```
In [1]:
```

```
import pandas as pd
import numpy as np
```

In [104]:

```
df=pd.read_csv("C:/Users/DELL/Desktop/1. Weather Data.csv",parse_dates=["Date/Time"])
df.head()
```

Out[104]:

Weather	Press_kPa	Visibility_km	Wind Speed_km/h	Rel Hum_%	Dew Point Temp_C	Temp_C	Date/Time	
Fog	101.24	8.0	4	86	-3.9	-1.8	2012-01-01 00:00:00	0
Fog	101.24	8.0	4	87	-3.7	-1.8	2012-01-01 01:00:00	1
Freezing Drizzle,Fog	101.26	4.0	7	89	-3.4	-1.8	2012-01-01 02:00:00	2
Freezing Drizzle,Fog	101.27	4.0	6	88	-3.2	-1.5	2012-01-01 03:00:00	3
Fog	101.23	4.8	7	88	-3.3	-1.5	2012-01-01 04:00:00	4

In [17]:

df.info()

Date/Time 8784 non-null datetime64[ns] 1 Temp_C 8784 non-null float64 Dew Point Temp_C 8784 non-null float64 Rel Hum % 8784 non-null int64 Wind Speed km/h 8784 non-null int64 Visibility_km 5 8784 non-null float64 6 Press_kPa 8784 non-null float64 8784 non-null Weather object

dtypes: datetime64[ns](1), float64(4), int64(2), object(1)

memory usage: 549.1+ KB

In [18]:

df.describe()

Out[18]:

	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
count	8784.000000	8784.000000	8784.000000	8784.000000	8784.000000	8784.000000
mean	8.798144	2.555294	67.431694	14.945469	27.664447	101.051623
std	11.687883	10.883072	16.918881	8.688696	12.622688	0.844005
min	-23.300000	-28.500000	18.000000	0.000000	0.200000	97.520000
25%	0.100000	-5.900000	56.000000	9.000000	24.100000	100.560000
50%	9.300000	3.300000	68.000000	13.000000	25.000000	101.070000
75%	18.800000	11.800000	81.000000	20.000000	25.000000	101.590000
max	33.000000	24.400000	100.000000	83.000000	48.300000	103.650000

In [19]:

df.shape

Out[19]:

(8784, 8)

In [20]:

df.columns

Out[20]:

```
In [21]:
df.index
Out[21]:
RangeIndex(start=0, stop=8784, step=1)
In [22]:
df.dtypes
Out[22]:
Date/Time
                                  datetime64[ns]
                                              float64
Temp C
Dew Point Temp_C
                                              float64
Rel Hum_%
                                                  int64
Wind Speed_km/h
                                                  int64
Visibility_km
                                              float64
Press_kPa
                                              float64
Weather
                                                object
dtype: object
In [24]:
df["Weather"].unique()
Out[24]:
array(['Fog', 'Freezing Drizzle,Fog', 'Mostly Cloudy', 'Cloudy', 'Rain', 'Rain Showers', 'Mainly Clear', 'Snow Showers', 'Snow', 'Clear',
            'Rain Showers', 'Mainly Clear', 'Snow Snowers', 'Snow , Clear', 'Freezing Rain,Fog', 'Freezing Rain', 'Freezing Drizzle', 'Rain,Snow', 'Moderate Snow', 'Freezing Drizzle,Snow', 'Freezing Rain,Snow Grains', 'Snow,Blowing Snow', 'Freezing Fog', 'Haze', 'Rain,Fog', 'Drizzle,Fog', 'Drizzle', 'Freezing Drizzle,Haze', 'Freezing Rain,Haze', 'Snow,Haze', 'Snow,Fog', 'Snow,Ice Pellets', 'Rain,Haze', 'Thunderstorms,Rain', 'Thunderstorms,Rain Showers', 'Thunderstorms, Pain Showers', 'Thunderstorms'
            'Thunderstorms, Rain Showers, Fog', 'Thunderstorms',
            'Thunderstorms,Rain,Fog',
            'Thunderstorms, Moderate Rain Showers, Fog', 'Rain Showers, Fog', 'Rain Showers, Snow Showers', 'Snow Pellets', 'Rain, Snow, Fog',
            'Moderate Rain, Fog', 'Freezing Rain, Ice Pellets, Fog',
            'Drizzle, Tce Pellets, Fog', 'Drizzle, Snow', 'Rain, Tce Pellets', 'Drizzle, Snow, Fog', 'Rain, Snow Grains', 'Rain, Snow, Ice Pellets', 'Snow Showers, Fog', 'Moderate Snow, Blowing Snow'], dtype=object)
In [25]:
df.nunique()
Out[25]:
Date/Time
                                   8784
Temp_C
                                    533
Dew Point Temp_C
                                    489
Rel Hum_%
                                      83
Wind Speed_km/h
                                      34
Visibility_km
                                      24
                                    518
Press_kPa
Weather
                                      50
dtype: int64
In [26]:
df.count()
Out[26]:
Date/Time
                                  8784
                                  8784
Temp_C
Dew Point Temp_C
                                  8784
Rel Hum_%
                                  8784
Wind Speed km/h
                                  8784
Visibility_km
                                  8784
Press_kPa
                                  8784
Weather
                                  8784
```

dtype: int64

In [31]:

```
df["Weather"].value_counts()
Out[31]:
Mainly Clear
                                             2106
Mostly Cloudy
                                             2069
                                             1728
Cloudy
Clear
                                             1326
Snow
                                              390
Rain
                                              306
Rain Showers
Fog
                                              150
Rain,Fog
                                              116
Drizzle,Fog
                                               80
Snow Showers
                                               60
Drizzle
                                               41
Snow, Fog
                                               37
Snow, Blowing Snow
                                               19
Rain, Snow
                                               18
Thunderstorms, Rain Showers
                                               16
Haze
                                               16
Drizzle,Snow,Fog
                                               15
Freezing Rain
                                               14
Freezing Drizzle, Snow
Freezing Drizzle
Snow, Ice Pellets
                                                6
Freezing Drizzle,Fog
                                                6
Snow, Haze
Freezing Fog
Snow Showers, Fog
Moderate Snow
Rain, Snow, Ice Pellets
Freezing Rain, Fog
Freezing Drizzle, Haze
Rain, Haze
Thunderstorms, Rain
Thunderstorms, Rain Showers, Fog
Freezing Rain, Haze
Drizzle,Snow
Rain Showers, Snow Showers
Thunderstorms
Moderate Snow, Blowing Snow
Rain Showers, Fog
Thunderstorms, Moderate Rain Showers, Fog
Snow Pellets
Rain, Snow, Fog
Moderate Rain, Fog
Freezing Rain, Ice Pellets, Fog
Drizzle,Ice Pellets,Fog
Thunderstorms, Rain, Fog
Rain, Ice Pellets
Rain, Snow Grains
Thunderstorms, Heavy Rain Showers
                                                1
Freezing Rain, Snow Grains
Name: Weather, dtype: int64
```

In [32]:

#findthe unique values of windspeed df.head(2)

Out[32]:

Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
0 2012-01-01 00:00:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1 2012-01-01 01:00:00	-1.8	-3.7	87	4	8.0	101.24	Fog

In [35]:

```
df["Wind Speed_km/h"].unique()
```

Out[35]:

```
array([ 4, 7, 6, 9, 15, 13, 20, 22, 19, 24, 30, 35, 39, 32, 33, 26, 44, 43, 48, 37, 28, 17, 11, 0, 83, 70, 57, 46, 41, 52, 50, 63, 54, 2],
           dtype=int64)
```

In [36]:

```
# to count the unique values
df["Wind Speed_km/h"].nunique()
```

Out[36]:

34

In [63]:

```
#find the number of times when the "weather is exactly clear"
df["Weather"][df["Weather"]=="Clear"].count()
```

Out[63]:

1326

In [64]:

```
df["Weather"].value_counts()
```

Out[64]:

Mainly Clear	2106
Mostly Cloudy	2069
Cloudy	1728
Clear	1326
Snow	390
Rain	306
Rain Showers	188
Fog	150
Rain,Fog	116
Drizzle,Fog	80
Snow Showers	60
Drizzle	41
Snow, Fog	37
Snow, Blowing Snow	19
Rain, Snow	18
Thunderstorms, Rain Showers	16
•	16
Haze	15
Drizzle, Snow, Fog	
Freezing Rain	14
Freezing Drizzle, Snow	11
Freezing Drizzle	7
Snow, Ice Pellets	6
Freezing Drizzle,Fog	6
Snow, Haze	5
Freezing Fog	4
Snow Showers, Fog	4
Moderate Snow	4
Rain, Snow, Ice Pellets	4
Freezing Rain, Fog	4
Freezing Drizzle, Haze	3
Rain, Haze	3
Thunderstorms, Rain	3
Thunderstorms, Rain Showers, Fog	3
Freezing Rain, Haze	2
Drizzle, Snow	2
Rain Showers, Snow Showers	2
Thunderstorms	2
Moderate Snow, Blowing Snow	2
Rain Showers, Fog	1
Thunderstorms, Moderate Rain Showers, Fog	1
Snow Pellets	1
Rain, Snow, Fog	1
Moderate Rain, Fog	1
Freezing Rain, Ice Pellets, Fog	1
Drizzle,Ice Pellets,Fog	1
Thunderstorms, Rain, Fog	1
Rain, Ice Pellets	1
Rain, Snow Grains	1
Thunderstorms, Heavy Rain Showers	1
Freezing Rain, Snow Grains	1
Name: Weather, dtype: int64	

```
In [78]:
```

```
df.groupby("Weather").get_group("Clear").count()
Out[78]:
Date/Time
                    1326
                    1326
Temp_C
Dew Point Temp_C
                    1326
Rel Hum_%
                    1326
Wind Speed_km/h
                    1326
Visibility_km
                    1326
                    1326
Press kPa
Weather
                    1326
dtype: int64
In [79]:
#Number of times the windspeed was extractly 4 kmph
df.head(2)
```

Out[79]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
0	2012-01-01 00:00:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	2012-01-01 01:00:00	-1.8	-3.7	87	4	8.0	101.24	Fog

In [87]:

```
df["Wind Speed_km/h"][df["Wind Speed_km/h"]==4].count()
```

Out[87]:

474

In [88]:

```
#Null values
df.isnull().sum()
```

Out[88]:

Date/Time 0
Temp_C 0
Dew Point Temp_C 0
Rel Hum_% 0
Wind Speed_km/h 0
Visibility_km 0
Press_kPa 0
Weather 0
dtype: int64

In [89]:

```
df.notnull().sum()
```

Out[89]:

8784 Date/Time Temp_C 8784 Dew Point Temp_C 8784 Rel Hum_% 8784 Wind Speed_km/h 8784 Visibility_km 8784 Press_kPa 8784 Weather 8784 dtype: int64

```
In [92]:
```

```
#To rename Weather column name to "Weather Condition"
new_df=df.rename(columns={"Weather":"Weather Condition"})
new_df
```

Out[92]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather Condition
0	2012-01-01 00:00:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	2012-01-01 01:00:00	-1.8	-3.7	87	4	8.0	101.24	Fog
2	2012-01-01 02:00:00	-1.8	-3.4	89	7	4.0	101.26	Freezing Drizzle,Fog
3	2012-01-01 03:00:00	-1.5	-3.2	88	6	4.0	101.27	Freezing Drizzle,Fog
4	2012-01-01 04:00:00	-1.5	-3.3	88	7	4.8	101.23	Fog
8779	2012-12-31 19:00:00	0.1	-2.7	81	30	9.7	100.13	Snow
8780	2012-12-31 20:00:00	0.2	-2.4	83	24	9.7	100.03	Snow
8781	2012-12-31 21:00:00	-0.5	-1.5	93	28	4.8	99.95	Snow
8782	2012-12-31 22:00:00	-0.2	-1.8	89	28	9.7	99.91	Snow
8783	2012-12-31 23:00:00	0.0	-2.1	86	30	11.3	99.89	Snow

8784 rows × 8 columns

```
In [93]:
```

```
# what is mean for "Visibilty"
df["Visibility_km"].mean()
```

Out[93]:

27.664446721311478

In [94]:

```
#What is standard deviation of pressure?
df["Press_kPa"].std()
```

Out[94]:

0.8440047459486483

In [95]:

```
#What is Variance of relative humdity?
df["Rel Hum_%"].var()
```

Out[95]:

286.24855019850196

In [97]:

```
#Find the instance when snow is recorded?
df.head(2)
```

Out[97]:

Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather	
0 2012-01-01 00:00:00	-1.8	-3.9	86	4	8.0	101.24	Fog	
1 2012-01-01 01:00:00	-1.8	-3.7	87	4	8.0	101.24	Fog	

In [105]:

```
df["Weather"][df["Weather"]=="Snow"].count()
```

Out[105]:

390

In [107]:

```
df["Weather"][df["Weather"]=="Snow"].value_counts()
```

Out[107]:

5now 390

Name: Weather, dtype: int64

In [110]:

```
# when snow word is present
df[df["Weather"].str.contains("Snow")]
```

Out[110]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
41	2012-01-02 17:00:00	-2.1	-9.5	57	22	25.0	99.66	Snow Showers
44	2012-01-02 20:00:00	-5.6	-13.4	54	24	25.0	100.07	Snow Showers
45	2012-01-02 21:00:00	-5.8	-12.8	58	26	25.0	100.15	Snow Showers
47	2012-01-02 23:00:00	-7.4	-14.1	59	17	19.3	100.27	Snow Showers
48	2012-01-03 00:00:00	-9.0	-16.0	57	28	25.0	100.35	Snow Showers
8779	2012-12-31 19:00:00	0.1	-2.7	81	30	9.7	100.13	Snow
8780	2012-12-31 20:00:00	0.2	-2.4	83	24	9.7	100.03	Snow
8781	2012-12-31 21:00:00	-0.5	-1.5	93	28	4.8	99.95	Snow
8782	2012-12-31 22:00:00	-0.2	-1.8	89	28	9.7	99.91	Snow
8783	2012-12-31 23:00:00	0.0	-2.1	86	30	11.3	99.89	Snow

583 rows × 8 columns

In [121]:

```
#Find instance where windspeed is above 24 and visiblity is 25
df[(df["Wind Speed_km/h"]>=24) & (df["Visibility_km"]==25)].count()
```

Out[121]:

Date/Time 415 Temp_C 415 Dew Point Temp_C 415 Rel Hum_% Wind Speed_km/h 415 415 Visibility_km 415 Press_kPa 415 Weather 415 dtype: int64

In [122]:

```
df[(df["Wind Speed_km/h"]>=24) & (df["Visibility_km"]==25)]
```

Out[122]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
23	2012-01-01 23:00:00	5.3	2.0	79	30	25.0	99.31	Cloudy
24	2012-01-02 00:00:00	5.2	1.5	77	35	25.0	99.26	Rain Showers
25	2012-01-02 01:00:00	4.6	0.0	72	39	25.0	99.26	Cloudy
26	2012-01-02 02:00:00	3.9	-0.9	71	32	25.0	99.26	Mostly Cloudy
27	2012-01-02 03:00:00	3.7	-1.5	69	33	25.0	99.30	Mostly Cloudy
8754	2012-12-30 18:00:00	-12.6	-16.0	76	24	25.0	101.36	Mainly Clear
8755	2012-12-30 19:00:00	-13.4	-16.5	77	26	25.0	101.47	Mainly Clear
8756	2012-12-30 20:00:00	-13.8	-16.5	80	24	25.0	101.52	Clear
8759	2012-12-30 23:00:00	-12.1	-15.1	78	28	25.0	101.52	Mostly Cloudy
8760	2012-12-31 00:00:00	-11.1	-14.4	77	26	25.0	101.51	Cloudy

415 rows × 8 columns

In [123]:

#What is the mean value of each column against each weather condition.
df.groupby("Weather").mean()

C:\Users\DELL\AppData\Local\Temp\ipykernel_19220\3697248356.py:2: FutureWarning: The default value of numeric_only in DataFrameGroupBy.mean is deprecated. In a future version, numeric_only will default to False. Either specify numeric_only or select only columns which should be valid for the function.

df.groupby("Weather").mean()

Out[123]:

Cloudy 7.970544 2.376810 0.69397 0.69398 18.17215 0.623752 0.613048 0.643068 0.643078 0.643068 0.643078 0.643068 0.		Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
	Weather						
Drizzis	Clear	6.825716	0.089367	64.497738	10.557315	30.153243	101.587443
Drizzie, Fee 0.40500	Cloudy	7.970544	2.375810	69.592593	16.127315	26.625752	100.911441
Drizzie, Senow 1.650000	Drizzle	7.353659	5.504878	88.243902	16.097561	17.931707	100.435366
Drizzie,SnowFog 0.693333	Drizzle,Fog	8.067500	7.033750	93.275000	11.862500	5.257500	100.786625
Prizzita Prizzita	Drizzle,Ice Pellets,Fog	0.400000	-0.700000	92.000000	20.000000	4.000000	100.790000
Freezing Drizzis	Drizzle,Snow	1.050000	0.150000	93.500000	14.000000	10.500000	100.890000
Prezing Drizzie 5.657143	Drizzle,Snow,Fog	0.693333	0.120000	95.866667	15.533333	5.513333	99.281333
Preezing Drizzle, Pog 2.53333	Fog	4.303333	3.159333	92.286667	7.946667	6.248000	101.184067
Preezing Drizzle,Naze 5.433333 8.000000 10.333333 2.666667 100.316667	Freezing Drizzle	-5.657143	-8.000000	83.571429	16.571429	9.200000	100.202857
Freezing Drizzle, Snow -5,19091 -7,072727 86,09090 16,272772 5,872727 100,520909 16,272772 5,872727 100,520909 16,272772 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 16,272702 100,520909 100,575000	Freezing Drizzle,Fog	-2.533333	-4.183333	88.500000	17.000000	5.266667	100.441667
Freezing Fog 7.575000	Freezing Drizzle,Haze	-5.433333	-8.000000	82.000000	10.333333	2.666667	100.316667
Freezing Rain, Fog 2,225000 -3,750000 8,500000 15,500000 7,550000 99,945000 7,5500000 7,5500	Freezing Drizzle,Snow	-5.109091	-7.072727	86.090909	16.272727	5.872727	100.520909
Freezing Rain, Fog 2.225000 -3.750000 89.500000 7.550000 7.550000 99.945000	Freezing Fog	-7.575000	-9.250000	87.750000	4.750000	0.650000	102.320000
Freezing Rain, Haze 4,90000	Freezing Rain	-3.885714	-6.078571	84.642857	19.214286	8.242857	99.647143
Freezing Rain, Joe Pellets, Fog 2.600000 -3.700000 28.000000 32.000000 4.800000 98.500000 10.0 9500000 10.0 9	Freezing Rain,Fog	-2.225000	-3.750000	89.500000	15.500000	7.550000	99.945000
Preezing Rain, Snow Grains	Freezing Rain,Haze	-4.900000	-7.450000	82.500000	7.500000	2.400000	100.375000
Haze -0.200000 -2.975000 81.825000 10.437500 7.831250 101.482500 Mainly Clear 12.558927 4.581671 60.667142 11.4144824 34.264862 201.248322 Moderate Rain, Fog 1.700000 0.800000 94.000000 17.000000 6.400000 99.90000 Moderate Snow, Blowing Snow -5.525000 -7.250000 87.750000 33.75000 0.750000 00.075000 Moderate Snow, Blowing Snow -5.545000 -6.500000 82.50000 40.000000 31.253842 101.052588 Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.05288 Rain Showers 13.722340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain, Showers, Snow Showers 12.800000 12.100000 96.00000 13.00000 6.400000 99.30000 Rain, Fall, Fall 2.150000 -1.500000 76.500000 22.500000 21.700000 10.100000 Rain, Showers, Fog 1.055556 -0.56667	Freezing Rain,Ice Pellets,Fog	-2.600000	-3.700000	92.000000	28.000000	8.000000	100.950000
Mainly Clear 12.558927 4.881671 60.667142 14.144824 34.264862 101.248832 Moderate Rain,Fog 1.700000 0.800000 94.000000 17.000000 6.40000 99.980000 Moderate Snow,Blowing Snow -5.525000 -7.250000 92.500000 40.000000 0.00000 100.750000 Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.02268 Rain 9.786275 7.042810 83.624183 19.254900 18.856535 100.233333 Rain Showers 13.722340 9.187766 75.159574 17.132879 22.816489 100.404043 Rain Showers,Fog 12.80000 12.10000 96.00000 13.00000 6.40000 99.80000 Rain,Fog 8.273276 7.219828 93.186655 14.793103 6.873276 100.50000 Rain,Lee Pellets 0.600000 -9.000000 22.00000 24.00000 9.70000 100.50000 Rain,Snow,Ice Pellets 1.100000 -0.175000 96.00000 9.00000	Freezing Rain, Snow Grains	-5.000000	-7.300000	84.000000	32.000000	4.800000	98.560000
Moderate Rain,Fog 1.700000 0.800000 94.000000 17.000000 6.400000 99.980000 Moderate Snow -5.525000 -7.250000 87.750000 33.750000 0.750000 100.275000 Moderate Snow,Blowing Snow -5.450000 -6.500000 92.500000 40.000000 0.60000 100.750000 Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.0252833 Rain Showers 13.722340 9.187766 75.159674 17.132979 22.816438 100.40403 Rain Showers, Sport 13.722340 9.187766 75.159674 17.132979 22.816438 100.40403 Rain Showers, Sport 2.150000 1.500000 76.500000 22.500000 21.00000 6.400000 99.00000 Rain, Fog 8.273276 7.219828 93.189655 14.793103 6.873276 100.50062 Rain, For Pellets 0.600000 -0.600000 92.000000 24.000000 97.00000 11.672222 99.951111 Rain, Snow, Fog 0.800000	Haze	-0.200000	-2.975000	81.625000	10.437500	7.831250	101.482500
Moderate Snow -5.525000 -7.250000 87.750000 33.750000 0.750000 100.275000 Moderate Snow,Blowing Snow -5.450000 -6.500000 92.500000 40.000000 0.600000 100.570000 Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.025288 Rain Showers 13.72340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain Showers,Fog 12.800000 12.100000 96.000000 13.000000 64.00000 99.30000 Rain Showers,Show Showers 2.150000 -1.500000 76.00000 22.500000 22.100000 22.00000 22.00000 22.00000 20.00000 22.00000 21.00000 100.500000 Rain,Fog 8.273276 7.219828 93.333333 11.666667 6.700000 100.50000 Rain,Isowers,Fog 1.055556 -0.566667 89.00000 24.00000 9.70000 100.10000 Rain,Snow,Lee Pellets 1.100000 -0.175000 95.00000 23.00000 24.00000	Mainly Clear	12.558927	4.581671	60.667142	14.144824	34.264862	101.248832
Moderate Snow,Blowing Snow -5.450000 -6.500000 92.500000 40.000000 0.600000 100.570000 Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.025288 Rain 9.786275 7.042810 83.624183 19.254902 18.866536 100.233333 Rain Showers, Fog 12.800000 12.100000 96.00000 13.000000 6.40000 99.830000 Rain Showers, Snow Showers 2.150000 -1.500000 76.50000 22.500000 21.70000 101.10000 Rain, Snow Showers 2.150000 -1.500000 76.500000 22.500000 21.700000 100.500062 Rain, Snow Showers 2.150000 -0.500000 93.839655 14.793103 6.873276 100.500062 Rain, Snow Showers 1.05556 -0.566667 83.033333 11.666667 6.700000 100.50000 Rain, Snow, Fog 0.800000 -2.100000 75.00000 26.000000 25.00000 100.50000 Rain, Snow, Joe Pellets 1.100000 -0.175000 <	Moderate Rain,Fog	1.700000	0.800000	94.000000	17.000000	6.400000	99.980000
Mostly Cloudy 10.574287 3.131174 62.102465 15.813920 31.253842 101.025288 Rain 9.786275 7.042810 83.624183 19.254902 18.856536 100.233333 Rain Showers 13.722340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain Showers, Snow Showers 2.150000 -1.500000 76.500000 22.500000 21.700000 76.500000 22.500000 21.700000 101.00000 Rain, Flog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500082 Rain, Lee Pellets 0.600000 -0.600000 92.000000 24.00000 9.700000 100.120000 Rain, Snow Grains 1.900000 -0.566667 89.000000 28.388889 11.672222 99.951111 Rain, Snow, Jee Pellets 1.100000 -0.175000 95.00000 23.250000 6.00000 100.73000 Rain, Snow, Fog 0.800000 -0.30000 95.00000 35.00000 20.003462 11.171795 100.536103 S	Moderate Snow	-5.525000	-7.250000	87.750000	33.750000	0.750000	100.275000
Rain 9.786275 7.042810 83.624183 19.254902 18.856536 100.233333 Rain Showers 13.722340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain Showers, Fog 12.800000 12.100000 96.000000 13.00000 6.40000 99.83000 Rain Showers, Snow Showers 2.150000 -1.500000 76.500000 22.500000 21.700000 101.100000 Rain, Flog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500662 Rain, Flog 8.600000 -0.600000 92.000000 24.00000 9.700000 100.500662 Rain, Snow 1.056556 -0.566667 89.000000 28.38889 11.672222 99.91111 Rain, Snow, Fog 0.800000 -0.300000 75.00000 26.00000 25.00000 100.60000 Rain, Snow, Fog 0.800000 -0.300000 91.500000 23.250000 6.00000 100.730000 Rain, Snow, Fog -10.675000 -7.626053 97.00000 35.00000	Moderate Snow,Blowing Snow	-5.450000	-6.500000	92.500000	40.000000	0.600000	100.570000
Rain Showers 13.722340 9.187766 75.159574 17.132979 22.816489 100.404043 Rain Showers,Fog 12.800000 12.100000 96.00000 13.00000 6.40000 99.83000 Rain Showers,Snow Showers 2.150000 -1.500000 76.50000 22.500000 21.700000 101.10000 Rain,Fog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500862 Rain,Lice Pellets 0.600000 -0.600000 92.00000 24.00000 9.70000 100.12000 Rain,Snow Grains 1.900000 -2.100000 75.00000 28.388899 11.672222 99.91111 Rain,Snow,Fog 0.800000 -0.566667 89.00000 28.388899 11.672222 99.91111 Rain,Snow,Ice Pellets 1.100000 -0.566667 89.00000 9.00000 26.00000 25.00000 100.60000 Rain,Snow,Row -4.524103 -7.623333 79.307692 20.038462 11.171795 100.536103 Snow Pellets 0.700000 -7.866667 72.350	Mostly Cloudy	10.574287	3.131174	62.102465	15.813920	31.253842	101.025288
Rain Showers,Fog 12.800000 12.100000 96.00000 13.000000 6.40000 99.83000 Rain Showers,Snow Showers 2.150000 -1.500000 76.50000 22.500000 21.70000 101.100000 Rain,Fog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500862 Rain,Lace Pellets 0.600000 -0.600000 92.00000 24.000000 9.700000 100.50000 Rain,Snow Grains 1.90000 -2.100000 75.00000 28.388889 11.672222 99.951111 Rain,Snow,Fog 0.80000 0.300000 96.00000 26.00000 25.00000 100.60000 Rain,Snow,Ice Pellets 1.10000 -0.175000 91.50000 23.25000 6.00000 100.73000 Rain,Snow,Bowers -3.506667 -7.623333 79.307692 20.038462 11.171795 100.536103 Snow Pellets 0.70000 -6.400000 59.00000 35.00000 2.400000 99.70000 Snow Pellets 0.706576 -6.364665 90.875676 17.324324	Rain	9.786275	7.042810	83.624183	19.254902	18.856536	100.233333
Rain Showers,Snow Showers 2.150000 -1.500000 76.500000 22.500000 21.700000 101.100000 Rain,Fog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500862 Rain,Haze 4.633333 2.066667 83.333333 11.666667 6.700000 100.50000 Rain,Snow Pellets 0.600000 -0.566667 89.00000 24.00000 9.700000 100.120000 Rain,Snow Grains 1.900000 -2.100000 75.00000 26.00000 25.00000 100.60000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.00000 100.73000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.00000 100.73000 Snow Pellets 0.700000 -6.400000 59.00000 35.00000 2.40000 99.70000 Snow Showers,Fog -10.675000 -11.90000 90.750000 13.75000 7.02500 101.29250 Snow,Fog -5.075676 -6.364865 90.875676 17.324	Rain Showers	13.722340	9.187766	75.159574	17.132979	22.816489	100.404043
Rain,Fog 8.273276 7.219828 93.189655 14.793103 6.873276 100.500862 Rain,Haze 4.633333 2.066667 83.333333 11.666667 6.700000 100.540000 Rain,Loe Pellets 0.600000 -0.600000 92.000000 24.000000 9.700000 100.120000 Rain,Snow Grains 1.900000 -2.100000 75.000000 26.000000 25.000000 100.730000 Rain,Snow,Loe Pellets 1.100000 -0.175000 91.500000 23.250000 6.00000 100.730000 Rain,Snow,Loe Pellets 1.100000 -0.175000 91.500000 23.250000 6.00000 100.730000 Snow Pellets 0.70000 -6.400000 59.00000 35.00000 20.038462 11.171795 100.536103 Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.15833 100.963500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.0704737 Snow,Lee Pellets -1.883333 -3.666667 <	Rain Showers,Fog	12.800000	12.100000	96.000000	13.000000	6.400000	99.830000
Rain,Haze 4.633333 2.066667 83.333333 11.666667 6.70000 100.54000 Rain,Ice Pellets 0.600000 -0.600000 92.000000 24.000000 9.700000 100.120000 Rain,Snow 1.055556 -0.566667 89.000000 28.388889 11.672222 99.951111 Rain,Snow,Grains 1.900000 -2.100000 75.000000 26.000000 25.000000 100.600000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.000000 100.730000 Snow Pellets 1.100000 -0.175000 91.500000 23.250000 6.000000 100.5010 Snow Pellets 0.700000 -6.400000 59.00000 35.000000 24.00000 99.700000 Snow Showers,Fog -10.675000 -11.900000 90.750000 13.750000 70.25000 101.292500 Snow,Bowing Snow -5.410526 -7.621053 84.473684 34.842105 4.537838 100.688649 Snow,Haze -4.020000 -6.860000 80.600000 5.00000<	Rain Showers, Snow Showers	2.150000	-1.500000	76.500000	22.500000	21.700000	101.100000
Rain,Ice Pellets 0.600000 -0.600000 92.000000 24.000000 9.700000 100.120000 Rain,Snow 1.055556 -0.566667 89.000000 28.388889 11.672222 99.951111 Rain,Snow,Grains 1.900000 -2.100000 75.000000 26.000000 25.00000 100.600000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.25000 6.00000 100.730000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.25000 6.00000 100.105000 Snow Pellets 0.700000 -6.400000 59.00000 35.00000 2.40000 99.70000 Snow Showers,Fog -10.675000 -11.90000 90.750000 13.750000 70.25000 10.292500 Snow,Bowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Hoze -4.02000 -6.860000 80.60000 5.00000 4.64000 100.68849 Snow,Lee Pellets -1.883333 -3.666667 87.666667 23.	Rain,Fog	8.273276	7.219828	93.189655	14.793103	6.873276	100.500862
Rain,Snow 1.055556 -0.566667 89.000000 28.388889 11.672222 99.951111 Rain,Snow Grains 1.900000 -2.100000 75.000000 26.000000 25.000000 100.600000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.000000 100.105000 Snow Pellets 0.700000 -0.175000 91.500000 23.250000 6.000000 100.105000 Snow Pellets 0.700000 -6.400000 59.00000 35.00000 2.40000 99.700000 Snow Showers,Fog -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Haze -4.020000 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.00000	Rain,Haze	4.633333	2.066667	83.333333	11.666667	6.700000	100.540000
Rain,Snow Grains 1.900000 -2.100000 75.000000 26.000000 25.000000 100.600000 Rain,Snow,Fog 0.800000 0.300000 96.000000 9.000000 6.400000 100.730000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.000000 100.105000 Snow Pellets 0.700000 -6.400000 59.000000 35.00000 2.40000 99.70000 Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.54833 Thunderstorms,Heavy Rain Showers 10.90000 9.00000 80.00000 9.00000 24.550000 100.230000 Thunderstorms,Moderate Rain Showers,Fog 19.60000 18.503333	Rain,Ice Pellets	0.600000	-0.600000	92.000000	24.000000	9.700000	100.120000
Rain,Snow,Fog 0.800000 0.300000 96.000000 9.000000 6.40000 100.730000 Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.00000 100.105000 Snow -4.524103 -7.623333 79.307692 20.038462 11.171795 100.536103 Snow Pellets 0.700000 -6.400000 59.00000 35.00000 2.400000 99.70000 Snow Showers,Fog -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Haze -4.020000 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.584333 Thunderstorms,Heavy Rain Showers 10.90000 9.00000 88.00000 9.00000 2.40000 100.230000 Thunderstorms,Moderate Rain Showers,Fog 20.433333 18.533333 <t< th=""><th>Rain,Snow</th><th>1.055556</th><th>-0.566667</th><th>89.000000</th><th>28.388889</th><th>11.672222</th><th>99.951111</th></t<>	Rain,Snow	1.055556	-0.566667	89.000000	28.388889	11.672222	99.951111
Rain,Snow,Ice Pellets 1.100000 -0.175000 91.500000 23.250000 6.000000 100.105000 Snow -4.524103 -7.623333 79.307692 20.038462 11.171795 100.536103 Snow Pellets 0.700000 -6.400000 59.000000 35.000000 2.400000 99.700000 Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow Showers,Fog -10.675000 -11.90000 90.750000 13.750000 7.025000 101.292500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Haze -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 24.550000 100.230000 Thunderstorms,Rain Showers,Fog 19.600000 18.500000	Rain,Snow Grains	1.900000	-2.100000	75.000000	26.000000	25.000000	100.600000
Snow -4.524103 -7.623333 79.307692 20.038462 11.171795 100.536103 Snow Pellets 0.700000 -6.400000 59.00000 35.00000 2.400000 99.70000 Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow Showers, Fog -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow, Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow, Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow, Ice Pellets -1.883333 -3.666667 87.666667 23.83333 7.416667 100.548333 Thunderstorms, Heavy Rain Showers 10.90000 19.750000 77.000000 7.500000 24.550000 100.260000 Thunderstorms, Moderate Rain Showers, Fog 19.600000 18.500000 93.000000 15.00000 3.200000 100.0233750 Thunderstorms, Rain Showers, Fog 20.037500	Rain,Snow,Fog	0.800000	0.300000	96.000000	9.000000	6.400000	100.730000
Snow Pellets 0.700000 -6.400000 59.000000 35.000000 2.400000 99.700000 Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow Showers,Fog -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Haze -4.020000 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,lce Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms,Rain Showers,Fog 19.600000 18.50000 93.000000 15.666667 19.833333 100.420000 Thunderstorms,Rain Showers 20.037500 17.618	Rain,Snow,Ice Pellets	1.100000	-0.175000	91.500000	23.250000	6.000000	100.105000
Snow Showers -3.506667 -7.866667 72.350000 19.233333 20.158333 100.963500 Snow Showers,Fog -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms,Heavy Rain Showers 10.90000 9.00000 88.000000 9.00000 24.00000 100.230000 Thunderstorms,Moderate Rain Showers,Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow	-4.524103	-7.623333	79.307692	20.038462	11.171795	100.536103
Snow Showers,Fog -10.675000 -11.900000 90.750000 13.750000 7.025000 101.292500 Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Ice Pellets -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.230000 Thunderstorms,Moderate Rain Showers,Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow Pellets	0.700000	-6.400000	59.000000	35.000000	2.400000	99.700000
Snow,Blowing Snow -5.410526 -7.621053 84.473684 34.842105 4.105263 99.704737 Snow,Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Haze -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms,Rain Showers,Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow Showers	-3.506667	-7.866667	72.350000	19.233333	20.158333	100.963500
Snow,Fog -5.075676 -6.364865 90.675676 17.324324 4.537838 100.688649 Snow,Haze -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.010000 Thunderstorms,Moderate Rain Showers,Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow Showers,Fog	-10.675000	-11.900000	90.750000	13.750000	7.025000	101.292500
Snow,Haze -4.020000 -6.860000 80.600000 5.000000 4.640000 100.782000 Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms,Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms,Moderate Rain Showers,Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms,Rain Showers 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow,Blowing Snow	-5.410526	-7.621053	84.473684	34.842105	4.105263	99.704737
Snow,Ice Pellets -1.883333 -3.666667 87.666667 23.833333 7.416667 100.548333 Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms, Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms, Moderate Rain Showers, Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms, Rain Showers 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms, Rain Showers, Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow,Fog	-5.075676	-6.364865	90.675676	17.324324	4.537838	100.688649
Thunderstorms 24.150000 19.750000 77.000000 7.500000 24.550000 100.230000 Thunderstorms, Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms, Moderate Rain Showers, Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms, Rain 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms, Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms, Rain Showers, Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow,Haze	-4.020000	-6.860000	80.600000	5.000000	4.640000	100.782000
Thunderstorms, Heavy Rain Showers 10.900000 9.000000 88.000000 9.000000 2.400000 100.260000 Thunderstorms, Moderate Rain Showers, Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms, Rain 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms, Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms, Rain Showers, Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Snow,Ice Pellets	-1.883333	-3.666667	87.666667	23.833333	7.416667	100.548333
Thunderstorms, Moderate Rain Showers, Fog 19.600000 18.500000 93.000000 15.000000 3.200000 100.010000 Thunderstorms, Rain Showers 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms, Rain Showers, Fog 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms, Rain Showers, Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Thunderstorms	24.150000	19.750000	77.000000	7.500000	24.550000	100.230000
Thunderstorms,Rain 20.433333 18.533333 89.000000 15.666667 19.833333 100.420000 Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Thunderstorms, Heavy Rain Showers	10.900000	9.000000	88.000000	9.000000	2.400000	100.260000
Thunderstorms,Rain Showers 20.037500 17.618750 86.375000 18.312500 15.893750 100.233750 Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Thunderstorms, Moderate Rain Showers, Fog	19.600000	18.500000	93.000000	15.000000	3.200000	100.010000
Thunderstorms,Rain Showers,Fog 21.600000 18.700000 84.000000 19.666667 9.700000 100.063333	Thunderstorms,Rain	20.433333	18.533333	89.000000	15.666667	19.833333	100.420000
	Thunderstorms, Rain Showers	20.037500	17.618750	86.375000	18.312500	15.893750	100.233750
Thunderstorms,Rain,Fog 20.600000 18.600000 88.000000 19.000000 4.800000 100.080000	Thunderstorms,Rain Showers,Fog	21.600000	18.700000	84.000000	19.666667	9.700000	100.063333
	Thunderstorms,Rain,Fog	20.600000	18.600000	88.000000	19.000000	4.800000	100.080000

In [124]:

#What is the max and min value of each column against each weather condition. df.groupby("Weather").max()

Out[124]:

Cloudy 2012-12-31 00-100 30 22 00 94 48.3 193 193 194		Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Cloudy 2012-12-31 30.5 22.6 99	Weather							
Drizzie, Forg. 2012-12-12-12-13-13-14-14-14-14-14-14-14-14-14-14-14-14-14-	Clear		32.8	20.4	99	33	48.3	103.63
Drizzle, Feg 2012-12-149 19.9 19.1 100 28 9.7 102. Drizzle, Feg 2012-12-147 0.4 -0.7 92 20 4.0 100. Drizzle, Snow 2011-13-149 12.2 0.2 95 19 11.3 101. Drizzle, Snow, Feg 2012-12-20 11.0 0.6 98 32 0.7 100. Feg 2012-12-20 11.1 0.6 98 32 0.7 100. Feg 2012-12-20 0.8 19.6 100 22 0.7 103. Freezing Drizzle, Feg 2012-12-17 2.3 -0.3 93 26 12.9 101. Freezing Drizzle, Feg 2012-12-17 2.3 -0.3 94 33 0.0 101. Freezing Drizzle, Haze 2012-02-01 -0.3 -0.3 -0.3 94 33 0.0 101. Freezing Drizzle, Snow 2012-12-20 0.3 -0.3 99 9 0.8 102. Freezing Pficzle, Snow 2012-12-20 0.3 -1.7 92 28 16.1 101. Freezing Rain, Feg 2012-03-17 0.1 0.3 99 9 0.8 102. Freezing Rain, Feg 2012-03-17 0.1 0.3 99 9 0.8 102. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-03-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-12-17 0.1 0.9 93 25 9.7 101. Freezing Rain, Feg 2012-12-17 0.1 0.9 93 32 48 9.0 100. Freezing Rain, Feg 2012-12-17 0.1 0.9 93 32 48 9.0 100. Freezing Rain, Feg 2012-12-17 0.1 0.9 93 32 48 9.0 100. Freezing Rain, Feg 2012-12-17 0.1 0.9 93 34 35 48 9.8 9.8 9.0 100. Freezing Rain, Feg 2012-12-10 1.1 1.1 0.6 17 0.7 10.0 100. Moderate Rain, Feg 2012-12-10 1.7 0.8 94 11 17 6.4 99. Moderate Snow 2012-12-27 0.9 0.9 0.3 48.3 103. Moderate Snow 2012-12-27 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9 0.9	Cloudy		30.5	22.6	99	54	48.3	103.65
Drizzie, Fog 10,000 10 10 10 28 37 102 102 102 103 104 100	Drizzle		18.8	17.7	96	30	25.0	101.56
Drizzie, Snow 09,0000 0.4 1.7 1.2 2.0 1.0 1.1 1.	Drizzle,Fog		19.9	19.1	100	28	9.7	102.07
Drizzie, Snow Feg 2012-12-22 1.1 0.6 98 32 9.7 100 1	Drizzle,Ice Pellets,Fog		0.4	-0.7	92	20	4.0	100.79
Freezing Drizzie, Annow, Program	Drizzle,Snow		1.2	0.2	95	19	11.3	101.15
Freezing Drizzle, Fog 00:00:00 0.8 19.6 100 22 9.7 10.5. Freezing Drizzle, Fog 00:00:00 2.2 3 -3.3 93 26 12.9 101. Freezing Drizzle, Fog 00:00:00 0.3 -2.3 94 33 8.0 101. Freezing Drizzle, Fog 00:00:00 0.3 -2.3 94 33 8.0 101. Freezing Drizzle, Fog 02:01:20:20 0.3 -3.3 -4.6 94 24 12.9 101. Freezing Drizzle, Fog 02:02:00:00 0.3 -3.3 -4.6 94 24 12.9 101. Freezing Rain, Fog 02:02:00:00 0.3 -1.7 92 28 16.1 101. Freezing Rain, Fog 01:27:27:7 01:00:00 0.3 -1.7 92 28 16.1 101. Freezing Rain, Fog 01:27:27:7 01:00:00 0.4 -9.9 93 28 16.1 101. Freezing Rain, Fog 01:27:27:7 01:00:00 0.4 -9.9 93 28 8.0 100. Freezing Rain, Fog 01:27:27:7 01:00:00 0.4 -9.9 93 28 8.0 100. Freezing Rain, Fog 01:27:27:7 05:00 0.4 -9.9 7.4 83 9 2.8 8.0 100. Freezing Rain, Fog 01:27:27:7 05:00 0.4 -9.9 7.4 83 9 0.2 8 80 100. Freezing Rain, Snow Grains 01:27:21:3 14.1 11.1 86 17 9.7 102. Mainly Clear 20:12:20 33.0 21:2 99 63 48.3 103. Moderate Rain, Fog 01:27:27:00 0.7 0.8 94 17 6.4 99. Moderate Snow 01:27:27:27 0.4 0.5 0.8 94 17 6.4 99. Moderate Snow 01:27:27:27 0.4 0.5 0.8 94 17 6.4 99. Moderate Snow 81:00:00 0.2 0.2 0.2 0.2 0.3 0.9 0.1 0.0 63 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Drizzle,Snow,Fog		1.1	0.6	98	32	9.7	100.15
Freezing Drizzie, Feg 2012-12-10 05:00:00 -0.3 -2.3 94 33 8.0 101. Freezing Drizzie, Feg 2012-02-00 -5.0 -7.7 83 11 4.0 100. Freezing Drizzie, Feg 2012-02-00 -5.0 -7.7 83 11 4.0 100. Freezing Drizzie, Feg 2012-02-00 -5.0 -7.7 83 11 4.0 100. Freezing Drizzie, Fee 2012-02-00 -5.0 -7.7 83 11 4.0 100. Freezing Drizzie, Fee 2012-02-00 -0.1 -0.3 99 9 9 0.8 102. Freezing Rain 2012-02-17 0.1 -0.3 99 9 9 0.8 102. Freezing Rain, Feg 2012-02-17 0.1 -0.9 93 28 16.1 101. Freezing Rain, Feg 2012-02-10 0.1 -0.9 93 28 16.1 101. Freezing Rain, Laze 115:00:00 4.9 -7.4 83 99 28 100. Freezing Rain, Laze 115:00:00 4.9 -7.4 83 99 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -2.6 -3.7 92 28 80 100. Freezing Rain, Snow Grains 0.03:00:00 -3.0 -7.3 84 32 4.8 98. Mathy Clear 2012-12-13 14.1 11.1 86 17 9.7 102. Moderate Rain, Fog 0.03:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow, Blowing Snow 10:00:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow, Blowing Snow 10:00:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow 0.03:00:00 1.7 0.8 94 11 0.6 100. Moderate Snow 0.03:00:00 1.7 0.8 94 11 0.6 100. Rain Showers 10:00:00 12:00:00:00 1.7 0.8 94 11 0.6 100. Rain Showers 10:00:00 12:00:00:00:00:00:00:00:00:00:00:00:00:00	Fog		20.8	19.6	100	22	9.7	103.04
Freezing Drizzle, Haze 2012-02-01 130000 -5.0 -7.7 83 11 4.0 100.	Freezing Drizzle		-2.3	-3.3	93	26	12.9	101.02
Freezing Drizzle, Snow 2012-12-03 2-3.3 4-6 94 24 12-9 101. Freezing Freezing Fog 2012-03-17 0-0.1 0-0.3 99 9 0 0.8 102.	Freezing Drizzle,Fog		-0.3	-2.3	94	33	8.0	101.27
Freezing Fog 2012-03-17	Freezing Drizzle,Haze		-5.0	-7.7	83	11	4.0	100.36
Freezing Rain	Freezing Drizzle,Snow		-3.3	-4.6	94	24	12.9	101.18
Freezing Rain, Fog 2012-12-17	Freezing Fog		-0.1	-0.3	99	9	0.8	102.85
Freezing Rain,Fog 01:00:00 0.1 -0.9 95 26 9.7 101: Freezing Rain,Haze 212:00:00 4.9 -7.4 83 9 2.8 100. Freezing Rain,Ice Pellets,Fog 03:00:00 -2.6 -3.7 92 28 8.0 100. Freezing Rain,Snow Grains 2012-11-13 09:00:00 1-7.3 84 32 4.8 98. Haze 2012-11-3 12:00:00 14.1 11.1 86 17 9.7 102. Mainty Clear 2012-12-30 33.0 21:2 99 63 48.3 103. Moderate Rain,Fog 2012-12-10 08:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow,Blowing Snow 12:00:00 4.9 -6.7 93 39 0.8 100. Moderate Snow,Blowing Snow 12:00:00 5.4 -6.4 93 41 0.8 100. Mostly Cloudy 2012-12-21 03:00:00 22.8 20.4 99 52 48.3 102. Rain 2012-12-21 21:00:00 22.8 20.4 99 52 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 99 52 48.3 102. Rain Showers,Fog 2012-10:00 12.8 12.1 96 13 64 99. Rain Showers,Fog 2012-10:00 12.8 12.1 96 13 64 99. Rain Showers,Fog 2012-10:00 22.8 20.4 99 52 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 99 52 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 99 52 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 99 57 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 99 57 48.3 102. Rain Showers,Fog 2012-10:00 22.8 20.4 23.0 97 41 48.3 102. Rain Showers,Fog 2012-10:00 12.8 12.1 96 13 64 99. Rain Showers,Fog 2012-10:00 22.0 12.8 12.1 96 13 64 99. Rain,Fog 17:00:00 12.8 12.1 96 13 64 99. Rain,Fog 2012-12-10 17:00:00 12.8 12.1 96 13 64 99. Rain,Fog 2012-12-10 17:00:00 12.8 12.1 96 13 64 99. Rain,Fog 2012-12-10 21.7 19.5 100 46 9.7 101. Rain,Lee Pellets 2012-12-10 21.7 19.5 100 46 9.7 101. Rain,Lee Pellets 2012-12-11 20.00:00:00 1.7 0.5 94 52 25.0 101.	Freezing Rain		0.3	-1.7	92	28	16.1	101.00
Freezing Rain,Ice Pellets,Fog 2012-12-17	Freezing Rain,Fog		0.1	-0.9	93	26	9.7	101.01
Freezing Rain, lea Feliets, Fog 03.00.00 -2.5 -3.7 92 28 8.0 100. Freezing Rain, Snow Grains 09.00.00 -5.0 -7.3 84 32 4.8 98. Haze 2012-12-13 12.00.00 14.1 11.1 86 17 9.7 102. Mainty Clear 22.00.00 33.0 21.2 99 63 48.3 103. Moderate Rain, Fog 2012-12-10 08.00.00 1.7 0.8 94 17 6.4 99. Moderate Snow 2012-12-27 09.00.00 -5.4 -6.7 93 39 0.8 100. Moderate Snow, Blowing Snow 12.00.00 5.4 -6.4 93 41 0.6 100. Mostly Cloudy 2012-12-31 03.00.00 32.4 24.4 100 83 48.3 103. Rain 2012-12-21 22.8 20.4 99 52 48.3 102. Rain Showers 2012-12-21 1.00.00 26.4 23.0 97 41 48.3 102. Rain Showers 2012-12-14 11.00.00 12.8 12.1 96 13 6.4 99. Rain Showers, Fog 2012-10-20 03.00.00 12.8 12.1 96 13 6.4 99. Rain Showers, Snow Showers 10.00.00 21.7 19.5 100 46 9.7 101. Rain, Fog 2012-12-10 17.00.00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-12-10 17.00.00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-12-10 17.00.00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-12-10 17.00.00 1.7 19.5 100 46 9.7 100. Rain, Ice Pellets 2012-12-10 0.00 0.6 0.6 92 24 9.7 100. Rain, Ice Pellets 2012-12-12 10 0.00 0.6 0.6 92 24 9.7 100.	Freezing Rain,Haze		-4.9	-7.4	83	9	2.8	100.41
Haze 12:00:00 14.1 11.1 86 17 9.7 102. Mainly Clear 2012-12:30 22:00:00 33.0 21.2 99 63 48.3 103. Moderate Rain,Fog 80:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow 2012-12:07 09:00:00 4.9 6.7 93 39 0.8 100. Moderate Snow,Blowing Snow 12:00:00 32.4 24.4 100 83 48.3 103. Mostly Cloudy 2012-12:01 03:00:00 32.4 24.4 100 83 48.3 103. Rain 21:00:00 22.8 20.4 99 52 48.3 102. Rain Showers 2012-12:14 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers,Fog 2012-10:00 12.8 12.1 96 13 6.4 99. Rain Showers,Fog 2012-10:00 21.7 19.5 100 46 9.7 101. Rain,Fog 17:00:00 21.7 19.5 100 46 9.7 101. Rain,Haze 2012-12:18 09:00:00 5.5 2.9 86 17 9.7 100. Rain,Lee Pellets 2012-12:18 00:00:00 6.6 -0.6 92 24 9.7 100. Rain,Snow 2012-12:18 2012-12:1	Freezing Rain,Ice Pellets,Fog		-2.6	-3.7	92	28	8.0	100.95
Mainly Clear 2012-12-23 or 22:00:00 14.1 11.1 86 17 9.7 102-12-12-10 or 22:00:00 Moderate Rain,Fog 2012-12-10 or 8:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow 2012-12-27 or 99:00:00 -4.9 -6.7 93 39 0.8 100. Moderate Snow,Blowing Snow 2012-12-27 or 12:00:00 -5.4 -6.4 93 41 0.6 100. Mostly Cloudy 2012-12-31 or 12:00:00 32.4 24.4 100 83 48.3 103. Rain 2012-12-31 or 21:00:00 22.8 20.4 99 52 48.3 102. Rain Showers 2012-12-10 or 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers,Fog 2012-10-20 or 3:00:00 12.8 12.1 96 13 6.4 99. Rain Showers,Snow Showers 2012-12-05 or 17:00:00 2.2 -1.2 78 28 24.1 101. Rain,Hog 2012-	Freezing Rain,Snow Grains		-5.0	-7.3	84	32	4.8	98.56
Moderate Rain,Fog 2012-12-10 1.7 0.8 94 17 6.4 99.	Haze		14.1	11.1	86	17	9.7	102.97
Moderate Rain, Fog 08:00:00 1.7 0.8 94 17 6.4 99. Moderate Snow 2012-12-27 09:00:00 -4.9 -6.7 93 39 0.8 100. Moderate Snow, Blowing Snow 2012-12-27 12:00:00 -5.4 -6.4 93 41 0.6 100. Mostly Cloudy 2012-12-31 03:00:00 32.4 24.4 100 83 48.3 103. Rain 2012-12-00 02-12-12-12 12-14 12:00:00 22.8 20.4 99 52 48.3 102. Rain Showers 2012-12-14 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers, Fog 2012-10-20 03:00:00 12.8 12.1 96 13 6.4 99. Rain Showers, Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101. Rain, Fog 17:00:00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-12-10 05:00:00 5.5	Mainly Clear		33.0	21.2	99	63	48.3	103.59
Moderate Snow, Blowing Snow 2012-12-20 12:00:00 12:00 12:00:00 -5.4 -6.4 93 41 0.6 100. Mostly Cloudy 2012-12-31 03:00:00 03:00:00 12:00:00 32.4 24.4 100 16:00 16:00 16:00 83 48.3 103. Rain 2012-12-21 21:00:00 22:8 21:00:00 21:00:00 11:00:00 20.4 99 25:00 48.3 102. Rain Showers 2012-12-14 11:00:00 20:00 12:8 12:1 96 13 6.4 99. Rain Showers,Fog 2012-10-20 03:00:00 12:8 12:1 96 13 6.4 99. Rain Showers,Snow Showers 2012-12-05 10:00:00 2:2 1:1 2:1 2:1 2:1 2:1 2:1 2:1 2:1 2:1	Moderate Rain,Fog		1.7	0.8	94	17	6.4	99.98
Mostly Cloudy	Moderate Snow		-4.9	-6.7	93	39	0.8	100.67
Rain Showers, Fog 2012-12-05 10:00:00 2.2 2.2 1.2 78 28 24.1 101. Rain Showers, Fog 2012-12-14 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers, Fog 2012-10-20 03:00:00 12.8 12.1 96 13 6.4 99. Rain Showers, Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101. Rain, Fog 2012-12-10 17:00:00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain, Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain, Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Moderate Snow,Blowing Snow		-5.4	-6.4	93	41	0.6	100.64
Rain 21:00:00 22.8 20.4 99 52 48.3 102. Rain Showers 2012-12-14 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers,Fog 2012-10-20 03:00:00 12.8 12.1 96 13 6.4 99. Rain Showers,Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101. Rain,Fog 2012-12-10 17:00:00 21.7 19.5 100 46 9.7 101. Rain,Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain,lce Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain,Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Mostly Cloudy		32.4	24.4	100	83	48.3	103.65
Rain Showers 11:00:00 26.4 23.0 97 41 48.3 102. Rain Showers,Fog 2012-10-20 03:00:00 12.8 12.1 96 13 6.4 99. Rain Showers,Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101. Rain,Fog 2012-12-10 17:00:00 21.7 19.5 100 46 9.7 101. Rain,Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain,lce Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain,Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Rain		22.8	20.4	99	52	48.3	102.26
Rain Showers, Fog 03:00:00 12.8 12.1 96 13 6.4 99. Rain Showers, Snow Showers 2012-12-05 10:00:00 2.2 -1.2 78 28 24.1 101. Rain, Fog 2012-12-10 17:00:00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain, Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain, Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Rain Showers		26.4	23.0	97	41	48.3	102.31
Rain, Snow Snowers 10:00:00 2.2 -1.2 78 28 24.1 101. Rain, Fog 2012-12-10 17:00:00 21.7 19.5 100 46 9.7 101. Rain, Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain, Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain, Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Rain Showers,Fog		12.8	12.1	96	13	6.4	99.83
Rain,Haze 2012-03-13 09:00:00 5.5 2.9 86 17 9.7 100. Rain,Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100. Rain,Snow 2012-12-21 1.7 0.5 94 52 25.0 101.	Rain Showers, Snow Showers		2.2	-1.2	78	28	24.1	101.11
Rain, Flaze 09:00:00 5.5 2.9 86 17 9.7 100.0 Rain, Ice Pellets 2012-12-18 05:00:00 0.6 -0.6 92 24 9.7 100.0 Rain, Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.0	Rain,Fog		21.7	19.5	100	46	9.7	101.77
Rain,Snow 2012-12-21 09:00:00 1.7 0.5 94 52 25.0 101.	Rain,Haze		5.5	2.9	86	17	9.7	100.61
09:00:00 1.7 0.5 94 52 25.0 101.	Rain,Ice Pellets		0.6	-0.6	92	24	9.7	100.12
	Rain,Snow		1.7	0.5	94	52	25.0	101.07
Rain,Snow Grains 2012-12-21 00:00:00 1.9 -2.1 75 26 25.0 100.	Rain,Snow Grains		1.9	-2.1	75	26	25.0	100.60
Rain,Snow,Fog 2012-12-08 21:00:00 0.8 0.3 96 9 6.4 100.	Rain,Snow,Fog		0.8	0.3	96	9	6.4	100.73

1/23, 0.44 1 101	Weather Foject - Jupyter Notebook									
	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa			
Weather										
Rain,Snow,Ice Pellets	2012-12-21 05:00:00	1.3	0.1	94	28	6.4	100.47			
Snow	2012-12-31 23:00:00	3.7	0.3	96	57	25.0	102.73			
Snow Pellets	2012-11-24 15:00:00	0.7	-6.4	59	35	2.4	99.70			
Snow Showers	2012-12-31 08:00:00	2.9	-0.7	94	37	48.3	102.50			
Snow Showers,Fog	2012-12-29 13:00:00	-10.0	-11.1	92	22	9.7	102.52			
Snow,Blowing Snow	2012-12-27 19:00:00	-1.4	-2.9	91	48	9.7	100.62			
Snow,Fog	2012-12-31 10:00:00	1.1	0.8	99	35	9.7	102.07			
Snow,Haze	2012-02-01 21:00:00	-3.6	-6.4	81	15	6.4	100.99			
Snow,Ice Pellets	2012-12-17 06:00:00	0.8	-1.7	92	33	11.3	100.96			
Thunderstorms	2012-07-16 01:00:00	26.7	20.1	87	15	25.0	100.62			
Thunderstorms, Heavy Rain Showers	2012-05-29 06:00:00	10.9	9.0	88	9	2.4	100.26			
Thunderstorms,Moderate Rain Showers,Fog	2012-07-17 06:00:00	19.6	18.5	93	15	3.2	100.01			
Thunderstorms,Rain	2012-07-23 18:00:00	21.3	19.1	93	30	24.1	100.83			
Thunderstorms,Rain Showers	2012-09-14 20:00:00	25.5	23.1	98	32	25.0	101.06			
Thunderstorms,Rain Showers,Fog	2012-07-31 20:00:00	22.9	21.3	91	35	9.7	100.64			
Thunderstorms,Rain,Fog	2012-07-17 05:00:00	20.6	18.6	88	19	4.8	100.08			

In [125]:

df.groupby("Weather").min()

Out[125]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather							
Clear	2012-01-03 19:00:00	-23.3	-28.5	20	0	11.3	99.52
Cloudy	2012-01-01 17:00:00	-21.4	-26.8	18	0	11.3	98.39
Drizzle	2012-01-23 21:00:00	1.1	-0.2	74	0	6.4	97.84
Drizzle,Fog	2012-01-23 20:00:00	0.0	-1.6	85	0	1.0	98.65
Drizzle,Ice Pellets,Fog	2012-12-17 09:00:00	0.4	-0.7	92	20	4.0	100.79
Drizzle,Snow	2012-12-17 15:00:00	0.9	0.1	92	9	9.7	100.63
Drizzle,Snow,Fog	2012-12-18 21:00:00	0.3	-0.1	92	7	2.4	97.79
Fog	2012-01-01 00:00:00	-16.0	-17.2	80	0	0.2	98.31
Freezing Drizzle	2012-01-07 11:00:00	-9.0	-12.2	78	6	4.8	98.44
Freezing Drizzle,Fog	2012-01-01 02:00:00	-6.4	-9.0	82	6	3.6	98.74
Freezing Drizzle,Haze	2012-02-01 11:00:00	-5.8	-8.3	81	9	2.0	100.28
Freezing Drizzle,Snow	2012-01-13 03:00:00	-8.3	-10.4	79	6	2.4	99.19
Freezing Fog	2012-01-22 06:00:00	-19.0	-22.9	71	0	0.2	101.97
Freezing Rain	2012-01-07 10:00:00	-6.5	-9.0	81	7	2.8	98.22
Freezing Rain,Fog	2012-01-07 09:00:00	-6.1	-8.7	82	7	2.8	98.32
Freezing Rain,Haze	2012-02-01 14:00:00	-4.9	-7.5	82	6	2.0	100.34
Freezing Rain,Ice Pellets,Fog	2012-12-17 03:00:00	-2.6	-3.7	92	28	8.0	100.95
Freezing Rain,Snow Grains	2012-01-13 09:00:00	-5.0	-7.3	84	32	4.8	98.56
Haze	2012-01-22 12:00:00	-11.5	-16.0	68	0	4.8	100.35
Mainly Clear	2012-01-02 12:00:00	-22.8	-28.0	20	0	12.9	98.67
Moderate Rain,Fog	2012-12-10 08:00:00	1.7	0.8	94	17	6.4	99.98
Moderate Snow	2012-01-12 15:00:00	-6.3	-7.6	83	26	0.6	99.88
Moderate Snow,Blowing Snow	2012-12-27 10:00:00	-5.5	-6.6	92	39	0.6	100.50
Mostly Cloudy	2012-01-01 16:00:00	-23.2	-28.5	18	0	11.3	98.36
Rain	2012-01-01 18:00:00	0.3	-5.7	40	0	4.0	97.52
Rain Showers	2012-01-01 22:00:00	1.6	-7.2	37	0	6.4	98.51
Rain Showers,Fog	2012-10-20 03:00:00	12.8	12.1	96	13	6.4	99.83
Rain Showers, Snow Showers	2012-11-04 08:00:00	2.1	-1.8	75	17	19.3	101.09
Rain,Fog	2012-01-23 18:00:00	0.0	-1.2	83	0	2.0	98.61
Rain,Haze	2012-03-13 07:00:00	4.0	1.0	81	7	4.0	100.50
Rain,Ice Pellets	2012-12-18 05:00:00	0.6	-0.6	92	24	9.7	100.12
Rain,Snow	2012-01-10 05:00:00	0.6	-1.7	81	13	2.4	98.18
Rain,Snow Grains	2012-12-21 00:00:00	1.9	-2.1	75	26	25.0	100.60
Rain,Snow,Fog	2012-12-08 21:00:00	0.8	0.3	96	9	6.4	100.73

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa
Weather							
Rain,Snow,Ice Pellets	2012-12-21 01:00:00	0.9	-0.7	88	17	4.8	99.85
Snow	2012-01-03 07:00:00	-16.7	-24.6	41	0	1.0	97.75
Snow Pellets	2012-11-24 15:00:00	0.7	-6.4	59	35	2.4	99.70
Snow Showers	2012-01-02 17:00:00	-13.3	-19.3	52	0	2.4	99.49
Snow Showers,Fog	2012-12-26 09:00:00	-11.3	-12.7	89	7	4.0	100.63
Snow,Blowing Snow	2012-01-13 21:00:00	-12.0	-16.2	70	24	0.6	98.11
Snow,Fog	2012-02-10 23:00:00	-10.1	-12.0	77	4	1.2	99.38
Snow,Haze	2012-02-01 17:00:00	-4.3	-7.2	80	0	4.0	100.61
Snow,Ice Pellets	2012-03-03 04:00:00	-4.3	-5.9	76	19	2.8	99.40
Thunderstorms	2012-07-04 16:00:00	21.6	19.4	67	0	24.1	99.84
Thunderstorms, Heavy Rain Showers	2012-05-29 06:00:00	10.9	9.0	88	9	2.4	100.26
Thunderstorms,Moderate Rain Showers,Fog	2012-07-17 06:00:00	19.6	18.5	93	15	3.2	100.01
Thunderstorms,Rain	2012-05-25 20:00:00	19.4	18.2	83	4	16.1	100.19
Thunderstorms,Rain Showers	2012-05-29 04:00:00	11.0	7.0	68	7	6.4	99.65
Thunderstorms,Rain Showers,Fog n [127]:	2012-06-29 03:00:00	19.5	16.1	80	7	9.7	99.71
Show all cond Fhunderstorms,Rain;Flog r	is fog 05:00:00	20.6	18.6	88	19	4.8	100.08

Out[127]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
0	2012-01-01 00:00:00	-1.8	-3.9	86	4	8.0	101.24	Fog
1	2012-01-01 01:00:00	-1.8	-3.7	87	4	8.0	101.24	Fog
4	2012-01-01 04:00:00	-1.5	-3.3	88	7	4.8	101.23	Fog
5	2012-01-01 05:00:00	-1.4	-3.3	87	9	6.4	101.27	Fog
6	2012-01-01 06:00:00	-1.5	-3.1	89	7	6.4	101.29	Fog
8716	2012-12-29 04:00:00	-16.0	-17.2	90	6	9.7	101.25	Fog
8717	2012-12-29 05:00:00	-14.8	-15.9	91	4	6.4	101.25	Fog
8718	2012-12-29 06:00:00	-13.8	-15.3	88	4	9.7	101.25	Fog
8719	2012-12-29 07:00:00	-14.8	-16.4	88	7	8.0	101.22	Fog
8722	2012-12-29 10:00:00	-12.0	-13.3	90	7	6.4	101.15	Fog

150 rows × 8 columns

In [128]:

#Find the all instance where weather is clear or visbilty is above 40
df[(df["Weather"]=="Clear")|(df["Visibility_km"]>40)]

Out[128]:

	Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
67	2012-01-03 19:00:00	-16.9	-24.8	50	24	25.0	101.74	Clear
106	2012-01-05 10:00:00	-6.0	-10.0	73	17	48.3	100.45	Mainly Clear
107	2012-01-05 11:00:00	-5.6	-10.2	70	22	48.3	100.41	Mainly Clear
108	2012-01-05 12:00:00	-4.7	-9.6	69	20	48.3	100.38	Mainly Clear
109	2012-01-05 13:00:00	-4.4	-9.7	66	26	48.3	100.40	Mainly Clear
				***		***		
8749	2012-12-30 13:00:00	-12.4	-16.2	73	37	48.3	100.92	Mostly Cloudy
8750	2012-12-30 14:00:00	-11.8	-16.1	70	37	48.3	100.96	Mainly Clear
8751	2012-12-30 15:00:00	-11.3	-15.6	70	32	48.3	101.05	Mainly Clear
8752	2012-12-30 16:00:00	-11.4	-15.5	72	26	48.3	101.15	Mainly Clear
8756	2012-12-30 20:00:00	-13.8	-16.5	80	24	25.0	101.52	Clear

3027 rows × 8 columns

In [129]:

```
#Find all instance where
#Weather is clear and humdity is above 50 or
#visbilty is above 40
df[((df["Weather"]=="Clear") & df["Rel Hum_%"]>50)|(df["Visibility_km"]>40)]
```

Out[129]:

Date/Time	Temp_C	Dew Point Temp_C	Rel Hum_%	Wind Speed_km/h	Visibility_km	Press_kPa	Weather
2012-01-05 10:00:00	-6.0	-10.0	73	17	48.3	100.45	Mainly Clear
2012-01-05 11:00:00	-5.6	-10.2	70	22	48.3	100.41	Mainly Clear
2012-01-05 12:00:00	-4.7	-9.6	69	20	48.3	100.38	Mainly Clear
2012-01-05 13:00:00	-4.4	-9.7	66	26	48.3	100.40	Mainly Clear
2012-01-05 14:00:00	-5.1	-10.7	65	22	48.3	100.46	Mainly Clear
2012-12-30 12:00:00	-12.2	-15.7	75	26	48.3	100.91	Mostly Cloudy
2012-12-30 13:00:00	-12.4	-16.2	73	37	48.3	100.92	Mostly Cloudy
2012-12-30 14:00:00	-11.8	-16.1	70	37	48.3	100.96	Mainly Clear
2012-12-30 15:00:00	-11.3	-15.6	70	32	48.3	101.05	Mainly Clear
2012-12-30 16:00:00	-11.4	-15.5	72	26	48.3	101.15	Mainly Clear
	2012-01-05 10:00:00 2012-01-05 11:00:00 2012-01-05 12:00:00 2012-01-05 13:00:00 2012-01-05 14:00:00 2012-12-30 12:00:00 2012-12-30 13:00:00 2012-12-30 14:00:00 2012-12-30 15:00:00	2012-01-05 10:00:00	2012-01-05 10:00:00 -6.0 -10.0 2012-01-05 11:00:00 -5.6 -10.2 2012-01-05 12:00:00 -4.7 -9.6 2012-01-05 13:00:00 -4.4 -9.7 2012-01-05 14:00:00 -5.1 -10.7 2012-12-30 12:00:00 -12.2 -15.7 2012-12-30 13:00:00 -12.4 -16.2 2012-12-30 15:00:00 -11.8 -16.1 2012-12-30 15:00:00 -11.3 -15.6	2012-01-05 10:00:00	2012-01-05 10:00:00 -6.0 -10.0 73 17 2012-01-05 11:00:00 -5.6 -10.2 70 22 2012-01-05 12:00:00 -4.7 -9.6 69 20 2012-01-05 13:00:00 -4.4 -9.7 66 26 2012-01-05 14:00:00 -5.1 -10.7 65 22 2012-12-30 12:00:00 -12.2 -15.7 75 26 2012-12-30 13:00:00 -12.4 -16.2 73 37 2012-12-30 14:00:00 -11.8 -16.1 70 32 2012-12-30 15:00:00 -11.3 -15.6 70 32	2012-01-05 10:00:00 -6.0 -10.0 73 17 48.3 2012-01-05 11:00:00 -5.6 -10.2 70 22 48.3 2012-01-05 12:00:00 -4.7 -9.6 69 20 48.3 2012-01-05 13:00:00 -4.4 -9.7 66 26 48.3 2012-01-05 14:00:00 -5.1 -10.7 65 22 48.3 2012-12-30 12:00:00 -12.2 -15.7 75 26 48.3 2012-12-30 13:00:00 -12.4 -16.2 73 37 48.3 2012-12-30 14:00:00 -11.8 -16.1 70 37 48.3 2012-12-30 15:00:00 -11.3 -15.6 70 32 48.3	2012-01-05 11:00:00 -5.6 -10.2 70 22 48.3 100.41 2012-01-05 12:00:00 -4.7 -9.6 69 20 48.3 100.38 2012-01-05 13:00:00 -4.4 -9.7 66 26 48.3 100.40 2012-01-05 14:00:00 -5.1 -10.7 65 22 48.3 100.46 2012-12-30 12:00:00 -12.2 -15.7 75 26 48.3 100.91 2012-12-30 13:00:00 -12.4 -16.2 73 37 48.3 100.92 2012-12-30 14:00:00 -11.8 -16.1 70 37 48.3 100.96 2012-12-30 15:00:00 -11.3 -15.6 70 32 48.3 101.05

2014 rows × 8 columns

In []: