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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] | | | |
|----|--------|-------|-------|-------|------|-------|-------|-------|-----|-----|-----|---------|-------|-------|-------|
| | 07 | 12 | 18 | Tm | Tmax | Tmin | Tmin5 | 06 | 12 | 18 | Um | 06 | 12 | 18 | Pm |
| 1 | -5.8 | -5.7 | -5.6 | -5.7 | -5.5 | -8.0 | -8.3 | 97 | 97 | 97 | 97 | 837.6 | 841.7 | 847.8 | 842.4 |
| 2 | -5.5 | -5.7 | -7.3 | -6.5 | -5.4 | -7.7 | -7.7 | 97 | 99 | 91 | 96 | 851.0 | 851.7 | 842.0 | 848.2 |
| 3 | -4.9 | -4.4 | -4.3 | -4.5 | -3.8 | -7.9 | -7.9 | 99 | 98 | 98 | 98 | 842.5 | 841.8 | 843.7 | 842.7 |
| 4 | -4.3 | -4.0 | -4.2 | -4.2 | -3.8 | -4.7 | -4.7 | 98 | 98 | 98 | 98 | 844.8 | 844.8 | 847.5 | 845.7 |
| 5 | -4.0 | -4.0 | -0.7 | -2.4 | -0.6 | -4.5 | -4.5 | 98 | 98 | 100 | 99 | 846.5 | 841.7 | 836.3 | 841.5 |
| 6 | -3.0 | -3.1 | -3.8 | -3.4 | 0.0 | -4.3 | -4.3 | 99 | 99 | 98 | 99 | 841.0 | 844.5 | 847.9 | 844.5 |
| 7 | -4.5 | -4.7 | -4.6 | -4.6 | -3.6 | -5.0 | -4.6 | 98 | 97 | 98 | 98 | 850.4 | 852.7 | 854.1 | 852.4 |
| 8 | -5.2 | -5.4 | -6.7 | -6.0 | -4.2 | -6.9 | -8.0 | 99 | 99 | 98 | 99 | 855.4 | 857.2 | 860.7 | 857.8 |
| 9 | -7.2 | -6.4 | -7.1 | -7.0 | -5.5 | -7.4 | -7.5 | 98 | 90 | 93 | 94 | 858.7 | 851.6 | 842.5 | 850.9 |
| 10 | -5.6 | -3.1 | -3.2 | -3.8 | -2.7 | -7.3 | -7.3 | 97 | 99 | 99 | 98 | 831.1 | 829.8 | 830.1 | 830.3 |
| 11 | -6.8 | -6.8 | -6.8 | -6.8 | -2.8 | -7.1 | -7.0 | 98 | 98 | 98 | 98 | 837.3 | 838.5 | 840.4 | 838.7 |
| 12 | -7.3 | -6.7 | -6.9 | -7.0 | -6.0 | -7.3 | -6.9 | 95 | 94 | 94 | 94 | 845.8 | 847.2 | 849.7 | 847.6 |
| 13 | -6.0 | -5.2 | -3.8 | -4.7 | -3.3 | -7.0 | -7.9 | 98 | 97 | 98 | 98 | 851.8 | 850.8 | 846.4 | 849.7 |
| 14 | -11.0 | -10.2 | -10.0 | -10.3 | -3.5 | -11.4 | -13.1 | 95 | 91 | 93 | 93 | 857.6 | 862.0 | 865.2 | 861.6 |
| 15 | -5.2 | -4.8 | -5.2 | -5.1 | -4.3 | -10.1 | -13.2 | 99 | 97 | 97 | 98 | 863.4 | 863.2 | 862.7 | 863.1 |
| 16 | -6.0 | -4.6 | -5.0 | -5.2 | -3.7 | -6.1 | -6.9 | 96 | 98 | 97 | 97 | 860.2 | 859.6 | 858.8 | 859.5 |
| 17 | -5.0 | -4.4 | -3.4 | -4.1 | -2.9 | -6.2 | -7.0 | 99 | 98 | 99 | 99 | 855.9 | 855.1 | 856.5 | 855.8 |
| 18 | -0.8 | 0.5 | 2.5 | 1.2 | 2.9 | -3.5 | -3.1 | 100 | 100 | 100 | 100 | 854.9 | 856.5 | 859.6 | 857.0 |
| 19 | 1.8 | 2.1 | 1.5 | 1.7 | 2.9 | 1.4 | 0.0 | 100 | 100 | 100 | 100 | 860.4 | 859.9 | 858.4 | 859.6 |
| 20 | -2.2 | 0.5 | 1.3 | 0.2 | 2.6 | -2.7 | -4.5 | 77 | 41 | 98 | 72 | 860.6 | 860.2 | 857.8 | 859.5 |
| 21 | 1.2 | -4.8 | -5.3 | -3.6 | 2.0 | -5.4 | -5.4 | 98 | 97 | 97 | 97 | 855.2 | 855.6 | 857.2 | 856.0 |
| 22 | -7.5 | -6.7 | -5.8 | -6.5 | -5.0 | -7.5 | -7.5 | 93 | 96 | 95 | 95 | 859.6 | 858.6 | 859.3 | 859.2 |
| 23 | -8.3 | -6.4 | -7.9 | -7.6 | -5.5 | -9.0 | -12.9 | 90 | 75 | 88 | 84 | 855.4 | 850.9 | 844.5 | 850.3 |
| 24 | -6.2 | -5.0 | -5.4 | -5.5 | -4.5 | -8.5 | -8.8 | 98 | 99 | 99 | 99 | 841.7 | 840.5 | 836.1 | 839.4 |
| 25 | -4.5 | -4.3 | -3.5 | -4.0 | -3.3 | -6.1 | -6.0 | 98 | 98 | 98 | 98 | 831.9 | 831.3 | 832.0 | 831.7 |
| 26 | -2.6 | -6.1 | -6.5 | -5.4 | -2.3 | -7.0 | -7.0 | 99 | 98 | 98 | 98 | 834.1 | 839.8 | 845.6 | 839.8 |
| 27 | -7.1 | -6.3 | -5.5 | -6.1 | -5.5 | -7.6 | -7.4 | 98 | 94 | 91 | 94 | 845.0 | 842.8 | 840.5 | 842.8 |
| 28 | -6.4 | -9.0 | -8.9 | -8.3 | -4.5 | -9.5 | -9.5 | 98 | 92 | 92 | 94 | 839.6 | 844.5 | 850.0 | 844.7 |
| 29 | -9.2 | -8.3 | -8.6 | -8.7 | -7.8 | -9.5 | -10.3 | 99 | 92 | 97 | 96 | 851.4 | 855.5 | 854.8 | 853.9 |
| 30 | -11.0 | -8.8 | -6.0 | -8.0 | -5.7 | -11.5 | -13.1 | 87 | 97 | 96 | 93 | 849.1 | 844.4 | 847.1 | 846.9 |
| 31 | -4.8 | -5.0 | -3.8 | -4.4 | -3.6 | -6.1 | -6.1 | 97 | 97 | 98 | 97 | 847.8 | 850.0 | 851.4 | 849.7 |

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

| D | V [m/s] | | | | α [1-32] | | | R[mm] | HS[cm] |
|----|---------|----|----|------|----------|----|----|-------|--------|
| | 06 | 12 | 18 | Vm | 06 | 12 | 18 | | |
| 1 | 25 | 22 | 15 | 20.7 | 20 | 20 | 20 | 14.4 | 37 |
| 2 | 14 | 11 | 28 | 17.7 | 20 | 20 | 16 | 5.9 | 52 |
| 3 | 13 | 18 | 10 | 13.7 | 20 | 20 | 18 | 5.1 | 52 |
| 4 | 10 | 15 | 10 | 11.7 | 20 | 20 | 20 | 3.8 | 52 |
| 5 | 21 | 28 | 23 | 24.0 | 18 | 18 | 18 | 17.3 | 52 |
| 6 | 22 | 18 | 16 | 18.7 | 22 | 20 | 20 | 1.3 | 55 |
| 7 | 15 | 15 | 15 | 15.0 | 20 | 20 | 20 | 0.7 | 55 |
| 8 | 13 | 14 | 10 | 12.3 | 20 | 22 | 22 | 0.9 | 54 |
| 9 | 18 | 29 | 30 | 25.7 | 18 | 18 | 18 | 1.7 | 54 |
| 10 | 25 | 21 | 21 | 22.3 | 18 | 18 | 18 | 6.9 | 55 |
| 11 | 16 | 13 | 13 | 14.0 | 20 | 22 | 22 | 6.0 | 62 |
| 12 | 12 | 8 | 5 | 8.3 | 28 | 26 | 26 | 0.8 | 68 |
| 13 | 4 | 10 | 7 | 7.0 | 24 | 22 | 22 | 9.2 | 71 |
| 14 | 7 | 7 | 7 | 7.0 | 32 | 32 | 24 | * | 75 |
| 15 | 7 | 9 | 6 | 7.3 | 28 | 26 | 32 | 2.4 | 75 |
| 16 | 3 | 6 | 5 | 4.7 | 32 | 22 | 22 | 0.3 | 74 |
| 17 | 9 | 10 | 7 | 8.7 | 22 | 22 | 22 | 2.4 | 74 |
| 18 | 9 | 18 | 18 | 15.0 | 22 | 24 | 24 | 30.3 | 72 |
| 19 | 19 | 20 | 22 | 20.3 | 24 | 24 | 24 | 8.7 | 64 |
| 20 | 10 | 4 | 10 | 8.0 | 22 | 26 | 18 | 3.6 | 53 |
| 21 | 7 | 3 | 10 | 6.7 | 22 | 4 | 4 | 17.2 | 52 |
| 22 | 5 | 10 | 5 | 6.7 | 24 | 20 | 20 | 0.2 | 60 |
| 23 | 8 | 20 | 23 | 17.0 | 16 | 16 | 18 | 0.4 | 59 |
| 24 | 14 | 16 | 20 | 16.7 | 20 | 20 | 16 | 1.4 | 52 |
| 25 | 18 | 19 | 15 | 17.3 | 20 | 20 | 22 | 6.9 | 53 |
| 26 | 17 | 11 | 11 | 13.0 | 20 | 28 | 26 | 5.5 | 56 |
| 27 | 15 | 17 | 14 | 15.3 | 20 | 20 | 20 | 0.9 | 68 |
| 28 | 11 | 9 | 8 | 9.3 | 24 | 22 | 22 | 0.9 | 61 |
| 29 | 17 | 12 | 14 | 14.3 | 26 | 24 | 22 | 0.8 | 61 |
| 30 | 20 | 26 | 16 | 20.7 | 20 | 20 | 20 | 2.3 | 60 |
| 31 | 13 | 13 | 9 | 11.7 | 20 | 22 | 22 | 6.3 | 62 |

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

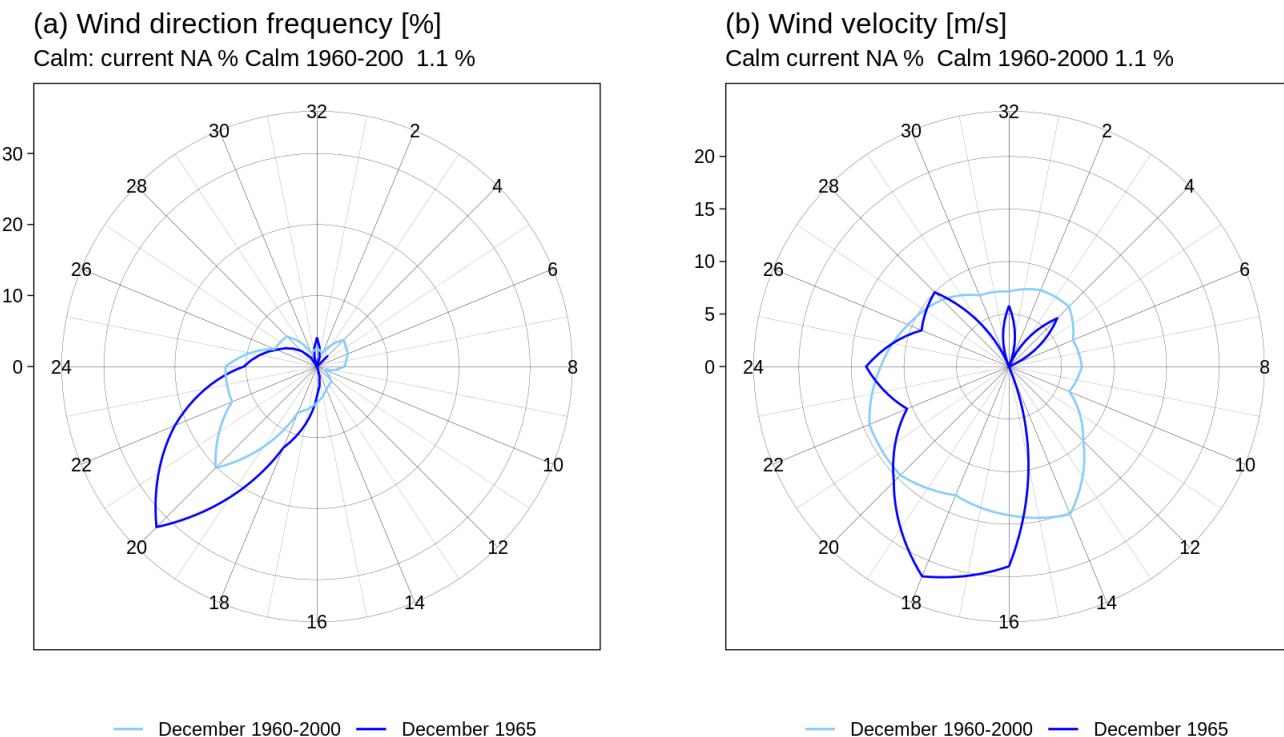
Table 3. Number of days with threshold value in current month and monthly average number of days with threshold value in the 1960- 2000 period

| Nazwa / Name | 1960-2000 | 1965-XII |
|---|-----------|----------|
| Przymrozkowe ($T_{min} < 0^{\circ}\text{C}$) | 30 | 30 |
| Mroźne ($T_{max} < 0^{\circ}\text{C}$) | 21 | 26 |
| Bardzo mroźne ($T_{min} < -10^{\circ}\text{C}$) | 7 | 3 |
| Ciepłe ($T_{max} > 20^{\circ}\text{C}$) | 0 | 0 |
| Gorące ($T_{max} > 25^{\circ}\text{C}$) | 0 | 0 |
| $R > 1 \text{ mm}$ | 16 | 21 |
| $R > 10 \text{ mm}$ | 4 | 4 |
| Liczba dni z pokrywą śnieżną | 30 | 31 |

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

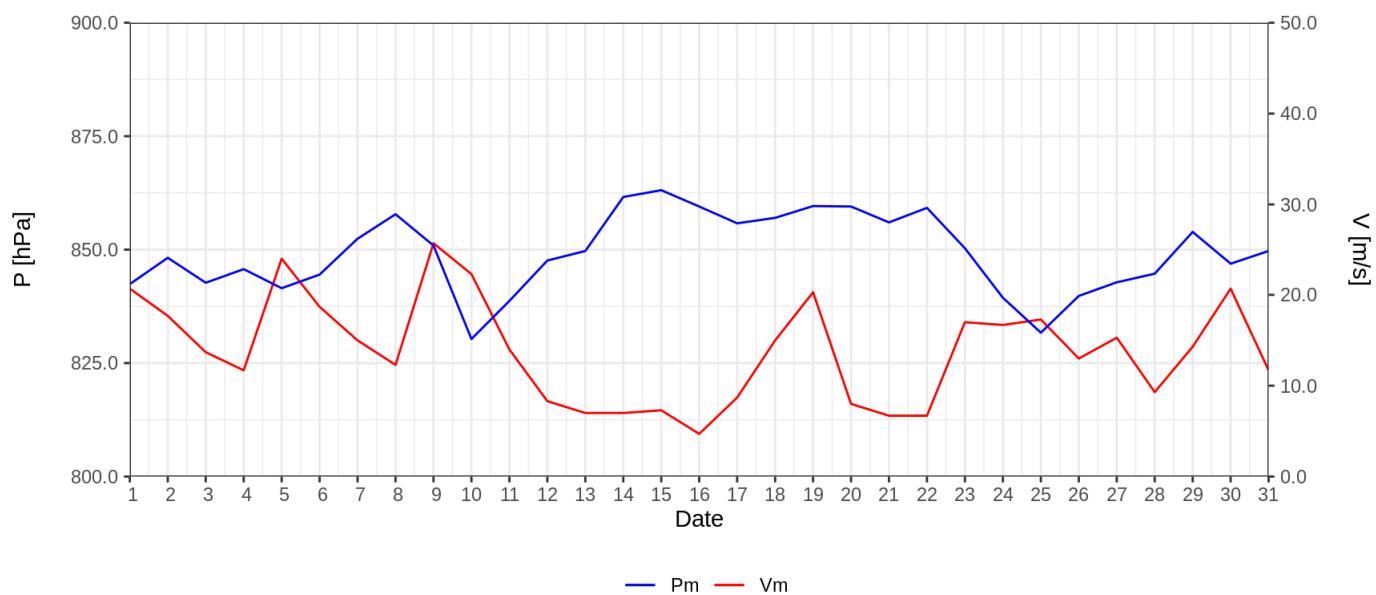
| | Opis | Description | 1960-2000 | 1965-XII |
|--------------------------|---------------------------|-----------------------|--------------------|--------------------|
| T [$^{\circ}\text{C}$] | Średnia miesięczna | Monthly average | -4.6 | -5.0 |
| | Maksymalna średnia dobowa | Maximum daily average | -2.2 | -3.2 |
| | Minimalna średnia dobowa | Minimum daily average | -6.9 | -6.8 |
| | Średnie maksimum | Average maximum | 8.6 (2000-12-01) | 1.7 (1965-12-19) |
| | Absolutne maksimum | Absolute maximum | 13.4 (2000-12-01) | 2.9 (1965-12-18) |
| | Średnie minimum | Average minimum | -19.8 (2000-12-01) | -10.3 (1965-12-19) |
| | Absolutne minimum | Absolute minimum | -22.8 (1962-12-23) | -11.5 (1965-12-30) |
| P [hPa] | Średnia miesięczna | Monthly average | 856.3 | 849.1 |
| | Maksimum | Maximum | 880.9 (1989-12-02) | 863.1 (1965-12-15) |
| | Minimum | Minimum | 819.2 (1976-12-02) | 830.3 (1965-12-10) |
| V [m/s] | Średnia miesięczna | Monthly average | 11.7 | 13.9 |
| | Średnie maksimum | Average maximum | 14.8 | 16.9 |
| | Absolutne maksimum | Absolute maximum | 42.0 (1988-12-04) | 30.0 (1965-12-09) |
| R [mm] | Suma miesięczna | Monthly sum | 120.8 | 164.5 |
| | Maksymalna suma dobowa | Maximum daily sum | 55.9 (1967-12-23) | 30.3 (1965-12-18) |



Ryc. 1. Częstość (a) i prędkość wiatru (b) wg kierunków

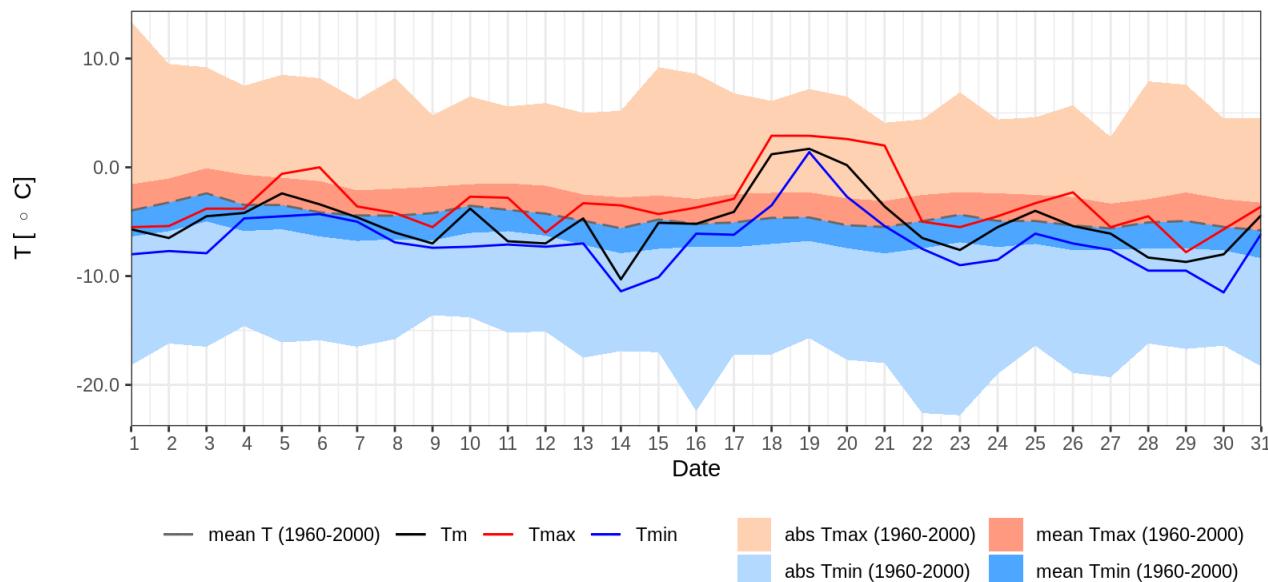
Fig. 1. Wind direction frequency (a) and wind velocity for a given direction (b)

*) 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].

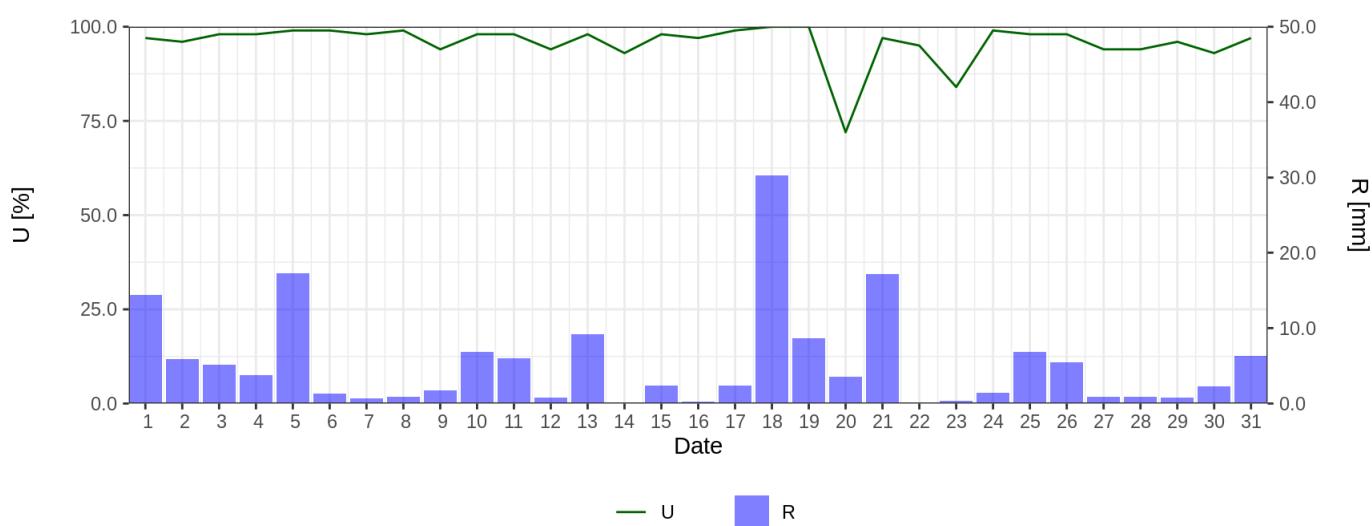


Ryc. 2. Średnie dobowe ciśnienie atmosferyczne i prędkość wiatru

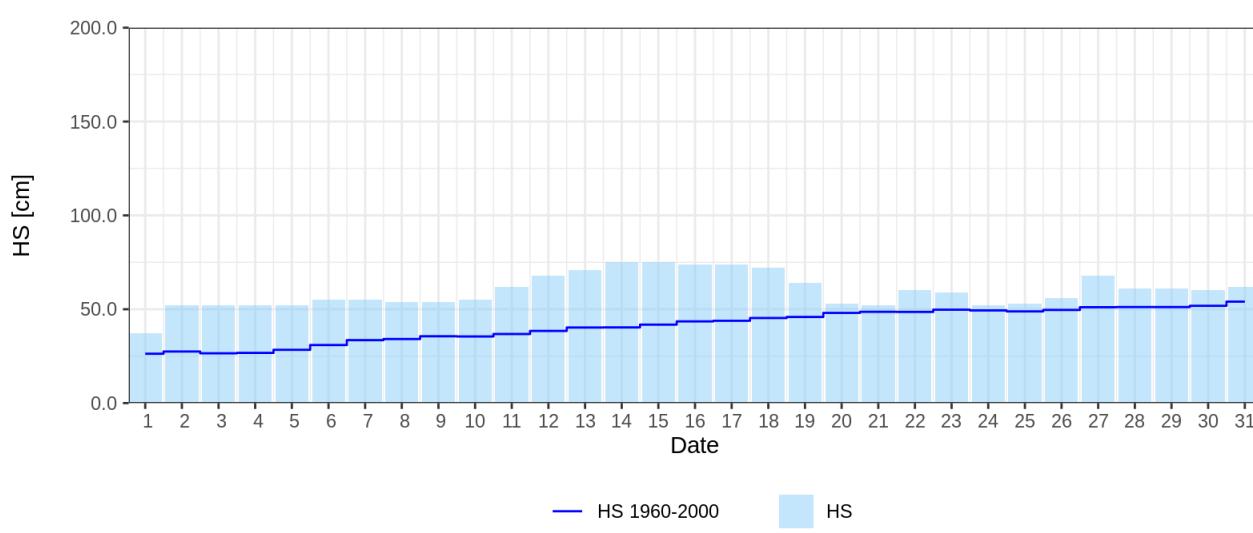
Fig. 2. Daily average air pressure and wind speed



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 dobowa suma opadu atmosferycznego
Fig. 4. Mean daily relative humidity and daily sum of precipitation



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