POLISH POLAR RESEARCH (POL. POLAR RES.) POLSKIE BADANIA POLARNE	6	3	365—376	1985

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Results of some meteorological measurements and observations carried out at Hornsund (Spitsbergen) from 1 August, 1983, to 31 July, 1984

ABSTRACT: This paper gives the daily values of chosen meteorological elements measured at the Polar Station of the Polish Academy of Sciences at Hornsund, during the VIth Expedition of the Polish Academy of Sciences to Spitsbergen. The tables give average daily values of air temperature, relative humidity, atmospheric pressure, cloud amount and wind speed, daily amounts of precipitation and bright sunshine, extreme temperature values, maximum instantaneous wind speed and snow cover thickness for all the days in the period under study.

Key words: Arctic Spitsbergen meteorology

1. Introduction

The Polar Station of the Polish Academy of Sciences at Hornsund is the only point at the southern part of West Spitsbergen where systematic meteorological observations are carried out. The results of these observations are of interest not only for researchers engaged in the problems of the climate of the Arctic, but also for representatives of other fields of science, who conduct studies in this region of the world, and for whom they consitute valuable material complementing their own research. Bearing this in mind, the results of meteorological measurements and observations, carried out by the authors at Hornsund from 1 August, 1983, to 31 July, 1984, are presented below as broadly as possible.

2. Preliminary information

The Polar Station of the Polish Academy of Sciences in Svalbard is situated at the point with the coordinates $\varphi = 77°00'N$, $\lambda = 15°34'E$ and $h = 11$ m over the sea level, in Isbjörnhamna Bay, on the northern shore of Hornsund Fiord, close to its westward outlet into the open waters of the Sea of Greenland. This is an area where large, numerous glaciers and relatively high mountains of South Spitsbergen contact with the sea.

The local topographic conditions exert an essential influence on the values of meteorological elements measured in the meteorological screen at the station.

In the course of the VIth Expedition of the Polish Academy of Sciences to Spitsbergen, basic meteorological observations and measurements were carried out 8 times every 24 hours at 00, 03, 06, 09, 12, 15, 18 and 21 hours GMT. The air temperature was measured by a mercury thermometer at 2 m over the ground level, in a meteorological screen with accuracy of up to 0.1°C. The extreme temperatures were read out from extreme temperature thermometers, set in the same screen, with accuracy of up to 0.1°C. The relative humidity was determined with accuracy of up to 1%, from indications of dry and wet thermometers. The atmospheric pressure was measured by a mercury barometer, with accuracy of up to 0.1 hPa. The wind speed (with accuracy of up to 0.5 m/s was measured by an anemometer set 10 m over the ground level. The maximum instantaneous values were read out from a continuous recording. The duration of bright sunshine was recorded by three general-purpose heliographs. Precipitation was measured by a Hellmann rain gauge with 200 cm^2 cross section at 06, 12 and 18 hours GMT, with accuracy of up to 0.1 mm. The snow cover thickness was determined every day at 06 GMT on a flat spot near the meteorological screen, with accuracy of up to 1 cm. The average daily values were measured from 8 observation times, except of the relative humidity, for which average values were determined from the 4 main times (00, 06, 12 and 18 hours GMT).

3. Presentation of results

Tables I—XII contain monthly listings of verified daily values of chosen meteorological parameters measured at Hornsund in the period unders study. The following notation was assumed:

D — day of the month
Ts — average daily temperature (°C)
Tx — maximum daily temperature (°C)
Tn — minimum daily temperature (°C)

Us — average daily relative humidity (%)
R — daily omount of precipitation (mm)
Ps — average daily air pressure at the station level (hPa)
u — measured duration of bright sunshine in a day (hours)
Ns — average daily amount of cloud cover (octants)
Vs — average daily wind speed (m/s)
Vx — maximum daily wind speed (m/s)
S — snow cover thickness (cm)

Lack of precipitation, snow cover and bright sunshine is denoted by a dot. Lack of data is represented by x. In the column "Vx", values are given only when the maximum wind speed was 15 m/s or more. The value of 0.0 in the column "R" denotes amount of precipitation <0.1 mm On 5 and 6 February, 1984, a strong wind prevented some measurements. The amount of precipitation was estimated by the observers, which is marked in the respective table.

4. Final remarks

Since the purpose of the paper was to give a broad presentation of the results of meteorological observations carried out at Hornsund in the period under study, it was decided not to present their analysis and interpretation. An elaboration of these results will be presented in a separate paper.

Table I

Daily values of chosen meteorological elements at Hornsund, August 1983

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	3.4	8.1	2.6	94	2.7	1007.4	.	7.8	2.0	–	.
2	4.3	6.2	1.6	94	.	1007.7	3.8	7.3	2.0	–	.
3	5.9	7.1	4.6	80	3.0	1004.2	2.4	7.1	11.3	23	.
4	4.0	5.8	3.0	89	.	999.4	0.6	7.5	4.3	–	.
5	5.0	8.1	2.6	94	.	1002.3	0.2	7.3	1.9	–	.
6	4.5	6.6	2.5	83	.	1007.3	3.6	6.9	4.4	–	.
7	3.3	5.0	1.4	85	1.3	1007.3	.	7.3	3.1	–	.
8	4.7	6.8	2.5	89	2.0	1004.2	0.6	7.9	1.8	–	.
9	4.4	5.9	3.2	86	.	994.0	1.2	7.0	1.8	–	.
10	4.1	6.6	1.4	82	2.1	994.7	7.2	7.0	3.0	–	.
11	3.2	5.4	1.9	87	1.6	987.0	.	7.9	3.3	–	.
12	3.7	7.0	1.7	79	0.0	991.9	1.2	7.3	5.3	18	.
13	4.4	6.8	2.5	80	.	999.8	5.1	6.1	4.8	18	.
14	2.5	4.6	0.9	93	0.6	994.7	.	7.8	3.8	–	.
15	1.6	2.8	0.4	87	0.0	992.3	1.0	7.0	5.4	–	.
16	2.7	5.7	0.0	89	.	990.8	5.3	7.0	1.8	–	.
17	3.1	5.2	1.5	79	.	996.6	9.2	5.6	3.9	–	.

18	3.4	4.9	1.4	81	0.0	1000.5	9.3	6.0	4.4	—	.
19	3.7	5.7	1.7	78	0.5	1002.7	6.0	5.3	4.5	—	.
20	3.2	4.9	1.6	88	5.0	1008.5	1.0	6.9	3.5	—	.
21	3.0	4.6	1.9	99	5.9	1001.1	.	8.0	2.6	—	.
22	3.5	5.5	0.7	91	16.5	998.2	1.1	7.3	5.6	21	.
23	4.5	5.9	3.2	71	0.0	985.8	2.2	6.9	8.8	30	.
24	3.4	4.7	2.6	78	.	1001.1	6.2	6.0	3.1	—	.
25	2.6	5.0	1.0	85	.	1007.3	7.2	4.5	1.9	—	.
26	0.8	3.6	−0.8	93	0.0	1013.1	1.5	5.6	2.4	—	.
27	2.4	4.4	0.8	86	.	1012.6	5.6	5.5	4.9	—	.
28	2.1	3.3	0.8	87	.	1012.6	.	5.9	3.4	—	.
29	1.9	3.4	0.4	90	.	1004.8	13.5	4.3	0.8	—	.
30	1.4	2.0	0.3	95	.	994.2	.	7.6	1.4	—	.
31	2.2	3.7	0.9	95	.	999.0	0.9	7.5	1.5	—	.

Table II

Daily values of chosen meteorological elements at Hornsund, September 1983

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	2.4	3.7	1.6	83	.	1008.9	4.3	5.4	2.8	—	.
2	1.4	2.7	−1.2	85	1.1	1008.9	6.9	5.9	9.0	24	.
3	3.5	4.9	0.5	91	2.0	1001.6	0.1	7.9	6.9	22	.
4	3.7	5.6	2.0	91	0.1	1003.1	7.3	6.5	3.6	18	.
5	4.6	6.3	2.8	77	4.0	995.4	0.1	7.8	14.6	25	.
6	4.3	5.7	2.9	84	5.9	998.3	.	7.4	12.1	22	.
7	4.1	5.8	2.8	87	0.0	1006.4	.	7.3	9.0	16	.
8	5.6	7.5	3.5	87	0.0	1011.9	4.5	5.5	9.1	16	.
9	4.3	7.2	2.9	94	.	1014.5	2.1	5.6	6.9	—	.
10	4.9	8.1	3.2	90	.	1014.1	9.9	4.4	8.5	22	.
11	4.3	6.1	2.5	91	3.8	1008.1	1.0	7.3	5.6	17	.
12	2.0	4.8	0.4	85	1.2	1005.8	1.9	6.9	5.3	—	.
13	1.5	3.2	0.5	97	4.4	1010.0	.	7.5	1.5	—	.
14	1.9	3.8	1.0	99	0.2	1005.7	4.5	5.6	1.4	—	.
15	0.2	2.0	−1.5	95	0.0	1010.2	1.5	4.3	1.6	—	.
16	−2.9	1.3	−4.1	70	.	1021.3	3.4	5.6	6.1	—	.
17	−2.4	−1.3	−4.8	71	0.3	1022.6	0.1	6.1	6.5	17	.
18	2.5	4.2	−1.6	77	0.4	1010.9	0.6	5.8	13.3	27	.
19	4.2	5.3	2.4	80	0.0	998.1	0.5	7.0	11.8	23	.
20	3.0	5.2	2.0	82	.	996.4	.	7.5	6.3	—	.
21	1.0	2.7	0.2	84	.	1002.6	.	7.1	5.3	—	.
22	0.8	1.5	−0.6	77	0.8	1004.1	0.1	7.4	9.6	20	.
23	3.2	5.2	0.6	84	7.2	994.2	.	7.9	7.5	18	.
24	−4.4	4.6	−6.8	78	4.6	995.9	0.6	7.6	8.4	26	.
25	−0.8	2.9	−5.4	90	1.9	984.8	.	7.8	4.8	22	9
26	1.5	3.6	−1.4	72	0.3	995.6	.	7.8	12.5	24	.
27	−0.6	1.8	−1.2	71	0.0	1007.6	.	7.4	9.6	21	.
28	−2.1	−0.5	−3.6	70	0.0	1013.7	2.3	5.5	8.5	18	.
29	−3.1	−0.3	−4.9	70	0.4	1014.4	.	6.5	2.9	—	.
30	−0.5	0.8	−1.6	74	0.3	1013.1	.	8.0	7.5	17	.

Table III

Daily values of chosen meteorological elements at Hornsund, October 1983

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−0.1	1.5	−0.9	83	0.1	1012.7	0.1	7.1	9.5	18	.
2	−0.3	0.5	−1.0	75	.	1014.9	.	7.5	5.0	–	.
3	−0.3	0.4	−1.2	85	.	1014.2	.	7.9	4.5	–	.
4	1.3	2.2	−0.4	84	.	1014.1	.	7.5	4.8	15	.
5	1.0	3.2	−0.1	75	.	1008.5	.	6.0	6.3	–	.
6	0.8	1.7	−0.1	82	0.0	1002.8	.	8.0	4.4	–	.
7	−0.3	1.7	−2.4	87	.	1003.3	4.8	4.9	3.0	–	.
8	−1.1	0.4	−1.6	92	1.3	1004.1	.	8.0	1.6	–	.
9	−3.1	−0.7	−6.5	77	.	1004.3	5.1	4.5	5.5	–	1
10	1.2	2.6	−2.0	78	0.0	1006.5	1.6	5.6	7.6	16	1
11	1.3	2.7	0.0	74	0.0	1009.4	.	6.9	4.9	–	.
12	−1.2	1.8	−5.7	76	0.4	1010.9	.	4.8	1.8	–	.
13	−2.7	−1.3	−6.0	78	0.4	1011.3	.	6.6	3.1	–	1
14	0.0	1.0	−2.9	87	4.4	1003.9	.	7.8	10.5	34	1
15	1.4	2.0	−0.4	89	8.6	994.3	.	8.0	11.9	22	3
16	2.6	3.7	0.8	79	2.3	993.9	.	7.4	13.5	29	.
17	1.6	3.8	0.4	79	1.0	994.2	.	7.1	10.1	27	.
18	−2.2	0.8	−3.1	70	0.0	992.8	.	5.9	11.1	27	.
19	−4.1	−1.7	−5.2	67	0.0	997.8	.	6.5	7.6	15	.
20	−6.7	−4.8	−8.1	73	3.4	1004.6	.	6.1	3.5	–	.
21	−5.9	−4.6	−7.9	77	.	1001.7	.	7.0	5.8	15	11
22	−10.1	−5.7	−12.3	68	.	1001.5	.	6.0	3.5	–	9
23	−11.6	−9.6	−14.3	70	.	998.5	.	3.8	7.4	20	5
24	−11.5	−9.0	−12.9	53	.	996.4	1.3	1.1	3.1	18	.
25	−11.9	−10.2	−14.5	68	3.1	998.0	.	2.3	1.6	–	.
26	−9.0	−5.4	−13.1	77	.	984.0	.	3.8	2.0	–	8
27	−14.2	−9.9	−16.5	55	0.0	985.4	.	2.4	1.3	–	6
28	−13.0	−11.4	−15.2	54	0.0	985.0	.	3.6	4.0	17	4
29	−11.6	−9.0	−14.8	65	.	978.9	.	4.4	2.8	16	3
30	−11.0	−9.2	−12.5	74	.	979.2	.	0.8	0.4	–	2
31	−11.0	−9.9	−13.0	76	.	985.8	.	1.0	0.5	–	2

Table IV

Daily values of chosen meteorological elements at Hornsund, November 1983

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−8.6	−6.0	−12.3	69	0.0	985.5	.	3.6	3.8	–	2
2	−9.7	−6.5	−11.5	60	.	994.3	.	1.6	4.1	–	2
3	−11.2	−9.4	−13.3	72	0.0	1006.3	.	2.8	1.9	–	2
4	−11.1	−9.5	−13.6	72	0.0	1008.5	.	4.6	4.8	–	2
5	−12.2	−10.1	−14.2	67	.	1004.9	.	1.4	9.1	19	2
6	−13.8	−12.1	−15.1	63	.	1003.3	.	1.1	8.3	19	2

7	−14.3	−12.8	−16.1	67	0.0	1009.3	.	3.4	6.6	—	.
8	−12.8	−11.3	−13.8	67	0.1	1006.3	.	7.3	9.1	20	.
9	−10.8	−9.9	−12.7	63	0.3	1007.5	.	5.9	12.6	29	.
10	−11.7	−9.9	−15.0	63	.	1021.4	.	1.1	3.6	—	.
11	−10.9	−8.6	−13.7	67	0.0	1030.0	.	1.9	1.4	—	.
12	−1.5	0.3	−11.3	85	3.6	1020.9	.	8.0	2.6	—	.
13	−4.0	1.2	−9.0	86	0.1	1006.8	.	8.0	8.6	35	1
14	−12.1	−8.6	−15.1	63	.	1009.3	.	5.6	14.5	33	2
15	−12.6	−10.0	−16.3	72	0.9	1010.9	.	4.6	4.9	—	2
16	−8.9	−8.2	−10.3	78	1.7	999.0	.	8.0	7.9	—	3
17	−9.9	−7.6	−12.1	75	0.3	983.9	.	7.4	8.6	19	9
18	−14.7	−10.4	−17.8	61	.	999.9	.	1.3	5.4	—	4
19	−16.9	−15.6	−18.4	59	0.0	1001.6	.	3.0	3.9	—	4
20	−17.5	−15.4	−19.8	58	.	1002.4	.	3.8	1.4	—	4
21	−20.3	−16.3	−22.2	55	.	1002.2	.	6.6	2.3	—	4
22	−17.1	−14.7	−23.2	60	0.0	997.7	.	5.6	1.1	—	4
23	−15.3	−12.9	−17.7	67	.	999.4	.	5.9	4.8	—	4
24	−12.8	−9.5	−17.6	70	0.0	997.9	.	4.5	2.9	23	4
25	−9.7	−7.9	−11.3	51	.	996.0	.	5.5	5.1	18	4
26	−12.6	−10.1	−14.4	67	.	997.4	.	6.4	7.1	15	4
27	−15.2	−13.1	−16.6	55	.	1003.5	.	1.3	7.1	20	4
28	−16.2	−13.7	−19.2	57	.	1011.3	.	4.1	2.9	—	4
29	−18.1	−14.3	−20.7	59	.	1020.7	.	4.4	5.1	—	4
30	−18.2	−16.1	−21.5	61	.	1027.0	.	3.1	5.8	—	4

Table V

Daily values of chosen meteorological elements at Hornsund, December 1983

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−13.9	−8.2	−22.0	69	1.0	1023.5	.	6.9	8.3	22	4
2	−5.1	−2.3	−8.8	88	2.5	1003.0	.	8.0	15.9	37	4
3	−14.0	−6.4	−16.4	66	.	1011.2	.	1.3	12.9	35	4
4	−13.7	−12.4	−15.8	67	.	1006.9	.	1.3	2.0	—	4
5	−14.8	−11.1	−17.9	65	0.2	1002.1	.	5.4	6.1	—	4
6	−16.0	−13.1	−20.7	60	.	1006.2	.	5.3	2.8	16	4
7	−16.0	−11.0	−19.4	61	.	1001.2	.	3.6	6.3	18	4
8	−16.6	−15.0	−18.8	50	.	1009.7	.	4.3	7.1	18	4
9	−11.4	−7.8	−17.9	53	.	1010.2	.	4.0	8.8	28	4
10	−12.2	−9.2	−14.5	55	0.1	1007.2	.	6.0	3.5	15	3
11	−13.6	−10.3	−17.2	68	.	1003.8	.	4.5	6.0	16	3
12	−15.0	−13.1	−16.6	80	.	1004.1	.	3.4	1.5	—	3
13	−16.1	−13.7	−19.1	77	.	1005.7	.	3.4	3.9	—	3
14	−17.6	−15.6	−20.2	70	.	1002.9	.	2.3	6.1	—	3
15	−17.0	−14.6	−19.1	64	.	1005.2	.	1.8	2.6	—	3
16	−18.4	−15.1	−20.3	68	0.0	1014.1	.	5.6	1.8	—	3
17	−14.0	−9.9	−20.5	82	3.3	1011.5	.	7.5	1.8	—	3
18	−13.2	−5.2	−20.7	81	0.2	1008.8	.	7.3	1.5	—	12
19	−12.6	−5.8	−20.9	86	1.4	1012.0	.	7.5	1.9	—	13

20	−18.2	−7.1	−22.8	74	0.0	1015.4	.	4.8	3.4	–	12
21	−23.4	−19.5	−28.8	70	1.5	1011.9	.	5.9	1.8	19	12
22	−12.8	−7.9	−20.5	78	0.9	995.2	.	7.8	9.9	22	9
23	−23.6	−19.3	−25.6	65	0.3	999.4	.	7.0	3.3	–	7
24	−26.0	−23.7	−28.6	72	.	1000.1	.	7.0	1.8	–	8
25	−20.7	−16.7	−27.0	59	.	994.8	.	6.3	7.1	21	8
26	−18.9	−16.4	−21.6	55	.	993.3	.	4.1	9.8	22	8
27	−19.0	−15.8	−23.1	48	.	991.7	.	1.3	9.4	20	8
28	−12.1	−9.0	−18.8	63	0.0	988.8	.	1.9	8.6	15	7
29	−10.2	−8.3	−12.6	79	.	999.3	.	0.5	5.8	21	7
30	−10.5	−7.1	−12.8	73	1.0	997.4	.	3.5	13.0	26	8
31	−8.5	−6.6	−10.0	84	5.3	985.7	.	7.3	16.5	34	9

Table VI

Daily values of chosen meteorological elements at Hornsund, January 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−3.3	−2.4	−9.0	89	1.5	971.9	.	8.0	14.0	30	13
2	−7.6	−2.7	−9.0	75	0.5	981.0	.	7.4	12.3	27	10
3	−11.4	−8.4	−12.3	64	.	986.5	.	2.9	9.8	21	8
4	−13.7	−10.9	−16.0	66	.	991.7	.	1.3	4.9	–	6
5	−15.9	−12.7	−18.0	73	0.0	998.7	.	0.8	3.4	–	6
6	−18.3	−16.2	−20.4	80	.	1001.8	.	0.6	2.3	–	6
7	−19.5	−18.7	−21.1	83	0.3	1005.5	.	2.3	0.3	–	6
8	−13.9	−9.7	−19.8	84	2.2	1001.1	.	7.8	4.6	–	12
9	−9.6	−4.8	−14.8	85	0.7	996.3	.	7.3	4.8	23	19
10	−6.0	−2.3	−10.2	91	7.2	980.7	.	8.0	13.6	27	7
11	−1.4	0.8	−4.1	95	3.1	960.3	.	7.8	13.0	32	10
12	−3.2	−0.4	−5.2	84	1.1	967.0	.	7.0	6.6	–	11
13	−1.6	−0.1	−4.6	86	0.5	970.6	.	7.4	6.6	20	15
14	−2.6	−0.6	−4.0	70	2.8	977.6	.	6.6	7.4	24	8
15	−1.9	0.1	−3.6	77	2.0	968.2	.	7.8	9.0	24	10
16	−0.5	1.0	−2.0	78	1.4	969.7	.	7.3	8.5	18	20
17	−3.7	0.5	−5.8	74	.	978.1	.	6.5	6.8	17	24
18	−6.0	−4.6	−9.3	82	0.1	989.6	.	6.8	1.6	–	20
19	−6.0	−4.2	−8.6	74	.	993.9	.	5.5	3.0	–	20
20	−10.8	−7.8	−12.6	85	0.0	1001.9	.	6.4	0.9	–	20
21	−15.8	−11.2	−18.5	71	.	1016.6	.	0.9	0.5	–	20
22	−9.5	−4.2	−19.5	72	2.7	1021.0	.	6.5	5.5	–	18
23	−3.8	−1.7	−6.0	94	0.0	1024.3	.	7.4	1.5	–	27
24	−4.4	−2.7	−6.2	91	0.1	1023.6	.	7.0	4.4	–	28
25	−3.8	−2.1	−5.3	83	1.2	1022.6	.	7.0	7.3	23	22
26	−6.9	−2.8	−8.1	85	0.3	1012.5	.	6.5	5.1	20	20
27	−7.1	−4.4	−13.7	93	2.4	1015.0	.	5.5	1.6	–	22
28	−2.4	0.2	−4.6	88	1.6	1011.5	.	7.8	6.9	17	25
29	−6.9	−4.2	−11.7	80	0.3	1021.1	.	5.9	4.6	–	30
30	−3.1	1.0	−8.1	92	2.0	1020.2	.	7.9	1.8	–	31
31	−1.9	0.5	−2.8	85	0.4	1014.1	.	7.8	2.6	–	31

Table VII

Daily values of chosen meteorological elements at Hornsund, February 1984
[* — estimated value]

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−1.9	−1.0	−2.9	81	0.0	1009.5	.	7.9	4.1	–	35
2	−3.0	−2.0	−4.0	81	1.5	1006.9	.	7.5	3.8	–	35
3	−3.3	−1.7	−5.6	90	0.3	1007.1	.	6.9	4.5	–	38
4	−2.3	−0.7	−4.8	81	1.1	1009.9	.	7.0	7.1	25	39
5	−4.3	−2.7	−4.9	93	8.0*	1000.9	.	8.0	16.4	41	30
6	−7.5	−4.9	−9.6	91	10.0*	990.1	.	8.0	23.5	47	×
7	−7.8	−5.1	−9.7	88	2.6	986.3	.	8.0	17.4	35	11
8	−7.4	−6.3	−9.7	79	0.3	990.5	.	6.4	11.9	25	10
9	−5.0	−2.3	−8.6	81	0.0	992.2	.	5.5	3.6	17	10
10	−7.0	−5.2	−10.7	71	0.3	1007.9	.	5.6	2.9	18	9
11	−1.3	0.0	−6.8	92	1.4	990.0	.	7.4	6.8	17	11
12	−4.4	−2.0	−6.9	82	5.1	987.5	.	7.4	6.5	18	15
13	−6.3	0.5	−9.3	88	0.6	984.9	.	7.3	7.1	20	22
14	−11.7	−8.2	−13.5	66	0.0	1000.0	.	4.9	5.8	19	27
15	−12.4	−10.1	−15.9	60	5.7	1016.0	.	6.4	7.4	26	25
16	−2.5	1.6	−12.7	92	6.1	997.4	.	8.0	9.6	24	25
17	−6.4	−1.6	−8.1	79	0.5	1001.7	.	7.6	8.5	26	25
18	−9.4	−7.3	−11.1	87	0.7	1001.6	.	7.9	13.0	25	26
19	−9.7	−6.9	−11.9	83	2.9	1006.8	.	8.0	14.1	34	27
20	−1.6	1.2	−8.6	98	1.2	1018.8	.	8.0	3.1	–	29
21	0.1	2.2	−1.6	95	1.3	1019.0	.	7.8	3.6	–	29
22	2.8	−0.3	−5.5	79	0.2	1023.0	.	7.1	4.4	–	38
23	−0.2	1.5	−2.9	92	2.0	1008.9	.	7.9	5.9	22	38
24	−1.9	2.6	−8.1	90	4.2	991.7	.	8.0	9.5	21	30
25	−8.4	−6.8	−10.6	71	0.1	988.9	.	7.1	5.9	16	28
26	−9.6	−6.9	−11.2	75	0.1	989.6	.	6.9	9.1	28	26
27	−14.9	−10.5	−18.2	59	.	999.1	2.4	5.5	5.5	–	25
28	−17.8	−15.5	−19.6	60	0.0	1002.5	.	5.1	8.3	21	24
29	−17.8	−16.0	−19.4	53	.	1008.8	2.0	4.4	11.0	29	24

Table VIII

Daily values of chosen meteorological elements at Hornsund, March 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−22.2	−17.0	−26.6	50	.	1003.8	1.4	2.0	4.9	16	23
2	−23.4	−20.5	−26.6	54	0.0	996.9	.	4.8	1.8	–	23
3	−18.5	−15.3	−22.6	54	.	999.5	4.3	1.5	2.6	–	23
4	−17.6	−14.9	−19.7	58	.	1006.3	3.1	0.8	6.5	25	23
5	−13.6	−10.8	−17.6	50	.	1003.5	2.3	1.5	12.6	31	23
6	−13.4	−11.5	−14.6	49	.	1005.6	0.6	3.4	14.1	31	23
7	−14.0	−11.4	−17.4	69	2.2	1016.1	.	3.5	1.1	–	23
8	−5.3	−1.1	−15.4	91	1.7	1013.2	.	7.9	2.5	–	30
9	−1.2	0.0	−3.1	92	0.8	1007.0	.	8.0	3.6	–	41

10	1.8	3.0	−2.0	95	1.1	1012.1	.	8.0	10.3	22	37
11	1.2	3.0	−0.7	89	0.3	1025.4	.	8.0	6.3	16	24
12	−1.5	1.6	−2.3	91	4.1	1021.9	.	7.9	3.4	–	20
13	−9.9	−1.4	−12.3	59	.	1018.2	3.7	2.9	6.6	17	30
14	−16.2	−10.7	−19.0	66	.	1024.6	8.7	1.8	4.3	–	30
15	−17.6	−16.7	−20.3	63	.	1028.3	5.3	3.5	4.8	–	26
16	−18.1	−16.1	−22.5	64	0.0	1030.1	8.6	3.4	3.1	–	26
17	−8.3	−5.9	−16.8	82	1.2	1020.5	.	8.0	5.8	–	26
18	−7.2	−0.2	−11.7	80	0.0	1012.3	0.1	7.0	6.9	19	28
19	−14.7	−11.0	−16.8	59	0.0	1018.5	3.7	5.0	12.8	31	28
20	−8.1	−4.0	−14.7	78	0.0	1014.4	0.1	6.0	6.9	25	28
21	−4.9	−1.4	−10.5	70	.	1027.8	0.3	5.0	6.6	27	28
22	−5.2	−3.1	−7.5	71	0.0	1037.8	4.2	4.4	11.1	26	28
23	−3.3	−0.5	−6.8	88	.	1040.3	.	7.1	2.3	–	28
24	−1.6	0.0	−3.6	97	2.4	1031.3	.	7.6	3.0	–	28
25	−1.1	0.3	−2.0	78	0.1	1020.6	.	7.8	7.4	19	30
26	−9.5	−0.7	−15.0	66	0.0	1018.4	8.7	4.8	5.5	–	31
27	−20.7	−15.0	−22.3	63	0.0	1024.0	10.2	2.0	6.0	–	31
28	−20.4	−18.2	−23.4	64	0.0	1026.6	.	6.6	7.6	16	31
29	−21.9	−19.7	−24.5	59	.	1028.6	12.0	0.8	8.5	–	30
30	−20.5	−18.8	−21.8	61	.	1029.5	12.6	1.1	8.3	–	30
31	−16.7	−13.1	−21.2	64	.	1024.5	11.7	3.3	7.5	15	29

Table IX

Daily values of chosen meteorological elements at Hornsund, April 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−8.9	−4.9	−15.8	72	0.7	1017.2	10.6	2.6	6.3	19	29
2	−6.6	−2.8	−8.3	87	0.3	1009.9	0.9	7.5	7.4	–	38
3	−7.2	−5.1	−10.3	85	9.7	1011.9	.	7.8	7.5	–	35
4	−2.5	0.8	−7.6	91	1.3	1014.8	.	7.4	7.1	21	48
5	−7.4	−4.3	−10.3	76	0.1	1023.0	7.6	5.6	4.4	–	48
6	−7.9	−6.8	−9.5	84	0.2	1026.6	.	8.0	2.9	–	49
7	−6.4	−4.7	−8.4	88	0.5	1018.8	.	7.9	7.5	16	52
8	−10.9	−7.2	−13.2	79	0.0	1020.4	.	7.5	11.4	21	46
9	−10.9	−7.8	−12.8	81	.	1015.8	0.6	7.5	13.9	35	46
10	−16.8	−11.4	−17.7	73	.	1018.3	9.7	3.4	16.4	34	44
11	−13.5	−11.2	−17.5	69	.	1023.9	1.3	5.3	19.5	37	35
12	−12.0	−10.1	−13.8	60	.	1026.3	6.8	7.0	15.6	30	32
13	−11.8	−9.5	−13.2	58	.	1022.7	14.2	1.4	12.6	23	31
14	−14.5	−12.1	−16.2	63	.	1021.1	14.3	0.8	13.1	27	30
15	−13.2	−10.8	−16.5	64	.	1020.4	12.9	3.0	11.8	22	30
16	−9.1	−7.4	−12.3	80	0.1	1014.1	0.9	7.1	12.1	21	30
17	−8.3	−6.6	−10.3	66	.	1010.4	11.0	3.3	8.8	18	30
18	−10.2	−8.1	−13.4	59	.	1020.1	14.8	3.6	4.0	–	30
19	−8.2	−4.2	−13.6	78	0.1	1020.0	4.7	5.6	4.6	16	30

20	−3.2	−0.8	−6.3	86	0.1	1010.9	4.2	7.3	11.3	26	30
21	0.5	2.6	−3.0	89	3.0	992.3	0.6	7.9	11.0	26	30
22	−0.6	0.8	−1.6	93	2.3	983.8	0.6	7.8	4.4	–	36
23	−0.9	0.8	−2.1	95	0.4	994.0	0.8	7.3	2.6	–	39
24	−3.7	−0.8	−7.0	84	.	1006.4	12.2	6.1	2.0	–	41
25	−4.4	−1.1	−8.9	79	1.4	1021.4	3.2	6.5	2.6	–	40
26	−0.6	1.2	−4.4	96	12.1	1008.9	.	8.0	3.3	–	42
27	−4.3	1.6	−8.2	80	0.4	1001.4	6.3	7.3	11.4	29	44
28	−4.1	−2.3	−8.3	73	0.0	1013.7	13.2	4.0	5.1	18	43
29	−5.8	−4.0	−7.4	76	0.0	1013.7	0.4	7.3	12.3	24	43
30	−4.3	−3.3	−6.3	82	0.1	1015.5	4.7	7.1	6.8	–	43

Table X

Daily values of chosen meteorological elements at Hornsund, May 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	−1.2	2.5	−4.4	91	5.7	1010.0	.	8.0	4.0	–	44
2	−3.6	2.4	−5.5	86	0.5	1002.3	.	7.6	10.9	20	46
3	−5.9	−4.2	−7.1	73	0.1	1008.9	3.9	6.8	8.4	16	46
4	−6.2	−2.8	−7.4	69	0.0	1013.3	11.8	3.3	3.8	–	46
5	−9.1	−6.2	−10.5	74	.	1014.5	18.1	1.6	2.5	–	46
6	−8.6	−4.8	−12.4	69	0.0	1018.5	16.9	1.1	0.6	–	46
7	−10.1	−7.3	−13.1	75	.	1019.5	13.3	3.9	2.3	–	47
8	−8.5	−3.8	−14.4	77	0.9	1015.3	6.7	5.1	1.1	–	46
9	−6.2	−2.7	−7.4	72	0.0	1011.4	2.0	5.0	3.8	–	49
10	−7.8	−1.6	−12.8	68	0.0	1015.9	17.7	2.5	0.6	–	47
11	−8.5	−5.2	−11.2	75	.	1015.4	12.9	3.0	5.8	–	47
12	−8.2	−6.4	−12.4	72	0.2	1013.1	3.2	7.5	12.9	31	46
13	−1.1	0.5	−6.6	89	0.8	993.9	.	7.9	8.3	30	46
14	−2.1	−0.4	−2.8	86	0.8	998.2	.	8.0	6.1	–	48
15	−2.2	−0.6	−3.9	91	4.6	1004.7	.	7.8	3.8	–	48
16	−0.7	0.8	−1.9	87	0.1	1011.0	0.4	7.4	2.0	–	51
17	−1.3	0.2	−3.1	80	.	1012.1	1.6	7.0	4.9	–	51
18	−2.3	−1.0	−3.4	80	0.0	1011.0	.	7.1	3.3	–	51
19	−1.2	2.3	−5.2	74	.	1013.8	18.6	3.0	1.1	–	50
20	−1.9	0.2	−5.3	78	.	1015.7	10.0	7.1	2.9	–	49
21	0.1	0.9	−1.5	95	0.1	1010.4	.	8.0	2.8	–	48
22	1.0	2.9	−0.6	86	0.2	1012.4	3.7	6.9	3.6	–	48
23	1.1	2.2	−0.2	97	0.5	1015.3	.	8.0	1.8	–	45
24	1.4	2.5	0.2	95	.	1017.5	2.7	6.6	4.5	–	44
25	1.1	2.1	−0.5	84	0.2	1012.6	17.5	3.0	10.3	19	44
26	1.4	2.8	0.4	91	0.0	1009.2	.	7.6	3.8	–	39
27	1.4	2.1	0.1	90	2.5	1010.4	.	7.5	5.5	15	33
28	1.5	4.2	0.2	83	.	1019.0	17.0	4.5	3.1	–	28
29	1.9	3.6	−0.1	88	3.3	1013.3	.	7.6	5.3	–	25
30	2.2	3.3	0.8	89	.	1015.0	1.7	5.3	7.3	–	21
31	1.9	2.8	0.5	92	0.9	1018.4	.	7.4	4.8	–	18

Table XI

Daily values of chosen meteorological elements at Hornsund, June 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	2.1	4.1	0.9	98	0.2	1026.1	3.1	7.6	3.4	–	16
2	1.8	3.3	0.7	100	0.1	1026.6	0.5	6.5	2.4	–	13
3	2.1	2.6	0.4	95	.	1026.8	0.3	7.1	3.1	–	8
4	0.8	3.0	0.0	90	.	1025.0	1.6	7.1	3.8	–	4
5	2.4	3.9	0.9	88	.	1021.3	14.2	3.4	2.1	–	.
6	0.8	3.8	−0.1	79	.	1015.5	19.2	1.5	3.3	–	.
7	−0.7	0.7	−2.6	79	0.0	1015.1	11.8	4.5	3.3	–	.
8	−1.0	0.6	−2.7	65	.	1014.2	8.6	6.1	6.4	15	.
9	0.3	3.2	−2.5	74	.	1011.5	13.2	6.1	2.9	–	.
10	2.6	4.3	0.6	69	0.0	1003.0	9.1	6.6	3.1	–	.
11	2.0	3.2	0.9	82	0.0	1000.7	3.9	6.0	1.8	–	.
12	2.4	3.7	0.3	90	0.8	1004.6	7.5	5.4	2.4	–	.
13	1.7	3.7	1.1	78	0.0	1008.1	7.1	6.5	4.0	–	.
14	2.1	3.9	0.9	76	.	1017.5	8.6	5.9	3.0	–	.
15	2.0	3.4	1.4	74	3.0	1014.7	8.2	6.9	11.9	24	.
16	1.7	2.9	0.2	93	3.4	1006.0	.	8.0	5.6	19	.
17	2.0	3.1	1.4	81	0.3	1010.8	2.0	6.8	5.8	–	.
18	2.0	3.0	1.3	95	2.8	1008.4	.	7.9	2.6	–	.
19	3.1	4.0	1.9	86	1.7	994.3	0.2	7.9	8.4	23	.
20	1.2	3.9	0.5	93	0.2	996.2	5.9	6.9	6.5	–	.
21	0.8	2.0	0.1	86	0.9	1000.7	1.3	7.5	5.6	–	.
22	2.0	4.6	−0.5	87	3.0	1005.0	1.8	7.8	3.5	27	.
23	3.5	5.6	0.9	80	1.5	997.2	0.5	7.1	14.4	32	.
24	4.1	7.6	1.4	87	1.6	999.5	0.1	7.4	4.4	–	.
25	1.9	3.3	0.7	95	0.7	1011.8	1.1	7.1	2.5	–	.
26	3.2	5.1	1.9	89	0.5	1015.2	3.4	7.4	3.5	–	.
27	3.7	8.4	2.0	87	2.3	998.2	0.2	7.9	7.1	23	.
28	2.2	4.9	1.5	98	2.4	1004.8	0.3	8.0	2.0	–	.
29	3.4	4.6	1.5	91	1.1	1009.0	0.1	7.5	6.9	–	.
30	6.1	9.3	2.8	85	.	1008.5	19.5	1.8	2.4	–	.

Table XII

Daily values of chosen meteorological elements at Hornsund, July 1984

D	Ts	Tx	Tn	Us	R	Ps	u	Ns	Vs	Vx	S
1	3.9	7.2	2.2	89	.	1011.1	19.1	2.0	1.6	–	.
2	0.9	3.0	−0.5	100	.	1011.5	4.1	6.0	1.6	–	.
3	5.2	7.3	−0.7	76	.	1011.7	19.6	3.4	3.3	–	.
4	2.8	6.2	0.9	86	.	1014.7	14.5	5.9	2.6	–	.
5	2.0	3.0	1.0	94	.	1013.0	.	7.6	1.6	–	.
6	3.2	5.8	1.8	89	.	1000.9	14.2	5.4	2.8	–	.
7	3.1	6.0	1.9	90	0.1	988.5	5.5	7.3	4.9	–	.
8	4.2	7.9	1.7	86	0.1	991.6	4.9	6.6	3.8	–	.
9	4.6	5.9	2.6	84	0.0	1000.5	6.5	6.8	6.8	–	.

10	5.0	8.2	2.4	84	0.4	1006.1	6.0	6.3	4.8	—	.
11	3.6	5.0	2.7	97	0.0	1009.9	.	7.9	2.6	—	.
12	4.5	6.0	3.4	87	.	1011.0	10.2	5.5	3.6	—	.
13	2.1	4.9	1.8	97	0.0	1010.3	.	8.0	1.5	—	.
14	1.9	3.4	0.2	97	0.0	1009.9	1.5	6.9	2.0	—	.
15	2.8	3.7	1.7	94	0.0	1010.9	.	7.4	1.9	—	.
16	3.7	4.5	2.7	89	.	1015.1	7.3	6.1	3.1	—	.
17	5.3	7.2	3.6	87	.	1018.1	3.0	6.9	6.5	—	.
18	5.6	7.8	3.9	85	0.0	1021.7	4.3	6.5	7.8	—	.
19	4.6	6.8	2.9	88	.	1023.5	8.7	5.8	6.0	—	.
20	4.9	6.5	2.7	78	.	1020.1	1.8	7.0	8.1	17	.
21	4.3	6.7	2.8	85	2.9	1014.0	0.3	7.3	8.5	16	.
22	5.7	8.7	3.5	87	0.7	1007.6	4.2	6.6	9.4	16	.
23	6.1	7.9	4.4	88	1.6	1007.2	0.5	7.6	7.6	15	.
24	6.2	8.5	4.8	88	3.2	1006.3	0.9	6.6	8.1	16	.
25	4.2	7.0	2.5	95	0.3	1011.6	.	7.5	3.8	—	.
26	3.9	5.5	2.7	93	.	1013.3	.	7.8	1.6	—	.
27	4.6	6.4	2.8	89	.	1011.6	9.3	6.8	0.9	—	.
28	5.2	7.5	2.7	87	0.1	1010.4	5.9	6.3	5.3	17	.
29	6.2	9.6	3.4	83	9.2	1004.0	0.1	7.5	0.9	23	.
30	5.8	9.3	3.7	89	0.1	1007.5	8.4	6.0	6.9	—	.
31	6.6	9.3	3.6	91	9.6	1012.6	.	7.3	7.0	19	.

5. Резюме

Во время VI экспедиции Польской академии наук на Шпицберген (1 августа 1983—31 июля 1984) в дальнейшем проводились метеорологические наблюдения и измерения в Польской полярной станции в Горнзунде.

Принимая во внимание факт, что результаты этих наблюдений являются интердисциплинарными, в настоящей статье они представлены по возможности широко. Таблица I до XII заключают сопоставление суточных величин более важных метеорологических параметров обсуждаемого периода. Учитывая цель работы, т.е. предоставление всем заинтересованным возможно большего количества метеорологических данных, автор отказался от анализа и интерпретации результатов.

6. Streszczenie

W czasie trwania VI Wyprawy Polskiej Akademii Nauk na Spitsbergen (1. sierpień 1983 — 31. lipiec 1984) kontynuowane były pomiary i obserwacje meteorologiczne w Polskiej Stacji Polarnej w Hornsundzie.

Ze względu na fakt, że wyniki tych obserwacji mają charakter interdyscyplinarny w niniejszej pracy zaprezentowano je w sposób możliwie szeroki. Tabele I do XII zawierają zestawienia dziennych wartości ważnejszych parametrów meteorologicznych z omawianego okresu. Ze względu na cel pracy, jakim było udostępnienie wszystkim zainteresowanym jak największej ilości danych meteorologicznych, zrezygnowano z analizy i interpretacji yników.