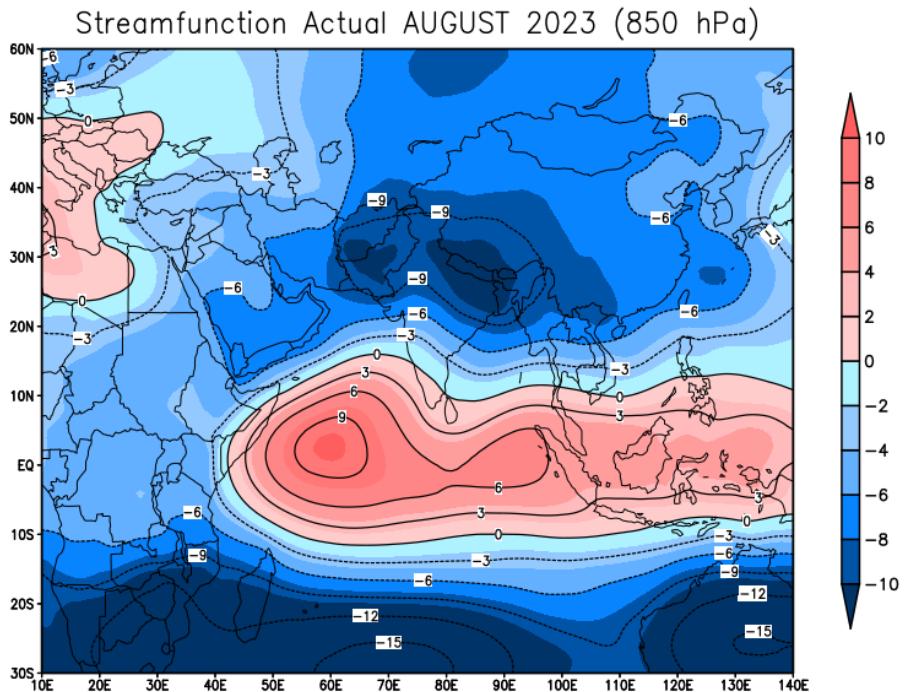
FIG. 12: VELOCITY POTENTIAL ($10^6 \text{m}^2/\text{s}$) FOR AUGUST 2023

(a) MEAN (b) ANOMALY AT 250 hPa

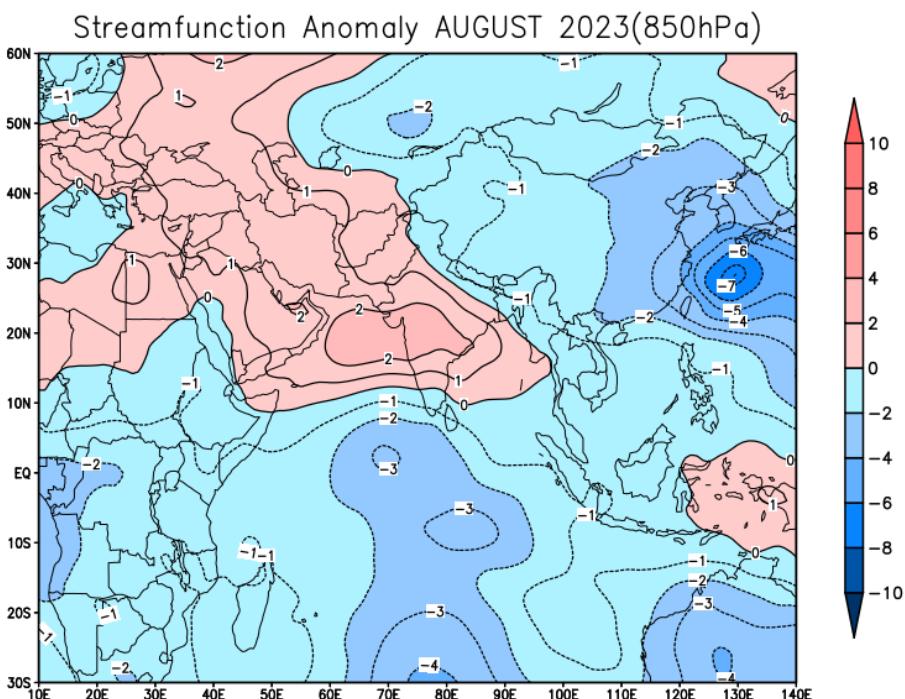
(OPERATIONAL NWP ANALYSIS OF IMD GFS T-574

(ANOMALY IS BASED ON 2000-2018 Climatology, Source: NCMRWF)

(a) STREAM FUNCTION: 850 hPa



(b) STREAM FUNCTION ANOMALY: 850 hPa



आकृति १३: अगस्त २०२३ के लिए धारा कृत्य ($10^6 \text{ मीटर}^2/\text{सेकंड}$)

(क) माध्य (ख) विसंगति ८५० एचपीए स्तरपर

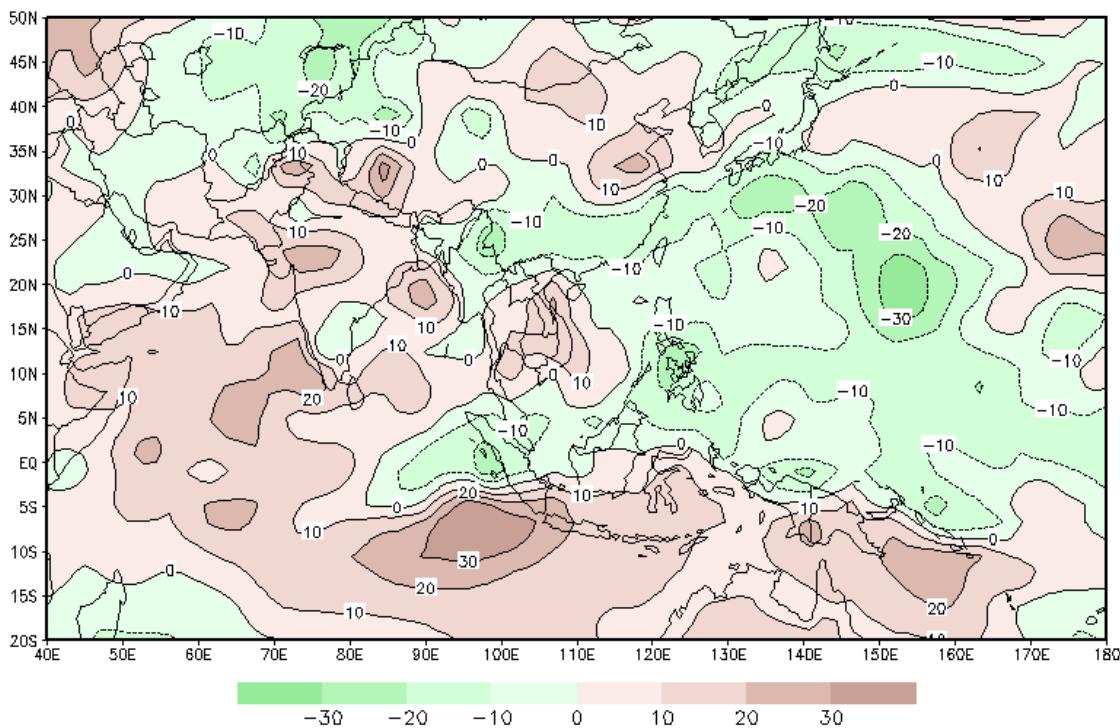
FIG. 13: STREAM FUNCTION ($10^6 \text{ m}^2/\text{s}$) FOR AUGUST 2023

(a) MEAN (b) ANOMALY AT 850 hPa

(OPERATIONAL NWP ANALYSIS OF IMD GFS T-574

(ANOMALY IS BASED ON 2000-2018 Climatology, Source: NCMRWF)

OLR Anom AUGUST 2023



आकृती १४: अगस्त २०२३ के लिए ओएल आर विसंगति (वैट / मी²)

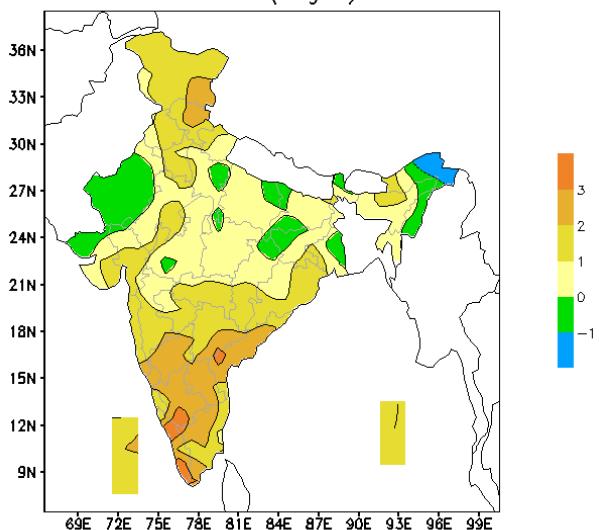
FIG. 14: OLR ANOMALY (W/m²) FOR AUGUST 2023

(DATA SOURCE: CDC / NOAA, USA)

(BASED ON 1991 - 2020 CLIMATOLOGY)

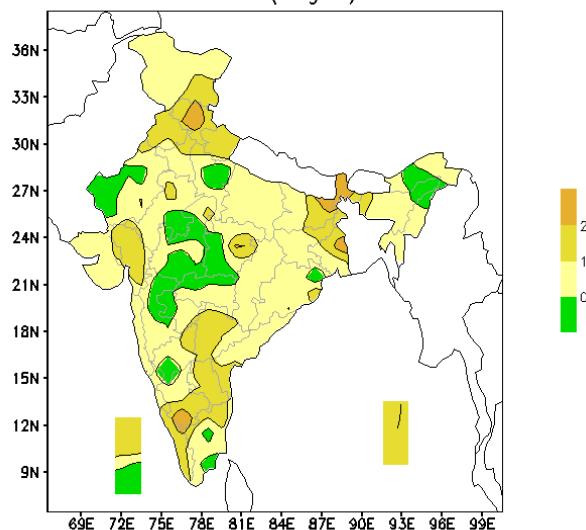
(a) MAXIMUM TEMPERATURE ANOMALY

MAX TEMP ANOMALY (deg C) : AUG 2023



(b) MINIMUM TEMPERATURE ANOMALY

MIN TEMP ANOMALY (deg C) : AUG 2023



आकृती १५: अगस्त २०२३ के लिए औसत मासिक तापमान विसंगतियां (डिग्री सेल्सियस)

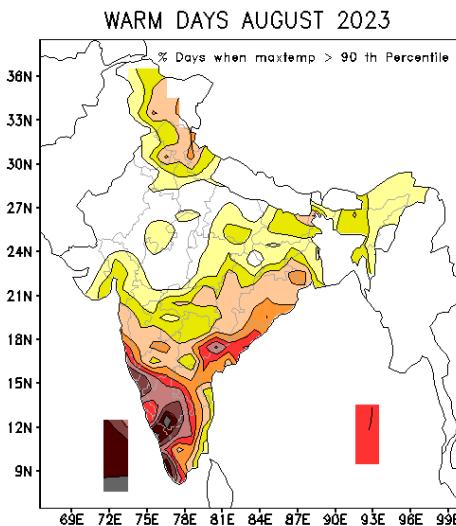
(ए) अधिकतम (बी) न्यूनतम

FIG. 15: MEAN MONTHLY TEMPERATURE ANOMALIES (°C) FOR AUGUST 2023

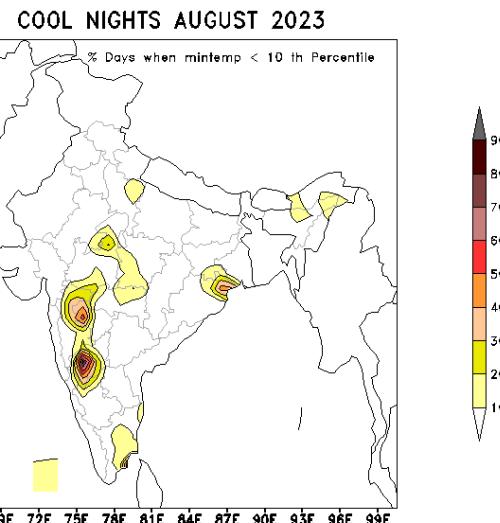
(a) MAXIMUM (b) MINIMUM

(BASED ON 1981-2010 NORMALS)

(a) WARM DAYS



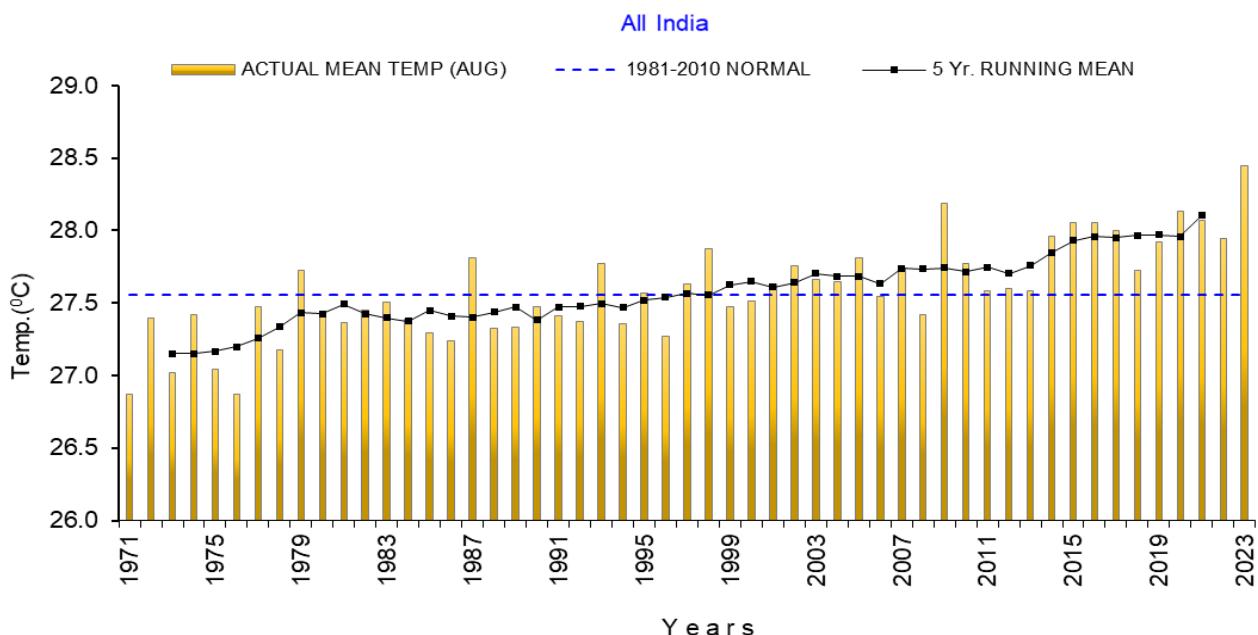
(b) COLD NIGHTS



आकृति १६: (a) उन दिनों का प्रतिशत जब अधिकतम तापमान > 90 वें प्रतिशत

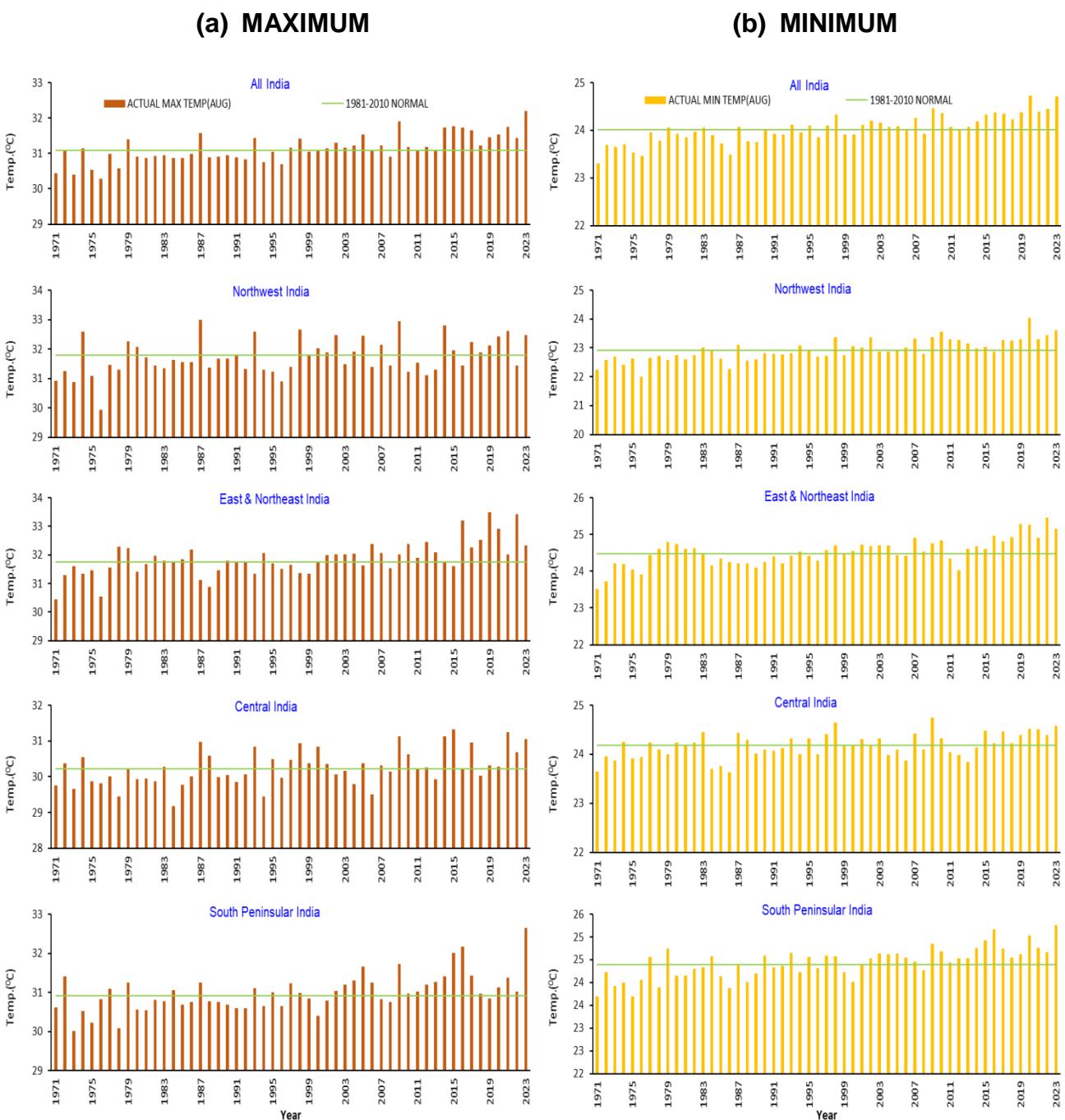
(b) उन दिनों का प्रतिशत जब न्यूनतम तापमान < 10 वें प्रतिशत

FIG. 16: (a)PERCENTAGE OF DAYS WHEN MAXIMUM TEMPERATURE > 90 TH PERCENTILE
(b)PERCENTAGE OF DAYS WHEN MINIMUM TEMPERATURE < 10 TH PERCENTILE



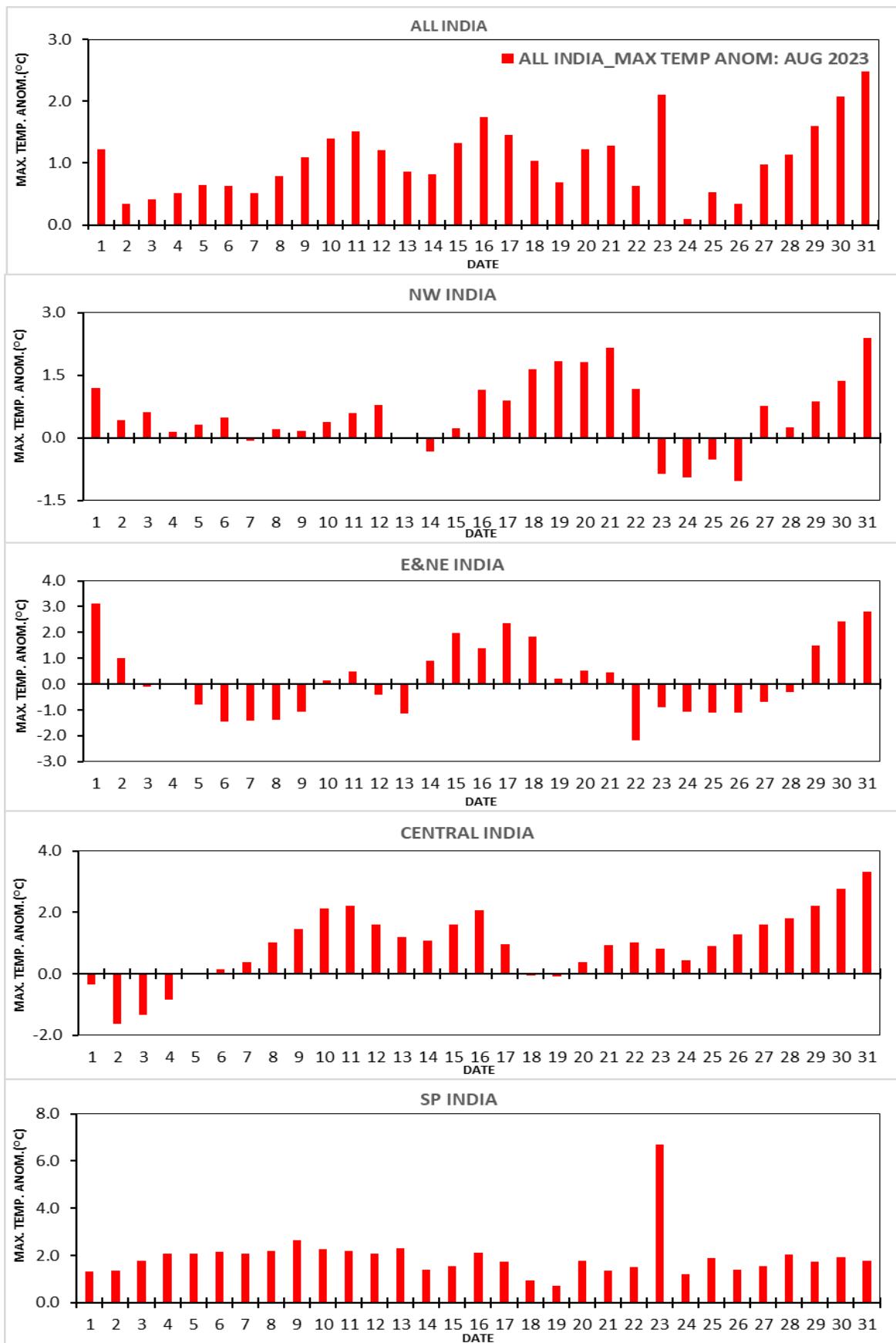
आकृति १७: अगस्त १९७१-२०२३ की अवधि के दौरान भारत में औसत तापमान की समय शृंखला और महीने के लिए पांच साल चलने वाला औसत तापमान

FIG. 17: TIME SERIES OF MEAN TEMPERATURE AVERAGED OVER INDIA (VERTICAL BARS AND FIVE-YEAR RUNNING MEAN (CONTINUOUS LINE) FOR THE MONTH OF AUGUST DURING THE PERIOD 1971-2023.



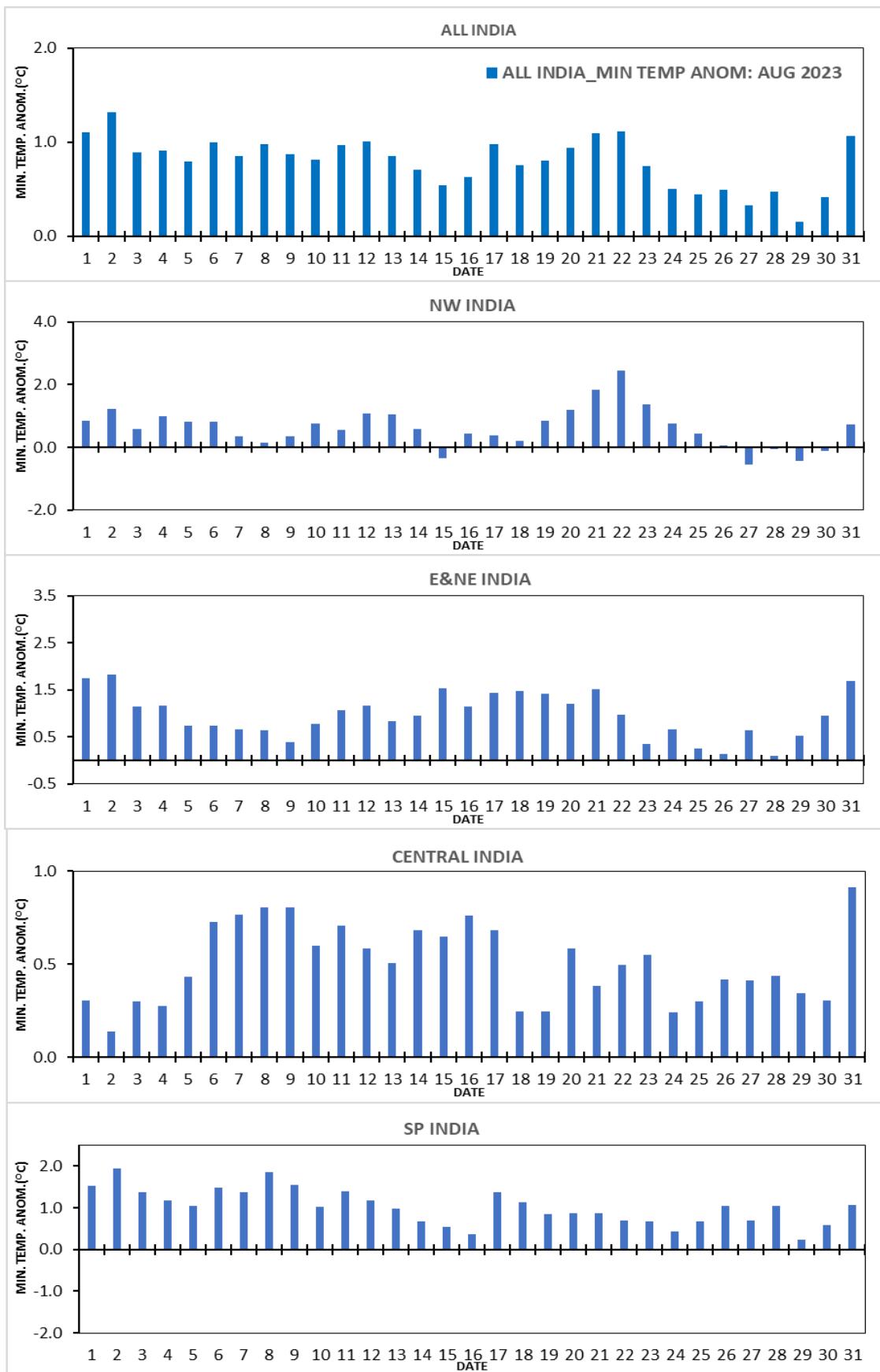
आकृति १८: अगस्त महीने के लिए १९७१-२०२३ अवधि के दौरान (ए) अधिकतम (बी) न्यूनतम तापमान की समय श्रृंखला पूरे देश और चार सजातीय क्षेत्र के लिए

FIG. 18: TIME SERIES OF TEMPERATURE FOR THE COUNTRY AS A WHOLE AND THE FOUR HOMOGENEOUS REGIONS FOR THE MONTH OF AUGUST DURING THE PERIOD 1971 - 2023
(a) MAXIMUM (b) MINIMUM



आकृति १९(ए): अगस्त २०२३ के दौरान सभी भारत और चार सजातीय क्षेत्रों में अधिकतम तापमान विसंगतियाँ की दैनिक भिन्नता

FIG. 19(a): DAILY VARIATION OF MAXIMUM TEMPERATURE ANOMALY OVER ALL INDIA AND FOUR HOMOGENEOUS REGIONS DURING AUGUST 2023

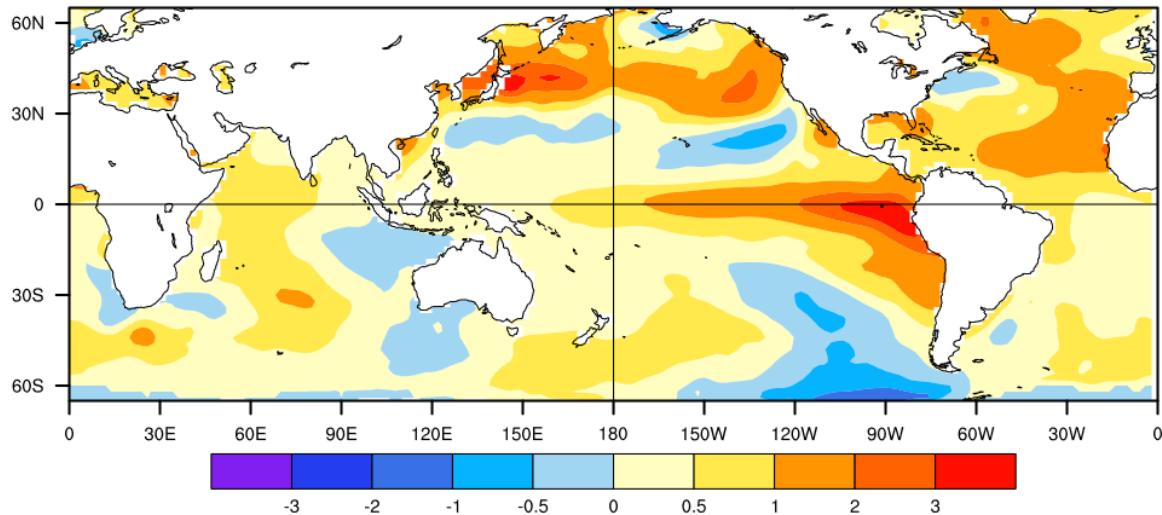


आकृति १९(बी): अगस्त २०२३ के दौरान सभी भारत और चार सजातीय क्षेत्रों में न्यूनतम तापमान विसंगतियाँ की दैनिक भिन्नता

FIG. 19(b): DAILY VARIATION OF MINIMUM TEMPERATURE ANOMALY OVER ALL INDIA AND FOUR HOMOGENEOUS REGIONS DURING AUGUST 2023

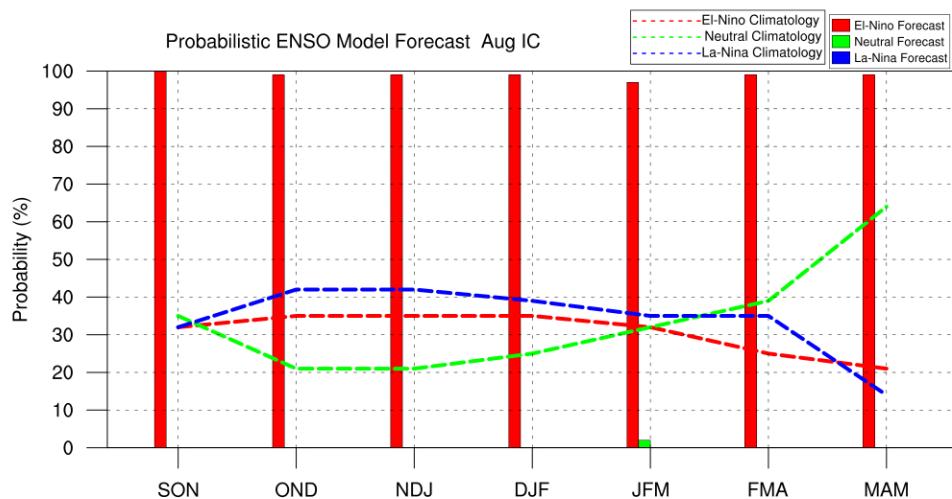
Average SST Anomalies

AUGUST 2023



आकृती २०: समुद्री सतह तापमान विसंगति ($^{\circ}\text{C}$)

FIG. 20: SEA SURFACE TEMPERATURE ANOMALY ($^{\circ}\text{C}$) IN AUGUST 2023
(Data Source - ERSST V5, NOAA)



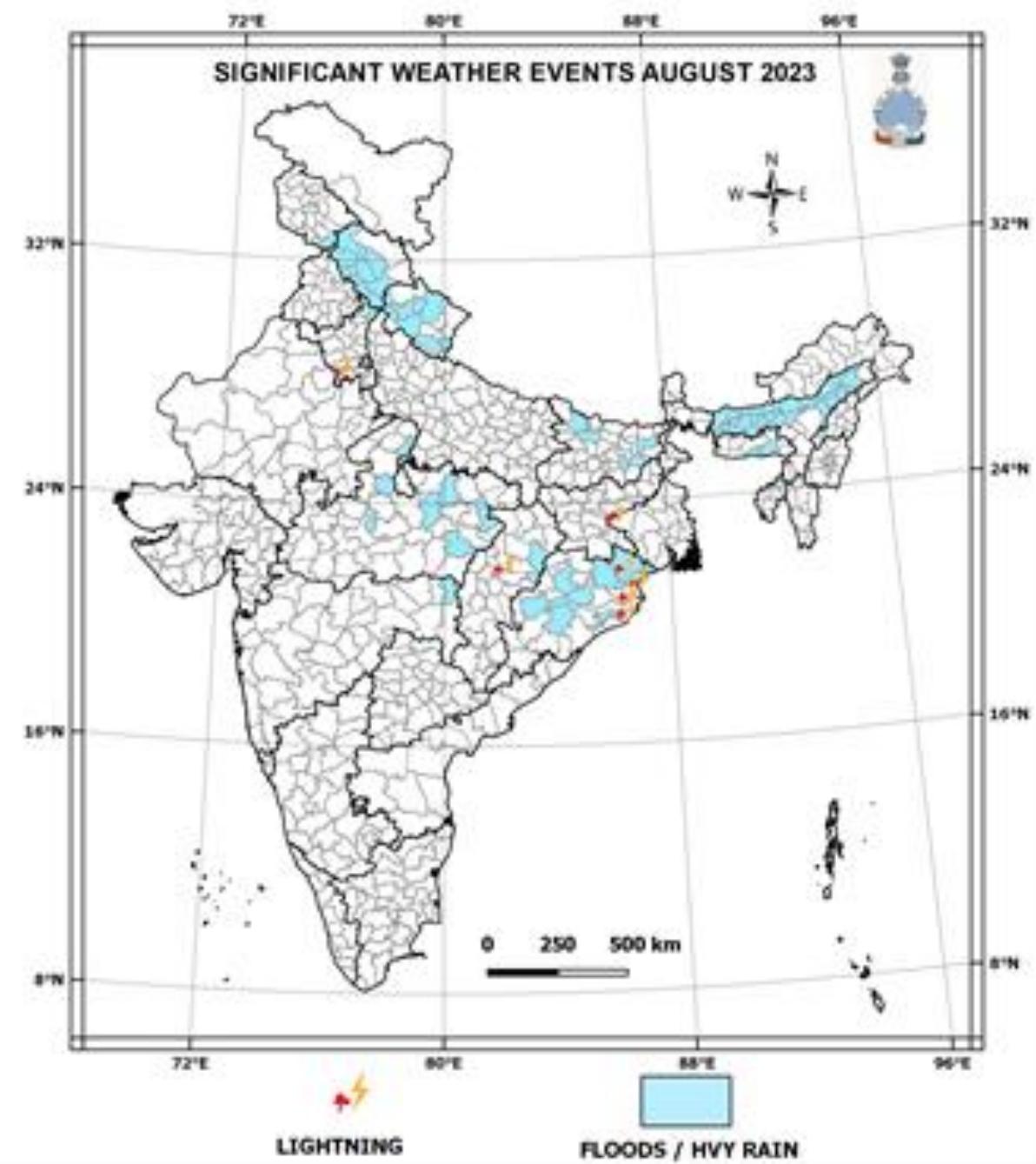
आकृती २१: नीनो 3.4 सूचकांक की जलवायु संबंधी संभावनाओं के साथ संभाव्यता पूर्वानुमान

FIG. 21: Probability forecast along with climatological probabilities of Niño 3.4 Index from high resolution Monsoon Mission Coupled Forecast System (MMCFS).

Data source for Climatology probabilities: NOAA Extended Reconstructed SST V5.

Criteria used for Probabilistic ENSO Forecast:

i.e.-0.5 La Niña, in between +0.5 & -0.5 neutral, g.e.0.5 El Niño.



आकृती २२: अगस्त २०२३ के दौरान महत्वपूर्ण मौसम की घटनाएं
(वास्तविक समय मीडिया रिपोर्ट के आधार पर)

Fig. 22: SIGNIFICANT WEATHER EVENTS DURING AUGUST 2023
(BASED ON REAL TIME MEDIA REPORT)

तालिका - १ / TABLE - 1

अगस्त २०२३ के महीने के लिए उपमंडल वार वर्षा के आकड़े

**METEOROLOGICAL SUBDIVISION WISE RAINFALL STATISTICS
FOR THE MONTH OF AUGUST 2023 BASED ON OPERATIONAL DATA**

	MET. SUBDIVISION	ACTUAL	NORMAL	%
		(mm)	(mm)	DEP
1	A & N ISLAND	477.1	397.6	20
2	ARUNACHAL PRADESH	438.1	343.2	28
3	ASSAM & MEGHALAYA	373.0	394.7	-5
4	N M M T	298.0	326.0	-9
5	SHWB & SIKKIM	555.7	459.1	21
6	GANGETIC WEST BENGAL	290.4	308.3	-6
7	ODISHA	299.9	363.8	-18
8	JHARKHAND	229.9	290.7	-21
9	BIHAR	306.5	271.9	13
10	EAST U.P.	203.6	240.6	-15.0
11	WEST U.P.	190.5	228.3	-17
12	UTTARAKHAND	353.9	385.7	-8
13	HAR. CHD & DELHI	59.8	147.7	-60
14	PUNJAB	55.3	146.2	-62
15	HIMACHAL PRADESH	247.6	256.8	-4
16	JAMMU & KASHMIR & LADAKH	131.0	184.9	-29
17	WEST RAJASTHAN	7.9	95.5	-92
18	EAST RAJASTHAN	59.8	231.5	-74
19	WEST MADHYA PRADESH	121.8	312.8	-61
20	EAST MADHYA PRADESH	305.9	362.3	-16
21	GUJARAT REGION	39.7	307.0	-87
22	SAURASHTRA & KUTCH	6.1	156.8	-96
23	KONKAN & GOA	324.9	741.7	-56
24	MADHYA MAHARASHTRA	71.6	201.2	-64
25	MARATHWADA	46.6	176.8	-74
26	VIDARBHA	144.8	297.1	-51
27	CHHATTISGARH	240.5	364.2	-34
28	COASTAL A. P.& YANAM	90.4	170.3	-47
29	TELANGANA	79.9	226.1	-65
30	RAYALASEEMA	48.5	107.3	-55
31	TAMIL., PUDU. & KARAikal	87.4	90.1	-3
32	COASTAL KARNATAKA	222.8	821.3	-73
33	N. I. KARNATAKA	33.6	119.4	-72
34	S. I. KARNATAKA	42.1	179.5	-77
35	KERALA & MAHE	59.6	445.1	-87
36	LAKSHADWEEP	85.4	232.0	-63

तालिका - २ / TABLE - 2

अगस्त २०२३ के दौरान २४ घंटो में हुई, बहुत भारी या अत्यधिक भारी वर्षा वाले स्टेशन
STATIONS WHICH RECEIVED VERY HEAVY (115.6 to 204.4 mm) OR EXTREMELY HEAVY
(g.e.204.5 mm) RAINFALL IN 24 HOURS DURING AUGUST 2023
*(Only the stations which received the highest rainfall in the subdivision on the given date
are mentioned in the table)*

DATE	STATION NAME	NAME OF SUBDIVISION	RAINFALL
			(mm)
1	JHALDA	GANGETIC WEST BENGAL	125
	BHUBANESWAR AERO	ORISSA	259.2
	SIMDEGA	JHARKHAND	177.2
	DEVENDRANAGAR	EAST MADHYA PRADESH	120
	MAHABALESHWAR- IMD OBSY	MADHYA MAHARASHTRA	136.8
2	RONGO	SHWB & SIKKIM	172.3
	NANDIGRAM	GANGETIC WEST BENGAL	162.2
	BOUDHGORH	ORISSA	390.6
	PALGANJ	JHARKHAND	143.8
	BANBASA	UTTARAKHAND	161
	SATWAS	WEST MADHYA PRADESH	116
	JABALPUR-aws	EAST MADHYA PRADESH	168.1
	KUSMI	CHHATTISGARH	180
3	PANPOSH	ORISSA	185.6
	KURDEG	JHARKHAND	150.8
	BICHHIA	EAST MADHYA PRADESH	238.8
	MAHABALESHWAR- IMD OBSY	MADHYA MAHARASHTRA	124.4
	DHARAMJAIGARH	CHHATTISGARH	222.7
4	SABROOM	N M M T	142.8
	LALITPUR	WEST UTTAR PRADESH	144
	SAMA	UTTARAKHAND	145
	DHARMSALA	HIMACHAL PRADESH	121.3
	BHANDER	WEST MADHYA PRADESH	216
	JABERA	EAST MADHYA PRADESH	282
5	MATHABHANGA	SHWB & SIKKIM	130.5
	ROAN	WEST MADHYA PRADESH	161
	NOWGONG	EAST MADHYA PRADESH	124.6
6	MAWSYNRAM	ASSAM & MEGHALAYA	207.2
	SAPOTRA	EAST RAJASTHAN	144
	ORCHHA	EAST MADHYA PRADESH	135
7	MAWSYNRAM	ASSAM & MEGHALAYA	297.2
	SONAMURA	N M M T	172
	MUSHARI	BIHAR	131.2
	NAINA DAVI	HIMACHAL PRADESH	162.6
8	MAWSYNRAM	ASSAM & MEGHALAYA	142
	CHANCHAL	SHWB & SIKKIM	172
	PURNEA	BIHAR	171.8
	HALDWANI	UTTARAKHAND	157.4

DATE	STATION NAME	NAME OF SUBDIVISION	RAINFALL
			(mm)
9	MAWSYNRAM	ASSAM & MEGHALAYA	212.2
	CHANCHAL	SHWB & SIKKIM	150.3
	RUPOULI	BIHAR	270.4
	KOTDWARA	UTTARAKHAND	269
10	CHAULDHOWAGHAT	ASSAM & MEGHALAYA	131.2
	CHATIA	BIHAR	262
	Uska Bazar FM	EAST UTTAR PRADESH	191.4
	RISHIKESH	UTTARAKHAND	434.6
11	BIRDGHAT	EAST UTTAR PRADESH	130
	JAGADHARI	HAR CHD & DLH	215
	NADAUN	HIMACHAL PRADESH	164
12	CHERRAPUNJI(RKM)	ASSAM & MEGHALAYA	130.6
	SEVOKE	SHWB & SIKKIM	137
	PUDUKOTTAI	TAMIL NADU & PUDUCHERRY	123
13	MAWSYNRAM	ASSAM & MEGHALAYA	315
	GARUBATHAN	SHWB & SIKKIM	190.2
	SUNDARNAGAR	HIMACHAL PRADESH	166.1
14	RISHIKESH	UTTARAKHAND	419
	TAJEWALA	HAR CHD & DLH	146.2
	KANGRA AERO	HIMACHAL PRADESH	273.4
	KORATUR	TAMIL NADU & PUDUCHERRY	144
15	LONG ISLAND	A & N ISLAND	175
	GOHAR	HIMACHAL PRADESH	139
16	GOSSAIGAON	ASSAM & MEGHALAYA	130.6
	LEMBUCHHERA	N M M T	127.3
17	FORBESGANJ	BIHAR	117.4
18	CANNING	GANGETIC WEST BENGAL	116.2
	TELKOI	ORISSA	182.6
	JARIDIH	JHARKHAND	144.5
	RISHIKESH	UTTARAKHAND	181.8
	LAKHNADON	EAST MADHYA PRADESH	161.7
	BHANDARA	VIDARBHA	120
19	SHAH PURA	EAST MADHYA PRADESH	153.3
	TAKHATPUR	CHHATTISGARH	120.6
20	BIAORA	WEST MADHYA PRADESH	150
	MULKI	COASTAL KARNATAKA	129.2
21	BAGIDORA SR	EAST RAJASTHAN	156
22	CHAULDHOWAGHAT	ASSAM & MEGHALAYA	146.8
	PATAHI	BIHAR	146.6
	GAIGHAT (BLA FMO)	EAST UTTAR PRADESH	172.4
	BAHERI	WEST UTTAR PRADESH	122
	KATRA	JAMMU & KASHMIR	168.8
	SHAH PURA	EAST MADHYA PRADESH	122.2
23	BARPETA	ASSAM & MEGHALAYA	220.6
	CHEPAN	SHWB & SIKKIM	217.4
	AMTALA	GANGETIC WEST BENGAL	160.7
	KISHANGANJ	BIHAR	170
	MUHAMMADI	EAST UTTAR PRADESH	224.6
	ETAH	WEST UTTAR PRADESH	198
	SAMA	UTTARAKHAND	180
	BARARA ARG	HAR CHD & DLH	121
	KAHU	HIMACHAL PRADESH	213.6
	SIKRAI	EAST RAJASTHAN	195
	BAIRAD	WEST MADHYA PRADESH	180
	SIVAKASI	TAMIL NADU & PUDUCHERRY	124

DATE	STATION NAME	NAME OF SUBDIVISION	RAINFALL
			(mm)
24	LONG ISLAND	A & N ISLAND	192.4
	MAWSYNRAM	ASSAM & MEGHALAYA	130.2
	TANGI	ORISSA	145
	ALIGANJ	WEST UTTAR PRADESH	160
	JOGINDARNAGAR	HIMACHAL PRADESH	154
25	TUTING	ARUNACHALPRADESH	123.6
	BAGDOGRA IAF	SHWB & SIKKIM	214.4
	SINGHESHWAR	BIHAR	147.4
	FATEHPUR TEHSIL	EAST UTTAR PRADESH	171
	KALKA	HAR CHD & DLH	149
26	SISWAN	BIHAR	170.2
27	MAWSYNRAM	ASSAM & MEGHALAYA	378.4
	GAUNAHA	BIHAR	156.6
28	BARPETA/SARBHOG_AWS	ASSAM & MEGHALAYA	182
	CHENGMARI/DIANA	SHWB & SIKKIM	316
29	LONG ISLAND	A & N ISLAND	361
30	TIRUPUVANAM	TAMIL NADU & PUDUCHERRY	150.8
	CHERTHALA	KERALA	129.4
31	TIRUPUVANAM	TAMIL NADU & PUDUCHERRY	139.2

Extremely heavy rainfall

तालिका 3 / TABLE 3

अगस्त २०२३ माह के दौरान की तापमान विसंगति

TEMPERATURE ANOMALIES OVER INDIA AND FOUR HOMOGENEOUS REGIONS DURING AUGUST 2023

AUG 2023		Max Temp (°C)	Min Temp (°C)	Mean Temp (°C)
ALL INDIA	ACTUAL	32.19	24.70	28.45
	NORMAL	31.09	24.01	27.55
	ANOMALY	1.10	0.69	0.90
NORTHWEST INDIA	ACTUAL	32.48	23.61	28.04
	NORMAL	31.78	22.91	27.35
	ANOMALY	0.70	0.70	0.70
EAST & NORTHEAST INDIA	ACTUAL	32.33	25.15	28.74
	NORMAL	31.76	24.48	28.12
	ANOMALY	0.57	0.67	0.62
CENTRAL INDIA	ACTUAL	31.05	24.58	27.82
	NORMAL	30.21	24.18	27.19
	ANOMALY	0.84	0.40	0.62
SOUTH PENNINSULAR INDIA	ACTUAL	32.66	25.26	28.96
	NORMAL	30.92	24.40	27.66
	ANOMALY	1.73	0.864	1.30

Note: Values are rounded off to nearest two decimal

तालिका - ४ / TABLE - 4

ATMOSPHERIC AND SST INDEX VALUES FOR THE RECENT 12 MONTHS. ATMOSPHERIC INDICES ARE STANDARDIZED BY MEAN ANNUAL STANDARD DEVIATION EXCEPT FOR THE TAHITI AND DARWIN SLP ANOMALIES WHICH ARE IN hPa. SST INDICES (ANOMALIES AND MEAN) ARE IN DEGREE CELSIUS

SLP ANOMALIES			Tahiti SLP minus Darwin SLP	PACIFIC SST							
				NINO 1+2 0° - 10° S		NINO 3 5° N - 5° S		NINO 3.4 5° N - 5° S		NINO 4 5° N - 5° S	
				90° W - 80° W		150° W - 90° W		170° W - 120° W		160° E - 150° W	
Month	Tahiti	Darwin	SOI	Anomaly	Mean	Anomaly	Mean	Anomaly	Mean	Anomaly	Mean
AUG 23	0.20	1.70	-1.40	3.32	24.33	1.97	27.09	1.31	28.16	0.90	29.69
JUL 23	0.20	0.70	-0.40	2.90	24.86	1.57	27.37	1.01	28.30	0.67	29.57
JUN 23	0.30	-0.10	0.40	2.44	25.57	1.23	27.85	0.81	28.54	0.54	29.51
MAY 23	-0.30	1.60	-1.70	2.23	26.64	0.78	28.03	0.4	28.33	0.25	29.17
APR 23	-0.30	-0.80	0.40	2.66	28.19	0.43	28.01	0.09	27.91	0.08	28.71
MAR 23	0.40	0.10	0.30	1.40	27.89	0.25	27.46	-0.16	27.13	-0.32	28.00
FEB 23	1.00	-1.50	2.30	0.27	26.37	-0.22	26.19	-0.56	26.19	-0.62	27.58
JAN 23	1.90	-0.70	2.30	-0.58	23.98	-0.62	25.04	-0.75	25.80	-0.67	27.65
DEC 22	2.20	-1.80	3.50	-0.52	22.29	-0.87	24.36	-0.89	25.71	-0.87	27.67
NOV 22	0.30	-0.30	0.50	-1.24	20.41	-0.97	24.13	-0.91	25.80	-1.00	27.70
OCT 22	1.60	-1.50	2.80	-1.81	19.21	-1.13	23.85	-1.03	25.69	-1.14	27.62
SEP 22	2.10	-0.90	2.70	-1.02	19.70	-0.97	23.94	-1.09	25.62	-1.18	27.58

(Data Source: CPC/NCEP, USA)

भारत का जलवायु नैदानिक बुलेटीन
CLIMATE DIAGNOSTICS
BULLETIN OF INDIA

अंक संख्या 330
ISSUE No. 330

जलवायु निगरानी एवं प्रागुक्ती समूह
Climate Monitoring & Prediction Group

जलवायु अनुसंधान एवं सेवाएँ
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जलवायु अनुसंधान एवं सेवाएँ
पुणे

DESIGNED & PRINTED AT
PRINTING UNIT,
OFFICE OF CLIMATE RESEARCH & SERVICES,
PUNE

Note : This Bulletin is based on operational data and is subject to updating