



Wednesday 01 March 2017

NIGHT

Time of Issue: 2000 hours IST

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Western Disturbance and associated weather

- ◆ The Western Disturbance as an upper air cyclonic circulation over north Pakistan & adjoining Jammu & Kashmir extending upto 4.5 km above mean sea level with a trough aloft, roughly along longitude 69.0°E and north of latitude 25.0°N, likely to cause fairly widespread precipitation over Western Himalayan region and isolated precipitation over adjoining plains during next 24 hours. Hailstorm also likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 24 hours.
- ◆ The maximum temperature are observed between 32°C-37°C at a few places along west coast; these temperature are above normal by 3-4°C.

Main Weather Observations

- ◆ **Rainfall (from 0830 to 1730 hours IST of today):** Rain/snow fall occurred at most places over Jammu & Kashmir; at a few places over Himachal Pradesh and at isolated places over Uttarakhand. The amount of rainfall (1 cm or more) recorded at 1730 hours of today: Kupwara-2; Pahalgan, Batote and Kukernag -1 each.
- ◆ **Minimum temperatures** are observed $\leq 5.0^{\circ}\text{C}$ at many places over Jammu & Kashmir and at isolated places over Himachal Pradesh; $\leq 10.0^{\circ}\text{C}$ at isolated places over West Uttar Pradesh.
- ◆ **Minimum temperature departures as on 01.03.2017:** Minimum temperatures are **appreciably below normal (-1.6°C to -3.0°C)** at a few places over Chhattisgarh, Telangana, Rayalaseema and interior Odisha. They are **markedly above normal (5.0°C or more)** at isolated places over Rajasthan and Haryana, Chandigarh & Delhi; **appreciably above normal (3.0°C to 5.0°C)** at most places over West Uttar Pradesh; at many places over Jammu & Kashmir, rest Rajasthan and Saurashtra & Kutch; at a few places over West Madhya Pradesh; at isolated places over East Madhya Pradesh and Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at most places over Gujarat region; at many places over Punjab; at a few places over Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim and Konkan & Goa; at isolated places over Madhya Maharashtra and gangetic West Bengal and near normal over rest of the country. The lowest minimum temperature of **9.5°C** recorded at **Najibabad (West Uttar Pradesh)** in the plains of the country.
- ◆ **Maximum temperature departures as on 01.03.2017:** Maximum temperatures are **markedly above normal (5.1°C or more)** at most places over East Madhya Pradesh and at isolated places over Konkan & Goa, Uttarakhand and West Madhya Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at most places over Coastal Karnataka, Vidharbha, Gujarat, Rajasthan, Haryana, Chandigarh & Delhi, Chhattisgarh, Bihar, Jharkhand, East Uttar Pradesh, Punjab, West Uttar Pradesh; at many places over rest West Madhya Pradesh and Arunachal Pradesh; at a few places over rest Konkan & Goa and at isolated places over Himachal Pradesh, Madhya Maharashtra, Gangetic West Bengal and Kerala; **above normal (1.6°C to 3.0°C)** at most places over Nagaland, Manipur, Mizoram & Tripura and Marathawada; at many places over rest Gangetic West Bengal, Odisha, Telangana and Sub-Himalayan West Bengal & Sikkim; at a few places over Assam & Meghalaya and near normal over rest of the country.
- ◆ Maximum temperatures $\geq 38^{\circ}\text{C}$ were recorded at Bhira-42.5°C, Mangalore-39.6°C, Akola-38.6°C, Brahmapuri-38.1°C and Mahuva, Malegaon, Jalgaon, Sholapur-38.0°C-each

* Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day

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Meteorological Analysis (Based on 1730 hours IST)

- ◆ The Western Disturbance as an upper air cyclonic circulation over north Pakistan and adjoining Jammu & Kashmir extending upto 4.5 km above mean sea level persists with a trough aloft now runs roughly along longitude 69.0° E and north of latitude 25.0° N. The induced upper air cyclonic circulation over northeast Rajasthan & neighbourhood extending upto 0.9 km above mean sea level persists.
- ◆ The trough at mean sea level extending from Comorin area to south Konkan coast persists.
- ◆ The trough at mean sea level over south Andaman sea and adjoining areas of southeast Bay of Bengal & Equatorial Indian Ocean now seen over southeast Bay of Bengal and adjoining south Andaman Sea & Equatorial Indian Ocean.

Weather Forecast for next 5 days * ◆ upto 0830 hours IST of 06th March 2017

- ◆ Meteorological sub-division wise detailed 5 days rainfall forecast is given in Table 1.
- ◆ Duststorm likely at isolated places over northeast Rajasthan.
- ◆ Gradual rise in maximum and minimum temperatures by 2-4°C likely over East India during next 4 days.
- ◆ Rise in maximum and minimum temperatures by 2-3°C over Northwest India during next 24 hours and fall by 2-3°C thereafter.
- ◆ Rainfall likely at isolated places over northern parts of Punjab and Haryana during next 24 hours.
- ◆ No significant change in maximum & minimum temperatures over rest of the country.

Weather Outlook for subsequent 2 days from 06th March 2017 to 08th March 2017

- ◆ Rain/snow at isolated places likely over western Himalayan region.
- ◆ Rain/thundershower at a few places likely over south India, north-eastern states and at isolated places over Odisha, Vidarbha, Chhattisgarh and Andaman & Nicobar Islands.



Weather Warning during next 5 days *

01 MARCH (Day 1): ♦ Hailstorm likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand.

♦ Heat wave conditions likely at isolated places over coastal Saurashtra, Konkan, Coastal Karnataka and Kerala.

02 MARCH (Day 2): ♦ No weather warning.

03 MARCH (Day 3): ♦ Thundersquall likely at isolated places over interior parts of Tamilnadu & Puducherry and Kerala.

04 March (Day 4): ♦ Thundersquall likely at isolated places over interior parts of Tamilnadu & Puducherry and Kerala.

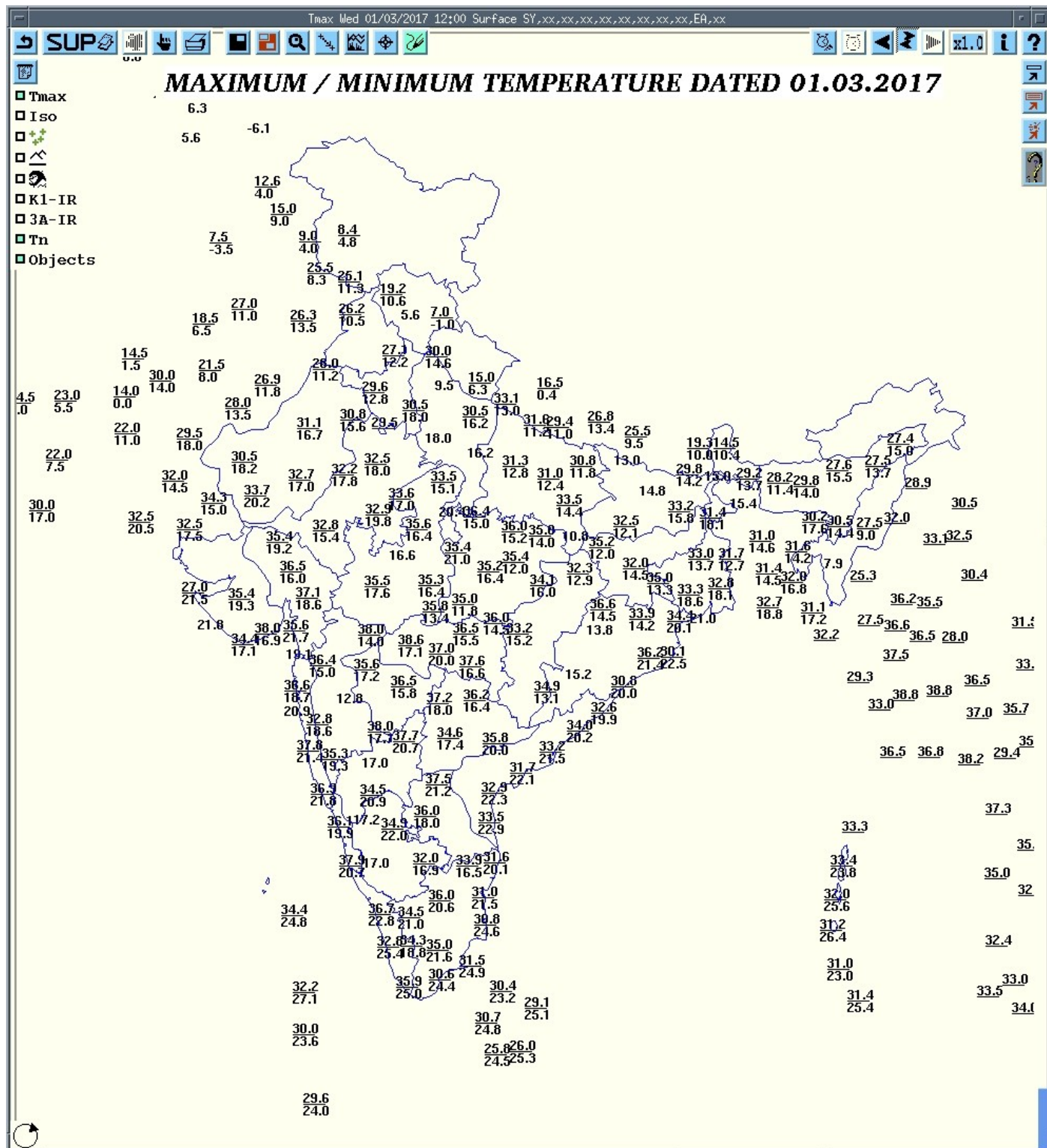
05 March (Day 5): ♦ No weather warning.

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Fig. 1: Maximum / Minimum Temperature during past 24 hours



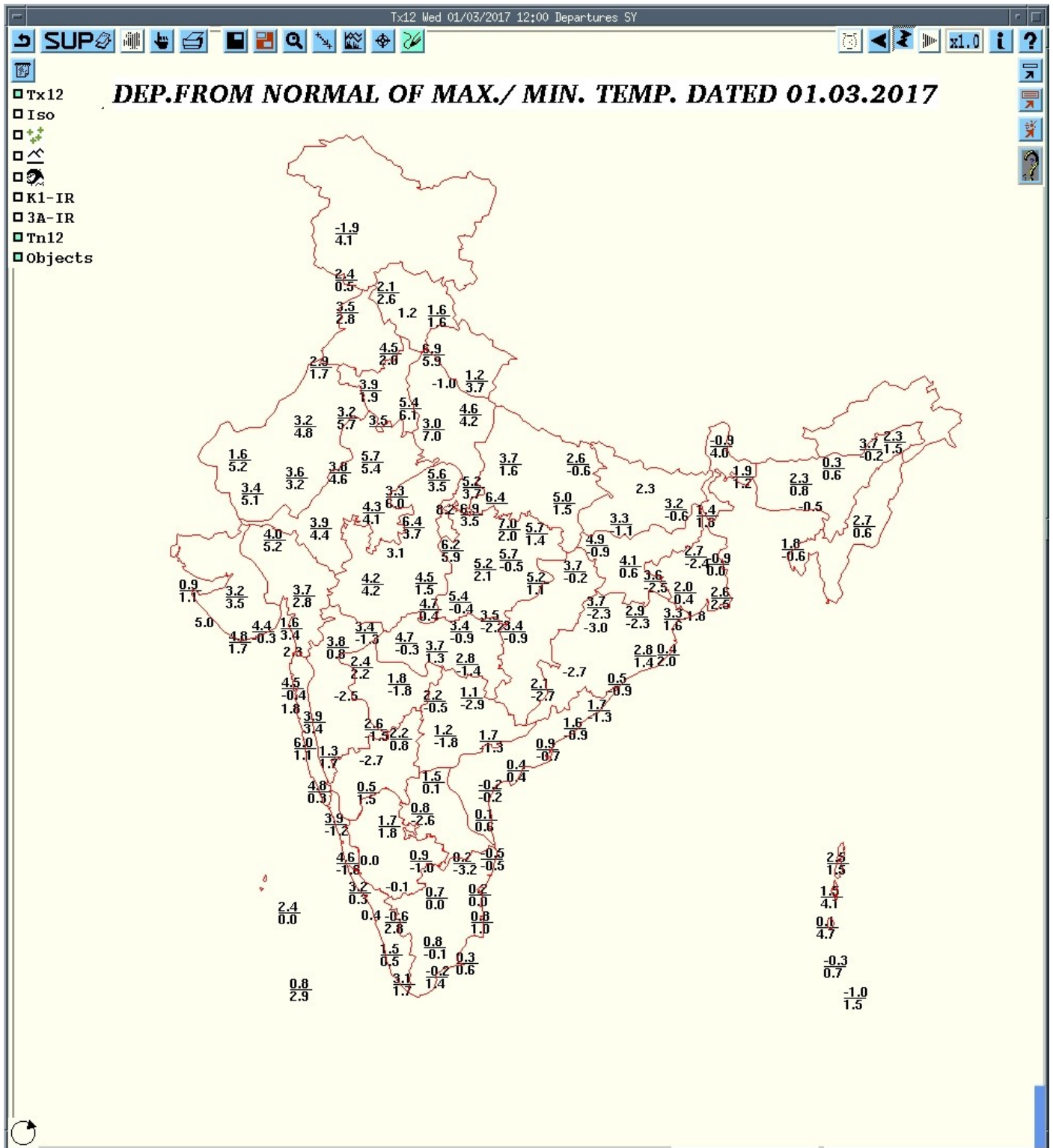
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Fig.2 : Departure from Normal of Maximum/Minimum Temperatures



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Table-1

5 Day Rainfall Forecast (NIGHT)

01-March-2017

Met-Sub-Division	01-Mar Today	02Mar Thu	03Mar Fri	04Mar Sat	05Mar Sun
1. Andaman & Nicobar Islands	ISOL	ISOL	ISOL	ISOL	DRY
2. Arunachal Pradesh	SCT	SCT	FWS	FWS	WS
3. Assam & Meghalaya	ISOL	ISOL	SCT	FWS	FWS
4. N. M. M. & T.	DRY	ISOL	ISOL	SCT	SCT
5. S.H. West Bengal & Sikkim	ISOL	ISOL	ISOL	ISOL	ISOL
6. Gangetic West Bengal	DRY	DRY	DRY	ISOL	ISOL
7. Odisha	DRY	DRY	DRY	DRY	ISOL
8. Jharkhand	DRY	DRY	ISOL	ISOL	DRY
9. Bihar	DRY	DRY	ISOL	ISOL	ISOL
10. East Uttar Pradesh	DRY	ISOL	DRY	DRY	DRY
11. West Uttar Pradesh	ISOL	ISOL	DRY	DRY	DRY
12. Uttarakhand	SCT	ISOL	DRY	DRY	DRY
13. Haryana, Chd & Delhi	ISOL	ISOL	DRY	DRY	DRY
14. Punjab	ISOL	ISOL	DRY	DRY	DRY
15. Himachal Pradesh	FWS	SCT	ISOL	DRY	DRY
16. Jammu & Kashmir	FWS	SCT	ISOL	DRY	DRY
17. West Rajsthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	ISOL	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	DRY	DRY	DRY
25. Marathawada	DRY	DRY	DRY	DRY	DRY
26. Vidharbha	DRY	DRY	DRY	DRY	ISOL
27. Chhattisgarh	DRY	DRY	DRY	DRY	ISOL
28. Coastal Andhra Pradesh	DRY	DRY	DRY	ISOL	ISOL
29. Telangana	DRY	DRY	DRY	DRY	ISOL
30. Rayalaseema	DRY	DRY	DRY	ISOL	ISOL
31. Tamilnadu & Puducherry	ISOL	DRY	SCT	SCT	SCT
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	ISOL	ISOL
35. Kerala	DRY	DRY	SCT	FWS	FWS
36. Lakshadweep	ISOL	ISOL	ISOL	ISOL	ISOL

% Station Reporting Rainfall

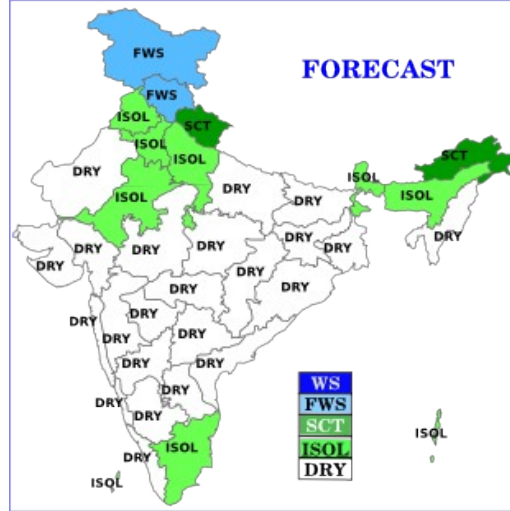
% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

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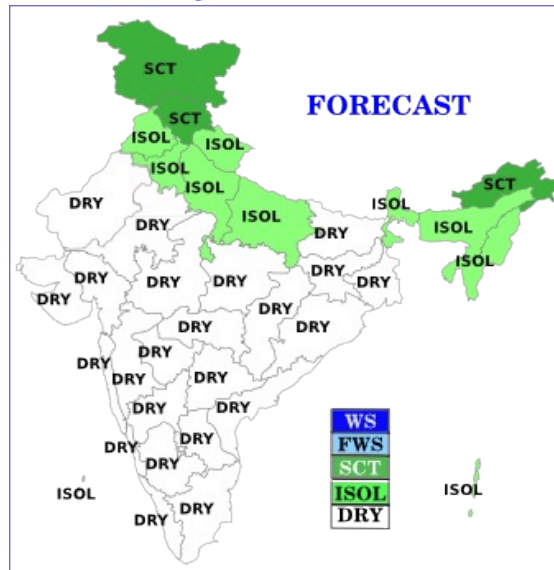


01 MARCH (Day 1): ♦ Hailstorm likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand.

♦ Heat wave conditions likely at isolated places over coastal Saurashtra, Konkan, Coastal Karnataka and Kerala.



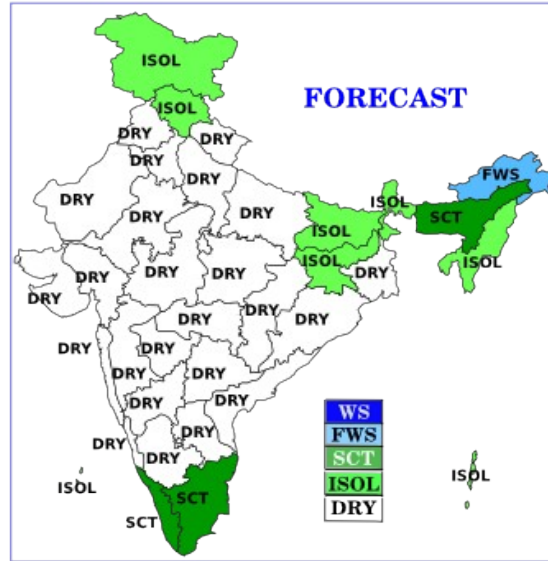
Thursday 02 March 2017



02 MARCH (Day 2): ♦ No weather warning.



Friday 03 March 2017



03 MARCH (Day 3):♦ Thundersquall likely at isolated places over interior parts of Tamilnadu & Puducherry and Kerala.

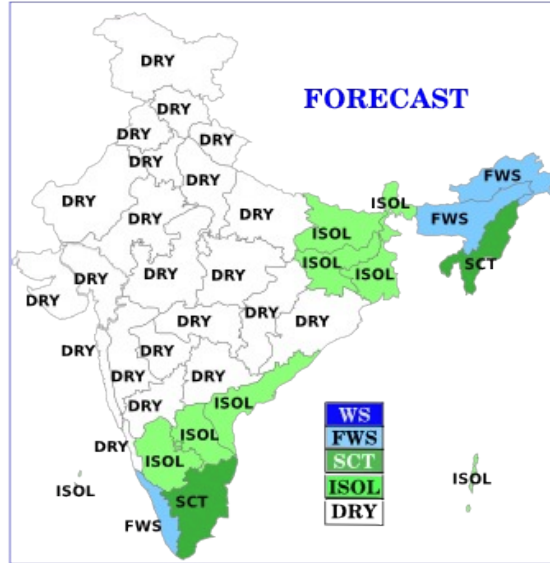
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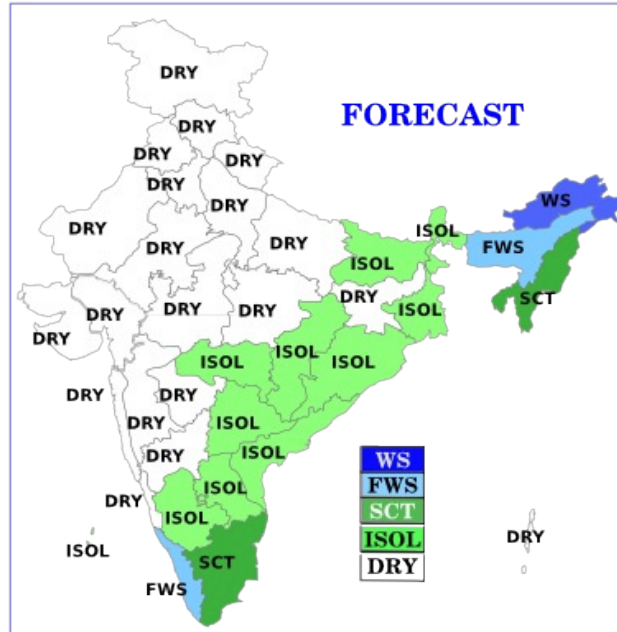
Saturday 04 March 2017



04 March (Day 4):♦ Thundersquall likely at isolated places over interior parts of Tamilnadu & Puducherry and Kerala.



Sunday 05 March 2017



05 March (Day 5): ♦ No weather warning.

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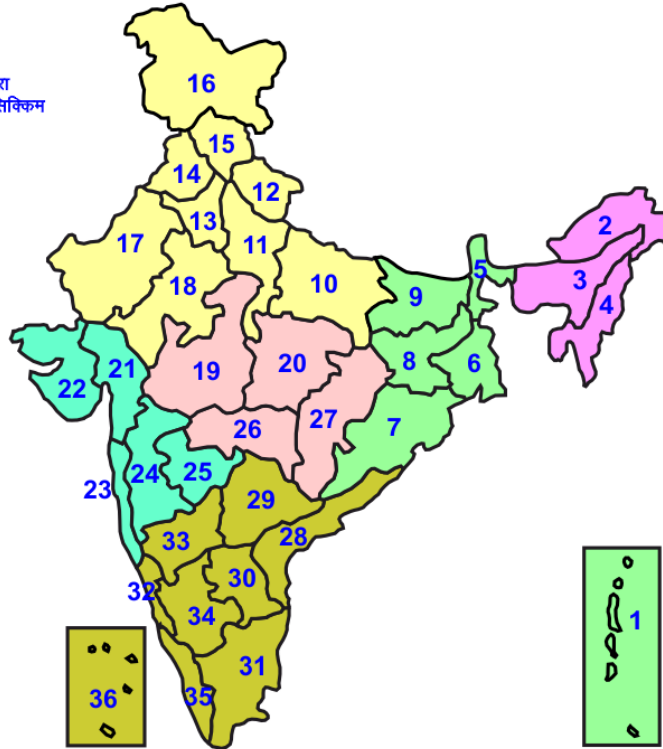
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समुह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मनीपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम गंगेय बंगाल
- 7 ओडिसा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडीगढ़ एवं दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठावाडा
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटिय आंध्र प्रदेश
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल
- 36 लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Orissa
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh
29. Telangana
30. Rayalaseema
31. Tamilnadu & Pondi
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
Dry (No station reported Rainfall)			

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

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LEGENDS

WARNING

WARNING (TAKE ACTION)
ALERT (BE PREPARED)
WATCH (BE UPDATED)
NO WARNING (NO ACTION)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm *
Extremely Heavy: > 204.4 mm/cm *



Heat Wave

When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$



Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^{\circ}\text{C}$.



Cold Wave

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.

(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\geq -6.5^{\circ}\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ or actual Minimum Temperature is $\leq 15^{\circ}\text{C}$



Cold Day

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions
Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$



Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres



Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Frost

Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)



Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph

Severe: Wind speed 62-87 kmph

Very Severe: Wind speed > 87 kmph



Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre

High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre

Phenomenal: Wind speed > 117 kmph (> 63 knots) & Wave height > 14 metre



Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)

Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

Super Cyclone Strom: Wind speed > 220 kmph (> 119 knots)