



WEEKLY WEATHER REPORT साप्ताहिक मौसम विवरण

for the week ending on 25th October 2017 (03rd Kartika 1939 Saka)

CHIEF FEATURES: 1) Southwest monsoon withdrew from the entire country on 25th October 2017 2) Formation of the Depression over North Bay of Bengal and its movement North and Northwestwards inland resulted in heavy to very heavy rainfall at isolated places over Northeastern subdivisions

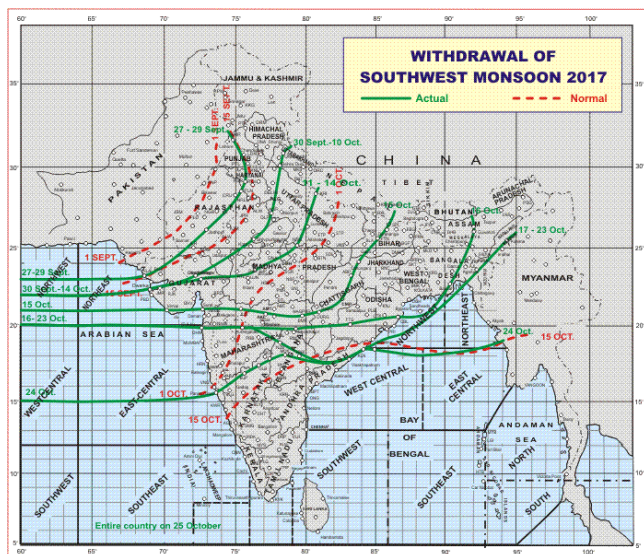


Fig. (a)

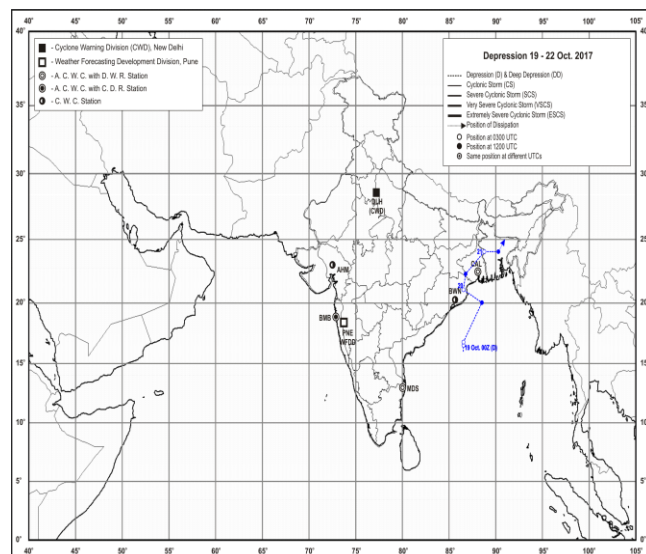


Fig. (b)

Fig. (a) is the isochrones of withdrawal of Southwest monsoon. The withdrawal line continued to pass through Lat. 26.0°N / Long. 95.0°E, Kohima, Lat. 20.0°N / Long. 88.0°E, Kalingapatnam, Nizamabad, Aurangabad, Dahanu, Lat. 20.0°N / Long. 65.0°E and Lat. 20.0°N / Long. 60.0°E on 19th, continued to pass through Lat. 26.0°N / Long. 95.0°E, Kohima, Lat. 20.0°N / Long. 88.0°E, Kalingapatnam, Nizamabad, Aurangabad, Dahanu, Lat. 20.0°N / Long. 65.0°E and Lat. 20.0°N / Long. 60.0°E. on 21st, continued to pass through Lat. 26.0°N / Long. 95.0°E, Kohima, Lat. 20.0°N / Long. 88.0°E, Kalingapatnam, Nizamabad, Aurangabad, Dahanu, Lat. 20.0°N / Long. 65.0°E and Lat. 20.0°N / Long. 60.0°E. On 22nd continued to pass through Lat. 26.0°N / Long. 95.0°E, Kohima, Lat. 20.0°N / Long. 88.0°E, Kalingapatnam, Nizamabad, Aurangabad, Dahanu, Lat. 20.0°N / Long. 65.0°E and Lat. 20.0°N / Long. 60.0°E. On 23rd Southwest Monsoon has further withdrawn from remaining parts of northeast India and Maharashtra, some more parts of Bay of Bengal, coastal Andhra Pradesh, Telangana, Karnataka and Arabian Sea. The withdrawal line passed through Lat. 19.0°N / Long. 94.0°E, Lat. 18.0°N / Long. 88.0°E, Kalingapatnam, Medak, Bijapur, Goa, Lat. 15.0°N / Long. 65.0°E and Lat. 15.0°N / Long. 60.0°E. On 24th, southwest monsoon has further withdrawn from the remaining parts of peninsular India, Bay of Bengal and Arabian Sea. Thus the Southwest monsoon has withdrawn from the entire country on the 25th October 2017. Fig. (b) is the track of the **Depression** (19th -22nd October).

SEMI-PERMANENT FEATURES:

- 1. Intertropical Convergence Zone (ITCZ):** The ITCZ or the seasonal trough (at surface and in the lower tropospheric levels) passes from south Arabian Sea to Andaman Sea across the south peninsula during the month of October. It further shifts southwards to the south of Lat. 10°N, during November & December. The climatological normal mean sea level pressure is 1010 hPa. During the week, it was located around Lat 10°N. over the Indian region.
- 2. Sub Tropical Westerly Jet (STWJ):** The STWJ is a fast flowing narrow air current from west to east around 200 hPa level with core wind speed more than 60 kts. It shifts northwards during the southwest monsoon season. As the Tibetan Anticyclone shifts southeastwards towards the end of the southwest monsoon season, STWJ also shifts southwards and re-establishes over the Indian latitudes. During the week, its core was located between 21°N to 34°N It was noticed over Srinagar (Lat. 34°N) with a wind speed varying between 86 - 106 kts around 130 hPa -213 hPa during 19th to 25th Oct. The highest wind speed of 106 kts at 154 hPa was recorded over Srinagar on 24th Oct.
- 3. Sub Tropical Ridge (STR):** The STR is a significant belt of high pressure situated around the latitudes of 30°N in the Northern Hemisphere and 30°S in the Southern Hemisphere. It tilts equatorwards with height. It oscillated between 17°N to Lat. 23°N at 200 hPa

MAXIMUM TEMPERATURES:

The highest maximum temperature reported during the week over the plains had been 41.3°C at Barmer (West Rajasthan) on 20th October

MINIMUM TEMPERATURES:

The lowest minimum temperature reported during the week over the plains had been 11.9°C at Bhilwara (East Rajasthan) on 25th October

WEATHER AND ASSOCIATED SYNOPTIC FEATURES:

- The well marked low pressure area over westcentral Bay of Bengal and neighbourhood concentrated into a **Depression** and lay centred at 0530 hrs IST of 19th October 2017 over westcentral Bay of Bengal and neighbourhood near Lat. 16.5°N / Long. 86.5°E, about 370 kms south-southeast of Puri and 470 kms south of Chandbali (Odisha). It moved northwards and lay centred at 0830 hrs IST of, the 19th October 2017 over the same region near Lat. 16.8°N / Long. 86.5°E, about 440 kms south of Chandbali (Odisha) and 340 kms south-southeast of Puri. On 19th, moved northwards and lay centred at 1730 hrs IST of 19th October 2017 over North West Bay of Bengal near Lat. 20.0 N / Long. 88.5 E, about 40 kms south-southwest of Paradip (Odisha) and 90 kms south-southwest of Chandbali. It further moved northwestwards and crossed Odisha coast close to Paradip during 1930- 2030 hrs IST and lay centered at 2030 hrs IST. of 19th October 2017 over coastal Odisha near Lat 20.2 N / Long. 86.5°E, close to west of Paradip (Odisha). It moved further northwards and lay centered at 0830 hrs IST. of the 20th October 2017 over coastal Odisha near Lat 21.0 N / Long. 86.5°E, about 35 kms north-northwest of Chandbali (Odisha). moved north-northeastwards and lay centered at 1430 hrs IST of 20th October 2017 over north Odisha and adjoining Jharkhand near Lat 22.0°N / Long. 86.6°E. It further moved north-northeastwards and lay centered at 1730 hrs IST of 20th October 2017 over southeast Jharkhand and adjoining north Odisha and Gangetic West Bengal and neighbourhood near Lat 22.2°N / Long. 86.7°E, about 85 kms southeast of Jamshedpur (Jharkhand) and 65 kms southwest of Midnapore (West Bengal). It further moved northnortheastwards and lay centered at 0830 hrs IST of 21st October 2017 over Bangla Desh and adjoining West Bengal, near Lat 24.0°N / Long. 88.7°E, about 35 kms west-northwest of Ishurdi (Bangla Desh) and 45 kms east-southeast of Behrampore (West Bengal). lay centered at 1730 IST of yesterday, 21st October 2017 over Bangladesh, near Lat 24.0°N / Long. 90.2°E, about 50 kms northwest of Dhaka (Bangla Desh). It moved east-northeastwards and weakened into a well marked low pressure area over northeast Bangladesh and adjoining Meghalaya and south Assam at 0530 hrs IST of 22nd October 2017. It further weakened into a low pressure area and lay over central parts of Assam & neighbourhood. Associated cyclonic circulation extending upto 3.1 kms a.s.l. on 22nd, became less marked on the evening of 22nd.
- A trough extending upto 5.8 kms a.s.l. ran from the centre of the above system to Lakshadweep area across south Chhattisgarh, Telangana and Karnataka on 20th, Karnataka coast across Odisha, south Chhattisgarh, Telangana and south Maharashtra and extends upto 1.5 kms a.s.l. on 21st, from south Chhattisgarh to south Konkan at 1.5 kms a.s.l. across Telangana, Vidarbha, Marathwada and south Madhya Maharashtra on 22nd, ran from south Chhattisgarh to east central Arabian sea across Telangana and north interior Karnataka at 1.5 kms a.s.l. on 23rd, became less marked on 24th.
- The cyclonic circulation over eastcentral Arabian Sea and adjoining areas of north Karnataka lay over south Madhya Maharashtra and neighbourhood extending upto 3.6 kms a.s.l. on 19th became less marked on 20th.
- The east-west shear zone ran roughly along Lat 14°N across south Peninsula at 5.8 kms a.s.l. on 19th, became less marked on 20th
- The trough in the westerlies from eastern parts of Bihar to north Odisha across Jharkhand has become less marked on 19th.
- A cyclonic circulation between 2.1 & 7.6 kms a.s.l. lay over eastcentral Arabian Sea and adjoining coastal areas of north Karnataka and Maharashtra on 21st, become less marked. on 22nd.
- A north-south trough extending upto 1.5 kms a.s.l. ran from south interior Karnataka to south Tamil Nadu on 21st -22nd, extending upto 0.9 km a.s.l. on 22nd, became less marked on 23rd.
- A feeble western disturbance as an upper air cyclonic circulation lay over Jammu & Kashmir and neighbourhood at 3.1 kms a.s.l. on 23rd moved away east-northeastwards on 24th.
- The trough in westerlies with it's axis at 5.8 kms a.s.l. roughly along Long. 87.0° moved away east-northeastwards on 23rd,
- A cyclonic circulation extending upto 1.5 km a.s.l. over south Pakistan and adjoining west Rajasthan on 23rd-24th became less marked on 25th
- A cyclonic circulation over Haryana and neighbourhood at 3.1 km a.s.l. on 23rd became less marked on 24th.
- A trough ran from east Bihar to Gangetic West Bengal upto 0.9 kms a.s.l. on 23rd, ran from west Assam to north Bay of Bengal extending upto 1.5 kms a.s.l. on 24th, became less marked on 25th.
- A fresh western disturbance as a trough in westerlies ran roughly along Long. 66.0°E to the north of Lat. 35.0°N. at 3.1 kms a. s. on 23rd, lay as an upper air cyclonic circulation over northern parts of Jammu & Kashmir extending between 3.1 & 4.5 kms a.s.l. , moved away east - northeastwards on 25th.
- Another cyclonic circulation lay over southeast Arabian Sea and adjoining Kerala extending between 1.5 & 3.6 kms a.s.l. on 24th, lay over Lakshadweep area and neighbourhood extending between 1.5 & 3.1 kms a.s.l.
- A cyclonic circulation lay over southwest Bay of Bengal and neighbourhood extending between 3.1 & 4.5 kms a.s.l. on 24th, lay over southeast Tamil Nadu and neighbourhood extending upto 3.1 kms a.s.l. on 25th.
- A cyclonic circulation extending upto 0.9 km a.s.l. lay over interior Tamil Nadu and neighbourhood on 24th, merged with the above cyclonic circulation on 25th
- A cyclonic circulation extending upto 2.1 kms a.s.l. lay over north Andaman sea and neighbourhood on 25th.
- A fresh western disturbance as a trough in mid tropospheric westerlies with its axis at 3.1 kms a.s.l. ran roughly along Long. 66.0°E to the north of Lat. 35.0°N.

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

Media Reports: 1) Flash floods in Tripura drive nearly 4, 000 families homeless (Hindustan Times 23 Oct 2017)

(P. C. S. Rao)

25th October 2017
Pune - 5

For Head, Climate Monitoring & Analysis Group,
Climate Research Division, Pune

Rainfall % Departure For the week ending

25th October 2017

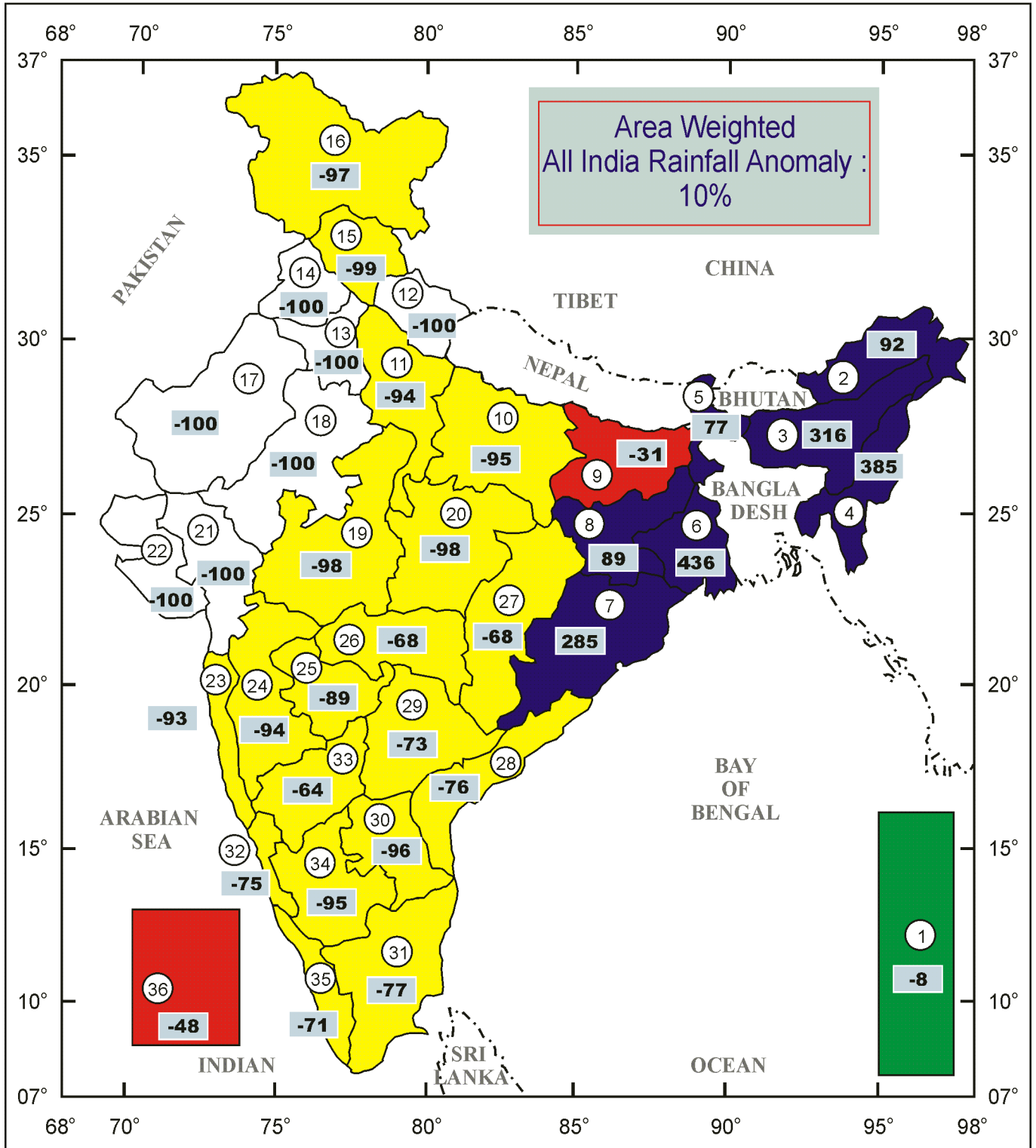


Figure in ○ Indicates sub-division number.

Figure in □ indicates rainfall anomaly.

Large Excess +60% and above **07**

Excess +20% to +59% **00**

Normal -19% to +19% **01**

Deficient -20% to -59% **02**

Large Deficient -60% to -99% **19**

No Rain -100% **07**

Rainfall % Departure For the period

1st October to 25th October 2017

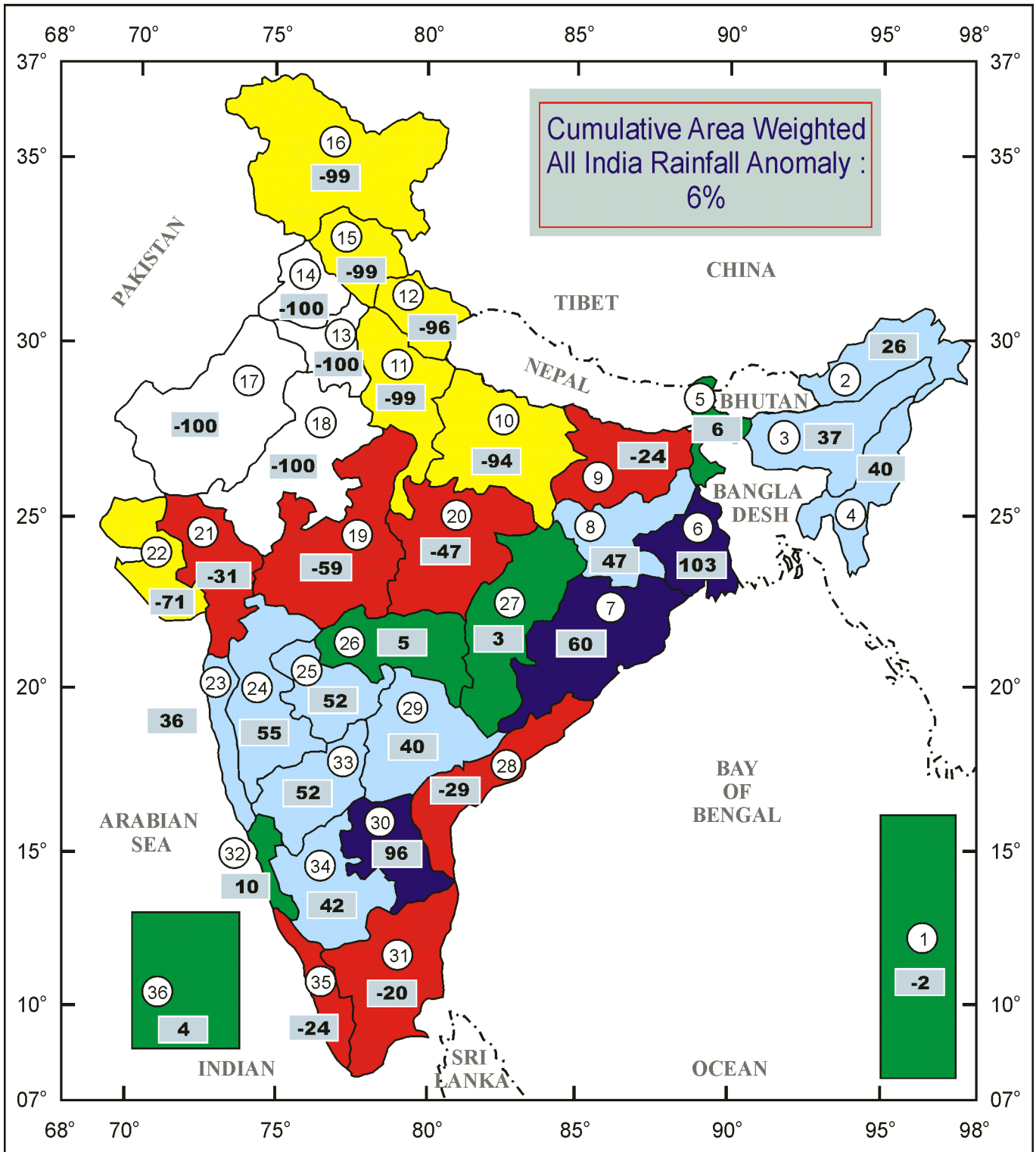


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