

Weather Monitoring: Wind Analysis (May, 2009; GPS: Lat. N46°45'35"; Long. E23°34'19")

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INTRODUCTION

A weather station equipped to make observations of atmospheric conditions in order to provide information to make weather forecasts and to study the weather and climate were recently installed (Bălan and the others, 2009).

MATERIALS AND METHODS

Wind observations during May 2009 were recorded by the weather station with a baud rate of one record per minute. A number of 14099 records were not null regarding wind speed (in meters per second), thus in about 32.6% of the total time the weather station recorded the presence of the wind in our location.

RESULTS AND DISCUSSION

The weather station is able and it recorded sixteen wind directions. Table 1 contains the results of summing the observations (t: time; d: distance; \bar{v} : average wind speed).

Table 1. Wind characteristics (May, 2009; GPS: Latitude N46°45'35"; Longitude E23°34'19")

Dir.	S	SSE	SE	ESE	E	ENE	NE	NNE	N	NNW	NW	WNW	W	WSW	SW	SSW
t(min)	646	335	469	300	325	540	1267	1011	1192	1072	1463	1856	1948	976	349	350
d(m)	36.52	18.27	19.37	13.57	14	31.56	105.1	104.8	136.5	122.1	145.2	124.9	123.9	52.62	17.53	17.05
\bar{v} (ms ⁻¹)	.0565	.0545	.0413	.0452	.0431	.0584	.083	.1037	.1145	.1139	.0992	.0673	.0636	.0539	.0502	.0487

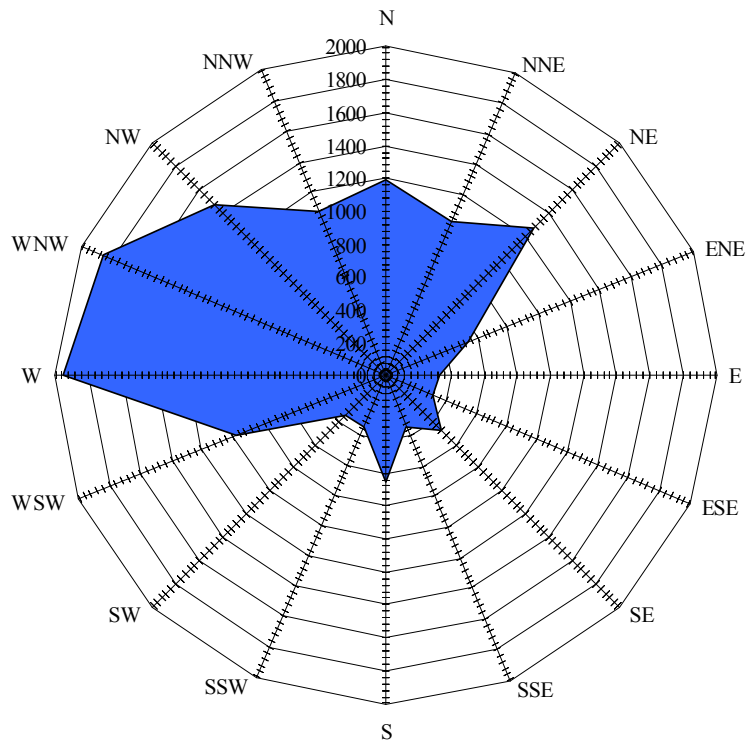


Figure 1. Filled radar of wind activity (in minutes)

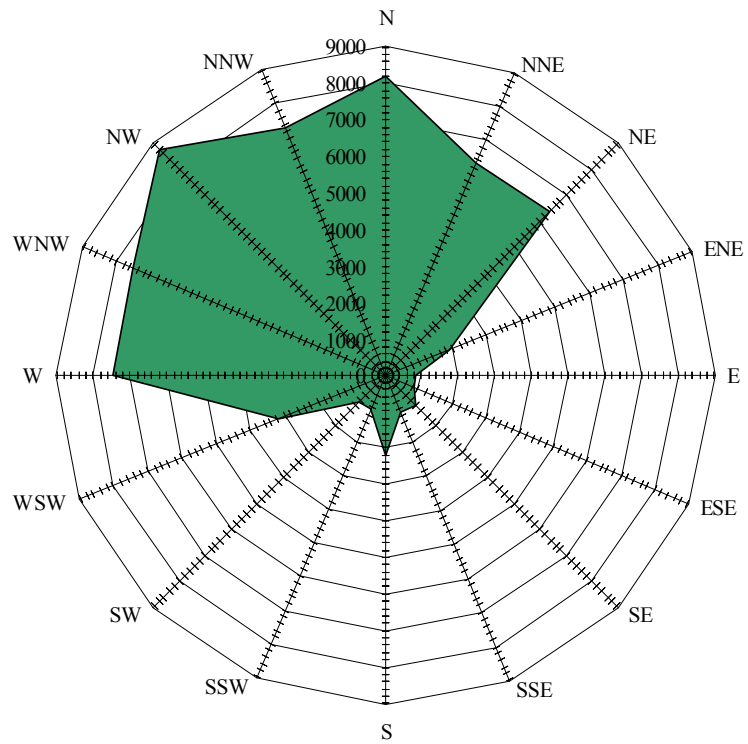


Figure 2. Filled radar of air movement (in meters)

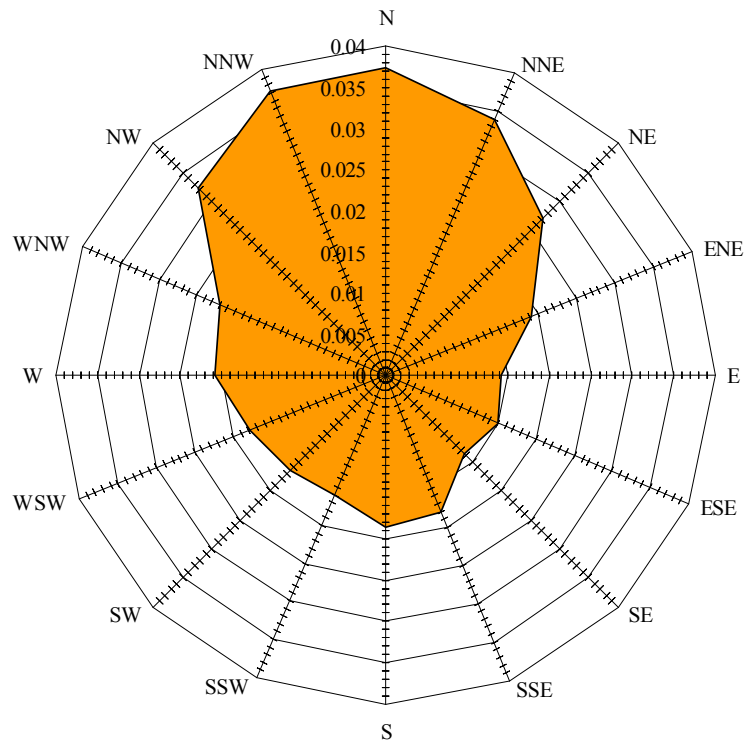


Figure 3. Filled radar of wind speed (in ms^{-1} , weighted at total observation time)

Figures from 1 to 3 shows that the wind often direction was in between of West (W) and West-North-West (WNW) - Figure 1, but their effect on air movement was predominant on North-West (NW) - Figure 2 and highest wind speeds was recorded to north (N) - Figure 3.

CONCLUSIONS

Monitoring system currently installed at Agricultural Sciences and Veterinary Medicine University of Cluj-Napoca proved to be a rich source of information regarding weather conditions.

REFERENCES

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