EDA

In [8]:
```
import numpy as np
import pandas as pd
import os
from glob import glob

from windrose import WindroseAxes
import matplotlib.pyplot as plt
```

Wind Data

In [2]:
```
#store here the directory where the files of wind data are
present
wind_data_folder = '/home/hardik/shell.ai hackathon/resourc
es/Shell_Hackathon Dataset/Wind Data'
# all the files in the folder
files = glob(os.path.join(wind_data_folder + '/*.csv'))
```

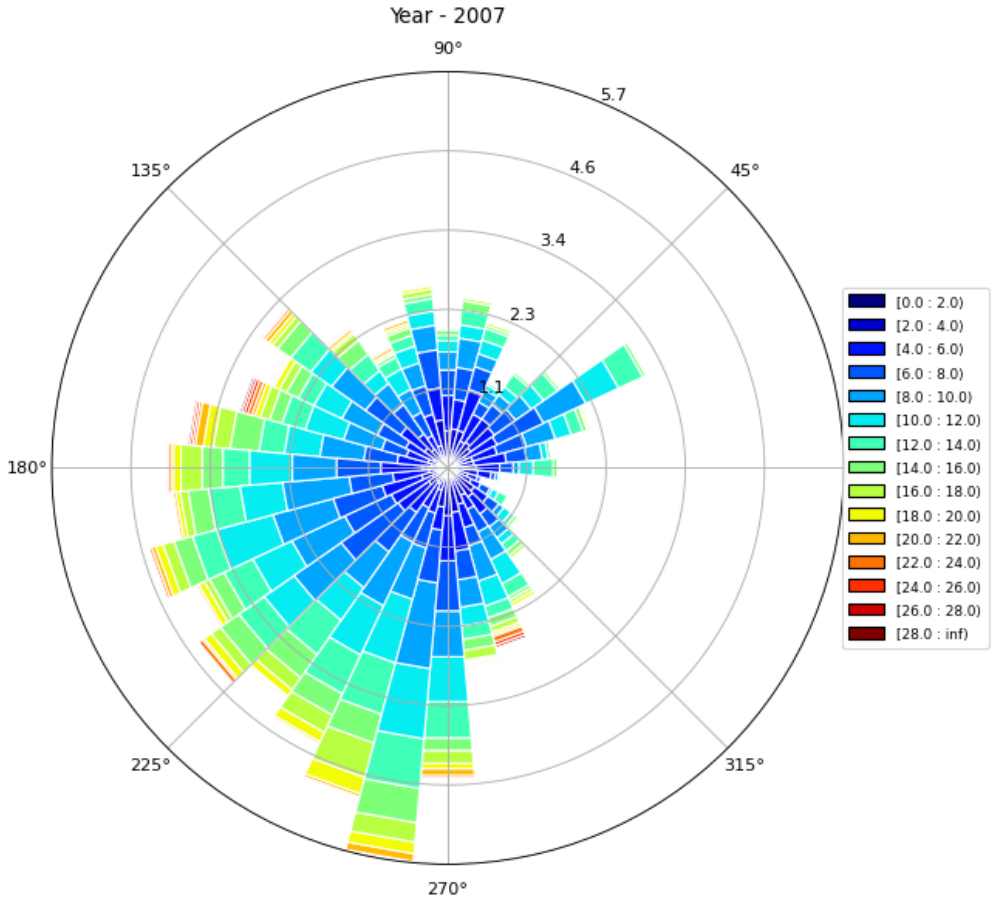
In [3]:
```
data_frames = {}
for file in files:
    name = file[-8:-4]
    data_frames[name] = pd.read_csv(file)
```

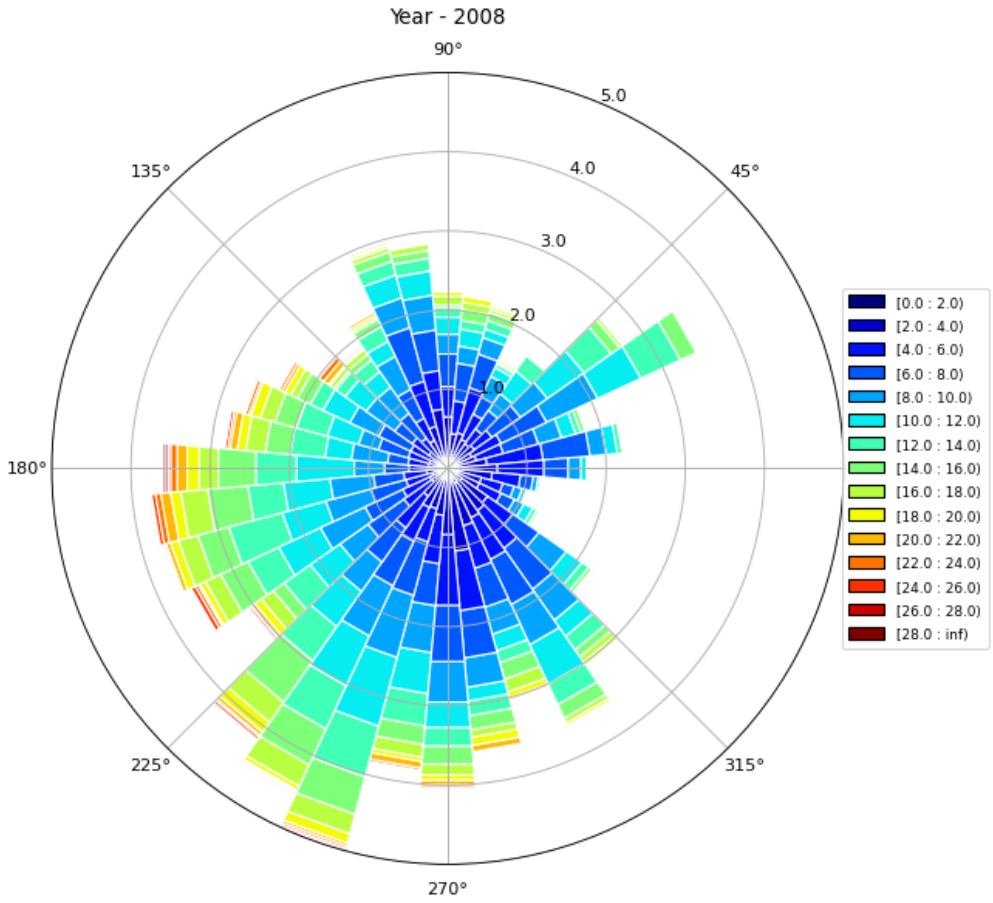
lets see the shapes of all of the data

In [4]:
```
for temp in sorted(data_frames):
    print('Shape of {} data is {}'.format(temp,data_frames
[temp].shape))
```

```
Shape of 2007 data is (15548, 3)
Shape of 2008 data is (16155, 3)
Shape of 2009 data is (16223, 3)
Shape of 2013 data is (16330, 3)
Shape of 2014 data is (16488, 3)
Shape of 2015 data is (16462, 3)
Shape of 2017 data is (15907, 3)
```

In [28]:
```
for temp in sorted(data_frames):
    df = data_frames[temp]
    ax = WindroseAxes.from_ax()
    ax.bar(df['drct'],df['sped'], normed=True, opening=1,ns
ector = 36,bins = np.arange(0,30,2), edgecolor='white')
    ax.set_legend(loc='center left', bbox_to_anchor=(1, 0.
5))
    plt.title('Year - {}'.format(temp))
```


Year - 2007
90°
135°
45°
180°
225°
315°
270°
5.7
4.6
3.4
2.3
1.1
[0.0 : 2.0)
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2008
90°
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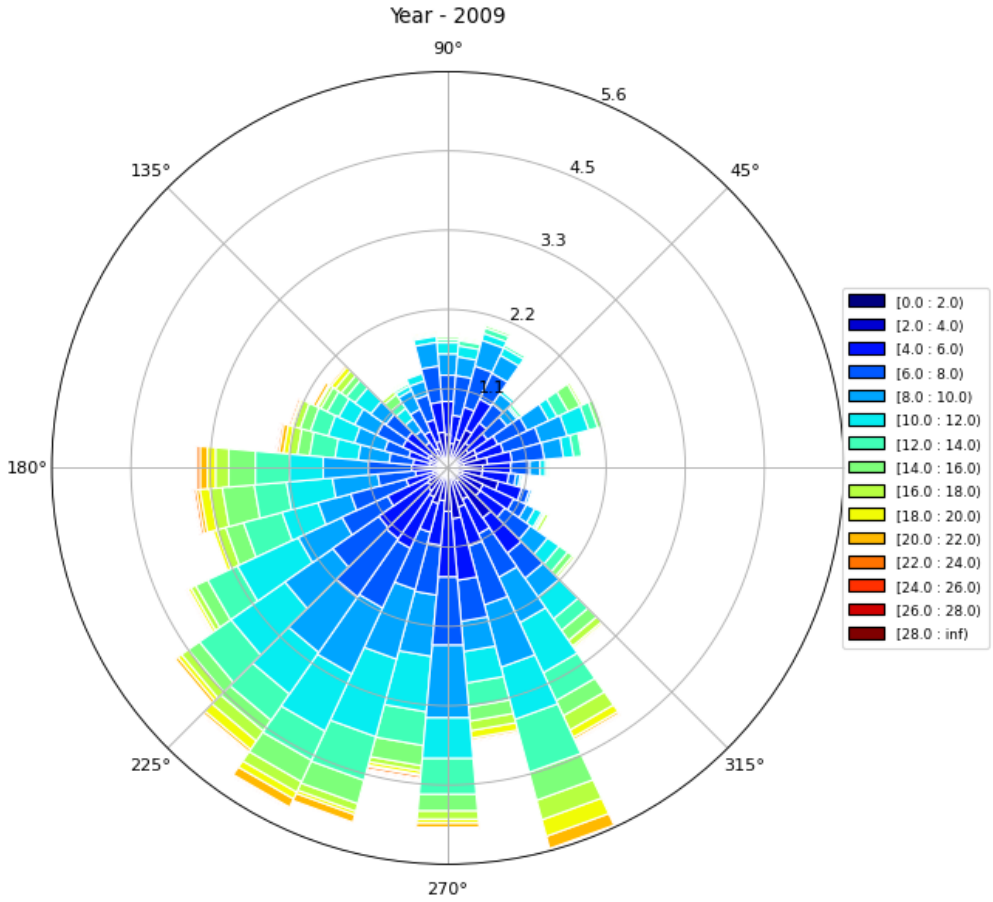
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2009
90°
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5.6
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3.3
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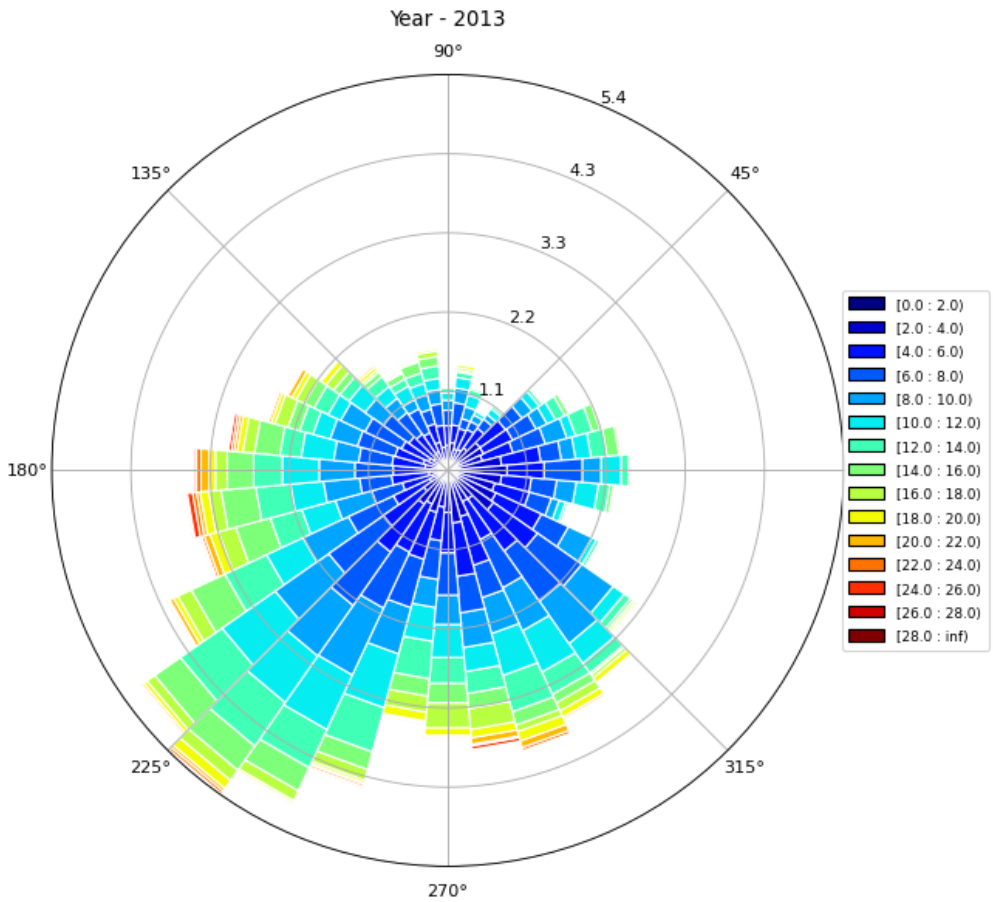
[0.0 : 2.0)
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2013
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135°
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225°
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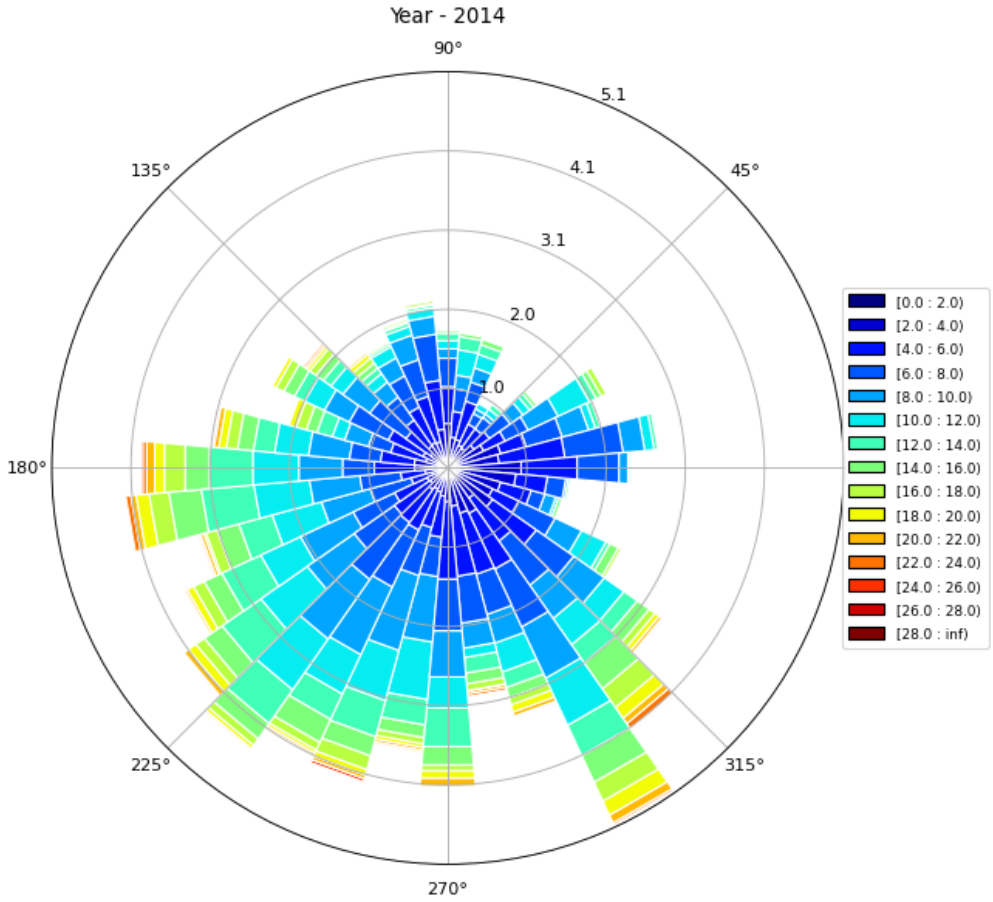
3.3
2.2
1.1
[0.0 : 2.0)
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2014
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3.1
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[0.0 : 2.0)
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
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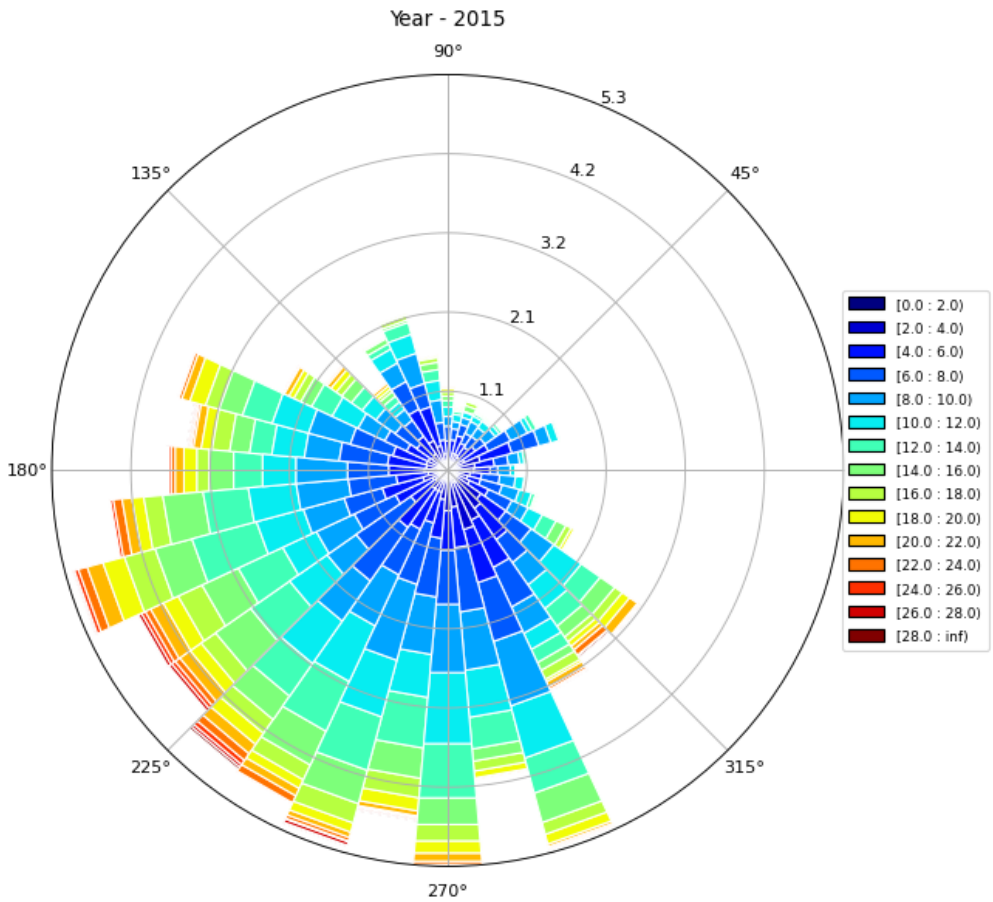
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2015
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[0.0 : 2.0)
[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
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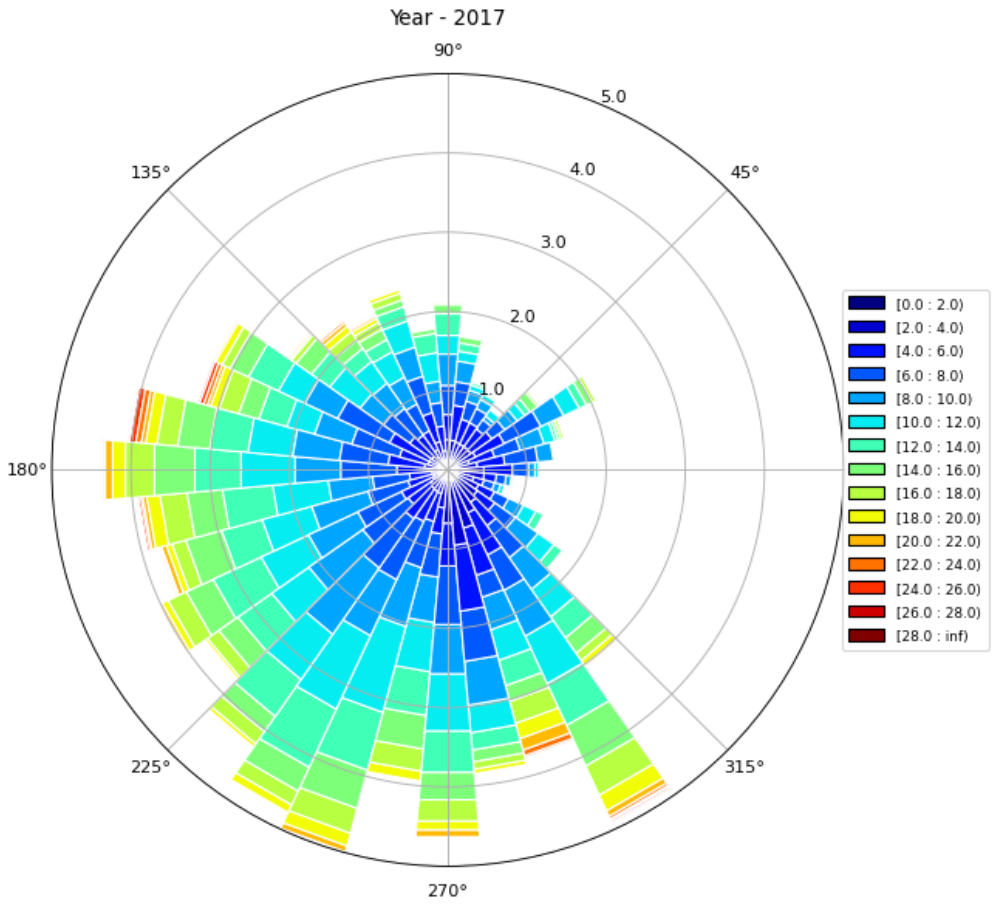
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)


Year - 2017
90°
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[2.0 : 4.0)
[4.0 : 6.0)
[6.0 : 8.0)
[8.0 : 10.0)
[10.0 : 12.0)
[12.0 : 14.0)
[14.0 : 16.0)
[16.0 : 18.0)
[18.0 : 20.0)
[20.0 : 22.0)
[22.0 : 24.0)
[24.0 : 26.0)
[26.0 : 28.0)
[28.0 : inf)

In [ ]: