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Zakład Klimatologii i Ochrony Atmosfery  
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Uniwersytet Wrocławski  
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Położenie obserwatorium (observatory location)

Współrzędne geograficzne (coordinates): 15°30'44"E 50°27'47"N

Wysokość nad poziomem morza (altitude): 1364 m

Czas podawany w bieuletynie jest czasem UTC.

UTC time is used in the bulletin.

| Parametr Parameter | Opis                                       | Description                           |
|--------------------|--|---------------------------------------|
| D                  | Dzień                                      | Day                                   |
| T                  | Temperatura powietrza                      | Air temperature                       |
| Tmax               | Temperatura maksymalna                     | Maximum temperature                   |
| Tmin               | Temperatura minimalna                      | Minimum temperature                   |
| Tmin5              | Temperatura minimalna przy gruncie         | Minimum temperature near the ground   |
| U                  | Wilgotność względna                        | Relative humidity                     |
| e                  | Ciśnienie pary wodnej                      | Vapour pressure                       |
| P                  | Ciśnienie atmosferyczne na poziomie stacji | Atmospheric pressure at station level |
| V                  | Prędkość wiatru                            | Wind speed                            |
| α                  | Kierunek wiatru                            | Wind direction                        |
| R                  | Dobowa suma opadu                          | Precipitation                         |
| HS                 | Wysokość pokrywy śnieżnej                  | Snow depth                            |
| SD                 | Usłonecznienie                             | Sunshine duration                     |
| NA                 | Brak danych                                | No data                               |
| m                  | Średnia dobowa                             | Daily mean                            |
| •                  | Zjawisko nie wystąpiło                     | Lack of phenomenon                    |

**Tabela 1. Temperatura powietrza (T), wilgotność względna (U) i ciśnienie atmosferyczne (P)****Table 1. Air temperature (T), relative humidity (U) and atmospheric pressure (P)**

| D  | T [°C] |      |      |      |      |      |      | U [%] |     |     |     |     | P [hPa] |       |       |       |       |       |
|----|--------|------|------|------|------|------|------|-------|-----|-----|-----|-----|---------|-------|-------|-------|-------|-------|
|    | 00     | 07   | 12   | 18   | Tm   | Tmax | Tmin | Tmin5 | 00  | 06  | 12  | 18  | Um      | 00    | 06    | 12    | 18    | Pm    |
| 1  | 0.7    | -0.5 | -0.8 | -0.3 | -0.2 | 4.0  | -1.4 | -1.7  | 83  | 98  | 99  | 100 | 95      | 855.2 | 853.9 | 853.5 | 852.5 | 853.8 |
| 2  | -1.2   | -1.5 | 0.1  | 2.1  | -0.1 | 2.1  | -2.2 | -2.7  | 100 | 99  | 100 | 100 | 100     | 845.8 | 844.9 | 845.7 | 840.5 | 844.2 |
| 3  | 1.9    | -0.8 | -1.0 | -1.5 | -0.4 | 3.4  | -1.5 | -1.6  | 100 | 99  | 99  | 93  | 98      | 840.2 | 840.4 | 839.6 | 840.8 | 840.2 |
| 4  | -2.0   | -2.3 | -2.5 | -1.7 | -2.1 | -1.4 | -3.0 | -2.8  | 96  | 98  | 99  | 98  | 98      | 843.4 | 845.3 | 842.5 | 843.2 | 843.6 |
| 5  | -0.7   | -1.0 | -0.5 | 1.4  | -0.2 | 1.4  | -1.7 | -1.8  | 99  | 99  | 100 | 100 | 100     | 843.8 | 847.1 | 851.2 | 851.9 | 848.5 |
| 6  | 1.9    | 1.6  | 5.0  | 0.9  | 2.4  | 5.9  | 0.6  | -1.0  | 99  | 86  | 50  | 80  | 79      | 851.2 | 851.2 | 851.2 | 850.4 | 851.0 |
| 7  | -0.9   | -2.0 | -1.9 | -1.8 | -1.7 | 1.1  | -2.1 | -2.0  | 95  | 98  | 98  | 98  | 97      | 851.9 | 852.3 | 852.8 | 852.6 | 852.4 |
| 8  | -4.7   | -4.2 | -4.5 | -5.2 | -4.7 | -1.8 | -5.3 | -5.5  | 98  | 98  | 98  | 97  | 98      | 854.2 | 857.9 | 861.1 | 864.6 | 859.5 |
| 9  | -5.5   | -5.1 | -4.2 | -6.8 | -5.4 | -2.8 | -6.9 | -10.9 | 97  | 97  | 98  | 89  | 95      | 867.8 | 869.9 | 870.7 | 871.2 | 869.9 |
| 10 | -6.4   | -7.2 | -2.9 | -6.6 | -5.8 | -2.6 | -7.5 | -12.0 | 88  | 87  | 86  | 87  | 87      | 870.3 | 869.7 | 868.5 | 866.4 | 868.7 |
| 11 | -7.5   | -7.4 | -6.6 | -7.0 | -7.1 | -6.1 | -7.9 | -12.0 | 91  | 95  | 90  | 96  | 93      | 863.6 | 860.9 | 858.6 | 860.4 | 860.9 |
| 12 | -5.8   | -6.3 | -5.1 | -7.2 | -6.1 | -4.0 | -7.4 | -13.5 | 96  | 96  | 95  | 95  | 96      | 863.2 | 863.7 | 864.2 | 864.5 | 863.9 |
| 13 | -5.8   | -4.4 | -2.4 | 0.2  | -3.1 | 1.1  | -7.4 | -15.0 | 64  | 42  | 50  | 18  | 44      | 863.9 | 862.2 | 862.6 | 862.7 | 862.9 |
| 14 | 2.8    | -0.2 | 1.8  | 1.4  | 1.5  | 4.0  | -0.4 | -5.5  | 8   | 59  | 44  | 48  | 40      | 861.6 | 860.3 | 861.1 | 862.6 | 861.4 |
| 15 | 4.0    | 1.3  | 0.6  | -0.6 | 1.3  | 4.8  | -2.6 | -8.0  | 31  | 55  | 64  | 81  | 58      | 864.1 | 862.8 | 861.0 | 861.4 | 862.3 |
| 16 | -2.6   | -3.3 | -3.9 | -2.6 | -3.1 | 0.0  | -4.9 | -5.5  | 90  | 99  | 98  | 99  | 97      | 862.6 | 863.6 | 862.3 | 864.3 | 863.2 |
| 17 | -2.6   | -1.4 | -3.0 | -3.3 | -2.6 | -0.5 | -4.1 | -4.2  | 100 | 100 | 97  | 97  | 99      | 864.5 | 863.3 | 861.2 | 862.3 | 862.8 |
| 18 | -3.1   | -3.8 | -4.3 | -6.4 | -4.4 | -2.5 | -6.9 | -11.5 | 98  | 98  | 98  | 94  | 97      | 863.5 | 864.1 | 864.7 | 863.4 | 863.9 |
| 19 | -5.9   | -3.5 | -0.7 | -0.2 | -2.6 | 0.3  | -6.6 | -8.7  | 94  | 64  | 76  | 70  | 76      | 862.1 | 861.4 | 860.1 | 859.3 | 860.7 |
| 20 | 0.8    | 1.1  | 1.5  | -1.0 | 0.6  | 3.4  | -1.4 | -7.7  | 73  | 57  | 70  | 66  | 67      | 859.1 | 858.1 | 856.2 | 855.7 | 857.3 |
| 21 | -0.2   | 1.4  | 3.4  | -1.9 | 0.7  | 5.0  | -2.3 | -5.5  | 66  | 54  | 50  | 80  | 63      | 855.4 | 855.7 | 855.6 | 856.1 | 855.7 |
| 22 | -3.0   | -3.8 | -4.5 | -4.7 | -4.0 | -1.4 | -4.8 | -6.0  | 99  | 98  | 96  | 96  | 97      | 857.7 | 856.0 | 851.5 | 843.1 | 852.1 |
| 23 | -4.4   | -4.7 | -6.4 | -6.3 | -5.5 | -4.3 | -6.4 | -6.5  | 97  | 97  | 96  | 96  | 97      | 840.6 | 844.2 | 849.5 | 852.8 | 846.8 |
| 24 | -6.4   | -8.9 | -7.5 | -6.2 | -7.3 | -5.9 | -9.2 | -11.5 | 94  | 89  | 93  | 94  | 93      | 853.1 | 850.6 | 847.6 | 844.5 | 849.0 |
| 25 | -3.4   | -2.0 | -0.7 | -1.6 | -1.9 | -0.2 | -6.4 | -11.0 | 97  | 98  | 99  | 98  | 98      | 843.9 | 843.5 | 840.7 | 841.9 | 842.5 |
| 26 | -1.4   | -1.2 | -1.3 | -0.7 | -1.2 | -0.7 | -1.9 | -2.5  | 100 | 100 | 99  | 100 | 100     | 843.5 | 845.4 | 845.0 | 846.5 | 845.1 |
| 27 | -1.5   | -2.6 | -3.1 | -4.0 | -2.8 | -0.7 | -4.0 | -3.9  | 100 | 99  | 99  | 98  | 99      | 847.3 | 849.6 | 852.3 | 855.1 | 851.1 |
| 28 | -4.3   | -5.7 | -2.9 | -0.2 | -3.3 | -0.2 | -6.0 | -9.6  | 95  | 89  | 97  | 95  | 94      | 855.5 | 854.5 | 852.5 | 849.7 | 853.0 |
| 29 | 0.1    | -0.9 | 2.4  | 0.4  | 0.5  | 3.4  | -1.6 | -1.4  | 96  | 97  | 78  | 92  | 91      | 847.0 | 844.3 | 840.6 | 836.0 | 842.0 |
| 30 | 0.8    | -2.4 | -2.4 | -3.5 | -1.9 | 3.1  | -3.5 | -3.5  | 91  | 99  | 99  | 99  | 97      | 834.8 | 833.5 | 834.1 | 834.8 | 834.3 |
| 31 | -3.6   | -3.7 | -4.0 | -4.0 | -3.8 | -3.1 | -4.3 | -4.3  | 99  | 98  | 98  | 98  | 98      | 836.8 | 839.2 | 843.9 | 849.0 | 842.2 |

**Tabela 2. Prędkość (V) i kierunek ( $\alpha$ ) wiatru, dobowa suma opadu (R) i wysokość pokrywy śnieżnej (HS)**  
**Table 2. Wind speed (V) and direction ( $\alpha$ ), daily sum of precipitation (R) and snow cover depth (HS)**

| D  | V [m/s] |    |    |      | $\alpha$ [1-32] |    |    | R[mm] | HS[cm] |
|----|---------|----|----|------|-----------------|----|----|-------|--------|
|    | 06      | 12 | 18 | Vm   | 06              | 12 | 18 |       |        |
| 1  | 10      | 14 | 15 | 13.0 | 18              | 24 | 24 | 7.5   | -1     |
| 2  | 28      | 20 | 25 | 24.3 | 20              | 20 | 18 | 13.5  | 3      |
| 3  | 23      | 18 | 20 | 20.3 | 24              | 24 | 22 | •     | 1      |
| 4  | 15      | 22 | 15 | 17.3 | 22              | 22 | 20 | 7.0   | 1      |
| 5  | 15      | 18 | 18 | 17.0 | 24              | 20 | 20 | 1.4   | 3      |
| 6  | 14      | 17 | 13 | 14.7 | 20              | 20 | 20 | •     | 1      |
| 7  | 15      | 14 | 15 | 14.7 | 20              | 22 | 20 | 2.0   | 1      |
| 8  | 8       | 11 | 8  | 9.0  | 24              | 26 | 28 | 5.0   | 2      |
| 9  | 1       | 8  | 5  | 4.7  | 28              | 20 | 20 | •     | 3      |
| 10 | 6       | 5  | 14 | 8.3  | 22              | 20 | 18 | •     | 3      |
| 11 | 18      | 14 | 11 | 14.3 | 16              | 18 | 24 | 1.6   | 3      |
| 12 | 6       | 5  | 3  | 4.7  | 28              | 24 | 24 | •     | 5      |
| 13 | 15      | 15 | 8  | 12.7 | 14              | 16 | 16 | •     | 5      |
| 14 | 15      | 17 | 10 | 14.0 | 14              | 16 | 16 | •     | 4      |
| 15 | 10      | 13 | 11 | 11.3 | 12              | 16 | 20 | •     | 4      |
| 16 | 20      | 21 | 15 | 18.7 | 22              | 22 | 22 | •     | 4      |
| 17 | 12      | 18 | 6  | 12.0 | 20              | 20 | 28 | 4.8   | 4      |
| 18 | 4       | 4  | 6  | 4.7  | 30              | 26 | 16 | 0.0   | 10     |
| 19 | 6       | 8  | 9  | 7.7  | 16              | 16 | 18 | •     | 9      |
| 20 | 4       | 10 | 13 | 9.0  | 18              | 20 | 20 | •     | 9      |
| 21 | 5       | 2  | 3  | 3.3  | 18              | 6  | 6  | 2.4   | 9      |
| 22 | 0       | 8  | 24 | 10.7 | 0               | 16 | 16 | •     | 9      |
| 23 | 10      | 13 | 7  | 10.0 | 20              | 24 | 28 | 5.5   | 11     |
| 24 | 11      | 15 | 17 | 14.3 | 22              | 20 | 20 | 3.8   | 14     |
| 25 | 12      | 18 | 17 | 15.7 | 20              | 18 | 20 | 4.0   | 14     |
| 26 | 8       | 14 | 13 | 11.7 | 22              | 20 | 20 | 6.6   | 14     |
| 27 | 16      | 12 | 7  | 11.7 | 22              | 22 | 26 | 2.0   | 15     |
| 28 | 9       | 15 | 14 | 12.7 | 18              | 18 | 18 | 2.2   | 14     |
| 29 | 9       | 6  | 15 | 10.0 | 18              | 16 | 16 | 3.3   | 16     |
| 30 | 7       | 6  | 7  | 6.7  | 26              | 28 | 28 | 9.3   | 18     |
| 31 | 7       | 7  | 10 | 8.0  | 26              | 24 | 28 | 6.1   | 20     |

**Tabela 3. Liczba dni charakterystycznych w bieżącym miesiącu oraz średnia liczba dni charakterystycznych dla tego miesiąca w wieloleciu 1960 - 2000**

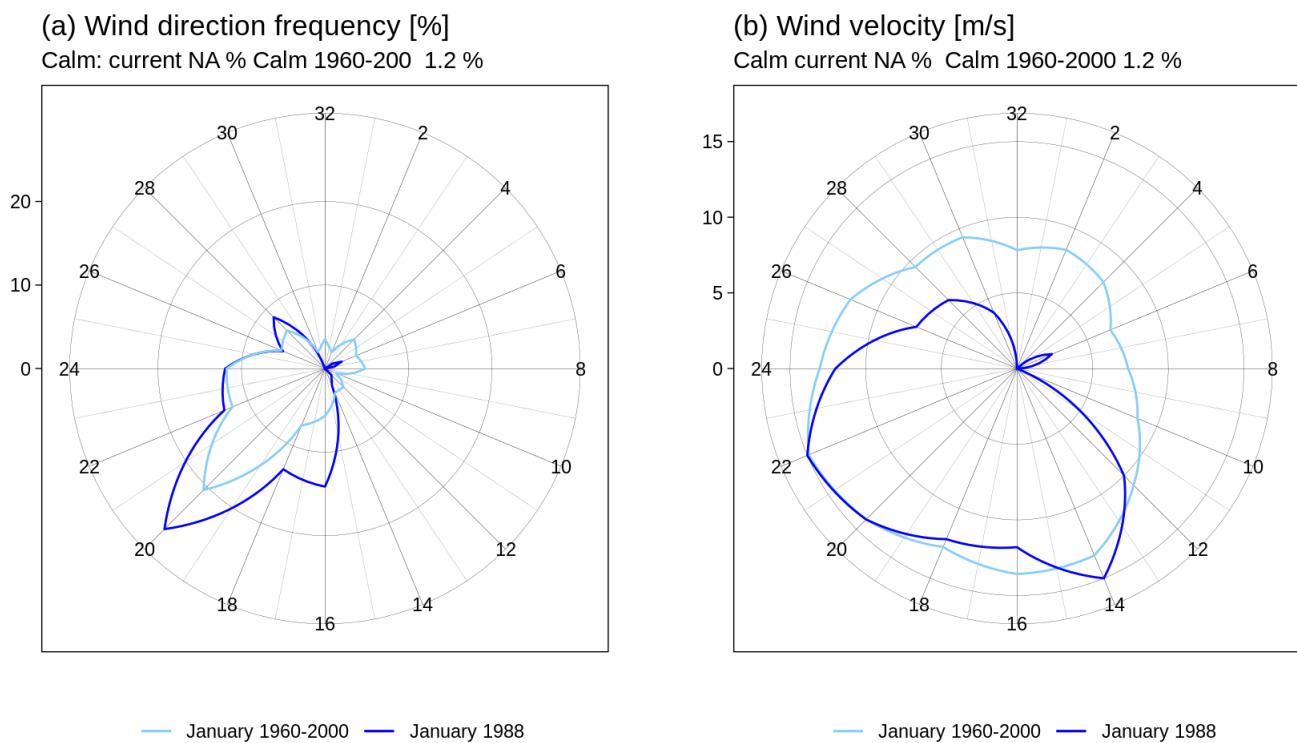
**Table 3. Number of days with threshold value in current month and monthly average number of days with threshold value in the 1960- 2000 period**

| Nazwa / Name                               | 1960-2000 | 1988-I |
|--|-----------|--------|
| Przymrozkowe ( $T_{min} < 0^{\circ}C$ )    | 30        | 30     |
| Mroźne ( $T_{max} < 0^{\circ}C$ )          | 23        | 16     |
| Bardzo mroźne ( $T_{min} < -10^{\circ}C$ ) | 9         | 0      |
| Ciepłe ( $T_{max} > 20^{\circ}C$ )         | 0         | 0      |
| Gorące ( $T_{max} > 25^{\circ}C$ )         | 0         | 0      |
| $R > 1 \text{ mm}$                         | 15        | 18     |
| $R > 10 \text{ mm}$                        | 3         | 1      |
| Liczba dni z pokrywą śnieżną               | 31        | 30     |

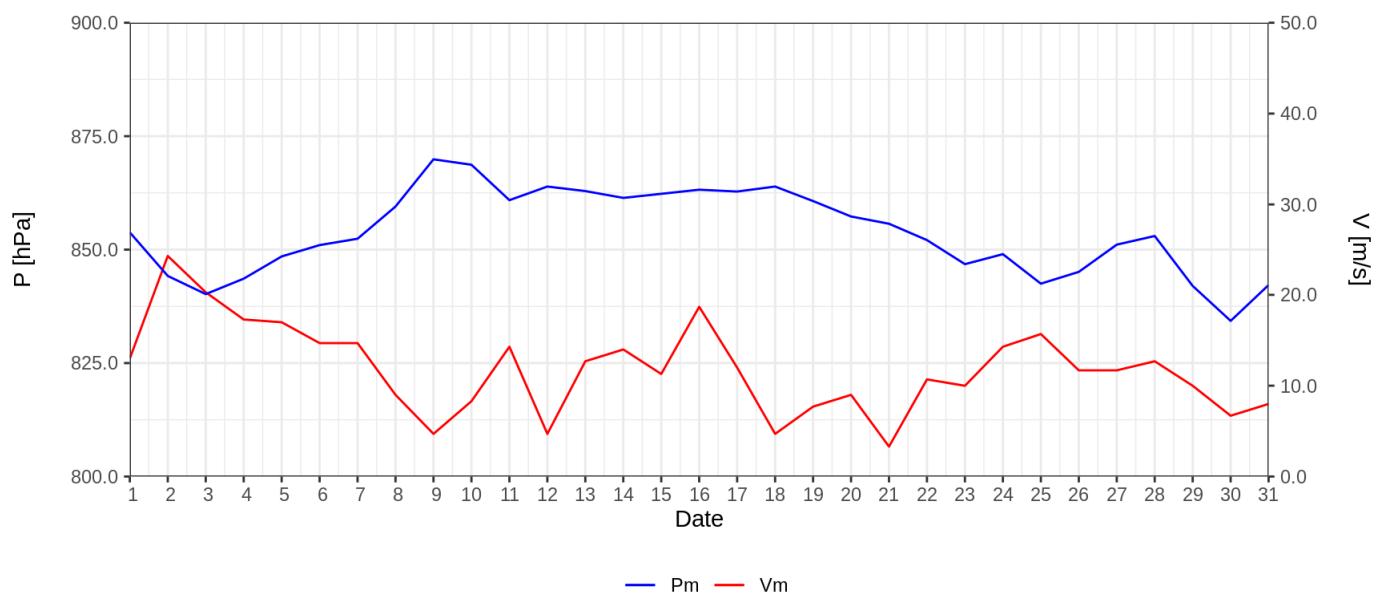
**Tabela 4. Wartości średnie i ekstrema miesięczne na tle charakterystyk miesięcznych dla wielolecia 1960 - 2000**

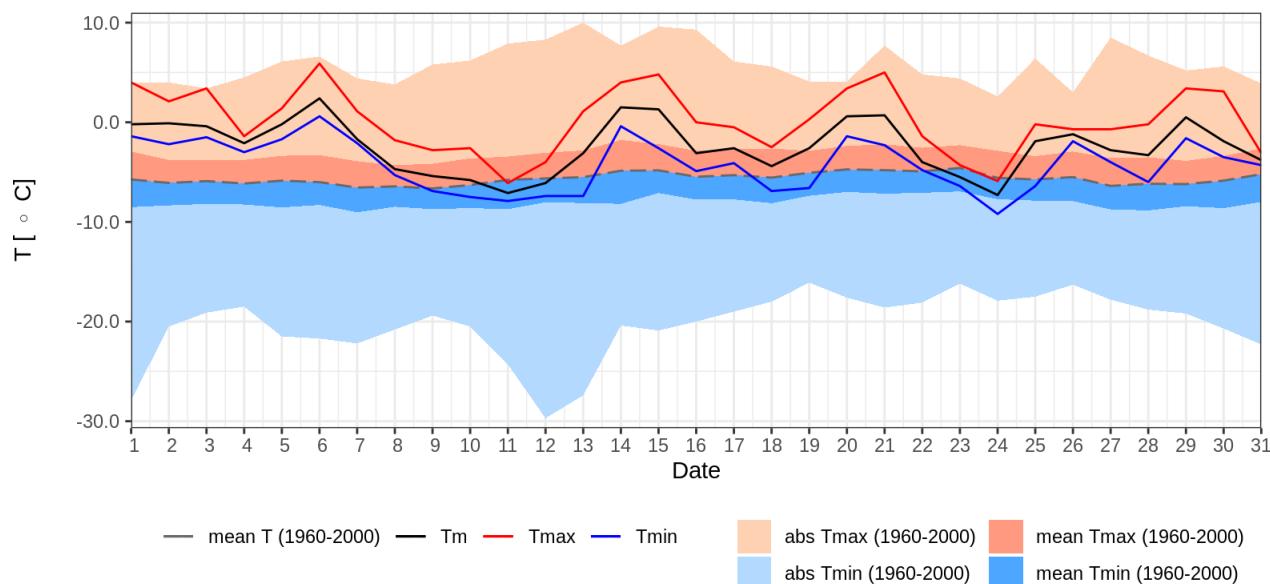
**Table 4. Average and extreme monthly values vs. average monthly characteristics for the 1960- 2000 period**

|                   | Opis                      | Description           | 1960-2000          | 1988-I             |
|-------------------|---------------------------|-----------------------|--------------------|--------------------|
| T [ $^{\circ}C$ ] | Średnia miesięczna        | Monthly average       | -5.7               | -2.4               |
|                   | Maksymalna średnia dobowa | Maximum daily average | -3.1               | 0.2                |
|                   | Minimalna średnia dobowa  | Minimum daily average | -8.1               | -4.2               |
|                   | Średnie maksimum          | Average maximum       | 7.3 (1997-01-15)   | 2.4 (1988-01-06)   |
|                   | Absolutne maksimum        | Absolute maximum      | 10.0 (1998-01-13)  | 5.9 (1988-01-06)   |
|                   | Średnie minimum           | Average minimum       | -27.2 (1997-01-15) | -7.3 (1988-01-06)  |
|                   | Absolutne minimum         | Absolute minimum      | -29.7 (1987-01-12) | -9.2 (1988-01-24)  |
| P [hPa]           | Średnia miesięczna        | Monthly average       | 857.0              | 853.7              |
|                   | Maksimum                  | Maximum               | 879.0 (1964-01-03) | 869.9 (1988-01-09) |
|                   | Minimum                   | Minimum               | 826.0 (1981-01-15) | 834.3 (1988-01-30) |
| V [m/s]           | Średnia miesięczna        | Monthly average       | 11.8               | 11.8               |
|                   | Średnie maksimum          | Average maximum       | 15.0               | 14.9               |
|                   | Absolutne maksimum        | Absolute maximum      | 46.0 (1995-01-28)  | 28.0 (1988-01-02)  |
| R [mm]            | Suma miesięczna           | Monthly sum           | 97.2               | 88.0               |
|                   | Maksymalna suma dobowa    | Maximum daily sum     | 58.3 (1981-01-03)  | 13.5 (1988-01-02)  |

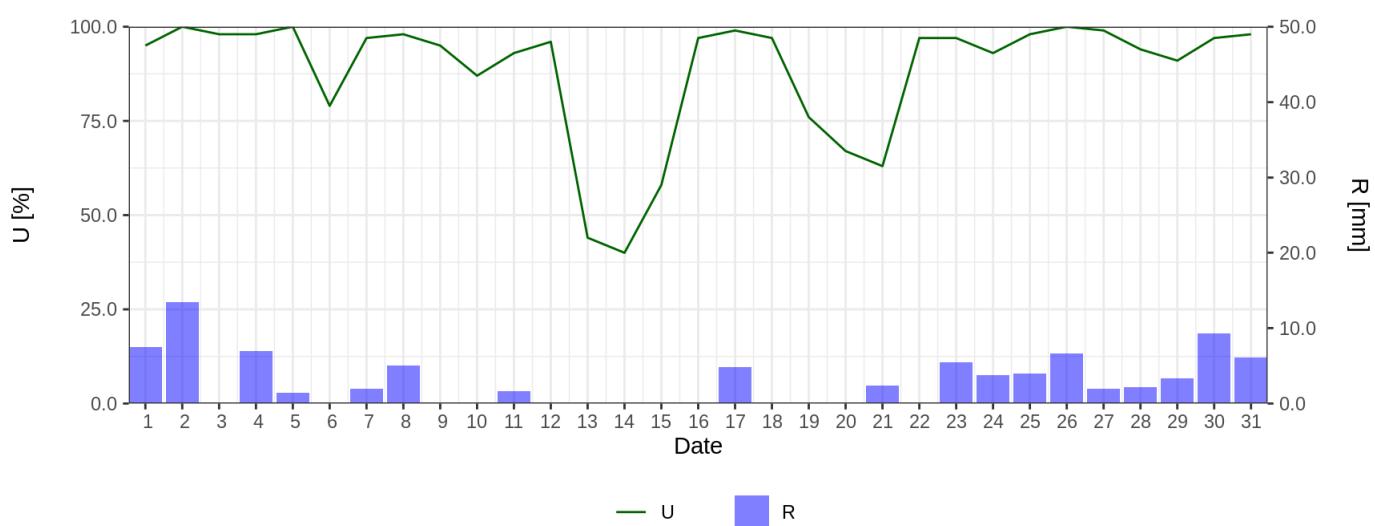
**Ryc. 1. Częstość (a) i prędkość wiatru (b) wg kierunków****Fig. 1. Wind direction frequency (a) and wind velocity for a given direction (b)**

\*) W statystyce dotyczącej kierunku wiatru uwzględniono kierunki wiatru odpowiadające skali 16 stopniowej prezentowanej wartościami [2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32].

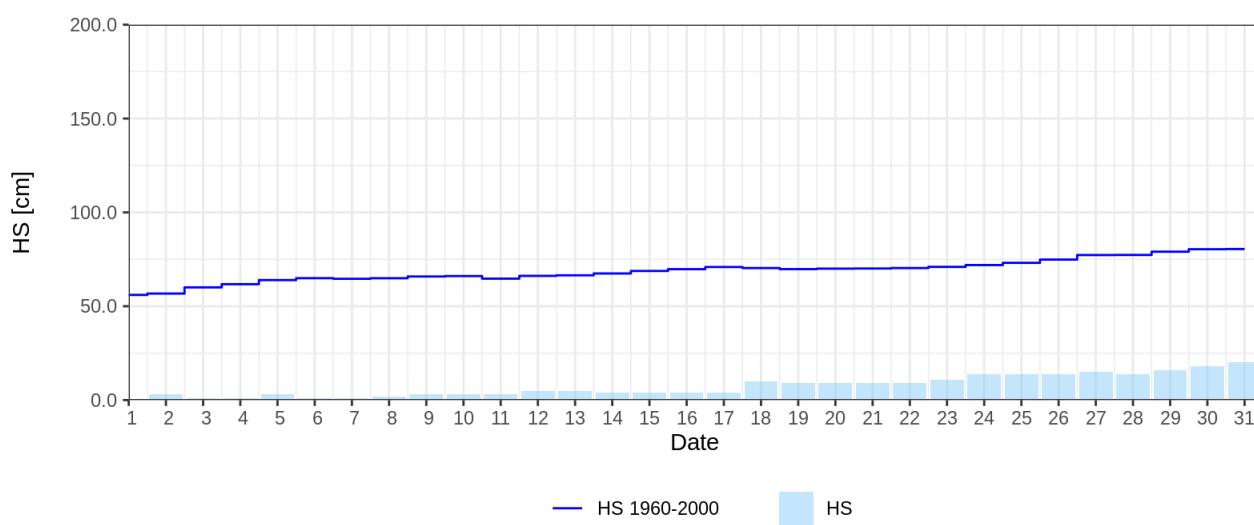
**Ryc. 2. Średnie dobowe ciśnienie atmosferyczne i prędkość wiatru****Fig. 2. Daily average air pressure and wind speed**



Ryc. 3. Średnia dobowa, minimalna i maksymalna temperatura powietrza dla miesiąca na tle danych z wielolecia 1960 - 2000  
Fig. 3. Daily mean, maximum and minimum air temperature for given month and 1960-2000 period



Ryc. 4. Średnia dobowa wilgotność względna powietrza i dobowe sumy opadu atmosferycznego  
Fig. 4. Mean daily relative humidity and daily sum of precipitation



Ryc. 5. Wysokość pokrywy śnieżnej  
Fig. 5. Snow cover depth