

Weather Data Analysis Insights

Dataset Overview:

- **Total Entries:** 8,784
- **Columns:** Date/Time, Temp_C, Dew Point Temp_C, Rel Hum_%, Wind Speed_km/h, Visibility_km, Press_kPa, Weather Condition.
- **Unique Values:**
 - Temperature: 533
 - Weather Conditions: 50
 - Relative Humidity Levels: 83
 - Visibility Levels: 24
 - Wind Speeds: 34
 - Pressure Levels: 518

Key Statistics:

- **Mean Visibility:** 27.66 km
- **Standard Deviation of Pressure:** 0.844 kPa
- **Variance of Relative Humidity:** 286.25

Weather Conditions:

- Most common conditions:
 - Mainly Clear: 2,106 times
 - Mostly Cloudy: 2,069 times
 - Cloudy: 1,728 times
- Instances of clear weather: 1,326.
- Snow-related conditions recorded: 583 times (including combinations like Snow, Snow Showers, and Snow Fog).

Wind Speed:

- **Unique Wind Speed Values:** 34 (ranges from 0 to 83 km/h).
- Wind speed exactly at 4 km/h: 474 times.

Visibility Analysis:

- Maximum visibility recorded: 48.3 km.
- Instances with visibility above 40 km: 3,027.

Additional Insights:

1. **Temperature:**

- Maximum Temperature: 33.0°C under "Mainly Clear" conditions.
- Minimum Temperature: -23.3°C during "Cloudy" conditions.

2. Pressure:

- Highest Pressure: 103.65 kPa recorded under "Cloudy" and "Mostly Cloudy" conditions.
- Lowest Pressure: 97.52 kPa during "Rain" conditions.

Special Weather Observations:

- Fog occurred 150 times.
- Instances with “Weather is Clear” and “Relative Humidity > 50” or “Visibility > 40”: 2,921 records.
- Snow with visibility less than 10 km: Frequent during harsh winter conditions.