1. Importing Dependencies

```
In [13]: import pandas as pd
         import matplotlib.pyplot as plt
         import matplotlib.dates as mdates
         import seaborn as sns
```

```
In [17]: df = pd.read_csv('/content/drive/MyDrive/SEM VIII/ADS/Experiment 3/weatherHistoryM
```

```
In [18]: df.rename(columns = {'Formatted Date':'Date'}, inplace = True)
```

```
In [36]: df1.head(3)
```

Out[36]:

| Date	Summary	Precip Type	Temperature (C)	Apparent Temperature (C)	Humidity	Wind Speed (km/h)	Wind Bearing (degrees)	Visibility (km)
2006-03-31 22:00:00	Partly Cloudy	rain	9.472222	7.388889	0.89	14.1197	251.0	15.8263
2006-03-31 23:00:00	Partly Cloudy	rain	9.355556	7.227778	0.86	14.2646	259.0	15.8263
2006-04-01 00:00:00	Mostly Cloudy	rain	9.377778	9.377778	0.89	3.9284	204.0	14.9569

```
In [22]: df1 = df
```

```
In [23]: df1['Date'] = pd.to_datetime(df1['Date'])
```
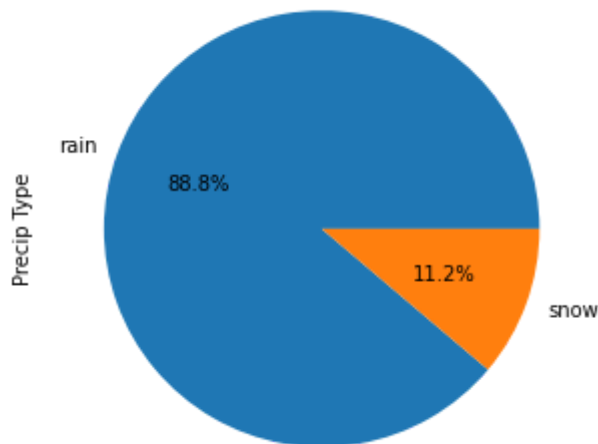
```
In [24]: df1 = df1.set_index('Date')
```

```
In [26]: df1['Pressure (millibars)'] = df1['Pressure (millibars)'] / 100

         df1.rename(columns = {'Pressure (millibars)':'Pressure (decibars)'}, inplace = Tru
```

```
In [27]: fig = plt.figure(figsize = (16, 2))
         df1['Summary'].value_counts().plot(kind='bar')
         plt.show()
```
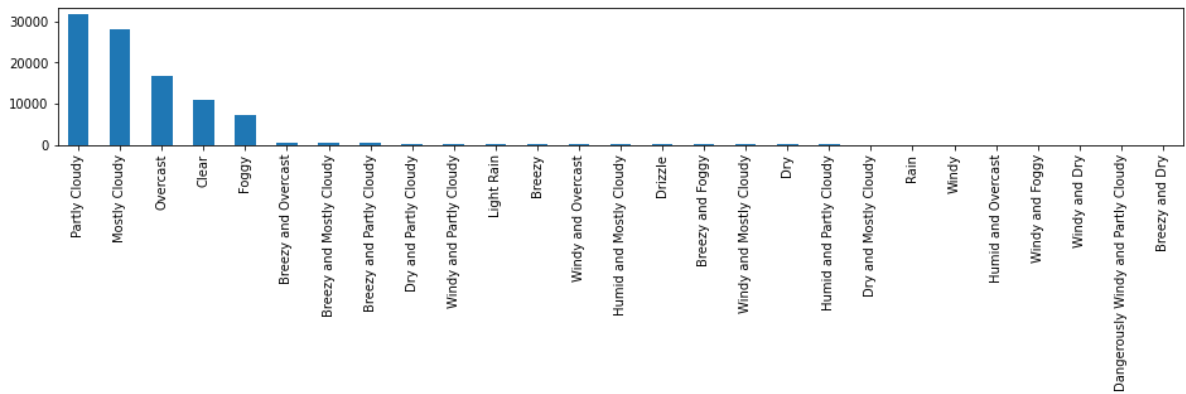
```
In [28]:  fig = plt.figure(figsize = (5, 5))
          df1['Precip Type'].value_counts().plot(kind='pie', autopct='%1.1f%%')
          plt.show()
```



```
In [43]:  # Create figure with four subplots
          fig, axs = plt.subplots(4, 2, figsize=(15,16.5))
          # Plot data in each subplot

          axs[0, 0].plot(df1.index, df1['Temperature (C)'])
          axs[0, 0].set_title('Temperature (C)')
          axs[0, 0].set_xlabel('Date')
          axs[0, 0].set_ylabel('Temperature (C)')
          axs[0, 1].plot(df1.index, df1['Apparent Temperature (C)'])
          axs[0, 1].set_title('Apparent Temperature (C)')
          axs[0, 1].set_xlabel('Date')
          axs[0, 1].set_ylabel('Apparent Temperature (C)')
          axs[1, 0].plot(df1.index, df1['Humidity'])
          axs[1, 0].set_title('Humidity')
          axs[1, 0].set_xlabel('Date')
          axs[1, 0].set_ylabel('Humidity')
          axs[1, 1].plot(df1.index, df1['Wind Speed (km/h)'])
          axs[1, 1].set_title('Wind Speed (km/h)')
          axs[1, 1].set_xlabel('Date')
          axs[1, 1].set_ylabel('Wind Speed (km/h)')
          axs[2, 0].plot(df1.index, df1['Wind Bearing (degrees)'])
          axs[2, 0].set_title('Wind Bearing (degrees)')
          axs[2, 0].set_xlabel('Date')
          axs[2, 0].set_ylabel('Wind Bearing (degrees)')
          axs[2, 1].plot(df1.index, df1['Visibility (km)'])
          axs[2, 1].set_title('Visibility (km)')
          axs[2, 1].set_xlabel('Date')
          axs[2, 1].set_ylabel('Visibility (km)')
```
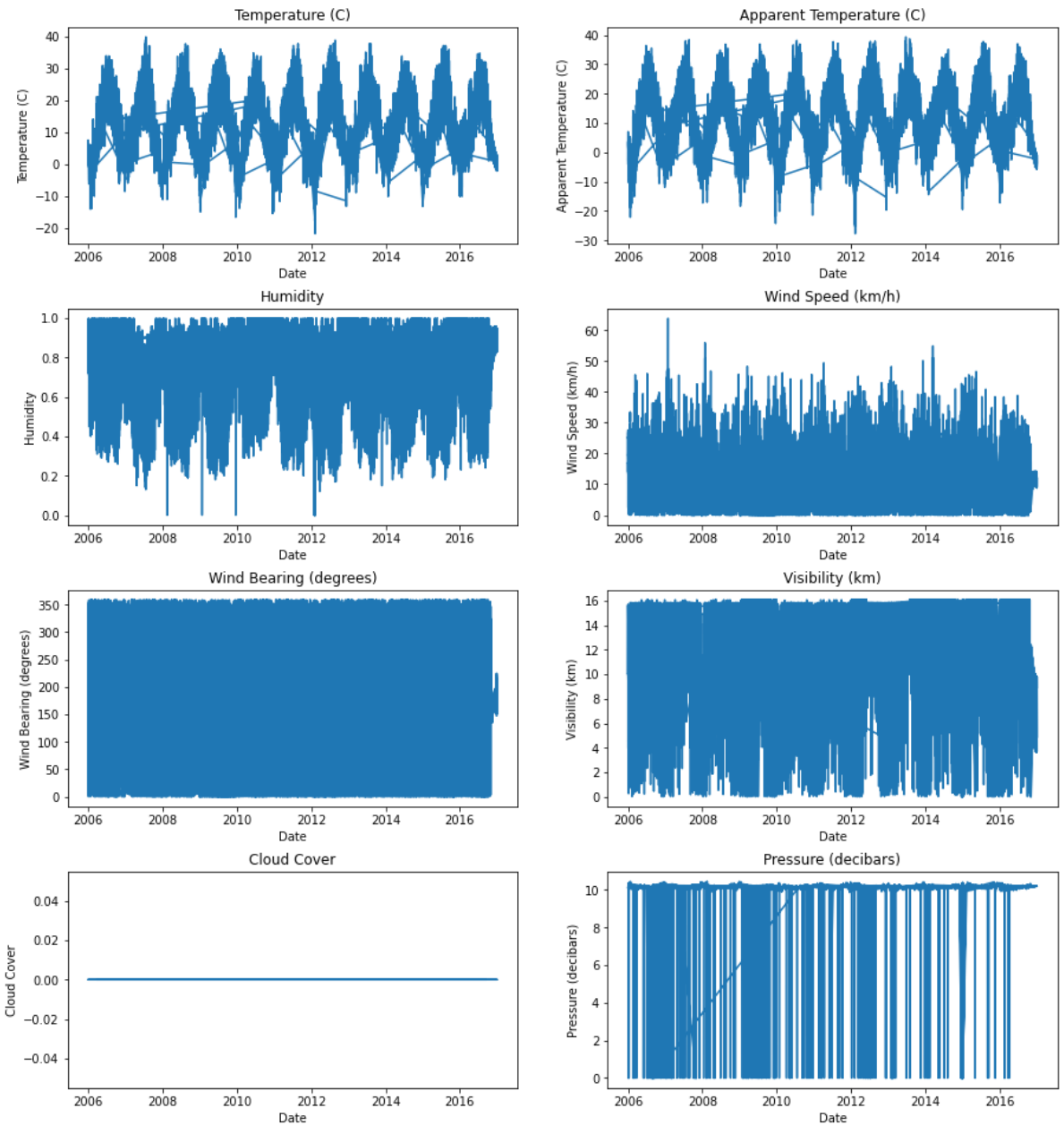
```
axs[3, 0].plot(df1.index, df1['Loud Cover'])
axs[3, 0].set_title('Cloud Cover')
axs[3, 0].set_xlabel('Date')
axs[3, 0].set_ylabel('Cloud Cover')
axs[3, 1].plot(df1.index, df1['Pressure (decibars)'])
axs[3, 1].set_title('Pressure (decibars)')
axs[3, 1].set_xlabel('Date')
axs[3, 1].set_ylabel('Pressure (decibars)')

# Add spacing between subplots
fig.subplots_adjust(hspace=0.3, wspace=0.2)
```
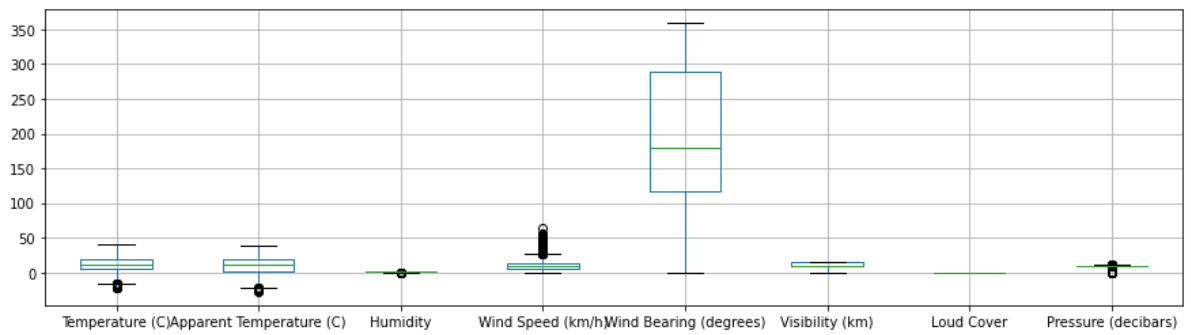


```
In [44]:  df1.boxplot(figsize=(15, 4))

Out[44]:  <AxesSubplot:>
```

```
In [47]: df1.hist(figsize=(15, 10))
```

```
Out[47]: array([[<AxesSubplot:title={'center':'Temperature (C)'}>,
          <AxesSubplot:title={'center':'Apparent Temperature (C)'}>,
          <AxesSubplot:title={'center':'Humidity'}>],
         [<AxesSubplot:title={'center':'Wind Speed (km/h)'}>,
          <AxesSubplot:title={'center':'Wind Bearing (degrees)'}>,
          <AxesSubplot:title={'center':'Visibility (km)'}>],
         [<AxesSubplot:title={'center':'Loud Cover'}>,
          <AxesSubplot:title={'center':'Pressure (decibars)'}>,
          <AxesSubplot:>]], dtype=object)
```