# THE CHARACTERIZATION OF EOLIAN RULE IN THE WEST SIDE OF COUNTRY

# CARACTERIZAREA REGIMULUI EOLIAN ÎN ZONA DE VEST A ȚĂRII

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***Abstract:*** *Beside the big currents of the general atmospheric circulation like trade winds, there are periodical and regional winds like: mousoon, foehns, mistrals. Each of them influences the climate of the region in which it blows. Even if these winds are specific to a certain region, they obey those laws of the big currents: they move from the high pressure zones towards those with low pressure.*

***Rezumat:*** *Pe lângă marii curenți ai circulației atmosferice generale, ca alizeele, există vânturi regionale şi periodice ca musonul, foehnul, mistralul. Fiecare influențează clima regiunii în care suflă. Chiar dacă aceste vânturi sunt specifice unei anumite regiuni, ele se supun totuşi acelor legi ale marilor curenți: se deplasează din zonele cu presiune înaltă spre zonele cu presiune scăzută.*

***Key words:*** *rainfalls, mousoon, foehns, mistrals, frequency, speed .*
*Cuvinte cheie: precipitații, vanturi usonice, mistral, frecvență, viteză*

## INTRODUCTION

For exemplifying the direction and speed of the wind in Banat zone, we have chosen 5 representative stations from Timis county. There was analysed on the 8 main directions the frequency and speed of the wind, exemplifying by the wind rose graphic in the warm months: April, May, June, July, August and September during 20 years from 1985 to 2005.

## MATERIALS AND METHOD

The Indian Ocean is out of the zone dominated by the presence of the trade winds because of the Asia continent. Indeed the thermic and baric contrasts connected with the large area of the Asiatic land create the premises of the mousoon formation. They are the best known winds on the globe. They are temporary winds; its name itself shows this. The Foehn is a mountain wind, warm and dry which moves very fast, with a big speed. When the air from a valley raises on a mountain slope, it gets colder and colder accordingly. The water vapors which it contains condenses and produces the rain. When the air passes by the top of the mountain, it becomes dry loosing the entire humidity. Descending the other mountainside, the air gets warm very quickly with about 1ºC per 100 m. The Foehn often causes fires and avalanches.

## RESULTS AND DISCUSSIONS

The existence of the foehn explains the different vegetation which can be noticed on each mountainsides: the vegetation specific to the humid environment on the first mountainside and specific to the dessertic and arid environment on the second one. The foehn from the Rocky Mountains is known for its high temperatures. In January 1943, at Searfish, this wind caused a temperature increase from -20ºC to +7ºC in less than two minutes.

The Crivetz is an special strong wind which blows in Moldova, Dobrogea and the South-Eastern part of Muntenia. It is a local wind which appears in the Brasov depression. The cold air of the Crivetz, accumulated in the Eastern part of the Oriental Carpathians, penetrates

through the mountain valleys and paths and overflows on the Westic slope in the depression under the form of the cold wind with a speed of 10-20m/s.

In Crisana, Banat and Oltenia sometimes during the summer, from the West, blows a warm and very dry wind, Austrul, which brings drought. In the South of Banat, Cosava is a representative wind that blows from the East and South East with a speed of 25-30 km/h. In the Southern parts of Muntenia, also during summer, Baltaretul blows, from time to time, a wet and warm wind, good for agriculture, bringing rich rains. In the South of Dobrogea, on the other hand, there appears a dry and hot wind.

*Table 1*

The multianual average in meteorological station Timisoara

| **Mediile multianuale la Stația meteorologică Timișoara în luna Aprilie** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Direction** | **N** | **NE** | **E** | **SE** | **S** | **SV** | **V** | **NV** | **Calm** |
| | | | | | | | | | |
| **Frequency(%)** | 9.1 | 5.5 | 7.3 | 4.7 | 10.3 | 8.5 | 11.7 | 13.1 | 36.0 |
| **Speed (m/s)** | 3.8 | 2.5 | 2.6 | 3.1 | 3.9 | 3.5 | 3.7 | 3.9 | --- |

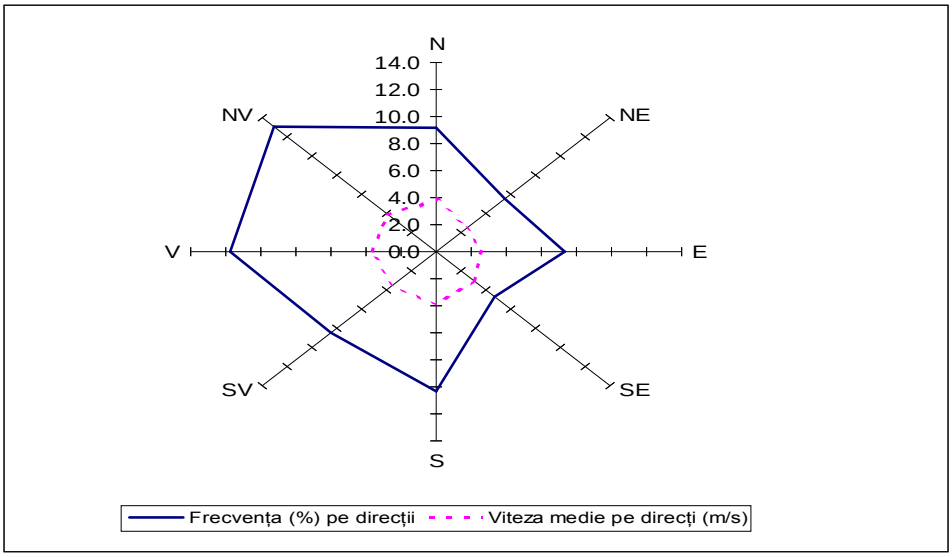


Figure 1. Wind rose graphic in the April

*Table 2*

The multianual average in meteorological station Timisoara

| **Mediile multianuale la Stația meteorologică Timișoara în luna Mai** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Direcțion** | **N** | **NE** | **E** | **SE** | **S** | **SV** | **V** | **NV** | **Calm** |
| **Frequency (%)** | 9.1 | 5.3 | 7.0 | 5.4 | 10.5 | 5.8 | 8.8 | 15.0 | 38.2 |
| **Speed (m/s)** | 4.1 | 3.1 | 2.4 | 3.4 | 3.7 | 3.4 | 3.4 | 3.5 | --- |

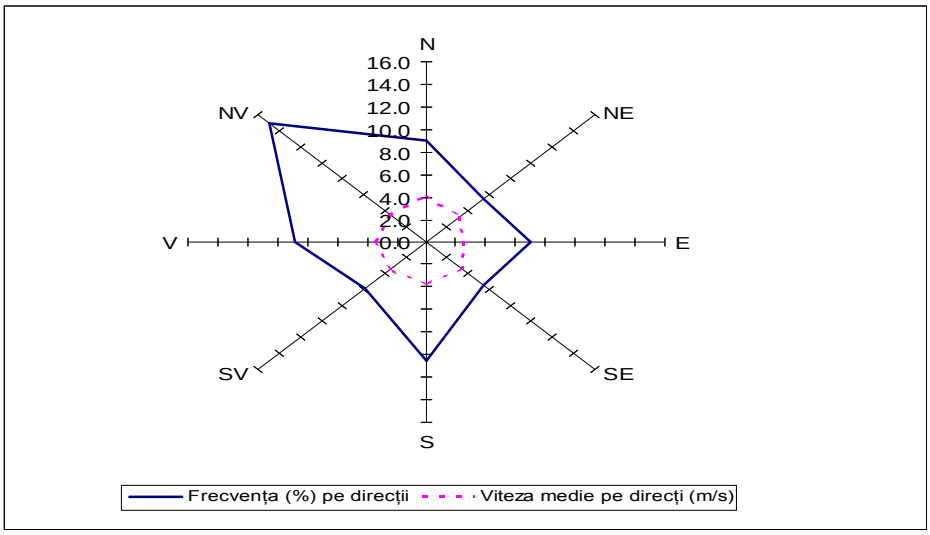


Figure 2. Wind rose graphic in the May

**CONCLUSIONS**

After analyzing the graphics from the meteorological stations in it came out the following:

1. The predominant direction of the wind from the 8 main directions in the N-W part with a frequence of 13,1% in april, the medium speed being that of 3,9 m/s from N-W too.
2. The predominant direction of the wind in the month of May is from N-W part with a frequence of 15%, the average wind speed being of 4,1 m/s from northern part.
3. The predominant direction of the wind in the month of June is from N-W part with a frequence of 16,4%, the average wind speed being of 4,0 m/s from N-W too.
4. The predominant direction of the wind in the month of July is from N-W part with a frequence of 16,1%, the average wind speed being of 3,8 m/s from northern and N-W part.
5. The predominant direction of the wind in the month of August is from N-W part with a frequence of 14,1%, the average wind speed being of 4,1 m/s from N and S parts.
6. The predominant direction of the wind in the month of September is from N-W part with a frequence of 10,9%, the average wind speed being of 3,5 m/s from N and S parts.

## BIBLIOGRAPHY


1. BACINSCHI DUMITRU, 1979 – Meteorologie generală, Ed. Didactică şi Pedagogică, Bucureşti
2. MIHAJLOVICI DRAGUTIN T., MIRCOV D. V., ARSENICI I., LALICI BRANISLAVA, 2000 – Bazele observaţiilor meteorologice şi a prelucrării datelor, Ed. Eurostampa, Timişoara.
3. POP GHEORGHE, 1988 – Introducere în meteorologie şi climatologie, Ed. Ştiinţifică şi Enciclopedică, Bucureşti.
4. *** - Date furnizate de către CMR Banat – Crişana
5. *** - Date furnizate de către Staţia meteorologică automată AMS -02.