



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 14th January, 2024

Time of Issue: 1400 hours IST

Subject:

- (i) Dense to very dense fog conditions likely to continue to prevail over North India during next 4-5 days.
- (ii) Cold day to severe cold day conditions likely to continue over plains of Northwest India during next 3 days and reduction thereafter.
- (iii) Cold wave to severe cold wave conditions likely to continue over plains of Northwest India during next 3 days and decrease thereafter.
- (iv) The Northeast Monsoon rains have ceased over Kerala-Mahe, South Interior Karnataka, Tamil Nadu-Puducherry-Karaikal, Rayalaseema and adjoining areas of Coastal Andhra Pradesh & Yanam from today, the 14th January, 2024.

Realized weather during past 24 hours till 0830 hours IST of today: (Details given in Annexure I)

- ❖ **Minimum temperatures:** Minimum temperatures are in the range of 3-7°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh; in the range of 8-10°C over many Parts of south Rajasthan, Madhya Pradesh, Bihar, Jharkhand. These are below normal by 1°C to 4°C in many parts of Northwest & adjoining east India. **Today, the lowest minimum temperature of 2.5°C reported at Ludhiana (Punjab).**
- ❖ Today, **Cold wave to severe cold wave conditions** prevailed in many places of Punjab and Haryana; **cold wave conditions** prevailed in in some parts of Delhi and in isolated pockets of West Uttar Pradesh.
- ❖ **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Dense to Very Dense fog** reported in most parts of Punjab, Haryana-Chandigarh-Delhi, in many parts of Uttar Pradesh; in some parts of Uttarakhand and Bihar; isolated pockets of northwest Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim; **Dense fog** in some parts of Assam & Meghalaya; in isolated pockets of Jammu Division, Rajasthan, Gangetic West Bengal and Odisha.

Weather Systems and Forecast & Warnings during next 5 days:

❖ **Cessation of Northeast Monsoon rains over South Peninsular India:**

- ✓ There has been no rainfall activity over southeast peninsula during past 2 days
- ✓ The Water vapor imagery indicates dry air prevailing over the region at middle & upper tropospheric levels.
- ✓ In the lower levels, dry winds from northern India are prevailing over the region

Considering all the above points, the Northeast Monsoon rains have ceased over Kerala-Mahe, South Interior Karnataka, Tamil Nadu-Puducherry-Karaikal, Rayalaseema and adjoining areas of Coastal Andhra Pradesh & Yanam from today, the 14th January, 2024.

- ❖ A fresh feeble Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024. Under its influence; Light rainfall/snowfall at isolated places very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 16th & 17th and Uttarakhand on 17th January.
- ❖ Light to moderate rainfall in isolated to some places very likely over Bihar, Jharkhand, Chhattisgarh, Odisha, West Bengal & Sikkim and Northeast India from 16th to 18th January, 2024.-
- ❖ **Isolated Hailstorm** likely over Arunachal Pradesh and Sikkim on 17th January, 2024.

Dense fog and Cold day warning: (graphics in Annexure II)

- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in many parts of Punjab and Haryana, Chandigarh & Delhi and Uttar Pradesh during 14th night to 16th morning, in some parts on 16th night & 17th morning and in isolated pockets for subsequent 2 days.
- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Jammu division, Himachal Pradesh & Uttarakhand during 14th-16th January, 2024.
- ❖ **Dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of north Rajasthan during 14th-18th; over north Madhya Pradesh on 14th; over Bihar, West Bengal & Sikkim, Jharkhand, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 14th & 15th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some/many parts of Punjab, Haryana-Chandigarh during 14th-16th and **Cold Day** in isolated pockets on 16th & 17th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Uttar Pradesh on 14th & 15th and **Cold Day** in isolated pockets on 16th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Bihar on 14th & 15th January, 2024.

Minimum Temperature Forecast and Cold wave warning: (graphics in Annexure II)

- ❖ No significant change in minimum temperatures very likely over Northwest India during next 2 days and rise about 2°C thereafter for subsequent 3 days.
- ❖ No significant change in minimum temperatures very likely over Central India during next 5 days.
- ❖ No significant change in minimum temperatures very likely over East India during next 2 days and rise by 2-4°C thereafter.
- ❖ Fall by 2-3°C in minimum temperatures very likely over many parts of Maharashtra & Gujarat region during next 2 days and no significant change thereafter for subsequent 3 days.
- ❖ **Cold wave to Severe Cold wave** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh-Delhi during 14th-16th January, 2024.
- ❖ **Cold wave** conditions very likely in isolated pockets of Uttar Pradesh & north Rajasthan on 14th & 15th January.
- ❖ **Ground frost conditions** very likely over northwest India on 14th & 15th January, 2024.

For more details kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

Realized weather during past 24 hours till 0830 hours IST of today:

- ❖ Yesterday, **Maximum temperatures** were in the range of 14-16°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh in the range of 18-20°C over North Rajasthan, Bihar which were below normal by 3-6°C at many over these regions.
- ❖ Yesterday, **Cold day to severe cold day conditions** prevailed at many places over Punjab; at isolated Pockets over West Uttar Pradesh. **Cold day** conditions prevailed at many places over Haryana; at some parts over Bihar and at isolated pockets over West Uttar Pradesh.
- ❖ **Visibility recorded (at 0530 hours IST of today) (≤200 metres):** **Jammu division:** Jammu-50; **Punjab:** Patiala- 25, Amritsar-50; **Haryana-Chandigarh:** Ambala-25, Chandigarh-50, **Delhi:** Palam-25, Safdarjung- 50; **West Uttar Pradesh:** Bareilly-50; **East Uttar Pradesh:** Bahraich-25, Lucknow & Varanasi-50 each, Sultanpur & Gorakhpur-200; **Bihar:** Purnea-25, Patna & Bhagalpur-200 each; **Assam:** Dibrugarh & Tezpur-50 each, Guwahati-200; **Tripura:** Kailashahar & Agartala-200 each; **Coastal Andhra Pradesh:** Vijayawada, Machilipatnam & Ongole-200 each; **South Interior Karnataka:** Bangalore-50; **Tamil Nadu:** Chennai-200.
- ❖ **Visibility recorded (at 0830 hours IST of today) (≤200 metres):** **Delhi:** Palam & Safdarjung-00 each, Ridge, Ayanagar- 25 each; **Jammu division:** Jammu-25; **Punjab:** Patiala- 25, Amritsar, Ludhiana-50 each; **Haryana-Chandigarh:** Ambala, Chandigarh-25 each, Hissar- 50; **West Uttar Pradesh:** Meerut, Bareilly-50 each; **East Uttar Pradesh:** Lucknow & Gorakhpur -25 each, Sultanpur -200; **Bihar:** Purnea-25, Sabaur & Bhagalpur-200 each, Patna- 500; **West Bengal:** Jalpaiguri-25; **Assam:** Dhubri & Guwahati -50 each, Tezpur, Dibrugarh/Mohanbari -200; **Tripura:** Agartala-200; **Coastal Andhra Pradesh:** Tirupathi, Bapatla Machilipatnam -200 each.

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Chandigarh, Delhi and Uttar Pradesh during 14th-16th January and over Bihar on 14th & 15th January, 2024.

- ❖ **Transport and Aviation:**

- ❖ May affect some airports, highways and railway routes in the areas of met- sub-division.
- ❖ Difficult driving conditions with slower journey times.
- ❖ Unless taken precautionary measures, it may lead to some road traffic collisions.

- ❖ **Power Sector:**

- ❖ Chances of Tripping of Power lines in the very dense fog routes.

- ❖ **Human Health:**

- ❖ Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
- ❖ Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
- ❖ Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

Action suggested:

❖ Transport and Aviation:

- ❖ Be careful while driving or outing through any transport.
- ❖ Use fog lights during driving.
- ❖ Be in touch with airlines, railways and state transport for schedule of your journey.

❖ Power Sector:

- ❖ To keep ready Maintenance Team
- ❖ Human Health: To avoid outing until unless emergency and to cover the face.

Impact expected due to Cold Day/Severe Cold Day conditions and Cold Wave/Severe Cold Wave conditions over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh during 14th-16th January, 2024.

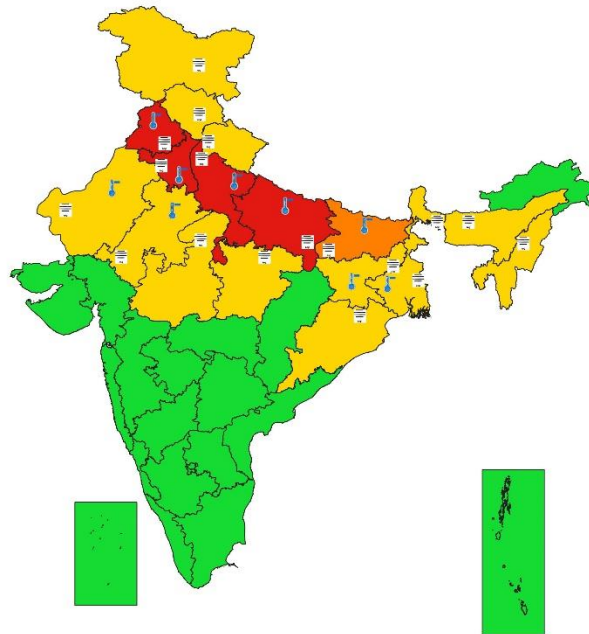
- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged exposure to cold. The skin turns pale, hard and numb and eventually black blisters appear on exposed body parts such as fingers, toes, nose and earlobes. Severe frostbite needs immediate medical attention and treatment.
- ❖ Impact on agriculture, crop, livestock, water supply, transport and power sector at some places.

Action suggested:

- ❖ Wear several layers of loose fitting, light weight; warm woolen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woolen clothing rather than one layer of heavy cloth.
- ❖ Eat vitamin-C rich fruits & vegetable and drink sufficient fluids preferably warm fluids to maintain adequate immunity.
- ❖ Avoid or limit outdoor activities.
- ❖ Keep dry, if wet, change cloths immediately to prevent loss of body heat. Wear insulated/waterproof shoes.
- ❖ Warm the affected area of the body slowly with lukewarm water; do not rub the skin vigorously.
- ❖ If the affected skin area turns black, immediately consult a doctor.
- ❖ Maintain ventilation while using Heaters to avoid inhaling toxic fumes.
- ❖ Take safety measures while using electrical and gas heating devices.
- ❖ Extreme care needed for vulnerable people.
- ❖ Seek medical attention as soon as possible for someone suffering from frostbite/Hypothermia.
- ❖ Protect livestock from cold weather.



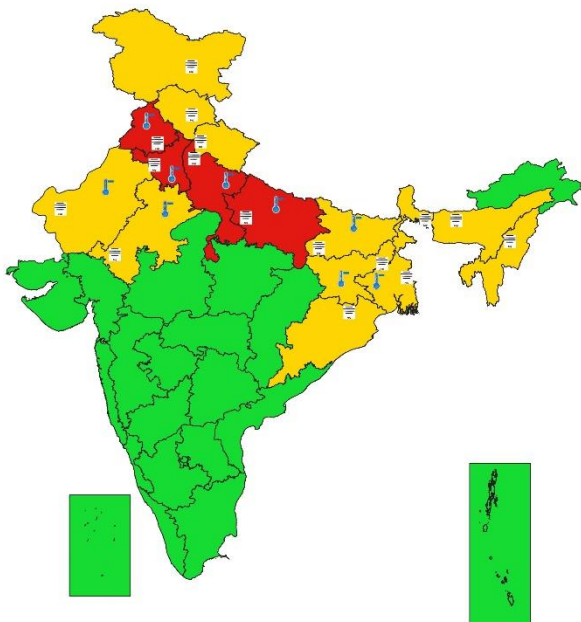
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
14-01-2024



- | | | |
|-----------------------------|-------------------------|--------------------------|
| 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) |



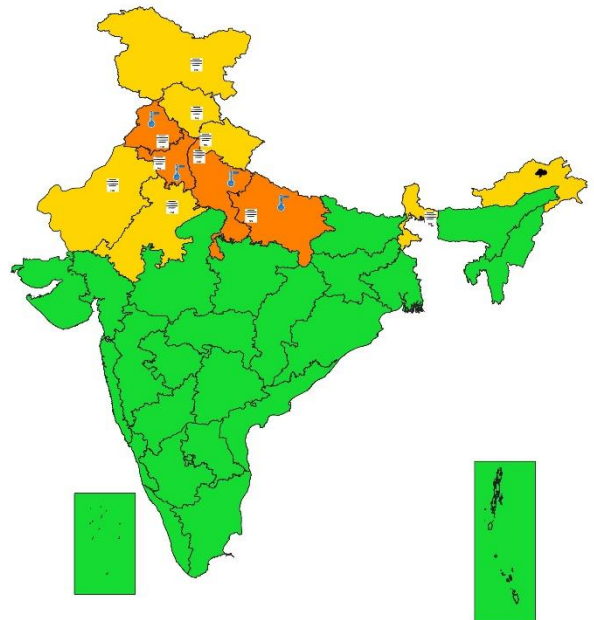
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
15-01-2024



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|-----------------------------|-------------------------|--------------------------|
| 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) |



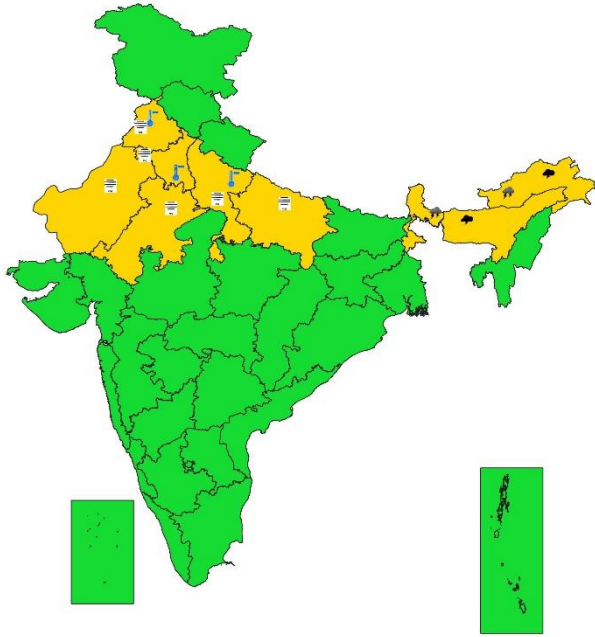
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
16-01-2024



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|-----------------------------|-------------------------|--------------------------|
| 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) |



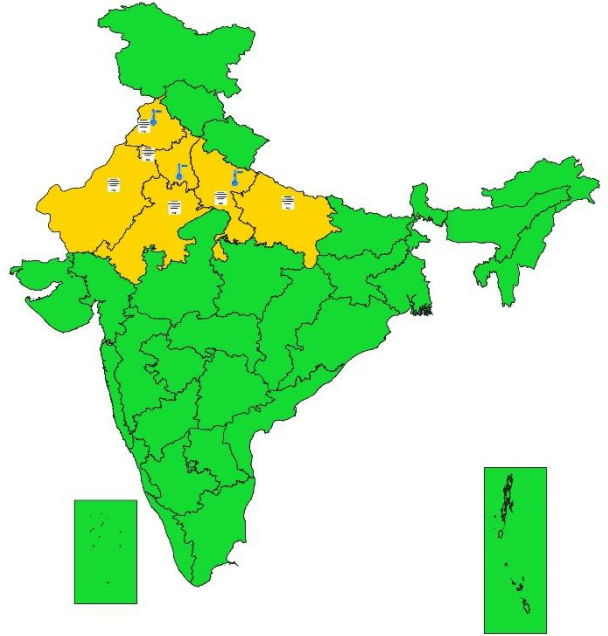
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
17-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |



SUBDIVISIONWISE WEATHER WARNING FOR DAY-5
18-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |

Legends:

- ❖ **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation
- ❖ **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

Flash Flood Risk	
	High Risk (Take Action)
	Moderate Risk (Be Prepared)
	Low Risk (Be Updated)

Definition of Cold wave, Cold Day and Fog Conditions:

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 $\leq -6.5^{\circ}\text{C}$.

(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 $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$

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 $\leq -6.5^{\circ}\text{C}$

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