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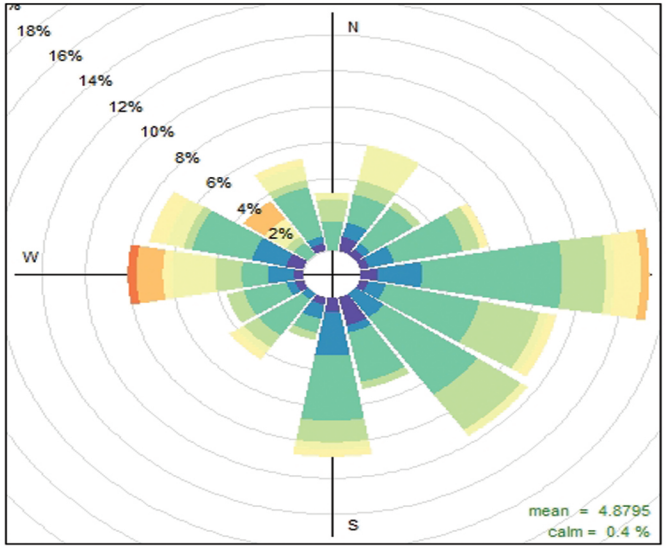
भारत मौसम विज्ञान भवन / INDIA METEOROLOGICAL DEPARTMENT

रेडियो सौन्डे और रेडियो विंड के मासिक सामान्य मूल्य (१९८१ - २०१०) तथा मासिक उपरिवायु के पवन दिग्दर्शक आरेख (२००० - २०१५)

MONTHLY NORMALS OF RADIOSONDE AND RADIOWIND (1981-2010) AND MONTHLY UPPER AIR WINDROSE DIAGRAMS (2000-2015)



मुंबई
MUMBAI

सितम्बर २०२०

SEPTEMBER 2020

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जलवायु आंकड़ां प्रबंधन समूह /CLIMATE DATA MANAGEMENT AND SERVICES GROUP

जलवायु अनुसंधान एवं सेवाएँ कार्यालय पुणे /OFFICE OF HEAD CLIMATE RESEARCH & SERVICES PUNE

सितम्बर २०२०

SEPTEMBER 2020

PREFACE

India Meteorological Department (IMD), Ministry of Earth Sciences, brings out publications on varied meteorological topics. Normals of Radiosonde and Radiowind data has been published by the Climate Data Management and Services Group (CDMS), Office of Climate Research and Services (C R & S), IMD Pune since 1979. Four such publications have been published till date. The present publication 'Monthly Normals of Radiosonde and Radiowind (1981-2010) and Monthly Upper Air Windrose Diagrams (2000-2015)' is prepared using 0000 UTC (0530 IST) observation data from 35 Radiosonde and Radiowind (RS/RW) Upper Air stations for the period 1981-2010 and wind profile data of 34 RS/RW stations for the period 2000-2015 at eight different levels (1000, 925, 850, 700, 500, 300, 200, 100 hPa). The wind rose diagrams are prepared using R software after processing the RS/RW data by applying various quality checks. The present publication provides the climatology of different meteorological parameters at various levels over the **Mumbai** (Latitude 19^0 07'N, Longitude 72^0 51'E).

The first part of this publication contains wind roses which provide comprehensive wind frequency information from each direction with various ranges of wind speed. Wind rose is a graphical tool prepared in order to summarise the information about wind speed and wind direction for the station. The tables adjoining to each wind rose diagrams contain information of frequency of occurrence of wind speed in percentage at different ranges of wind direction. In wind roses, the most regular structure comprises of a circle from which eight or sixteen lines come out, one for each direction. The length of each line denotes the occurrence of wind from that direction and the occurrence of calm conditions is entered in the centre. The wind rose diagrams prepared in this publication will be an essential source of information to the distribution pattern of wind direction and wind speed over the station. The information generated in this publication regarding wind roses is expected to be useful and have several applications in the fields such as environmental impact assessment, industrial emissions measurements, wind energy, agriculture engineering, ambient air monitoring, air quality measurements, air dispersion modelling, etc.

The second part of the publication contains information related to station normals which comprises of altitude of standard pressure levels (mean, highest and lowest), normal values of upper air temperatures (mean, highest, lowest and dew point), resultant wind direction, resultant wind velocity and scalar wind speed at standard pressure levels. Besides, it also contains normal values of pressure and altitude of freezing level and pressure, altitude and temperature of tropopause.

The entire work of this publication has been done by a group of officers and staff members led by Shri Nahush Kulkarni, Scientist- C, Climate Data and Monitoring Group (CDMG), O/o Climate Research & Services (CR&S), IMD Pune under the guidance of Shri. A.D. Tathe, Scientist E, Group Head Climate Data Management Group (CDMG). The valuable contributions were made by Shri. G.S. Dhekane, Met-B, Shri. S.H. Bhagwat, Shri. R.V. Ghoge, Smt. Gita Harikumar Smt. Vaishali Jadhav, Smt. Hasina Nisar, Met A and S.H. Sangale S.A. towards the preparation of this publication. It is hoped that the information from this publication will be useful to the scientific community and operational activities at their particular stations.

(Dr. D.S. Pai)
Head CRS IMD Pune

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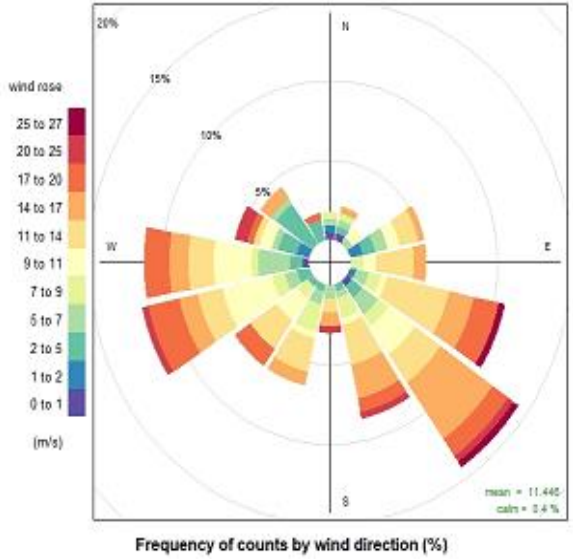
Description of various terms used in the table (Normals of Radiosonde data)

SN.	Terms	Description
1	PRESSURE	Standard Pressure levels in hPa (1000 to 7 hPa)
2	HEIGHT	Mean altitude of isobaric levels in gpm.
3	Hmax	Highest altitude of monthly mean values in gpm.
4	Hmin	Lowest altitude of monthly mean values in gpm.
5	TEMP	Mean dry bulb air temperature in ^{o}C.
6	TMAX	Highest value of temperature in ^{o}C observed at particular isobaric level
7	TMIN	Lowest value of temperature in ^{o}C observed at particular isobaric level
8	DEWPT	Mean dew point temperature in ^{o}C.
9	DIR	Mean resultant wind direction in degrees .
10	VELO	Mean resultant wind velocity in mps (vector mean).
11	U	The resolved part of wind velocity in East direction (East component)
12	V	The resolved part of wind velocity in North direction (North component)
13	VM	Mean wind speed irrespective of direction in mps (scalar mean).
14	P	Mean pressure of freezing and tropopause levels in hPa .
15	Height	Altitude of freezing and tropopause levels in gpm .
16	H_max	Highest altitude of freezing level of monthly mean values in gpm.
17	H_min	Lowest altitude of freezing level of monthly mean values in gpm .
18	SURFACE	Station level atmospheric pressure in hPa.
19	FIRST TROPOPAUSE	Tropopause observed at altitude less than 14 Km .
20	SECOND TROPOPAUSE	Tropopause observed at altitude more than 14 Km .

Description of terms used in the table (Wind rose table)

1	Speed	Range of wind velocity in mps
2	Direction	Range of wind direction in degrees

Interpretation of wind rose diagrams:



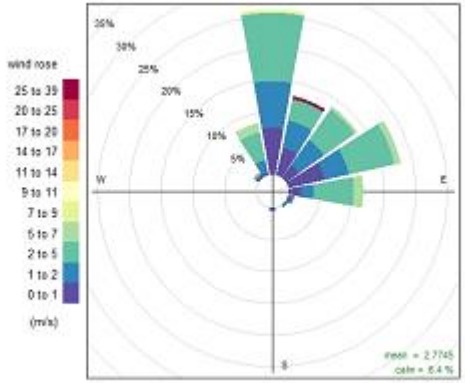
A wind rose diagrams at different upper air levels gives a very concise but information-laden view of how wind speed and direction are typically distributed at a particular location and month.

- The diagrams normally comprises of 8, 16 or 32 radiating spokes, which represent wind directions in terms of the cardinal wind directions (North East South West) and their intermediate directions.
- Presented in a circular format, the wind rose shows the frequency of winds blowing FROM particular directions.
- The length of each "spoke" around the circle is related to the frequency of time that the wind blows from a particular direction and each of the spokes are color-coded along their length to indicate the speed of the wind.
- Each concentric circle represents a different frequency, emanating from zero at the centre to increasing frequencies at the outer circles.

The circular format of the wind rose shows the direction the winds blew from and the length of each "spoke" around the circle shows how often the wind blew from that direction.

Mumbai January 1000 hPa level

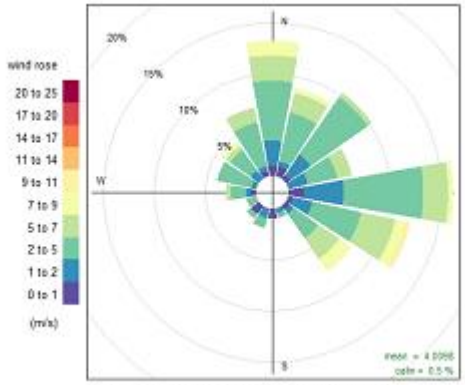
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		7.4	7.4	10.8	0	0.5	0	0	0	0	0	0
12-33		4.4	4.4	3.4	0	0	0	0	0	0	0	0.5
34-56		2.5	4.9	5.9	0.5	0	0	0	0	0	0	0
57-78		5.9	3.9	7.4	1	0	0	0	0	0	0	0
79-101		2	2	6.4	1.5	0	0	0	0	0	0	0
102-123		0.5	0.5	0	0	0	0	0	0	0	0	0
124-146		0	0.5	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191	6	0.5	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0.5	0	0.5	0	0	0	0	0	0	0	0
327-348		0.5	2	4.4	1.5	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 925 hPa level

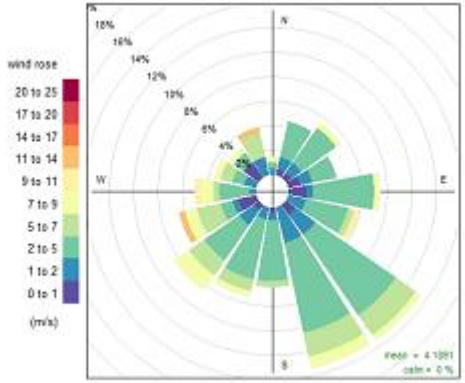
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		1	2.5	5.9	2.5	1.5	0	0	0	0	0	0
12-33		1	0.5	4.9	2	0.5	0	0	0	0	0	0
34-56		0.5	2.5	6.9	0.5	0	0	0	0	0	0	0
57-78		0	2	2.9	1.5	0	0	0	0	0	0	0
79-101		1.5	3.9	7.8	2.5	0.5	0	0	0	0	0	0
102-123		0.5	2	4.9	3.4	1	0.5	0	0	0	0	0
124-146		0.5	0.5	2.9	2.5	1.5	0	0	0	0	0	0
147-168		0	0.5	0.5	0	0	0	0	0	0	0	0
168-191	0	1	0	0	0	0	0	0	0	0	0	0
192-213		0	1	1	0	0	0	0	0	0	0	0
214-236		1	0	0.5	0	0	0	0	0	0	0	0
237-258		0	0	1	0	0	0	0	0	0	0	0
259-281		0.5	0.5	1.5	0.5	0	0	0	0	0	0	0
282-303		0	0.5	3.4	0	0	0	0	0	0	0	0
304-326		0	1	2.5	0.5	0.5	0	0	0	0	0	0
327-348		0.5	0.5	4.4	1.5	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 850 hPa level

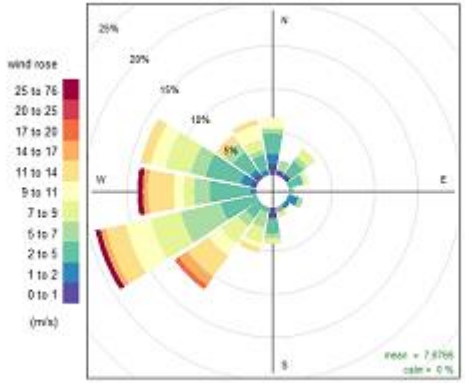
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.5	0.5	0	0.5	0	0	0	0	0	0
12-33		0.5	1	3	0	0	0	0	0	0	0	0
34-56		0.5	1	3.5	0	0.5	0	0	0	0	0	0
57-78		1	1	2	0	0	0	0	0	0	0	0
79-101		1.5	0.5	5	0	0.5	0	0	0	0	0	0
102-123		0	1.5	3.5	0.5	0	0.5	0	0	0	0	0
124-146		1	2	8	2	0.5	0	0	0	0	0	0
147-168		0	3	7	2	1	0	0	0	0	0	0
168-191		0.5	0.5	5.5	0.5	0	0	0	0	0	0	0
192-213		0	1	5	1	0.5	0	0	0	0	0	0
214-236		0.5	1.5	3.5	1.5	1.5	0	0	0	0	0	0
237-258		1.5	0.5	1	2	1	0	0.5	0	0	0	0
259-281		0	0.5	2.5	0.5	1	0.5	0	0	0	0	0
282-303		0	1	1	1	0.5	0	0	0	0	0	0
304-326		1.5	0	1	0	0.5	0	0	0	0	0	0
327-348		0	1.5	0	2	0	0	0.5	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 700 hPa level

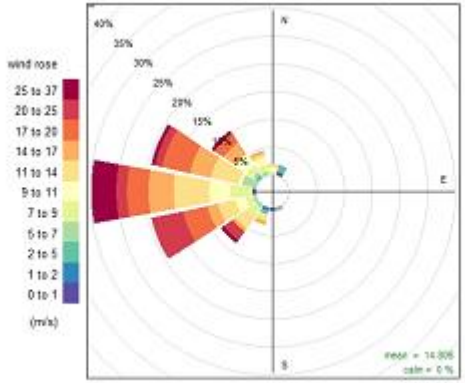
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	1.2	1.2	2.4	0.6	0	1.2	0	0	0	0	0
12-33		0.6	0	0	1.2	0	0	0	0	0	0	0
34-56		0.6	0	1.8	0.6	1.2	0	0	0	0	0	0
57-78		0	0	1.8	0	0.6	0	0	0	0	0	0
79-101		0	0	0.6	0	0	0	0	0	0	0	0
102-123		0	1.2	0	0.6	0	0	0	0	0	0	0
124-146		0	0.6	0	0	0	0	0	0	0	0	0
147-168		0	0	0.6	0	0	0	0.6	0	0	0	0
168-191		1.2	0	1.8	0.6	0.6	0	0	0	0	0	0
192-213		0	0	0.6	1.8	1.8	0.6	0.6	0	0	0	0
214-236		0	0	1.8	1.2	2.4	1.8	3	1.2	0.6	0	0
237-258		0	0	4.2	4.8	3.6	3	2.4	0.6	0	0	0.6
259-281		0	0.6	4.8	1.8	1.2	1.2	3	0.6	0	0	0.6
282-303		0.6	1.2	4.2	1.8	3	1.8	1.2	0	0	0	0
304-326		0.6	0.6	2.4	1.2	0	0	1.2	0	0	0	0
327-348		0	0.6	1.8	0.6	1.2	1.8	0.6	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 500 hPa level

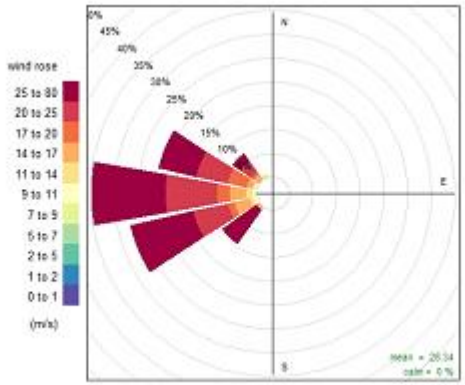
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0.6	0.6	0.6	0	0	0	0
12-33		0.6	0	1.3	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0.6	0	0	0	0	0	0	0	0
168-191		0.6	0	0	0	0	0	0	0	0	0	0
192-213		0	0.6	0.6	0	0.6	0	0.6	0.6	0	0	0
214-236		0	0	0	0.6	1.9	0	2.6	0.6	0	1.9	0.6
237-258		0	0	0	0.6	1.3	1.9	3.2	1.9	4.5	5.8	0
259-281		0.6	0	0	0	3.9	3.9	6.5	4.5	3.9	1.9	4.5
282-303		0	0	0	2.6	0	0.6	5.2	3.9	5.2	1.3	0.6
304-326		0	0	0.6	0.6	1.3	2.6	0	2.6	1.9	0	0.6
327-348		0	0	0	0.6	1.3	1.3	0.6	0.6	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 300 hPa level

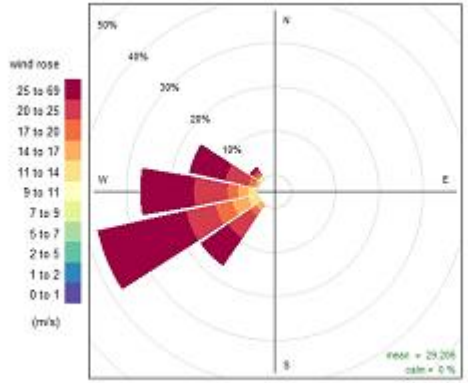
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0.7	0	0	8.8
237-258		0	0	0	0	0	0.7	0.7	3.4	1.4	7.5	13.6
259-281		0	0	0	0	0	0.7	1.4	3.4	2.7	10.9	15.6
282-303		0	0	0	0	0	0.7	0	1.4	4.1	6.8	8.2
304-326		0	0	0	0	0	0	0	1.4	0.7	2.7	2
327-348		0	0	0	0	0	0	0.7	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 200 hPa level

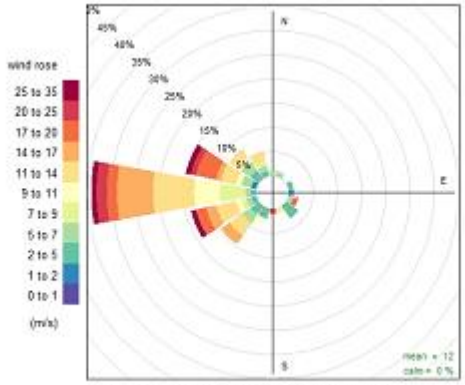
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	1.5	1.5	6.1	7.6
237-258		0	0	0	0	0	0	2.3	3.8	3.8	6.9	20.6
259-281		0	0	0	0	0	0	2.3	2.3	2.3	7.6	12.2
282-303		0	0	0	0	0	0	0	0.8	1.5	5.3	8.4
304-326		0	0	0	0	0.8	0	0	0	0.8	0.8	0.8
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai January 100 hPa level

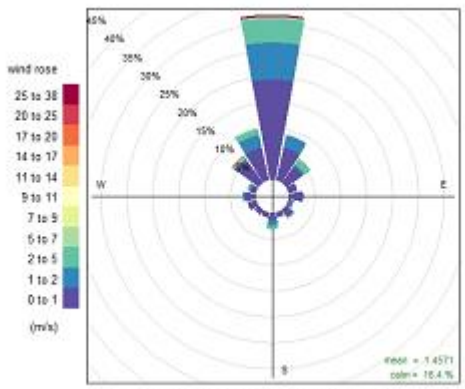
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	1.1	0	0	0	0	0	0	0
12-33		0	0	0	1.1	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	1.1	0	0	0	0	0	0	0	0
79-101		0	1.1	0	0	0	0	0	0	0	0	0
102-123		0	0	0	1.1	0	0	0	0	1.1	0	0
124-146		0	0	3.2	0	0	0	0	0	0	0	0
147-168		0	0	0	0	1.1	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	1.1	0
192-213		0	0	2.1	0	0	1.1	0	0	0	0	0
214-236		0	0	2.1	2.1	0	0	3.2	2.1	0	0	0
237-258		0	0	1.1	1.1	1.1	1.1	4.3	2.1	2.1	0	1.1
259-281		0	0	1.1	1.1	5.3	5.3	8.5	7.4	2.1	2.1	1.1
282-303		0	1.1	0	2.1	0	1.1	3.2	1.1	4.3	1.1	1.1
304-326		0	0	2.1	2.1	0	1.1	2.1	0	0	0	0
327-348		0	0	1.1	1.1	1.1	0	2.1	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai February 1000 hPa level

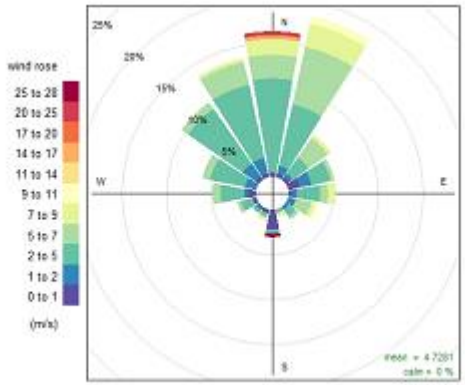
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		7.4	8.7	21	2.6	0.4	0	0.4	0	0	0	0
12-33		7.9	3.5	6.6	0.4	0.4	0.4	1.3	0	0	0	0
34-56		3.1	1.3	1.7	1.3	0	0	0	0	0	0	0
57-78		2.2	0.4	1.7	0.9	0	0	0	0	0	0	0
79-101		0.9	0.9	0	0	0	0	0	0	0	0	0
102-123		0.4	0	0.4	0	0	0	0	0	0	0	0
124-146		0.9	0	0	0	0	0	0	0	0	0	0
147-168	5	0	0	0	0	0	0	0	0	0	0	0
168-191		1.3	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0.4	0	0	0	0	0	0	0	0
282-303		0.4	0.9	0	0	0	0	0	0	0	0	0
304-326		1.7	1.3	0	0	0.4	0	0	0	0	0	0
327-348		4.8	1.7	3.5	0.4	0	0	0	0	0	0	0.4



Frequency of counts by wind direction (%)

Mumbai February 925 hPa level

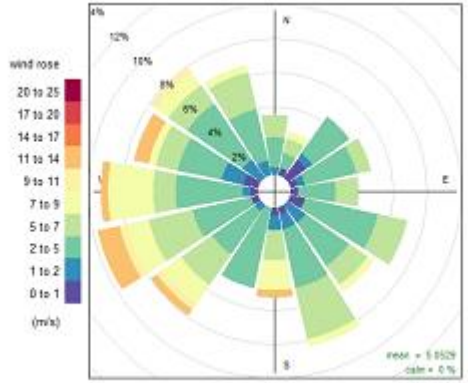
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.4	0	10.5	2.6	1.8	0	0	0.4	0	0.4	0
12-33		0.4	0.9	7	6.6	2.6	0.9	0	0	0	0	0
34-56		0.4	0.4	2.2	2.6	0.4	0	0	0	0	0	0
57-78		1.3	1.3	2.2	0.4	0	0	0	0	0	0	0
79-101		0.4	0.4	2.6	0.9	0.9	0	0	0	0	0	0
102-123		0	0.9	0	1.8	0.4	0.4	0	0	0	0	0
124-146		0	0.4	0.9	0.4	0	0	0	0	0	0	0
147-168	0	0	0	0.4	0	0.4	0	0	0	0	0	0
168-191		2.2	0	0.4	0	0	0	0	0	0	0	0.4
192-213		0.4	0	0.4	0	0.4	0	0	0	0	0	0
214-236		0	0.4	0.4	0	0	0	0	0	0	0	0
237-258		0.4	0	1.3	0.4	0	0	0	0	0	0	0
259-281		0.9	0.4	2.6	0.9	0	0	0	0	0	0	0
282-303		0	1.3	3.9	0.9	0	0	0	0	0	0	0
304-326		0.4	1.8	7.5	0.9	0	0	0	0	0	0	0
327-348		0.4	1.8	8.3	2.6	0.4	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai February 850 hPa level

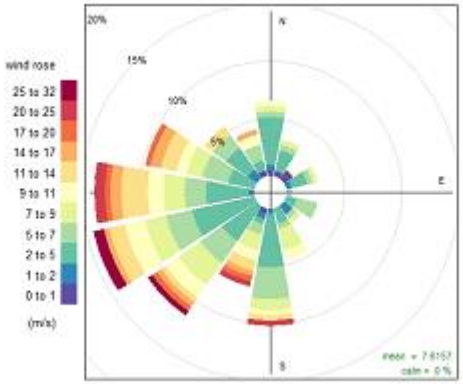
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.4	1.8	1.3	0	0	0	0	0	0	0
12-33		0.4	0	0.9	0.9	0.4	0	0	0	0	0	0
34-56		1.3	0.4	2.6	0	0	0	0	0	0	0	0
57-78		0.4	0.4	3.1	0.9	0	0	0	0	0	0	0
79-101		0.4	0	2.2	1.3	0	0	0	0	0	0	0
102-123		0.9	0	4.4	1.8	0	0	0	0	0	0	0
124-146		0	1.3	3.1	1.3	0.4	0	0	0	0	0	0
147-168		0.4	0.9	3.5	2.6	0.4	0	0	0	0	0	0
168-191		0.4	0.9	0	2.2	1.8	0	0.4	0	0	0	0
192-213		0	0	4.8	0	0	0	0	0	0	0	0
214-236		0	0.4	3.1	2.2	1.3	0.4	0.4	0	0	0	0
237-258		0.4	0	3.5	2.6	1.3	0.4	1.3	0	0	0	0
259-281		0.4	0.4	4	1.3	2.6	0	0.4	0	0	0	0
282-303		0.9	1.3	2.6	1.3	0.4	0	0.9	0	0	0	0
304-326		0	1.3	4	1.3	0.9	0.4	0	0	0	0	0
327-348		0	0.9	3.1	2.2	0.4	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai February 700 hPa level

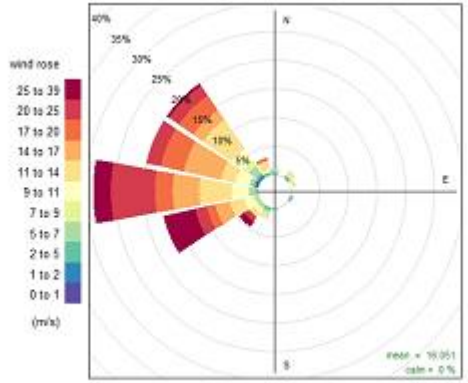
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.5	0.5	4.2	0.5	0.5	0.5	0	0	0	0	0
12-33		0.5	0	1.9	0.5	0.5	0	0	0	0	0	0
34-56		0.9	0	0	0	0	0.5	0	0	0	0	0
57-78		0	0.5	1.4	0.5	0.5	0	0	0	0	0	0
79-101		0	0	0.5	0	0	0	0	0	0	0	0
102-123		0	0	0.9	1.9	0	0	0	0	0	0	0
124-146		0	0.9	0	0.5	0.5	0	0	0	0	0	0
147-168		0	0	1.4	0.5	1.9	0.9	0	0	0	0	0
168-191		0	0.5	4.6	2.8	0.9	0.5	0.5	0	0	0.5	0
192-213		0.5	0.5	0.5	0.9	1.4	0.9	0.9	0.5	0.5	0.5	0
214-236		0	0	3.7	2.3	2.3	1.4	0.5	0.5	0.5	0	0.5
237-258		0	0	5.6	2.3	1.9	1.9	1.4	0.5	0	0	0.9
259-281		0	0.5	3.7	1.9	1.9	1.4	2.3	0.9	0.5	0.9	0
282-303		0	0	2.3	2.3	1.4	0.9	1.4	0.9	0.5	0	0
304-326		0	0.9	2.3	1.4	0	0	0.9	0	0	0	0
327-348		0.5	0	0.9	1.4	0	0.9	0	0.5	0	0	0



Frequency of counts by wind direction (%)

Mumbai February 500 hPa level

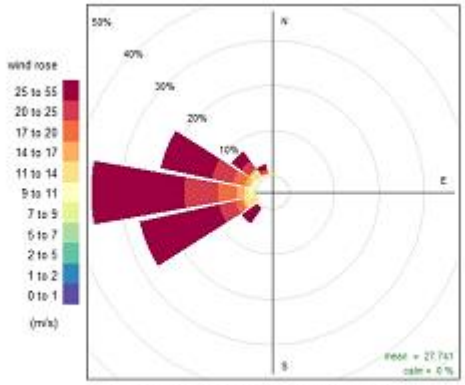
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0.5	0.5	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0.5	0	0.5	0	0.5	0	0	0	0
57-78		0	0	0	0	0	0.5	0.5	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0.5	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168	0	0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0.5	0	0	0	0	0	0	0	0
192-213		0	0	0.5	0.5	0.5	0	0.5	0	0	0	0
214-236		0	0	0	0.5	0.5	0.5	1	0	0	1	1
237-258		0	0	0	0.5	0.5	1.5	2.6	2.6	1.5	2.1	5.6
259-281		0	0	0.5	1	0	3.1	5.6	4.6	3.1	7.7	3.1
282-303		0.5	0	0.5	0.5	0	2.6	2.6	6.7	4.1	2.6	0
304-326		0	0.5	0.5	1.5	1	2.6	6.2	2.1	3.1	2.1	0.5
327-348		0	0	0.5	0	0	0.5	1.5	0	0.5	0	0



Frequency of counts by wind direction (%)

Mumbai February 300 hPa level

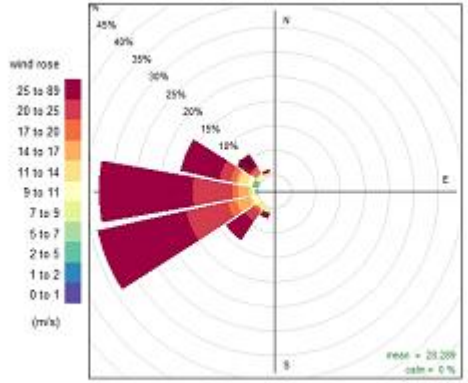
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0	0	0	0	0.5	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168	0	0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0.5	0	0	0	0	4.2
237-258		0	0	0	0	0.5	0	2.1	0.5	1.6	3.7	18
259-281		0	0	0	0	1.1	0.5	1.1	1.6	4.2	7.4	20.6
282-303		0	0	0	0	0	1.1	0.5	1.1	2.6	4.8	11.6
304-326		0	0	0	0	0	0.5	1.6	0.5	0	2.1	2.6
327-348		0	0	0	0	0	0.5	0	0	0.5	0.5	1.1



Frequency of counts by wind direction (%)

Mumbai February 200 hPa level

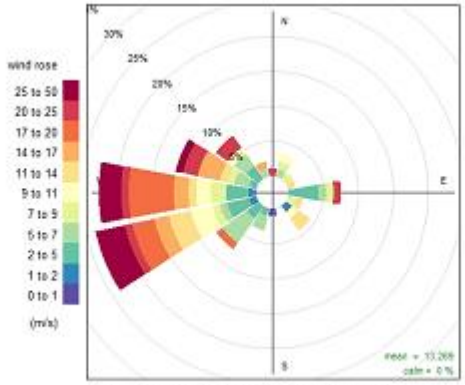
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	1.2	0	0	0	0	0	1.2
214-236		0	0	0	0	0.6	0	0.6	0	0.6	2.3	4.6
237-258		0	0	0	0	0	1.2	0.6	2.9	1.7	8.7	18.5
259-281		0	0	0.6	0	0	0.6	0.6	2.3	1.2	8.1	19.1
282-303		0	0	1.2	0	0	1.2	1.7	0.6	1.2	2.3	8.1
304-326		0	0	0	0	0	0.6	0.6	0	1.2	0.6	2.9
327-348		0	0	0	0	0	0	0.6	0	0	0	0.6



Frequency of counts by wind direction (%)

Mumbai February 100 hPa level

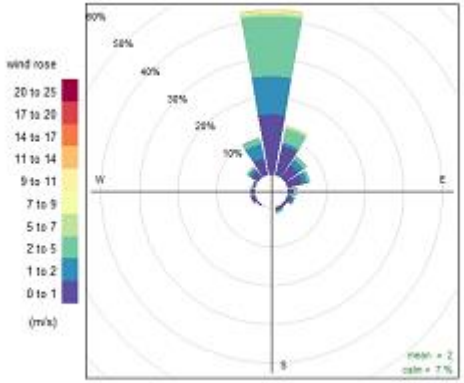
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	1.1	0
12-33		0	0	0	1.1	1.1	1.1	0	0	0	0	0
34-56		0	0	0	0	1.1	0	0	0	0	0	0
57-78		0	0	0	0	0	0	1.1	0	0	0	0
79-101		0	0	4.3	1.1	1.1	0	0	0	0	1.1	0
102-123		0	0	0	0	1.1	0	1.1	0	0	0	0
124-146		0	1.1	0	0	0	1.1	2.2	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		1.1	0	0	0	0	0	0	0	0	0	0
192-213		0	0	1.1	2.2	0	0	0	0	0	0	0
214-236		0	0	2.2	4.3	0	0	0	0	1.1	0	0
237-258		0	1.1	3.2	1.1	1.1	3.2	3.2	2.2	3.2	1.1	4.3
259-281		0	1.1	3.2	0	2.2	2.2	1.1	2.2	6.5	1.1	3.2
282-303		0	0	1.1	2.2	1.1	0	1.1	3.2	0	2.2	1.1
304-326		0	0	2.2	2.2	0	1.1	0	0	0	2.2	0
327-348		0	0	0	1.1	0	0	0	1.1	0	0	0



Frequency of counts by wind direction (%)

Mumbai March 1000 hPa level

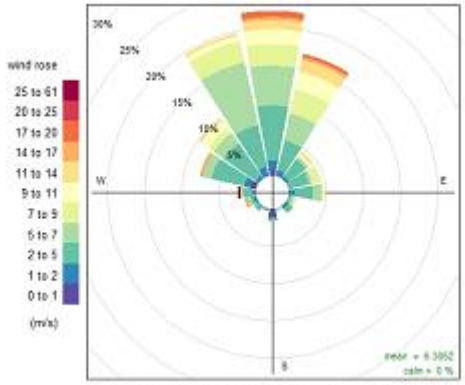
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		15.6	9.8	15.6	0.8	0.4	0	0.4	0	0	0	0
12-33		7.8	0.8	3.7	0.8	0	0	0	0	0	0	0
34-56		4.1	1.6	1.2	0	0	0	0	0	0	0	0
57-78		4.1	1.2	0.8	0	0	0	0	0	0	0	0
79-101		1.6	0	0.8	0	0	0	0	0	0	0	0
102-123		1.2	0.8	0	0	0	0	0	0	0	0	0
124-146		0.8	0	0	0	0	0	0	0	0	0	0
147-168	7	0.8	0.4	0.4	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0.4	0	0	0	0	0	0	0	0	0	0
237-258		1.2	0	0	0	0	0	0	0	0	0	0
259-281		1.2	0	0	0	0	0	0	0	0	0	0
282-303		0.4	0.4	0	0	0	0	0	0	0	0	0
304-326		2	0.8	0.4	0.4	0	0	0	0	0	0	0
327-348		4.5	3.7	1.6	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai March 925 hPa level

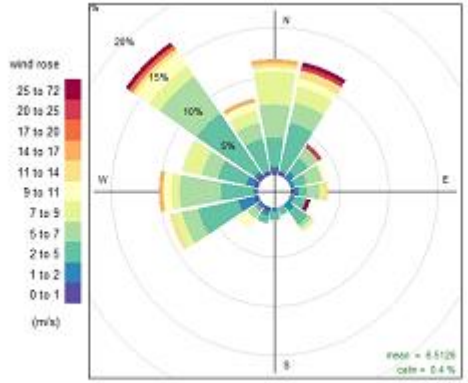
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.8	1.2	7.4	5.3	2.9	2	1.2	0.4	0.8	0	0
12-33		0	0.8	4.1	3.7	3.3	2.5	1.6	0.4	0.4	0	0
34-56		0	0.4	2.9	0.4	0	0.4	0.4	0	0	0	0
57-78		0	0	2.9	0.4	1.2	0	0	0	0	0	0
79-101		0	0.8	2.5	1.2	0	0.4	0	0	0	0	0
102-123		0	0	0.4	0.4	0.4	0	0	0	0	0	0
124-146		0	0.4	0.8	0	0	0	0	0	0	0	0
147-168	0	0	0	0	0.4	0	0	0	0	0	0	0
168-191		1.2	0	0.4	0	0	0	0	0	0	0	0
192-213		0	0	0.4	0	0	0	0	0	0	0	0
214-236		0	0	0.8	0	0	0	0	0	0	0	0
237-258		0	0.4	0.4	0.4	0	0	0	0.4	0	0	0
259-281		0	0.4	1.2	0.4	0	0	0	0	0	0	0.4
282-303		0.8	0.8	4.5	1.2	0	0	0	0.4	0	0	0
304-326		0	0.4	5.3	1.6	0.8	1.2	0.4	0	0	0	0
327-348		0	1.2	5.7	8.6	2.9	0.8	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai March 850 hPa level

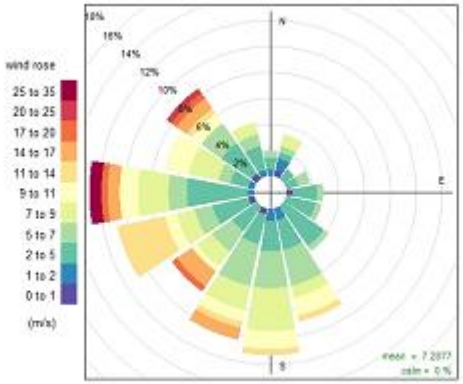
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.4	0.4	2.9	3.4	3.4	0.4	0.4	0.4	0	0	0
12-33		0.4	0	5	2.1	1.7	0.8	0.8	0	0	0.4	0.4
34-56		0	0.8	1.7	1.3	0	0	0	0	0	0.4	0
57-78		0	0.4	1.3	1.7	0	0.4	0	0	0	0	0
79-101		0.4	0.4	0.8	1.3	0.4	0	0.4	0	0	0	0
102-123		0	0.4	1.3	0	0	0	0	0	0	0	0.4
124-146		0	0.8	1.7	0.4	0.4	0	0	0	0	0	0
147-168		0	0	0.8	0	0	0	0	0	0	0	0
168-191		0	0.4	0.8	0	0	0	0	0	0	0	0
192-213		0.4	0.4	0.8	0	0	0	0	0	0	0	0
214-236		0	0.4	0.4	0.8	0	1.3	0	0	0	0	0
237-258		0.4	1.7	4.2	1.7	0.8	0	0.4	0	0	0	0
259-281		0	0.4	3.4	4.2	0.8	0.8	0	0.4	0	0	0
282-303		0.4	0.8	2.9	1.7	2.1	0	0	0	0	0	0
304-326		0.4	0.4	7.1	4.6	1.3	1.7	0.4	0	0.4	0	0.4
327-348		0.4	0	3.4	1.7	1.3	0.8	0	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai March 700 hPa level

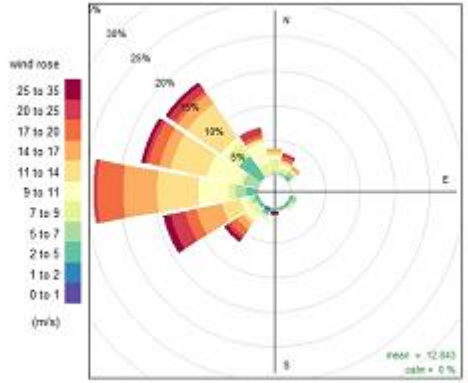
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.5	0.9	0.5	0	0	0	0	0	0	0
12-33		0.5	0.9	0.5	0.5	0.9	0	0	0	0	0	0
34-56		0	0	0.9	0	0	0	0	0	0	0	0
57-78		0	0	0.9	0.9	0	0	0	0	0	0	0
79-101		0.5	0	1.9	0.5	0	0	0	0	0	0	0
102-123		0	0	2.4	0.5	0	0	0	0	0	0	0
124-146		0	0	3.8	0.5	0	0	0	0	0	0	0
147-168		0	0.5	2.4	2.8	0.9	1.4	0.5	0	0	0	0
168-191		0	1.4	2.4	2.8	3.3	1.4	0.5	0	0	0	0
192-213		0.5	0	2.4	3.3	1.9	0.9	0.5	0.9	0	0	0
214-236		0	0	2.4	1.9	1.4	0.5	0	1.4	0.5	0	0
237-258		0.5	0	2.8	1.4	1.4	0.9	3.8	0	0	0	0
259-281		0	0.5	4.7	1.4	2.4	1.4	0	0.9	0.5	0	0.9
282-303		0	0.5	1.4	0.9	2.4	1.9	0	0	0	0	0
304-326		0.5	0	2.8	1.9	0	0.9	0.5	0.9	0.5	0.5	0
327-348		0	0.5	1.9	0.9	0.9	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai March 500 hPa level

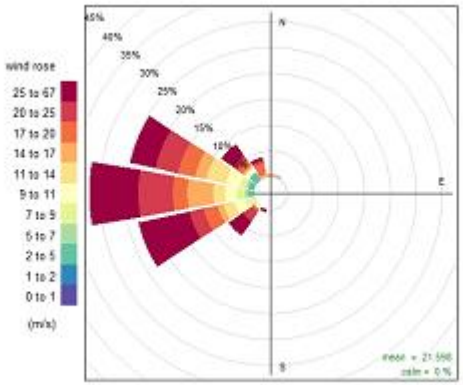
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0.5	1.6	0.5	0.5	0.5	0	0	0
12-33		0	0	0	0.5	0.5	0.5	0.5	0	0.5	0.5	0
34-56		0	0	0.5	0.5	0.5	0	0	0.5	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0.5	0.5	0	0	0	0	0	0	0
124-146		0	0	0.5	0	0.5	0	0	0	0	0	0
147-168		0	0	0.5	0	0	0	0	0	0	0	0
168-191		0	0	0.5	0	0	0	0	0	0	0	0.5
192-213		0	0.5	0.5	0	0.5	0	0	0	0	0	0
214-236		0	0	0.5	0	1.1	1.1	0.5	1.1	1.1	0.5	0.5
237-258		0	0	0.5	0.5	0.5	1.1	2.7	3.8	1.6	2.2	1.1
259-281		0	0	1.6	1.6	1.1	4.3	5.9	4.9	3.8	0.5	0
282-303		0	0	0	2.2	0.5	4.9	5.4	1.6	1.6	0.5	0.5
304-326		0	0	3.8	0	2.2	1.1	5.9	1.6	0.5	1.1	0.5
327-348		0	0	0	0	1.6	3.2	0.5	0	0.5	1.1	0



Frequency of counts by wind direction (%)

Mumbai March 300 hPa level

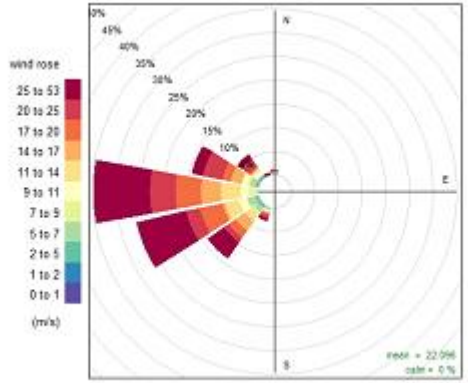
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0.6	0	0
12-33		0	0	0	0	0	0	0	0.6	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0.6
214-236		0	0	0	0	0	0.6	0	0	0.6	2.2	3.4
237-258		0	0	0	0	1.7	2.2	2.2	1.1	2.8	2.8	10.1
259-281		0	0	1.1	0.6	1.7	2.2	2.2	5	2.8	6.7	9.5
282-303		0	0	1.1	0.6	1.1	2.8	3.9	2.2	3.4	4.5	5
304-326		0	0	1.7	0	0	1.1	0	0.6	1.1	1.1	2.8
327-348		0	0	0	0	0	0	0	0.6	2.2	0.6	0.6



Frequency of counts by wind direction (%)

Mumbai March 200 hPa level

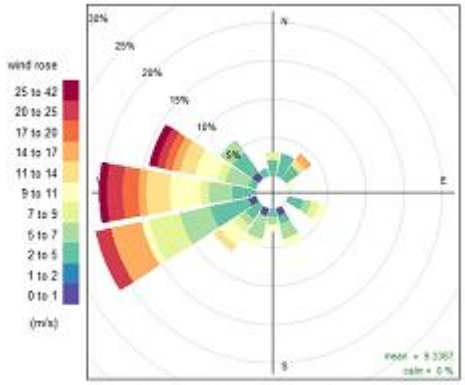
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0.6	0	0	0	0	0	0	0.6	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0.6	0	0.6	0	0	0.6	0.6	0.6
214-236		0	0	0.6	1.2	0.6	0	1.8	2.4	1.8	1.2	4.2
237-258		0	0	0.6	1.8	0	1.8	3	0.6	4.8	3	10.8
259-281		0	0	0	0	1.8	1.8	4.2	4.2	5.4	5.4	12
282-303		0	0	0.6	1.2	0.6	1.2	0	2.4	1.8	4.2	2.4
304-326		0	0	0.6	0	0	1.2	0.6	0	0.6	1.8	1.2
327-348		0	0	0	0	0	0	0	0	0	0	0.6



Frequency of counts by wind direction (%)

Mumbai March 100 hPa level

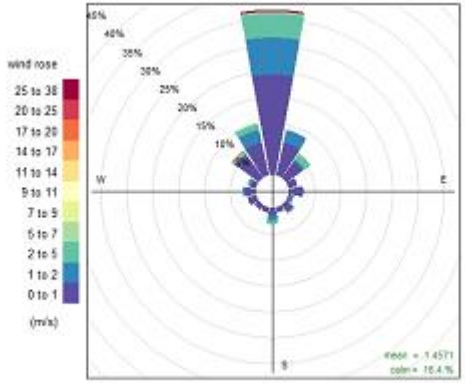
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	2	0	1	0	0	0	0	0	0
12-33		0	0	3.1	0	0	0	0	0	0	0	0
34-56		0	0	2	0	0	0	1	1	0	0	0
57-78		0	0	0	0	0	1	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	2	1	1	1	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		1	0	1	2	0	1	0	0	0	0	0
168-191		0	0	1	1	0	1	0	0	0	0	0
192-213		1	0	0	3.1	0	1	0	0	0	0	0
214-236		0	0	2	1	1	2	1	0	0	0	0
237-258		1	0	5.1	4.1	4.1	1	0	4.1	0	2	0
259-281		0	0	3.1	3.1	1	4.1	3.1	1	2	2	1
282-303		0	0	1	3.1	1	3.1	2	1	1	1	1
304-326		1	0	3.1	2	0	0	0	0	0	0	0
327-348		0	0	1	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 1000 hPa level

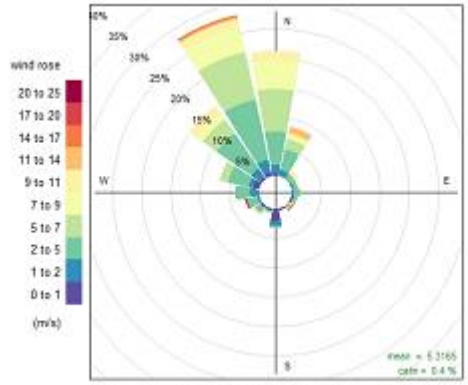
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		19.3	7.1	4.6	0.4	0	0	0	0	0	0	0.4
12-33		6.4	2.5	0	0	0	0	0	0	0	0	0
34-56		3.9	0.4	1.4	0	0	0	0	0	0	0	0
57-78		1.8	0	0	0	0	0	0	0	0	0	0
79-101		2.9	0	0	0	0	0	0	0	0	0	0
102-123		0.4	0.7	0	0	0	0	0	0	0	0	0
124-146		1.8	0	0.4	0	0	0	0	0	0	0	0
147-168	16	1.1	0	0	0	0	0	0	0	0	0	0
168-191		1.4	1.1	0.7	0	0	0	0	0	0	0	0
192-213		1.1	0	0	0	0	0	0	0	0	0	0
214-236		1.1	0	0	0	0	0	0	0	0	0	0
237-258		1.8	0	0	0	0	0	0	0	0	0	0
259-281		2.1	0.4	0	0	0	0	0	0	0	0	0
282-303		1.1	0.4	0.4	0	0	0	0	0	0	0	0
304-326		5	0.7	0	0.4	0	0	0	0	0.4	0	0
327-348		6.4	2.5	1.1	0.4	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 925 hPa level

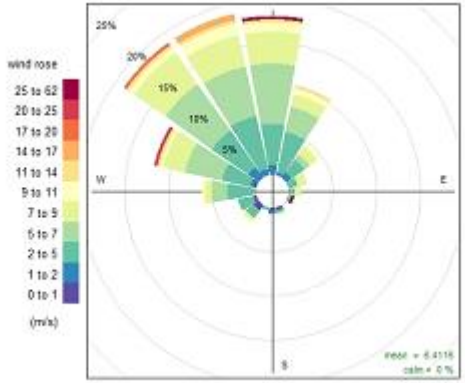
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.4	1.4	5.8	7.2	5	1.4	0	0	0	0	0
12-33		0	1.1	3.6	1.8	0.7	0.4	1.1	0	0	0	0
34-56		0	0	1.1	0	0.4	0.4	0	0	0	0	0
57-78		0	0.4	0.7	0	0.4	0	0	0	0	0	0
79-101		0	0.4	1.1	0	0	0	0	0	0	0	0
102-123		0.4	0	0.7	0	0	0	0	0	0	0	0
124-146		0	0	0.4	0	0	0	0.4	0.4	0	0	0
147-168	0	0.4	0	0	0	0	0	0	0	0	0	0
168-191		2.2	0.7	0.4	0	0	0	0	0	0	0	0
192-213		0.4	0	0.4	0	0.4	0	0	0	0	0	0
214-236		0.4	0	1.1	0.4	0	0	0	0	0	0	0
237-258		0	0.4	1.8	0	0	0	0	0	0.4	0	0
259-281		0	1.4	2.5	0	0	0	0	0	0	0	0
282-303		1.1	0.7	3.6	1.4	0	0	0	0	0	0	0
304-326		0.4	1.8	7.2	2.9	1.4	1.4	0	0	0	0	0
327-348		0.7	2.2	10.4	8.3	4.3	1.4	0.4	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 850 hPa level

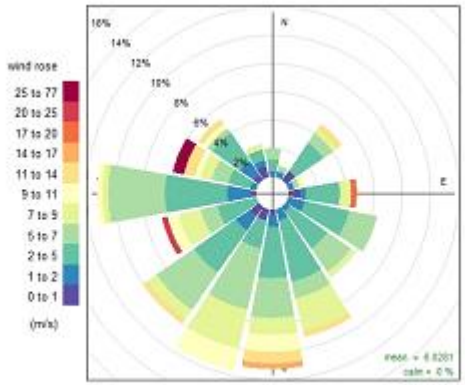
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	1.1	4.7	6.9	3.6	1.1	0.4	0	0	0	0.4
12-33		0	0.4	4.7	2.9	1.4	0.7	0.4	0	0	0	0
34-56		0	0.7	1.8	0.7	1.1	0.4	0	0	0	0	0
57-78		0	0	1.1	0	1.1	0	0	0	0	0	0
79-101		0	0	0.7	0	0.7	0	0	0	0	0	0
102-123		0	0	0.4	0	0	0	0	0	0	0	0.4
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0.4	0	0	0.4	0	0	0	0	0
168-191		0.7	0.4	0	0	0	0	0	0	0	0	0
192-213		0	0	0.4	0	0	0	0	0	0	0	0
214-236		0.7	0	1.1	0	0.4	0.4	0	0	0	0	0
237-258		0.4	0	1.8	0	0	0	0	0	0	0	0
259-281		0	0	3.2	1.8	0.7	0.4	0	0	0	0	0
282-303		0.4	0.4	3.2	4.3	2.5	0.4	0.4	0	0	0.4	0
304-326		0	1.4	5.1	6.5	4.3	0.7	0.4	0	0.4	0	0
327-348		0	0.7	6.1	5.8	3.6	1.4	0.4	0.7	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 700 hPa level

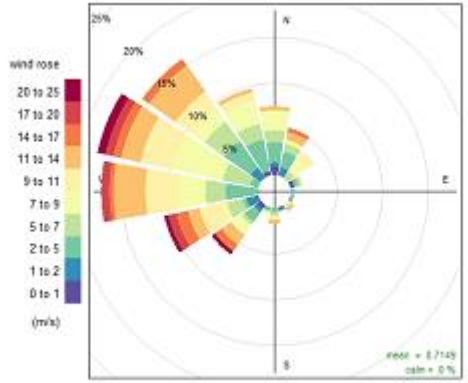
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.4	0.8	0.8	0	0	0	0	0	0	0
12-33		0	0.4	0	0.4	0	0	0	0	0	0	0
34-56		0.8	0	2.4	0.8	0.4	0	0.4	0	0	0	0
57-78		0	0.4	0	0.4	0	0.4	0	0	0	0	0
79-101		0.8	0.4	2.4	0	0.8	0	0	0	0.4	0	0
102-123		0	1.2	3.2	2	0	0	0	0	0	0	0
124-146		0	0.4	3.2	2	0.4	0	0	0	0	0	0
147-168		0	0.8	4.4	1.2	2.4	0	0.4	0	0	0	0
168-191		0.4	0.8	3.6	2.8	1.2	1.2	0.8	0.4	0	0	0
192-213		0.8	0	2	4.4	2.8	1.6	0	0	0	0	0
214-236		0.8	1.2	3.6	3.2	0.8	0	0.4	0	0	0	0
237-258		0	0	2.8	1.2	1.6	0.8	0	0	0	0.4	0
259-281		0.4	1.6	4.4	4	0.4	0.4	0	0	0	0	0
282-303		0	0.4	1.6	1.2	0.8	0.4	0.8	0	0	0	0.8
304-326		0.4	1.2	2.4	0.4	0	0.4	0.4	0	0	0	0
327-348		0.8	0.4	0.8	0	0.4	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 500 hPa level

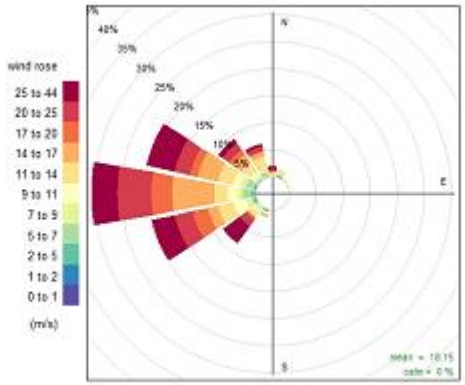
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.9	0.4	2.2	1.3	2.2	0	0.4	0	0	0	0
12-33		0	0.9	1.8	0.9	0.4	0	0.9	0.4	0	0	0
34-56		0	0	0	0.9	1.8	0.9	0	0	0	0	0
57-78		0.4	0	0.4	0.4	0	0	0	0	0	0	0
79-101		0	0	0.4	0	0	0	0	0	0	0	0
102-123		0	0	0.4	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0.4	0.4	0	0	0	0
147-168		0	0.4	0	0	0	0	0	0	0	0	0
168-191		0	0	0.4	0.4	0	0.4	0.4	0	0	0	0
192-213		0	0	0.4	0	0.4	0	0	0	0	0	0
214-236		0.4	0.4	1.3	0.4	1.3	0	1.3	0.9	0	0.4	0
237-258		0	1.3	0.4	1.8	0.4	2.6	1.3	1.3	0.9	0.4	0
259-281		0	0	3.5	2.2	3.1	3.5	3.5	0.4	0.9	0	0
282-303		0	0	0.9	3.1	5.7	3.5	2.2	0.9	0.9	0.9	0
304-326		0	1.3	3.5	2.6	1.8	2.2	3.5	0.9	0	0	0
327-348		0.4	0	3.5	1.8	2.6	0.9	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai April 300 hPa level

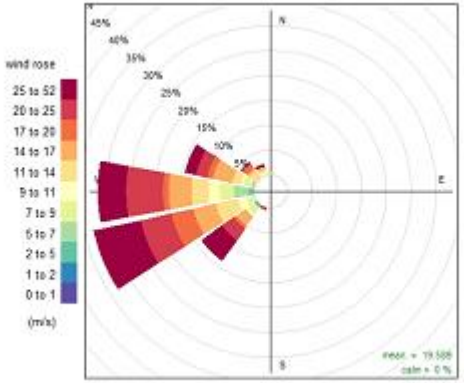
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0.5	0	0	0.5	0	0.5	0.5
12-33		0	0	0.5	0	0.5	0	0.5	0	0	0	0
34-56		0	0	0	0	0.5	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0.5	0	0	0.5	0	0.5	0	0	0
214-236		0	0	0	0	1	0.5	1	0	0.5	1.4	3.9
237-258		0	0	0.5	0.5	1	2.4	2.9	1.9	2.9	3.4	4.3
259-281		0	0	1	1.4	1	1.9	2.4	7.7	3.9	6.3	4.8
282-303		0	0	0.5	1.4	1	1.4	2.9	3.9	1.4	2.9	5.3
304-326		0	0	0	0.5	0.5	1	1.9	1.9	1	1.4	1
327-348		0	0	0	1	1	0	1.9	1	0	1	0.5



Frequency of counts by wind direction (%)

Mumbai April 200 hPa level

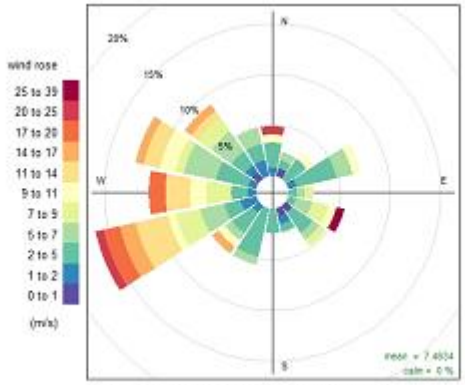
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0.6	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0.6	0
214-236		0	0	0.6	0	1.7	0.6	0	2.3	0.6	2.9	5.1
237-258		0	0	0	0	1.7	1.7	4.6	4.6	4.6	6.3	9.7
259-281		0	0	1.1	2.9	2.9	2.3	3.4	4.6	1.1	7.4	5.7
282-303		0	0	0	0.6	1.7	0.6	1.7	4	1.1	2.3	2.3
304-326		0	0	0	0	0	0	1.7	0.6	1.1	0.6	0
327-348		0	0	0	0	0	0.6	0.6	0.6	0	0	0.6



Frequency of counts by wind direction (%)

Mumbai April 100 hPa level

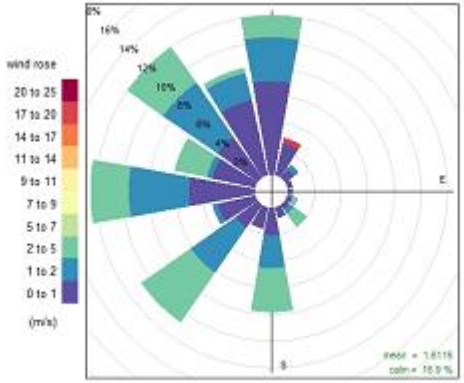
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.8	2.4	0	0	0.8	0	0	0	0.8	0
12-33		0.8	0	0.8	0.8	0	0	0	0	0	0	0
34-56		0	0	2.4	0	0	0.8	0	0	0	0	0
57-78		0	0.8	4.1	1.6	0	0.8	0	0	0	0	0
79-101		0	0	0.8	0.8	0.8	0	0	0	0	0	0
102-123		0	0	0.8	1.6	1.6	0.8	0	0	0	0	0.8
124-146		0.8	0	2.4	0.8	0.8	0	0	0	0	0	0
147-168		0.8	0.8	0.8	0	0	0	0	0	0	0	0
168-191		0	0	2.4	0	0	0	0	0	0	0	0
192-213		0	0	4.9	0.8	0	0	0	0	0	0	0
214-236		0	0.8	2.4	0.8	0	0.8	0	0.8	0	0	0
237-258		0	1.6	1.6	2.4	2.4	0.8	3.3	1.6	1.6	0.8	0
259-281		0	0.8	1.6	0	2.4	1.6	2.4	0	1.6	0	0
282-303		0	0.8	3.3	3.3	0.8	1.6	1.6	0.8	0	0	0
304-326		0.8	0.8	1.6	2.4	1.6	0	0.8	0.8	0	0	0
327-348		0	1.6	1.6	1.6	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 1000 hPa level

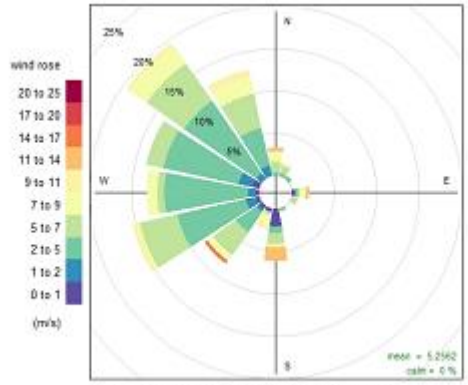
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		7	3.3	1.7	0	0	0	0	0	0	0	0
12-33		2.5	0	0	0	0	0	0	0	0.4	0	0
34-56		0.8	0.4	0	0	0	0	0	0	0	0	0
57-78		0.4	0	0	0	0	0	0	0	0	0	0
79-101		0.4	0	0	0	0	0	0	0	0	0	0
102-123		0.4	0	0.4	0	0	0	0	0	0	0	0
124-146		0.4	0.4	1.2	0	0	0	0	0	0	0	0
147-168	17	0.8	0	0	0	0	0	0	0	0	0	0
168-191		2.1	2.5	3.3	0	0	0	0	0	0	0	0
192-213		1.7	0	0	0	0	0	0	0	0	0	0
214-236		2.1	4.1	4.5	0	0	0	0	0	0	0	0
237-258		2.9	0.4	0	0	0	0	0	0	0	0	0
259-281		5	4.5	2.9	0	0	0	0	0	0	0	0
282-303		3.3	0.4	2.5	0	0	0	0	0	0	0	0
304-326		3.7	5	3.3	0	0	0	0	0	0	0	0
327-348		5.8	2.1	0.4	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 925 hPa level

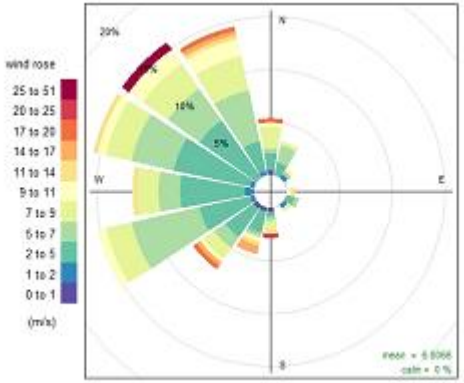
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0.4	1.2	1.2	0	0.4	0	0	0	0
12-33		0	0	0.4	0.8	0	0.4	0	0	0	0	0
34-56		0	0	0.4	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0.4	0	0.4	0	0.8	0	0.4	0	0	0	0
102-123		0	0	0	0.8	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168	0	0	0	0.4	0	0	0	0	0	0	0	0
168-191		2.1	0	0.8	1.2	0	0.4	1.7	0	0	0	0
192-213		0.4	0	0	0.4	1.2	0.4	0	0	0	0	0
214-236		0.4	0.4	2.9	3.3	0.8	0	0	0.4	0	0	0
237-258		0.4	1.2	8.3	4.5	0.4	0.4	0	0	0	0	0
259-281		0.4	0.8	9.9	0.8	1.2	0	0	0	0	0	0
282-303		0.8	1.7	9.1	2.1	0	0	0	0	0	0	0
304-326		0	0.8	10.3	5.4	2.5	0.4	0	0	0	0	0
327-348		0	1.2	4.5	4.1	2.1	0.8	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 850 hPa level

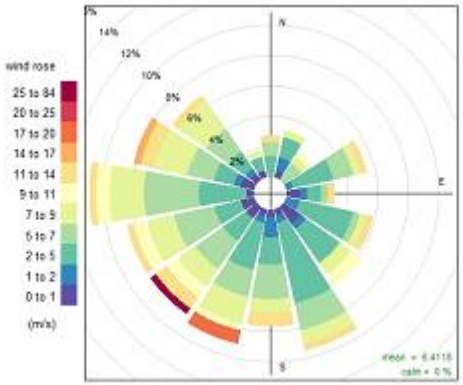
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.4	0	1.6	0.4	2.1	0.4	0	0	0.4	0	0
12-33		0	0	1.2	1.6	0.4	0	0	0	0	0	0
34-56		0	0.4	0	0.4	0	0.4	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0.4	0.4	0	0	0	0
102-123		0	0	0.8	0.4	0	0	0	0	0	0	0
124-146		0	0.4	0	0	0.4	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0.4	0	0.4	0.4	0.8	0	0.4	0	0	0.4	0
192-213		0.4	0	2.1	0.4	0	0.4	0.4	0.8	0	0	0
214-236		0.4	0	3.3	1.2	1.2	0.4	0	0.4	0.4	0	0
237-258		0	0.4	4.9	6.6	2.5	0.8	0	0	0	0	0
259-281		0	0.8	6.2	2.1	2.1	0	0.4	0	0	0	0
282-303		0	0.4	7.4	4.1	2.5	0.8	0.4	0	0	0	0
304-326		0	0	6.6	3.7	2.9	1.6	0	0	0	0	0.8
327-348		0	0.4	2.9	4.9	3.3	1.6	0.4	0.4	0.4	0	0



Frequency of counts by wind direction (%)

Mumbai May 700 hPa level

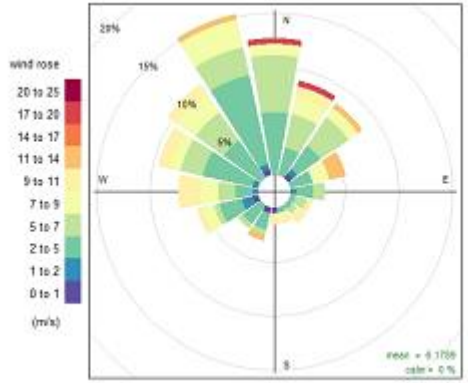
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	1.4	0.9	0	0	0.5	0	0	0	0
12-33		0.5	0.9	1.4	0	0.5	0	0	0	0	0	0
34-56		0	0	0	1.4	0.5	0.5	0	0	0	0	0
57-78		0	0.5	2.7	1.4	0.5	0	0.5	0	0	0	0
79-101		0.9	0.5	0.9	0.5	0	0	0.5	0	0	0	0
102-123		0	0.9	3.6	0.5	0.5	0	0.5	0	0	0	0
124-146		1.4	0.5	2.7	0	0.9	0.9	0	0	0	0	0
147-168		0.5	0.5	4.5	1.8	0.9	0	0.5	0	0	0	0
168-191		0.5	1.4	2.7	2.3	0.9	0	0.9	0	0	0	0
192-213		0.5	0.5	3.2	1.8	1.8	0.5	0	0	0.9	0	0
214-236		0.9	0	1.8	2.3	1.4	0.9	0.9	0	0	0	0.5
237-258		0.9	0	1.8	2.7	1.8	0.9	0.5	0	0	0	0
259-281		0.5	0	3.2	3.6	2.3	0.9	0.5	0	0	0	0
282-303		0.9	0.5	1.4	1.8	2.3	0	0.9	0.5	0	0	0
304-326		0.5	0.5	1.4	1.8	2.3	0	0.5	0	0	0	0
327-348		0.5	0	0.9	0	0.5	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 500 hPa level

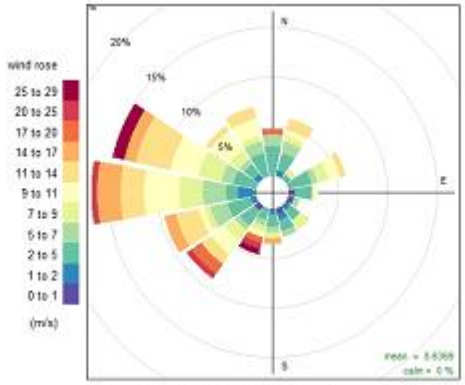
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	5.8	5.3	1.1	0	0	0	0.5	0	0
12-33		0	0	2.6	3.2	1.6	1.1	0	0	0.5	0	0
34-56		0.5	0.5	2.6	3.2	1.1	0	0.5	0	0	0	0
57-78		0	0	2.1	0	1.6	0	1.6	0	0	0	0
79-101		0	0.5	1.6	1.1	0	0	0	0	0	0	0
102-123		0	0	0.5	1.1	0	0.5	0	0	0	0	0
124-146		0	0	0.5	0.5	0	1.1	0	0	0	0	0
147-168		0	0	0.5	0	0.5	0.5	0	0	0	0	0
168-191		0.5	0	0	0	0	1.1	0	0	0	0	0
192-213		0.5	0	1.6	0.5	0	0	0.5	0	0	0	0
214-236		0	0	2.1	0.5	0	0	0	0	0	0	0
237-258		0.5	1.1	2.1	0.5	1.1	0.5	0	0	0	0	0
259-281		0	0.5	1.6	1.6	1.6	2.1	0	0	0	0	0
282-303		0	0.5	4.7	2.1	1.1	1.1	0	0	0	0	0
304-326		0	0	4.2	3.2	2.1	1.1	0	0	0	0	0
327-348		0.5	0.5	8.4	2.6	2.6	0	0.5	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 300 hPa level

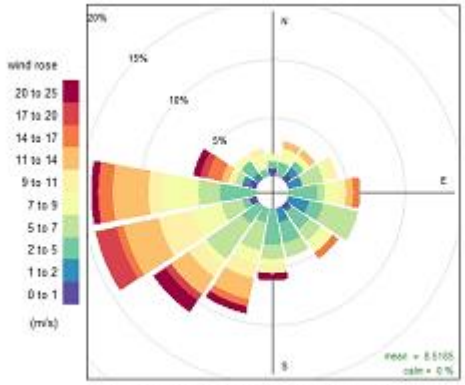
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	3	1.2	0	0	0	0	0.6	0	0
12-33		0	0.6	1.8	1.2	0.6	0.6	1.2	0	0	0	0
34-56		0	0	0.6	0	0.6	0	0	0	0	0	0
57-78		0	0	2.4	0.6	1.2	1.2	0.6	0	0	0	0
79-101		0.6	0	1.8	0	0	0.6	0	0	0	0	0
102-123		0.6	0	0	0.6	0	0	0	0	0	0	0
124-146		0	0.6	1.2	0	1.2	0	0	0	0	0	0
147-168		0.6	0.6	1.2	0.6	0	0	0	0	0	0	0
168-191		0	0.6	1.2	0.6	0.6	0	0	0.6	0	0	0
192-213		0	0	1.2	0.6	0.6	0.6	0	0	0.6	0.6	0.6
214-236		0.6	0	1.8	0.6	1.2	1.8	1.2	0	1.2	0.6	0
237-258		0	0.6	2.4	1.8	0.6	0.6	2.4	1.2	0	0	0
259-281		0	1.8	1.2	2.4	2.4	3.6	2.4	2.4	0	0.6	0
282-303		0	0	2.4	1.2	2.4	3	3.6	1.2	0	0	1.2
304-326		0	0.6	1.2	0.6	1.2	2.4	0.6	0	0	0	0
327-348		0	0	2.4	1.2	0.6	1.8	1.2	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 200 hPa level

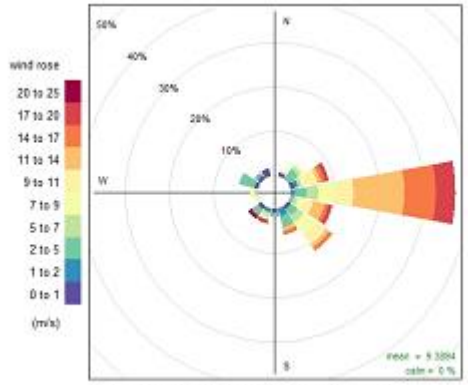
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.6	0	0.6	0	0.6	0	0	0	0	0	0
12-33		0	0	1.2	0	1.2	0	0.6	0	0	0	0
34-56		0.6	0.6	0.6	0	0.6	0	0.6	0	0	0	0
57-78		0	1.2	0	1.9	0.6	0.6	0	0	0	0	0
79-101		0	0	2.5	0.6	1.2	0.6	0.6	0.6	0	0	0
102-123		0	1.9	1.2	3.1	0	0	0	0	0	0	0
124-146		0.6	0	1.9	1.2	1.2	0	0	0.6	0	0	0
147-168	0	0	1.2	1.9	1.2	0	0	0	0	0	0	0
168-191		0	0	3.1	1.2	0.6	0.6	0	0	0	0.6	0
192-213		0	0	1.2	2.5	1.2	1.2	1.9	0.6	0	0.6	0
214-236		0	0	1.9	3.7	0.6	1.2	1.9	0	0.6	1.2	0
237-258		0.6	0	0.6	1.9	2.5	3.1	3.1	0.6	1.9	0	0
259-281		0	0	3.1	1.9	3.1	1.2	3.1	1.2	0	0.6	0
282-303		0.6	0.6	0	0.6	0	0.6	0.6	1.2	0.6	0.6	0
304-326		0	0.6	1.2	0	0.6	0	0	0	0	0	0
327-348		0	0	0.6	0	1.2	0.6	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai May 100 hPa level

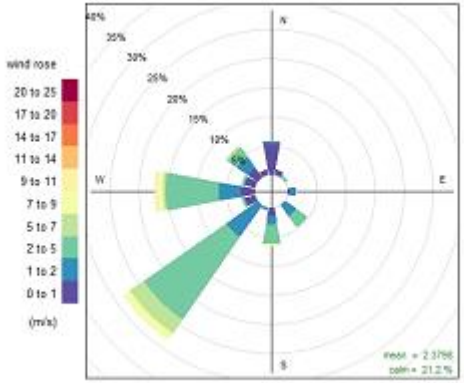
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0	0	0	0	0	0	0	0	0
12-33		0.9	0	0	0	0.9	0	0	0	0	0	0
34-56		0	0	2.7	0.9	0.9	0	0	0	0	0	0
57-78		0.9	0.9	0	0.9	0.9	2.7	0.9	0.9	0.9	0	0
79-101		0	0.9	2.7	2.7	3.5	4.4	11.5	7.1	4.4	0	0
102-123		0	0	0.9	0.9	1.8	1.8	2.7	0.9	0.9	0	0
124-146		0.9	0	1.8	1.8	3.5	2.7	0.9	0.9	0	0	0
147-168	0	0	1.8	2.7	0	0	0	0.9	0.9	0	0	0
168-191		0.9	0	0.9	0	0	0	0	0	0	0	0
192-213		0	0.9	0	0.9	0	0.9	0	0	0.9	0	0
214-236		0.9	0	1.8	0	0	0	0	0	0	0.9	0
237-258		0	0	0	0	0.9	0	0	0	0	0	0
259-281		0	0	0	0.9	0.9	0	0	0	0	0	0
282-303		0.9	0	3.5	0	0	0	0	0	0	0	0
304-326		0.9	0	0.9	0	0	0	0	0	0	0	0
327-348		1.8	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 1000 hPa level

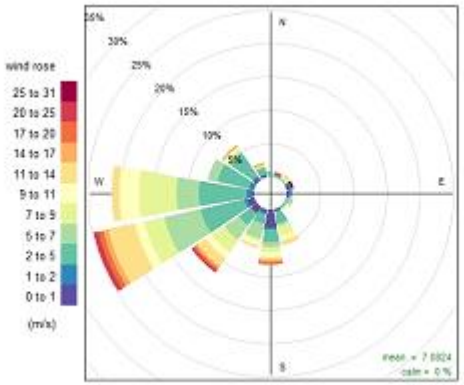
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	21	5.3	0.5	0	0	0	0	0	0	0	0	0
12-33		1	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0.5	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0.5	1	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	2.4	2.4	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		1.4	1.4	3.4	0	0.5	0	0	0	0	0	0
192-213		0	0.5	0	0	0	0	0	0	0	0	0
214-236		0	6.7	17.3	2.9	1.4	0	0	0	0	0	0
237-258		1.9	0	0.5	0	0	0	0	0	0	0	0
259-281		2.4	3.8	9.1	0.5	1	0.5	0	0	0	0	0
282-303		1.9	0	0.5	0	0	0	0	0	0	0	0
304-326		1.9	2.4	1.9	0.5	0	0	0	0	0	0	0
327-348		1	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 925 hPa level

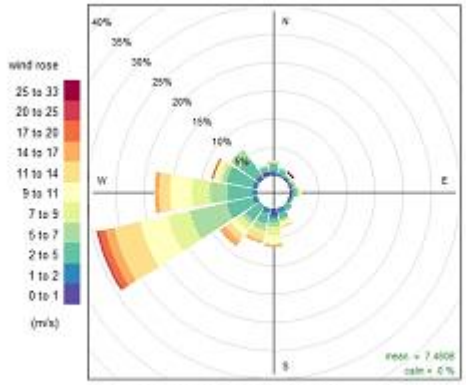
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0.7	0	0	0	0	0	0	0	0
12-33		0	0	0.4	0	0	0	0	0	0	0.4	0
34-56		0	0	0	0.4	0.4	0	0.4	0	0	0	0
57-78		0.4	0.4	0	0	0	0	0	0	0	0	0.4
79-101		0.4	0.4	0	0	0	0	0	0	0	0	0
102-123		0	0	0.4	0.7	0	0	0	0	0	0	0
124-146		0	0	0.4	0	0.4	0	0	0	0	0	0
147-168		0.4	0	1.9	0.4	1.5	0.4	0.7	0	0	0	0
168-191		2.6	0.4	1.9	0.7	0.7	1.1	0.4	0.4	0.4	0	0
192-213		0.4	0.4	1.5	2.2	0.4	0.7	0.4	0	0	0	0
214-236		1.1	0	2.2	2.6	2.2	1.1	1.5	0.4	0.4	0.4	0
237-258		1.1	0.4	6.7	5.6	3	1.5	4.1	0.7	0.7	0.7	0
259-281		0.4	0.7	7.1	3.4	5.6	3	1.1	0	0	0	0
282-303		0	0.7	4.9	1.5	0	0	0	0	0	0	0
304-326		0.4	0.4	4.1	0.4	0.4	0.4	0	0.4	0	0	0
327-348		0.4	0	1.1	0	0.4	0	0	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 850 hPa level

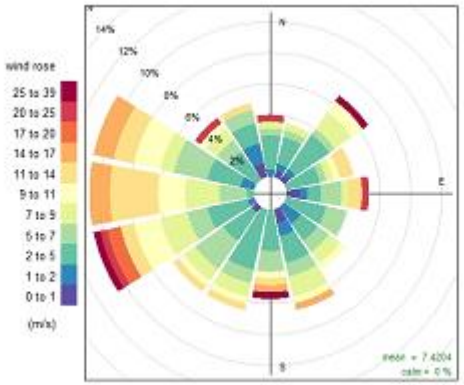
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.4	0.4	1.2	0.4	0.4	0	0	0	0	0	0
12-33		0	0.4	0.8	0.4	0	0	0	0	0	0	0
34-56		0.4	0	0.4	0	0	0.4	0	0	0	0	0.4
57-78		0.4	0	0.4	0.4	0	0	0	0	0	0	0
79-101		0.4	0	0.8	0.4	0	0.4	0	0	0	0	0
102-123		0.4	0	0.4	0	0	0	0	0	0	0	0
124-146		0	0	1.2	0	0	0	0	0	0	0	0
147-168		0	0.4	1.2	0.4	0	0.8	0	0	0	0	0
168-191		1.2	0.8	0.8	0.8	1.6	1.6	0.4	0.4	0	0	0
192-213		0	0.8	2	1.2	0.8	0	1.2	0.4	0	0	0
214-236		0	0	3.1	0.8	1.2	1.2	1.2	1.2	0	0	0
237-258		0	0.8	4.7	6.7	3.9	5.1	4.7	1.6	1.2	0.4	0
259-281		0	0.8	4.3	3.1	3.1	3.9	2	0.8	0	0	0
282-303		0	0.8	4.7	0.8	0.8	0.8	0	0	0.4	0	0
304-326		0.4	0.4	3.5	2	0	0	0	0	0	0	0
327-348		0.8	0	0.8	0.4	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 700 hPa level

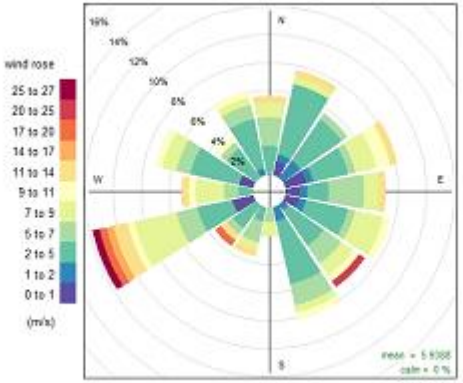
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.4	2.2	0.4	0.4	0	0	0	0	0.4	0
12-33		0.4	0.4	1.8	0.4	0.4	0	0	0	0	0	0
34-56		0.4	0.4	2.7	0.4	1.3	0.9	0	0	0	0	0.4
57-78		0	0	2.2	0.4	0.4	0.4	0.9	0	0	0	0
79-101		0.9	0.4	0.9	1.3	0.4	0	0.9	0	0	0.4	0
102-123		0	0	2.7	1.3	0	0	0	0	0	0	0
124-146		0	1.3	1.3	0.9	0.9	0.4	0	0	0	0	0
147-168		0.9	0.9	1.8	0.9	1.3	0.4	0	0.4	0	0	0
168-191		0	0	2.7	1.3	0	0.4	0.4	0.4	0	0	0.4
192-213		0	0	4	0.9	0.9	0.4	0.4	0	0	0	0
214-236		0.4	0	2.2	2.2	0.9	0.4	0.4	0	0	0	0
237-258		0	0.4	2.7	1.3	1.8	1.8	0.9	0	0.9	0.4	0.4
259-281		0	0	0.4	1.8	2.2	1.8	3.1	1.3	0	0	0
282-303		0	0.9	2.2	2.2	0.9	1.8	1.3	1.3	0	0	0
304-326		0	0	2.2	0.9	0.9	0.4	0	0	0	0.4	0
327-348		0.9	1.3	1.3	0.9	0	0	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 500 hPa level

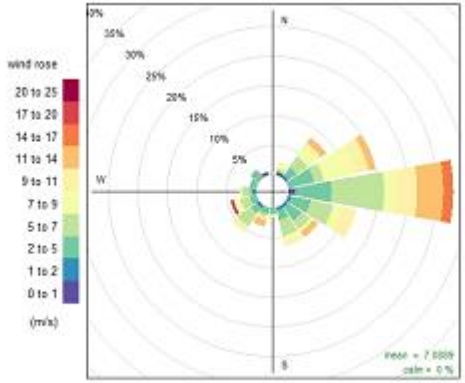
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	2	2	1	0	0.5	0	0	0	0
12-33		1	0.5	5.1	0	0.5	0	0.5	0	0	0	0
34-56		0	1.5	3.6	0.5	0	0	0	0	0	0	0
57-78		1.5	0.5	2.6	0.5	1.5	1	0.5	0	0	0	0
79-101		1	0.5	1.5	2.6	1	0	0.5	0	0	0	0
102-123		1	0.5	3.1	0.5	2	0.5	0	0	0	0	0
124-146		0	0.5	3.1	1.5	1	0.5	0	0	0	0.5	0
147-168		0	0.5	4.6	1.5	0.5	0	0	0	0	0	0
168-191		0	0.5	0	1	1	0.5	0	0	0	0	0
192-213		0	0	1	1.5	0.5	0	0.5	0	0	0	0
214-236		0	0	2	0.5	0	0	0.5	0	0.5	0	0
237-258		1.5	0	2.6	1.5	3.1	0.5	1	0.5	0.5	0	0.5
259-281		0	0	1	1	2	0.5	0.5	0	0	0	0
282-303		1	0	3.6	1	1	0.5	0	0	0	0	0
304-326		0	0	2.6	0.5	0	0.5	0	0	0	0	0
327-348		0	0.5	3.6	1	0.5	0.5	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 300 hPa level

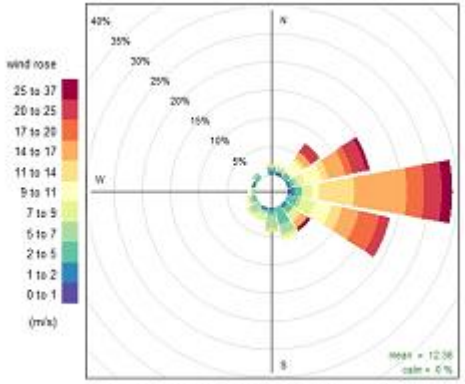
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0.6	0	0	0	0	0	0	0
12-33		0.6	0	0	0.6	1.1	0	0	0	0	0	0
34-56		0	0.6	1.7	2.2	2.2	0.6	1.1	0	0	0	0
57-78		0	0	4.4	1.7	5.6	2.2	1.1	0	0	0	0
79-101		1.1	0	6.1	8.9	2.2	3.3	4.4	1.7	0	0	0
102-123		0	0.6	3.3	3.9	1.7	2.2	0	0	0	0	0
124-146		0	0.6	2.8	1.7	0.6	0	1.1	0	0	0	0
147-168		0	0.6	1.1	2.8	1.1	0.6	0	0	0	0	0
168-191		0	0	1.7	0	0	0.6	0	0	0	0	0
192-213		0	0	1.1	0.6	0	0.6	1.1	0	0	0	0
214-236		0	0.6	1.1	2.8	0.6	0.6	0	0	0	0	0
237-258		0	0	1.1	1.7	1.1	0	0	0	0.6	0	0
259-281		0	0.6	0.6	1.1	0.6	0	0	0	0	0	0
282-303		0	0	1.1	0	0	0	0	0	0	0	0
304-326		0	0	1.7	0	0	0	0	0	0	0	0
327-348		0.6	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 200 hPa level

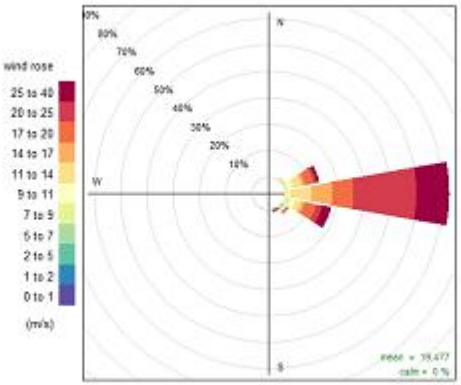
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.6	0.6	0	0	0	0.6	0	0	0	0
12-33		0.6	0	0	0.6	0.6	0	0	0	0	0	0
34-56		0	0	1.2	0	0	2.5	0.6	1.2	0	1.9	0
57-78		0	0.6	0.6	0.6	1.2	3.1	1.2	3.1	1.2	2.5	0.6
79-101		0.6	0.6	1.2	0	1.9	1.2	6.2	9.3	3.1	3.1	1.9
102-123		0	0	1.9	0.6	2.5	3.1	1.9	3.1	3.7	1.9	0
124-146		0	0.6	1.2	0	1.2	0	0.6	1.2	0	0	0.6
147-168		0	0	3.1	1.9	0.6	0.6	0	0	0	0	0
168-191		0	0.6	0.6	2.5	0	0	0.6	0	0	0	0
192-213		0	0.6	0	0.6	1.2	0	0	0	0	0	0
214-236		0	0	0	1.9	0.6	0	0	0	0	0	0
237-258		0	0	0.6	0.6	0	0.6	0	0	0	0	0
259-281		0	0	0	0.6	0	0.6	0	0	0	0	0
282-303		0	0.6	0	0	0	0	0	0	0	0	0
304-326		0	0	0.6	0.6	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai June 100 hPa level

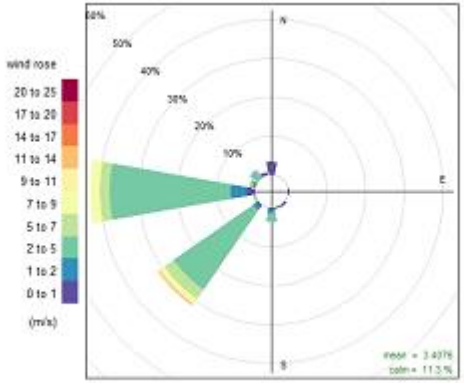
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	1.1	0	0	0	0
57-78		0	0	0	0	1.1	2.3	3.4	1.1	3.4	1.1	1.1
79-101		0	0	0	0	1.1	1.1	8	8	8	23.9	12.5
102-123		0	0	0	0	2.3	2.3	2.3	1.1	4.5	2.3	3.4
124-146		0	0	0	1.1	0	1.1	0	0	1.1	0	0
147-168		0	0	0	0	0	0	0	0	0	1.1	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 1000 hPa level

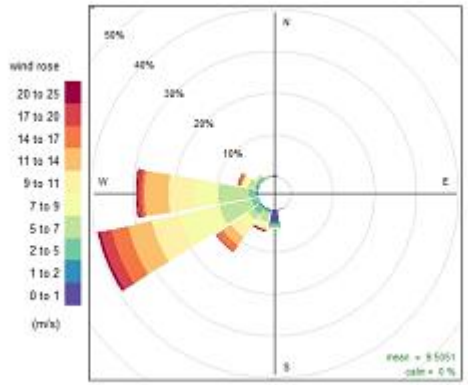
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	11	3.4	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0.4	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0.4	0	0.4	0	0	0	0	0	0	0	0
147-168		0.4	0	0	0	0	0	0	0	0	0	0
168-191		0.4	0.8	2.5	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0.4	1.3	24.8	2.9	0.8	0.8	0.4	0	0	0	0
237-258		0	0	0.4	0	0.4	0	0	0	0	0	0
259-281		2.1	4.2	31.1	2.5	2.5	0	0	0	0	0	0
282-303		0.4	0	0.8	0.4	0	0	0	0	0	0	0
304-326		0	0	2.5	0	0	0	0	0	0	0	0
327-348		0.8	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 925 hPa level

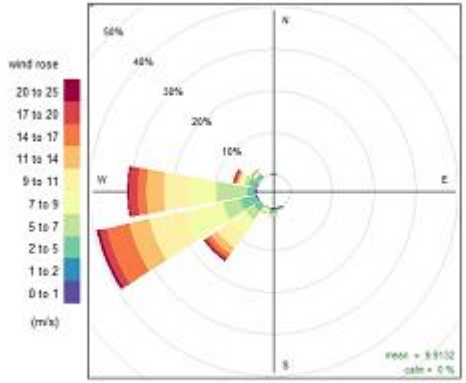
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.3	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0.3	0	0	0	0	0	0	0	0
168-191		2.7	0.7	0.7	0.3	0	0.3	0	0	0	0	0
192-213		0.3	0	0.7	2	1	0.7	0.3	0	0	0.3	0
214-236		0	0.3	1.7	1.7	2.7	2.4	2.4	1.7	0.3	0	0
237-258		0	0	1.7	7.8	9.8	6.8	5.8	4.1	2.7	0.7	0
259-281		0	0.3	1.7	7.5	5.8	6.1	5.8	0.7	1	0.3	0
282-303		0	0.3	0.3	1.7	1	0.7	0	0.7	0.3	0	0
304-326		0	0	0.7	0.7	0	0.3	0	0	0	0	0
327-348		0	0	0.3	0	0.3	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 850 hPa level

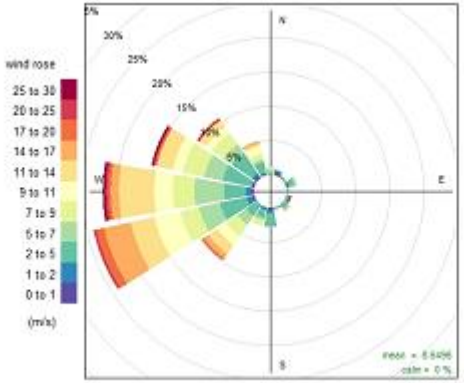
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.3	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0.3	0	0.3	0	0.3	0	0	0	0	0	0
168-191		0.3	0.3	0.7	0	0.3	0	0.3	0	0	0	0
192-213		0	0	0.3	0	0.3	0.7	0.3	0	0	0	0
214-236		0	0	1.7	2.4	4.5	3.8	1.7	1	0.7	0.3	0
237-258		0.3	0	3.8	4.2	9.4	8.7	4.9	5.6	1.7	0.7	0
259-281		0.3	0.3	1.7	7.3	6.6	5.9	4.2	2.1	2.1	0.3	0
282-303		0	0.3	1.7	1	1	0.3	0.3	0.3	0.7	0	0
304-326		0	0	1	0.3	0.7	0	0	0.3	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 700 hPa level

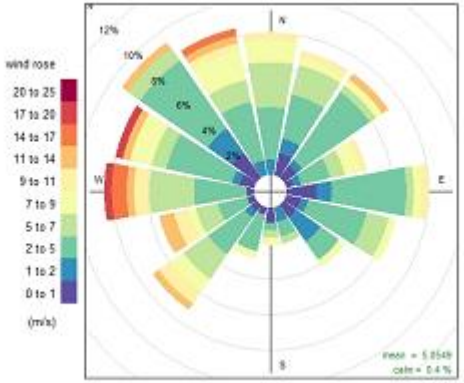
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0.4	0.4	0	0	0.4	0	0	0	0
12-33		0.4	0.4	0	0	0	0	0	0	0	0	0
34-56		0	0	0.4	0	0	0.4	0	0	0	0	0
57-78		0	0.4	0.8	0.4	0	0	0	0	0	0	0
79-101		0	0	0.4	0	0	0	0	0	0	0	0
102-123		0	0	0.4	0	0	0	0	0	0	0.4	0
124-146		0	0	0.8	0.4	0	0.4	0	0	0	0	0
147-168		0	0	0.4	0	0	0	0	0	0	0	0
168-191		0.4	0.4	2	0	0	0	0	0	0	0	0
192-213		0	0.4	1.2	0.4	0.8	0	0	0	0	0	0
214-236		0	0	2	1.6	2	1.6	1.6	0.8	0.4	0	0
237-258		0.4	0.8	3.9	3.1	2.8	3.9	3.5	3.9	1.2	0.4	0
259-281		0.4	0.8	3.1	4.3	3.1	2.8	5.1	1.2	0.4	0.4	0.4
282-303		0.4	0	4.3	2.8	3.1	1.6	2.4	0	0.4	0	0.4
304-326		0.4	0.4	3.5	1.6	2	1.2	1.2	0	0	0.4	0
327-348		0	0.4	1.6	0.4	0.8	1.2	0.4	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 500 hPa level

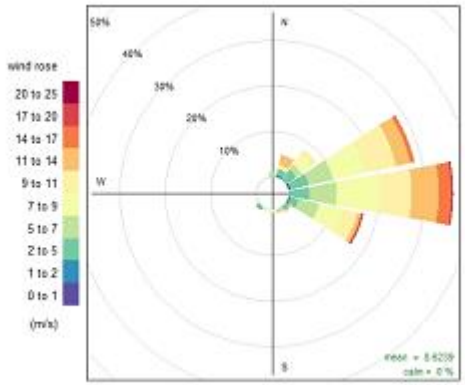
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.8	3	2.5	1.3	0.4	0	0	0	0	0
12-33		1.3	0.8	2.5	1.7	0.4	0.4	0	0	0	0	0
34-56		0.8	0.4	4.6	0.4	0.4	0	0.4	0	0	0	0
57-78		0.4	0.4	1.7	0.8	0.8	0.4	0	0	0	0	0
79-101		1.7	0.8	4.2	0.4	0.4	0.4	0	0	0	0	0
102-123		0.8	0.4	3.4	1.3	0.4	0	0	0	0	0	0
124-146		0.8	1.7	1.3	0	0.4	0	0	0	0	0	0
147-168		0	0.8	0.8	0.4	0	0	0	0	0	0	0
168-191		0.8	0	0.4	0.4	0.4	0	0	0	0	0	0
192-213		0.4	0	2.1	0	0.4	0	0	0	0	0	0
214-236		0.4	0.4	2.5	1.7	0.8	0.8	0.4	0	0	0	0
237-258		0.4	0	1.7	1.3	0.4	0.8	0.8	0	0	0	0
259-281		0.4	0	3	2.5	0	0.8	0.4	0.8	0.4	0	0
282-303		0.8	0.4	3.8	0.8	1.3	0	0.4	0	0.4	0	0
304-326		1.7	1.7	4.6	0.8	0	0	0.4	0	0	0	0
327-348		0	0.8	3.4	1.3	1.7	0.4	0.4	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 300 hPa level

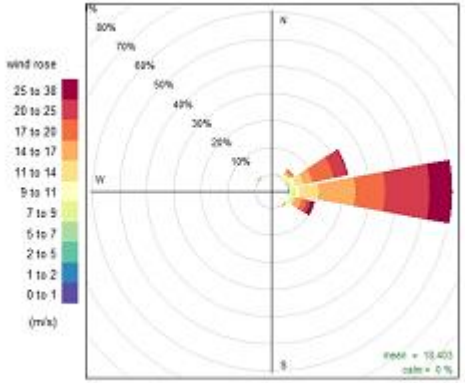
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0.9	0	0	0	0	0	0	0
12-33		0	0.5	1.4	0	0.5	0.5	2.3	0	0	0	0
34-56		0	0	2.8	1.4	2.8	1.4	0	0	0	0	0
57-78		0.5	0	4.1	5.5	7.3	6.9	3.2	0.9	0	0	0
79-101		0	0	4.6	6	9.6	6.9	6	2.8	0.5	0	0
102-123		0	0.5	1.8	4.6	5.5	3.2	0.9	0	0.5	0	0
124-146		0	0	0.9	0	0	0	0.5	0	0	0	0
147-168		0	0	0	0.9	0	0	0	0	0	0	0
168-191		0	0	0	0	0.5	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0.9	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0.5	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 200 hPa level

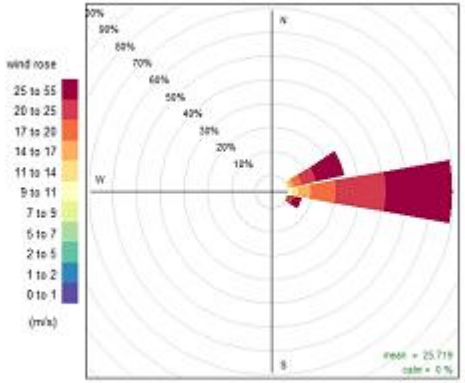
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0.5	0	0	0	0
34-56		0	0	0	0	0.5	1	0.5	1	1	0	0
57-78		0	0	0	0.5	1	1.5	3	3.5	8	5	0.5
79-101		0	0	0.5	0	2.5	1.5	7	13.4	10.9	16.4	8.5
102-123		0	0	0	0	0	1.5	1.5	2.5	2	1.5	1.5
124-146		0	0	0	0	0.5	0	0	0.5	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0.5	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai July 100 hPa level

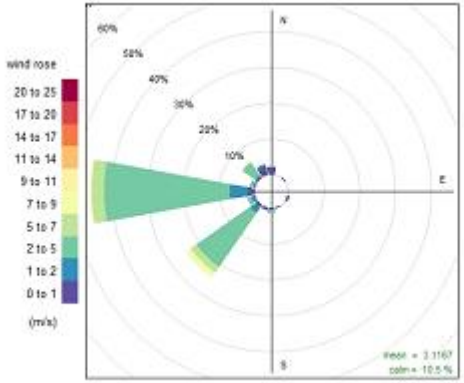
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0.9	1.8	3.5	6.1	12.3
79-101		0	0	0	0	0.9	0.9	2.6	5.3	10.5	21.1	28.1
102-123		0	0	0	0	0	0	0	0	0	2.6	3.5
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 1000 hPa level

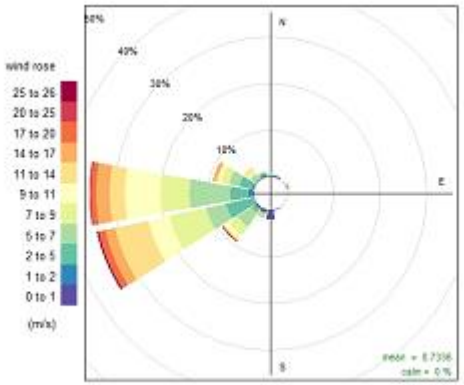
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	11	1.9	0.4	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0.4	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0.4	0.4	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0.4	0	0	0	0	0	0	0	0	0	0
168-191		0.4	0.4	0.8	0	0	0	0	0	0	0	0
192-213		0.8	0	0	0	0	0	0	0	0	0	0
214-236		0.8	1.9	18.3	1.9	1.6	0	0	0	0	0	0
237-258		0	1.2	1.2	0	0	0	0	0	0	0	0
259-281		1.9	5.1	35	3.5	0.4	0	0	0	0	0	0
282-303		0.4	0	1.2	0	0	0	0	0	0	0	0
304-326		0.8	0	4.3	0.4	0	0	0	0	0	0	0
327-348		2.3	0.8	0	0	0.4	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 925 hPa level

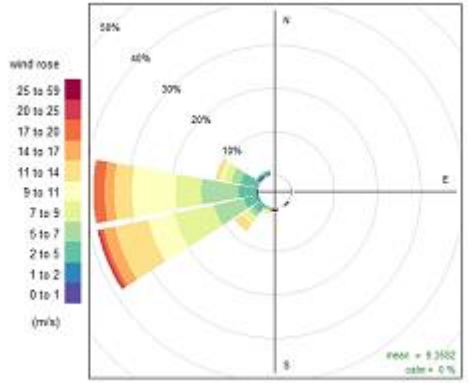
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.4	0	0	0.4	0	0	0	0	0	0
12-33		0.4	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0.4	0	0	0	0.4	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0	0	0	0	0	0
147-168		0	0	0.4	0	0	0	0	0	0	0	0
168-191		2.2	0	0	0	0	0	0	0	0	0	0
192-213		0.7	0	0	1.1	0	0.7	0	0	0	0	0
214-236		0.4	0	1.1	3.6	2.2	1.1	0.4	0	0	0.4	0
237-258		0	0	6.2	4.4	8	4.7	7.3	2.2	1.5	0	0.4
259-281		0.4	0.7	4	8.8	6.2	7.7	3.3	2.9	1.1	0.4	0
282-303		0	0.4	2.9	2.2	1.8	0.7	0.4	0.7	0	0	0
304-326		0	0	0.4	1.1	0.7	0.4	0.7	0	0	0	0
327-348		0.4	0	0.7	0	0	0.4	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 850 hPa level

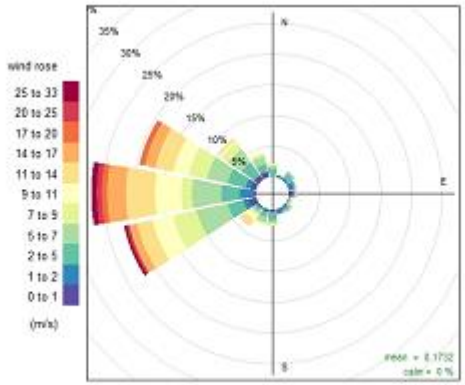
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0.4	0	0	0.4	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0.4	0	0	0.4	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0.4	0	0	0	0	0	0	0	0.4
192-213		0	0	0.4	0.4	0.4	0	0.4	0	0	0	0
214-236		0	0	2.2	1.1	1.5	0.4	2.2	0	0	0	0
237-258		0	0.4	3	7.1	9.3	6.3	7.8	2.6	0.7	0.7	0
259-281		0.4	0	4.1	8.6	6	10.1	4.1	2.2	2.6	0	0
282-303		0	0	4.1	2.2	1.9	0.7	1.1	0	0	0	0
304-326		0.4	0.4	0.4	0	0	0.4	0	0	0	0	0
327-348		0	0.4	0.7	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 700 hPa level

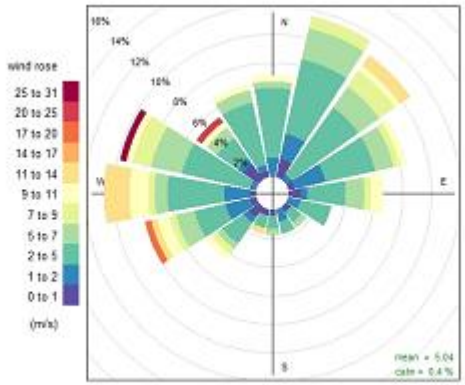
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	1.3	0.4	0.4	0	0	0	0	0	0
12-33		0	0.4	0	0	0	0	0	0	0	0	0
34-56		0	0.4	0.9	0.4	0	0	0	0	0	0	0
57-78		0	0.9	0.4	0	0	0	0	0	0	0	0
79-101		0.9	0	0	0.4	0	0	0	0	0	0	0
102-123		0	0	0.4	0	0	0	0.4	0	0	0	0
124-146		0	0.4	0.4	0.4	0	0	0	0	0	0	0
147-168		0	0.9	0	0	0	0	0	0	0	0	0
168-191		0.4	0	1.3	0.4	0.4	0	0	0	0	0	0
192-213		0.4	0	0.9	0.9	0.4	0	0	0	0	0	0
214-236		0	0.4	0.4	0.4	0.4	0.9	1.3	0	0	0	0
237-258		1.3	0.9	2.6	5.2	3.9	3.5	2.6	1.3	0	0.4	0.4
259-281		0.4	2.2	3	4.8	1.7	4.3	4.8	3	0.9	0.9	0.9
282-303		0.9	0.9	3	3.5	3	2.6	3	1.7	0.9	0	0
304-326		0.9	0	2.6	2.6	1.3	0.4	0.4	0	0	0	0
327-348		0.9	0	1.3	1.3	0.4	0.4	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 500 hPa level

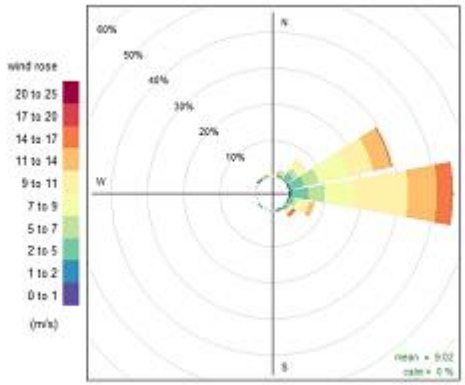
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	1.3	4.9	0.4	0	0.4	0	0	0	0	0
12-33		1.3	1.8	5.3	2.2	0.9	0	0	0	0	0	0
34-56		0	0.4	5.8	1.8	1.3	0.4	0.9	0	0	0	0
57-78		0.4	2.2	3.6	1.3	0.4	0.4	0	0	0	0	0
79-101		0.9	0.4	2.7	1.3	0.4	0.9	0	0	0	0	0
102-123		0	0.9	2.2	0	0	0	0	0	0	0	0
124-146		0.4	0	0.9	0.4	0	0	0	0	0	0	0
147-168		0	0.9	0.9	0	0	0	0	0	0	0	0
168-191		0.4	0	0.9	0.4	0	0	0	0	0	0	0
192-213		0.4	0	0.9	0	0	0	0.4	0	0	0	0
214-236		0.9	0.4	1.8	0.4	0.4	0.4	0	0	0	0	0
237-258		0.4	1.8	2.2	1.3	0.4	0.9	0.4	0	0.4	0	0
259-281		0.4	1.8	4	0.9	0.4	1.3	1.8	0	0	0	0
282-303		0	0.4	4.9	2.2	1.3	0.4	0	0	0	0	0.4
304-326		1.3	0.4	1.8	0.9	0	0.4	0	0	0	0.4	0
327-348		0.4	0.4	4.4	0.9	0	0.4	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 300 hPa level

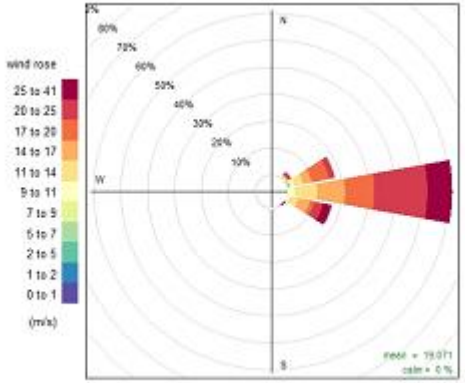
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0.5	0	0	0	0	0	0
12-33		0	0	1	0	0.5	0	0.5	0	0	0	0
34-56		0	0	2.5	1.5	2	1	0	0	0	0	0
57-78		0.5	0	4	4	8.5	7	5	0.5	0	0	0
79-101		0.5	0.5	4.5	4.5	8.5	14.5	8	4.5	0	0	0
102-123		0	0.5	1	1	1.5	2	1.5	0	0	0	0
124-146		0	0	1	0.5	0.5	0.5	0	1	0	0	0
147-168		0	0.5	0	0.5	0	0	0	0	0	0	0
168-191		0	0	0	0.5	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0.5	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0.5	0	0	0	0	0
304-326		0	0.5	0	0	0	0.5	0	0	0	0	0
327-348		0	0	0.5	0	0.5	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 200 hPa level

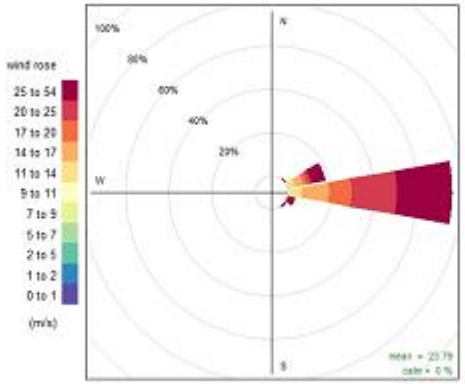
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0.5	0	0.5	0	0.5	1.1	0
57-78		0	0	0	1.1	0.5	1.1	3.3	3.3	6.6	2.2	0
79-101		0	0	0	0	0	2.7	8.2	10.4	10.9	19.7	9.3
102-123		0	0	0	0	0	1.1	3.3	4.4	1.6	3.3	3.3
124-146		0	0	0	0	0	0	0	0	0	0	0.5
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0.5	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai August 100 hPa level

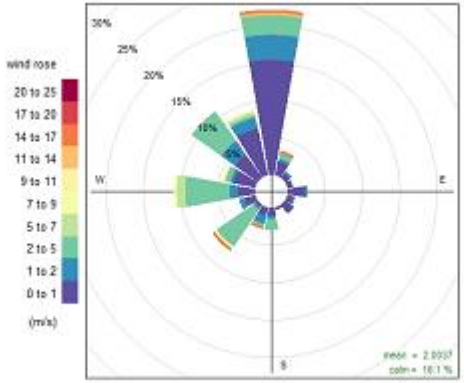
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	1	0
57-78		0	0	0	0	0	0	3.8	3.8	1.9	1.9	6.7
79-101		0	0	0	0	0	0	6.7	12.4	10.5	21	25.7
102-123		0	0	0	0	0	0	0	0	0	1	2.9
124-146		0	0	0	0	0	0	0	0	0	0	1
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 1000 hPa level

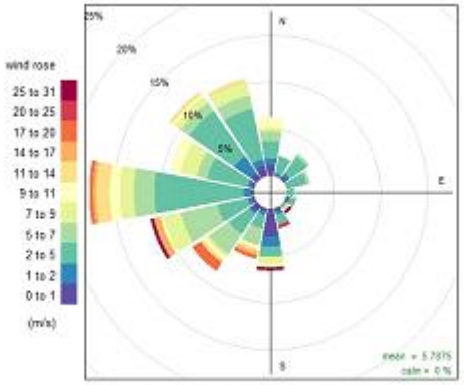
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		15.4	3.4	2.6	0	0	0	0.4	0.4	0	0	0
12-33		1.9	0.4	0.7	0	0	0	0	0.4	0	0	0
34-56		0.7	0.4	0	0	0	0	0	0	0	0	0
57-78		0.7	0	0	0	0	0	0	0	0	0	0
79-101		2.2	0.4	0	0	0	0	0	0	0	0	0
102-123		0.7	0.4	0	0	0	0	0	0	0	0	0
124-146		1.5	0	0	0	0	0	0	0	0	0	0
147-168	16	0.4	0	0	0	0	0	0	0	0	0	0
168-191		1.1	0.4	1.5	0	0	0	0	0	0	0	0
192-213		1.1	1.1	0.4	0	0	0	0	0.4	0	0	0
214-236		0.4	0.4	6	0	0.4	0	0	0.4	0	0	0
237-258		1.5	0.7	0	0	0	0	0	0	0	0	0
259-281		2.2	1.1	6	1.1	0.4	0	0	0	0	0	0
282-303		3	0.4	0.7	0	0.4	0	0	0	0	0	0
304-326		3.7	2.2	4.9	0	0	0	0	0	0	0	0
327-348		6.4	1.5	0.4	0.4	0.4	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 925 hPa level

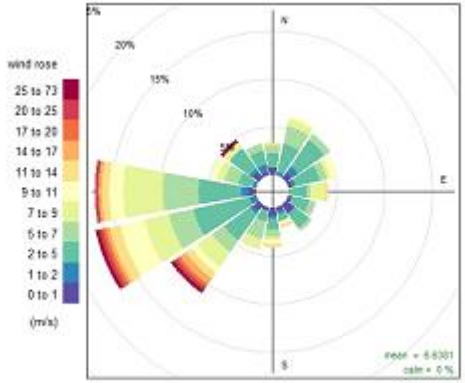
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		1.1	0.7	1.8	1.1	0.4	1.1	0	0	0	0	0
12-33		0	0.4	1.8	0	0	0	0	0	0	0	0
34-56		0.4	0.4	2.2	0.4	0	0	0	0	0	0	0
57-78		0	0	2.2	0.4	0	0	0	0	0	0	0
79-101		0	0	0.7	0	0	0	0	0	0	0	0
102-123		0.4	0	0.7	0	0	0	0	0	0	0	0
124-146		0	0	0.4	0	0	0	0.4	0	0	0	0.4
147-168	0	0.4	0.4	0.7	0	0	0	0	0	0	0.4	0
168-191		2.9	1.1	1.5	0	0.7	0.4	0	0	0	0	0.4
192-213		0.4	0.4	1.5	1.8	0	0.4	0.4	0.4	0.4	0	0
214-236		0.7	0.4	2.6	2.6	0.4	0.4	0.4	0	1.1	0	0
237-258		0.4	0.4	3.3	4	1.8	0.4	0	0.7	0	0	0.4
259-281		0.4	0.7	9.5	2.2	1.5	1.1	1.5	0.4	0.4	0	0
282-303		0.4	0.4	4.4	1.1	1.8	1.1	0	0	0	0	0
304-326		0.7	2.2	5.9	1.1	0.7	0.4	0.4	0	0	0	0
327-348		1.1	0.7	5.5	1.5	1.5	0	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 850 hPa level

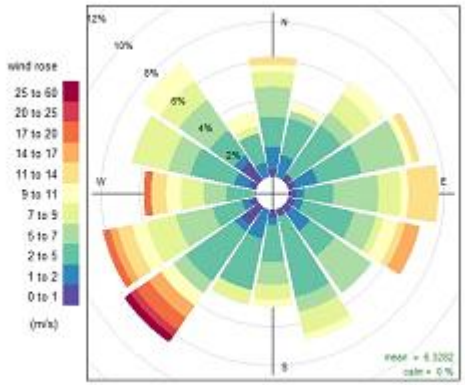
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.7	0	1.5	0.7	0	0	0.4	0	0	0	0
12-33		0	0.4	3	1.9	0.7	0.4	0	0	0	0	0
34-56		0.7	0.7	3.4	0.7	0	0	0	0	0	0	0
57-78		0.4	0.4	2.6	0.7	0.4	0.7	0	0	0	0	0
79-101		0	0	1.9	0.4	1.5	0	0.4	0	0	0	0
102-123		0.4	0	1.9	0.7	0	0	0	0	0	0	0
124-146		1.1	0	1.9	0.4	0	0	0	0	0	0	0
147-168	0	0.4	0.4	0.7	0	0	0.4	0.4	0	0	0	0
168-191		0.7	0.4	1.1	0.7	0.4	0.4	0.4	0	0	0	0
192-213		0.4	0	1.1	1.9	1.1	0	0	0	0	0	0
214-236		0.7	0.4	3.4	1.5	1.9	0.7	0.7	0.7	0.4	0.4	0.4
237-258		0	0.7	6	2.6	2.6	2.6	1.1	0.4	0.4	0.4	0.4
259-281		0.7	0.7	4.5	3.7	4.1	1.5	0.7	0.4	0	0.4	0
282-303		0	0.4	1.5	1.5	0.7	0.7	0	0	0	0	0
304-326		0.7	0.4	2.6	0	0.7	0	0	0	0	0	0.4
327-348		0.4	0.7	1.5	0.7	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 700 hPa level

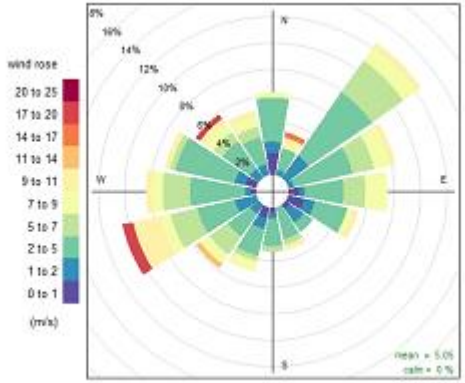
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.4	1.2	1.5	1.5	0.8	0.4	0.4	0	0	0	0
12-33		0	1.2	1.9	0.4	0	0.4	0	0	0	0	0
34-56		0.4	0	3.1	0.8	1.2	0.8	0	0	0	0	0
57-78		0.4	1.2	2.3	2.3	0	0.4	0.4	0	0	0	0
79-101		0.4	0.4	1.5	2.3	1.2	0.4	1.5	0	0	0	0
102-123		0.4	0.4	2.7	1.2	0.4	0.8	0.4	0.8	0	0	0
124-146		0.4	1.2	1.5	2.3	0	0	0	0	0	0	0
147-168	0	0.4	0	3.9	0.8	1.2	0.4	0	0	0	0	0
168-191		0.4	0.4	2.3	1.2	0.8	0.4	0	0	0	0	0
192-213		0	1.5	2.7	0	0.8	0	0	0	0	0	0
214-236		1.2	0.4	3.1	0.8	0	0.8	0	0.8	0.8	0.4	0.4
237-258		0.4	0.4	1.5	1.9	1.5	0.8	0.8	0.4	0.4	0	0
259-281		0	0	1.5	1.2	1.2	0.8	0.8	0	0.4	0	0
282-303		0.4	0.8	2.3	1.2	1.9	0	0	0	0	0	0
304-326		1.2	0.4	1.5	1.9	1.2	1.2	0	0	0	0	0
327-348		0	0.8	1.5	0	0.4	0.8	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 500 hPa level

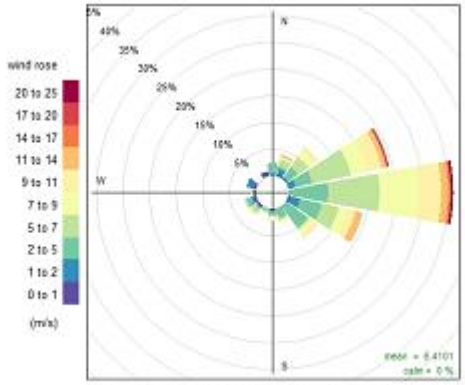
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	1.7	0.8	3.3	0	0.4	0	0	0	0	0	0
12-33		0	0.4	1.7	0	0.4	0.4	0	0.4	0	0	0
34-56		0	2.1	5.8	2.9	1.2	0.4	0	0	0	0	0
57-78		0	0.4	4.6	1.7	1.2	0.4	0	0	0	0	0
79-101		0.8	0.4	2.9	1.7	1.7	0	0	0	0	0	0
102-123		1.2	0.8	2.5	0	0.4	0.4	0	0	0	0	0
124-146		0.4	1.2	0.8	0	0	0	0	0	0	0	0
147-168		0	0	2.5	0.4	0	0.4	0	0	0	0	0
168-191		0.4	0.4	2.1	0.4	0	0	0	0	0	0	0
192-213		0.8	0.8	2.1	0.4	0.8	0	0	0	0	0	0
214-236		0	0.8	2.1	1.7	0.8	0	0.4	0	0	0	0
237-258		0	1.7	2.9	2.1	0.8	2.1	0	0	0.8	0	0
259-281		0.4	0.4	4.2	2.1	0.8	0.4	0	0	0	0	0
282-303		0.8	0.8	4.6	0.4	0	0.4	0	0	0	0	0
304-326		0	0.8	2.5	0.8	0.8	0.4	0	0	0.4	0	0
327-348		0	0.8	2.1	0.8	0.8	0.4	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 300 hPa level

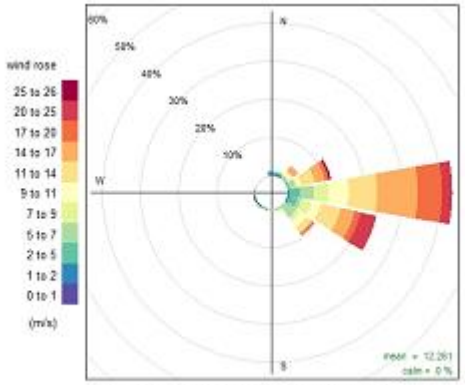
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.5	1.8	0	0	0	0	0	0	0	0
12-33		0.5	0.9	0.5	1.4	0.5	0	0.5	0	0	0	0
34-56		0	0.5	2.3	2.3	1.4	0.9	0	0	0	0	0
57-78		0	1.4	3.2	7.4	3.2	2.8	0.9	0	0.5	0	0
79-101		0	0	7.4	9.7	7.4	4.1	1.4	0.5	0	0.5	0
102-123		0.5	1.8	4.1	3.2	1.8	1.4	1.4	0	0	0	0
124-146		0	0	5.1	0.5	0.9	0.9	0	0	0	0	0
147-168		0	0	1.8	0.5	0	0	0	0	0	0	0
168-191		0.5	0	0.9	0	0.9	0.5	0	0	0	0	0
192-213		0	0	0.5	0.5	0	0	0	0	0	0	0
214-236		0.5	0	0.5	0.9	0.5	0	0	0	0	0	0
237-258		0.5	0.5	0.9	0.5	0	0	0	0	0	0	0
259-281		0.5	0	0	0.5	0	0	0	0	0	0	0
282-303		0.5	1.4	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0.9	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 200 hPa level

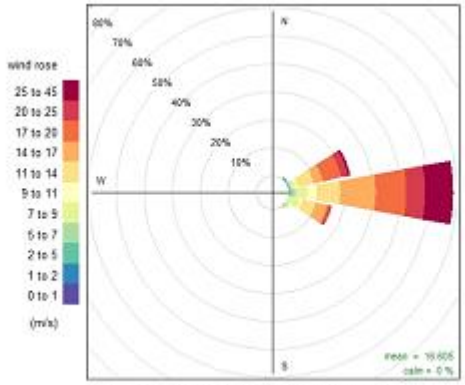
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	1.1	0	0	0	0	0	0	0	0	0
12-33		0	0.5	0.5	0	0.5	0	0	0	0	0	0
34-56		0	0	0	1.1	0	1.1	0.5	1.6	0	0	0
57-78		0	0	0.5	1.6	0.5	1.1	3.7	2.7	1.1	0	0.5
79-101		0	0.5	2.7	3.7	3.7	5.3	7.4	10.6	6.4	2.7	0
102-123		0	0.5	2.1	1.1	2.7	2.7	5.3	3.7	1.6	4.3	0
124-146		0	0	0	3.7	1.1	2.1	1.6	0.5	0.5	0	0
147-168		0	0	0	0.5	0.5	0	0	0	0	0	0
168-191		0	0	0	0.5	0	0	0	0	0	0	0
192-213		0	0	0.5	0	0	0	0	0	0	0	0
214-236		0	0.5	0	0	0	0	0.5	0	0	0	0
237-258		0.5	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0.5	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0.5	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai September 100 hPa level

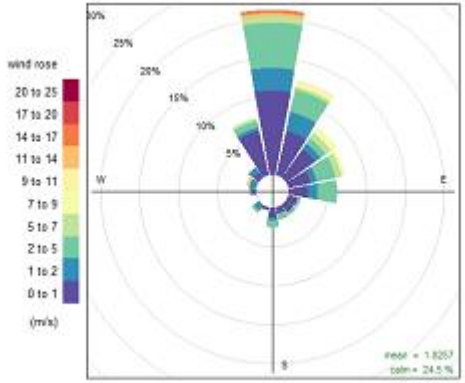
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0.8	0	0	0	0	0	0	0	0
57-78		0	0	0.8	0	1.7	0.8	5.9	3.4	6.7	2.5	0.8
79-101		0	0	0.8	1.7	4.2	3.4	8.4	12.6	10.9	6.7	10.1
102-123		0	0	0	0	4.2	0.8	5	4.2	0.8	0.8	0
124-146		0	0	0	0.8	0.8	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 1000 hPa level

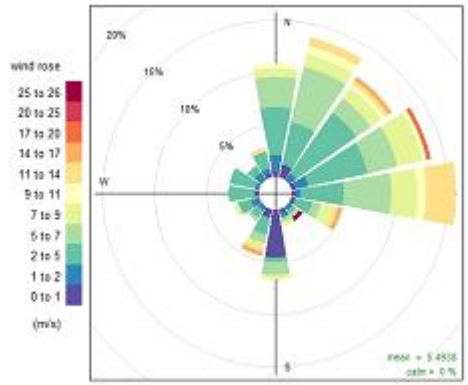
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		10.8	2.9	5.8	0.8	0	0	0.4	0.4	0	0	0
12-33		5.8	2.5	2.9	0.4	0.4	0.4	0	0	0	0	0
34-56		4.6	0.8	0.8	0.8	0.8	0	0	0	0	0	0
57-78		2.9	0.8	2.5	0.8	0.4	0	0	0	0	0	0
79-101		2.5	1.2	2.5	0	0	0	0	0	0	0	0
102-123		1.2	0	0.4	0	0	0	0	0	0	0	0
124-146		1.2	0	0.4	0	0	0	0	0	0	0	0
147-168	24	0.8	0	0.8	0	0	0	0	0	0	0	0
168-191		1.2	0.4	0.8	0	0	0	0	0	0	0	0
192-213		0.4	0	0	0	0	0	0	0	0	0	0
214-236		0	0.8	0.4	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0.4	0.4	0	0	0	0	0	0	0	0	0
282-303		0	0.8	0	0	0	0	0.4	0	0	0	0
304-326		0.8	0.8	0	0	0	0	0	0	0	0	0
327-348		5.8	0.4	0.8	0.4	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 925 hPa level

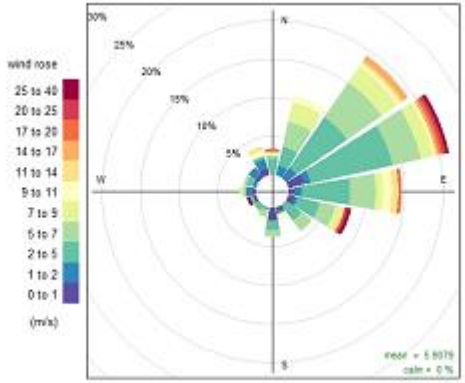
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.4	1.7	4.6	2.9	0.8	0.4	0	0	0	0	0
12-33		1.2	0	4.1	5.4	1.2	0.8	0.8	0	0	0	0
34-56		0	0.8	7.1	1.7	1.2	0.4	0.4	0.4	0	0	0
57-78		0.4	1.2	5.8	2.9	2.5	0.4	0	0	0.4	0	0
79-101		0.4	0.4	4.1	4.6	2.5	0.8	2.9	0	0	0	0
102-123		0.4	0	1.7	0.8	1.2	0	0.4	0.4	0	0	0
124-146		0	0.4	0.4	0.4	0	0	0	0	0	0	0.4
147-168	0	0.4	0.4	0	0.4	0.4	0	0	0	0	0	0
168-191		4.6	0	0.4	1.2	0.4	0	0	0	0	0	0
192-213		0.8	0	1.7	0.8	0.4	0	0.4	0.4	0	0	0
214-236		0	0.4	0.8	0.4	0	0	0	0	0	0	0
237-258		0	0.8	1.2	0	0.4	0	0	0	0	0	0
259-281		0.4	0	2.5	0	0	0	0	0	0	0	0
282-303		0	0.4	2.5	0	0	0	0	0	0	0	0
304-326		0	0.8	0.8	0	0	0	0	0	0	0	0
327-348		0.4	0.4	1.7	0	0	0	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 850 hPa level

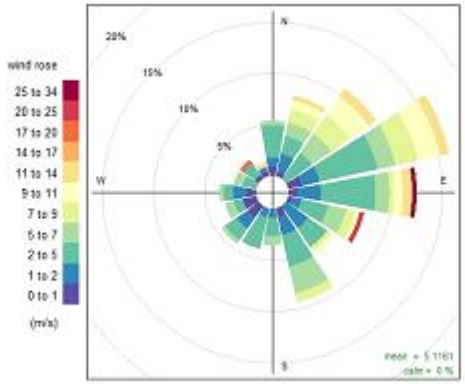
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	2.1	0.4	0	0.4	0	0	0.4	0	0
12-33		0	1.3	2.5	3.3	2.5	0.8	0	0	0	0	0
34-56		0	1.7	7.9	5.4	2.5	0.4	0.4	0.8	0	0	0
57-78		2.1	0.8	10.9	3.8	1.7	0.4	0	0.4	0.4	0.4	0.4
79-101		0.8	0.8	6.3	3.3	0.8	1.3	0.8	0	0.4	0	0
102-123		0.8	0.4	2.9	2.1	0.8	0	0.4	0	0	0.4	0.4
124-146		0	0	2.5	1.7	0	0	0	0	0	0	0
147-168		0.4	0.4	0	0	0	0.8	0	0	0	0	0
168-191		1.7	0	1.3	0.8	0	0	0	0	0	0	0
192-213		0	0	0.4	0.8	0	0.4	0	0	0	0	0
214-236		0	0	0.8	0	0	0	0	0	0	0	0
237-258		0.4	0	0.4	0	0	0	0	0	0	0	0.4
259-281		0.4	0.8	0	0.4	0.4	0	0	0	0	0	0
282-303		0	0.4	0.8	0.4	0	0	0	0	0	0	0
304-326		0.4	1.3	0	0	0	0	0	0	0	0	0
327-348		0.8	1.3	0.4	0	0	0.8	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 700 hPa level

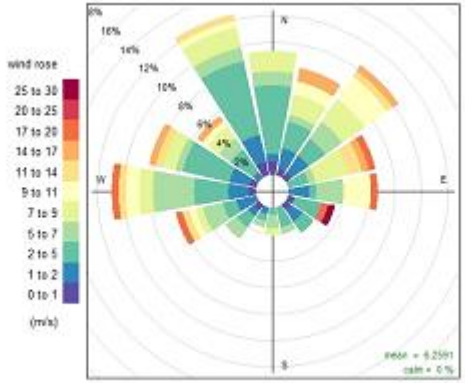
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.9	0.9	3.1	0.4	0	0	0	0	0	0	0
12-33		0.4	1.8	1.8	1.3	1.3	0.9	0.4	0	0	0	0
34-56		0	0	3.1	2.2	2.2	2.2	0.9	0	0	0	0
57-78		1.3	1.8	5.8	1.8	2.2	2.2	0.9	0	0	0	0
79-101		0.9	2.2	5.4	1.3	0.4	0.9	0.9	0	0	0	0.4
102-123		0.4	0.9	2.7	1.8	0.9	0.4	0	0	0	0.4	0
124-146		0	2.7	2.2	0	0.4	0.4	0	0	0	0	0
147-168		0.4	1.8	2.2	2.7	0.9	0	0	0	0	0	0
168-191		0.4	0.9	2.7	0.9	0	0	0	0	0	0	0
192-213		0	0.9	3.1	0	0	0	0	0	0	0	0
214-236		1.3	1.3	1.3	0.4	0	0	0	0	0	0	0
237-258		1.3	0	0.9	0.9	0	0	0	0	0	0	0
259-281		0.9	1.3	0.9	0.4	0	0	0	0	0	0	0
282-303		0	0	1.3	0.9	0	0	0	0	0	0	0
304-326		0.4	0	1.3	0	0	0	0	0	0.4	0	0
327-348		0.4	0.4	0	0	0	0	0.4	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 500 hPa level

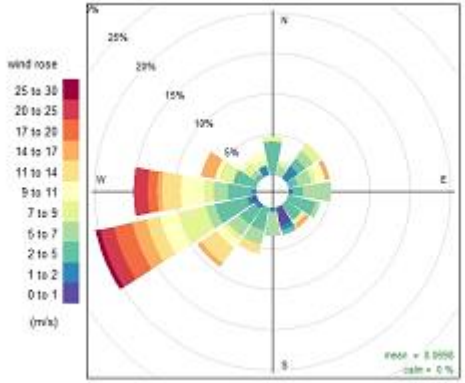
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	1	0.5	5.2	1	1.6	0	0	0	0	0	0
12-33		0.5	1.6	2.1	0.5	1.6	1	0	1	0	0	0
34-56		0.5	1.6	1.6	1.6	2.1	2.1	0.5	0.5	0	0	0
57-78		0	0	1.6	0.5	2.6	0	1	0.5	0.5	0	0
79-101		0	1.6	0.5	2.1	0	2.1	0	0	0.5	0	0
102-123		0.5	0	2.1	0	0	0	0	0	0.5	0	0.5
124-146		0.5	1	1	0	0	0	0	0	0	0	0
147-168		0	0	1.6	0.5	0	0	0	0	0	0	0
168-191		0	0	0.5	1	0.5	0	0	0	0	0	0
192-213		0	0.5	0.5	0.5	0	0	0	0	0	0	0
214-236		0.5	0.5	1	1	0	0	0	0	0	0	0
237-258		0	1.6	1	1.6	0.5	0.5	0.5	0	0.5	0	0
259-281		0.5	1.6	2.6	3.1	1	1	0.5	0	0.5	0	0
282-303		0.5	1.6	3.6	0.5	1	0	0.5	0.5	0	0	0
304-326		0	0.5	2.1	1	1	0.5	0	0.5	0	0	0
327-348		1	2.1	5.7	1	1.6	0.5	0.5	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 300 hPa level

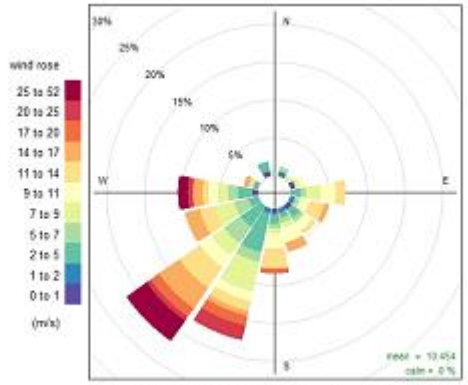
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	4.1	0	0.6	0	0	0	0	0	0
12-33		0	0	0	1.2	0.6	0	0	0	0	0	0
34-56		0	1.7	1.2	1.2	1.2	0	0	0	0	0	0
57-78		0	0	1.2	1.7	0.6	1.2	0	0.6	0	0	0
79-101		0	0.6	1.2	3.5	0	0	0	0	0	0	0
102-123		0	0	3.5	0.6	0	0	0	0	0	0	0
124-146		0	0	2.3	0	0.6	0	0	0.6	0	0	0
147-168		2.3	0.6	0.6	0	0	0	0	0	0	0	0
168-191		0	0.6	0	2.9	0	0	0	0	0	0	0
192-213		0	0	2.9	1.7	0	0	1.2	0	0	0	0
214-236		0	0.6	2.3	1.7	0.6	1.2	2.3	0.6	0	0	0
237-258		0.6	0.6	4.1	1.2	3.5	2.3	1.7	1.7	2.3	1.7	0.6
259-281		0	0.6	2.9	1.7	1.2	2.9	2.3	0.6	1.2	1.7	0
282-303		0	0	2.9	0	1.7	0.6	0	1.7	0	0	0
304-326		0	0	0.6	0.6	1.2	0.6	0	0	0	0	0
327-348		0	1.2	0	0	0.6	1.2	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 200 hPa level

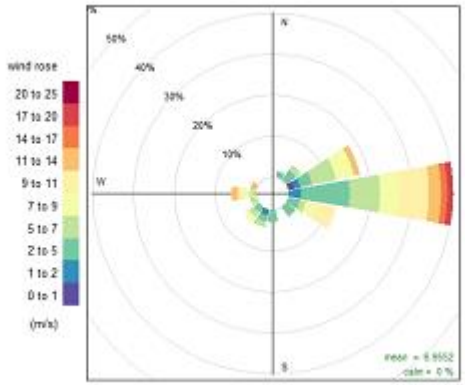
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0	0.7	0	0	0	0	0	0	0
12-33		0	0.7	0	0.7	0	0	0	0	0	0	0
34-56		0	0	0	0	0.7	0	0	0	0	0	0
57-78		0.7	0	0	0	0.7	0.7	0	0	0	0	0
79-101		0	0	1.3	0.7	2	2	1.3	0	0	0	0
102-123		0	0.7	0	0.7	0	1.3	2	0.7	0	0	0
124-146		0.7	0	1.3	0.7	0	1.3	0.7	0	0	0	0
147-168	0	0	0.7	0.7	0.7	0.7	2	0	1.3	0	0	0
168-191		0.7	0	1.3	0.7	0.7	2	2.6	0	0.7	0	0
192-213		0	0.7	5.3	1.3	3.9	1.3	1.3	0.7	1.3	2	0
214-236		0	0	3.3	2.6	2	2	3.3	3.3	1.3	0.7	3.3
237-258		0	0	1.3	2	2.6	0	2	2	0	0	0
259-281		0.7	0	2	1.3	1.3	1.3	0.7	1.3	0	0.7	1.3
282-303		0	0	0.7	0	0	0	0.7	0.7	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0.7	0	1.3	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai October 100 hPa level

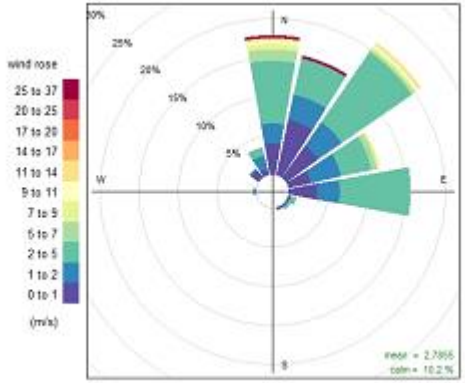
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	1.5	0	0	0	0	0	0	0	0
34-56		0	0	3	1.5	0	0	0	0	0	0	0
57-78		1.5	1.5	3	6	4.5	0	1.5	0	0	0	0
79-101		0	3	11.9	7.5	4.5	7.5	3	1.5	1.5	0	0
102-123		0	0	3	1.5	3	4.5	0	0	0	0	0
124-146		0	0	3	0	0	0	0	0	0	0	0
147-168	0	0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	3	0	0	0	0	0	0	0	0
192-213		0	1.5	1.5	1.5	0	0	0	0	0	0	0
214-236		0	0	1.5	1.5	1.5	0	0	0	0	0	0
237-258		0	0	0	1.5	0	0	0	0	0	0	0
259-281		0	0	0	1.5	1.5	1.5	1.5	0	0	0	0
282-303		0	0	0	0	0	0	1.5	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 1000 hPa level

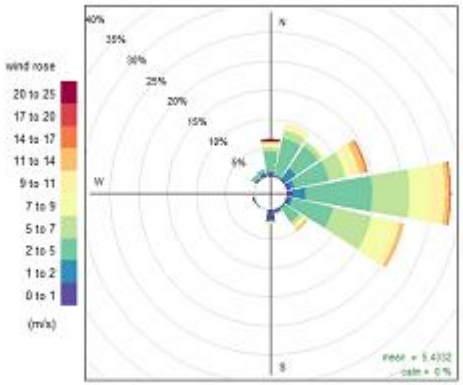
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		4	2.5	8	1.5	0.7	0.4	0.4	0	0	0	0.4
12-33		7.3	3.3	4.7	0	0	0	0	0	0	0	0.4
34-56		5.1	3.6	10.9	0.4	0.4	0.4	0.4	0	0	0	0
57-78		2.9	4	4	0.7	0.4	0	0	0	0	0	0
79-101		3.6	2.9	9.1	0	0	0	0	0	0	0	0
102-123		0.4	0	0.7	0	0	0	0	0	0	0	0
124-146		0	0.4	0.4	0	0	0	0	0	0	0	0
147-168	10	0.4	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0.4	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		1.1	0.4	0	0	0	0	0	0	0	0	0
327-348		0.7	1.8	1.1	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 925 hPa level

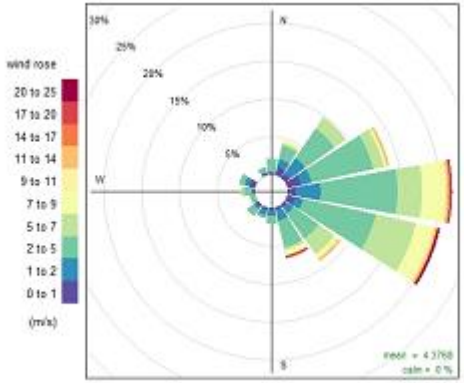
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.7	0	3.6	0.7	0.7	0	0.4	0	0	0.4	0
12-33		0	0.4	6.5	1.4	0.7	0.4	0	0	0	0	0
34-56		0.4	2.2	4.7	0.7	0.4	0	0	0	0	0	0
57-78		0.7	0.7	6.1	2.9	1.1	1.4	1.1	0.4	0	0	0
79-101		1.1	2.2	11.6	6.5	3.6	2.5	0.7	0.4	0	0	0
102-123		0.7	0.4	7.2	6.9	4	1.1	0.7	0	0	0	0
124-146		0	0.4	2.9	0.7	0.4	0.4	0.4	0	0	0	0
147-168	0	0.4	0.4	0	0	0.4	0	0	0	0	0	0
168-191		1.8	0	0.4	0	0.4	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0.4	0	0	0	0	0	0	0	0
237-258		0.4	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0	0	0	0	0	0	0	0	0	0	0
304-326		0.4	0	0.7	0	0	0	0	0	0	0	0
327-348		0.4	0.4	0.7	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 850 hPa level

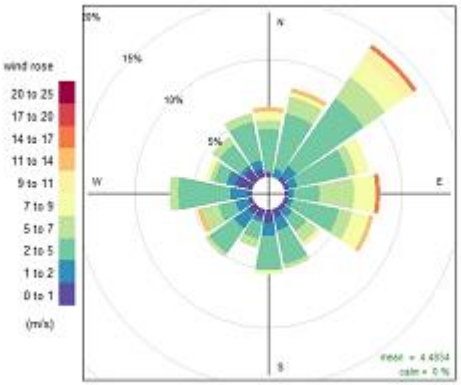
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.4	0	1.8	0	0	0	0	0	0	0	0
12-33		1.1	1.1	1.8	0.4	0.4	0	0	0	0	0	0
34-56		0.7	2.5	4.7	1.8	0	0	0	0	0	0	0
57-78		1.8	1.4	8.3	1.4	0.4	0	0.4	0	0	0	0
79-101		1.1	3.3	10.1	3.3	2.9	0.4	0.4	0	0.4	0	0
102-123		1.1	1.1	9.8	5.4	2.2	0.4	0.4	0	0	0.4	0
124-146		0.4	1.1	4	2.5	0.4	0.4	0.4	0	0	0	0
147-168		0.4	1.4	3.6	0.4	0.7	0	0	0	0.4	0	0
168-191		0.4	0.7	1.1	0	0	0	0	0	0	0	0
192-213		0.4	0.7	0.4	0	0	0	0	0	0	0	0
214-236		0.4	0.4	1.1	0	0	0	0	0	0	0	0
237-258		0	0	0.7	0	0	0	0	0	0	0	0
259-281		0.4	0	1.1	0.4	0	0	0	0	0	0	0
282-303		0.7	0.7	0.7	0	0	0	0	0	0	0	0
304-326		0	0	0	0	0	0	0	0	0	0	0
327-348		0.4	0	0.7	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 700 hPa level

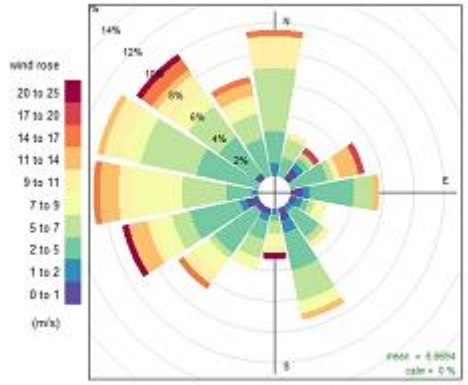
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.4	0	3.7	0.7	0.7	0	0.4	0	0	0	0
12-33		0	0.7	4.8	1.5	0.4	0	0.4	0	0	0	0
34-56		0.4	1.1	7	2.2	1.8	1.1	0	0.4	0	0	0
57-78		0.4	0.7	4.4	0.7	1.1	0	0	0	0	0	0
79-101		0.4	0.4	2.2	3	1.8	0	0	0.4	0	0	0
102-123		0.4	0.4	4.1	1.1	1.5	0	0.4	0	0	0	0
124-146		0.4	0.7	1.5	1.1	0	0.4	0	0	0	0	0
147-168		0.7	1.1	3	0.4	0	0	0	0	0	0	0
168-191		1.1	1.1	3	0	0.4	0	0	0	0	0	0
192-213		0.7	0.4	1.5	0.7	0	0	0	0	0	0	0
214-236		0.7	1.5	2.6	0.4	0	0	0	0	0	0	0
237-258		0.4	1.1	1.5	1.5	0	0	0.4	0	0	0	0
259-281		0.4	1.5	4.4	0.7	0	0	0	0	0	0	0
282-303		1.5	0.7	1.1	0.4	0.4	0	0	0	0	0	0
304-326		1.1	0.4	2.2	0.7	0	0	0	0	0	0	0
327-348		0.7	0.7	3.3	0.7	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 500 hPa level

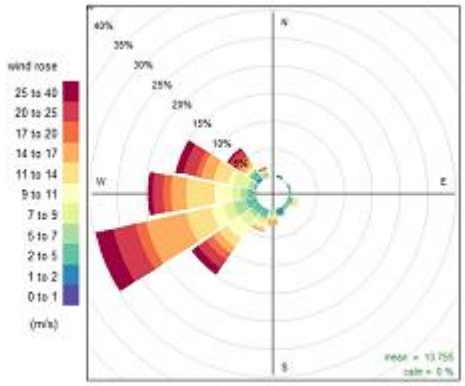
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.8	2.1	4.1	0	2.1	0	0.4	0	0	0
12-33		0	0	1.2	1.2	0	0.4	0	0	0	0	0
34-56		0.8	0.4	0.4	0.4	0	0	0	0	0.4	0	0
57-78		0	0	2.5	0.4	0	0.4	1.2	0	0.4	0	0
79-101		0.8	0.4	2.9	1.2	0	0	0.4	0	0	0	0
102-123		0.4	0.4	0.4	0.4	0.8	0	0	0	0	0	0
124-146		0	0.4	2.1	0.4	0	0.4	0	0	0	0	0
147-168		0.8	0.8	2.5	2.1	0.8	0	0.4	0	0	0	0
168-191		0	0.4	0.4	0.8	0.8	0.4	0	0	0	0.4	0
192-213		0.4	0.4	1.2	1.2	0.8	0	0	0	0	0	0
214-236		0.4	0	3.3	0.4	1.2	0.8	0	0.4	0	0	0
237-258		0.8	0.4	3.3	1.2	1.2	0.4	1.2	0	0	0.4	0
259-281		0	0.4	1.7	2.9	3.3	0.8	1.2	0.4	0	0	0
282-303		0	0	4.1	3.7	1.2	1.2	0.4	0	0	0	0
304-326		0.4	0	2.9	2.5	1.2	1.2	0.4	0.8	0	0.4	0
327-348		0	0	2.5	1.7	0.8	0.4	0.8	0.4	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 300 hPa level

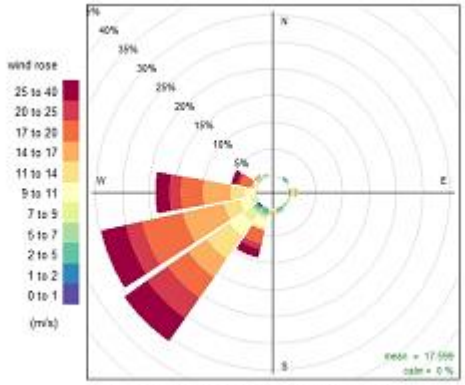
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0.5	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0.5	0	0	0	0	0	0	0	0
79-101		0	0	0.5	0	0	0	0	0	0	0	0
102-123		0	0	0.9	0	0.5	0	0.5	0	0	0	0
124-146		0	0	0.5	0.5	0	0	0	0	0	0	0
147-168		0	0.9	0.5	0	0	0	0	0	0	0	0
168-191		0	0	0	0.9	0.5	0	0.5	0.9	0	0	0
192-213		0	0	1.4	0.5	0.9	0.5	0.5	0.5	0	0	0
214-236		0	0	1.4	0.9	1.9	2.8	1.9	1.4	1.4	1.9	1.4
237-258		0	0	1.9	2.3	1.9	2.3	4.6	7.4	1.9	4.2	3.2
259-281		0	0	1.4	1.4	1.4	3.2	5.1	2.8	1.4	1.9	0.9
282-303		0	0	0.5	0.9	2.8	0.9	2.8	2.3	0.9	2.3	1.4
304-326		0	0.5	1.4	0.5	0	0.5	0.5	0.9	0.9	1.4	0.5
327-348		0	0	0	0.9	0.5	0	0	0	0.5	0	0



Frequency of counts by wind direction (%)

Mumbai November 200 hPa level

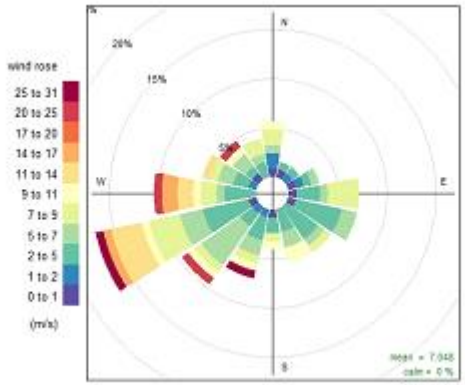
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0.5	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0.5	0	0.5	0	0	0.5	0	0	0
102-123		0	0	0	0	0	0	0.5	0	0	0	0
124-146		0	0	0	0.5	0	0	0	0	0	0	0
147-168		0	0	0.5	0.5	0	0	0	0	0	0	0
168-191		0	0	0	0	0.5	0	0	0.5	0	0	0
192-213		0	0	1	0.5	0.5	1.6	0.5	0	2.6	1	1.6
214-236		0.5	0	0.5	0.5	2.1	3.1	5.2	4.2	4.7	4.7	5.2
237-258		0	0	0	0	1	2.1	3.1	7.8	7.8	3.1	4.7
259-281		0	0	0	0	0	2.1	2.6	5.2	4.2	2.1	2.6
282-303		0	0	0	0	0	0.5	0	0.5	2.1	0.5	1
304-326		0	0	0	0.5	0	0	0	0.5	0	0	0
327-348		0	0	0	0.5	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai November 100 hPa level

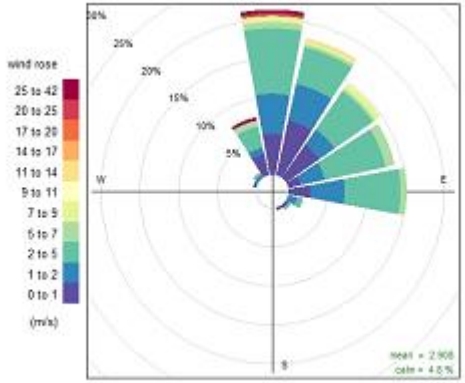
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0.8	1.6	0	0.8	1.6	0.8	0	0	0	0	0
12-33		0.8	0	0.8	0	0	0	0	0	0	0	0
34-56		0	0.8	0.8	0	0	0	0	0	0	0	0
57-78		0.8	0.8	0.8	0.8	0	0	0	0	0	0	0
79-101		0.8	0	2.4	0.8	3.2	0	0	0	0	0	0
102-123		0.8	0	4.8	1.6	0	0	0	0	0	0	0
124-146		0	0	4	0.8	0.8	0	0	0	0	0	0
147-168		0	0	2.4	1.6	0	1.6	0	0	0	0	0
168-191		0.8	0	1.6	0	0.8	0.8	0	0	0	0	0
192-213		0	0.8	2.4	1.6	0.8	0.8	0	0	0	0	0.8
214-236		0	0.8	1.6	4.8	0.8	0.8	0	0	0	0.8	0
237-258		0.8	0	4.8	2.4	3.2	0.8	3.2	0.8	0	0	0.8
259-281		0	0	3.2	0.8	1.6	0.8	1.6	1.6	0	0.8	0
282-303		0	0.8	1.6	1.6	0.8	0	0.8	0	0	0	0
304-326		0.8	0	0.8	1.6	0	0.8	0	0	0	0.8	0
327-348		0	0	1.6	0.8	1.6	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 1000 hPa level

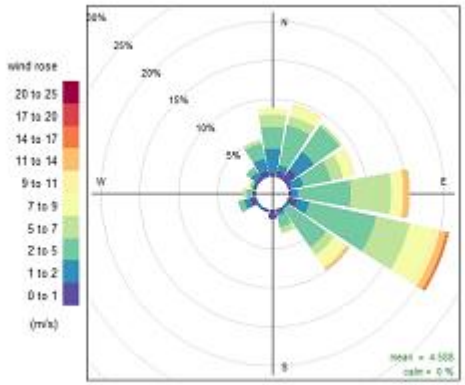
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		5.2	5.2	8.4	0.8	0.8	0	0	0	0	0.4	0.4
12-33		7.2	4.8	4.8	0.4	0.4	0	0.4	0	0	0	0
34-56		5.2	2.4	6	0.4	0.8	0	0	0	0	0	0
57-78		1.6	3.2	8	1.2	0	0	0	0	0	0	0
79-101		2.8	4.4	7.2	0.8	0	0	0	0	0	0	0
102-123		0	1.2	0.8	0	0	0	0	0	0	0	0
124-146		0.4	0	0.4	0	0	0	0	0	0	0	0
147-168	5	0.4	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0	0	0
192-213		0	0	0	0	0	0	0	0	0	0	0
214-236		0	0	0	0	0	0	0	0	0	0	0
237-258		0	0	0	0	0	0	0	0	0	0	0
259-281		0	0	0	0	0	0	0	0	0	0	0
282-303		0.4	0	0	0	0	0	0	0	0	0	0
304-326		0	0.4	0.4	0	0	0	0	0	0	0	0
327-348		2.8	0.8	2.8	0.8	0	0	0	0	0	0	0.4



Frequency of counts by wind direction (%)

Mumbai December 925 hPa level

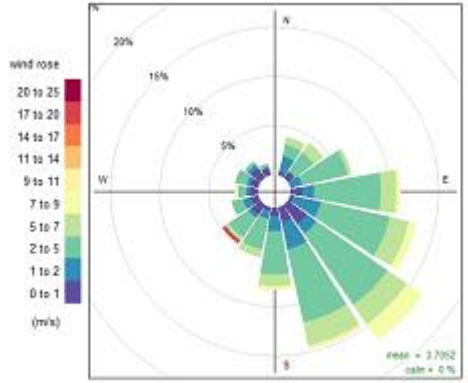
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11		0.4	3.2	2.8	1.6	0.8	0	0	0	0	0	0
12-33		0.8	0.8	5.2	1.2	1.2	0.4	0	0	0	0	0
34-56		1.6	2.8	4	0.4	0	0	0	0	0	0	0
57-78		0.4	1.6	3.6	1.6	1.2	0.4	0	0	0	0	0
79-101		0.4	0.8	6.8	5.2	1.2	0.4	0.8	0	0	0	0
102-123		1.2	1.6	8.8	4.4	3.2	0.8	0.8	0.4	0	0	0
124-146		0	0.4	6	1.2	1.6	0.4	0.4	0	0	0	0
147-168	0	0.4	0.4	1.6	0.8	0	0	0	0	0	0	0
168-191		1.2	0	0	0	0	0	0	0	0	0	0
192-213		0.4	0	0	0	0	0	0	0	0	0	0
214-236		0	0.4	0	0	0	0	0	0	0	0	0
237-258		0.8	0.8	0.8	0	0	0	0	0	0	0	0
259-281		0.4	0	0.8	0.4	0	0	0	0	0	0	0
282-303		0.4	0	0.4	0	0.4	0	0	0	0	0	0
304-326		0.4	0.8	0.8	0	0	0	0	0	0	0	0
327-348		0.8	1.6	2	0.4	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 850 hPa level

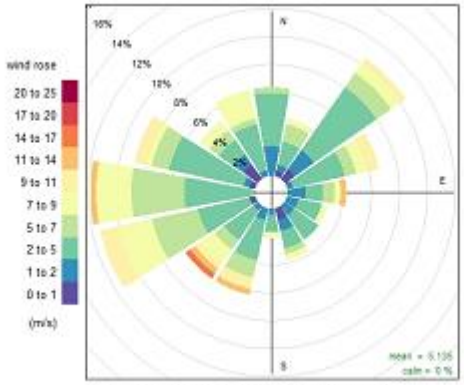
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0.4	0	0	0	0	0	0	0
12-33		0.4	1.6	1.2	0.8	0	0	0	0	0	0	0
34-56		0.8	0	2.4	1.2	0	0	0	0	0	0	0
57-78		0	1.2	4.8	0.4	0	0	0	0	0	0	0
79-101		1.2	1.2	6.8	1.6	0.4	0	0	0	0	0	0
102-123		0.4	2.8	7.2	2	0.8	0	0	0	0	0	0
124-146		2.4	1.2	8.8	2.4	2	0	0	0	0	0	0
147-168		1.2	2.4	6.8	2.4	0	0.4	0	0	0	0	0
168-191		1.2	2	5.2	1.2	0.4	0	0	0	0	0	0
192-213		0.4	0.8	3.2	0.8	0	0	0	0	0	0	0
214-236		1.2	0.4	2.4	0.4	0	0	0	0	0.4	0	0
237-258		0.8	0.8	1.2	0	0	0	0	0	0	0	0
259-281		0.8	0.4	0.8	0	0.4	0	0	0	0	0	0
282-303		0.8	0.4	1.2	0	0	0	0	0	0	0	0
304-326		1.2	0.4	0.4	0	0	0	0	0	0	0	0
327-348		0.8	0	0.4	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 700 hPa level

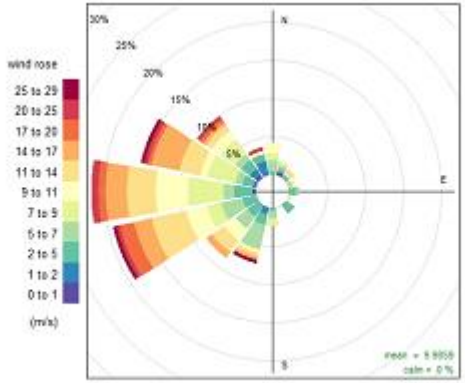
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	2.1	3.8	0.4	0	0	0	0	0	0	0
12-33		0.4	0.4	1.7	1.3	0.4	0	0	0	0	0	0
34-56		0.8	1.7	5.5	1.3	0.8	0.4	0	0	0	0	0
57-78		0	0.4	3.8	0.8	0.8	0.8	0	0	0	0	0
79-101		0	1.3	1.3	0.8	0.4	0	0.4	0	0	0	0
102-123		0	0.8	1.7	0	0.4	0	0	0	0	0	0
124-146		0	0.8	2.1	0	0	0	0	0	0	0	0
147-168		0.8	0.4	1.3	0.4	0.4	0	0	0	0	0	0
168-191		0	0.8	1.3	0	0.4	0	0	0	0	0	0
192-213		0	0.8	3	1.3	0	0.8	0.4	0	0	0	0
214-236		0	0.4	2.5	0.8	1.3	0.4	0.4	0.4	0	0	0
237-258		0.4	0	3.8	3.4	2.5	1.3	0	0	0	0	0
259-281		0	0	5.1	3.8	2.5	0	0.4	0	0	0	0
282-303		0.4	0.4	5.5	1.3	0.4	0.8	0	0	0	0	0
304-326		1.3	0.8	1.3	0.8	0.8	0	0	0	0	0	0
327-348		0	0.4	3.4	0.4	2.1	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 500 hPa level

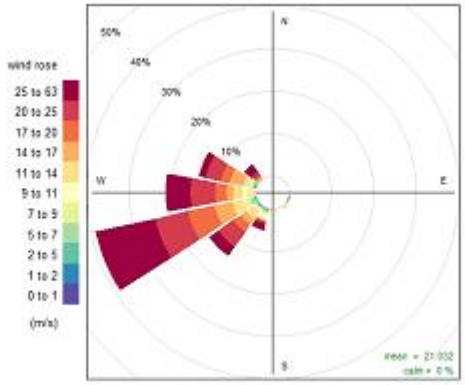
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0.5	1.4	0.9	1.4	0	0	0	0	0
12-33		0.5	0	0.5	0.5	0.5	0	0	0	0	0	0
34-56		0	0	0.5	0	0	0	0.9	0	0	0	0
57-78		0	0	0	0.5	0.5	0	0	0	0	0	0
79-101		0	0	0.9	0.5	0	0	0	0	0	0	0
102-123		0	0	0	0	0.5	0	0	0	0	0	0
124-146		0	0	1.4	0	0	0	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0.5	0.9	0.9	0	0	0	0	0	0
192-213		0	0.9	1.4	3.3	0	0.5	0.5	0.5	0	0	0.5
214-236		0	0	1.9	1.9	0	1.9	1.9	0.9	0	0	0
237-258		0	0	1.9	2.8	1.9	2.8	4.7	2.3	1.9	0.5	0.5
259-281		0.5	0	2.3	1.4	4.7	4.2	3.8	2.8	0.9	0.9	0
282-303		0	0.5	1.4	0.9	3.8	0.9	2.8	3.8	0.5	0.5	0.5
304-326		0.5	0.9	1.4	0.9	2.3	1.4	0.9	0.5	0.5	0.5	0
327-348		0	1.9	0.9	0	0	0.5	0	0	0	0.5	0



Frequency of counts by wind direction (%)

Mumbai December 300 hPa level

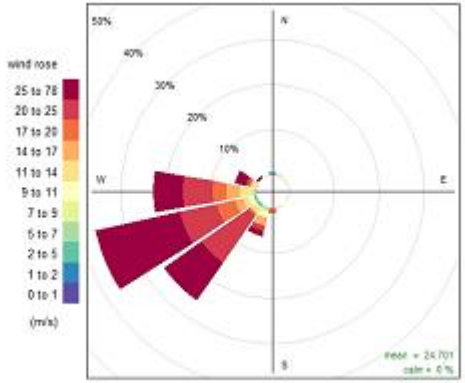
Direction \ Speed	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0.5	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0.5	0	0.5	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0.5	0	0	0
192-213		0	0	0.5	0.5	0.5	1.1	0	0.5	0	0.5	1.6
214-236		0	0	0.5	0	1.1	0	2.1	1.6	2.1	4.3	2.7
237-258		0	0	0.5	1.1	1.1	0.5	2.7	4.3	6.4	8	14.4
259-281		0	0	0	0	2.1	1.1	2.1	1.6	2.7	5.9	5.9
282-303		0	0	0.5	0.5	0	0.5	1.6	3.2	2.1	3.7	1.6
304-326		0	0	0	0	0	0	0	0.5	0.5	1.1	2.1
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 200 hPa level

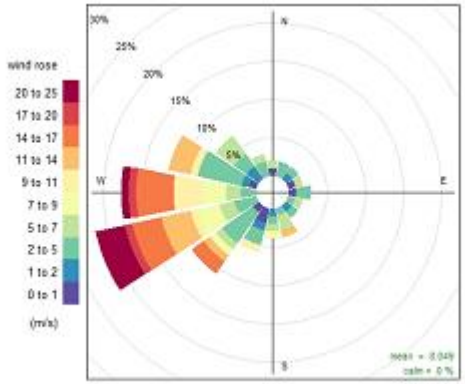
Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	0	0.6	0	0	0	0	0	0	0	0	0
12-33		0	0	0	0	0.6	0	0	0	0	0	0
34-56		0	0	0	0	0	0	0	0	0	0	0
57-78		0	0	0	0	0	0	0	0	0	0	0
79-101		0	0	0	0	0	0	0	0	0	0	0
102-123		0	0	0	0	0	0	0	0	0	0	0
124-146		0	0	0	0	0	0.6	0	0	0	0	0
147-168		0	0	0	0	0	0	0	0	0	0	0
168-191		0	0	0	0	0	0	0	0	0.6	0.6	0
192-213		0	0	0	0.6	0.6	1.2	0	1.8	0	1.2	1.2
214-236		0	0	0.6	0	0.6	0	1.2	0	0.6	12.6	10.2
237-258		0	0	0.6	0	0	1.2	1.2	1.8	4.2	8.4	19.2
259-281		0	0	0	0.6	1.2	0	1.8	3	3	6.6	6.6
282-303		0	0	0	0	0	0	1.2	0	0.6	0.6	2.4
304-326		0	0	0	0	0	0	0	0	0	0	0.6
327-348		0	0	0	0	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai December 100 hPa level

Speed / Direction	calm	0-1	1-2	2-5	5-7	7-9	9-11	11-14	14-17	17-20	20-25	25 +
349-11	0	1	0	0	1	0	0	0	0	0	0	0
12-33		0	0	2	0	0	0	0	0	0	0	0
34-56		0	1	1	0	0	0	0	0	0	0	0
57-78		1	0	0	1	0	0	0	0	0	0	0
79-101		1	0	2	0	0	0	0	0	0	0	0
102-123		0	0	1	1	0	0	0	0	0	0	0
124-146		0	1	1	0	0	0	0	0	0	0	0
147-168		0	0	1	2	0	0	1	0	0	0	0
168-191		0	1	1	1	1	0	0	0	0	0	0
192-213		2	1	2	0	0	1	0	0	0	0	0
214-236		1	0	4.9	1	1	0	1	2	0	0	0
237-258		0	0	2.9	2	2.9	1	3.9	3.9	1	3.9	0
259-281		0	0	2	2	2.9	3.9	0	4.9	1	1	0
282-303		1	1	5.9	0	0	1	2.9	0	0	0	0
304-326		0	2	2	2.9	0	0	0	0	0	0	0
327-348		0	0	2	1	0	0	0	0	0	0	0



Frequency of counts by wind direction (%)

Mumbai **43003** **Station height** **13** **January**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1010.9	1017	1005	18.6	26	12.2	14	45	0.3	-0.2	-0.2	0.4
1000	106	158	46	20	30.2	12.8	13.1	33	2.4	-1.3	-2	3.1
950	538	602	440	22	30.2	11.8	7.9	37	3	-1.8	-2.4	4.8
925	781	837	727	20.9	29.6	11.4	6.8	47	2.1	-1.5	-1.4	4.2
900	1017	1080	954	19.4	28.6	11	4.9	45	1	-0.7	-0.7	4.2
850	1505	1583	1431	16.3	24.8	7.8	2.7	188	1.4	0.2	1.4	4.6
800	2017	2111	1870	13.1	21.2	5.2	-1	203	2.6	1	2.4	5.4
750	2559	2667	2406	10.3	19.8	2	-5.5	232	2.9	2.3	1.8	6.4
700	3126	3253	2973	7.6	15.4	-1.1	-10.2	261	4.4	4.3	0.7	7.5
650	3734	3874	3577	4.4	13.2	-5.3	-14.7	273	6.3	6.3	-0.3	9.2
600	4379	4530	4218	0.7	9.8	-9.7	-18.7	273	7.8	7.8	-0.4	.10.4
550	5080	5230	4886	-3.5	7	-13.5	-21.2	274	10.3	10.3	-0.7	12.4
500	5818	5980	5610	-8.3	1.2	-19.7	-25.6	271	12	12	-0.3	14.4
450	6628	6790	6395	-13.8	-3.1	-24.1	-30.8	271	14.9	14.9	-0.3	17.1
400	7511	7712	7259	-19.7	-8.1	-30.9	-36.4	268	17.6	17.6	0.7	20.2
350	8492	8740	8224	-26.5	-12.5	-37.7	-41.7	267	21.4	21.4	1.3	23.6
300	9584	9902	9309	-34.4	-18.9	-48.1	-50.8	262	23.6	23.4	3.4	26.6
250	10832	11234	10543	-44	-28.3	-59.1	-59.8	258	25.5	24.9	5.3	28.4
200	12292	12794	11897	-55.5	-39.1	-72.1	-71.3	257	25.1	24.5	5.6	28.2
175	13132	13692	12725	-61.8	-46.1	-75.9		259	24.3	23.9	4.6	26.6
150	14074	14698	13606	-68.1	-54.5	-80.3		258	21.7	21.2	4.5	24.2
125	15153	15845	14610	-74	-60.7	-88.9		261	18.6	18.4	2.9	20.8
100	16435	17205	15807	-79.1	-67.5	-92.7		262	12.4	12.3	1.7	14.8
80	17707	18522	17011	-78.3	-65.1	-90.3		265	8.4	8.4	0.8	11
70	18480	19294	17755	-75.1	-56.7	-89.9		260	6.4	6.3	1.1	9.3
60	19335	20179	18808	-70.9	-54.1	-86.3		260	4.1	4	0.7	8.1
50	20474	21227	19870	-65.6	-53.1	-77.5		273	2.1	2.1	-0.1	7.1
40	21846	22503	21439	-62	-51.3	-78.5		302	1.3	1.1	-0.7	7.3
30	23668	24176	23208	-57.5	-46.8	-71.9		286	0.7	0.7	-0.2	7.6
25	24792	25310	24336	-56.5	-43.1	-67.9		256	0.4	0.4	0.1	8.3
20	26251	26613	25922	-54.7	-45.9	-66.7		282	5	4.9	-1	9.1
15	28047	28380	27766	-53.1	-43.3	-63.5		267	9	9	0.4	11.9
10	30606	31009	30329	-51.2	-46.7	-57.7		274	7.6	7.6	-0.5	10.3
7	32882	33360	32550	-49.7	-44.7	-54.9		267	14.3	14.3	0.7	16

FREEZING LEVEL

P	Height	H_max	H_min
593	4487	6200	2840

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
99	16553	-80.8

Mumbai **43003** **height 13** **February**

Station

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.8	1016	1004	19.7	27.6	13.4	14.7	18	0.3	-0.1	-0.3	0.4
1000	97	150	51	20.7	28.6	14.2	14.1	14	2.5	-0.6	-2.4	3.1
950	530	601	415	22.3	29.4	11.6	8	10	4.1	-0.7	-4	5.5
925	773	837	732	21.5	27.8	10	6.8	17	2.8	-0.8	-2.7	5
900	1009	1095	944	20	28.4	7.2	3.7	355	2.3	0.2	-2.3	4.9
850	1498	1573	1423	17.2	24.4	5.6	0.7	278	1.4	1.4	-0.2	5.1
800	2012	2093	1933	14	23	4.2	-1.9	234	2.7	2.2	1.6	6
750	2553	2642	2455	10.6	19.8	3	-4.9	234	3.7	3	2.2	7
700	3123	3221	3025	7.3	17	-0.9	-9.5	254	4.4	4.2	1.2	8
650	3729	3835	3600	3.9	13.2	-8.1	-13.6	271	6.5	6.5	-0.1	9.5
600	4373	4490	4224	0.2	8.4	-10.1	-18.3	273	8.1	8.1	-0.4	10.9
550	5073	5189	4949	-3.9	5.6	-11.1	-21.7	275	10.9	10.9	-0.9	13
500	5809	5954	5669	-8.7	2.8	-17.1	-27	272	12	12	-0.4	15
450	6619	6800	6486	-14.2	0.8	-27.5	-31.2	275	15.7	15.6	-1.4	17.8
400	7501	7859	7341	-20.2	-6.1	-31.1	-38.4	270	17	17	0	20.5
350	8480	8837	8250	-26.9	-13.1	-38.5	-44	272	21.5	21.5	-0.7	24
300	9570	9931	9327	-35	-20.9	-47.5	-53.1	265	22.6	22.5	1.9	26.5
250	10817	11208	10514	-44.3	-32.9	-57.1	-61.6	261	24.4	24.1	3.7	28.1
200	12276	12794	11899	-55.3	-41.9	-70.7	-71.2	259	23.8	23.3	4.7	27.4
175	13122	13642	12689	-61.5	-43.9	-75.3		261	24.1	23.8	3.8	26.6
150	14057	14631	13578	-68	-50.1	-81.1		258	20.8	20.3	4.5	23.6
125	15136	15770	14597	-74.2	-55.1	-86.3		261	18.2	18	2.9	20.2
100	16420	17087	15828	-79.5	-61.4	-92.7		260	12.1	11.9	2.1	15
80	17685	18257	17111	-79.9	-59.5	-89.7		262	7.8	7.7	1.1	10.7
70	18453	19019	17960	-76.8	-56.3	-88.5		261	5.9	5.8	0.9	8.8
60	19345	19907	18816	-72.3	-56.5	-89.7		261	5.6	5.5	0.9	8
50	20430	20864	19868	-66.7	-52.3	-84.6		256	3.3	3.2	0.8	8
40	21784	22279	21199	-62.4	-51.5	-73.5		261	0.6	0.6	0.1	7
30	23591	24129	22954	-57.9	-48.2	-67.7		284	0.4	0.4	-0.1	7.8
25	24728	25046	24082	-56.8	-47.7	-64.7		286	0.7	0.7	-0.2	7.2
20	26155	26432	25823	-53.9	-47.3	-60.1		225	1.1	0.8	0.8	6.4
15	27986	28199	27818	-52	-49.1	-53.7		310	4.5	3.5	-2.9	8.3
10	30634	30882	30465	-47.9	-44.7	-51.9		243	3.8	3.4	1.7	4.3
7	32863	32874	32852	-46	-41.7	-50.3		266	5.5	5.5	0.4	5.5

FREEZING LEVEL

P	Height	H_max	H_min
599	4413	6860	3210

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
97	16654	-81.8

Mumbai **43003** **Station height** **13** **March**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1008.2	1014	1003	22.4	30.6	16	18.4	360	0.3	0	-0.3	0.4
1000	84	134	36	22.9	30.4	17.2	17.6	6	1.8	-0.2	-1.8	2.2
950	520	577	445	24.3	31.6	12.8	10.2	1	4.5	-0.1	-4.5	5.7
925	764	806	722	24	31.6	14.8	8	7	4.2	-0.5	-4.2	6
900	1004	1066	952	22.6	31	10.4	4.2	360	4.1	0	-4.1	5.9
850	1498	1559	1437	20.1	29	9.6	0.5	335	2.9	1.2	-2.6	5.9
800	2017	2077	1938	16.8	25	5.4	-1.4	262	2.2	2.2	0.3	5.9
750	2561	2660	2470	12.9	19.8	3.4	-3.1	231	3.3	2.6	2.1	6.4
700	3136	3213	3031	8.7	16.5	0	-6.1	228	4	3	2.7	7.1
650	3743	3856	3590	4.5	14	-3.7	-10.1	244	4.1	3.7	1.8	7.2
600	4390	4484	4271	0.6	10.6	-6.7	-15.4	264	5.3	5.3	0.6	8.2
550	5091	5219	4957	-3.6	7.8	-11.7	-20.6	276	7.2	7.2	-0.7	9.6
500	5829	5951	5682	-8.3	6	-17.8	-26.4	273	9.2	9.2	-0.5	11.9
450	6640	6800	6465	-13.8	-0.3	-24.9	-30.2	275	11.7	11.6	-1.1	14
400	7523	7689	7314	-20	-6.1	-36.3	-36.3	273	13.5	13.5	-0.6	16.5
350	8503	8718	8248	-26.9	-13.1	-46.9	-41.6	274	16.9	16.8	-1.3	19.3
300	9593	9866	9270	-34.7	-19.9	-52.7	-50.1	269	19.2	19.2	0.5	22.6
250	10840	11164	10434	-43.9	-26.7	-61.3	-59	265	21.3	21.2	1.9	24.9
200	12302	12719	11777	-54.7	-39.3	-73.1	-69	263	21.8	21.6	2.7	25.2
175	13144	13617	12528	-60.6	-46.3	-82.3		264	21.4	21.3	2.2	23.8
150	14087	14627	13410	-66.8	-50.3	-78.2		261	18.9	18.7	2.8	21.6
125	15171	15792	14511	-72.9	-57.1	-85.9		264	15.9	15.8	1.7	18.1
100	16462	17163	16063	-78.2	-63.5	-91.6		263	10.3	10.2	1.2	12.9
80	17731	18467	17317	-78.2	-61.5	-88.7		264	6.3	6.3	0.7	9.1
70	18489	19226	18089	-75.3	-57.2	-87.3		261	5.1	5	0.8	7.8
60	19383	19842	18971	-71.2	-59	-86.3		268	3.8	3.8	0.1	7
50	20480	20990	20057	-65.8	-52.5	-77.3		266	2.7	2.7	0.2	6.3
40	21870	22246	21427	-61.1	-50.9	-76.1		290	1.5	1.4	-0.5	6.2
30	23692	24110	23326	-56.3	-42.2	-65.1		290	1.5	1.4	-0.5	7.2
25	24825	25120	24457	-54.6	-43.3	-61.5		313	2.2	1.6	-1.5	6.5
20	26275	26582	26001	-51.5	-38.7	-57.9		276	2.8	2.8	-0.3	8.4
15	28119	28425	27854	-49.7	-44.9	-58.1		268	4.6	4.6	0.2	7.6
10	30738	30920	30561	-47.1	-40.7	-57.1		312	3	2.2	-2	9.6
7	33211	33323	33002	-45.6	-40.1	-54.3		286	6.9	6.6	-1.9	21

FREEZING LEVEL

P	Height	H_max	H_min
594	4482	6690	2710

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
97	16686	-80.3

Mumbai **43003** **Station height** **13** **April**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1006.6	1011	1002	24.9	28.6	20	21.9	360	0.1	0	-0.1	0.2
1000	71	109	27	25	29.4	20.2	21.4	8	0.7	-0.1	-0.7	1.3
950	511	557	400	25.2	38.2	16.6	15.7	345	3	0.8	-2.9	4.8
925	756	793	713	24.9	36.4	14.4	11.9	351	3.3	0.5	-3.3	5.3
900	995	1041	922	24	34	14.4	7.6	343	3.8	1.1	-3.6	6.1
850	1492	1548	1436	22	29.8	10.4	2.5	331	3.8	1.8	-3.3	6.5
800	2015	2084	1913	18.9	26.4	7.4	0.4	302	2.8	2.4	-1.5	6.2
750	2565	2646	2478	15	22.8	3.4	-1.1	247	2.5	2.3	1	6.3
700	3142	3241	3004	10.3	19	0.4	-3.2	218	3.3	2	2.6	6.5
650	3753	3868	3620	5.5	15.4	-3.9	-6.5	210	3.6	1.8	3.1	6.6
600	4401	4529	4223	0.9	10.8	-9.9	-11.4	230	3.1	2.4	2	6.6
550	5105	5232	4990	-3.2	5.8	-14.1	-17.3	266	3.9	3.9	0.3	7.1
500	5843	5991	5718	-7.7	5.4	-19.1	-23.9	277	5.2	5.2	-0.6	8.5
450	6659	6812	6500	-13.1	-2.5	-22.5	-28.3	279	7.4	7.3	-1.1	10.3
400	7541	7718	7344	-19.4	-7.9	-37.3	-34.9	272	9.3	9.3	-0.3	12.8
350	8524	8708	8300	-26.2	-16.1	-38.1	-40.7	272	12.6	12.6	-0.4	15.8
300	9616	9847	9355	-34.2	-22	-45.9	-49.5	265	14.7	14.6	1.3	18.6
250	10866	11155	10556	-43.4	-31.5	-55.1	-60.2	261	17.1	16.9	2.8	20.7
200	12333	12693	11961	-54.1	-40.7	-63.7	-70.7	257	18	17.6	4	21
175	13186	13585	12785	-59.7	-47.1	-71.7		259	17.2	16.9	3.3	19.6
150	14127	14588	13693	-66	-8.7	-80.1		257	14.4	14	3.2	16.9
125	15218	15697	14734	-72.3	-57.1	-89.1		259	10.8	10.6	2.1	13.4
100	16501	17079	15978	-77.8	-62.3	-89.1		266	5.3	5.3	0.4	9.4
80	17778	18440	17222	-77.7	-56.3	-88.7		259	1	1	0.2	6.8
70	18540	19259	17990	-73.5	-54.5	-87.9		27	0.4	-0.2	-0.4	6.1
60	19361	20221	18899	-68.9	-51.3	-82.1		56	1.1	-0.9	-0.6	5.8
50	20533	21388	19979	-62.7	-45.2	-80.3		66	2	-1.8	-0.8	6.5
40	21903	22855	21319	-58.2	-44.9	-78.7		63	2.2	-2	-1	6.7
30	23740	24146	23118	-52.5	-35.9	-65.7		60	3.4	-2.9	-1.7	6.8
25	24868	25340	24236	-51.7	-42.7	-63.5		63	5.1	-4.5	-2.3	7.5
20	26341	26814	25632	-49.2	-40.9	-63.3		74	5.8	-5.6	-1.6	9.2
15	28208	28777	27440	-47.4	-37.3	-56.3		62	5	-4.4	-2.3	8.9
10	30860	31535	30034	-45	-35.7	-52.5		28	1.9	-0.9	-1.7	11.3
7	33216	33764	32346	-44.1	-37.5	-50.9		330	4.6	2.3	-4	14.2

FREEZING LEVEL

P	Height	H_max	H_min
588	4575	6010	3150

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
97	16742	-79.5

Mumbai **43003** **Station height** **13** **May**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1005	1010	998	27.6	30.4	24	24	233	0.5	0.4	0.3	0.7
1000	57	102	14	27.3	31	21.8	23.6	248	0.5	0.5	0.2	1.3
950	498	578	410	25.3	31.6	17.2	20.9	279	2	2	-0.3	4.5
925	744	793	690	24.1	32	17.6	18.3	277	2.3	2.3	-0.3	5
900	983	1039	918	23.4	31.8	15.4	14.8	289	2.8	2.6	-0.9	5.5
850	1480	1548	1419	21.9	29.2	13.2	8.5	305	3.5	2.9	-2	6.3
800	2004	2083	1938	19.5	28.2	11	3.9	308	3.1	2.4	-1.9	6.3
750	2555	2647	2477	16.1	24	7.2	0.8	293	2.1	1.9	-0.8	6
700	3136	3242	3015	11.7	20	5.4	-2	225	1.3	0.9	0.9	6
650	3750	3866	3650	7.2	14.8	-10.3	-5.4	189	1.3	0.2	1.3	5.8
600	4403	4528	4309	2.6	10.6	-7.9	-9.4	180	0.5	0	0.5	5.6
550	5109	5238	4992	-1.5	8.2	-11.3	-13.7	349	1	0.2	-1	5.6
500	5853	6000	5716	-6	2.2	-15.5	-19.4	342	2.2	0.7	-2.1	6.4
450	6673	6831	6480	-11	8.6	-21.3	-23.8	325	3.2	1.8	-2.6	7.5
400	7566	7739	7379	-16.7	-6.3	-26.5	-30.2	304	3.6	3	-2	8.4
350	8558	8746	8331	-23.4	-10.7	-33.7	-35.6	285	4.7	4.5	-1.2	9.2
300	9667	9876	9402	-31.4	-17.7	-42.9	-44.3	271	5.7	5.7	-0.1	9.8
250	10932	11197	10616	-40.8	-23.1	-54.3	-54.5	258	6.6	6.5	1.4	10.5
200	12415	12904	12016	-52.2	-31.3	-67.6	-64.4	245	6.8	6.2	2.9	10.9
175	13268	13742	12811	-58.7	-34.7	-75.3	-63.7	237	6.6	5.5	3.6	10.9
150	14215	14809	13691	-66	-39.1	-84.1	-75.5	226	5.3	3.8	3.7	10.2
125	15307	16041	14701	-72.8	-45.7	-87.1		201	3.1	1.1	2.9	9
100	16585	17499	15907	-78.5	-54.3	-90.9		117	3.5	-3.1	1.6	8.3
80	17857	18893	17317	-77.4	-52.3	-90.9		98	6.2	-6.1	0.9	8.2
70	18627	19698	18045	-72.8	-51.1	-87.9		88	6.4	-6.4	-0.2	8.2
60	19301	20402	18918	-67.1	-49.1	-82.1		82	7.2	-7.1	-1	8.3
50	20650	21548	19972	-60.8	-47.7	-72.9		76	7.5	-7.3	-1.8	8.9
40	22021	22984	21530	-56.3	-45.9	-69.7		81	9.6	-9.5	-1.5	10.6
30	23880	24882	23463	-51.1	-41.1	-63.5		78	11.6	-11.3	-2.5	12.5
25	25050	26101	24671	-49.4	-40.5	-60.3		82	12	-11.9	-1.6	12.5
20	26538	27616	26073	-46.2	-35.5	-54.9		85	12.2	-12.2	-1.1	13.2
15	28418	29599	27934	-44.7	-35.9	-54.3		76	14.2	-13.8	-3.4	15.8
10	30919	31228	30623	-44.3	-41.1	-50.1		71	12.7	-12	-4.2	13.2
7	33172	33477	32950	-43.6	-40.9	-46.1		68	16.8	-15.6	-6.3	17

FREEZING LEVEL

P	Height	H_max	H_min
568	4859	6640	3690

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
97	16793	-80.2

Mumbai **43003** **Station height** **13** **June**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1001.7	1009	992	27.8	30.6	22	24.8	232	1.6	1.3	1	2.2
1000	37	93	6	27.8	31	24	24.6	236	1.8	1.5	1	2.4
950	470	565	378	25.2	32.4	18.4	22.8	243	4.8	4.3	2.2	6.7
925	715	782	625	23.5	30.6	15.5	21.6	247	5.1	4.7	2	7.3
900	954	1022	864	22.2	29.2	13.7	19.7	245	5.6	5.1	2.4	7.6
850	1449	1520	1354	19.6	28	11.6	16	247	5.4	5	2.1	7.6
800	1970	2040	1867	17.1	27	8.4	11.8	250	4.4	4.1	1.5	7.1
750	2521	2660	2400	14.5	25.2	5.8	7.2	257	3.1	3	0.7	7.1
700	3098	3197	2973	11.5	21	3.2	2.8	264	1.8	1.8	0.2	7.1
650	3715	3834	3579	7.8	16.2	-0.3	-0.7	275	1.1	1.1	-0.1	6.9
600	4368	4509	4222	3.6	12	-5.5	-4.3	288	0.6	0.6	-0.2	6.6
550	5080	5229	4913	-0.2	9	-10.3	-7.8	360	0.3	0	-0.3	6.1
500	5828	6002	5662	-4	7.2	-12.3	-11.9	37	0.5	-0.3	-0.4	5.7
450	6657	6846	6476	-8.3	4.8	-16.9	-16.3	49	0.9	-0.7	-0.6	5.5
400	7558	7766	7371	-13.7	-4.9	-25.5	-21.9	73	1.4	-1.3	-0.4	5.4
350	8565	8800	8338	-20.2	-11.5	-36.9	-28.7	88	2.4	-2.4	-0.1	5.8
300	9686	9939	9418	-28.3	-18	-40.7	-36.8	88	3.3	-3.3	-0.1	6.6
250	10967	11241	10631	-38.3	-25.7	-51.3	-46.4	89	5.1	-5.1	-0.1	8.2
200	12464	12794	12123	-50.6	-36.9	-69.3	-57.6	93	8.1	-8.1	0.4	11.4
175	13324	13683	12967	-57.7	-46.3	-71.3	-62.6	96	10.2	-10.2	1	13.3
150	14273	14681	13858	-65.5	-49.8	-81.1	-67.8	93	12.7	-12.7	0.6	15.6
125	15367	15818	14908	-73.1	-58.9	-88.1	-83.5	92	15.5	-15.5	0.5	17.5
100	16648	17158	16225	-78.7	-63.5	-89.9		88	17.2	-17.2	-0.7	19.1
80	17917	18493	17484	-76.7	-60.3	-90.3		86	16.3	-16.3	-1	17.1
70	18686	19300	18217	-72.1	-56.7	-88.1		80	14.4	-14.2	-2.4	15.4
60	19129	20260	19088	-67.1	-51	-87.5		78	14	-13.7	-2.9	14.8
50	20707	21454	20165	-61.9	-46.9	-86.7		76	14.2	-13.8	-3.4	15.3
40	22073	22955	21526	-58	-40.3	-73.5		80	15.9	-15.7	-2.8	16.8
30	23896	24948	23313	-52.9	-33.3	-65.3		79	17.3	-17	-3.3	18.8
25	25017	25724	24505	-51.8	-38.5	-66.3		83	19	-18.9	-2.3	20.3
20	26459	27273	25921	-48.9	-34.7	-64.3		81	21.7	-21.4	-3.3	22.9
15	28330	29295	27766	-45.9	-31.9	-58.5		82	22.8	-22.6	-3	23.6
10	30951	31491	30471	-44	-31.5	-56.7		81	26.2	-25.9	-4.1	27.5
7	33303	33670	32886	-42.9	-38.1	-56.5		76	28.7	-27.9	-6.9	29.3

FREEZING LEVEL

P	Height	H_max	H_min
552	5049	6550	3570

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
98	16792	-80.7

Mumbai **43003** **Station height** **13** **July**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1001.6	1008	990	26.9	29.6	23.4	24.5	246	3	2.7	1.2	3.3
1000	35	81	10	26.8	29	22	24.4	243	3	2.7	1.4	3.6
950	467	531	360	24.3	34.6	14.4	22.3	248	8.2	7.6	3	9.4
925	709	771	637	22.7	30	13.9	21	247	9	8.3	3.5	10.2
900	950	1007	835	21.3	28.4	13.2	19.4	249	9.6	8.9	3.5	10.7
850	1444	1503	1327	18.5	25.8	10	16.3	249	9.2	8.6	3.3	10.4
800	1962	2071	1845	15.7	23	8.7	13.2	248	8.3	7.7	3.1	9.5
750	2511	2630	2375	13.3	21.6	5.8	9.4	254	7.5	7.2	2.1	8.8
700	3086	3179	2962	10.8	18.8	2.2	4.1	258	6.4	6.3	1.3	8.5
650	3703	3823	3600	7.8	15.6	-1.1	-0.1	270	5.1	5.1	0	7.4
600	4356	4472	4244	4	11.3	-5.5	-3.6	272	3.5	3.5	-0.1	6.9
550	5068	5221	4948	0.2	7	-7.9	-6.9	286	2.5	2.4	-0.7	5.9
500	5818	5952	5686	-3.7	4.8	-11.9	-11.3	304	1.1	0.9	-0.6	5.1
450	6647	6814	6473	-8.2	0.1	-17.7	-15.7	45	1	-0.7	-0.7	4.8
400	7550	7717	7394	-13.6	-4	-22.9	-21.3	72	2.2	-2.1	-0.7	4.9
350	8556	8750	8382	-20.3	-10.1	-30.1	-27.8	78	4.5	-4.4	-0.9	6.2
300	9677	9909	9451	-28.5	-17.9	-38.3	-36.5	79	7.2	-7.1	-1.4	8.6
250	10956	11229	10712	-38.8	-26.1	-48.9	-46.3	80	11.1	-10.9	-1.9	12.4
200	12446	12773	12192	-51.3	-36.9	-64.7	-58.2	81	16.9	-16.7	-2.5	18.5
175	13302	13665	13019	-58.6	-45.3	-71.9	-62.5	82	20.6	-20.4	-2.9	22.2
150	14249	14662	13918	-66.6	-52.1	-80.1	-70.5	81	23.9	-23.6	-3.9	26.2
125	15341	15792	14953	-73.8	-57.6	-89.9	-74.7	85	27.6	-27.5	-2.3	29.3
100	16624	17126	16203	-77.7	-62.7	-93.1		82	25.7	-25.5	-3.4	27.8
80	17921	18425	17440	-73.3	-58.3	-92.1		80	22.1	-21.8	-3.9	23
70	18707	19249	18190	-69.2	-52.7	-87.9		76	19.9	-19.3	-4.8	21.1
60	19216	20218	19097	-64.9	-49.5	-80.5		79	18.7	-18.3	-3.6	19.6
50	20764	21363	20173	-60.8	-47.7	-83.3		76	18.8	-18.2	-4.7	20.4
40	22161	22807	21511	-57.3	-44.1	-77.3		80	21.4	-21.1	-3.8	21.9
30	24015	24712	23476	-52.1	-39.9	-66.9		80	20.9	-20.6	-3.5	22
25	25188	25943	24600	-50.4	-39.5	-62.7		82	23.8	-23.6	-3.4	24.4
20	26671	27465	25885	-47.9	-33.1	-68.9		86	23.8	-23.7	-1.7	24.9
15	28672	29454	28161	-44.8	-34.1	-54.7		85	26.2	-26.1	-2.1	26.7
10	31437	32269	30895	-41.2	-29.1	-47.9		83	29.5	-29.3	-3.6	30.2
7	33619	34171	33299	-42.3	-39.3	-44.3		75	28.7	-27.8	-7.2	31.8

FREEZING LEVEL

P	Height	H_max	H_min
548	5106	6660	3460

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
105	16367	-79.3

Mumbai **43003** **Station height** **13** **August**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1003.1	1009	994	26.4	29	23.6	24.3	259	2.5	2.5	0.5	2.8
1000	42	90	13	26.2	28.8	21.6	24.1	253	2.8	2.7	0.8	3.2
950	479	571	301	23.7	30.2	17.8	21.7	256	7.6	7.4	1.9	8.5
925	724	772	646	22.3	28.6	14.9	20.6	253	7.5	7.2	2.2	8.9
900	961	1012	884	20.8	27.2	14.4	18.9	254	8.3	8	2.3	9.4
850	1453	1509	1373	18	27.2	12.6	15.9	253	8.3	7.9	2.4	9.3
800	1971	2037	1885	15.2	21.8	6.2	12.9	253	7.5	7.2	2.2	8.6
750	2519	2600	2400	12.8	20	5.4	8.9	259	6.8	6.7	1.3	7.9
700	3093	3186	2999	10.5	17.2	3	3.9	265	5.6	5.6	0.5	7.5
650	3710	3814	3600	7.5	14.4	-3.5	-0.6	276	4.4	4.4	-0.5	6.7
600	4362	4482	4153	4	12	-2.9	-4	286	3.3	3.2	-0.9	6.1
550	5075	5199	4846	0.3	10	-8.3	-7.4	306	2.6	2.1	-1.5	5.2
500	5825	5975	5589	-3.7	6.2	-12.1	-11.2	332	1.5	0.7	-1.3	4.7
450	6655	6850	6404	-8.3	8.8	-14.7	-16	23	1.5	-0.6	-1.4	4.5
400	7555	7773	7368	-13.8	-3.7	-23.1	-21.3	59	2.6	-2.2	-1.3	4.8
350	8561	8818	8320	-20.4	-8.7	-29.1	-27.9	70	4.4	-4.1	-1.5	5.9
300	9682	9998	9448	-28.7	-15.5	-38.9	-36.5	77	6.9	-6.7	-1.5	8.1
250	10960	11220	10698	-38.8	-22.7	-50.5	-46.8	80	10.1	-10	-1.7	11.6
200	12452	12758	12148	-51.2	-39.9	-62.9	-58.9	84	15.8	-15.7	-1.6	17.5
175	13309	13651	12960	-58.4	-45.9	-73.8	-63.7	85	19.3	-19.2	-1.6	21.2
150	14258	14650	13848	-66.5	-52.7	-81.9	-70.8	84	22.7	-22.6	-2.2	24.9
125	15341	15795	14883	-74	-58.3	-87.8		84	25.9	-25.8	-2.5	28
100	16626	17141	16140	-77.7	-59.5	-89.7		87	24.6	-24.6	-1.5	26.2
80	17916	18345	17457	-73.7	-58.2	-87.5		83	21.4	-21.2	-2.6	22.1
70	18698	19150	18233	-69.8	-58.2	-87.3		77	19.6	-19.1	-4.5	20.6
60	19280	20101	19138	-66.1	-52.9	-78.7		79	19.5	-19.1	-3.8	20.3
50	20734	21243	20216	-62.4	-48.5	-72.9		79	18.8	-18.5	-3.6	19.9
40	22126	22674	21568	-58.9	-48.1	-69.9		82	21.6	-21.4	-2.9	22.3
30	23953	24552	23341	-54.3	-43.5	-60.3		82	21.5	-21.3	-2.9	23
25	25105	25529	24500	-52.4	-45.1	-59.1		87	26.5	-26.5	-1.3	26.9
20	26602	26962	26275	-49.5	-42.1	-58.1		84	26	-25.9	-2.7	26.8
15	28435	28774	28132	-48.6	-42.5	-53.5		86	32.5	-32.4	-2	32.9
10	30918	31149	30779	-45.8	-40.5	-51.5		83	30.3	-30.1	-3.7	30.8
7	33600	33600	33600	-44.5	-44.5	-44.5		80	45	-44.3	-7.8	45

FREEZING LEVEL

P	Height	H_max	H_min
547	5123	7120	3630

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
104	16405	-79.7

Mumbai **43003** **Station height** **13** **September**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1005.4	1011	994	25.6	28.4	21.2	23.8	270	0.5	0.5	0	0.7
1000	61	109	13	25.4	28.4	20	23.6	288	0.6	0.6	-0.2	1.5
950	498	560	380	23.3	29.8	15.8	20.8	274	2.6	2.6	-0.2	5.2
925	739	794	648	21.8	27.6	15	19.6	268	2.9	2.9	0.1	5.9
900	978	1040	870	20.6	27.8	13.4	17.7	268	2.8	2.8	0.1	5.8
850	1471	1540	1357	17.9	25	11.4	14.5	268	2.6	2.6	0.1	5.9
800	1988	2095	1860	15.2	24.6	6	11	259	1.5	1.5	0.3	5.6
750	2533	2643	2386	12.5	21.8	5	6.9	256	0.8	0.8	0.2	5.6
700	3108	3227	2948	9.5	16.8	3	2.5	259	0.5	0.5	0.1	5.5
650	3721	3860	3550	6.3	14.2	-1.3	-1.8	281	0.5	0.5	-0.1	5.4
600	4372	4519	4197	3.1	11.4	-4.7	-5.7	292	0.5	0.5	-0.2	5
550	5080	5214	4895	-0.3	9.6	-10.3	-9.2	321	0.6	0.4	-0.5	4.8
500	5829	5978	5648	-4.3	2.6	-12.1	-13.5	7	0.8	-0.1	-0.8	4.7
450	6657	6788	6464	-9	0	-17.1	-18	36	1.4	-0.8	-1.1	4.5
400	7555	7907	7362	-14.7	-4.1	-22.1	-23.9	60	2	-1.7	-1	4.7
350	8555	8767	8350	-21.6	-10.1	-30.5	-30.5	74	3.2	-3.1	-0.9	5.5
300	9670	9884	9454	-30	-17.1	-40.6	-38.3	83	4.6	-4.6	-0.6	6.6
250	10944	11202	10709	-40.3	-29.3	-49.3	-48.9	88	6.4	-6.4	-0.2	8.4
200	12424	12747	12157	-52.8	-27.3	-63.3	-61	94	9.5	-9.5	0.6	11.8
175	13276	13613	12968	-59.9	-41.1	-71.1	-64.1	94	11.9	-11.9	0.9	14.2
150	14216	14623	13860	-67.7	-50.1	-80.9	-63.5	93	13.9	-13.9	0.8	16.2
125	15297	15792	14872	-74.8	-55.1	-87.1		92	15.7	-15.7	0.5	17.5
100	16578	17192	16161	-77.8	-59.7	-90.1		86	15.1	-15.1	-1.1	16.4
80	17867	18450	17457	-73.3	-60.5	-88.5		81	13.5	-13.3	-2.1	14.2
70	18662	19284	18286	-69.6	-57.8	-79.9		78	12.9	-12.6	-2.7	13.8
60	19414	20026	19170	-65.8	-52.1	-76.3		77	13.2	-12.9	-3	14.2
50	20695	21148	20256	-61.8	-49	-72.1		77	14.8	-14.4	-3.2	15.9
40	22069	22594	21618	-58.6	-47.5	-68.1		82	15.9	-15.7	-2.2	16.9
30	23914	24510	23465	-54.4	-41.9	-65.3		83	17.5	-17.4	-2	18.1
25	25085	25745	24574	-52.3	-37.7	-66.1		88	20.7	-20.7	-0.9	21.4
20	26549	27279	25994	-49.3	-36.7	-62.3		88	18.5	-18.5	-0.6	19
15	28412	29118	27820	-47.1	-38.3	-60.1		90	23.3	-23.3	-0.2	24.3
10	31083	31456	30603	-44.2	-40.5	-49.5		72	19.7	-18.8	-6	19.8
7												

FREEZING LEVEL

P	Height	H_max	H_min
558	4973	6660	3490

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
106	16293	-79.7

Mumbai **43003** **Station height** **13** **October**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1007.3	1013	999	24.7	28.8	18.8	21.7	90	0.2	-0.2	-0.2	0.4
1000	78	124	16	24.9	28.6	19.4	21	48	1.2	-0.9	-0.9	1.8
950	514	574	410	24.9	32.2	17.4	15.9	52	2.8	-2.2	-2.2	5.2
925	759	807	702	23.7	31.4	16.8	14.6	61	2.9	-2.5	-2.5	5.4
900	1000	1088	922	22.3	29.8	15.6	11.7	56	2.9	-2.4	-2.4	5.6
850	1494	1546	1405	19.1	26.4	9.2	8.4	61	3.3	-2.9	-2.9	5.8
800	2011	2074	1938	15.4	22.2	4.2	5.7	66	3.2	-2.9	-2.9	5.6
750	2555	2641	2464	11.6	18.4	0.8	2.6	69	2.6	-2.4	-2.4	5.5
700	3127	3209	3031	8.1	16	-4.7	-1.1	70	2	-1.9	-1.9	5.3
650	3737	3848	3627	5.3	14.6	-3.7	-5	59	1.7	-1.5	-1.5	5.3
600	4386	4488	4262	2.3	10	-5.7	-9	35	1.6	-0.9	-0.9	5.6
550	5093	5206	4944	-1.1	6.4	-12.9	-12.5	13	1.8	-0.4	-0.4	5.9
500	5838	5974	5679	-5.4	4	-14.3	-17.5	360	2.1	0	0	6.1
450	6660	6816	6476	-10.5	5.4	-19.9	-22.5	342	2	0.6	0.6	6.2
400	7553	7735	7352	-16.6	-5.1	-34	-29.2	313	1.9	1.4	1.4	6.6
350	8545	8751	8318	-23.6	-9.9	-32.9	-36	281	2.5	2.5	2.5	6.7
300	9652	9891	9403	-32	-20.1	-43.3	-44.2	254	3.6	3.5	3.5	7.4
250	10914	11202	10634	-42.1	-29.3	-51.3	-54.9	235	4.9	4	4	8.6
200	12386	12732	12045	-54.3	-39.9	-69.9	-64.7	216	5.9	3.5	3.5	10.1
175	13231	13613	12919	-61.2	-46.9	-71.5	-64.9	205	5.9	2.5	2.5	10.5
150	14171	14619	13815	-68.7	-52.9	-80.9		195	4.9	1.3	1.3	10.4
125	15238	15772	14822	-75.7	-61.1	-93.4		160	2.9	-1	-1	8.8
100	16510	17131	16086	-78.8	-66.7	-89.5		101	3.8	-3.7	-3.7	7.7
80	17787	18304	17408	-74.5	-58.5	-85.3		86	5.2	-5.2	-5.2	7
70	18567	19070	18135	-70.3	-56.5	-82.5		80	5.5	-5.4	-5.4	7.1
60	19494	19971	19094	-66.4	-52.6	-77.5		77	7	-6.8	-6.8	8
50	20603	21035	20172	-62.5	-48.4	-73.9		75	8.2	-7.9	-7.9	9.3
40	21957	22442	21548	-59.4	-42.3	-70.1		76	11	-10.7	-10.7	11.9
30	23766	24250	23346	-55.4	-40.1	-67.7		79	12.4	-12.2	-12.2	13.1
25	24906	25464	24474	-53.8	-43.1	-66.1		81	12.8	-12.6	-12.6	14.2
20	26356	26873	25935	-51.3	-41.1	-58.1		74	13.9	-13.4	-13.4	14.8
15	28189	28482	27944	-49.8	-42.5	-55.1		78	14.2	-13.9	-13.9	14.8
10	30626	30646	30607	-50.6	-49.9	-51.3		83	13.4	-13.3	-13.3	16
7	32958	32958	32958	-47.9	-47.9	-47.9						

FREEZING LEVEL

P	Height	H_max	H_min
570	4824	6470	2600

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
106	16216	-80.7

Mumbai **43003** **Station height** **13** **November**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1009.4	1016	1003	22.2	28	15.8	17	68	0.5	-0.5	-0.2	0.7
1000	93	143	40	23.1	28	16.8	16.1	56	2.5	-2.1	-1.4	3.2
950	529	590	426	24.4	34.2	13.6	10.2	68	4.1	-3.8	-1.5	5.6
925	769	810	656	23.3	32.8	15.6	9.6	73	3.9	-3.7	-1.1	5.3
900	1012	1064	891	21.5	32.2	11.6	7.4	76	3.4	-3.3	-0.8	5.2
850	1504	1573	1378	17.7	26.4	7.6	5	90	2.4	-2.4	0	4.5
800	2018	2090	1891	14	24.6	4.2	2.5	103	1.7	-1.7	0.4	4.2
750	2562	2660	2432	11	19	2	-0.9	90	1.2	-1.2	0	4.4
700	3131	3217	3006	8.5	17.4	0	-4.5	41	0.9	-0.6	-0.7	5.1
650	3742	3860	3600	5.7	12.2	-3.5	-8.5	5	1.2	-0.1	-1.2	5.7
600	4390	4495	4266	2.4	11.9	-5.1	-12.2	342	1.6	0.5	-1.5	6.4
550	5095	5215	4935	-1.7	8	-10.9	-16.9	317	2.3	1.6	-1.7	7
500	5839	5992	5711	-6.4	1.6	-17.4	-21.8	297	3.1	2.8	-1.4	7.9
450	6657	6815	6495	-11.8	-0.9	-23.9	-27.4	284	4.9	4.7	-1.2	9.2
400	7545	7702	7221	-18	-7.7	-30.1	-33.8	273	6.7	6.7	-0.4	10.7
350	8532	8700	8199	-25.2	-16.7	-37.3	-40.4	270	9	9	0	12.4
300	9631	9843	9297	-33.6	-23.5	-43.2	-49.5	259	11.7	11.5	2.3	14.7
250	10884	11162	10552	-43.5	-31.1	-53.5	-59.3	249	14.1	13.1	5.1	16.9
200	12348	12645	12002	-55.2	-40.5	-64.5	-70.9	240	15.8	13.7	7.8	18.6
175	13190	13544	12906	-61.7	-45.3	-71.1	-63.5	240	15.4	13.4	7.6	17.7
150	14124	14559	13769	-68.6	-50.5	-80.7		241	13.3	11.7	6.4	15.5
125	15201	15730	14859	-74.9	-56.1	-86.3		249	9.6	8.9	3.5	11.9
100	16469	16899	16085	-79.1	-63.3	-90.5		253	4.7	4.5	1.4	8.6
80	17741	18205	17342	-76.1	-58	-87.1		63	0.2	-0.2	-0.1	6.5
70	18519	19034	18104	-72.1	-53.7	-86.9		78	1.4	-1.4	-0.3	6.1
60	19429	19877	19010	-67.4	-54.5	-83.1		73	2.4	-2.3	-0.7	6
50	20538	21000	20075	-63	-49.9	-80.3		79	3.6	-3.5	-0.7	6.3
40	21931	22406	21389	-58.7	-48.3	-71.3		65	5	-4.5	-2.1	6.8
30	23762	24228	23308	-54.6	-42.9	-66.1		76	4.9	-4.7	-1.2	7.6
25	24909	25434	24429	-53.4	-42	-63.1		81	4.3	-4.2	-0.7	7.2
20	26400	26920	26072	-50.5	-41.3	-58.7		90	4.7	-4.7	0	8.1
15	28269	28858	27940	-49.3	-40.5	-56.1		103	3.2	-3.1	0.7	8.7
10	30935	31216	30765	-46.9	-40.1	-54.9		57	2	-1.7	-1.1	6.7
7	33416	33611	33222	-41.2	-36.3	-46.1		270	3.2	3.2	0	3.5

FREEZING LEVEL

P	Height	H_max	H_min
572	4787	6533	3120

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
102	16387	-80.9

Mumbai **43003** **Station height** **13** **December**

PRESSURE	HEIGHT	Hmax	Hmin	TEMP	TMAX	TMIN	DEWPT	DIR	VELO	U	V	VM
SURFACE	1011	1016	1004	19.7	29.2	12.2	14.4	72	0.6	-0.6	-0.2	0.7
1000	107	147	58	21.2	28.2	13.6	13.3	60	3	-2.6	-1.5	3.7
950	542	610	440	22.9	29	14	7.8	76	3.6	-3.5	-0.9	5.3
925	780	826	682	21.9	27.6	13.2	6.5	82	2.9	-2.9	-0.4	4.8
900	1021	1084	911	20	26.4	11.8	5.4	100	2.3	-2.3	0.4	4.6
850	1510	1567	1447	16.6	23.8	7	2.9	140	1.7	-1.1	1.3	4.3
800	2022	2077	1956	13.5	22.6	3	-0.6	164	1.5	-0.4	1.4	4.3
750	2565	2650	2466	11.1	18.8	2	-5.5	203	0.8	0.3	0.7	4.8
700	3135	3203	3049	8.5	16.4	-1.1	-10.2	274	1.4	1.4	-0.1	5.6
650	3744	3850	3650	5.2	12.2	-4.5	-13.2	277	2.6	2.6	-0.3	6.6
600	4391	4479	4270	1.4	12	-8.5	-17	274	4.1	4.1	-0.3	7.7
550	5092	5220	4973	-3	5.2	-14.5	-20.4	272	5.8	5.8	-0.2	9.1
500	5834	5964	5682	-7.9	1.2	-21.5	-25.1	266	7.4	7.4	0.5	10.4
450	6645	6802	6503	-13.5	-4.1	-22.5	-29	265	9.7	9.7	0.8	12.4
400	7529	7718	7347	-19.7	-8.7	-28.3	-35.7	262	12.3	12.2	1.7	15.2
350	8509	8729	8325	-26.8	-14.9	-36.5	-41.3	262	15.7	15.6	2.1	18.4
300	9602	9859	9405	-35	-21.9	-43.7	-49.6	259	18.8	18.5	3.6	21.9
250	10846	11149	10598	-44.9	-31.1	-53.5	-59.4	253	22.1	21.1	6.5	25.5
200	12302	12761	12020	-56.4	-43.1	-65.7	-72.5	251	23.5	22.2	7.8	26.7
175	13140	13613	12847	-62.3	-49.9	-74.5		251	23.1	21.9	7.5	25.7
150	14076	14571	13766	-68.4	-53.3	-81.1		253	20.6	19.7	6.1	22.8
125	15152	15678	14804	-74	-60.5	-87.3		257	16.9	16.4	3.9	19
100	16433	17227	16058	-78.5	-59.3	-89.9		261	10.8	10.7	1.7	13.3
80	17704	18184	17305	-77.3	-62.7	-89.5		265	5.4	5.4	0.5	9
70	18480	18833	18064	-73.6	-59.6	-86.3		268	3.4	3.4	0.1	7.8
60	19393	19785	18923	-69	-55.5	-82.3		254	1.5	1.4	0.4	7.4
50	20500	20919	19961	-64.2	-51.5	-77.9		104	0.4	-0.4	0.1	6.7
40	21898	22327	21276	-59.9	-48.3	-71.7		68	2.2	-2	-0.8	7.1
30	23714	24222	23244	-55.5	-43.5	-68.7		66	2	-1.8	-0.8	8.3
25	24897	25460	24365	-54.7	-38.9	-65.5		64	2.8	-2.5	-1.2	7.8
20	26249	26597	25289	-52.5	-42.5	-61.3		44	3	-2.1	-2.2	7.7
15	28052	28204	27719	-50.5	-45.3	-56.5		345	3.1	0.8	-3	7.7
10	------	------	------	------	------	------	------	------	------	------	------	------
7	------	------	------	------	------	------	------	------	------	------	------	------

FREEZING LEVEL

P	Height	H_max	H_min
586	4591	6150	2890

FIRST TROPOPAUSE

P	Height	Temp

SECOND TROPOPAUSE

P	Height	Temp
100	16502	-80.3