



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 21<sup>st</sup> March, 2024

Time of Issue: 1300 hours IST

**Subject: i) Enhance rainfall with thunderstorm activity likely over Northeast India and Sub-Himalayan West Bengal & Sikkim during 21<sup>st</sup> to 26<sup>th</sup> March, 2024.**  
**ii) Light to moderate rainfall/snowfall likely over Western Himalayan Region on 21<sup>st</sup> & 22<sup>nd</sup> March, 2024.**

**Realised weather during past 24 hours till 0830 hours IST of today: (Annexure I)**

- ❖ **Light to moderate rainfall/snowfall** observed at many places over Arunachal Pradesh and at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Light to moderate rainfall** observed at most places over Bihar, West Bengal & Sikkim; at many places over Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; at a few places over, Coastal Andhra Pradesh; at isolated places over East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Kerala & Mahe, Tamil Nadu and Telangana.
- ❖ **Heavy to very heavy rainfall** occurred at isolated places over Bihar; heavy rainfall at isolated places over Jharkhand and **Heavy rainfall/snowfall** at isolated places over Sikkim.
- ❖ **Hailstorm** observed at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Coastal Andhra Pradesh and Telangana.
- ❖ **Gusty winds** observed at isolated places over Bihar, Jharkhand, Telangana, East Madhya Pradesh, Vidarbha and Chhattisgarh.

**Weather Systems and Forecast & Warnings: (Annexure II)**

- ❖ A cyclonic circulation lies over north Jharkhand and a trough runs from this circulation to Manipur in lower tropospheric levels. Another cyclonic circulation lies over Northeast Jharkhand in middle & upper tropospheric levels. Under the influence of these systems:
  - ✓ Fairly widespread/widespread light to moderate rainfall with isolated thunderstorms & lightning very likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim during 21<sup>st</sup>-26<sup>th</sup> March, 2024.
  - ✓ Isolated **heavy rainfall/snowfall** very likely over Arunachal Pradesh during 21<sup>st</sup>-23<sup>rd</sup> & 25<sup>th</sup>; over Sikkim on 21<sup>st</sup> & 23<sup>rd</sup> and isolated **heavy rainfall** over Assam & Meghalaya 21<sup>st</sup>-23<sup>rd</sup> & 25<sup>th</sup> March, 2024.
  - ✓ Isolated to scattered light to moderate rainfall with isolated **thunderstorms, lightning** very likely over Gangetic West Bengal, Bihar, Jharkhand, Chhattisgarh and Odisha on 21<sup>st</sup> March and significant reduction thereafter.
  - ✓ Isolated to scattered light to moderate rainfall with isolated **thunderstorms & lightning** very likely over Tamil Nadu, Puducherry & Karaikal and Kerala on 21<sup>st</sup> & 22<sup>nd</sup> March, 2024.

- ❖ The Western Disturbance now seen as a trough in middle tropospheric westerlies roughly along Long. 60°E to the north of Lat. 30°N. Another fresh Western Disturbance is likely to affect Western Himalayan Region from the night of 23<sup>rd</sup> March, 2024. Under their influence:
  - ✓ Scattered to fairly widespread light rainfall/snowfall with isolated **thunderstorms & lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 21<sup>st</sup> & 22<sup>nd</sup> and Isolated to scattered light rainfall/snowfall on 23<sup>rd</sup> & 24<sup>th</sup> March, 2024. Isolated to scattered light rainfall/snowfall over Uttarakhand during 21<sup>st</sup>-24<sup>th</sup> March. Isolated light rainfall likely over Punjab on 21<sup>st</sup>, 22<sup>nd</sup> & 24<sup>th</sup> and over Haryana on 24<sup>th</sup> March, 2024.
  - ✓ **Isolated hailstorm** also very likely over Jammu-Kashmir-Ladakh on 21<sup>st</sup> and over Himachal Pradesh on 21<sup>st</sup> & 22<sup>nd</sup> March.
  - ✓ **Strong surface winds (25-35 kmph)** very likely to prevail over Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh on 21<sup>st</sup> March, 2024.

#### Maximum temperature forecast for next 5 days:

- ❖ **Maximum temperatures** are below normal by 9-12°C over many parts of Odisha, West Bengal & Sikkim, Bihar; by 7-9°C over Jharkhand, Chhattisgarh and west Assam; by 2-4°C over East Madhya Pradesh, East Uttar Pradesh, east Vidarbha, Telangana, north Coastal Andhra Pradesh and Nagaland, Manipur, Mizoram & Tripura. These are above normal by 6-8°C over many parts of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; by 2-4°C over Himachal Pradesh, Punjab, north Haryana, Gujarat State and near normal over rest parts of the country.
- ❖ Gradual rise in maximum temperatures by 6-10°C very likely over East India during next 4 days no significant change thereafter.
- ❖ Gradual rise in maximum temperatures by 2-4°C very likely over Maharashtra and Central India during next 4-5 days.
- ❖ Fall in maximum temperatures by about 2°C very likely over many parts of Northwest India during next 24 hours and gradual rise by 2-4°C thereafter.
- ❖ No significant change in maximum temperatures very likely over rest part of the country during next 5 days.
- ❖ **Hot and humid weather** very likely to prevail over Rayalaseema, Kerala & Mahe, Saurashtra & Kutch during next 5 days; over Konkan & Goa on 21<sup>st</sup> and Tamil Nadu, Puducherry & Karaikal during next 2 days.

#### Heat wave warning:

- ❖ **Heat wave conditions** very likely in isolated pockets over Saurashtra & Kutch on 21<sup>st</sup> March.

For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php)

**Significant rainfall amount (in cm):**

**Bihar:** Vaishali-13, West Champaran-12, Begusarai, Monghyr-9 each, Darbhanga, Banka-7 each, Muzaffarpur, Jahanabad, Champaran-6 each, Khagaria, Gaya, Araria, Katihar-5 each, Madhepura, Siwan, Gopalganj, Sheohar-4 each

**Sub-Himalayan West Bengal & Sikkim:** Darzeeling-9, South Sikkim-6, Malda, West Sikkim-5 each, East Sikkim-3, North Sikkim-2

**Jharkhand:** Ranchi-8, Sahibganj-4, Bokaro, Hazaribagh, Ramgarh, Simdega-2 each

**Coastal Andhra Pradesh:** Peddapuram (dist Kakinada) 4, Kakinada (dist Kakinada) 4, Sompeta (dist Srikakulam) 3, Yelamanchili (dist Anakapalli) 3, Tanuku (dist West Godavari) 3, Anakapalle (dist Anakapalli) 3, Chodavaram (dist Anakapalli) 2, Koyyalagudem (dist Eluru) 2, Tuni (dist Kakinada) 2, Anakapalle(a) (dist Anakapalli) 2,

**Tamil Nadu:** Thirukuvalai (dist Nagapattinam) 5, Thalaignayer (dist Nagapattinam) 4, Vedaranyam (dist Nagapattinam) 2,

**Arunachal Pradesh:** Tawang\_ Aws (dist Tawang) 4, Tawang Chamgbu Kvk Aws (dist Tawang) 3, Bomdila\_ Aws (dist West Kameng) 3, Kibithu (dist Anjaw) 3, Mukto\_arg (dist Tawang) 3, Bomdila (dist West Kameng) 2, Kalaktang (dist West Kameng) 2, Kabu Basti (dist West Siang) 2,

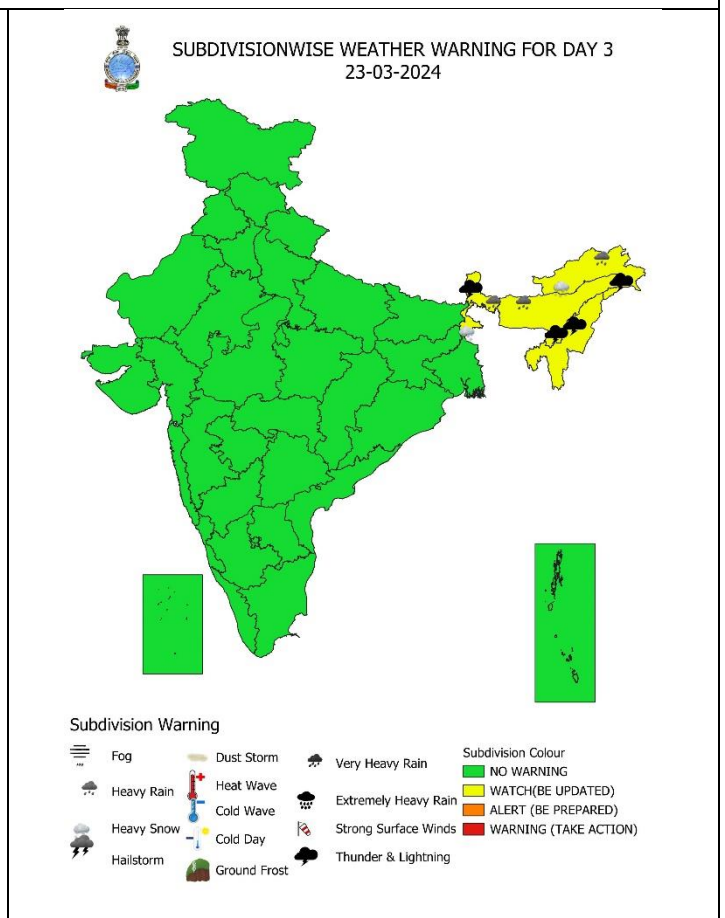
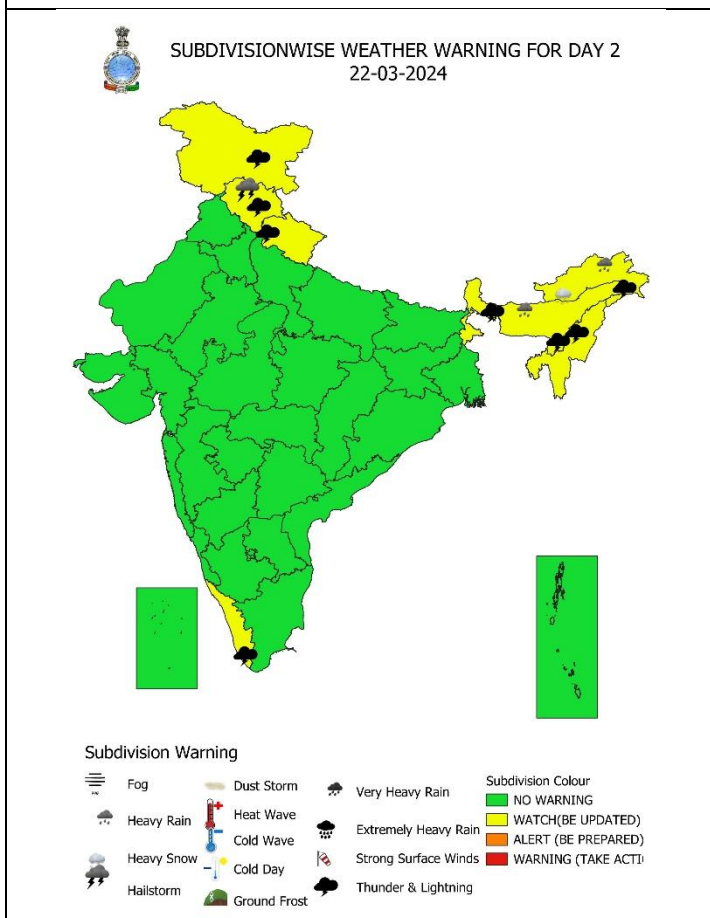
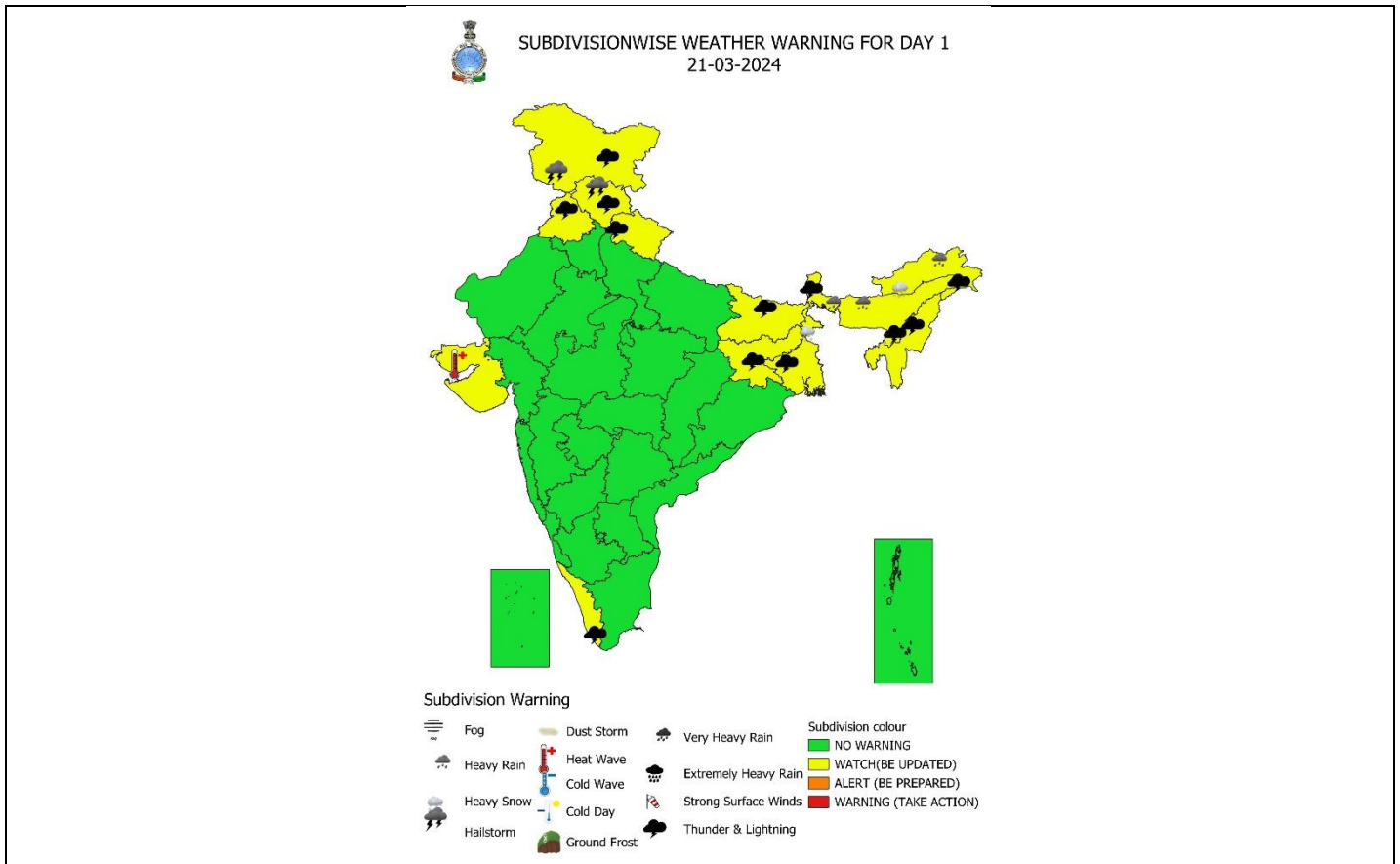
**Assam & Meghalaya:** Mushalpur\_aws (dist Baksa) 3, Williamnagar (dist East Garo Hills) 2, Manash Nh Xing (dist Barpeta) 2, Nalbari( Barkhetri\_aws) (dist Nalbari) 2, Beky Rly.bridge (dist Barpeta) 2, Manikpur Arg (dist Bongaigaon) 2, Chamata Arg (dist Nalbari) 2, Goibargaon (dist Baksa) 2, Barpeta/sarbhog\_aws (dist Barpeta) 2, Barpeta (dist Barpeta) 2, Melabazar/matunga (dist Nalbari) 2, Bijni Arg (dist Chirang) 2, Tamulpur (dist Baksa) 2, Goalpara\_pto (dist Goalpara) 2, Nalbari/pagladia (dist Nalbari) 2, Iit Guwahati Arg (dist Kamrup (rural)) 2,

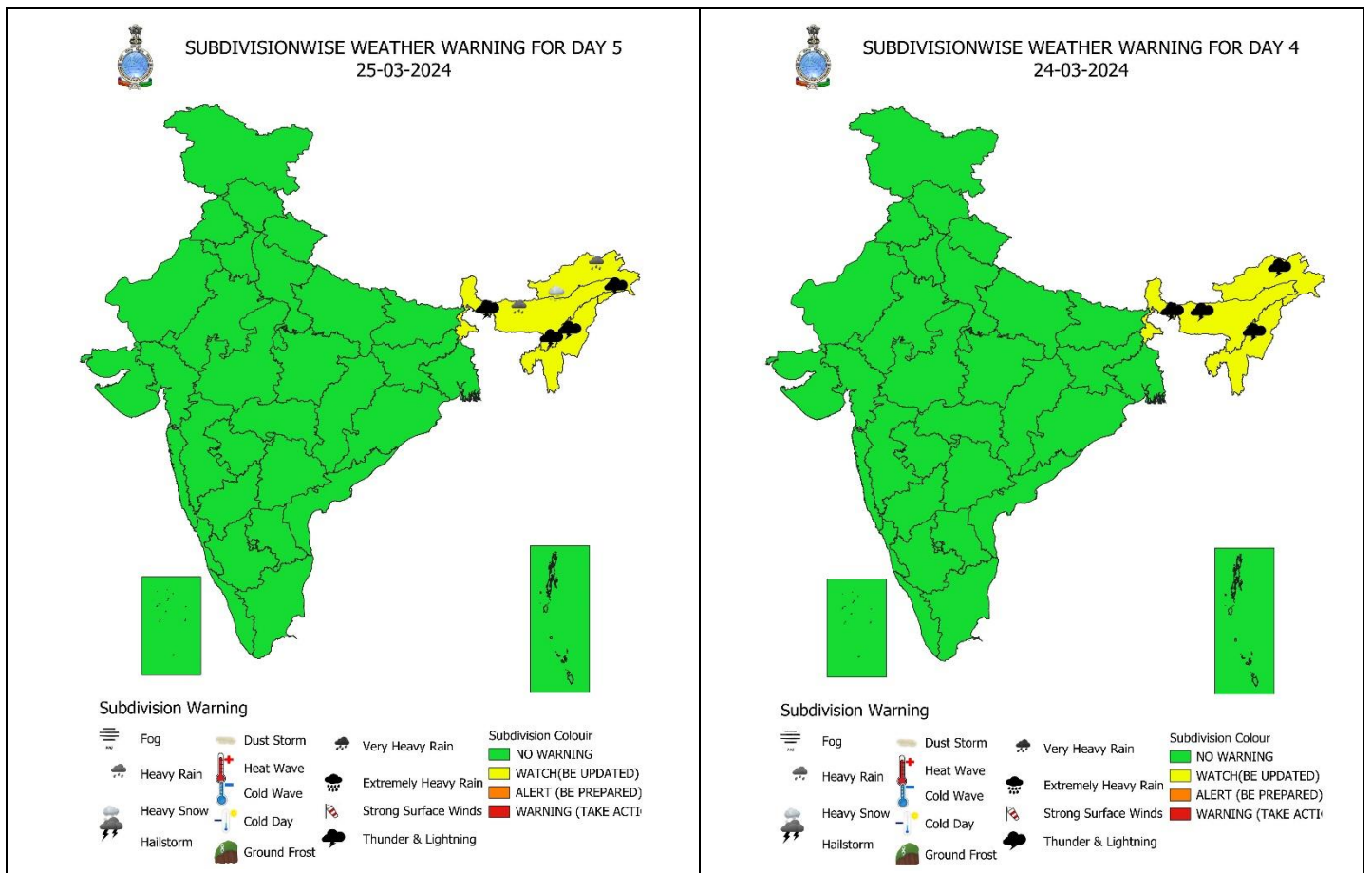
**Odisha:** Kaptipada ( Mayurbhanj) 3, Raghunathpur ( Jagatsinghpur) 2, Udala ( Mayurbhanj) 2, Binika ( Sonepur) 2, Gop ( Puri) 2, Biridi ( Jagatsinghpur) 2, Bhograi ( Balasore) 2, Sohela ( Bargarh) 2, Bari ( Jajpur) 2, R.udaigiri ( Gajapati) 2, Ghasipura ( Keonjhar) 2, Kendrapada Pto ( Kendrapara) 2, Athgarh ( Cuttack) 2, Remuna ( Balasore) 2, Mohakalapada ( Kendrapara) 2, Phulbani ( Kandhamal) 2, Balikuda ( Jagatsinghpur) 2, Chhatrapur ( Ganjam) 2,

**Gangetic West Bengal:** Nadia-2

**Nagaland, Manipur, Mizoram & Tripura:** Saiha (dist Saiha) 2, Lawngtlai (dist Lawngtlai) 2,

**East Uttar Pradesh:** Chandauli, Ballia-2 each





## Agromet advisories for Heavy Rainfall, Gusty winds and Hailstorms likely over various parts of the country:

- Use hail nets or hail caps in fruit orchards to protect them from mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in Jammu & Kashmir and Himachal Pradesh.
- Drain out excess water from crop fields to avoid water stagnation in Sub Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh and Assam & Meghalaya.
- Provide mechanical support to horticultural crops and staking to vegetables in Central and East India.

## Legends & abbreviations:














❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.

❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office.

### ❖ Region wise classification of meteorological Sub-Divisions:

- **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
- **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
- **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
- **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathwada.
- **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and 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)

Subdivision Warning	 Dust Storm	Subdivision color
 Heavy Rain	 Strong Surface Winds	 NO WARNING
 Heavy Snow	 Heat Wave	 WATCH(BE UPDATED)
 Thunderstorms & Lightning	 Cold wave	 ALERT (BE PREPARED)
 Hailstorm	 Fog	 WARNING (TAKE ACTION)

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