



WEEKLY WEATHER REPORT

साप्ताहिक मौसम विवरण

for the week ending on 13th September 2017 (22nd Bhadrapada 1939 Saka)

CHIEF FEATURES: 1) The axis of monsoon trough at mean sea level ran to the north of its normal position mainly close to foot hills of Himalayas during the week. 2) Southwest monsoon was subdued over North and East India. 3) West central and peninsular India experienced scattered to fairly widespread Thunderstorm activity.

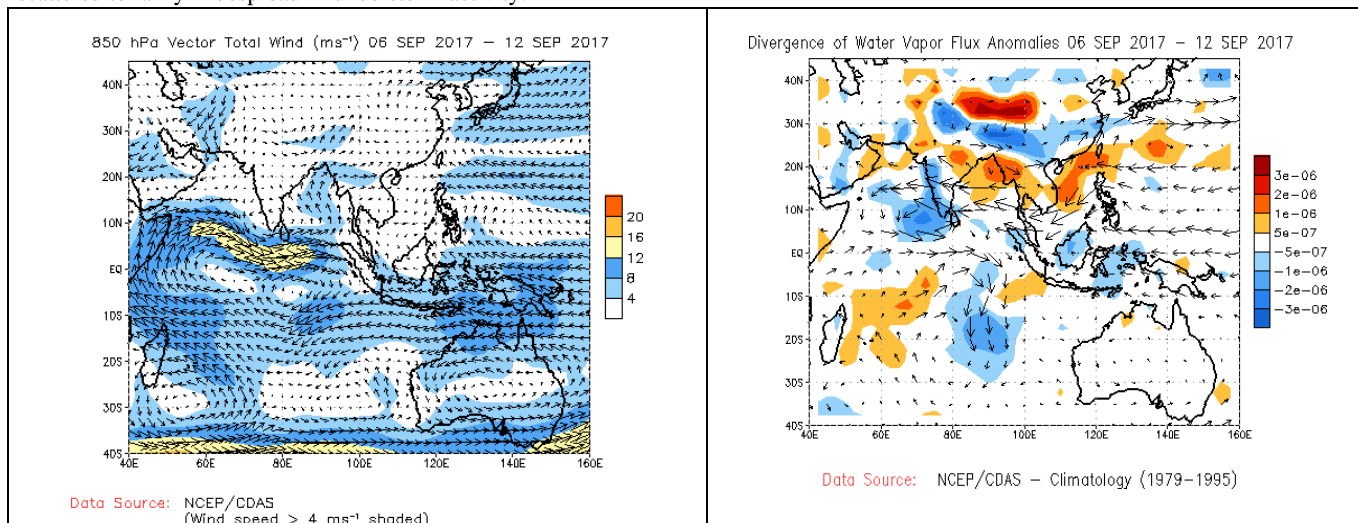


Fig. (a)

Fig. (b)

Fig.(a) depicts 850 hPa Total Vector wind westerlies extended much to the north of their normal covering the entire northern plains. Easterlies were almost absent. Fig. (b) depicts the anomalies Divergence of Water Vapor Flux. Enhanced easterlies in the peninsular region resulted to the convergence of water vapour flux in the west parts. Rainfall during the west was mostly contributed by the convection activity in the west and southcentral peninsular region.

SEMI-PERMANENT FEATURES:

- **Monsoon Trough (MT):** The normal position of the axis of MT is through Ganganagar, Allahabad, Kolkata and thence to north Bay of Bengal. During the week, it was seen north of its normal position.
- **Heat Low (HL):** The normal position of the HL is centred around Jacobabad (Pakistan) and its isobaric value is 998 hPa. It was seen in its near normal position. During the week, the lowest isobaric value varied between 1002 & 1006 hPa.
- **Tibetan Anticyclone (TA):** The normal position of TA at 200 hPa is centred around Lat. 28°N and Long. 88°E. It was seen southeast of its normal position during the week.
- **Tropical Easterly Jet (TEJ):** The TEJ is located around 14-15 kms above the mean Sea level. At 100 hPa, its core is along Lat. 13°N with wind speed higher than 60 knots. The highest wind speed of 89 kts was recorded over Minicoy at 119 hPa on 8th Sept.
- **Mascarene High (MH):** The normal position of MH is centred around Lat. 30°S / Long. 50°E with an intensity of 1023.5 hPa. During the week, it was seen to the east-southeast of its normal position. Its intensity varied between 1020 and 1032 hPa.
- **Lower Level Jet (LLJ):** The Strengthening of the lower tropospheric westerlies in the Arabian Sea is a sign of increase of monsoon rains along the west coast of the Indian Peninsula (south of 20°N) both at the time of onset and later. Ships' reports of 30 kts or more over the east Arabian Sea have been taken as an indication for a spurt in monsoon rains along the coast. During the week, the wind speed observed ranged between 15 - 25 kts.

WEATHER AND ASSOCIATED SYNOPTIC FEATURES:

- The axis of monsoon trough at mean sea level passed through : Ganganagar, Hissar, Delhi, Hardoi, Gorakhpur, Muzaffarpur and thence eastwards to east Assam across Sub-Himalayan West Bengal & Sikkim on 7th and through Jammu, Patiala, Meerut Gorakhpur, Muzaffarpur, Purnea and thence eastwards to east Assam across Sub-Himalayan West Bengal on 8th. It ran close to the foothills of the Himalayas on 9th -10th. It passed through: Amritsar, Moradabad, Azamgarh, Patna, Bhagalpur, Berhampore and thence eastwards to Tripura across Bangla Desh on 11th, Amritsar, Moradabad, Barbanki, Patna, Bankura, Canning Town and thence east-southeastwards to northeast Bay of Bengal on 12th and Amritsar, Moradabad, Bahaich, Patna, Shantiniketan, Kolkata and thence southeastwards to northeast Bay of Bengal on 13th,
- A fresh western disturbance as a trough in mid and upper tropospheric westerlies with its axis at 5.8 kms a. s. l. ran roughly along Long. 65° E to the north of Lat. 28° N. on 13th.
- A cyclonic circulation extending between 1.5 & 2.1 kms a. s. l. lay over Gangetic West Bengal and adjoining southwest Bangla Desh on 12th and over northwest Bay of Bengal and adjoining Gangetic West Bengal & Odisha on 13th.
- A cyclonic circulation extending upto mid-tropospheric level lay over Kerala and neighbourhood on 11th; over southeast Arabian Sea and adjoining Kerala on 12th and over Lakshadweep and neighbourhood on 13th.

- A trough upto 0.9 km a. s. l. extended from the above cyclonic circulation to: Madhya Maharashtra across interior Karnataka on 11th, south Madhya Maharashtra across coastal Karnataka on 12th and to south Gujarat Region on 13th.
- A cyclonic circulation extending upto 0.9 kms a.s.l. lay over east Bangla Desh and neighbourhood on 10th. It lay over northeast Bangla Desh and neighbourhood extended between mid & upper tropospheric level during 11th - 13th.
- A trough upto 1.5 kms a. s. l. extended from: east Bihar to north Odisha across east Jharkhand on 11th. It became less marked on 12th.
- A cyclonic circulation extending between 3.1 & 3.6 kms a. s. l. lay over southwest Rajasthan and adjoining south Pakistan on 11th. It persisted there between 1.5 & 2.1 kms a. s. l on 12th and over south Rajasthan and adjoining Gujarat at 3.1 kms a. s. l. on 13th.
- A cyclonic circulation at 1.5 kms a. s. l. lay over west Madhya Pradesh and neighbourhood on 11th. It became less marked on 12th.
- The north-south trough upto 0.9 km a. s. l. extended from north Chhattisgarh to south Tamil Nadu across Telangana and Rayalaseema over interior Odisha to north coastal Andhra Pradesh on 7th. It became less marked on 8th.
- The cyclonic circulation extending between 1.5 & 3.1 kms a. s. l. over southwest Bay of Bengal and adjoining coastal areas of Tamil Nadu lay over south Andhra Pradesh and neighbourhood on 7th and over north interior Karnataka and neighbourhood extending between 1.5 & 3.6 kms a. s. l. on 8th. It became less marked on 9th.
- The other cyclonic circulation extended between 1.5 & 5.8 kms a. s. l. over northeast Rajasthan and adjoining northwest Madhya Pradesh persisted on 7th. It became less marked on 8th.
- The north - south trough from east Bihar to north Bay of Bengal became less marked on 7th.
- A north - south trough upto 1.5 kms a. s. l. extended from east Bihar to interior Odisha across Gangetic West Bengal on 7th. It became less marked on 8th.
- The east - west shear zone between 3.1 & 7.6 kms a. s. l. extended roughly: along Lat.6°N on 7th, Lat.8°N, extending between 3.1 & 5.8 kms a. s. l. on 8th, Lat.10°N, between 2.1 & 5.8 kms a. s. l on 9th and along Lat.11°N and extending upto 3.6 kms a. s. l on 10th. It became less marked on 11th.
- The cyclonic circulation over Lakshadweep area and neighbourhood lays over eastcentral Arabian Sea and adjoining coastal Karnataka and extended between 1.5 & 2.1 kms a. s. l. on 7th. It became less marked on 8th.
- Last week's western disturbance as an upper air cyclonic circulation at 3.1 kms a. s. l. over Jammu & Kashmir and neighbourhood lay over northeast Jammu & Kashmir and neighbourhood with the trough aloft with its axis at 5.8 kms a. s. l. roughly along Long.73°E to the north of Lat.32°N. on 7th. It moved away east-northeastwards on 8th.
- A fresh western disturbance as an upper air cyclonic circulation extending between mid & upper tropospheric level. lay over north Pakistan and neighbourhood on 7th with the trough aloft with its axis at 7.6 kms a. s. l. extended roughly along Long. 71° E to the north of Lat. 32° N during 7th - 9th. It lay over north Pakistan and adjoining Jammu & Kashmir on 10th and moved away east-northeastwards on 11th.
- A fresh western disturbance as an upper air cyclonic circulation extending between 3.1 & 3.6 kms a. s. l. lay over northeast Afghanistan and adjoining Pakistan with a trough aloft with its axis at 5.8 kms a. s. l. roughly along Long. 68° E to the north of Lat. 32° N. on 11th. It lay as a trough with its axis between 3.1 & 5.8 kms a. s. l. extended roughly along Long.70°E to the north of Lat.32°N on 12th and lay as a cyclonic circulation extending between 3.1 & 3.6 kms a. s. l. over north Pakistan and neighbourhood on 13th.
- A north - south trough upto 0.9 km a. s. l. extending from: Madhya Maharashtra to south Tamil Nadu across Karnataka on 8th, Marathwada to south Kerala across interior Karnataka. on 9th and from Madhya Maharashtra to north interior Karnataka on 10th. It became less marked on 11th. An embedded cyclonic circulation over Madhya Maharashtra and neighbourhood between 1.5 & 3.6 kms a. s. l. on 8th. It became less marked on 9th.
- A cyclonic circulation lay over southwest Rajasthan and neighbourhood extending between 1.5 & 2.1 kms a. s. l. on 8th. It persisted, at 3.1 kms a. s. l. on 9th. It became less marked on 10th.
- A cyclonic circulation lay over west Uttar Pradesh and neighbourhood between 1.5 & 3.1 kms a. s. l. on 8th. It became less marked on 9th.
- A north - south trough extended from : Sub-Himalayan West Bengal to north Bay of Bengal across Bangla Desh between 2.1 & 3.1 kms a. s. l. on 9th and from Sub-Himalayan West Bengal to interior Odisha across east Jharkhand extending between 1.5 & 2.1 kms a. s. l on 10th. It became less marked on 11th.
- A cyclonic circulation lay over east Arabian Sea off Karnataka coast at 1.5 kms a. s. l. on 9th. It became less marked on 10th.

Details of the rainfall received under the influence of these synoptic systems are given in the subsequent Figures and Tables.

Media Reports: Due to flash flood, 25 people died, 40,000 people and 78,677 hectares of agriculture land affected in Assam & Manipur. (The Hindustan Times 11th Sept.)

	<p>Scientist E For Head, Climate Monitoring & Analysis Group Climate Research Division, Pune</p>
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Rainfall % Departure For the week ending

13th September 2017

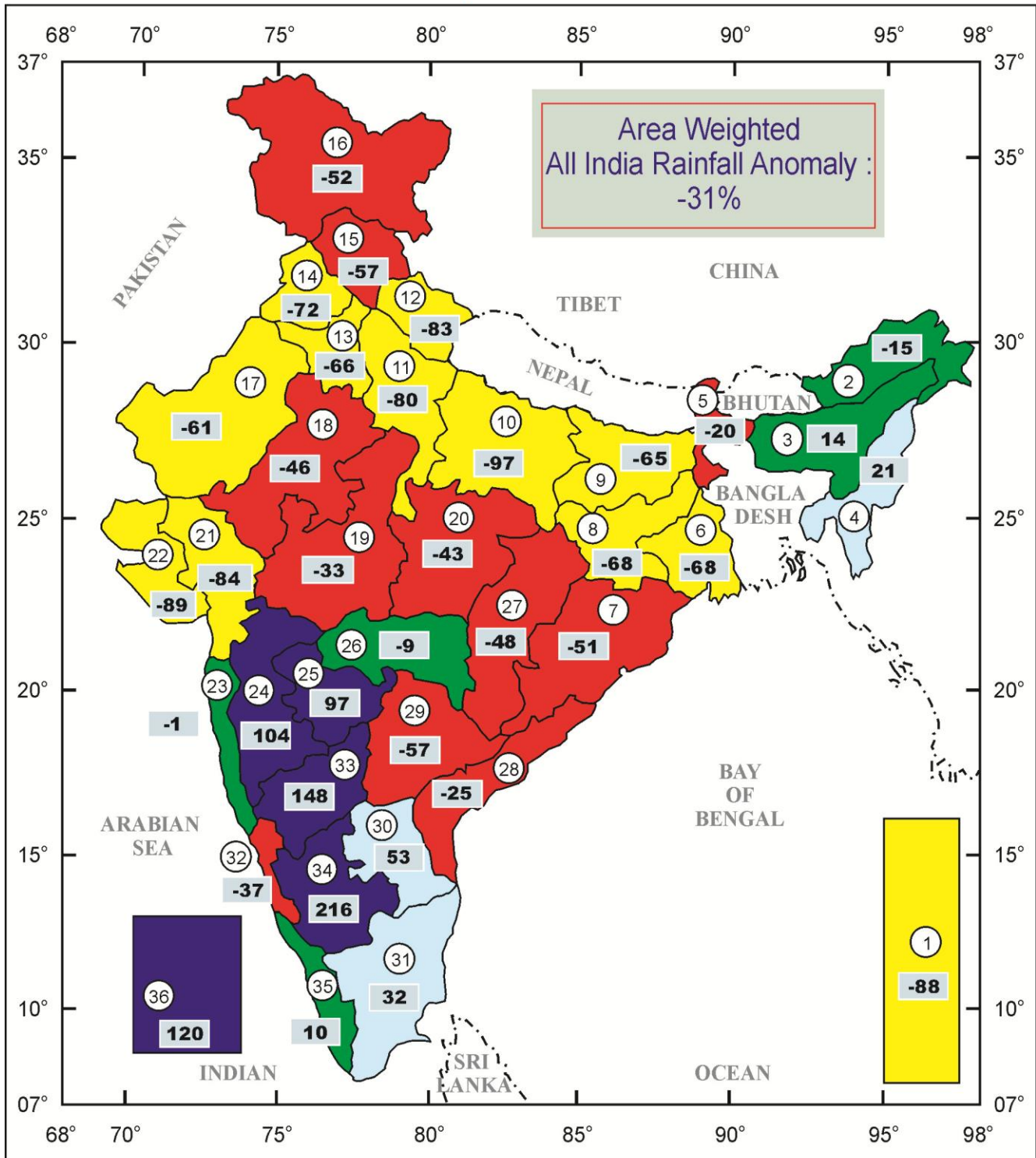


Figure in O Indicates sub-division number.

Figure in □ indicates rainfall anomaly.

Large Excess
+60% and above **05**

Excess
+20% to +59% **03**

Normal
-19% to +19% **05**

Deficient
-20% to -59% **11**

Large Deficient
-60% to -89% **12**

No Rain
-100% **00**

Rainfall % Departure For the period

1st June to 13th September 2017

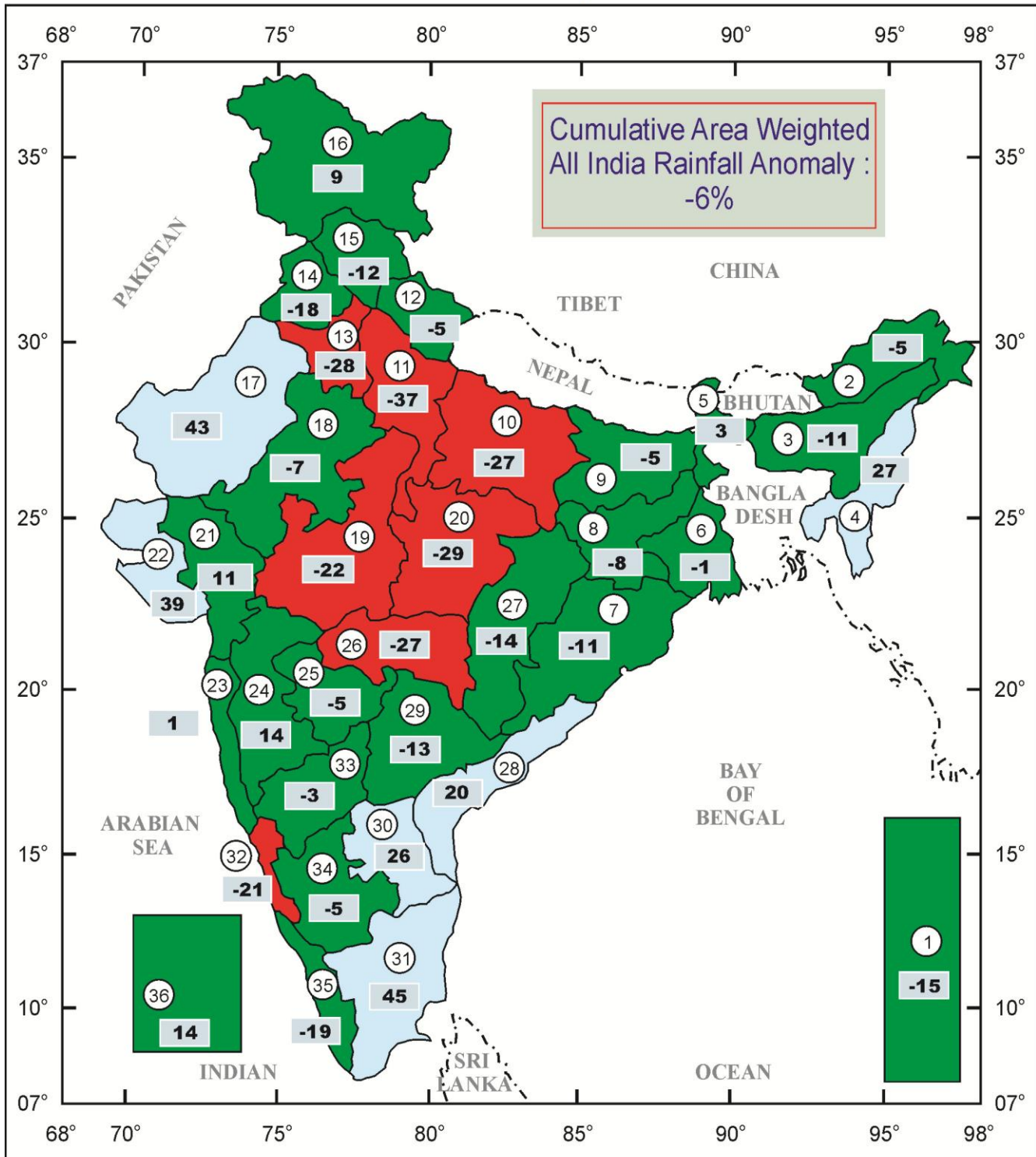


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