



WEEKLY WEATHER REPORT साप्ताहिक मौसम विवरण

for the week ending on 19th July 2017 (28th Ashadha 1939 Saka)

CHIEF FEATURES: (1) Southwest Monsoon covered the entire country on 19th July 2017. (2) A Depression formed over northwest & adjoining westcentral Bay of Bengal and coastal areas of Odisha on 18th.

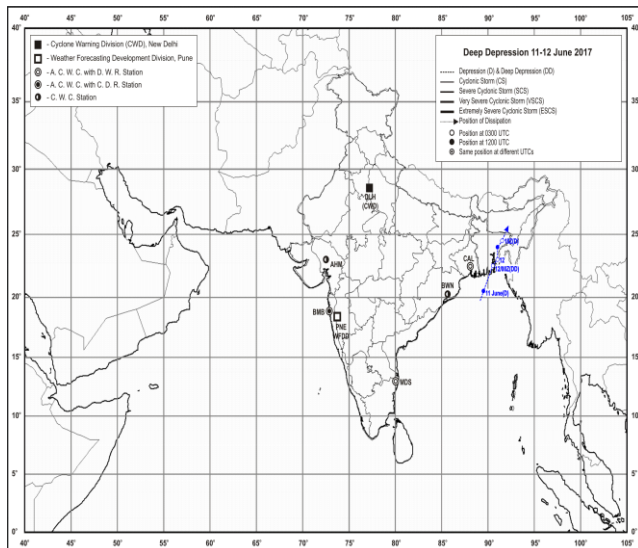


Fig. (a)

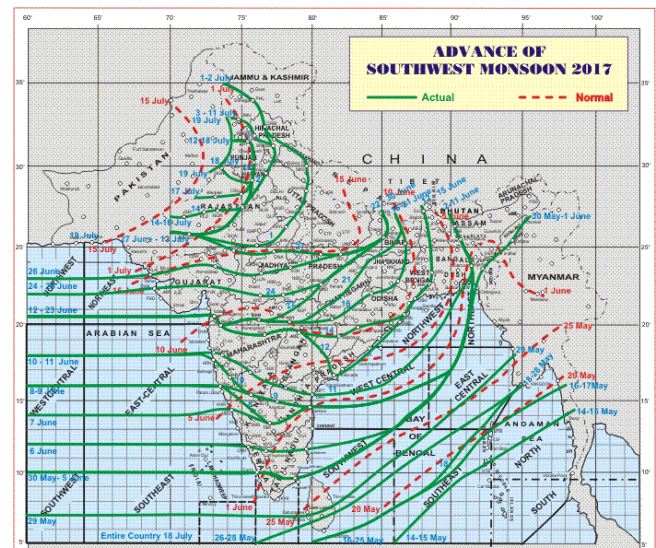


Fig. (b)

Subsequent to the activation of the seasonal trough along the Indo-Gangetic plains and development of persistent convection over the Bay of Bengal, a nearly two week long weak phase of monsoon changed over to an active phase from 13th July. A **Depression** formed over this trough on 18th July and crossed south Odisha coast during 18th night. Fig (a) shows the track of **Depression** during 18th - 19th July 2017.

The Southwest Monsoon further advanced into: some more parts of west Rajasthan covering the segments of Jaisalmer, Phalodi and Nagaur on 14th, some more parts of west Rajasthan, remaining parts of east Rajasthan and some more parts of Haryana on 17th, some more parts of west Rajasthan and Haryana on 18th and into remaining parts of west Rajasthan, Haryana and Punjab on 19th. Thus it covered the entire country on 19th July 2017.

The Northern Limit of Monsoon (NLM) passed through: Lat. 26°N / Long. 70°E, Barmer, Sikar, Hissar, Patiala, Kapurtala and Lat. 31.5°N / Long. 74.5°E on 13th, Jaisalmer, Phalodi, Nagaur, Sikar, Hissar, Patiala, Kapurtala and Lat. 31.5°N / Long. 74.5°E during 14th - 16th, Lat. 28.0°N / Long. 72.0°E, Bikaner, Churu, Hissar, Patiala, Kapurtala and Lat. 31.5°N / Long. 74.5°E on 17th and through Lat. 30.0°N / Long. 73.5°E, Ganganagar, Hissar, Patiala, Kapurtala and Lat. 31.5°N / Long. 74.5°E on 18th. Fig (b) shows the isochrones of advance of southwest monsoon.

The Sub Tropical Westerly Jet was not observed over Indian latitudes from 7th July.

SEMI-PERMANENT FEATURES:

- Heat Trough (HT):** The HT got established as the Monsoon Trough (MT) from 19th July. 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 south 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 994 & 1000 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 to the west (on 13th), northwest during 14th - 18th and northeast on 19th to its normal position.
- 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 85 kts was recorded over Chennai at 126 hPa on 13th July.
- 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 east of its normal position. Its intensity varied between 1022 and 1034 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- 40 kts.

MAXIMUM TEMPERATURES:

The highest maximum temperature recorded over the plains was 40.6°C at Bikaner (west Rajasthan) on 15th.

WEATHER AND ASSOCIATED SYNOPTIC FEATURES:

- The cyclonic circulation over eastern parts of Gangetic West Bengal and neighbourhood lay over north Bay of Bengal and neighbourhood extending upto 7.6 kms a.s.l. tilting southwestwards with height on 13th and over northwest Bay of Bengal and neighbourhood, tilting southwestwards with height on 14th. Under its influence, a low pressure area formed over northwest Bay of Bengal off north Odisha & Gangetic West Bengal coasts on 15th and lay over northwest Bay of Bengal and adjoining coastal areas of Gangetic West Bengal & Odisha on 16th. It lay as a well marked low pressure area over northwest & adjoining westcentral Bay of Bengal and coastal areas of Odisha & north Andhra Pradesh on 17th. It concentrated into a **Depression** and lay over northwest & adjoining westcentral Bay of Bengal and coastal areas of Odisha centred near Lat. 19.0°N / Long. 86.0°E, about 120 kms east-southeast of Gopalpur and 80 kms south-southeast of Puri at 0530 hrs IST of 18th. It remained practically stationary over the same region at 0830 hrs IST of 18th. It lay over northwest Bay of Bengal and adjoining areas of coastal Odisha & north Andhra Pradesh at 1430 hrs. IST of 18th and remained practically stationary centered near Lat. 19.5°N / Long. 85.5°E, about 70 kms east-northeast of Gopalpur and 50 kms southwest of Puri at 1730 hrs IST of 18th. It moved nearly northwestwards and crossed south Odisha coast close to south of Puri and lay over coastal Odisha and neighbourhood centred near Lat. 19.8°N / Long. 85.3°E, about 50 kms west of Puri and 70 kms southwest of Bhubaneswar around 2030 hrs IST of 18th. It remained practically stationary and lay over the same region centred near Lat. 19.8°N / Long. 85.3°E, at 0530 hrs IST of 19th. Moving nearly west-northwestwards it weakened into a well marked low pressure area and lay over interior Odisha and neighbourhood at 0830 hrs IST of 19th. It lay as a low pressure area over interior Odisha and adjoining Chhattisgarh on the same evening. Associated cyclonic circulation extended upto 7.6 kms a.s.l.
- Last week's well marked low pressure area over southeast Uttar Pradesh and adjoining northeast Madhya Pradesh lay over northern parts of central Madhya Pradesh and adjoining Uttar Pradesh on 13th and over west Madhya Pradesh and neighbourhood on 14th. It lay as a low pressure area over west Madhya Pradesh and adjoining southeast Rajasthan on 15th and lay over south Rajasthan and neighbourhood on the same evening. It lay over south Pakistan and neighbourhood on 16th. It became un-important on 17th. Associated cyclonic circulation extended upto 7.6 kms a.s.l. on 13th - 14th and upto 5.8 kms a.s.l. on 15th - 16th. It became un-important on 17th.
- The trough at mean sea level extended from: west Rajasthan to northwest Bay of Bengal across southern parts of Haryana, centre of well marked low pressure area over northern parts of central Madhya Pradesh and adjoining Uttar Pradesh, Jharkhand and south Gangetic West Bengal extending upto 2.1 km a.s.l. on 13th, persisted there across the centre of well marked low pressure area over west Madhya Pradesh and neighbourhood, north Chhattisgarh, Jharkhand and north Odisha extending upto 2.1 kms a.s.l. on 14th, southwest Rajasthan to centre of low pressure area over northwest Bay of Bengal across centre of low pressure area over west Madhya Pradesh and adjoining southeast Rajasthan, north Chhattisgarh and north Odisha extending upto 3.1 kms a.s.l. on 15th, west Rajasthan to northeast Bay of Bengal across Madhya Pradesh, Chhattisgarh, north Odisha, centre of low pressure area over northwest Bay of Bengal and adjoining coastal areas of Gangetic West Bengal & Odisha extending upto 1.5 kms a.s.l. on 16th and northwest Rajasthan to eastcentral Bay of Bengal across south Uttar Pradesh, north Chhattisgarh, north Odisha, centre of well marked low pressure area over northwest Bay of Bengal & adjoining westcentral Bay of Bengal & coastal areas of Odisha and north Andhra Pradesh extending upto 1.5 kms a.s.l. on 17th and from southwest Rajasthan to eastcentral Bay of Bengal across east Rajasthan, Madhya Pradesh, Chhattisgarh and centre of **Depression** over northwest & adjoining westcentral Bay of Bengal and coastal areas of Odisha extending upto 3.1 kms a.s.l. on 18th. Subsequent to its getting established as the MT, the axis of monsoon trough at mean sea level passed through Jaisalmer, Kota, Indore, Jabalpur, Pendra, centre of well marked low pressure area over interior Odisha & neighbourhood and thence southeastwards to eastcentral Bay of Bengal on 19th.
- The off-shore trough at mean sea level from south Maharashtra coast to north Kerala coast persisted there on 13th - 14th, extended from: south Gujarat coast to Lakshadweep area on 15th, south Gujarat coast to north Kerala coast on 16th, north Maharashtra coast to north Kerala coast on 17th, south Gujarat coast to north Kerala coast on 18th and from north Maharashtra coast to north Kerala coast on 19th.
- A cyclonic circulation extending upto 1.5 kms a.s.l. lay over Kutch and adjoining southwest Rajasthan on 17th, over Kutch and neighbourhood at 1.5 kms a.s.l. on 18th and over south Gujarat Region and neighbourhood and extending upto 1.5 kms a.s.l. on 19th.
- An east - west shear zone extended roughly along: Lat. 21°N between 3.1 & 4.5 kms a.s.l. on 17th, Lat. 18°N between 4.5 & 7.6 kms a.s.l. on 18th and along Lat. 19°N between 3.1 & 5.8 kms a.s.l. on 19th.
- A cyclonic circulation extending upto 1.5 kms a.s.l. lay over southwest Rajasthan and adjoining Pakistan on 13th. It became less marked on 14th.
- Last week's Western Disturbance (WD) as an upper air cyclonic circulation extending between 3.1 & 4.5 kms a.s.l. over north Pakistan and neighbourhood persisted there on 13th and lay over Jammu & Kashmir and neighbourhood on 14th - 15th. It moved away east northeastwards on 16th. A trough aloft with its axis at 5.8 kms a.s.l. extended roughly along Long. 72°E to the north of Lat. 32°N on 13th and along Long. 74°E to the north of Lat. 34°N on 14th - 15th. It moved away east northeastwards on 16th.
- A fresh WD as a trough in mid & upper tropospheric westerlies with its axis at 5.8 kms a.s.l. extended roughly along Long. 70°E to the north of Lat. 32°N on 16th - 17th and along Long. 71°E to the north of Lat. 30°N on 18th. It moved away east-northeastwards on 19th.
- Another WD as an upper air cyclonic circulation extending upto 3.1 kms a.s.l. lay over north Pakistan and adjoining Afghanistan with a trough aloft with its axis at 5.8 kms a.s.l. extended roughly along Long. 70°E to the north of Lat. 32°N on 19th.
- The cyclonic circulation over northeast Rajasthan and neighbourhood became less marked on 13th.

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

Media Reports: Due to lightning, three people died and one injured in Simdega, Jharkhand (**UNI 17th Jul**). Landslides 1) blocked Mumbai-Nashik highway, Maharashtra (**UNI 16th Jul**), 2) damaged 21 houses and electric poles were destroyed in Kohima, Nagaland (**UNI 14th Jul**), 3) bridge collapsed, Highway traffic disrupted in Manipur (**UNI 17th Jul**), 4) Jammu-Srinagar National Highway was blocked, Amarnath Yatra halted, Jammu (**UNI 18th Jul**) and 5) claimed 1 life in Himachal Pradesh (**UNI 18th Jul**). The state of Manipur was cut off by road from the rest of the country after the crucial Bailey bridge across the Barak river was damaged after heavy landslide washed away a portion of National Highway-2, Manipur (**UNI 18th Jul**). Due to flood 1) several trains were cancelled in Odisha (**UNI 16th & 17th Jul**), 2) one drowned in Maharashtra (**Sakal 19th Jul**), 3) toll rose to 73 in Assam (**UNI 19th Jul**) and 4) two washed away in Himachal Pradesh (**UNI 18th Jul**). Due to flood, death toll rose to 95 in Assam, Manipur and Arunachal Pradesh (**Sakal 14th Jul**).

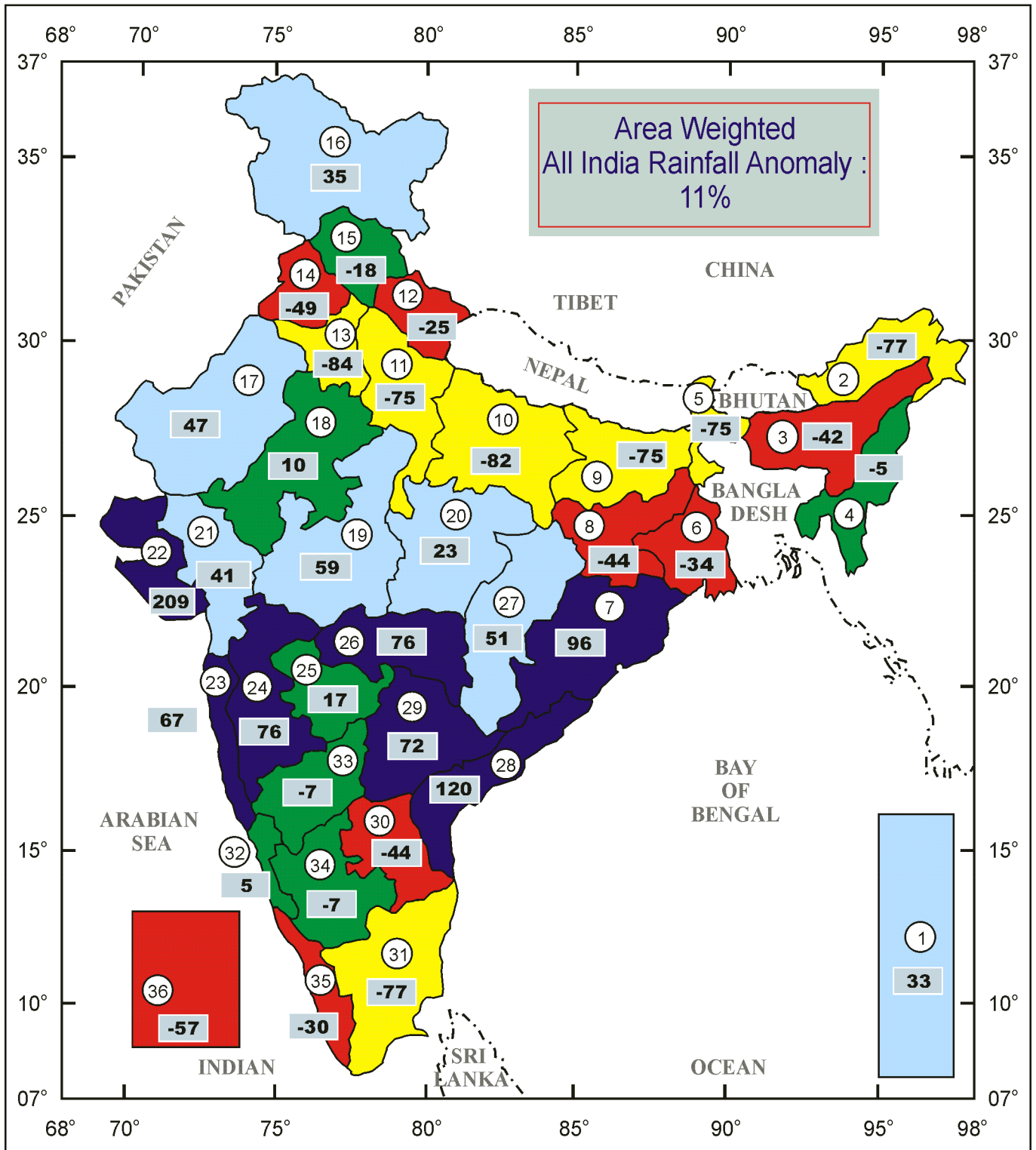
(P. C. S. Rao)

19th July 2017
Pune - 5

For Head, Climate Monitoring & Analysis Group,
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Rainfall % Departure For the week ending

19th July 2017



Rainfall % Departure For the period

1st June to 19th July 2017

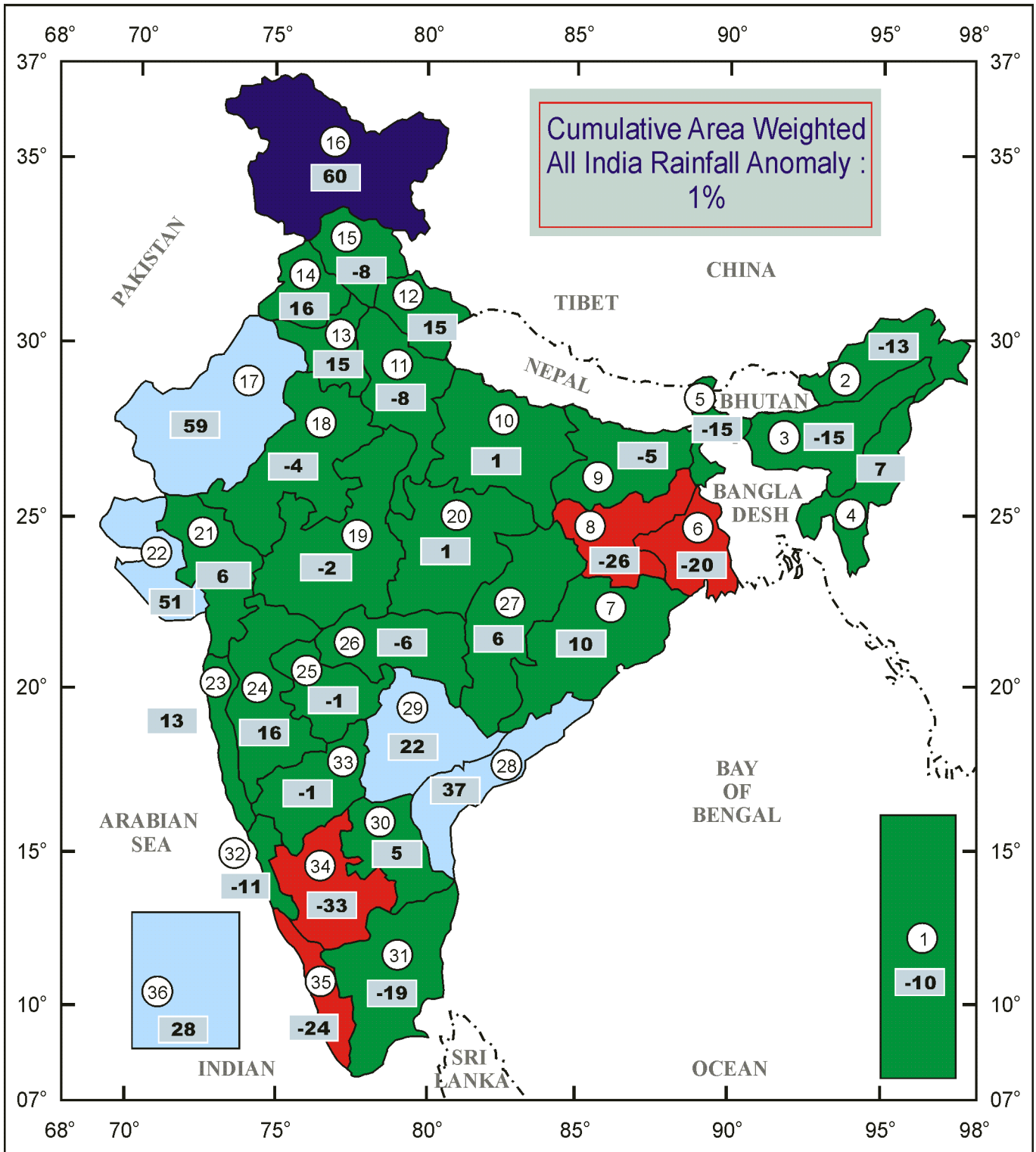


Figure in ○ Indicates sub-division number.

Figure in □ indicates rainfall anomaly.

