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Author(s)	SHIRASAWA, Kunio; 白澤, 邦男; KODAMA, Yuji et al.
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Kunio SHIRASAWA, Yuji KODAMA, Shuhei TAKAHASHI, Mitsuo IKEDA, Masao ISHIKAWA, Tohru TAKATSUKA, Takatoshi TAKIZAWA, Anatoly POLOMOSHNOV, Pavel TRUSKOV, Vladimir ASTAFIEV and Masaaki AOTA
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Meteorological Data Report for the Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin, 1992-1994^{*,**}

Kunio SHIRASAWA, Yuji KODAMA

(Institute of Low Temperature Science, Hokkaido University),

Shuhei TAKAHASHI

(Kitami Institute of Technology, Kitami),

Mitsuo IKEDA, Masao ISHIKAWA, Tohru TAKATSUKA

(Institute of Low Temperature Science, Hokkaido University),

Takatoshi TAKIZAWA

(Japan Marine Science and Technology Center, Yokosuka),

Anatoly POLOMOSHNOV, Pavel TRUSKOV, Vladimir ASTAFIEV

(Sakhalin Oil and Gas Institute, Okha, Sakhalin, Russia)

and Masaaki AOTA

(Institute of Low Temperature Science, Hokkaido University),

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Abstract : Meteorological and sea-ice studies were carried out on a landfast sea-ice at Kleye Strait, northern Sakhalin for three winters in the period 1992-1994, as part of the Japan- Russia cooperative research project "Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin". Observation data of meteorological and sea-ice variables obtained from the field experiments are summarized in this paper. The general atmospheric and sea-ice features at the experimental sites during the ice-covered period are described.

要旨：「日本・ロシア両国によるオホーツク海・サハリン沖海水の共同調査」の一環として、北サ

* 北海道大学低温科学研究所業績 第3775号

** 北海道大学低温科学研究所 流水研究施設 研究報告 第142号

ハリンのチャイボ湾とオホーツク海を結ぶクレイエ海峡の海氷上で、気象・海氷の観測調査を1992年から1994年の冬季に行なった。本報告では、クレイエ海峡の海氷上で得られた気象及び海氷の観測資料を提供する。

Key words : Meteorological variables, Sea ice, Kleye Strait, northern Sakhalin, Sea of Okhotsk

キーワード：気象要素，海氷，クレイエ海峡，北サハリン，オホーツク海

I. Introduction

As part of the Japan–Russia cooperative research project, “Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin”, meteorological and sea-ice studies were carried out on landfast sea-ice at Kleye Strait in northern Sakhalin during the three winter periods from February to April, 1992, January to March, 1993, and December, 1993 to April, 1994. Data of meteorological and sea-ice variables obtained from these field experiments are summarized in this paper. The general atmospheric and sea-ice features at the experimental sites during these ice-covered periods are described.

II. Meteorological and Sea-Ice Observations at Kleye Strait during the winter of 1992

The experimental site was located on the fast sea ice in Kleye Strait, which links Chaivo Bay to the Sea of Okhotsk, near the field research station at Chaivo, operated by the Institute of Oil and Gas Industry (Fig. 1). Two testing areas were occupied from 10 February to 15 April 1992 to examine meteorological and sea-ice features at the experimental site during the ice-covered period under two different conditions of the surface of the fast sea ice : 1) a snow-covered area under natural conditions, and 2) a snow-removed area where the surface was kept free from new snowfall throughout the sampling period (Fig. 2). Observations of meteorological and sea-ice variables obtained from this field experiment are summarized in Table 1. Japanese Standard Time is used.

One thermistor chain was installed in 72-cm thick fast ice covered with a 9-cm thick snow layer, in the center of an approximately 10 m × 10 m area to measure temperatures of snow-cover layer, sea-ice cover and sea water under the fast ice cover (Data Logger SQ 1206-1 in Fig. 2 and Table 1). Another thermistor chain was installed in 72-cm thick fast ice without a surface snow-cover layer, in the center of an approximately 10 m × 10 m area, next to the snow

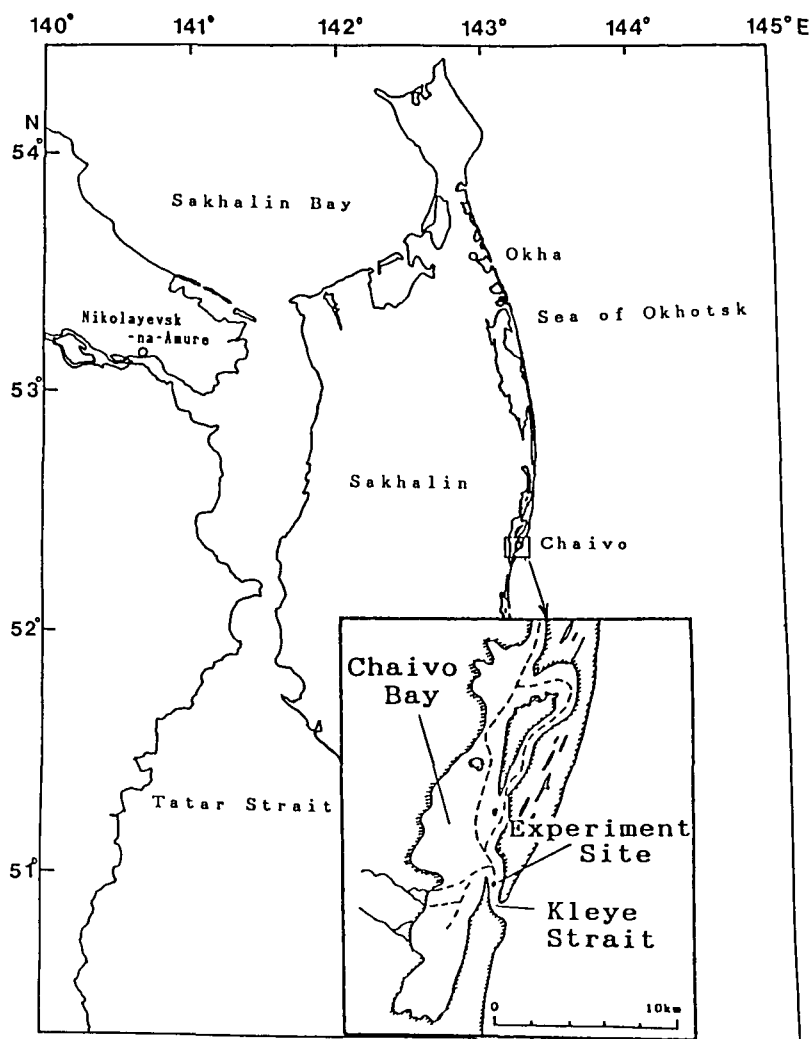


Fig. 1 Study area.

-covered area (Data Logger SQ 1206-2 in Fig. 2). Measurements of sea-ice and under-ice water temperatures were carried out with these thermistor chains.

A meteorological pole was set up on the boundary between the two testing areas. An anemometer, thermometers to measure air temperatures, and radiometers to measure snow-surface temperature and ice-surface temperature were installed on the pole (Fig. 2). Time series records of air and surface radiative temperatures, and wind speed were obtained and are shown in Figs. 3, 4 and 5, respectively. During the experimental period from 11 February to 5 April 1992, the minimum air temperature was about -28°C , and the maximum wind speed was about 15 ms^{-1} .

Time series records of snow/ice/water temperatures were obtained at sampling intervals of 30 min at the snow-covered area under natural conditions during the sampling period (Fig.

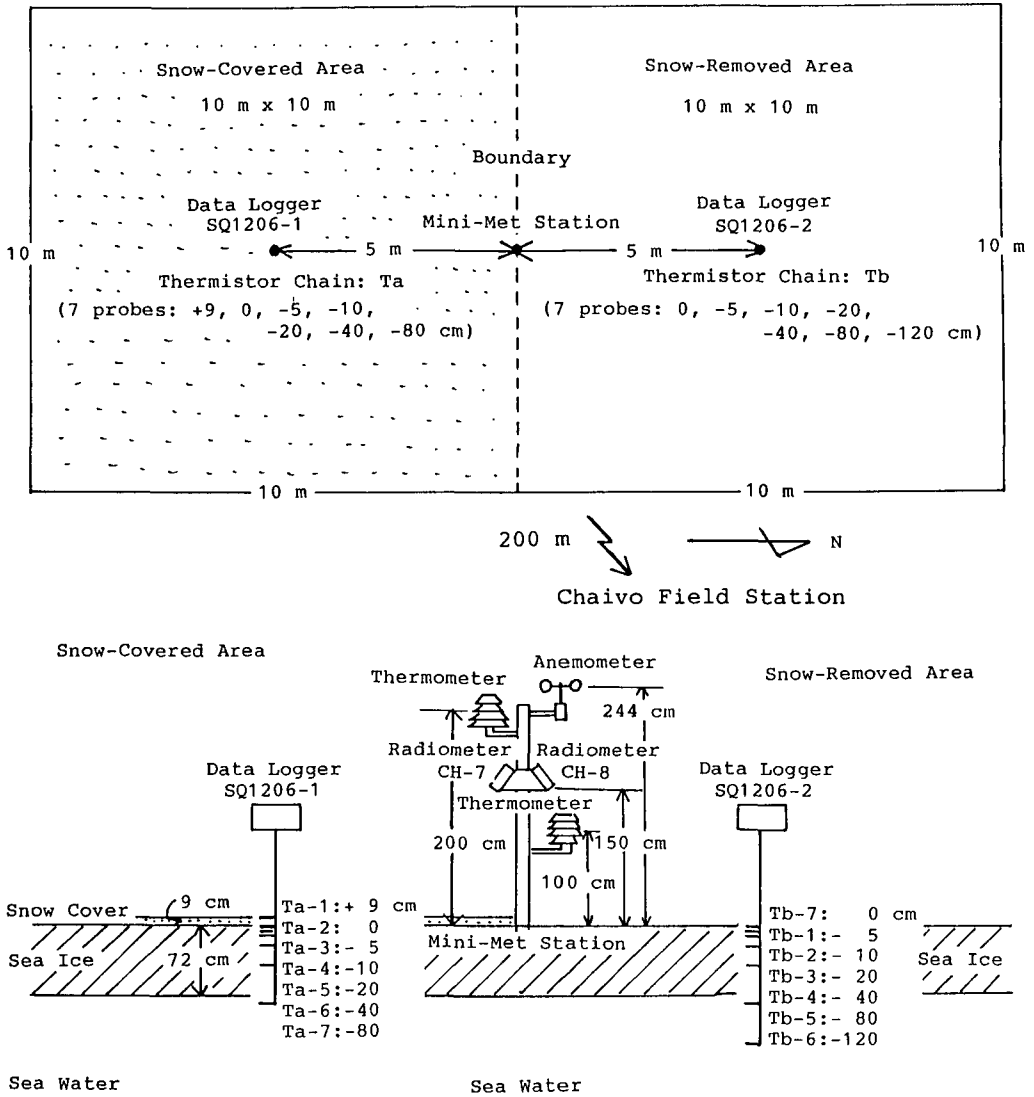


Fig. 2 Testing areas and installation of instruments during the 1992 winter experiment.

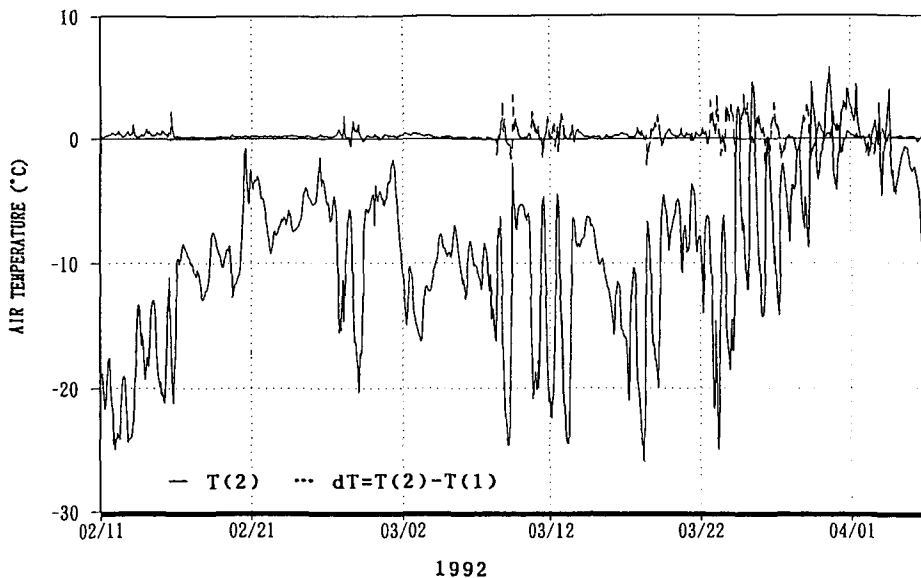
2). Daily mean, minimum and maximum values of temperatures obtained at 9 cm above the snow-ice interface, at the snow-ice interface (0 cm), and at depths of 5, 10, 20, 40 and 80 cm below the snow-ice interface are listed in Table 2 and shown in Fig. 6.

Time series records of ice/water temperatures were obtained at sampling intervals of 30 min at the snow-removed area during the sampling period (Fig. 2). Daily mean, minimum and maximum values of temperatures obtained at the air-ice interface and at depths of 5, 10, 20, 40, 80 and 120 cm below the air-ice interface are listed in Table 3 and shown in Fig. 7.

A hydrographic survey was carried out through a hole in the ice at the experimental site to measure water depth, salinity of sea water and under-ice current speed and azimuth during

Table 1 Observations of meteorological and ice conditions at Kleye Strait, Chaivo during the period from 10 February to 15 April 1992.

Site	Observation	Period
Snow-covered area (10 m x 10 m)	Temperatures: snow surface (radiative) snow (9 cm above snow-ice interface) sea ice (snow-ice interface; 0, -5, -10, -20, -40 cm below snow-ice interface) sea water (-80 cm below snow-ice interface)	10 Feb. - 15 Apr.
Snow-removed area (10 m x 10 m)	Temperatures: sea ice surface (radiative) sea ice (-5, -10, -20, -40 cm below air-ice interface) sea water (-80, -120 cm below air-ice interface)	10 Feb. - 15 Apr.
At the boundary between snow-covered/-removed areas	Wind speed at 240 cm Air temperatures at 100, 200 cm above the surface	10 Feb. - 15 Apr.
Testing area	Snow survey: thickness, density, temperature thickness	10 Feb. 29 Feb., 13, 21 Mar.
Testing area	Sea-ice properties: thickness salinity	10, 23 Feb., 6, 13, 21 Mar., 15 Apr. 10 Feb.
Testing area	Hydrographic survey: water depth, salinity under-ice current speed/azimuth	23-24 Mar.
Testing area	Mechanical properties of sea ice	6 Feb. - 15 Apr.

**Fig. 3** Air temperatures at the height of 2.0 m and temperature differences at heights between 1.0 and 2.0 m during the 1992 winter experiment.

a twenty four hour period on 23-24 March. The current azimuth was reversible ; In the South, outflow occurred during rising tide, while in the North, inflow during falling tide. The maximum current speed was 0.19 ms^{-1} during this period.

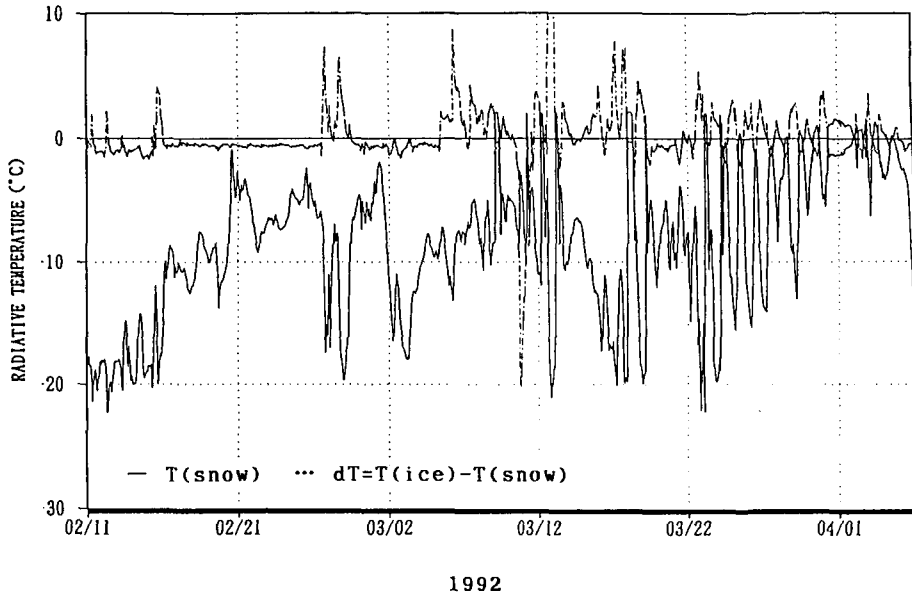


Fig. 4 Surface radiative temperatures at the snow-covered surface and temperature differences between snow-covered and snow-removed surfaces during the 1992 winter experiment.

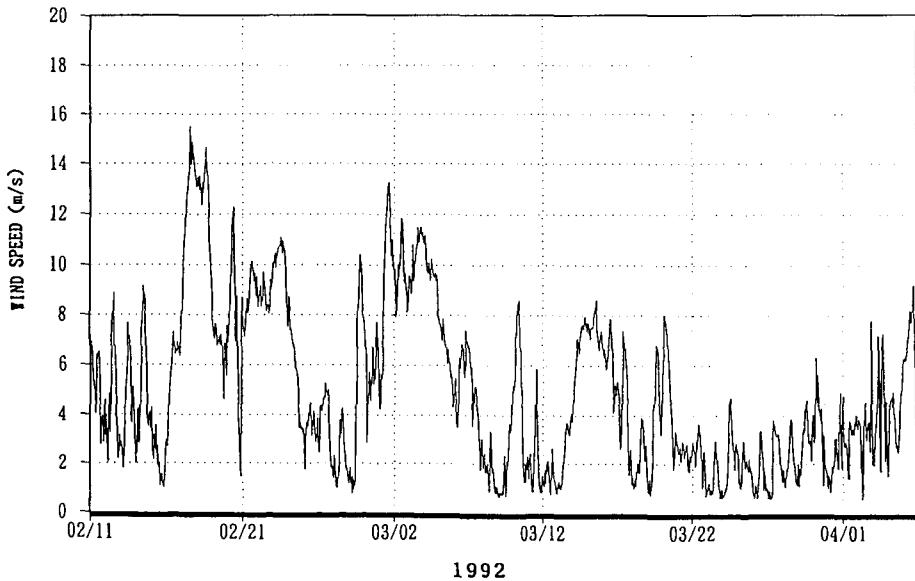


Fig. 5 Wind speeds over sea ice at Kleye Strait during the 1992 winter experiment.

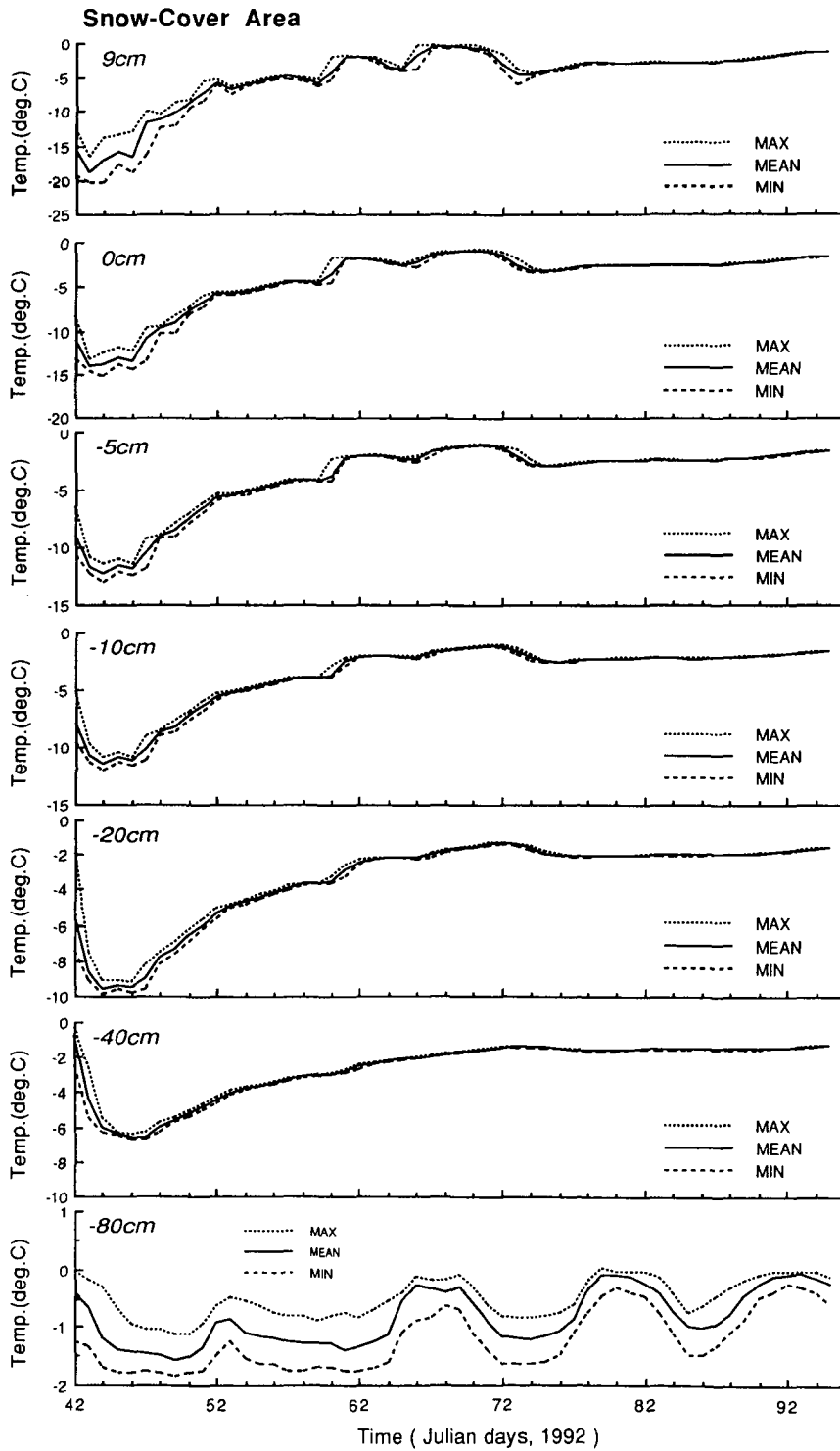


Fig. 6 Daily mean, minimum and maximum snow/ice/water temperatures at the height of 9 cm above the snow-ice interface, at the snow-ice interface (0 cm) and at depths of 5, 10, 20, 40 and 80 cm below the snow-ice interface, in the snow-covered area during the 1992 winter experiment.

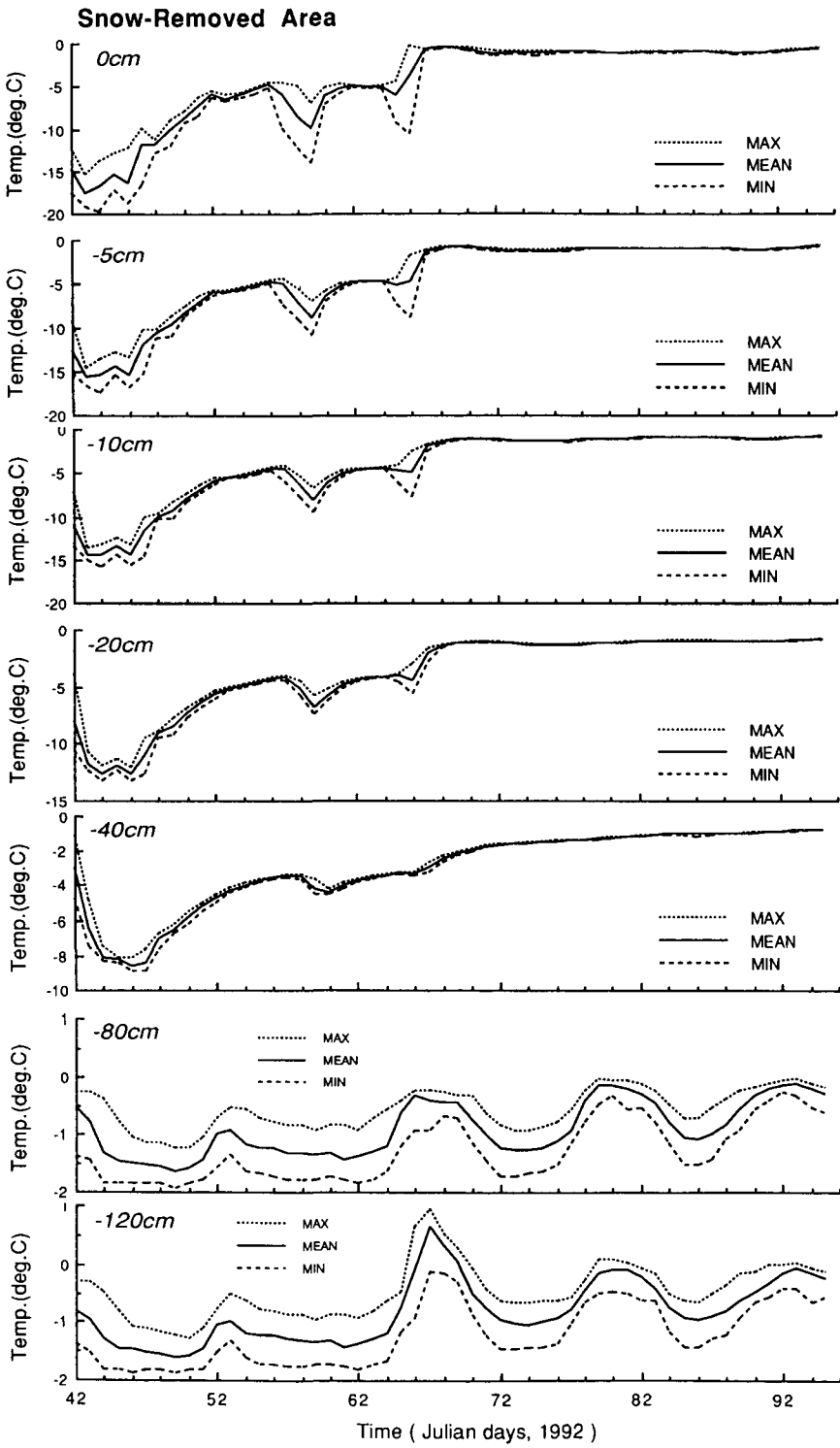


Fig. 7 Daily mean, minimum and maximum ice/water temperatures at the air-ice interface (0 cm) and at depths of 5, 10, 20, 40, 80 and 120 cm below the air-ice interface, in the snow-removed area during the 1992 winter experiment.

III. Meteorological and Sea-Ice Observations at Kleye Strait during the winter of 1993

The experimental site was located on the fast sea ice in Kleye Strait, about 200 m from the field research station (Fig. 1). The site was also very close to the one in the previous winter of 1992. Observations of meteorological and sea-ice conditions obtained during the period from 11 January to 22 March 1993 are summarized in Table 4. At the experimental site, meteorological conditions such as air temperature, relative humidity, wind speed and direction, and incoming and reflected solar radiation were recorded by a data logger at intervals of 30 min (Table 4 and Fig. 8). Downward long-wave radiation was recorded at intervals of 2 hours. To examine the thermal regime of the sea ice sheet covered with a snow layer under natural conditions during the sampling period, time series of air, snow, ice and water temperature profiles were recorded. Time series of air and snow temperatures were recorded at 16 heights between the snow-ice interface and 63 cm above the snow-ice interface at intervals of 30 min (Fig. 9). The thickness of the snow layer was 15 cm at the beginning of the experiment on 11 January 1993. Simultane-

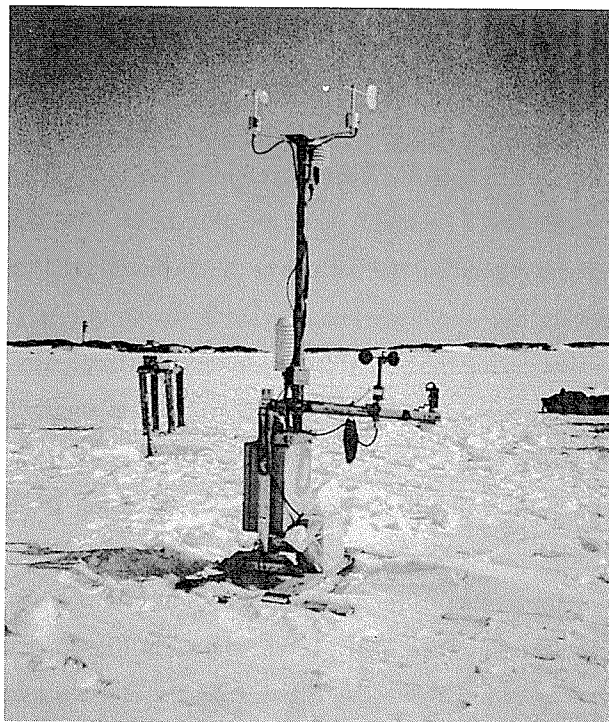


Fig. 8 Photo taken on 21 March 1993 showing installation of meteorological instruments during the 1993 winter experiment.

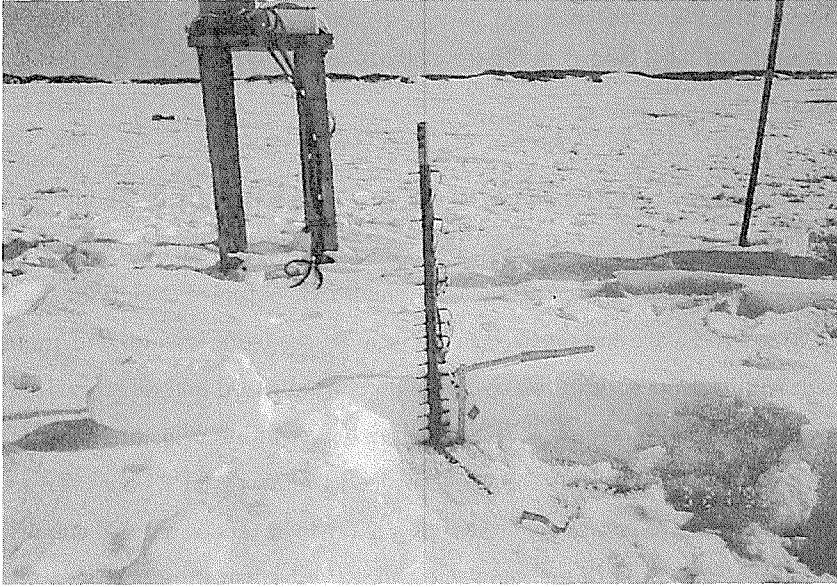


Fig. 9 Photo taken on 21 March 1993 showing installation of air/snow temperature sensors during the 1993 winter experiment.

ously, time series of ice and water temperatures were recorded at 16 depths between the snow-ice interface and 70 cm below the snow-ice interface at intervals of 1 hour. The thickness of the sea-ice sheet was 43 cm at the beginning of the experiment on 11 January 1993.

Time series of air temperature, humidity, and wind speed and direction are shown in Fig. 10. During the period of predominant NW wind direction, the air temperature regularly varied as much as 10 °C to 15 °C within a day, which may be due to radiative cooling. The minimum temperature recorded, was about -30 °C. When a cyclonic disturbance came from the south, the wind direction shifted to between a SE and S direction, and the air temperature correspondingly rose to near 0 °C. This occurred during the periods of 27-30 January, 23-24 February and 15-16 March 1993. A windrose for the whole sampling period is shown in Fig. 11, indicating that the predominant wind direction during the period from January to March was NW. The downward long-wave radiation ranged between 0.15 and 0.3 kWm⁻² and is shown in Fig. 12. The daily mean, minimum and maximum values of air temperature and humidity at 60 and 180 cm, wind speed at 60 and 210 cm, and incoming and reflected solar radiation are listed in Table 5 and shown in Figs. 13 and 14.

Time series of air/snow temperatures at the snow-ice interface (0 cm) and at heights of 6, 9, 12, 18 and 63 cm above the snow-ice interface are shown in Fig. 15. The air/snow temperatures increased with decreases in height, (i.e., the warmest temperature at the snow-ice interface was recorded at a height of 0 cm). The amplitude of the diurnal air temperature variation at the height of 63 cm above the snow-ice interface was the largest. In the warm period of 27-30

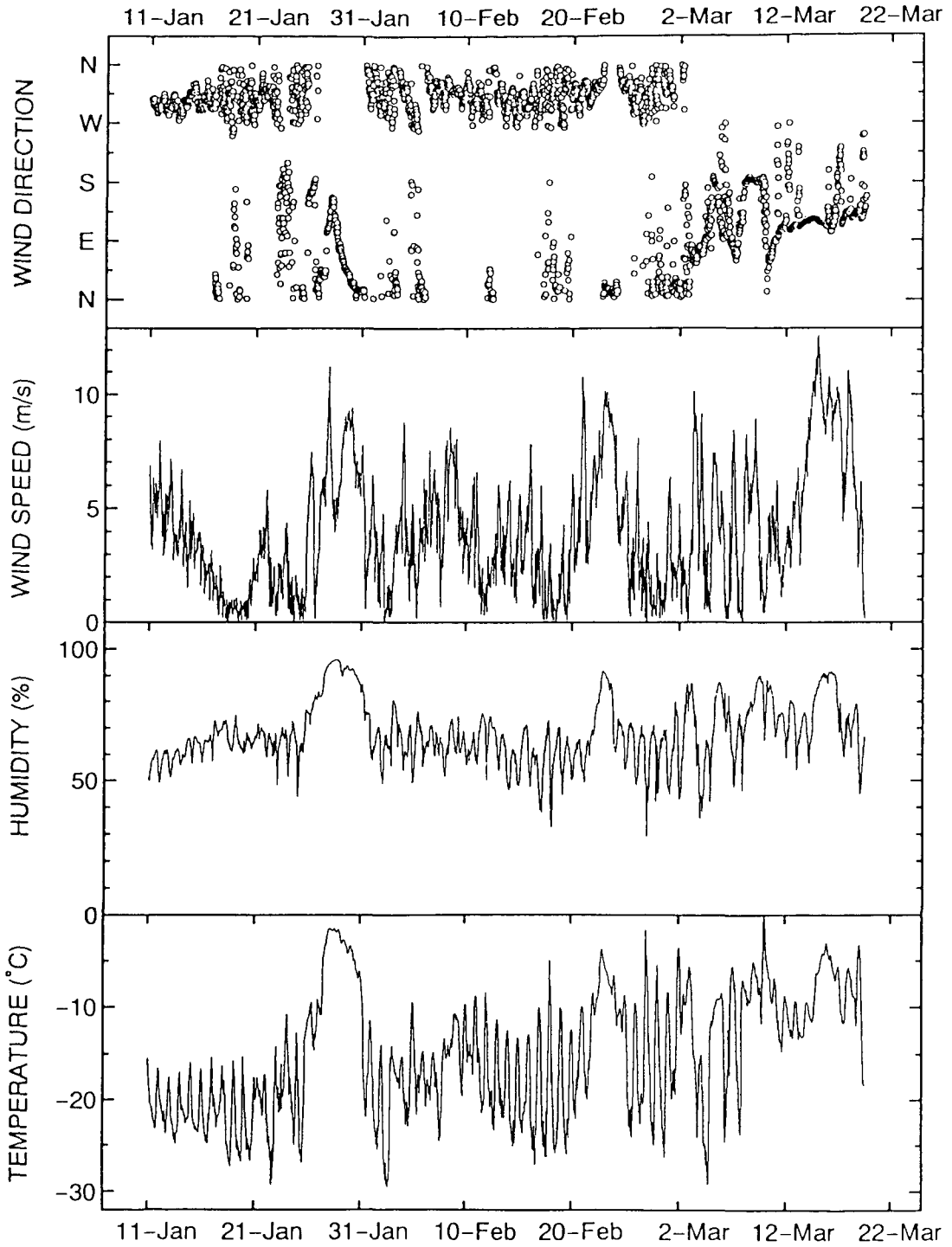


Fig. 10 Wind speeds and directions at the height of 2.1 m, humidities and air temperatures at the height of 1.8 m over sea ice at Kleve Strait during the 1993 winter experiment. The magnetic north was used for wind direction and deviated 14° from true north.

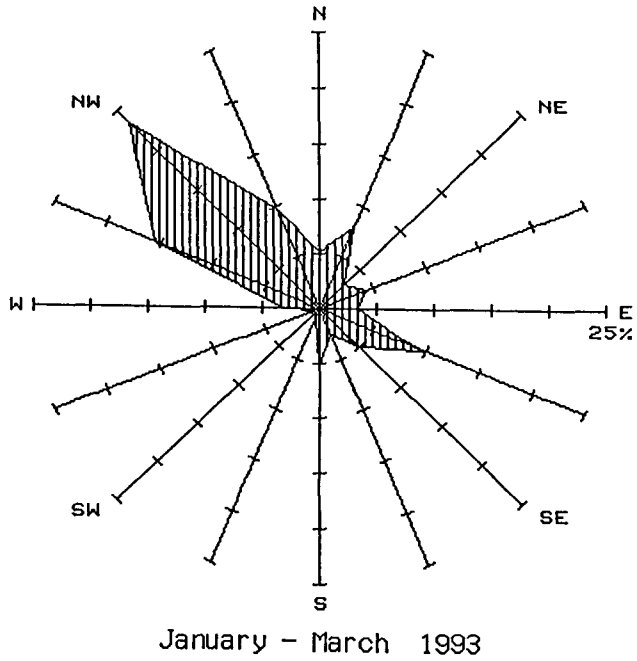


Fig. 11 A windrose for the period from 11 January to 22 March 1993

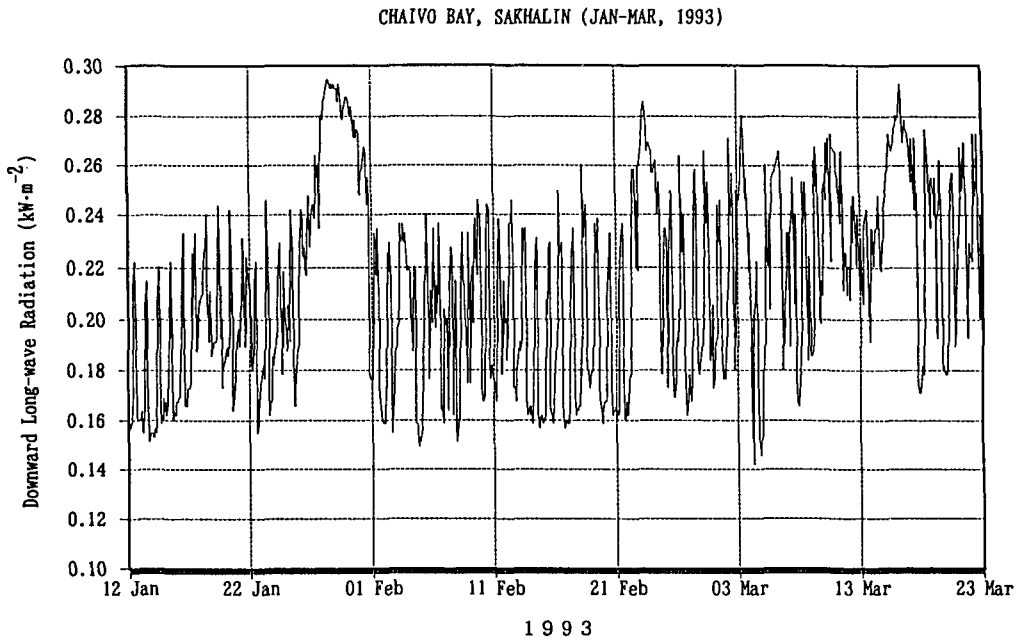


Fig. 12 Downward long-wave radiation obtained during the 1993 winter experiment.

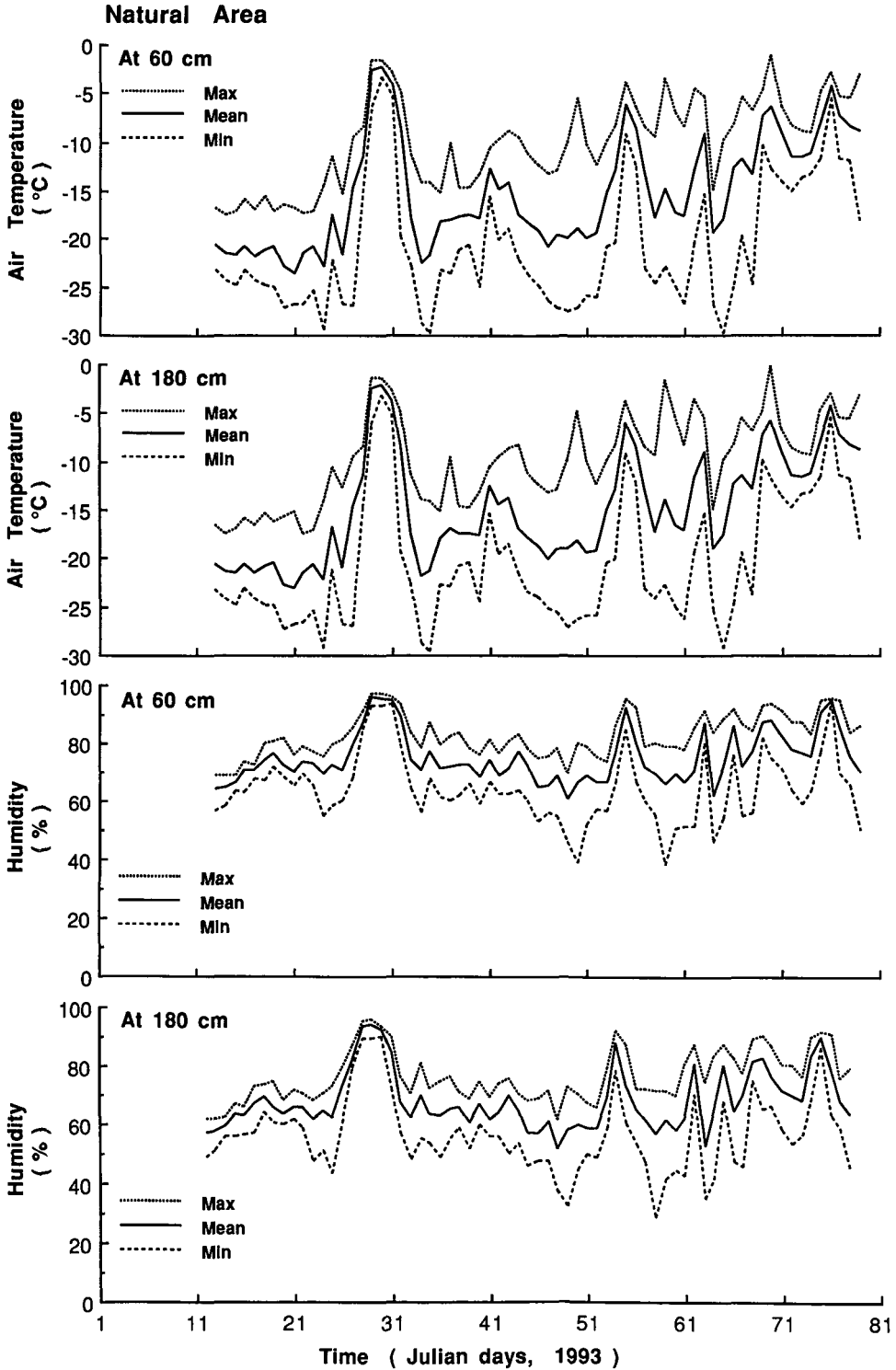


Fig. 13 Daily mean, minimum and maximum air temperatures and humidities at heights of 60 and 180 cm under natural conditions during the 1993 winter experiment.

January the pattern of the temperature was reversed to the other periods, i.e., the upper snow temperatures were higher than the lower air temperatures during that period. Since a series of temperature sensors was installed at intervals of 3 cm, the air-snow interface is assumed to be measured by the temperature sensors with an accuracy of 3 cm.

Time series of ice/water temperature at the depths of 10, 20, 30, 40, 45 and 70 cm below the snow-ice interface are shown in Fig. 16. The sensor at the depth of 70 cm below the snow-ice interface was in the water throughout the whole period of the experiment. A time series of temperature at a depth of 70 cm showed daily variations which seem to respond to the variations in tidal currents through Kleye Strait between Chaivo Bay and the Sea of Okhotsk. The ice temperatures showed a negative gradient during the sampling period, i.e., the temperatures close to the ice bottom were higher than those near the snow-ice interface. After the warm period of 27–30 January, all the ice temperatures increased.

Time series plots of temperature profiles during the sampling period are shown in Fig. 17. The air-snow interface can be recognized by the shape of the air/snow temperature profiles in the upper frame of Fig. 17. The ice-water interface can be recognized by the shape of the ice/water temperature profiles in the lower frame of Fig. 17. The thickness of the ice increased from 43 cm at the beginning of the experimental period on 11 January up to 62 cm at the end of the experimental period on 21 March.

Daily mean, minimum and maximum values of air/snow temperature at the snow-ice interface (0 cm) and at heights of 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 39, 43, 53 and 63 cm above the snow-ice interface are listed in Table 6 and shown in Fig. 18. Daily mean, minimum and maximum values of ice/water temperature at depths of 10, 20, 30, 40, 42.5, 45, 47.5, 50, 52.5, 55, 57.5, 60, 62.5, 65, 67.5 and 70 cm below the snow-ice interface are listed in Table 7 and shown in Fig. 19.

IV. Meteorological and Sea-Ice Observations at Kleye Strait during the winter of 1993–1994

The experimental site (52°21.37'N, 143°11.66'E) was located on the fast sea ice in Kleye Strait near the Chaivo field station (Fig. 20). The width of the strait near the experimental site was about 1 km. Two testing areas were occupied about 200 m far from the coast during the period from 11 December 1993 to 6 April 1994. Meteorological and sea-ice conditions at the experimental site were measured during the ice-covered period under two different conditions of the surface of the fast sea ice. One testing area was a snow-covered area under natural conditions, and the other was a snow-removed area where the surface was kept free from new

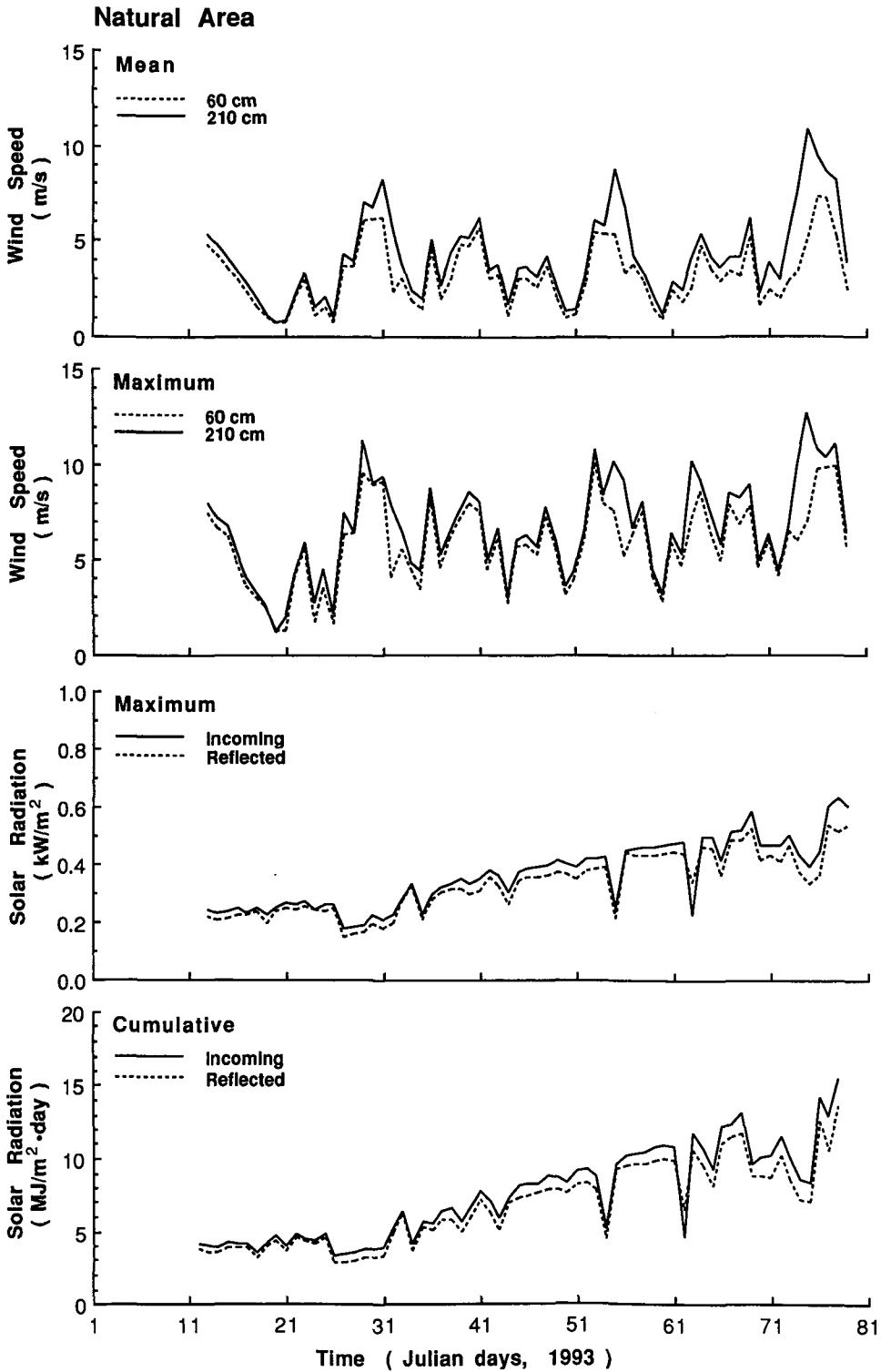


Fig. 14 Daily mean, minimum and maximum wind speeds at the heights of 60 and 210 cm, and incoming and reflected solar radiation, under natural conditions during the 1993 winter experiment.

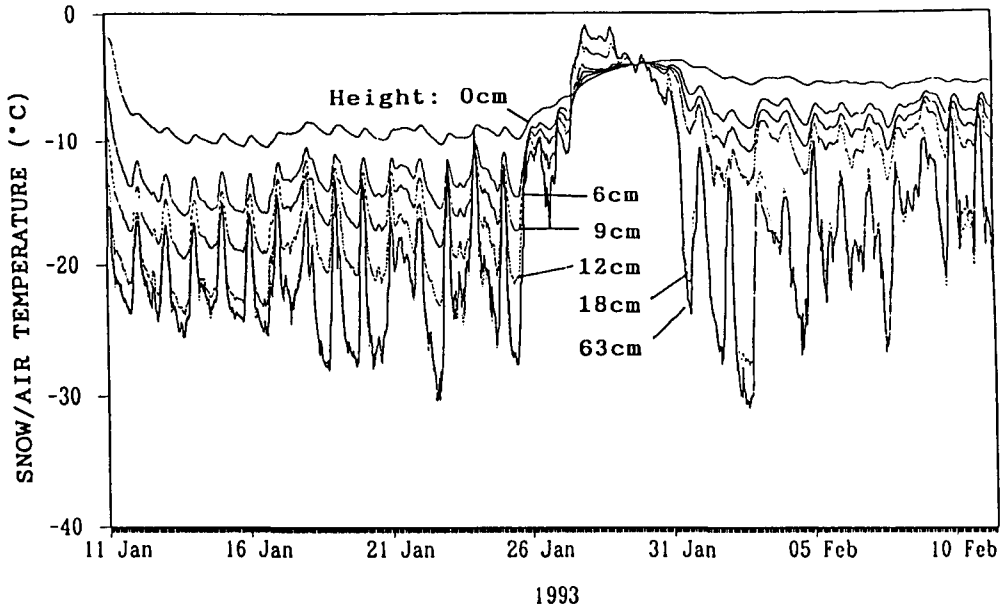


Fig. 15 Air/snow temperatures at the snow-ice interface and at heights of 6, 9, 12, 18 and 63 cm above the snow-ice interface under natural conditions during the 1993 winter experiment.

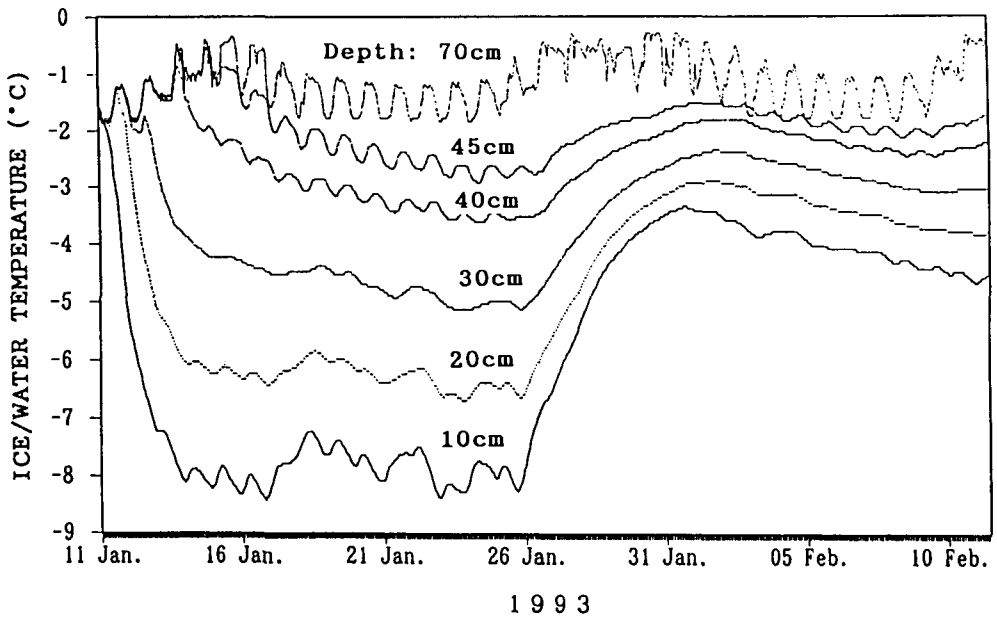


Fig. 16 Ice/water temperatures at depths of 10, 20, 30, 40, 45 and 70 cm below the snow-ice interface under natural conditions during the 1993 winter experiment.

snowfall during the entire sampling period (Fig. 20 and Table 8).

A meteorological pole was set up near the natural area. Anemometers, thermometers to measure air temperatures, humidity sensors, and incoming and reflected solar radiation sensors were installed on the pole (Table 8). Data was recorded at intervals of 1 hr.

At the natural area, a thermistor chain was installed in 33-cm thick fast ice in the center of an approximately 7 m × 7 m area to measure air/snow/ice/water temperatures under natural conditions (Figs. 20 and 21). Temperature sensors were installed at the snow-ice interface (0 cm), at heights of 5, 10, 15, 20, 25, 30 and 150 cm above the snow-ice interface, and at depths of 10, 20, 30, 40, 50, 60, 70 and 100 cm below the snow-ice interface. This data was recorded at intervals of 2 hrs. Four thermistor chains were installed at the corners of the approximately 7 m × 7 m grid in the natural area (Figs. 20 and 22). Four thermistor sensors

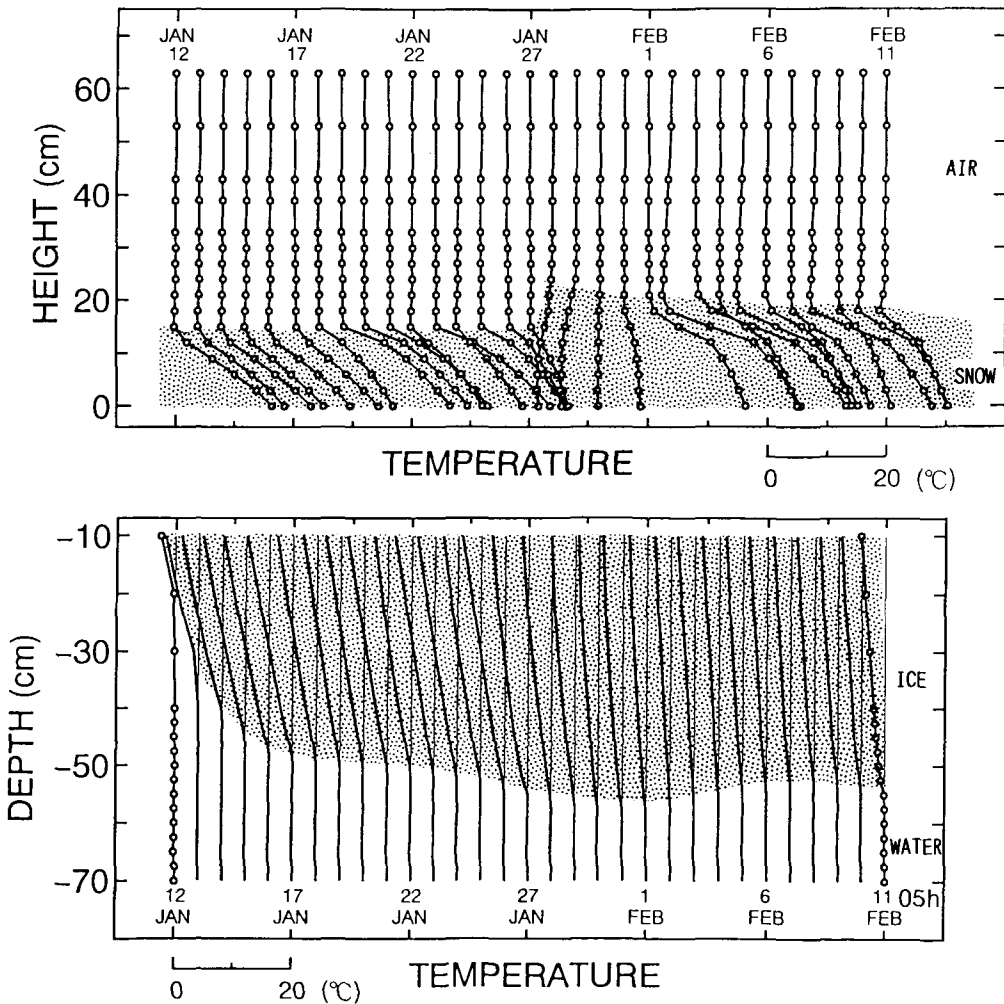


Fig. 17 Air/snow/ice/water temperature profiles under natural conditions during the 1993 winter experiment.

were installed on each pole at the snow-ice interface (0 cm) and at depths of 20, 40 and 60 cm below the snow-ice interface to examine heterogeneity of ice/water temperatures in the 7 m × 7 m grid under natural conditions. This data was also recorded at intervals of 2 hrs.

Another thermistor chain was installed in 37-cm thick fast ice without a surface snow-cover layer, in the center of an approximately 10 m × 10 m area in a snow-removed area, which is shown in Figs. 20 and 23. Temperature sensors were installed at the air-ice interface (0 cm) and at depths of 10, 20, 30, 40, 50, 60 and 70 cm below the air-ice interface. This data was recorded at intervals of 10 min.

Daily mean, minimum and maximum values of air temperature obtained at 97 cm, humidity at 97 and 190 cm, wind speeds at 94 and 212 cm, wind direction at 212 cm, and incoming and reflected solar radiation in the natural area during the period from 20 March to 6 April 1994 are listed in Table 9 and shown in Figs. 24 and 25. A windrose for the period from 20 March to 6 April is shown in Fig. 26.

Daily mean, minimum and maximum values of air/snow temperatures obtained at the snow-ice interface (0 cm) and at heights of 5, 10, 15, 20, 25, 30 and 150 cm above the snow-ice interface in the natural area during the period from 11 December 1993 to 6 April 1994 are listed in Table 10 and shown in Fig. 27.

Daily mean, minimum and maximum values of ice/water temperatures obtained at depths of 10, 20, 30, 40, 50, 60, 70 and 100 cm below the snow-ice interface in the natural area during the period from 11 December 1993 to 6 April 1994 are listed in Table 11 and shown in Fig. 28.

Daily mean, minimum and maximum values of ice/water temperatures obtained at the snow-ice interface (0 cm) and depths of 20, 40 and 60 cm below the snow-ice interface at the four corners of the grid in the natural area during the period from 11 December 1993 to 6 April 1994 are listed in Table 12 and shown in Fig. 29.

Daily mean, minimum and maximum values of ice/water temperatures obtained at the air-ice interface and at depths of 10, 20, 30, 40, 50, 60 and 70 cm below the air-ice interface in the snow-removed area during the period from 11 December 1993 to 6 April 1994 are listed in Table 13 and shown in Fig. 30.

We wish to thank all the staff at the Chaivo Field Station for their assistance and efforts in field and laboratory work. We would also like to thank staff members of the lighthouse at Chaivo and of the meteorological observatory at Val for their assistance. Special thanks are due to Shigeto Mochizuki and Keiko Ishikawa for their assistance in data processing and drawing the diagrams. Funding for this work was obtained from the Japanese Ministry of Education, Science and Culture (Monbusho) through a grant-in-aid for the International

Scientific Research Program “Sea Ice Studies off the Okhotsk Sea Coast of Sakhalin, Japan -Russia Cooperative Research” (No. 04041013) and for the Sea Ice Research Laboratory’s Overseas Field Work Program.

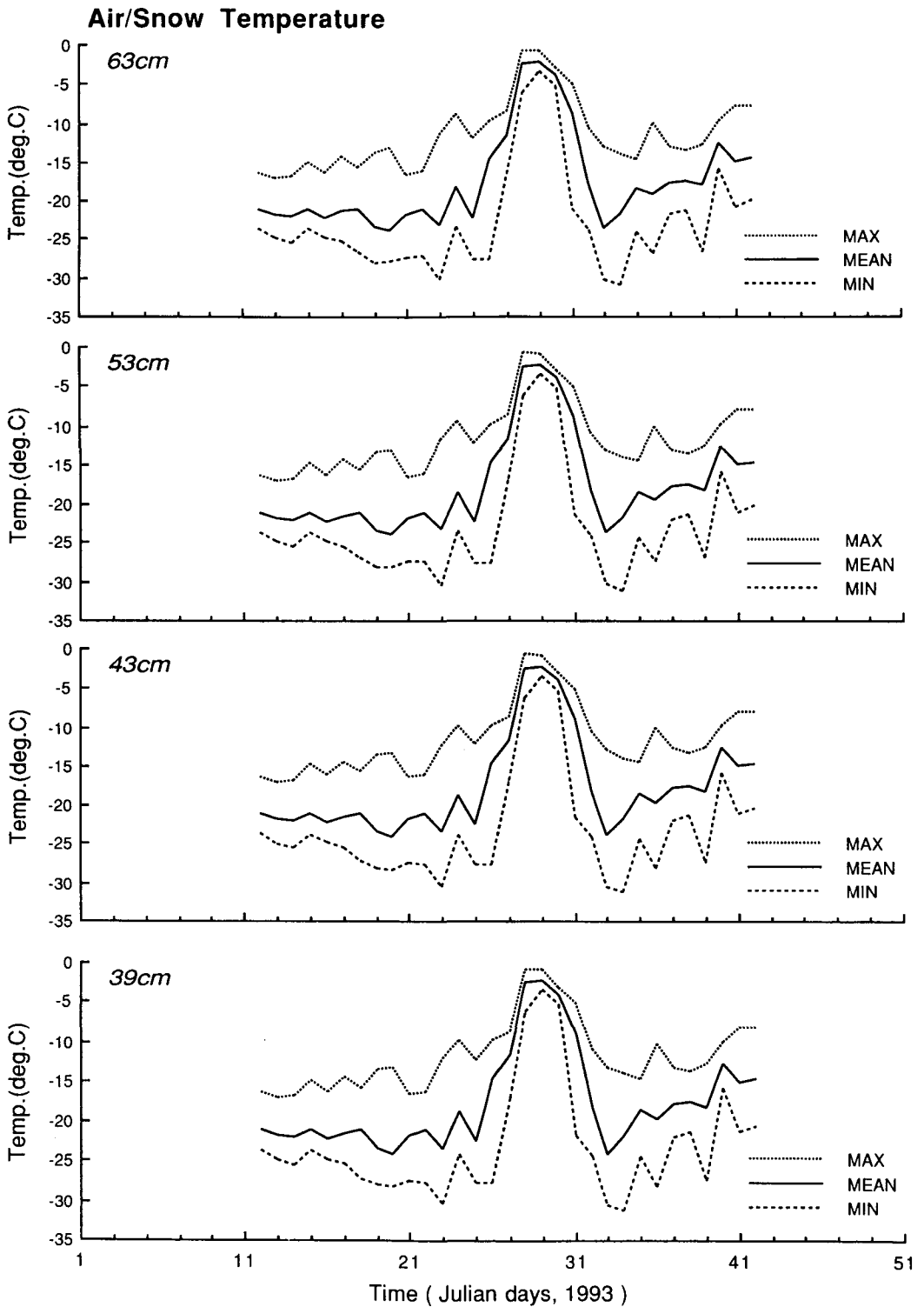
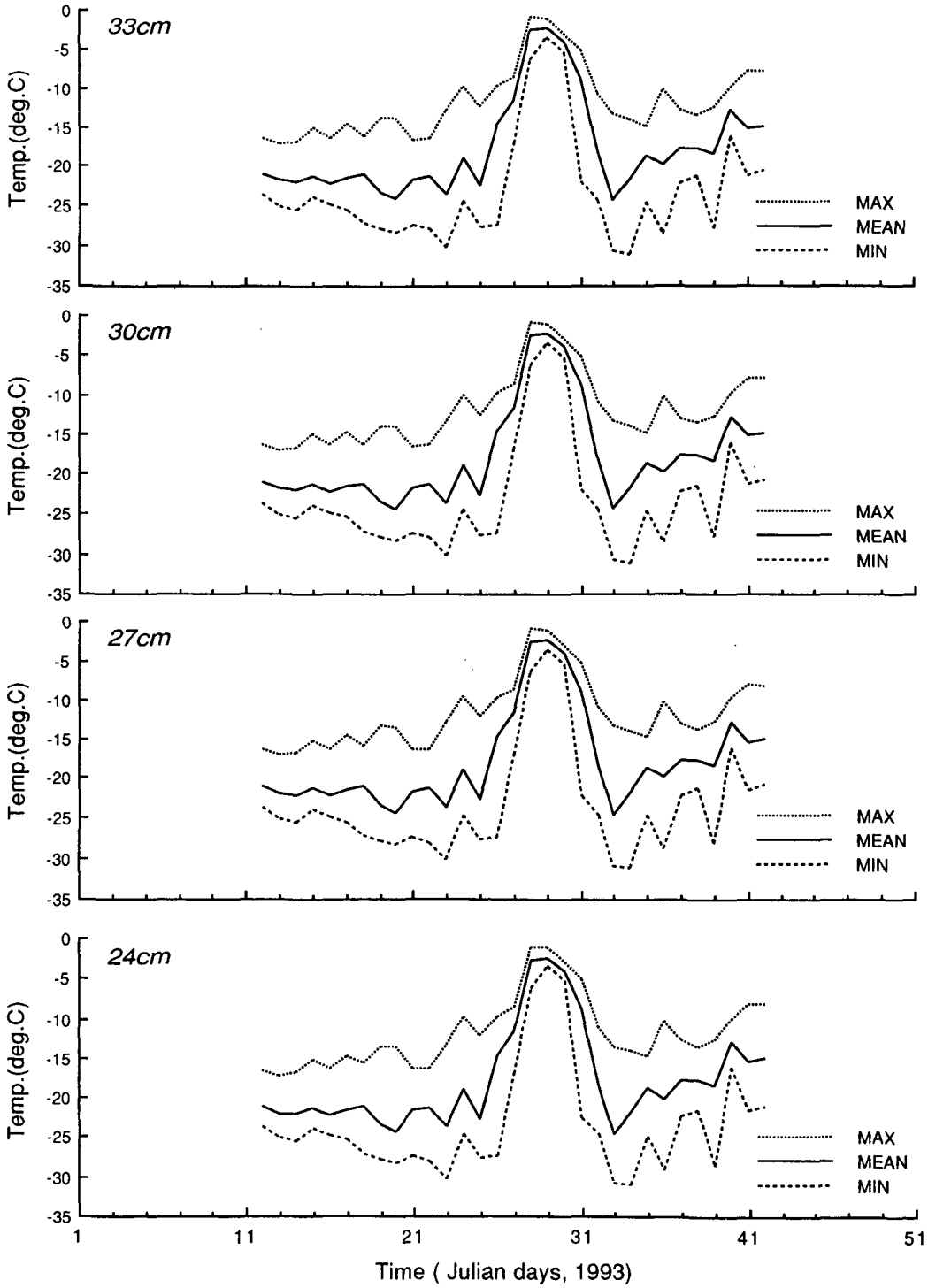
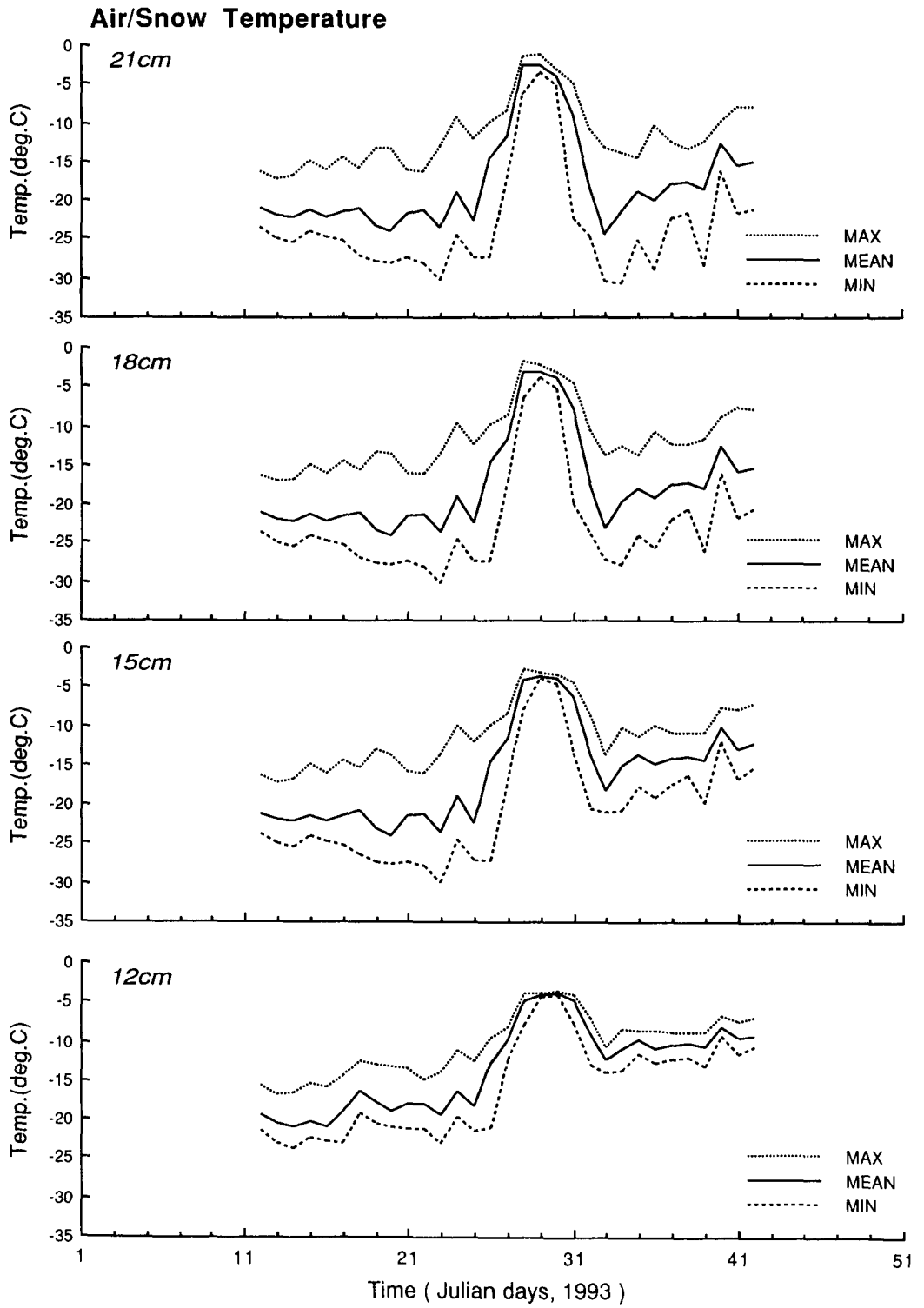


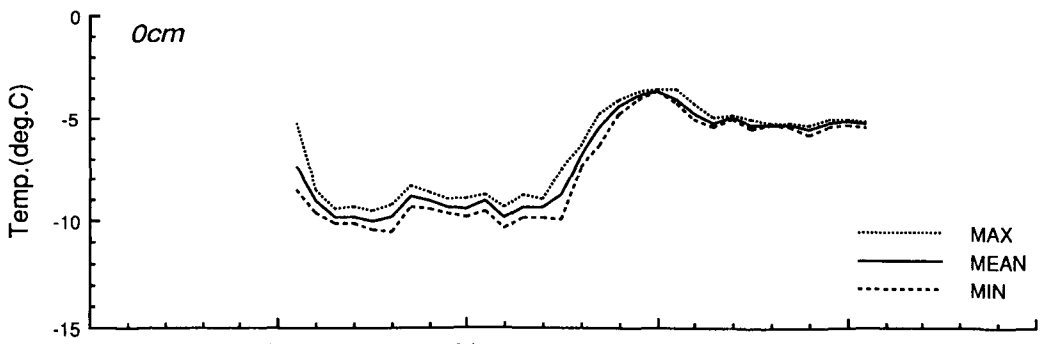
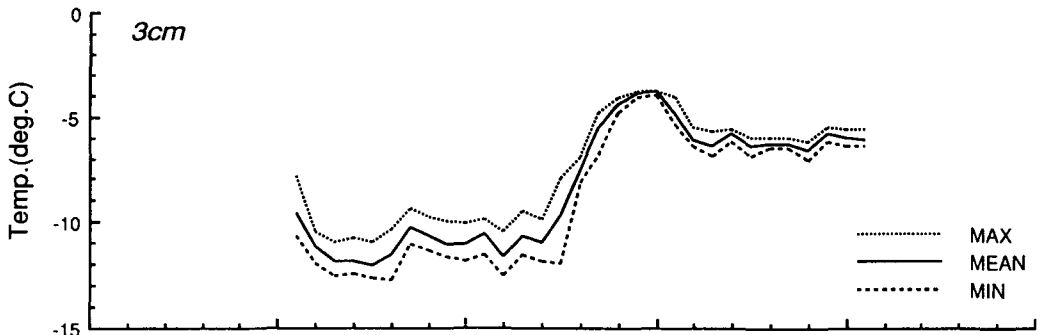
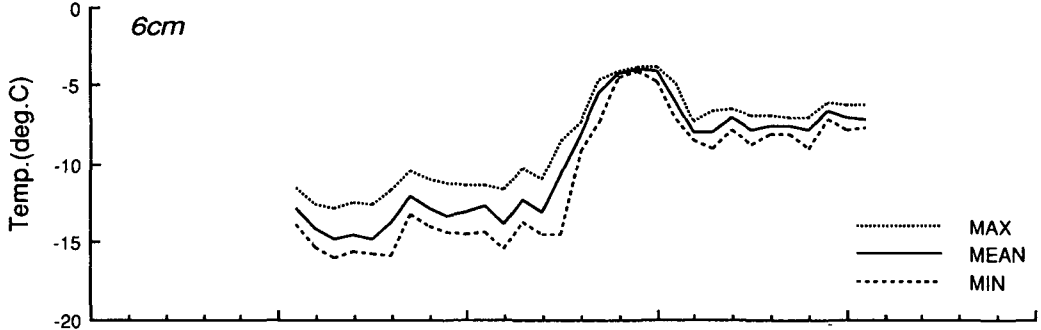
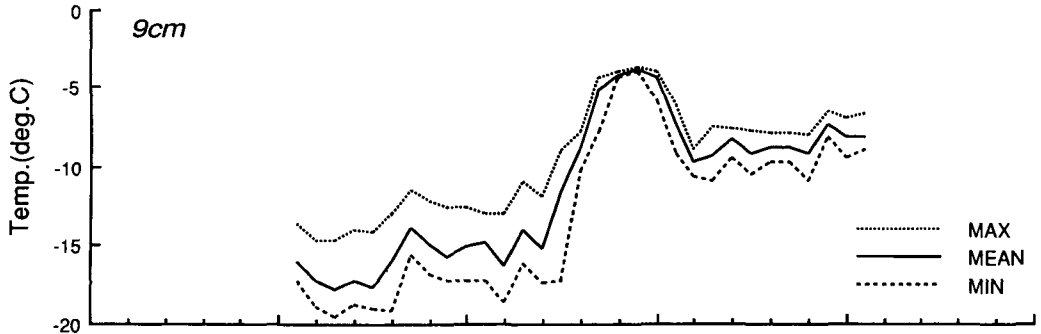
Fig. 18 Daily mean, minimum and maximum air/snow temperatures at the snow-ice interface (0 cm) and at heights of 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 39, 43, 53 and 63 cm above the snow-ice interface under natural conditions during the 1993 winter experiment.

Air/Snow Temperature





Air/Snow Temperature



Time (Julian days, 1993)

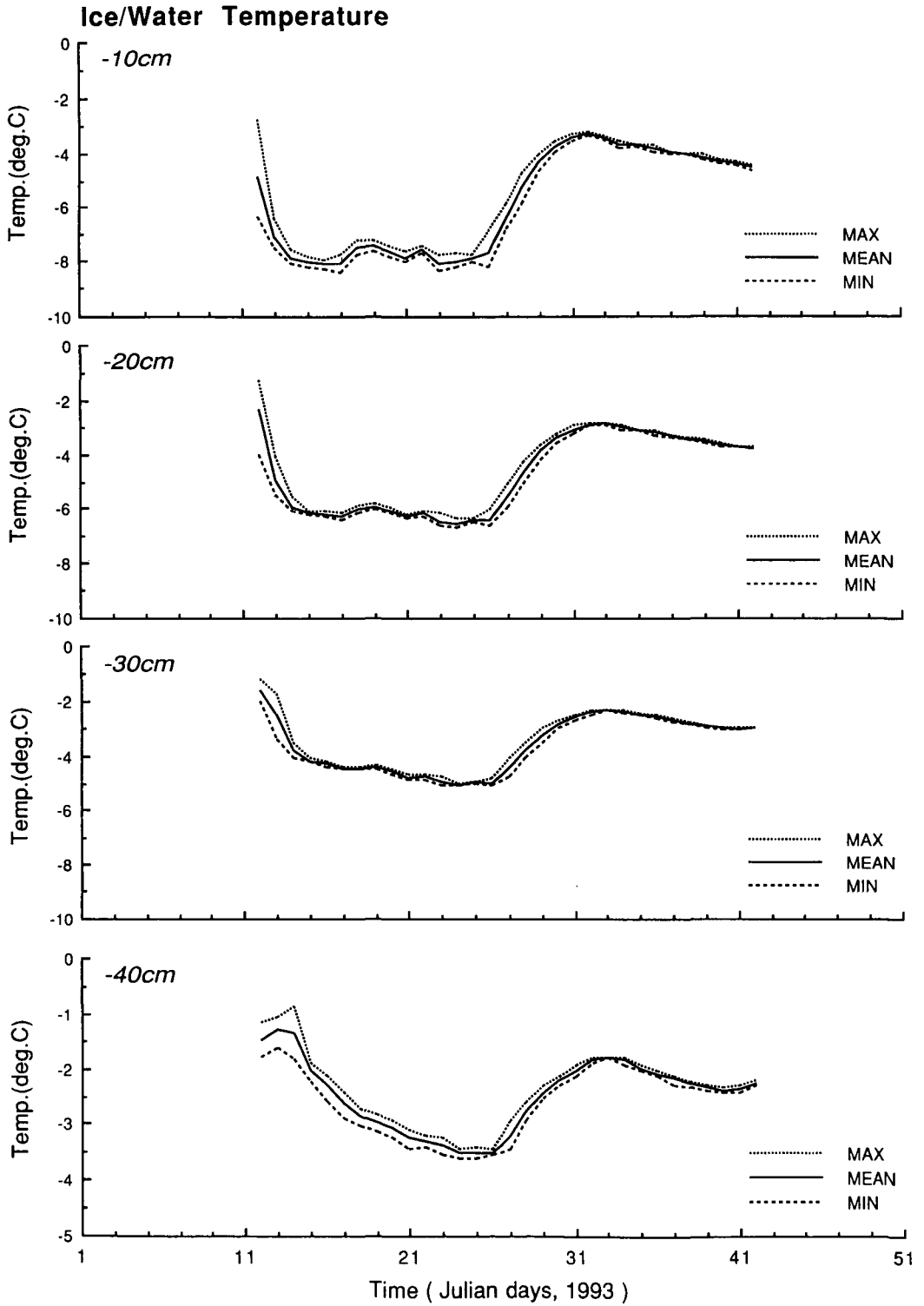
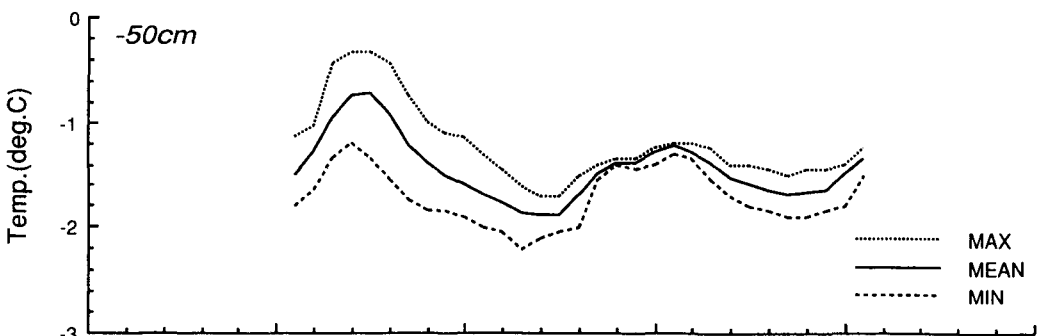
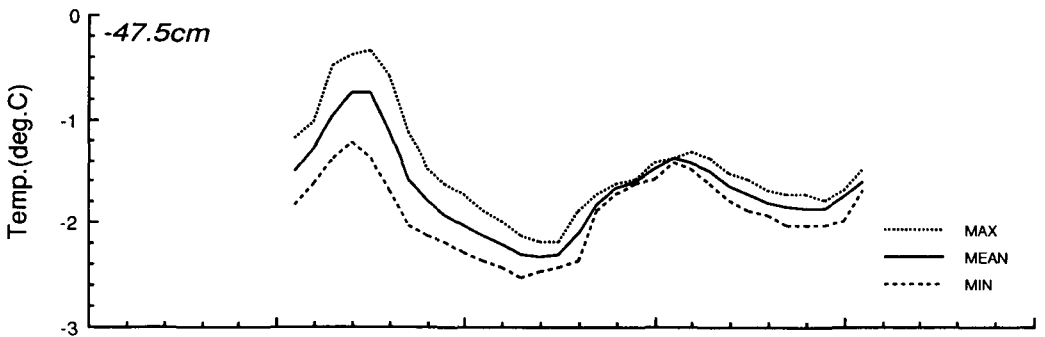
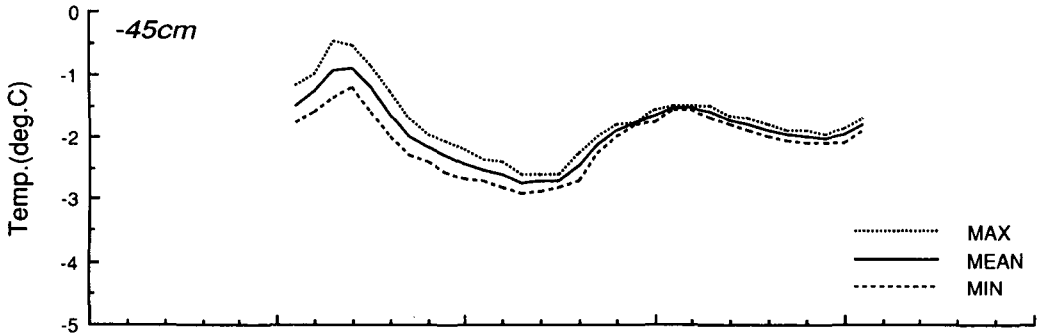
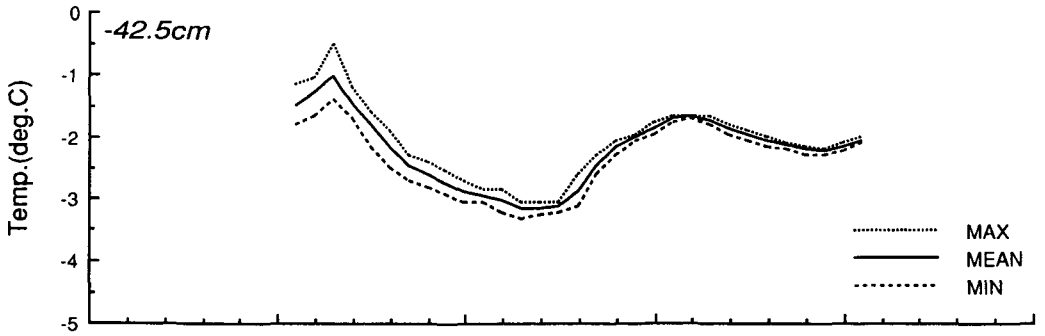
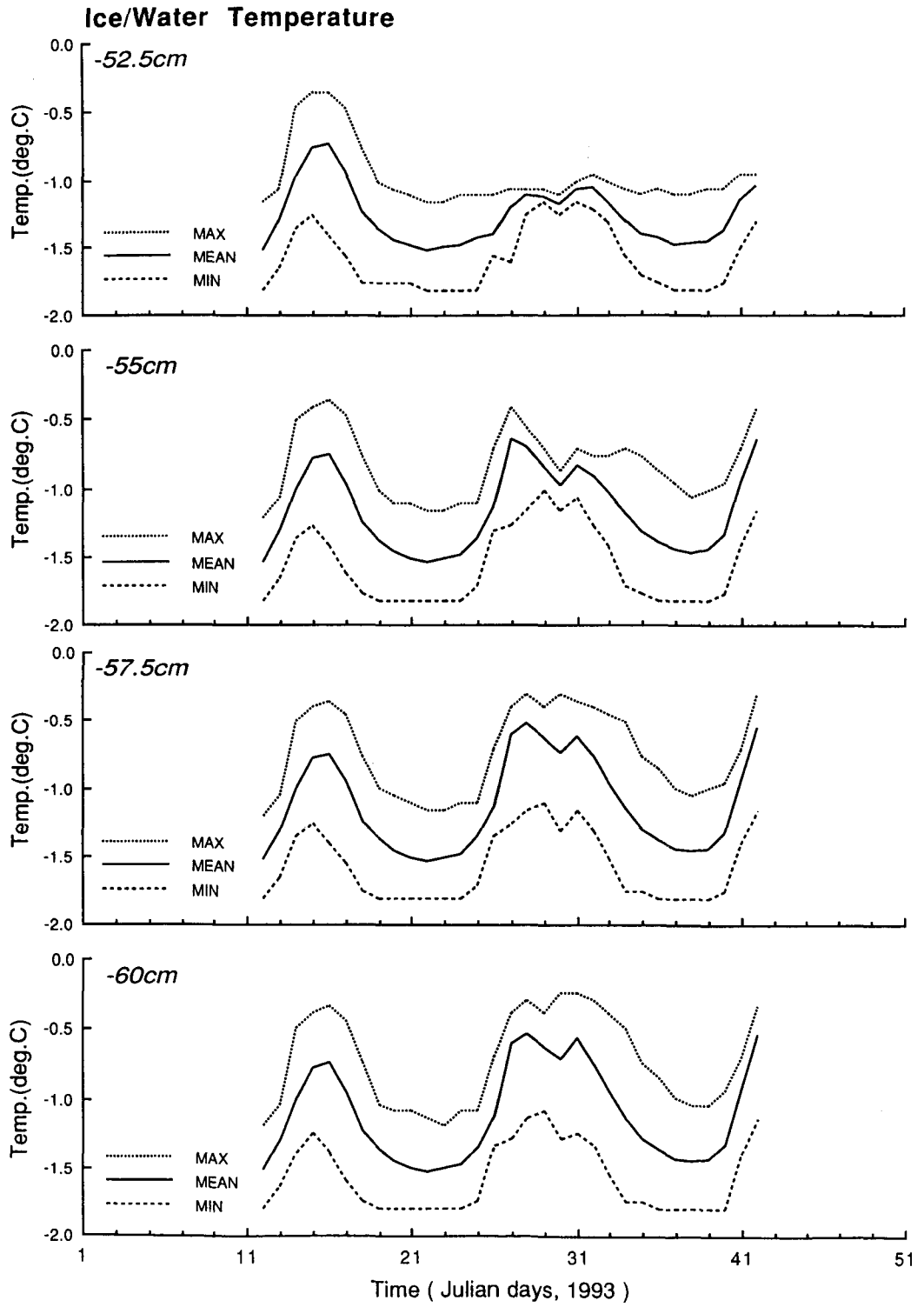


Fig. 19 Daily mean, minimum and maximum ice/water temperatures at depths of 10, 20, 30, 40, 42.5, 45, 47.5, 50, 52.5, 55, 57.5, 60, 62.5, 65, 67.5 and 70 cm below the snow-ice interface under natural conditions during the 1993 winter experiment.

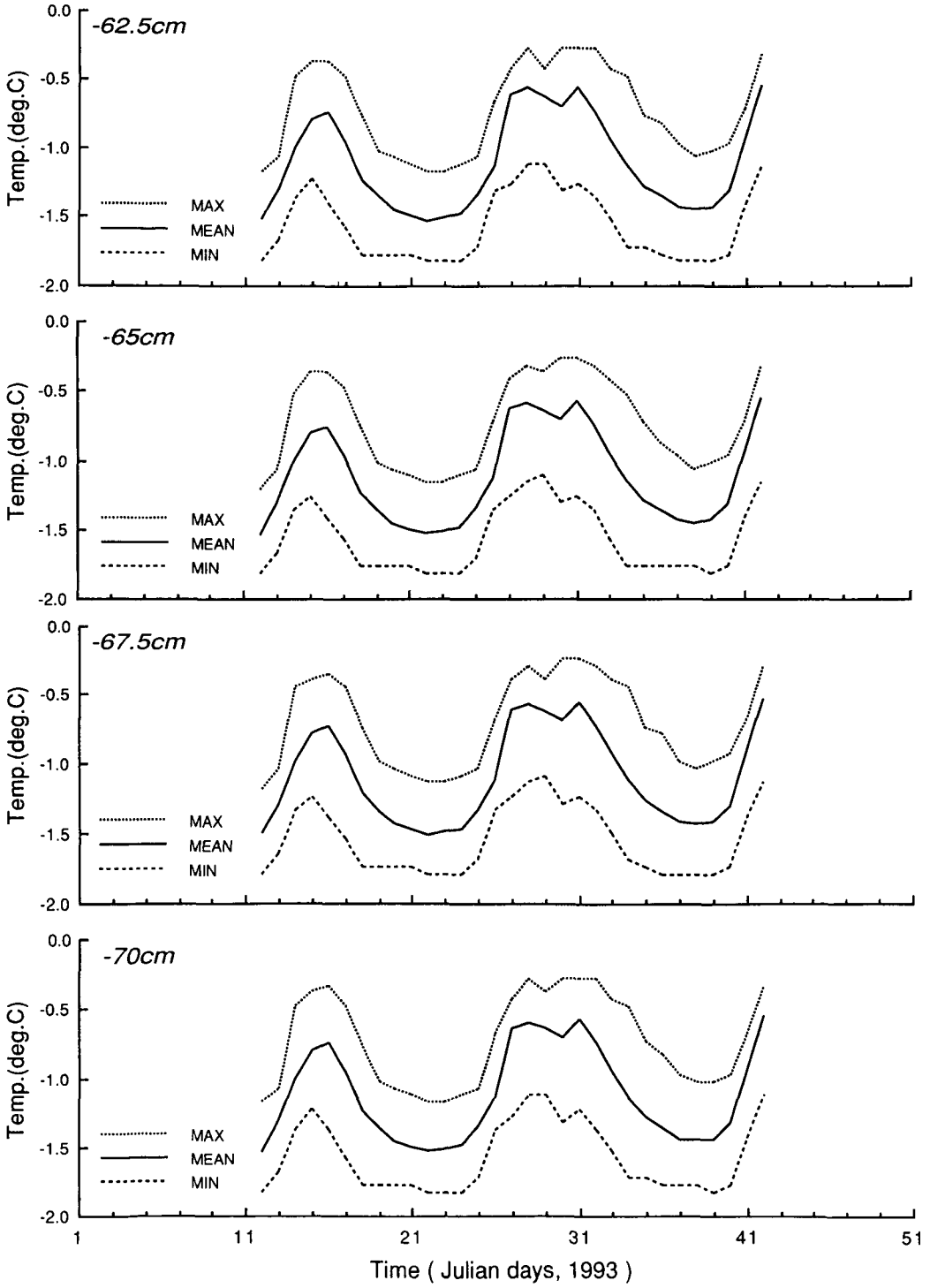
Ice/Water Temperature



Time (Julian days, 1993)



Ice/Water Temperature



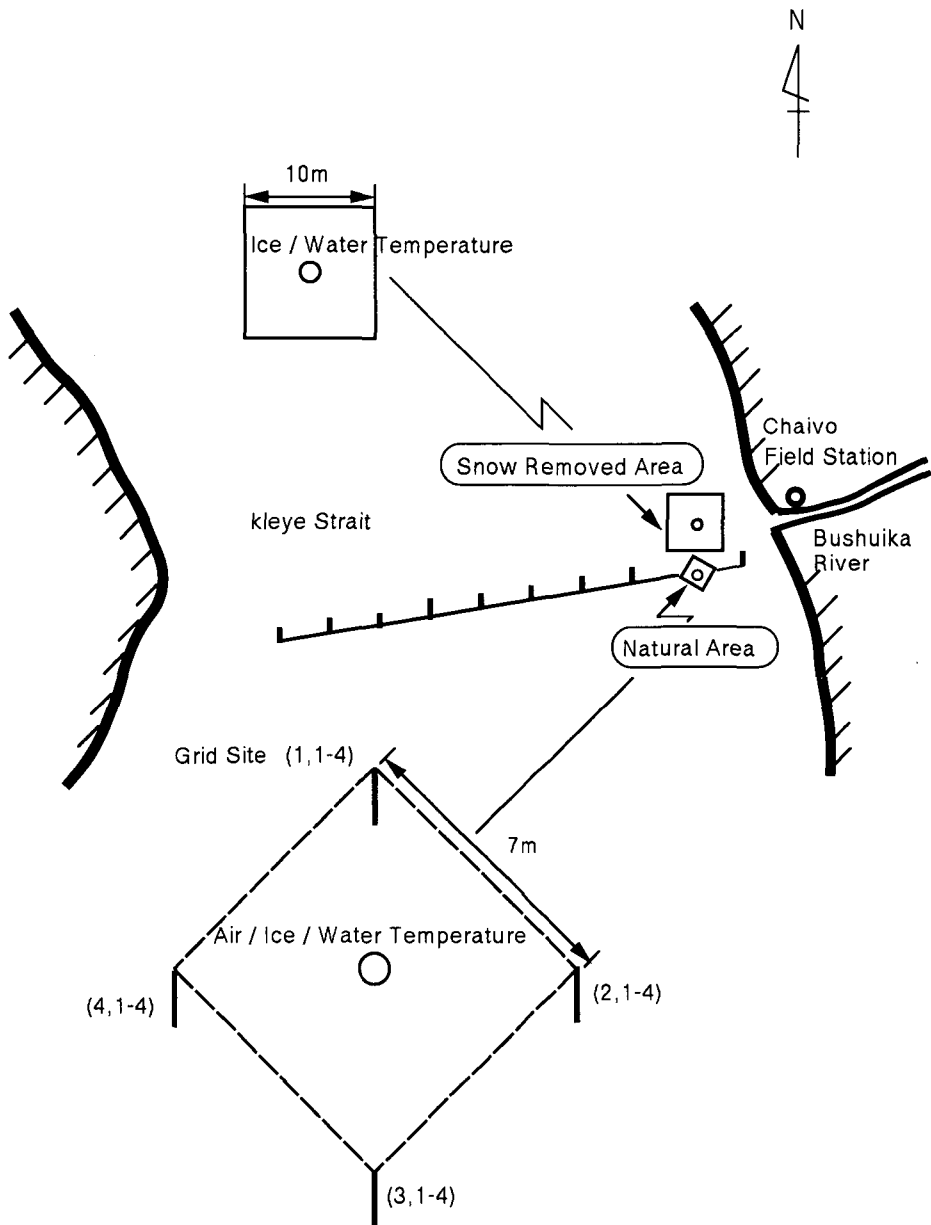


Fig. 20 Study area during the 1993-1994 experiment.

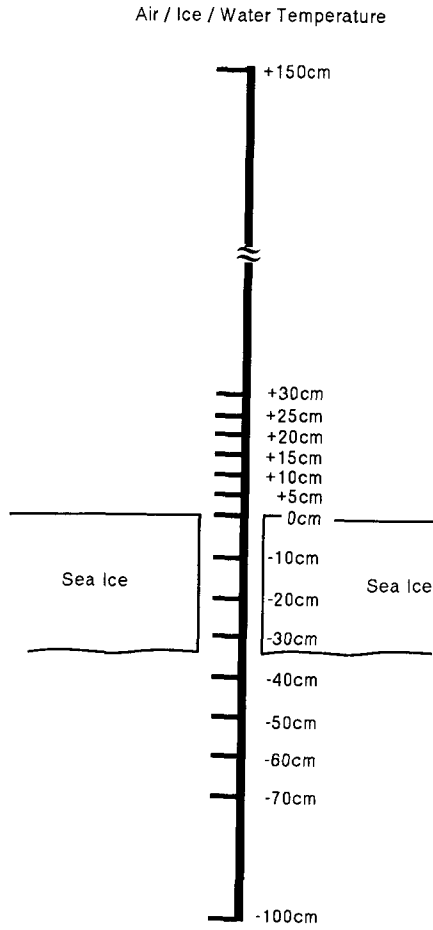


Fig. 21 Installation of air/snow/ice/water temperature sensors in the natural area during the 1993-1994 experiment.

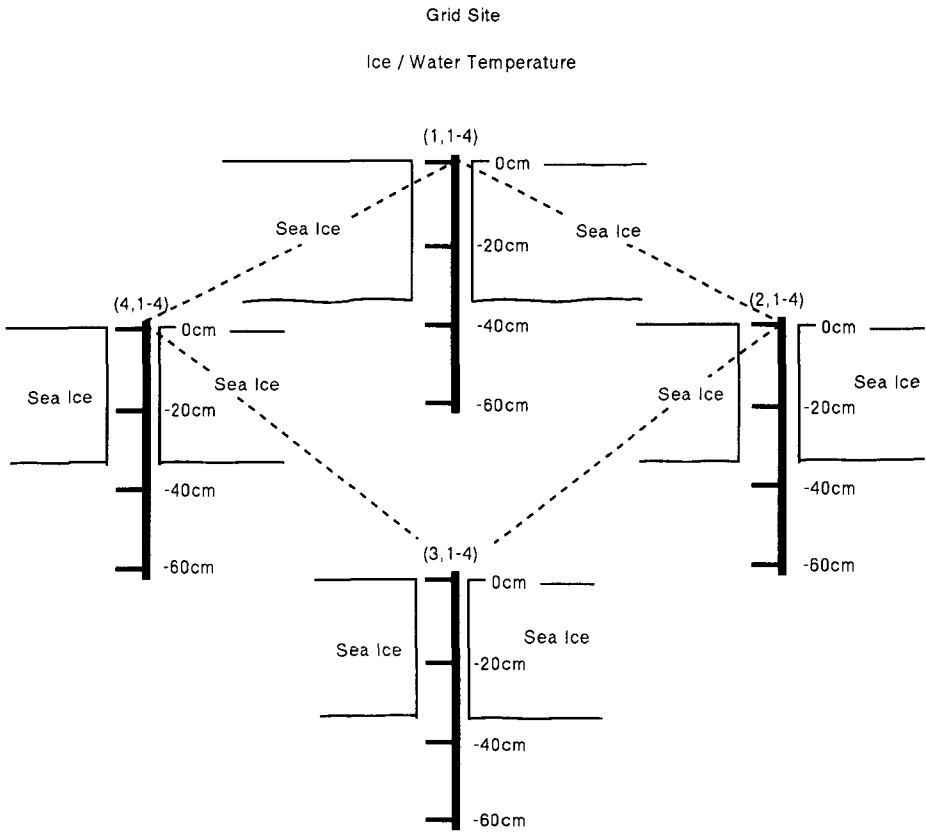


Fig. 22 Installation of ice/water temperature sensors at the grid site in the natural area during the 1993-1994 experiment.

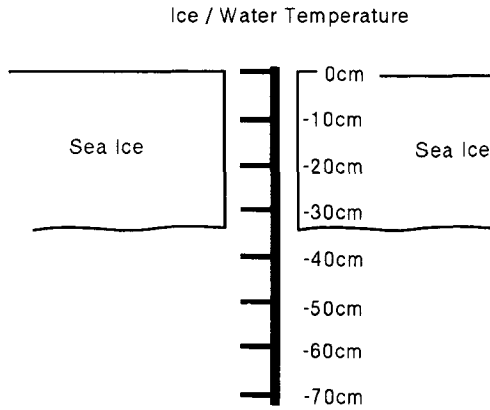


Fig. 23 Installation of ice/water temperature sensors in the snow-removed area during the 1993-1994 experiment.

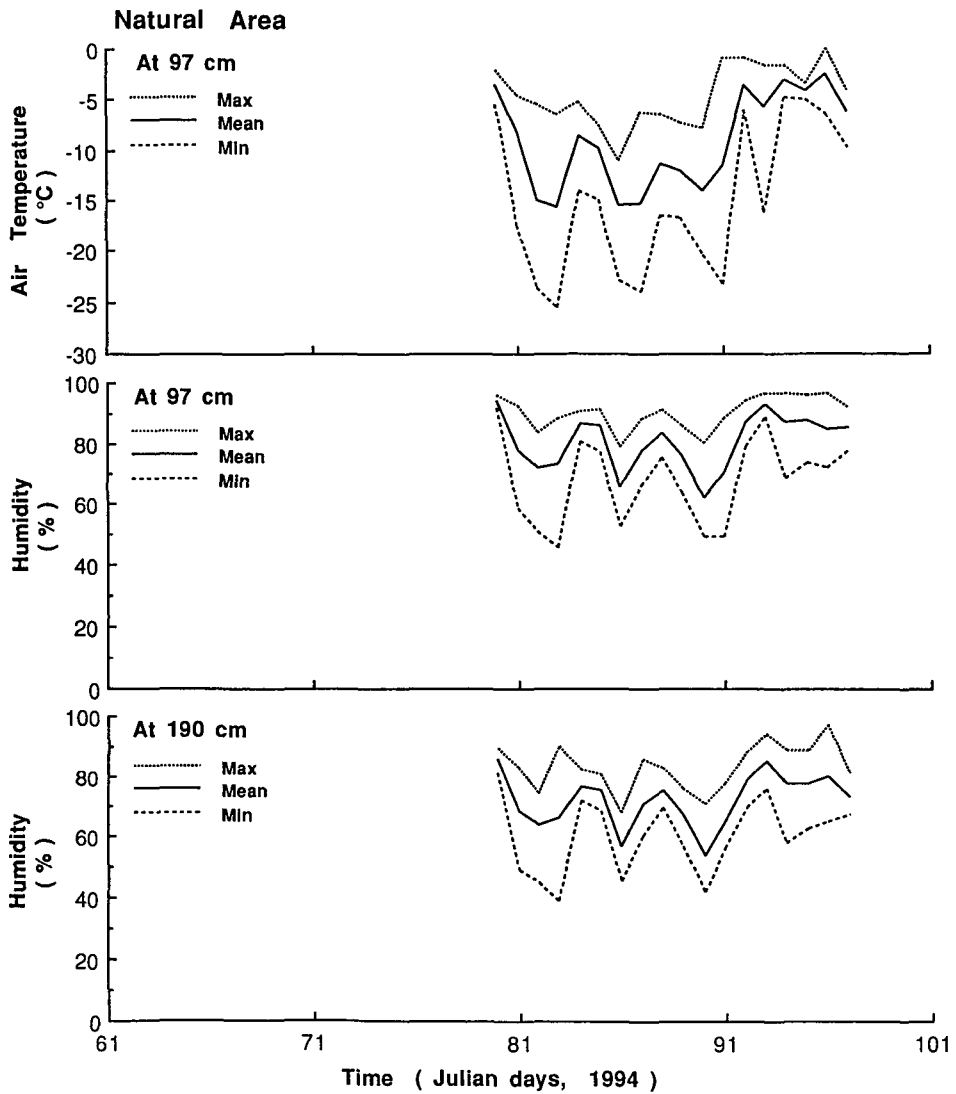


Fig. 24 Daily mean, minimum and maximum air temperatures at the height of 97 cm and humidities at the heights of 97 and 190 cm in the natural area during the 1993-1994 experiment.

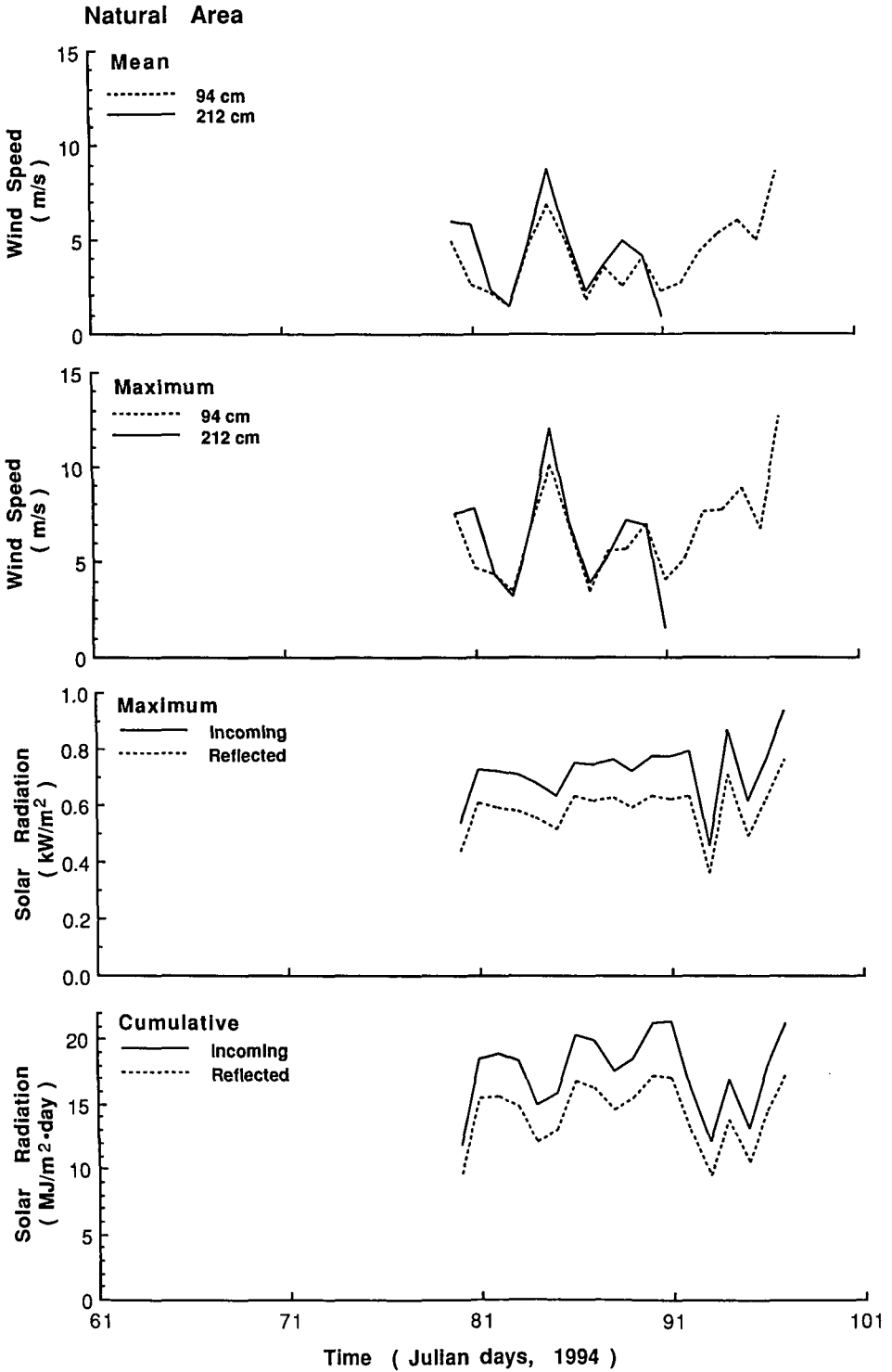


Fig. 25 Daily mean, minimum and maximum wind speeds at heights of 94 and 212 cm, and incoming and reflected solar radiations, in the natural area during the 1993-1994 experiment.

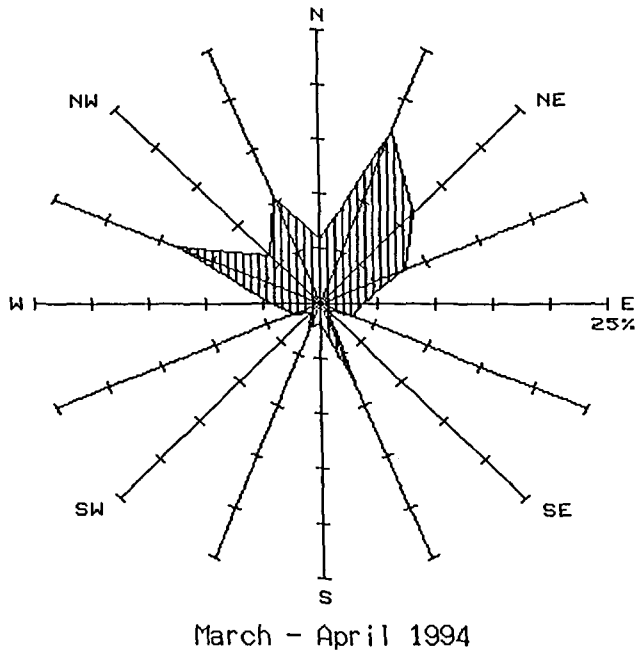


Fig. 26 A windrose for the period from 20 March to 6 April 1994.

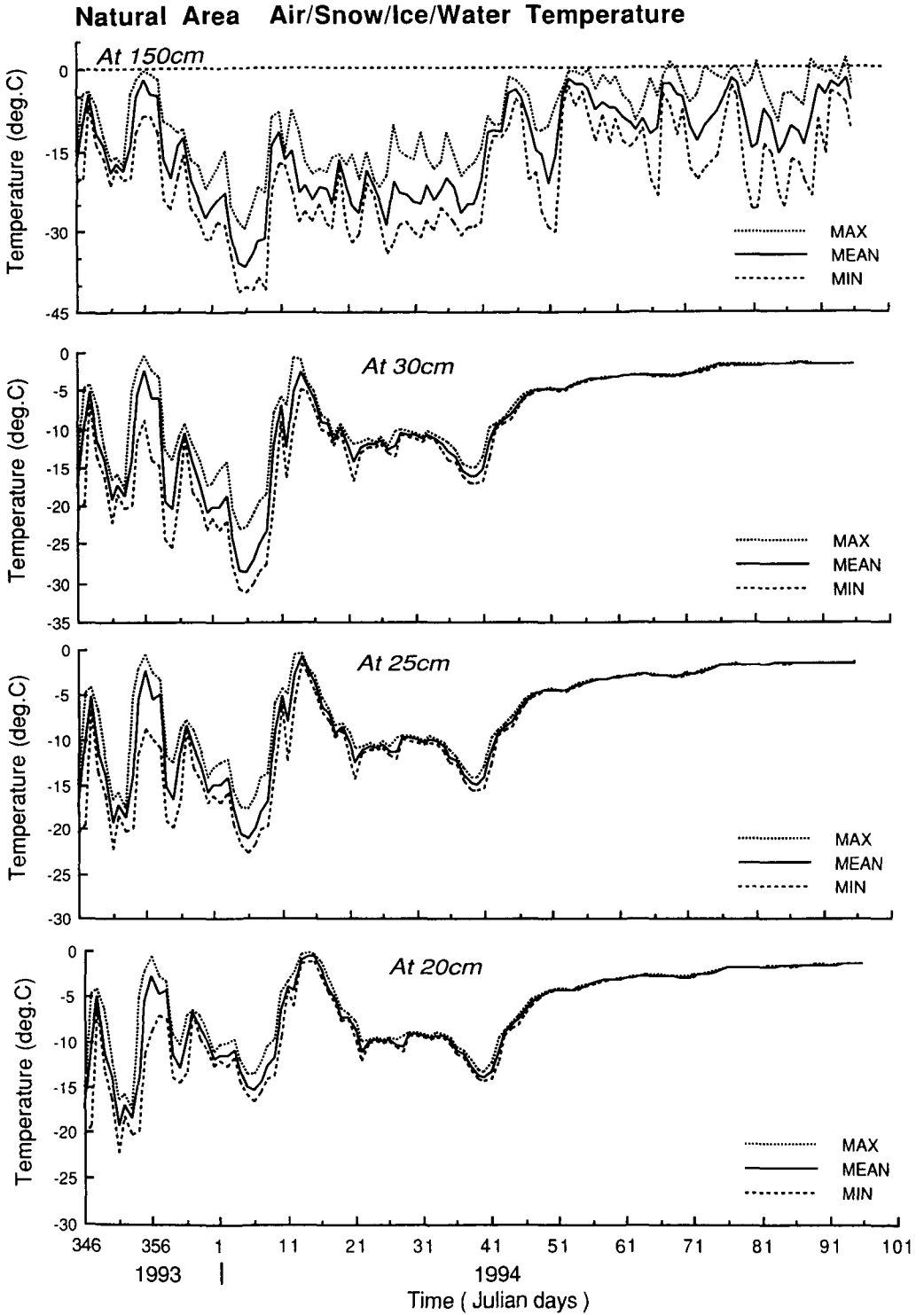
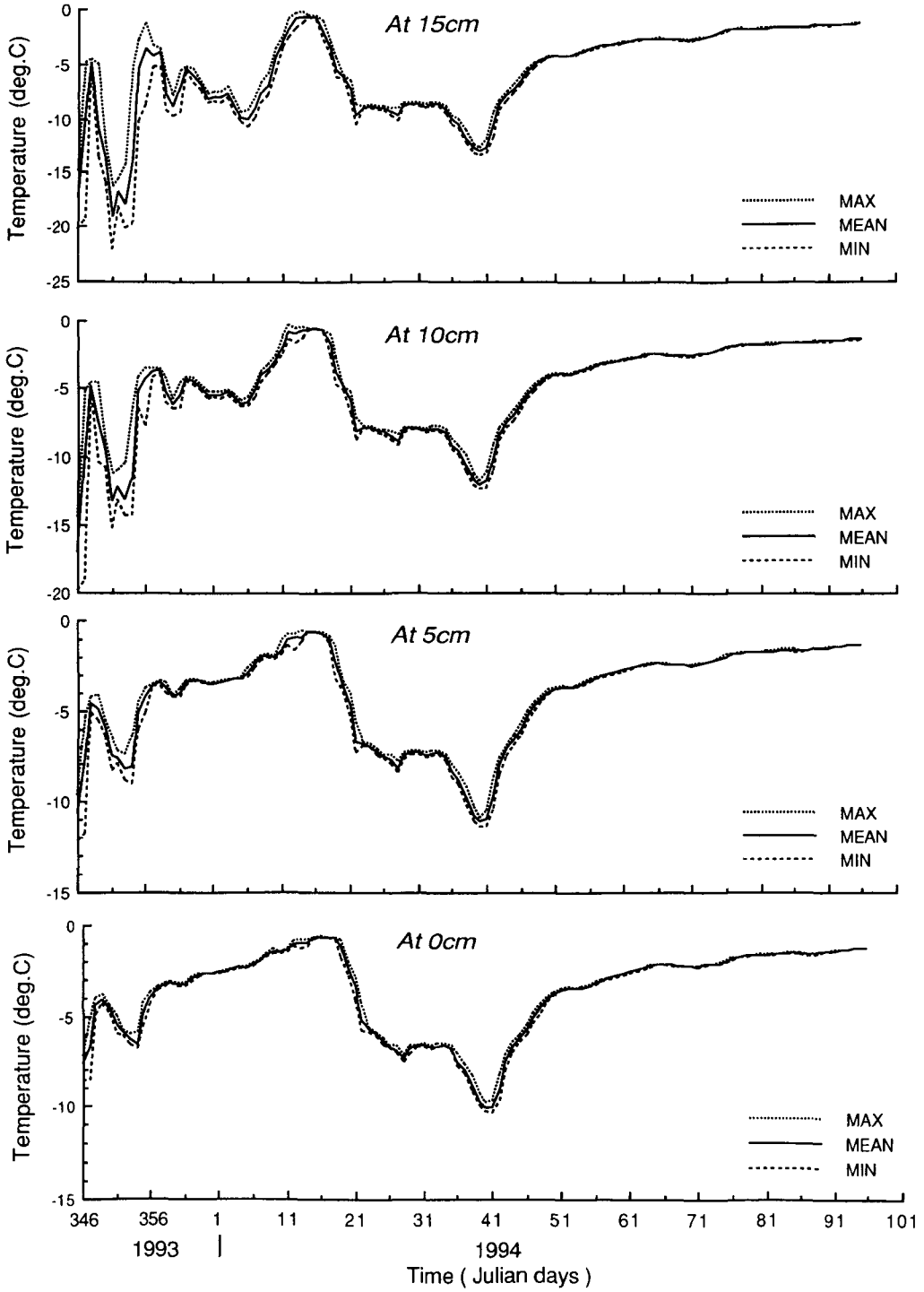


Fig. 27 Daily mean, minimum and maximum air/snow temperatures at the snow-ice interface (0 cm) and at heights of 5, 10, 15, 20, 25, 30 and 150 cm above the snow-ice interface in the natural area during the 1993-1994 winter experiment.

Natural Area Air/Snow/Ice/Water Temperature



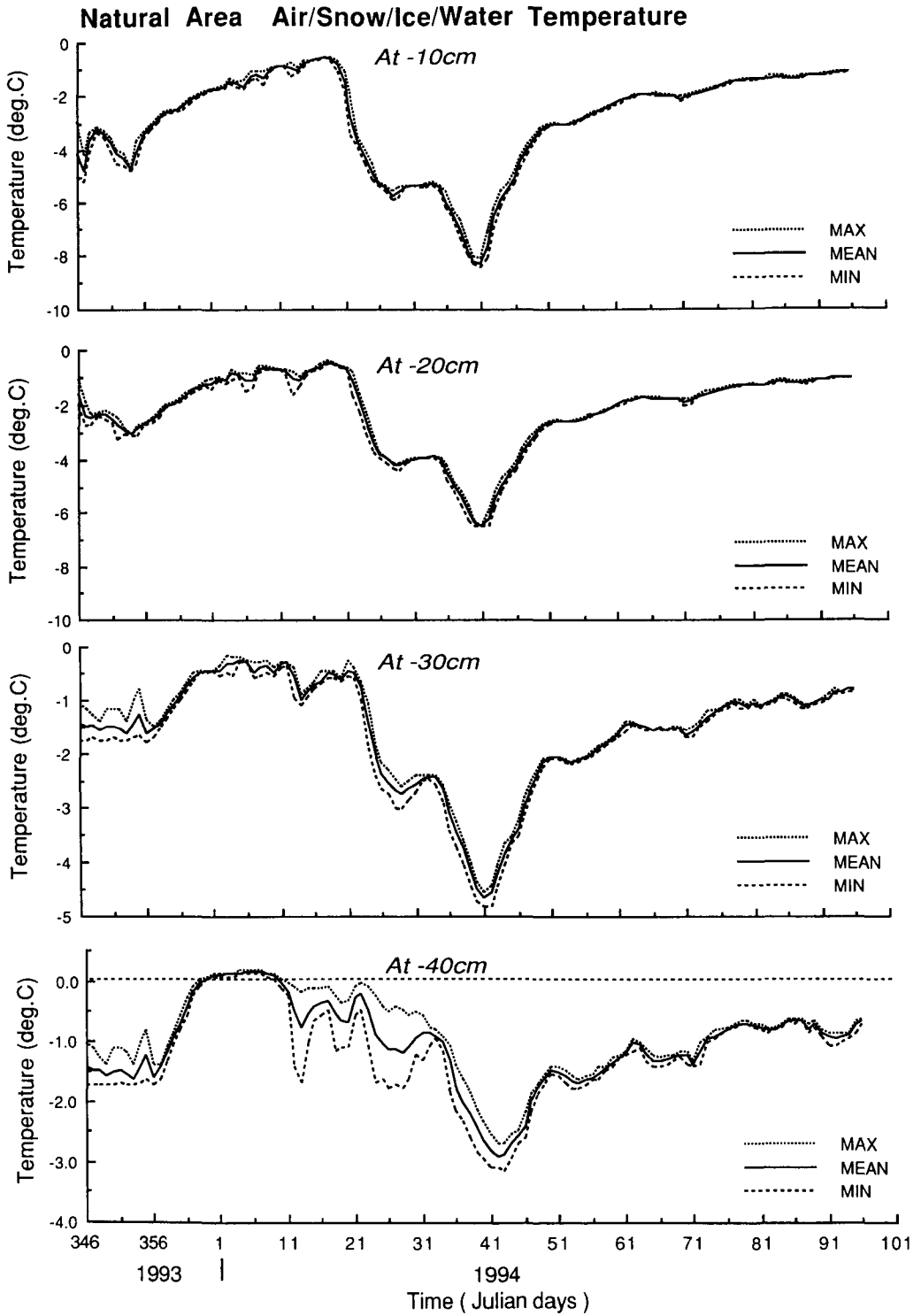
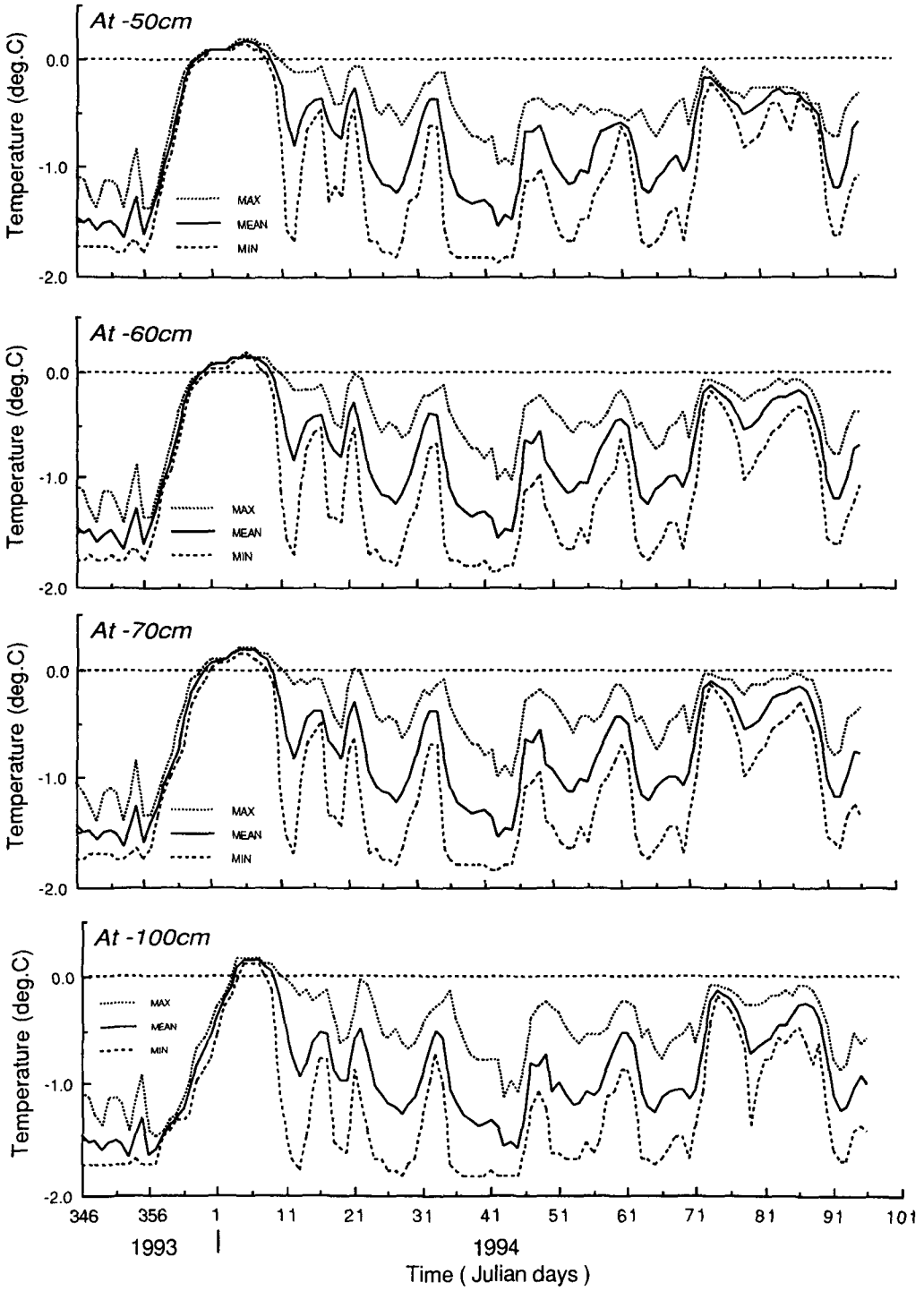


Fig. 28 Daily mean, minimum and maximum ice/water temperatures at depths of 10, 20, 30, 40, 50, 60, 70 and 100 cm below the snow-ice interface in the natural area during the 1993-1994 winter experiment.

Natural Area Air/Snow/Ice/Water Temperature



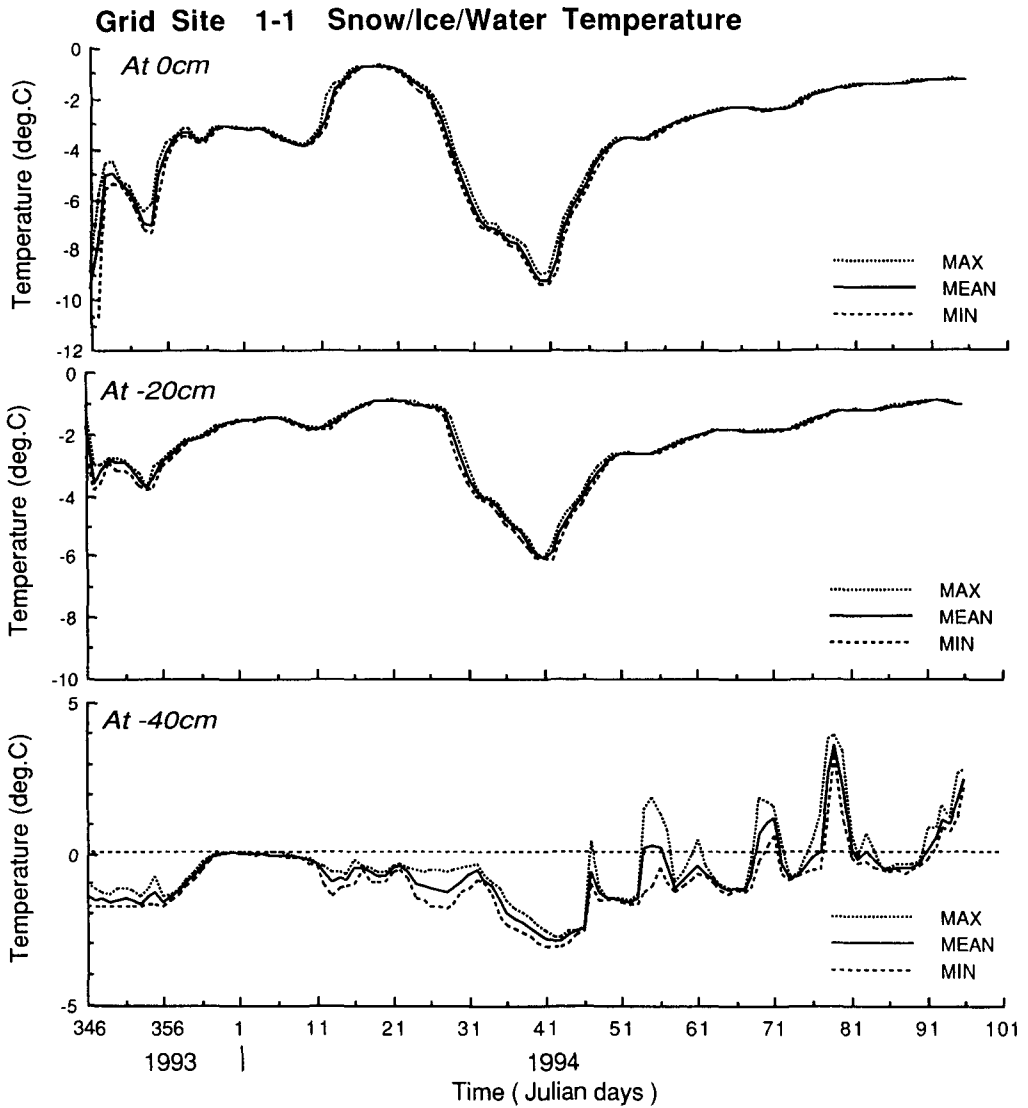
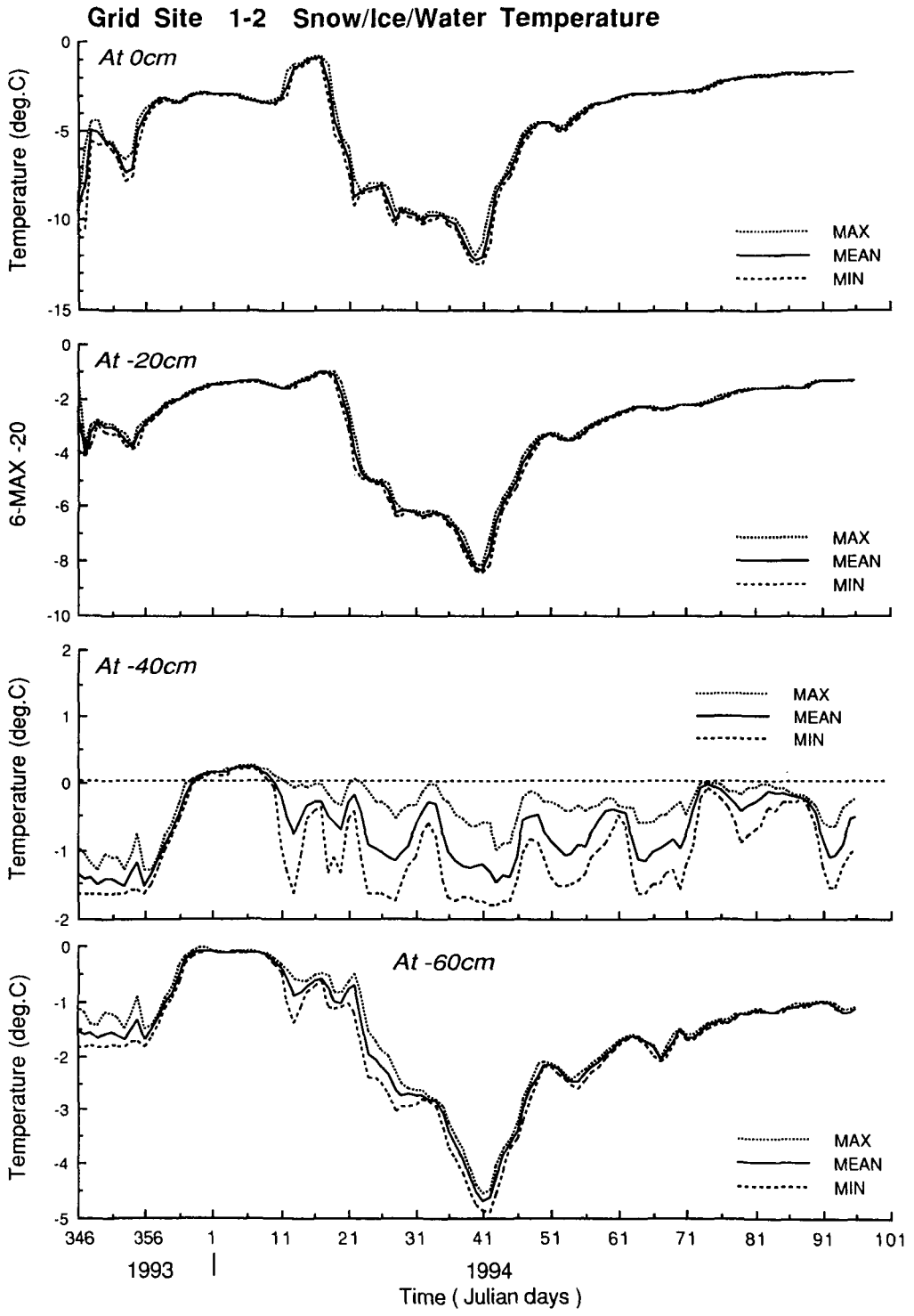
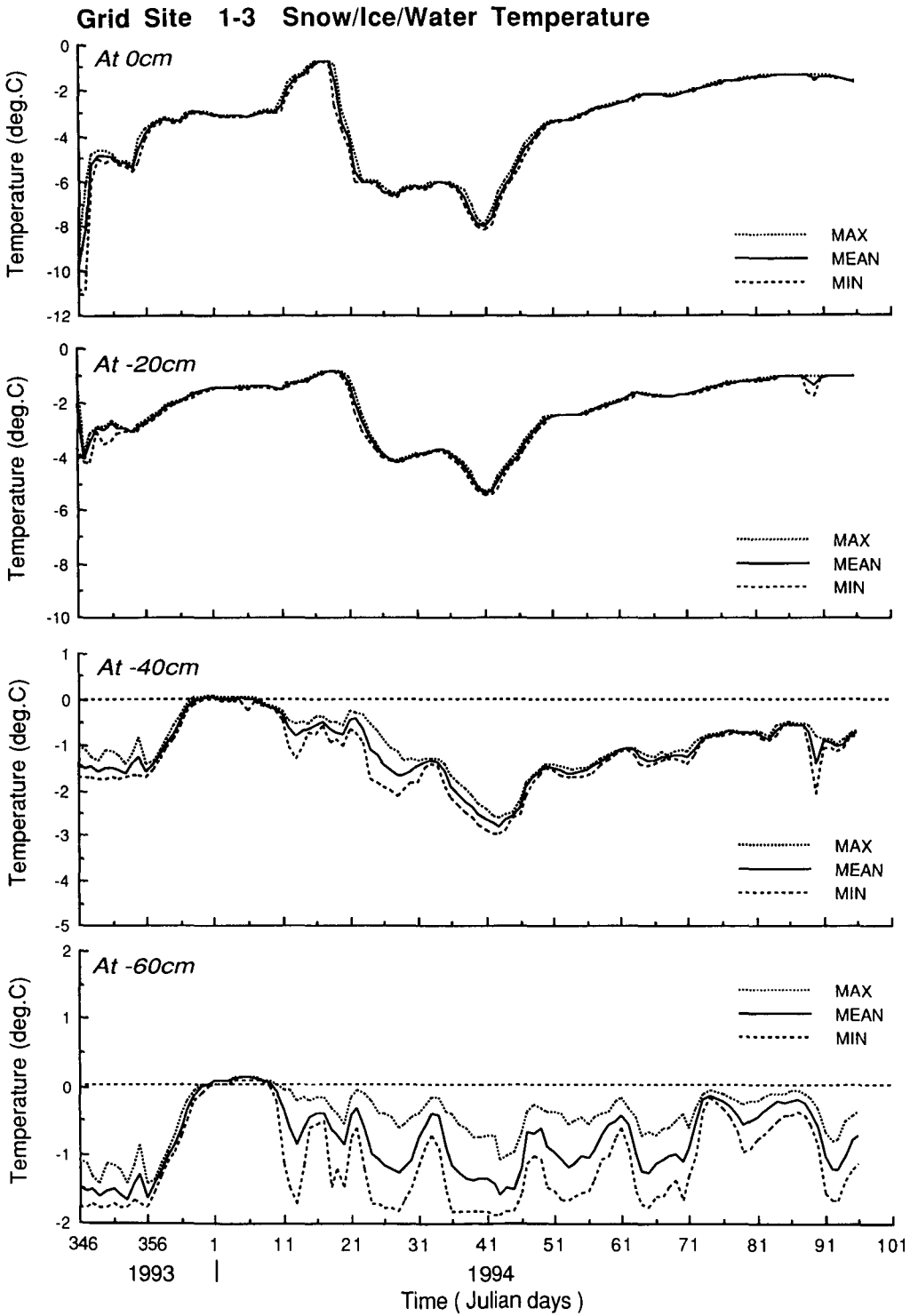
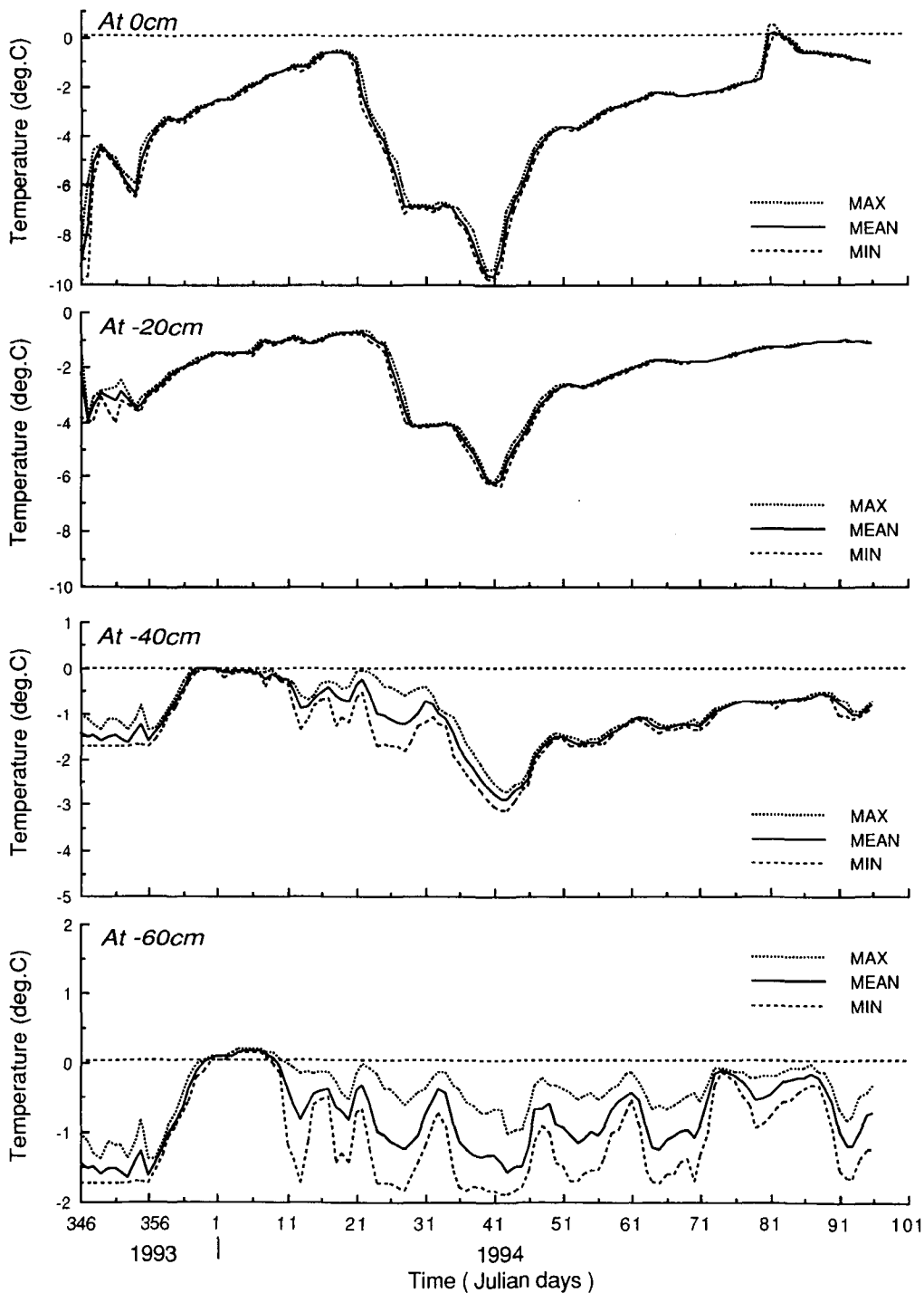


Fig. 29 Daily mean, minimum and maximum snow/ice/water temperatures at the snow-ice interface (0 cm) and depths of 20, 40 and 60 cm below the snow-ice interface at the grid site in the natural area during the 1993-1994 winter experiment.





Grid Site 1-4 Snow/Ice/Water Temperature



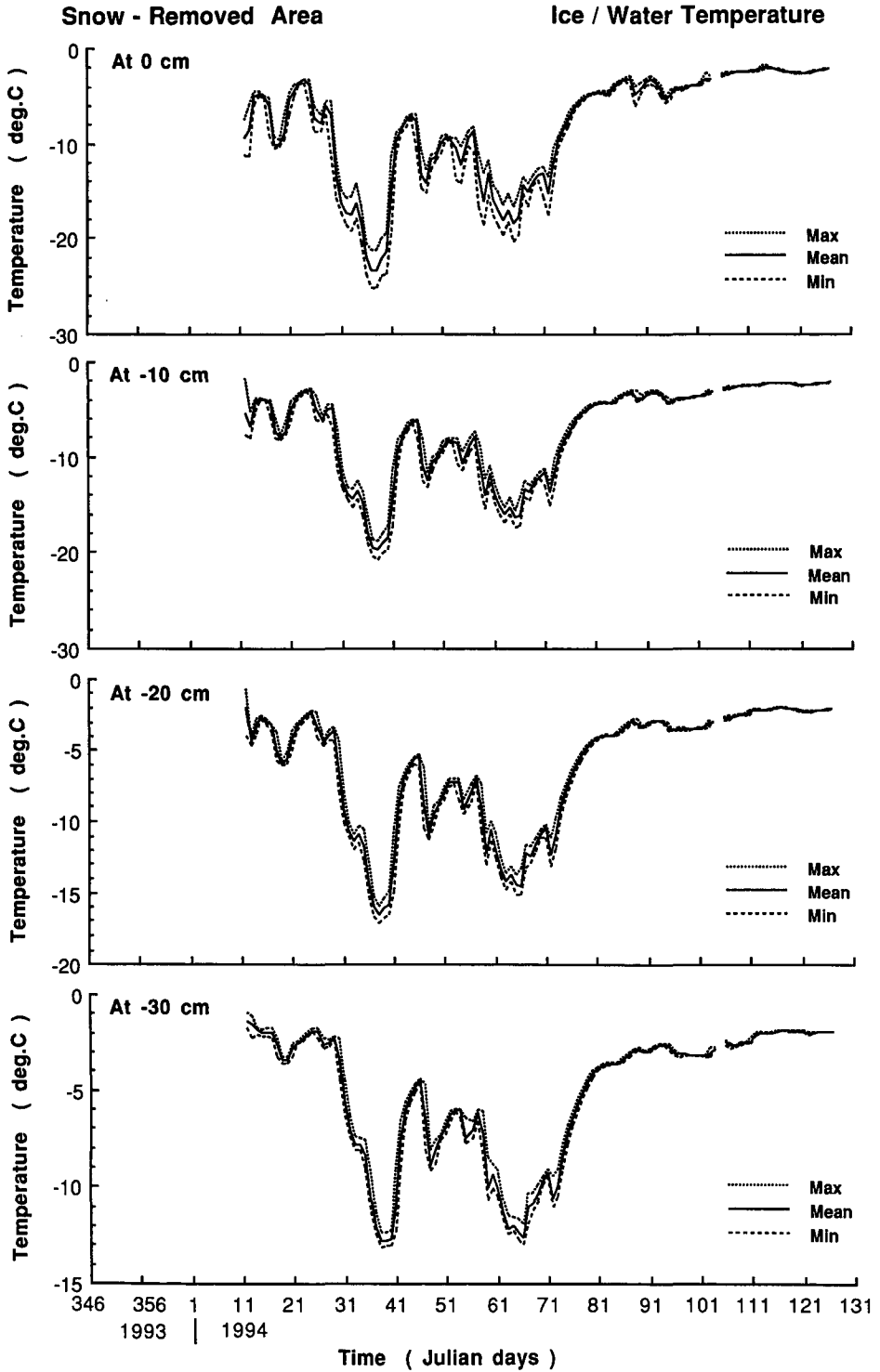


Fig. 30 Daily mean, minimum and maximum values of ice/water temperatures at the air-ice interface (0 cm) and at depths of 10, 20, 30, 40, 50, 60 and 70 cm below the air-ice interface in the snow-removed area during the 1993-1994 winter experiment.

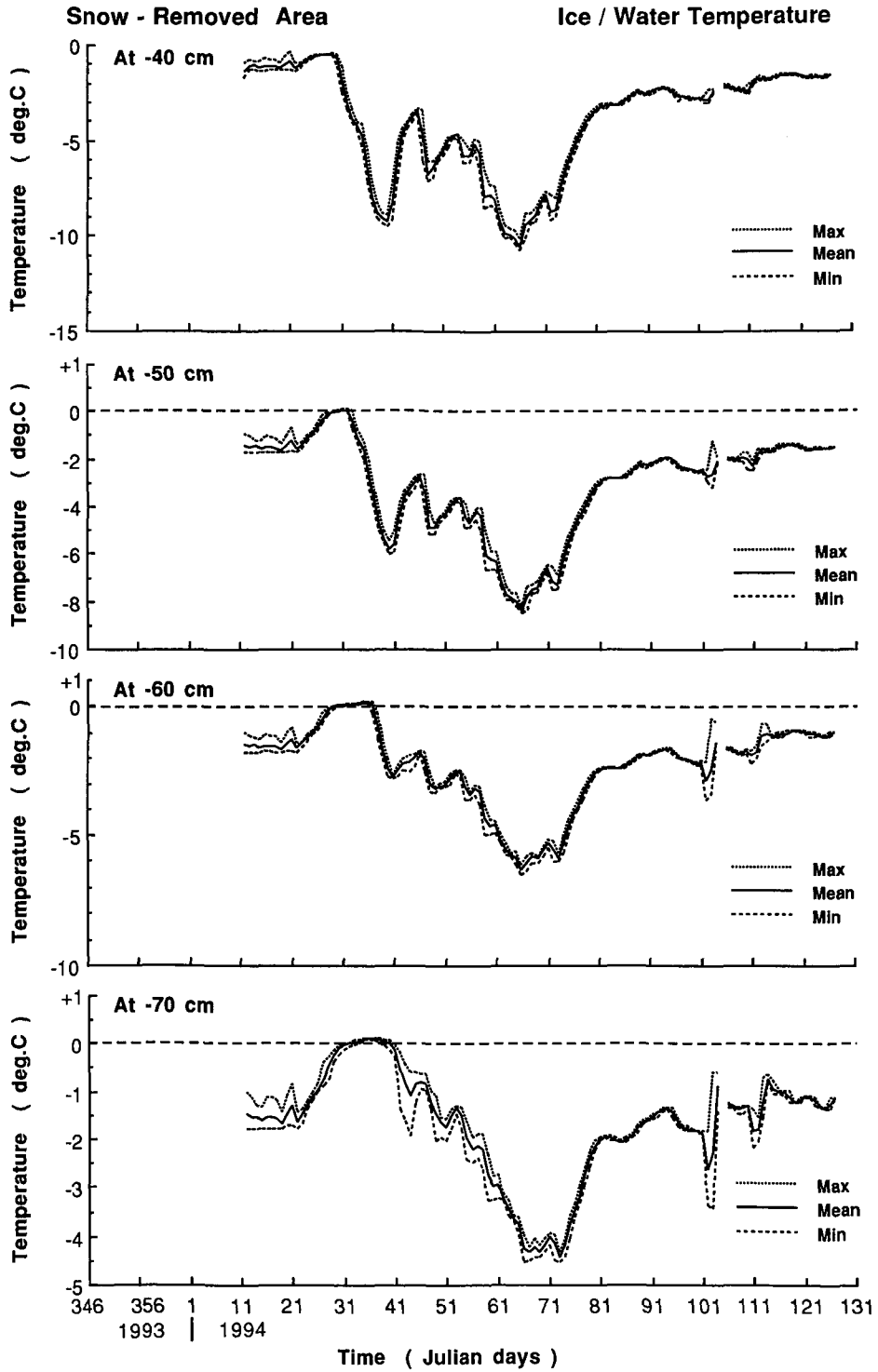


Table 2 Daily mean, minimum and maximum snow/ice/water temperatures at the height of 9 cm above the snow-ice interface, at the snow-ice interface (0 cm) and at depths of 5, 10, 20, 40 and 80 cm below the snow-ice interface, in the snow-covered area during the 1992 winter experiment.

Chaivo Bay
February 1992
Snow Covered Area (Recording Interval 30 min)

Date	Air/Snow Temperature (degrees C)			Snow/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Height: +9cm			Depth: 0cm			Depth: -5cm			Depth: -10cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11	-12.52	-19.39	-15.50	-8.41	-13.23	-10.99	-6.45	-10.72	-8.98	-5.31	-9.57	-7.94
12	-16.53	-20.30	-18.70	-13.28	-14.64	-13.96	-10.82	-12.33	-11.77	-9.67	-11.22	-10.71
13	-13.87	-20.19	-17.03	-12.48	-15.34	-13.93	-11.47	-13.08	-12.29	-10.82	-12.02	-11.43
14	-13.27	-17.49	-15.89	-11.93	-13.89	-13.03	-10.92	-12.18	-11.61	-10.42	-11.27	-10.88
15	-12.92	-18.89	-16.54	-12.23	-14.54	-13.52	-11.37	-12.53	-11.95	-10.77	-11.62	-11.16
16	-9.81	-16.23	-11.62	-9.67	-13.53	-10.96	-9.21	-11.93	-10.43	-8.91	-11.17	-10.04
17	-10.41	-12.42	-11.23	-9.46	-10.22	-9.77	-8.86	-9.21	-9.03	-8.41	-8.91	-8.60
18	-8.76	-12.17	-10.08	-8.26	-10.22	-9.12	-7.80	-9.11	-8.51	-7.56	-8.56	-8.14
19	-8.15	-9.46	-8.78	-7.40	-8.21	-7.82	-7.00	-7.80	-7.41	-6.76	-7.56	-7.16
20	-5.40	-8.51	-7.07	-6.00	-7.40	-6.79	-6.04	-7.00	-6.59	-5.96	-6.76	-6.41
21	-5.19	-6.05	-5.71	-5.49	-6.00	-5.69	-5.39	-5.99	-5.68	-5.31	-5.91	-5.57
22	-6.10	-7.45	-6.74	-5.54	-6.00	-5.83	-5.39	-5.54	-5.47	-5.26	-5.31	-5.28
23	-5.80	-6.25	-5.98	-5.29	-5.70	-5.49	-5.09	-5.44	-5.26	-4.95	-5.26	-5.08
24	-5.24	-5.80	-5.56	-4.94	-5.29	-5.15	-4.79	-5.09	-4.95	-4.60	-4.90	-4.78
25	-4.69	-5.24	-5.00	-4.54	-4.94	-4.78	-4.44	-4.79	-4.61	-4.30	-4.60	-4.47
26	-4.59	-5.09	-4.74	-4.34	-4.54	-4.42	-4.18	-4.44	-4.30	-4.05	-4.30	-4.17
27	-4.94	-5.45	-5.24	-4.34	-4.54	-4.45	-4.13	-4.23	-4.19	-3.95	-4.05	-4.02
28	-5.24	-6.15	-5.73	-4.44	-4.79	-4.65	-4.13	-4.28	-4.23	-3.95	-4.05	-4.01
29	-1.93	-5.24	-4.21	-1.78	-4.59	-3.68	-2.37	-4.28	-3.84	-2.95	-4.05	-3.81
Month	-1.93	-20.30	-9.55	-1.78	-15.34	-8.10	-2.37	-13.08	-7.43	-2.95	-12.02	-7.03

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -20cm			Depth: -40cm			Depth: -80cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11	-1.85	-7.44	-5.51	-0.28	-2.44	-0.78	-0.04	-1.25	-0.39
12	-7.49	-9.15	-8.57	-2.54	-5.41	-4.37	-0.19	-1.35	-0.66
13	-9.15	-9.90	-9.56	-5.46	-6.31	-6.02	-0.29	-1.70	-1.21
14	-9.10	-9.60	-9.39	-6.31	-6.51	-6.42	-0.70	-1.80	-1.40
15	-9.20	-9.80	-9.54	-6.46	-6.71	-6.58	-0.95	-1.80	-1.42
16	-8.19	-9.60	-9.05	-6.36	-6.71	-6.62	-1.05	-1.75	-1.46
17	-7.54	-8.19	-7.79	-5.76	-6.36	-6.04	-1.05	-1.80	-1.50
18	-6.94	-7.59	-7.35	-5.46	-5.76	-5.63	-1.15	-1.85	-1.57
19	-6.28	-6.88	-6.58	-5.06	-5.46	-5.25	-1.15	-1.80	-1.53
20	-5.63	-6.28	-5.99	-4.65	-5.01	-4.86	-0.95	-1.75	-1.39
21	-5.07	-5.63	-5.32	-4.25	-4.65	-4.43	-0.65	-1.50	-0.93
22	-4.82	-5.02	-4.92	-3.90	-4.20	-4.04	-0.50	-1.25	-0.86
23	-4.52	-4.82	-4.70	-3.70	-3.90	-3.81	-0.55	-1.55	-1.12
24	-4.27	-4.52	-4.42	-3.55	-3.70	-3.62	-0.65	-1.65	-1.16
25	-4.07	-4.27	-4.17	-3.35	-3.55	-3.46	-0.75	-1.65	-1.19
26	-3.77	-4.07	-3.92	-3.15	-3.35	-3.27	-0.80	-1.75	-1.26
27	-3.61	-3.77	-3.71	-3.05	-3.15	-3.11	-0.80	-1.75	-1.28
28	-3.61	-3.67	-3.63	-2.99	-3.05	-3.00	-0.90	-1.70	-1.30
29	-3.31	-3.67	-3.59	-2.89	-2.99	-2.96	-0.80	-1.70	-1.28
Month	-1.85	-9.90	-6.20	-0.28	-6.71	-4.43	-0.04	-1.85	-1.21

Chaivo Bay

March 1992

Snow Covered Area

(Recording Interval 30 min)

Date	Air/Snow Temperature (degrees C)			Snow/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Height: +9cm			Depth: 0cm			Depth: -5cm			Depth: -10cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.83	-1.88	-1.88	-1.62	-1.88	-1.78	-2.12	-2.32	-2.21	-2.30	-2.95	-2.55
2	-1.88	-2.03	-1.96	-1.83	-1.88	-1.84	-2.02	-2.12	-2.04	-2.10	-2.30	-2.20
3	-2.03	-2.69	-2.23	-1.88	-1.98	-1.91	-1.97	-2.02	-2.02	-2.05	-2.10	-2.09
4	-2.74	-3.59	-3.34	-1.98	-2.43	-2.21	-2.02	-2.27	-2.14	-2.05	-2.15	-2.11
5	-3.39	-3.84	-3.61	-2.43	-2.63	-2.56	-2.27	-2.48	-2.41	-2.15	-2.30	-2.26
6	-0.28	-3.69	-1.63	-1.73	-2.78	-2.27	-2.02	-2.73	-2.35	-2.10	-2.45	-2.30
7	-0.33	-0.78	-0.47	-1.22	-1.73	-1.38	-1.57	-2.02	-1.70	-1.70	-2.05	-1.82
8	-0.43	-0.63	-0.54	-1.02	-1.17	-1.13	-1.27	-1.52	-1.43	-1.45	-1.70	-1.57
9	-0.33	-0.58	-0.45	-0.92	-1.02	-0.97	-1.22	-1.27	-1.25	-1.35	-1.45	-1.39
10	-0.33	-1.03	-0.65	-0.82	-0.97	-0.90	-1.07	-1.22	-1.17	-1.25	-1.35	-1.31
11	-0.78	-1.38	-1.05	-0.82	-1.02	-0.93	-1.02	-1.12	-1.08	-1.10	-1.25	-1.18
12	-1.43	-3.59	-2.85	-1.02	-1.83	-1.40	-1.12	-1.52	-1.30	-1.10	-1.35	-1.20
13	-3.59	-5.85	-4.46	-1.83	-2.93	-2.59	-1.52	-2.37	-2.04	-1.40	-2.00	-1.66
14	-4.14	-4.94	-4.50	-2.83	-3.33	-3.21	-2.37	-2.98	-2.77	-2.00	-2.58	-2.27
15	-3.94	-4.19	-4.04	-3.23	-3.28	-3.25	-2.98	-2.98	-2.98	-2.50	-2.60	-2.56
16	-3.49	-3.89	-3.76	-3.03	-3.23	-3.16	-2.88	-2.98	-2.96	-2.60	-2.65	-2.64
17	-2.99	-3.49	-3.14	-2.68	-3.03	-2.86	-2.63	-2.88	-2.77	-2.45	-2.60	-2.54
18	-2.79	-2.89	-2.80	-2.63	-2.68	-2.63	-2.53	-2.68	-2.60	-2.40	-2.45	-2.44
19	-2.79	-2.89	-2.82	-2.53	-2.63	-2.57	-2.48	-2.58	-2.53	-2.35	-2.40	-2.36
20	-2.89	-2.94	-2.94	-2.58	-2.58	-2.58	-2.48	-2.53	-2.52	-2.30	-2.35	-2.34
21	-2.94	-2.94	-2.94	-2.58	-2.63	-2.59	-2.48	-2.53	-2.51	-2.30	-2.35	-2.32
22	-2.84	-2.94	-2.89	-2.53	-2.58	-2.57	-2.43	-2.53	-2.49	-2.25	-2.30	-2.30
23	-2.84	-2.89	-2.85	-2.48	-2.58	-2.54	-2.43	-2.48	-2.45	-2.25	-2.30	-2.27
24	-2.89	-2.99	-2.96	-2.53	-2.63	-2.58	-2.43	-2.53	-2.48	-2.25	-2.30	-2.28
25	-2.99	-3.84	-3.01	-2.58	-2.63	-2.62	-2.48	-2.58	-2.52	-2.30	-2.35	-2.32
26	-2.89	-2.99	-2.94	-2.53	-2.63	-2.61	-2.48	-2.53	-2.50	-2.30	-2.35	-2.31
27	-2.84	-2.89	-2.86	-2.53	-2.58	-2.55	-2.43	-2.48	-2.46	-2.25	-2.30	-2.28
28	-2.74	-2.84	-2.79	-2.43	-2.53	-2.51	-2.37	-2.43	-2.42	-2.20	-2.30	-2.26
29	-2.59	-2.74	-2.65	-2.38	-2.43	-2.42	-2.32	-2.37	-2.36	-2.15	-2.25	-2.21
30	-2.28	-2.59	-2.45	-2.23	-2.38	-2.32	-2.17	-2.32	-2.29	-2.10	-2.15	-2.14
31	-1.98	-2.28	-2.18	-2.08	-2.23	-2.16	-2.07	-2.17	-2.15	-2.00	-2.10	-2.08
Month	-0.28	-5.85	-2.57	-0.82	-3.33	-2.25	-1.02	-2.98	-2.22	-1.10	-2.95	-2.11

Mar.25: Incomplete
time series

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -20cm			Depth: -40cm			Depth: -80cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.61	-3.26	-2.90	-2.64	-2.89	-2.80	-0.75	-1.75	-1.40
2	-2.31	-2.61	-2.45	-2.39	-2.64	-2.52	-0.85	-1.75	-1.34
3	-2.21	-2.31	-2.26	-2.29	-2.39	-2.34	-0.70	-1.70	-1.25
4	-2.16	-2.21	-2.17	-2.14	-2.24	-2.21	-0.55	-1.60	-1.13
5	-2.16	-2.16	-2.16	-2.09	-2.14	-2.12	-0.40	-1.10	-0.56
6	-2.16	-2.26	-2.21	-1.99	-2.09	-2.03	-0.14	-0.90	-0.28
7	-1.90	-2.16	-2.02	-1.89	-1.99	-1.97	-0.19	-0.85	-0.34
8	-1.70	-1.90	-1.80	-1.74	-1.89	-1.84	-0.19	-0.65	-0.39
9	-1.60	-1.70	-1.63	-1.69	-1.74	-1.72	-0.09	-0.70	-0.31
10	-1.45	-1.60	-1.55	-1.54	-1.69	-1.64	-0.29	-1.10	-0.57
11	-1.25	-1.45	-1.41	-1.49	-1.59	-1.54	-0.60	-1.40	-0.91
12	-1.25	-1.35	-1.31	-1.39	-1.49	-1.44	-0.80	-1.65	-1.18
13	-1.35	-1.45	-1.39	-1.39	-1.44	-1.40	-0.85	-1.65	-1.20
14	-1.45	-1.80	-1.63	-1.39	-1.44	-1.39	-0.85	-1.65	-1.22
15	-1.80	-2.00	-1.93	-1.39	-1.44	-1.43	-0.80	-1.60	-1.17
16	-2.00	-2.11	-2.09	-1.44	-1.49	-1.47	-0.75	-1.50	-1.07
17	-2.11	-2.16	-2.13	-1.49	-1.59	-1.54	-0.60	-1.10	-0.87
18	-2.11	-2.16	-2.12	-1.54	-1.64	-1.59	-0.19	-0.75	-0.35
19	-2.06	-2.11	-2.10	-1.59	-1.64	-1.62	0.01	-0.45	-0.09
20	-2.06	-2.11	-2.09	-1.59	-1.64	-1.63	-0.04	-0.29	-0.09
21	-2.06	-2.11	-2.06	-1.54	-1.59	-1.58	-0.04	-0.40	-0.14
22	-2.00	-2.06	-2.04	-1.49	-1.54	-1.53	-0.04	-0.45	-0.25
23	-1.95	-2.06	-2.00	-1.44	-1.54	-1.49	-0.14	-0.75	-0.41
24	-1.95	-2.06	-2.00	-1.44	-1.54	-1.48	-0.40	-1.10	-0.71
25	-1.95	-2.06	-2.01	-1.44	-1.54	-1.48	-0.75	-1.50	-0.99
26	-1.95	-2.06	-2.01	-1.44	-1.49	-1.47	-0.65	-1.50	-1.03
27	-1.95	-2.00	-1.99	-1.44	-1.54	-1.48	-0.45	-1.35	-0.95
28	-1.95	-2.00	-1.99	-1.49	-1.54	-1.51	-0.29	-1.10	-0.79
29	-1.95	-2.00	-1.97	-1.49	-1.54	-1.51	-0.19	-0.90	-0.47
30	-1.90	-1.95	-1.95	-1.49	-1.54	-1.51	-0.09	-0.50	-0.24
31	-1.85	-1.90	-1.89	-1.49	-1.49	-1.49	-0.04	-0.40	-0.14
Month	-1.25	-3.26	-1.98	-1.39	-2.89	-1.78	0.01	-1.75	-0.70

Table 3 Daily mean, minimum and maximum ice/water temperatures at the air-ice interface (0 cm) and at depths of 5, 10, 20, 40, 80 and 120 cm below the air-ice interface, in the snow-removed area during the 1992 winter experiment.

Chaivo Bay
April 1992
Snow Covered Area (Recording Interval 30 min)

Date	Air/Snow Temperature (degrees C)			Snow/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Height: +9cm			Depth: 0cm			Depth: -5cm			Depth: -10cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.73	-1.98	-1.85	-1.88	-2.08	-1.96	-1.92	-2.07	-2.00	-1.90	-2.00	-1.95
2	-1.53	-1.73	-1.65	-1.73	-1.88	-1.79	-1.77	-1.92	-1.85	-1.75	-1.90	-1.83
3	-1.38	-1.58	-1.48	-1.57	-1.73	-1.66	-1.67	-1.77	-1.73	-1.65	-1.75	-1.72
4	-1.38	-1.43	-1.39	-1.52	-1.57	-1.56	-1.62	-1.67	-1.65	-1.60	-1.65	-1.62
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Month	-1.38	-1.98	-1.59	-1.52	-2.08	-1.74	-1.62	-2.07	-1.81	-1.60	-2.00	-1.78

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -20cm			Depth: -40cm			Depth: -80cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.75	-1.85	-1.82	-1.44	-1.49	-1.44	-0.04	-0.24	-0.09
2	-1.70	-1.75	-1.74	-1.39	-1.44	-1.42	-0.04	-0.29	-0.07
3	-1.60	-1.70	-1.65	-1.34	-1.39	-1.37	-0.04	-0.40	-0.16
4	-1.55	-1.60	-1.59	-1.29	-1.34	-1.29	-0.14	-0.60	-0.26
5									
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30									
Month	-1.55	-1.85	-1.70	-1.29	-1.49	-1.38	-0.04	-0.60	-0.15

Chaivo Bay
February 1992

Snow Removed Area

(Recording Interval 30 min)

Date	Snow/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -5cm			Depth: -10cm			Depth: -20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
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8												
9												
10												
11	-12.35	-17.64	-14.85	-9.33	-15.17	-12.60	-7.18	-13.46	-11.03	-3.85	-10.58	-8.03
12	-15.42	-19.15	-17.68	-14.66	-16.63	-15.74	-13.61	-15.11	-14.37	-10.68	-12.39	-11.78
13	-13.76	-19.75	-16.91	-13.76	-17.33	-15.54	-13.21	-15.87	-14.54	-11.83	-13.29	-12.57
14	-12.91	-17.29	-15.54	-12.90	-15.42	-14.42	-12.45	-14.36	-13.55	-11.28	-12.39	-11.90
15	-12.20	-18.85	-16.42	-13.56	-16.88	-15.43	-13.26	-15.57	-14.48	-12.04	-13.24	-12.60
16	-9.84	-16.63	-11.97	-10.38	-15.47	-12.02	-10.04	-14.56	-11.75	-9.48	-12.64	-11.01
17	-11.19	-12.91	-11.91	-10.28	-11.19	-10.67	-9.74	-10.40	-10.03	-8.92	-9.48	-9.13
18	-8.93	-12.05	-10.06	-8.72	-11.09	-9.64	-8.34	-10.40	-9.24	-7.72	-9.17	-8.50
19	-7.92	-9.33	-8.62	-7.56	-8.72	-8.23	-7.28	-8.29	-7.89	-6.82	-7.72	-7.32
20	-6.41	-8.43	-7.36	-6.40	-7.51	-7.12	-6.33	-7.23	-6.87	-6.06	-6.77	-6.46
21	-5.61	-6.38	-5.96	-5.75	-6.40	-6.01	-5.58	-6.28	-5.91	-5.36	-6.06	-5.68
22	-6.01	-6.81	-6.46	-5.75	-6.00	-5.89	-5.53	-5.63	-5.59	-5.11	-5.36	-5.24
23	-5.68	-6.26	-5.92	-5.40	-5.00	-5.53	-5.17	-5.48	-5.31	-4.81	-5.11	-4.95
24	-5.05	-5.91	-5.44	-4.94	-5.40	-5.20	-4.77	-5.17	-4.99	-4.46	-4.76	-4.65
25	-4.50	-5.05	-4.77	-4.49	-4.89	-4.71	-4.37	-4.72	-4.56	-4.21	-4.46	-4.34
26	-4.50	-9.99	-5.85	-4.29	-7.26	-4.89	-4.17	-6.03	-4.51	-3.95	-4.46	-4.10
27	-4.95	-12.35	-8.60	-5.45	-9.17	-7.13	-5.38	-7.73	-6.36	-4.51	-5.76	-5.17
28	-6.96	-14.12	-9.96	-7.01	-10.89	-8.95	-6.78	-9.59	-8.21	-5.86	-7.47	-6.80
29	-5.15	-7.22	-6.23	-5.75	-6.96	-6.24	-5.58	-6.73	-6.08	-5.26	-6.26	-5.72
Month	-4.50	-19.75	-10.03	-4.29	-17.33	-9.26	-4.17	-15.87	-8.70	-3.85	-13.29	-7.68

Date	Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40cm			Depth: -80cm			Depth: -120cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1									
2									
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10									
11	-1.06	-4.78	-2.93	-0.28	-1.39	-0.56	-0.32	-1.37	-0.80
12	-4.89	-7.40	-6.44	-0.28	-1.44	-0.79	-0.32	-1.52	-0.97
13	-7.45	-8.36	-8.08	-0.38	-1.84	-1.31	-0.47	-1.82	-1.30
14	-8.16	-8.41	-8.24	-0.79	-1.84	-1.47	-0.82	-1.82	-1.46
15	-8.16	-8.86	-8.63	-1.04	-1.84	-1.49	-1.07	-1.87	-1.48
16	-7.66	-8.86	-8.40	-1.14	-1.84	-1.52	-1.12	-1.82	-1.51
17	-6.75	-7.60	-7.08	-1.14	-1.84	-1.56	-1.17	-1.82	-1.54
18	-6.19	-6.75	-6.54	-1.24	-1.94	-1.64	-1.22	-1.87	-1.62
19	-5.54	-6.19	-5.85	-1.24	-1.84	-1.58	-1.27	-1.82	-1.57
20	-5.04	-5.54	-5.29	-1.04	-1.79	-1.44	-1.12	-1.82	-1.46
21	-4.53	-5.04	-4.76	-0.74	-1.59	-0.98	-0.77	-1.52	-1.05
22	-4.18	-4.48	-4.31	-0.53	-1.34	-0.93	-0.52	-1.32	-1.00
23	-3.88	-4.18	-4.02	-0.58	-1.64	-1.18	-0.62	-1.62	-1.18
24	-3.68	-3.88	-3.80	-0.74	-1.69	-1.21	-0.77	-1.72	-1.24
25	-3.53	-3.68	-3.61	-0.79	-1.74	-1.24	-0.82	-1.72	-1.24
26	-3.32	-3.53	-3.42	-0.84	-1.79	-1.31	-0.87	-1.77	-1.29
27	-3.32	-3.68	-3.51	-0.84	-1.79	-1.33	-0.87	-1.77	-1.32
28	-3.68	-4.58	-4.25	-0.94	-1.79	-1.35	-0.97	-1.72	-1.33
29	-4.23	-4.53	-4.41	-0.84	-1.74	-1.33	-0.87	-1.72	-1.31
Month	-1.06	-8.86	-5.45	-0.28	-1.94	-1.28	-0.32	-1.87	-1.30

Chaivo Bay
March 1992
Snow Removed Area

(Recording Interval 30 min)

Date	Snow/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -5cm			Depth: -10cm			Depth: -20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-4.75	-5.91	-5.30	-4.99	-5.70	-5.29	-4.82	-5.53	-5.17	-4.66	-5.26	-4.94
2	-5.00	-5.05	-5.03	-4.69	-4.99	-4.83	-4.52	-4.82	-4.66	-4.31	-4.61	-4.44
3	-5.05	-5.35	-5.19	-4.69	-4.74	-4.72	-4.47	-4.52	-4.51	-4.16	-4.31	-4.23
4	-5.00	-5.35	-5.19	-4.69	-4.79	-4.76	-4.42	-4.52	-4.50	-4.10	-4.21	-4.16
5	-4.65	-9.28	-6.05	-4.39	-7.41	-5.17	-4.12	-6.23	-4.67	-3.80	-4.61	-4.08
6	-0.42	-10.74	-4.02	-1.82	-0.87	-4.70	-2.56	-7.63	-4.86	-2.95	-5.66	-4.49
7	-0.72	-0.97	-0.83	-1.17	-1.82	-1.44	-1.71	-2.51	-2.01	-1.65	-2.80	-2.10
8	-0.62	-0.77	-0.69	-0.86	-1.17	-1.01	-1.36	-1.71	-1.51	-1.29	-1.65	-1.43
9	-0.52	-0.67	-0.61	-0.71	-0.86	-0.77	-1.16	-1.36	-1.25	-1.14	-1.24	-1.22
10	-0.62	-1.07	-0.86	-0.76	-0.92	-0.82	-1.11	-1.16	-1.15	-1.09	-1.24	-1.19
11	-0.82	-1.43	-1.12	-0.92	-1.17	-1.03	-1.11	-1.21	-1.17	-1.04	-1.14	-1.10
12	-0.97	-1.63	-1.30	-1.07	-1.42	-1.26	-1.21	-1.36	-1.29	-1.09	-1.14	-1.12
13	-1.07	-1.48	-1.22	-1.17	-1.42	-1.30	-1.31	-1.36	-1.34	-1.14	-1.24	-1.19
14	-1.07	-1.48	-1.22	-1.22	-1.42	-1.28	-1.36	-1.41	-1.37	-1.24	-1.29	-1.26
15	-1.07	-1.58	-1.27	-1.22	-1.47	-1.36	-1.36	-1.46	-1.41	-1.29	-1.29	-1.29
16	-1.02	-1.43	-1.19	-1.22	-1.37	-1.30	-1.36	-1.46	-1.40	-1.29	-1.34	-1.31
17	-1.02	-1.12	-1.09	-1.07	-1.32	-1.19	-1.31	-1.51	-1.38	-1.29	-1.34	-1.31
18	-1.02	-1.12	-1.06	-1.02	-1.12	-1.09	-1.16	-1.41	-1.28	-1.24	-1.29	-1.28
19	-0.97	-1.12	-1.05	-0.97	-1.07	-1.01	-1.11	-1.16	-1.15	-1.19	-1.24	-1.23
20	-1.12	-1.17	-1.15	-0.97	-1.02	-1.01	-1.11	-1.16	-1.13	-1.14	-1.19	-1.18
21	-1.12	-1.17	-1.15	-0.97	-1.02	-1.01	-1.11	-1.11	-1.11	-1.09	-1.14	-1.13
22	-1.02	-1.12	-1.11	-0.97	-0.97	-0.97	-1.01	-1.11	-1.05	-1.04	-1.09	-1.08
23	-1.02	-1.12	-1.06	-0.92	-0.97	-0.95	-0.96	-1.01	-0.99	-0.99	-1.04	-1.02
24	-1.02	-1.12	-1.08	-0.92	-0.97	-0.95	-0.96	-1.01	-0.99	-0.94	-1.04	-1.00
25	-0.97	-1.12	-1.06	-0.97	-0.97	-0.97	-0.96	-1.01	-0.99	-0.94	-1.04	-0.99
26	-0.97	-1.02	-0.99	-0.92	-0.97	-0.96	-0.96	-1.01	-0.99	-0.94	-0.99	-0.98
27	-0.97	-1.02	-0.99	-0.92	-0.97	-0.96	-0.96	-1.01	-0.98	-0.94	-0.99	-0.98
28	-1.07	-1.17	-1.11	-0.97	-1.02	-0.99	-0.96	-1.01	-1.00	-0.99	-0.99	-0.99
29	-1.12	-1.33	-1.19	-1.02	-1.12	-1.05	-1.01	-1.11	-1.05	-0.99	-1.04	-1.01
30	-1.17	-1.33	-1.28	-1.12	-1.27	-1.24	-1.11	-1.21	-1.17	-1.04	-1.09	-1.06
31	-1.12	-1.27	-1.19	-1.12	-1.27	-1.22	-1.16	-1.21	-1.18	-1.04	-1.09	-1.05
Month	-0.42	-10.74	-1.86	-0.71	-8.87	-1.83	-0.96	-7.63	-1.89	-0.94	-5.66	-1.80

Date	Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40cm			Depth: -80cm			Depth: -120cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.88	-4.23	-4.06	-0.84	-1.79	-1.45	-0.87	-1.77	-1.43
2	-3.63	-3.88	-3.75	-0.94	-1.84	-1.39	-0.92	-1.82	-1.37
3	-3.48	-3.63	-3.54	-0.74	-1.79	-1.29	-0.82	-1.72	-1.29
4	-3.37	-3.48	-3.43	-0.58	-1.64	-1.19	-0.62	-1.67	-1.21
5	-3.22	-3.37	-3.29	-0.43	-1.19	-0.64	-0.47	-1.17	-0.74
6	-3.22	-3.42	-3.37	-0.23	-0.94	-0.33	0.63	-0.92	-0.09
7	-2.67	-3.27	-2.96	-0.23	-0.94	-0.42	0.93	-0.12	0.64
8	-2.27	-2.67	-2.46	-0.28	-0.69	-0.46	0.53	-0.17	0.32
9	-2.07	-2.27	-2.15	-0.33	-0.74	-0.45	0.28	-0.32	0.04
10	-1.86	-2.07	-1.96	-0.33	-1.14	-0.74	-0.07	-0.87	-0.51
11	-1.71	-1.81	-1.79	-0.63	-1.44	-0.98	-0.42	-1.22	-0.76
12	-1.61	-1.71	-1.68	-0.84	-1.74	-1.23	-0.62	-1.47	-0.97
13	-1.56	-1.61	-1.58	-0.94	-1.74	-1.25	-0.67	-1.47	-1.01
14	-1.51	-1.56	-1.55	-0.94	-1.69	-1.26	-0.67	-1.42	-1.04
15	-1.46	-1.51	-1.50	-0.89	-1.64	-1.22	-0.62	-1.42	-1.00
16	-1.41	-1.46	-1.45	-0.79	-1.54	-1.12	-0.62	-1.37	-0.92
17	-1.36	-1.41	-1.41	-0.58	-1.14	-0.92	-0.57	-1.02	-0.79
18	-1.36	-1.41	-1.38	-0.23	-0.79	-0.43	-0.27	-0.67	-0.46
19	-1.31	-1.36	-1.33	-0.03	-0.48	-0.16	0.08	-0.52	-0.16
20	-1.21	-1.31	-1.27	-0.08	-0.33	-0.16	0.08	-0.47	-0.09
21	-1.21	-1.21	-1.21	-0.08	-0.58	-0.21	0.03	-0.52	-0.10
22	-1.06	-1.21	-1.15	-0.13	-0.53	-0.30	-0.07	-0.62	-0.22
23	-1.06	-1.11	-1.08	-0.23	-0.79	-0.47	-0.17	-0.62	-0.44
24	-1.01	-1.06	-1.04	-0.48	-1.14	-0.77	-0.52	-1.17	-0.74
25	-0.96	-1.11	-1.01	-0.74	-1.54	-1.04	-0.62	-1.42	-0.93
26	-0.96	-1.16	-0.99	-0.74	-1.54	-1.09	-0.67	-1.42	-0.96
27	-0.96	-1.11	-1.00	-0.53	-1.44	-1.00	-0.52	-1.27	-0.89
28	-0.96	-1.01	-1.00	-0.38	-1.09	-0.85	-0.37	-1.22	-0.81
29	-0.96	-1.01	-0.97	-0.23	-0.94	-0.58	-0.17	-0.92	-0.65
30	-0.91	-0.96	-0.95	-0.18	-0.58	-0.34	-0.12	-0.67	-0.48
31	-0.91	-0.91	-0.91	-0.13	-0.43	-0.22	-0.02	-0.57	-0.35
Month	-0.91	-4.23	-1.85	-0.83	-1.84	-0.77	0.93	-1.82	-0.63

Chaivo Bay
April 1992

Snow Removed Area

(Recording Interval 30 min)

Date	Snow/ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -5cm			Depth: -10cm			Depth: -20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.97	-1.12	-1.04	-1.02	-1.12	-1.08	-1.06	-1.16	-1.09	-0.99	-1.04	-1.02
2	-0.82	-0.97	-0.89	-0.92	-1.02	-0.96	-0.96	-1.06	-0.99	-0.94	-0.99	-0.96
3	-0.77	-0.82	-0.79	-0.81	-0.92	-0.86	-0.91	-0.96	-0.92	-0.89	-0.94	-0.92
4	-0.62	-0.77	-0.70	-0.66	-0.81	-0.73	-0.71	-0.91	-0.82	-0.79	-0.89	-0.86
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30												
Month	-0.62	-1.12	-0.86	-0.66	-1.12	-0.91	-0.71	-1.16	-0.96	-0.79	-1.04	-0.94

Date	Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40cm			Depth: -80cm			Depth: -120cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.86	-0.91	-0.87	-0.08	-0.28	-0.15	-0.02	-0.42	-0.16
2	-0.81	-0.86	-0.84	-0.03	-0.33	-0.12	0.03	-0.42	-0.07
3	-0.76	-0.81	-0.79	-0.13	-0.53	-0.22	-0.07	-0.67	-0.17
4	-0.76	-0.76	-0.76	-0.18	-0.63	-0.30	-0.12	-0.57	-0.23
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24									
25									
26									
27									
28									
29									
30									
Month	-0.76	-0.91	-0.81	-0.03	-0.63	-0.19	0.03	-0.67	-0.16

Table 4 Observations of meteorological and ice conditions at Kleye Strait, Chaivo during the period from 11 January to 22 March 1993.

Observation	Period	Sampling interval
Meteorological conditions	11 Jan. - 22 Mar.	
Temperature at 0.6 and 1.8 m		30 min
Humidity at 0.6 and 1.8 m		30 min
Wind speed at 0.6 and 2.1 m		30 min
Wind direction at 2.1 m		30 min
Incoming solar radiation		30 min
Reflected solar radiation		30 min
Downward long-wave radiation		2 h
Air/snow temperature	11 Jan. - 11 Feb.	30 min
at 0, 0.03, 0.06, 0.09, 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30, 0.33, 0.39, 0.43, 0.53 and 0.63 m above snow-ice interface		
Ice/water temperature	11 Jan. - 11 Feb.	1 h
at -0.10, -0.20, -0.30, -0.40, -0.425, -0.45, -0.475, -0.50, -0.525, -0.55, -0.575, -0.60, -0.625, -0.65, -0.675, -0.70 m below snow-ice interface		

Table 5 Daily mean, minimum and maximum air temperatures and humidities at the heights of 60 and 180 cm, wind speeds at heights of 60 and 210 cm, and incoming and reflected solar radiation, under natural conditions during the 1993 winter experiment.

January 1993

Natural Area

Date	Air Temperature [deg.C]						Humidity [%]					
	Height:60cm			Height:180cm			Height:60cm			Height:180cm		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-16.70	-23.25	-20.70	-16.55	-23.25	-20.59	68.90	56.70	64.34	62.00	49.00	57.17
13	-17.50	-24.30	-21.45	-17.45	-24.20	-21.35	68.80	58.50	64.78	62.00	51.00	57.61
14	-17.10	-24.90	-21.65	-16.90	-24.90	-21.49	69.10	63.50	66.65	62.30	55.60	59.35
15	-15.60	-23.25	-20.81	-15.80	-23.15	-20.85	78.40	83.00	70.83	86.80	56.10	83.59
16	-16.95	-24.30	-21.81	-16.55	-24.25	-21.52	72.50	67.60	70.69	65.80	56.40	62.96
17	-15.50	-24.85	-21.18	-15.30	-24.85	-20.88	80.00	67.10	73.97	73.20	57.00	66.80
18	-17.05	-25.00	-20.77	-16.20	-24.85	-20.42	80.30	71.50	76.44	73.30	64.40	69.68
19	-16.35	-27.25	-22.96	-15.65	-27.35	-22.74	81.50	68.30	72.62	74.90	60.60	65.91
20	-16.75	-26.85	-23.66	-15.25	-26.85	-23.16	76.00	65.10	70.11	68.30	60.10	63.63
21	-17.35	-26.75	-21.58	-17.50	-26.70	-21.56	79.00	69.40	73.28	71.90	61.80	65.96
22	-17.10	-25.50	-20.77	-17.20	-25.50	-20.66	77.30	65.40	73.01	70.40	58.60	65.94
23	-14.40	-29.50	-22.96	-14.15	-29.30	-22.15	75.30	54.70	69.34	68.10	47.90	61.85
24	-11.55	-22.30	-17.51	-10.65	-21.25	-16.78	79.60	58.50	72.20	70.50	51.20	64.84
25	-15.40	-26.85	-21.76	-12.65	-26.85	-20.92	81.30	59.80	70.55	72.80	43.80	62.43
26	-9.55	-26.95	-14.66	-9.45	-26.95	-14.58	85.40	68.00	79.50	79.40	60.40	73.16
27	-8.55	-15.10	-11.55	-8.50	-14.75	-11.44	91.10	84.70	87.25	86.80	79.70	82.08
28	-1.55	-6.40	-2.61	-1.40	-6.25	-2.48	97.00	93.20	95.97	95.40	89.20	93.65
29	-1.60	-3.35	-2.32	-1.45	-3.20	-2.14	97.10	92.80	95.40	96.10	89.30	93.83
30	-2.90	-5.25	-3.98	-2.70	-5.05	-3.75	95.70	93.60	94.66	93.70	90.10	92.20
31	-4.95	-19.75	-8.58	-4.75	-19.20	-8.39	93.60	79.30	89.46	90.10	72.40	84.65
Month	-1.55	-29.50	-17.16	-1.40	-29.30	-16.88	97.10	54.70	76.54	96.10	43.60	70.36

* Incomplete time series data sets.

January 1993

Natural Area

Date	Solar Radiation				Wind				Direction Most Frequent
	Incoming		Reflected		Speed		[m/s]		
	Max. [kW/m ²]	Cumulative [MJ/m ²]	Max. [kW/m ²]	Cumulative [MJ/m ²]	Height:60cm		Height:210cm		
				Max.	Mean	Max.	Mean		
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12	0.24	4.13	0.22	3.74	7.45	4.76	8.00	5.29	WNW
13	0.23	3.99	0.21	3.57	8.66	4.25	7.19	4.77	WNW
14	0.23	3.93	0.21	3.48	6.25	3.51	6.73	4.02	WNW
15	0.25	4.25	0.22	3.88	4.87	2.93	5.38	3.37	NW
16	0.23	4.08	0.23	3.92	3.52	2.29	4.00	2.77	WNW
17	0.25	4.11	0.24	3.93	2.91	1.50	3.20	1.92	WNW
18	0.22	3.55	0.19	3.14	2.45	0.97 *	2.55	1.07 *	WNW *
19	0.25	4.28	0.23	3.95	1.28	0.75	1.12	0.68 *	N *
20	0.28	4.87	0.25	4.34	1.26	0.89	1.92	0.82 *	WNW *
21	0.26	4.03	0.24	3.65	3.88	2.12	4.11	2.33	WNW
22	0.27	4.87	0.26	4.53	5.48	2.92	5.82	3.27	NW
23	0.24	4.45	0.24	4.35	1.73	1.02	2.64	1.51 *	WNW *
24	0.26	4.41	0.24	4.10	3.47	1.53	4.41	2.01 *	S *
25	0.28	4.79	0.25	4.57	1.62	0.71 *	2.10	0.97 *	NW *
26	0.17	3.34	0.15	2.78	6.32	3.59 *	7.50	4.27 *	SSE *
27	0.19	3.39	0.16	2.84	6.37	3.64	6.39	3.85 *	NE *
28	0.19	3.48	0.16	2.96	9.60	5.99	11.28	6.93	ESE
29	0.22	3.81	0.20	3.23	8.96	6.09	9.05	6.67	ENE
30	0.21	3.78	0.18	3.22	9.12	6.21	9.43	8.21	NNE
31	0.22	3.83	0.20	3.27	4.01	2.29	7.78	5.53	NNE

Frequency of Wind Direction

Date	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL	
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12	0	0	0	0	0	0	0	0	0	0	0	0	0	33	15	0	48	
13	0	0	0	0	0	0	0	0	0	0	0	0	0	1	35	12	0	48
14	0	0	0	0	0	0	0	0	0	0	0	0	0	3	30	15	0	48
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	31	4	48
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	22	2	48
17	8	10	1	0	0	0	0	0	0	0	0	0	0	0	15	13	1	48
18	2	0	0	0	0	0	0	0	0	0	0	0	0	3	18	13	4	38 *
19	8	1	3	2	3	4	2	1	0	0	0	2	5	5	4	2	42 *	
20	1	0	0	1	1	0	0	1	0	0	0	0	3	17	11	7	42 *	
21	0	0	0	0	0	0	0	0	0	0	0	0	3	20	18	7	48	
22	1	0	0	0	0	0	0	0	0	0	0	0	0	4	39	4	48	
23	0	1	3	2	1	5	3	4	4	2	0	0	5	9	4	3	46 *	
24	3	1	1	4	2	1	3	4	8	4	0	0	3	3	6	4	47 *	
25	7	2	0	0	0	0	0	0	0	0	0	0	2	10	16	4	41 *	
26	2	1	1	1	0	0	1	20	11	0	0	0	0	2	1	7	47 *	
27	3	14	27	1	0	0	0	0	0	0	0	0	1	0	0	1	47 *	
28	0	0	1	1	0	19	14	13	0	0	0	0	0	0	0	0	48	
29	0	0	15	20	7	6	0	0	0	0	0	0	0	0	0	0	48	
30	3	31	14	0	0	0	0	0	0	0	0	0	0	0	0	0	48	
31	9	33	0	0	0	0	0	0	0	0	0	0	0	0	2	4	48	
TOTAL	47	94	66	32	14	35	23	43	23	6	0	2	29	236	222	54	926	

* Incomplete time series data sets.

February 1993

Natural Area

Date	Air Temperature [deg. C]						Humidity [%]					
	Height:60cm			Height:180cm			Height:60cm			Height:180cm		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
1	-11.35	-23.00	-17.79	-11.30	-22.65	-17.48	83.80	64.30	74.40	76.50	57.30	67.48
2	-14.15	-28.80	-22.51	-14.00	-28.75	-21.85	78.10	55.60	70.58	70.70	48.50	62.53
3	-14.10	-29.80	-21.66	-14.05	-29.65	-21.34	86.90	67.90	77.17	81.00	55.20	69.77
4	-15.25	-23.35	-18.22	-15.20	-22.80	-18.02	79.40	61.20	71.03	72.10	53.50	63.71
5	-10.05	-23.70	-18.08	-9.45	-23.00	-16.98	82.50	59.80	71.81	74.80	48.90	63.19
6	-14.60	-21.10	-17.66	-14.60	-20.80	-17.54	83.60	62.00	72.63	76.70	55.00	65.56
7	-14.70	-20.60	-17.53	-14.75	-20.45	-17.49	78.50	65.80	72.56	71.40	59.00	65.62
8	-13.30	-25.10	-17.78	-13.30	-24.55	-17.62	75.60	58.60	68.06	69.10	51.50	60.75
9	-10.60	-15.55	-12.63	-10.55	-15.40	-12.55	81.20	66.50	73.89	74.80	60.00	67.06
10	-9.65	-20.05	-14.77	-9.60	-19.65	-14.48	76.60	62.60	69.03	69.20	55.80	61.93
11	-8.75	-18.85	-14.13	-8.70	-18.50	-13.72	80.70	62.30	71.30	74.30	55.70	63.96
12	-9.60	-22.25	-17.45	-8.35	-21.55	-16.95	83.20	63.80	77.31	76.10	50.10	70.10
13	-11.15	-23.70	-18.18	-11.20	-23.45	-17.83	78.40	60.10	72.19	70.80	53.50	64.74
14	-12.35	-24.85	-19.15	-12.40	-24.00	-18.66	74.70	52.90	64.87	68.10	46.10	57.14
15	-13.20	-28.45	-20.77	-13.15	-25.20	-20.14	75.50	55.80	65.33	68.80	47.80	57.12
16	-12.80	-27.25	-19.52	-12.85	-25.60	-19.14	78.50	54.50	69.03	71.50	47.40	61.45
17	-10.00	-27.45	-19.92	-9.90	-27.15	-19.12	69.50	45.80	60.43	62.00	37.80	51.51
18	-5.45	-27.15	-18.96	-4.85	-26.30	-18.16	80.20	38.90	66.34	73.10	32.30	58.43
19	-10.20	-26.00	-20.01	-9.95	-25.90	-19.41	79.10	51.50	68.79	70.80	44.50	60.04
20	-12.30	-26.05	-19.44	-12.35	-26.00	-19.16	75.20	57.10	66.48	67.40	50.10	59.06
21	-9.90	-20.80	-15.24	-9.85	-20.40	-15.00	73.40	56.40	66.30	66.10	49.10	59.03
22	-8.30	-20.45	-12.97	-8.30	-20.05	-12.84	85.80	66.20	76.43	79.60	59.10	69.61
23	-3.85	-9.25	-6.16	-3.65	-9.15	-5.97	95.10	85.00	92.43	92.10	78.80	88.02
24	-6.50	-12.55	-8.70	-6.45	-12.10	-8.54	92.40	66.70	80.22	87.40	60.60	73.57
25	-8.45	-23.20	-13.18	-8.55	-23.05	-12.97	79.00	80.20	71.82	72.30	53.60	65.04
26	-9.55	-24.75	-17.86	-9.40	-24.25	-17.38	80.00	55.40	69.63	72.60	47.80	62.00
27	-3.60	-23.00	-14.88	-1.55	-22.70	-14.00	78.90	38.00	65.74	71.50	28.70	57.24
28	-7.00	-25.00	-17.23	-5.30	-25.05	-16.66	78.60	50.60	69.21	71.60	41.80	61.51
Month	-3.60	-29.80	-16.87	-1.55	-29.65	-16.46	95.10	38.00	71.25	92.10	28.70	63.83

* Incomplete time series data sets.

February 1993

Natural Area

Date	Solar Radiation				Wind				Direction Height:210cm Most Frequent
	Incoming		Reflected		Speed (m/s)		Height:210cm		
	Max.	Cumulative	Max.	Cumulative	Height:60cm	Height:210cm			
	[kW/m ²]	[MJ/m ²]	[kW/m ²]	[MJ/m ²]	Max.	Mean		Max.	
1	0.28	5.26	0.27	4.94	5.52	3.02	6.48	3.75	NW
2	0.33	6.31	0.33	6.27	4.41	1.89	4.81	2.41 *	NW *
3	0.22	4.10	0.20	3.59	3.33	1.40	4.35	1.93 *	NNE *
4	0.30	5.67	0.28	5.26	8.29	4.51	8.82	4.99	NW
5	0.32	5.57	0.30	5.10	4.51	1.93	5.22	2.63 *	W *
6	0.33	6.33	0.31	5.79	6.03	2.96	6.41	4.32	NNE
7	0.35	6.57	0.31	5.74	7.12	4.80	7.56	5.19	NW
8	0.33	5.69	0.29	4.92	7.99	4.66	8.59	5.08	NW
9	0.35	6.60	0.30	5.84	7.51	5.89	8.09	6.16	NW
10	0.38	7.79	0.35	7.17	4.43	2.97	4.97	3.47	NW
11	0.36	7.08	0.33	6.29	6.15	3.18	6.64	3.70	NW
12	0.30	5.92	0.26	5.05	2.70	1.07	2.96	1.64 *	N *
13	0.37	7.31	0.34	6.93	5.65	3.04	6.07	3.54	NW
14	0.38	8.11	0.35	7.27	5.79	3.03	6.27	3.63	WNW, NW
15	0.39	8.26	0.35	7.39	5.21	2.55	5.68	3.10	NW
16	0.40	8.29	0.36	7.59	7.28	3.59	7.85	4.13	NW
17	0.41	8.82	0.37	7.89	5.58	1.92	6.06	2.49 *	WNW, NW *
18	0.40	8.68	0.37	7.84	3.10	0.99 *	3.54	1.31 *	NW *
19	0.39	8.41	0.35	7.60	3.90	1.16	4.34	1.45 *	NNE *
20	0.42	9.12	0.38	8.19	8.12	2.80	8.58	3.33 *	NW *
21	0.42	9.24	0.38	8.33	10.10	5.36	10.84	5.97	NW
22	0.42	8.81	0.39	7.85	7.99	5.28	8.46	5.72	NW
23	0.25	5.21	0.21	4.48	7.59	5.31	10.20	8.77	NNE
24	0.45	9.61	0.44	9.27	5.19	3.24	9.22	6.74	NNE
25	0.45	10.19	0.43	9.50	6.28	3.73	6.68	4.16 *	NW *
26	0.46	10.34	0.43	9.68	7.57	2.79	8.11	3.30	NW
27	0.46	10.41	0.43	9.59	4.08	1.45	4.47	1.99 *	NW *
28	0.47	10.80	0.44	9.91	2.78	0.87	3.08	1.16 *	NNE *

Frequency of Wind Direction

Date	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	7	0	0	0	0	0	0	0	0	0	0	0	0	5	21	15	48
2	3	0	1	0	0	0	0	0	0	0	0	0	1	15	17	7	44 *
3	8	13	2	1	0	2	0	0	0	0	0	0	4	4	3	9	46 *
4	1	0	0	0	0	0	0	0	0	0	0	0	0	10	20	17	48
5	3	5	2	3	2	0	1	1	3	0	0	0	14	12	0	1	47 *
6	12	15	0	0	0	0	0	0	0	0	0	0	0	0	8	13	48
7	0	0	0	0	0	0	0	0	0	0	0	0	0	4	26	18	48
8	0	0	0	0	0	0	0	0	0	0	0	0	0	5	27	16	48
9	0	0	0	0	0	0	0	0	0	0	0	0	0	3	44	1	48
10	1	0	0	0	0	0	0	0	0	0	0	0	3	8	26	10	48
11	0	0	0	0	0	0	0	0	0	0	0	0	1	15	30	2	48
12	15	6	5	0	0	0	0	0	0	0	0	0	1	11	6	3	47 *
13	2	0	0	0	0	0	0	0	0	0	0	0	0	9	28	9	48
14	0	0	0	0	0	0	0	0	0	0	0	0	6	21	21	0	48
15	0	0	0	0	0	0	0	0	0	0	0	0	10	18	19	1	48
16	1	0	0	0	0	0	0	0	0	0	0	0	3	20	21	3	48
17	3	1	0	1	1	0	0	0	0	0	0	0	2	17	17	3	45 *
18	4	2	3	1	2	0	1	0	1	0	0	0	2	6	15	4	41 *
19	2	5	4	1	0	0	0	0	0	0	0	0	8	7	8	10	45 *
20	2	0	1	1	1	0	0	0	0	0	0	0	0	15	18	9	47 *
21	0	0	0	0	0	0	0	0	0	0	0	0	0	4	27	17	48
22	0	0	0	0	0	0	0	0	0	0	0	0	0	3	31	14	48
23	8	28	0	0	0	0	0	0	0	0	0	0	0	0	1	11	48
24	13	23	0	0	0	0	0	0	0	0	0	0	0	0	2	10	48
25	1	0	0	0	0	0	0	0	0	0	0	0	0	3	24	19	47 *
26	0	0	1	1	0	0	0	0	0	0	0	0	9	15	18	4	48
27	3	4	1	1	2	0	0	0	1	0	0	0	3	11	14	3	43 *
28	8	11	3	2	1	1	0	0	0	0	0	0	1	4	4	10	45 *
TOTAL	97	113	23	12	9	0	2	1	5	0	0	0	68	245	496	239	1313

* Incomplete time series data sets.

March 1993

Natural Area

Date	Air Temperature [deg.C]						Humidity [%]					
	Height:60cm			Height:180cm			Height:60cm			Height:180cm		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
1	-8.40	-26.90	-17.72	-8.30	-26.35	-17.09	77.90	51.00	66.63	69.80	44.60	58.41
2	-4.60	-20.60	-12.93	-3.45	-19.50	-11.71	85.20	51.10	70.85	80.30	42.70	62.26
3	-5.50	-15.35	-9.21	-5.55	-15.30	-8.98	91.20	80.00	87.03	87.40	70.40	81.09
4	-14.95	-26.75	-19.36	-14.95	-25.35	-19.06	83.30	45.70	61.88	74.80	35.50	52.77
5	-9.85	-29.85	-17.98	-9.80	-29.35	-17.72	88.20	53.90	72.03	83.60	41.70	64.84
6	-8.30	-24.85	-12.75	-8.35	-24.70	-12.40	91.60	75.70	85.86	87.40	68.30	80.77
7	-5.50	-19.80	-11.88	-5.45	-19.50	-11.49	86.30	54.60	71.60	82.80	47.50	64.86
8	-6.90	-24.90	-13.45	-6.95	-23.90	-12.95	84.30	56.00	76.81	77.90	46.00	69.89
9	-4.85	-10.35	-7.45	-5.00	-9.85	-7.26	93.10	81.60	87.11	89.70	75.10	81.88
10	-1.15	-12.90	-6.50	-0.15	-11.80	-5.85	93.80	74.90	87.85	90.40	65.10	82.94
11	-6.55	-14.10	-9.11	-6.70	-13.65	-9.03	91.30	71.40	82.18	86.90	66.20	76.36
12	-8.45	-15.15	-11.61	-8.65	-14.85	-11.52	87.10	63.40	77.80	80.80	58.30	71.52
13	-9.05	-13.85	-11.73	-9.20	-13.50	-11.66	86.90	59.00	76.25	80.70	53.50	69.76
14	-9.25	-13.35	-11.36	-9.30	-13.30	-11.32	83.20	63.50	75.55	76.30	56.30	68.48
15	-5.00	-11.75	-8.13	-4.75	-11.65	-7.97	94.70	78.80	90.38	90.10	88.10	83.89
16	-3.00	-5.65	-4.41	-3.00	-5.45	-4.22	95.30	93.90	94.96	91.80	86.40	90.27
17	-5.45	-11.75	-7.48	-5.45	-11.50	-7.29	94.80	69.60	85.55	90.90	62.70	78.09
18	-5.70	-12.00	-8.47	-5.65	-11.75	-8.36	83.30	65.50	75.01	76.00	58.60	68.39
19	-3.15	-18.15	-8.92	-3.20	-18.15	-8.74	86.10	49.90	70.06	79.60	44.70	63.58
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
Month	-1.15	-29.85	-11.08	-0.15	-29.35	-10.77	95.30	45.70	78.70	91.80	35.50	72.10

* Incomplete time series data sets.

March 1993

Natural Area

Date	Solar Radiation				Wind				Direction Height:210cm Most Frequent
	Incoming		Reflected		Speed		Height:210cm	Direction	
	Max.	Cumulative	Max.	Cumulative	Max.	Mean			
	[kW/m ²]	[MJ/m ²]	[kW/m ²]	[MJ/m ²]	Height:60cm	Height:210cm	Height:210cm		
1	0.47	10.97	0.44	9.99	5.87	2.36	6.42	2.86	NW
2	0.47	10.88	0.44	9.93	4.64	1.78	5.24	2.38	NNE
3	0.22	4.58	0.34	6.48	7.16	2.46	10.19	4.00 *	ENE *
4	0.50	11.75	0.46	10.59	8.59	4.67	9.20	5.31	ENE
5	0.49	10.67	0.45	9.49	6.41	3.46	7.46	4.10	S
6	0.41	9.25	0.36	8.06	4.91	2.79 *	5.80	3.56 *	E *
7	0.51	12.27	0.48	11.10	7.93	3.38	8.49	4.02 *	E *
8	0.52	12.32	0.48	11.47	6.88	3.10	8.28	4.07 *	S *
9	0.58	13.19	0.53	11.81	7.81	5.13	8.99	6.04	S
10	0.46	9.59	0.41	8.81	4.56	1.56	4.88	2.23	ENE, S
11	0.47	10.09	0.43	8.86	5.94	2.35	6.28	3.76	E
12	0.46	10.23	0.41	8.76	4.04	1.94	4.31	2.94	ESE
13	0.50	11.55	0.46	10.21	6.44	2.79	6.81	5.00	ESE
14	0.43	10.07	0.37	8.58	5.92	3.40	9.93	7.49	ESE
15	0.39	8.61	0.33	7.18	6.97	5.16	12.69	10.75	ESE
16	0.44	8.36	0.36	7.01	9.80	7.27	10.86	9.36	ESE
17	0.60	14.24	0.54	12.61	9.82	7.15	10.36	8.54	ESE, SE
18	0.63	12.95	0.51	10.54	9.91	5.10	11.12	8.14	SE
19	0.60	15.57	0.54	13.65	5.69	2.35 *	6.39	3.80 *	SE *
20	0.61	15.70							
21	0.61	15.70							
22	0.62	15.22							
23									
24									
25									
26									
27									
28									
29									
30									
31									

Frequency of Wind Direction

Date	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	8	7	2	0	2	0	1	0	0	0	0	0	0	2	18	8	48
2	9	26	0	2	0	0	0	5	1	0	0	0	0	1	0	4	48
3	2	6	6	23	5	1	2	0	0	0	0	0	0	0	0	0	45 *
4	0	0	0	27	18	1	1	0	1	0	0	0	0	0	0	0	48
5	0	0	0	1	6	9	4	3	25	0	0	0	0	0	0	0	48
6	0	0	0	0	10	8	6	7	4	4	1	2	2	0	0	0	44 *
7	0	0	0	17	20	6	1	1	0	0	0	0	0	0	0	0	45 *
8	0	0	0	0	1	9	6	1	28	0	0	0	0	0	0	0	43 *
9	0	0	0	0	0	0	0	0	48	0	0	0	0	0	0	0	48
10	0	2	2	14	2	5	5	4	14	0	0	0	0	0	0	0	48
11	0	0	0	10	18	12	2	1	1	2	1	0	1	0	0	0	48
12	0	0	0	0	0	35	1	1	3	4	2	1	1	0	0	0	48
13	0	0	0	0	0	37	5	3	1	0	2	0	0	0	0	0	48
14	0	0	0	0	0	46	2	0	0	0	0	0	0	0	0	0	48
15	0	0	0	0	0	47	1	0	0	0	0	0	0	0	0	0	48
16	0	0	0	0	0	41	5	0	1	1	0	0	0	0	0	0	48
17	0	0	0	0	0	11	11	6	5	8	7	0	0	0	0	0	48
18	0	0	0	0	0	1	42	4	1	0	0	0	0	0	0	0	48
19	0	0	0	0	0	1	34	1	2	0	5	3	0	0	0	0	46 *
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
31																	
TOTAL	19	41	10	94	82	270	129	37	133	19	18	6	4	3	18	12	895

* Incomplete time series data sets.

Table 6 Daily mean, minimum and maximum air/snow temperatures at the snow-ice interface (0 cm) and at heights of 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 39, 43, 53 and 63 cm above the snow-ice interface under natural conditions during the 1993 winter experiment.

Chaivo Bay
January 1993
Natural Area (Recording Interval 30 min)

Date	Air Temperature (degrees C) Height: 63cm			Air Temperature (degrees C) Height: 53cm			Air Temperature (degrees C) Height: 43cm			Air Temperature (degrees C) Height: 39cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-16.45	-23.73	-21.07	-16.46	-23.74	-21.09	-16.40	-23.73	-21.11	-16.45	-23.73	-21.10
13	-17.16	-24.98	-21.86	-17.16	-24.99	-21.88	-17.16	-25.04	-21.91	-17.21	-24.98	-21.89
14	-16.90	-25.54	-22.07	-16.91	-25.54	-22.09	-16.91	-25.54	-22.12	-16.95	-25.54	-22.11
15	-14.95	-23.83	-21.19	-14.90	-23.84	-21.21	-14.85	-23.88	-21.24	-15.05	-23.83	-21.25
16	-16.35	-24.93	-22.24	-16.36	-24.94	-22.26	-16.30	-24.94	-22.29	-16.40	-24.88	-22.29
17	-14.35	-25.49	-21.49	-14.25	-25.54	-21.50	-14.45	-25.54	-21.55	-14.65	-25.49	-21.56
18	-15.70	-26.84	-21.13	-15.76	-27.00	-21.10	-15.75	-27.24	-21.19	-15.90	-27.19	-21.20
19	-13.79	-28.10	-23.40	-13.35	-28.10	-23.39	-13.59	-28.10	-23.45	-13.59	-28.00	-23.49
20	-13.24	-28.00	-23.90	-13.05	-28.20	-23.96	-13.44	-28.40	-24.13	-13.29	-28.30	-24.17
21	-16.70	-27.54	-21.86	-16.61	-27.50	-21.82	-16.55	-27.54	-21.81	-16.75	-27.44	-21.79
22	-16.25	-27.24	-21.15	-16.21	-27.50	-21.18	-16.15	-27.75	-21.22	-16.35	-27.79	-21.24
23	-11.48	-30.40	-23.15	-11.69	-30.46	-23.30	-12.39	-30.51	-23.52	-12.29	-30.40	-23.55
24	-9.03	-23.48	-18.42	-9.48	-23.58	-18.58	-9.78	-23.98	-18.77	-9.83	-24.18	-18.83
25	-12.09	-27.69	-22.26	-12.19	-27.75	-22.33	-12.29	-27.75	-22.50	-12.34	-27.69	-22.55
26	-9.83	-27.69	-14.80	-9.83	-27.70	-14.79	-9.88	-27.70	-14.79	-9.93	-27.64	-14.82
27	-8.62	-16.70	-11.80	-8.63	-16.86	-11.80	-8.62	-17.01	-11.82	-8.62	-17.06	-11.85
28	-0.85	-6.37	-2.58	-0.80	-6.37	-2.56	-0.80	-6.37	-2.57	-1.00	-6.42	-2.65
29	-1.00	-3.51	-2.31	-1.00	-3.51	-2.31	-1.00	-3.56	-2.33	-1.05	-3.61	-2.39
30	-3.15	-5.41	-4.08	-3.16	-5.37	-4.06	-3.15	-5.41	-4.08	-3.20	-5.46	-4.13
31	-5.11	-21.22	-8.84	-5.07	-21.48	-8.85	-5.11	-21.72	-8.90	-5.16	-21.82	-8.96
Month	-0.85	-30.40	-17.48	-0.80	-30.46	-17.50	-0.80	-30.51	-17.56	-1.00	-30.40	-17.59

Date	Air Temperature (degrees C) Height: 33cm			Air Temperature (degrees C) Height: 30cm			Air Temperature (degrees C) Height: 27cm			Air Temperature (degrees C) Height: 24cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-16.50	-23.73	-21.14	-16.49	-23.73	-21.15	-16.51	-23.74	-21.19	-16.57	-23.75	-21.19
13	-17.25	-25.04	-21.93	-17.25	-25.03	-21.94	-17.26	-25.04	-21.98	-17.27	-25.05	-21.97
14	-16.95	-25.54	-22.15	-17.00	-25.53	-22.16	-17.01	-25.59	-22.20	-17.02	-25.56	-22.20
15	-15.09	-23.88	-21.30	-15.14	-23.93	-21.31	-15.16	-23.99	-21.36	-15.16	-24.00	-21.35
16	-16.35	-24.94	-22.32	-16.39	-24.93	-22.33	-16.41	-24.94	-22.36	-16.37	-24.90	-22.35
17	-14.64	-25.49	-21.60	-14.89	-25.43	-21.61	-14.65	-25.49	-21.61	-14.86	-25.41	-21.60
18	-16.10	-27.20	-21.23	-16.34	-27.19	-21.27	-15.86	-27.30	-21.23	-15.81	-27.21	-21.22
19	-13.94	-27.95	-23.54	-13.98	-27.89	-23.57	-13.45	-27.95	-23.53	-13.55	-27.87	-23.51
20	-13.84	-28.35	-24.28	-13.98	-28.35	-24.34	-13.60	-28.40	-24.33	-13.65	-28.32	-24.34
21	-16.60	-27.50	-21.78	-16.59	-27.44	-21.76	-16.56	-27.45	-21.76	-16.52	-27.42	-21.72
22	-16.40	-27.90	-21.28	-16.44	-27.94	-21.30	-16.46	-28.10	-21.34	-16.47	-28.12	-21.34
23	-12.98	-30.41	-23.67	-13.28	-30.35	-23.73	-13.00	-30.41	-23.75	-13.30	-30.33	-23.76
24	-9.97	-24.39	-18.93	-10.17	-24.48	-18.98	-9.74	-24.59	-19.01	-9.84	-24.65	-19.04
25	-12.53	-27.70	-22.65	-12.68	-27.69	-22.70	-12.19	-27.70	-22.69	-12.25	-27.62	-22.69
26	-9.92	-27.60	-14.79	-9.92	-27.59	-14.81	-9.94	-27.60	-14.81	-9.94	-27.57	-14.79
27	-8.61	-17.10	-11.83	-8.61	-17.15	-11.84	-8.58	-17.16	-11.82	-8.58	-17.17	-11.81
28	-0.83	-6.40	-2.68	-1.03	-6.40	-2.64	-1.00	-6.37	-2.66	-1.10	-6.42	-2.73
29	-1.13	-3.59	-2.37	-1.13	-3.59	-2.39	-1.16	-3.61	-2.41	-1.25	-3.61	-2.48
30	-3.14	-5.40	-4.09	-3.14	-5.45	-4.10	-3.16	-5.42	-4.11	-3.16	-5.47	-4.11
31	-5.10	-21.97	-8.96	-5.10	-22.12	-8.99	-5.12	-22.38	-9.02	-5.12	-22.59	-9.03
Month	-0.83	-30.41	-17.62	-1.03	-30.35	-17.65	-1.00	-30.41	-17.66	-1.10	-30.33	-17.66

Chaivo Bay
January 1993
Natural Area

(Recording Interval 30 min)

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Snow Temperature (degrees C)		
	Height: 21cm			Height: 18cm			Height: 15cm			Height: 12cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-16.53	-23.82	-21.26	-16.45	-23.78	-21.24	-16.52	-23.86	-21.33	-15.76	-21.59	-19.58
13	-17.28	-25.13	-22.06	-17.20	-25.08	-22.04	-17.27	-25.11	-22.14	-16.81	-23.15	-20.71
14	-17.03	-25.63	-22.28	-16.95	-25.64	-22.26	-17.02	-25.67	-22.36	-16.66	-23.85	-21.13
15	-15.12	-24.13	-21.42	-15.05	-24.08	-21.40	-15.06	-24.21	-21.50	-15.61	-22.55	-20.51
16	-16.33	-24.98	-22.40	-16.20	-24.93	-22.36	-16.17	-25.01	-22.43	-15.91	-23.10	-21.06
17	-14.51	-25.43	-21.62	-14.65	-25.33	-21.56	-14.66	-25.37	-21.57	-14.65	-23.30	-19.12
18	-16.07	-27.19	-21.22	-15.80	-26.94	-21.14	-15.56	-26.57	-21.01	-12.59	-19.18	-16.39
19	-13.41	-27.90	-23.51	-13.49	-27.74	-23.44	-13.25	-27.53	-23.29	-13.09	-20.64	-17.94
20	-13.41	-28.30	-24.31	-13.54	-28.04	-24.27	-13.85	-27.78	-24.22	-13.45	-21.24	-18.94
21	-16.33	-27.50	-21.75	-16.20	-27.39	-21.66	-16.02	-27.38	-21.65	-13.65	-21.49	-17.97
22	-16.38	-28.20	-21.41	-16.25	-28.09	-21.37	-16.27	-27.98	-21.44	-15.11	-21.34	-18.12
23	-13.21	-30.36	-23.75	-13.54	-30.25	-23.75	-13.80	-30.09	-23.79	-14.00	-23.20	-19.57
24	-9.43	-24.73	-19.08	-9.68	-24.68	-19.07	-10.13	-24.56	-19.12	-11.18	-19.68	-16.35
25	-12.15	-27.60	-22.67	-12.44	-27.44	-22.62	-12.30	-27.28	-22.57	-12.64	-21.59	-18.30
26	-10.04	-27.55	-14.84	-9.98	-27.39	-14.79	-10.08	-27.23	-14.76	-9.73	-21.19	-12.94
27	-8.63	-17.28	-11.86	-8.62	-17.20	-11.80	-8.53	-17.17	-11.78	-8.12	-12.44	-9.97
28	-1.53	-6.46	-2.93	-1.95	-6.67	-3.39	-2.79	-7.87	-4.16	-3.98	-7.97	-4.88
29	-1.43	-3.85	-2.80	-2.30	-3.96	-3.27	-3.35	-4.00	-3.81	-3.98	-4.35	-4.12
30	-3.24	-5.51	-4.19	-3.20	-5.31	-4.08	-3.58	-4.65	-4.00	-3.69	-4.25	-3.96
31	-5.20	-22.67	-9.88	-4.66	-19.96	-8.07	-4.55	-13.55	-6.25	-4.25	-7.72	-4.88
Month	-1.43	-30.36	-17.72	-1.95	-30.25	-17.68	-2.79	-30.09	-17.66	-3.69	-23.85	-15.32

Date	Snow Temperature (degrees C)			Snow Temperature (degrees C)			Snow Temperature (degrees C)			Snow/Ice Temperature (degrees C)		
	Height: 9cm			Height: 6cm			Height: 3cm			Height: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-13.71	-17.37	-16.08	-11.58	-13.99	-12.91	-7.82	-10.68	-9.60	-5.30	-8.52	-7.45
13	-14.71	-18.93	-17.27	-12.63	-15.49	-14.27	-10.48	-11.98	-11.15	-8.57	-9.62	-9.08
14	-14.81	-19.58	-17.79	-12.88	-16.09	-14.90	-10.93	-12.53	-11.92	-9.47	-10.17	-9.85
15	-14.11	-18.73	-17.34	-12.53	-15.64	-14.62	-10.78	-12.43	-11.86	-9.37	-10.17	-9.87
16	-14.26	-19.00	-17.72	-12.63	-15.89	-14.91	-10.93	-12.73	-12.10	-9.52	-10.42	-10.07
17	-13.06	-19.18	-16.17	-11.68	-15.94	-13.85	-10.33	-12.78	-11.54	-9.22	-10.52	-9.83
18	-11.55	-15.72	-13.92	-10.48	-13.33	-12.07	-9.32	-11.03	-10.23	-8.36	-9.37	-8.87
19	-12.20	-16.87	-15.05	-11.03	-14.14	-12.85	-9.72	-11.38	-10.64	-8.62	-9.47	-9.03
20	-12.55	-17.32	-15.82	-11.33	-14.54	-13.44	-9.97	-11.68	-11.06	-8.92	-9.67	-9.34
21	-12.55	-17.37	-15.15	-11.38	-14.59	-13.11	-10.08	-11.83	-11.03	-8.92	-9.87	-9.47
22	-13.01	-17.27	-14.91	-11.43	-14.44	-12.70	-9.87	-11.58	-10.56	-8.72	-9.57	-9.03
23	-12.96	-18.68	-16.40	-11.73	-15.54	-14.01	-10.48	-12.53	-11.63	-9.37	-10.32	-9.84
24	-11.00	-16.27	-14.06	-10.28	-13.89	-12.35	-9.47	-11.53	-10.63	-8.72	-9.82	-9.33
25	-12.00	-17.42	-15.30	-10.98	-14.64	-13.10	-9.82	-11.83	-10.93	-8.92	-9.82	-9.36
26	-9.04	-17.32	-11.71	-8.57	-14.64	-10.73	-7.97	-11.93	-9.64	-7.51	-9.97	-8.73
27	-7.74	-10.40	-8.91	-7.37	-9.22	-8.21	-6.91	-8.12	-7.50	-6.46	-7.46	-6.99
28	-4.47	-7.79	-5.23	-4.66	-7.42	-5.45	-4.81	-6.88	-5.57	-4.85	-6.41	-5.55
29	-4.02	-4.47	-4.24	-4.11	-4.61	-4.36	-4.16	-4.81	-4.45	-4.15	-4.80	-4.47
30	-3.82	-4.02	-3.95	-3.86	-4.11	-3.96	-3.85	-4.16	-3.98	-3.75	-4.15	-3.95
31	-4.07	-5.88	-4.43	-3.91	-4.81	-4.11	-3.80	-4.05	-3.87	-3.65	-3.75	-3.69
Month	-3.82	-19.58	-13.07	-3.86	-16.09	-11.30	-3.80	-12.78	-9.49	-3.65	-10.52	-8.19

Chaivo Bay
February 1993
Natural Area

(Recording Interval 30 min)

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)		
	Height: 63cm			Height: 53cm			Height: 43cm			Height: 39cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-10.83	-24.03	-18.19	-10.74	-24.19	-18.22	-10.63	-24.28	-18.26	-10.98	-24.38	-18.37
2	-13.09	-30.25	-23.64	-13.05	-30.41	-23.83	-12.94	-30.61	-24.07	-13.29	-30.61	-24.20
3	-14.19	-31.06	-21.85	-14.15	-31.16	-21.82	-14.15	-31.26	-21.85	-14.14	-31.21	-21.90
4	-14.70	-24.23	-18.56	-14.65	-24.34	-18.59	-14.60	-24.48	-18.63	-14.80	-24.48	-18.67
5	-10.08	-27.04	-19.25	-10.08	-27.60	-19.42	-10.13	-28.20	-19.62	-10.23	-28.20	-19.70
6	-13.24	-21.87	-17.78	-13.10	-21.98	-17.77	-12.79	-22.12	-17.77	-13.29	-22.07	-17.85
7	-13.64	-21.32	-17.66	-13.60	-21.33	-17.67	-13.44	-21.42	-17.67	-13.74	-21.37	-17.73
8	-12.84	-26.79	-18.17	-12.79	-27.10	-18.24	-12.64	-27.39	-18.31	-12.89	-27.49	-18.37
9	-9.88	-15.95	-12.74	-9.88	-16.01	-12.76	-9.83	-16.05	-12.77	-10.03	-16.05	-12.81
10	-8.07	-20.97	-14.99	-7.98	-21.08	-15.05	-7.87	-21.22	-15.13	-8.22	-21.27	-15.26
11	-7.92	-20.07	-14.60	-7.93	-20.27	-14.69	-7.87	-20.47	-14.78	-8.12	-20.57	-14.88
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-7.92	-31.06	-17.95	-7.93	-31.16	-18.01	-7.87	-31.26	-18.08	-8.12	-31.21	-18.16

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)		
	Height: 33cm			Height: 30cm			Height: 27cm			Height: 24cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-10.92	-24.44	-18.40	-10.97	-24.48	-18.43	-10.94	-24.59	-18.49	-11.09	-24.65	-18.53
2	-13.33	-30.71	-24.34	-13.48	-30.76	-24.43	-13.50	-30.91	-24.56	-13.65	-30.83	-24.61
3	-14.14	-31.22	-21.90	-14.18	-31.16	-21.90	-14.10	-31.16	-21.83	-14.11	-30.98	-21.78
4	-15.04	-24.69	-18.81	-15.04	-24.68	-18.83	-14.90	-24.74	-18.82	-14.86	-24.95	-18.91
5	-10.22	-28.71	-19.93	-10.32	-28.75	-20.00	-10.34	-28.90	-20.03	-10.29	-29.12	-20.13
6	-12.93	-22.28	-17.86	-13.18	-22.27	-17.92	-13.25	-22.28	-17.91	-12.65	-22.39	-17.91
7	-13.53	-21.47	-17.75	-13.68	-21.52	-17.79	-13.85	-21.48	-17.79	-13.55	-21.59	-17.79
8	-12.63	-27.90	-18.52	-12.83	-27.99	-18.57	-12.95	-28.20	-18.55	-12.80	-28.57	-18.66
9	-10.12	-16.20	-12.90	-9.87	-16.19	-12.84	-9.89	-16.16	-12.83	-9.99	-16.22	-12.89
10	-7.91	-21.42	-15.29	-8.06	-21.47	-15.32	-8.03	-21.58	-15.40	-8.18	-21.69	-15.51
11	-7.96	-20.77	-14.93	-8.06	-20.81	-14.98	-8.18	-20.98	-15.06	-8.13	-21.09	-15.12
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-7.91	-31.22	-18.24	-8.06	-31.16	-18.27	-8.03	-31.16	-18.30	-8.13	-30.98	-18.35

Chaivo Bay
February 1993

(Recording Interval 30 min)

Natural Area

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Snow Temperature (degrees C)		
	Height: 21cm			Height: 18cm			Height: 15cm			Height: 12cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-11.04	-24.83	-18.66	-10.68	-23.88	-17.55	-8.73	-20.64	-13.83	-7.16	-13.09	-9.17
2	-13.36	-30.47	-24.60	-13.74	-27.29	-23.26	-13.85	-21.19	-18.29	-10.78	-14.00	-12.40
3	-14.11	-30.67	-21.72	-12.59	-27.84	-19.80	-10.33	-20.99	-15.35	-8.42	-13.85	-11.12
4	-14.77	-25.28	-19.04	-13.94	-24.18	-18.14	-11.49	-17.88	-13.92	-8.67	-11.64	-9.81
5	-10.59	-29.06	-20.22	-10.83	-25.89	-19.15	-10.13	-19.28	-15.15	-8.62	-12.94	-10.95
6	-12.70	-22.46	-18.04	-12.54	-22.12	-17.68	-10.94	-17.72	-14.34	-8.82	-12.39	-10.47
7	-13.51	-21.76	-17.90	-12.39	-20.62	-17.33	-11.09	-16.42	-14.11	-9.02	-12.14	-10.39
8	-12.70	-28.75	-18.76	-11.79	-26.34	-18.11	-11.09	-19.89	-14.63	-9.02	-13.40	-10.77
9	-10.04	-16.48	-13.03	-9.03	-16.15	-12.70	-7.82	-12.25	-10.31	-6.91	-9.32	-8.22
10	-8.17	-21.96	-15.73	-7.77	-21.87	-15.90	-7.97	-17.02	-13.11	-7.41	-11.74	-9.59
11	-8.12	-21.31	-15.30	-7.97	-20.67	-15.39	-7.32	-15.41	-12.48	-7.06	-10.78	-9.42
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-8.12	-30.67	-18.45	-7.77	-27.84	-17.73	-7.32	-21.19	-14.14	-8.91	-14.00	-10.21

Date	Snow Temperature (degrees C)			Snow Temperature (degrees C)			Snow Temperature (degrees C)			Snow/Ice Temperature (degrees C)		
	Height: 9cm			Height: 6cm			Height: 3cm			Height: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-6.13	-9.24	-7.36	-5.01	-7.22	-6.12	-4.11	-5.46	-4.91	-3.65	-4.35	-4.09
2	-8.94	-10.70	-9.79	-7.42	-8.57	-7.99	-5.56	-6.46	-6.15	-4.35	-5.10	-4.85
3	-7.54	-11.05	-9.43	-6.68	-9.07	-8.03	-5.71	-6.96	-6.46	-5.00	-5.50	-5.31
4	-7.64	-9.49	-8.28	-6.61	-7.87	-7.85	-5.61	-6.21	-5.83	-4.90	-5.10	-5.00
5	-7.84	-10.60	-9.31	-7.02	-8.82	-7.96	-6.06	-6.91	-6.48	-5.10	-5.61	-5.40
6	-7.89	-9.84	-8.88	-7.02	-8.22	-7.62	-6.06	-6.56	-6.31	-5.30	-5.45	-5.39
7	-7.94	-9.84	-8.83	-7.07	-8.22	-7.62	-6.06	-6.56	-6.34	-5.35	-5.56	-5.45
8	-8.04	-10.95	-9.22	-7.17	-9.12	-7.97	-6.26	-7.17	-6.61	-5.40	-5.91	-5.65
9	-6.53	-8.14	-7.35	-6.11	-7.27	-6.66	-5.56	-6.26	-5.89	-5.10	-5.50	-5.31
10	-6.93	-9.49	-8.18	-6.36	-7.97	-7.12	-5.61	-6.41	-6.03	-5.10	-5.45	-5.28
11	-6.73	-9.04	-8.21	-6.26	-7.77	-7.22	-5.66	-6.41	-6.14	-5.20	-5.50	-5.37
12												
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15												
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17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-6.13	-11.05	-8.62	-5.01	-9.12	-7.40	-4.11	-7.17	-6.10	-3.65	-5.91	-5.19

Table 7 Daily mean, minimum and maximum ice/water temperatures at depths of 10, 20, 30, 40, 42.5, 45, 47.5, 50, 52.5, 55, 57.5, 60, 62.5, 65, 67.5 and 70 cm below the snow-ice interface under natural conditions during the 1993 winter experiment.

Chaivo Bay
January 1993
Natural Area (Recording Interval 60 min)

Date	Ice Temperature (degrees C) Depth: -10.0cm			Ice Temperature (degrees C) Depth: -20.0cm			Ice Temperature (degrees C) Depth: -30.0cm			Ice Temperature (degrees C) Depth: -40.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-2.82	-6.37	-4.90	-1.27	-4.03	-2.37	-1.23	-2.03	-1.61	-1.16	-1.81	-1.52
13	-6.48	-7.53	-7.08	-4.13	-5.53	-4.97	-1.73	-3.43	-2.54	-1.06	-1.66	-1.32
14	-7.58	-8.13	-7.91	-5.58	-6.08	-5.94	-3.53	-4.08	-3.84	-0.86	-1.86	-1.37
15	-7.83	-8.23	-8.03	-6.08	-6.23	-6.16	-4.08	-4.23	-4.20	-1.91	-2.26	-2.08
16	-7.98	-8.33	-8.15	-6.13	-6.33	-6.25	-4.23	-4.43	-4.31	-2.16	-2.61	-2.32
17	-7.78	-8.43	-8.11	-6.18	-6.43	-6.32	-4.43	-4.53	-4.49	-2.46	-2.91	-2.64
18	-7.23	-7.78	-7.52	-5.88	-6.18	-6.05	-4.43	-4.53	-4.48	-2.76	-3.06	-2.90
19	-7.28	-7.63	-7.48	-5.83	-6.03	-5.96	-4.38	-4.53	-4.44	-2.86	-3.16	-2.97
20	-7.48	-7.93	-7.68	-5.98	-6.18	-6.11	-4.48	-4.73	-4.58	-2.96	-3.26	-3.10
21	-7.68	-8.08	-7.91	-6.23	-6.38	-6.34	-4.73	-4.93	-4.81	-3.11	-3.46	-3.26
22	-7.48	-7.73	-7.59	-6.13	-6.28	-6.18	-4.73	-4.93	-4.78	-3.21	-3.41	-3.32
23	-7.78	-8.38	-8.15	-6.18	-6.63	-6.48	-4.78	-5.13	-4.94	-3.26	-3.56	-3.40
24	-7.73	-8.28	-8.05	-6.38	-6.68	-6.57	-5.03	-5.13	-5.11	-3.46	-3.61	-3.54
25	-7.78	-8.03	-7.90	-6.38	-6.48	-6.41	-4.98	-5.03	-4.99	-3.41	-3.61	-3.51
26	-6.93	-8.28	-7.73	-6.03	-6.63	-6.41	-4.83	-5.13	-5.02	-3.46	-3.56	-3.52
27	-5.92	-6.88	-6.41	-5.13	-5.98	-5.54	-4.13	-4.78	-4.46	-2.98	-3.46	-3.22
28	-4.77	-5.87	-5.32	-4.28	-5.13	-4.69	-3.53	-4.08	-3.82	-2.61	-2.96	-2.78
29	-4.87	-4.72	-4.35	-3.68	-4.23	-3.92	-3.03	-3.53	-3.27	-2.31	-2.56	-2.43
30	-3.62	-4.02	-3.82	-3.28	-3.63	-3.44	-2.78	-3.03	-2.89	-2.16	-2.31	-2.21
31	-3.37	-3.62	-3.49	-2.97	-3.28	-3.13	-2.53	-2.73	-2.64	-1.96	-2.16	-2.04
Month	-2.82	-8.43	-6.88	-1.27	-6.68	-5.46	-1.23	-5.13	-4.06	-0.86	-3.61	-2.67

Date	Ice Temperature (degrees C) Depth: -42.5cm			Water Temperature (degrees C) Depth: -45.0cm			Water Temperature (degrees C) Depth: -47.5cm			Water Temperature (degrees C) Depth: -50.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-1.16	-1.81	-1.52	-1.17	-1.77	-1.49	-1.18	-1.84	-1.52	-1.15	-1.81	-1.51
13	-1.06	-1.66	-1.29	-1.02	-1.62	-1.27	-1.03	-1.64	-1.29	-1.05	-1.65	-1.30
14	-0.51	-1.41	-1.05	-0.47	-1.37	-0.94	-0.48	-1.38	-0.96	-0.45	-1.35	-0.96
15	-1.21	-1.71	-1.46	-0.52	-1.22	-0.89	-0.38	-1.23	-0.74	-0.35	-1.20	-0.74
16	-1.61	-2.17	-1.81	-0.87	-1.62	-1.21	-0.33	-1.38	-0.74	-0.35	-1.35	-0.73
17	-1.91	-2.52	-2.17	-1.27	-2.02	-1.63	-0.58	-1.69	-1.12	-0.45	-1.55	-0.93
18	-2.32	-2.72	-2.50	-1.72	-2.32	-2.03	-1.13	-2.04	-1.59	-0.75	-1.75	-1.22
19	-2.42	-2.82	-2.61	-1.97	-2.42	-2.18	-1.48	-2.14	-1.79	-1.00	-1.86	-1.38
20	-2.57	-2.92	-2.74	-2.07	-2.57	-2.32	-1.64	-2.19	-1.93	-1.10	-1.86	-1.51
21	-2.72	-3.07	-2.88	-2.22	-2.67	-2.45	-1.74	-2.29	-2.04	-1.15	-1.91	-1.60
22	-2.87	-3.07	-2.96	-2.37	-2.72	-2.53	-1.89	-2.39	-2.14	-1.30	-2.01	-1.70
23	-2.87	-3.22	-3.02	-2.42	-2.82	-2.61	-1.99	-2.44	-2.21	-1.45	-2.06	-1.77
24	-3.07	-3.32	-3.16	-2.62	-2.92	-2.74	-2.14	-2.54	-2.32	-1.60	-2.21	-1.88
25	-3.07	-3.27	-3.14	-2.62	-2.87	-2.72	-2.19	-2.49	-2.33	-1.70	-2.11	-1.90
26	-3.07	-3.22	-3.13	-2.62	-2.82	-2.71	-2.19	-2.44	-2.32	-1.70	-2.06	-1.89
27	-2.62	-3.12	-2.88	-2.27	-2.72	-2.49	-1.89	-2.39	-2.12	-1.50	-2.01	-1.69
28	-2.32	-2.62	-2.48	-2.02	-2.27	-2.15	-1.74	-1.89	-1.83	-1.48	-1.55	-1.48
29	-2.06	-2.32	-2.19	-1.82	-2.02	-1.91	-1.64	-1.74	-1.87	-1.35	-1.40	-1.40
30	-1.96	-2.06	-2.01	-1.77	-1.82	-1.79	-1.59	-1.64	-1.61	-1.35	-1.45	-1.39
31	-1.76	-1.86	-1.87	-1.57	-1.77	-1.66	-1.43	-1.59	-1.49	-1.25	-1.48	-1.29
Month	-0.51	-3.32	-2.34	-0.47	-2.92	-1.99	-0.33	-2.54	-1.69	-0.35	-2.21	-1.41

Chaivo Bay
January 1993
Natural Area

(Recording Interval 60 min)

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -52.5cm			Depth: -55.0cm			Depth: -57.5cm			Depth: -60.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-1.17	-1.82	-1.53	-1.22	-1.82	-1.54	-1.21	-1.81	-1.53	-1.19	-1.79	-1.52
13	-1.07	-1.67	-1.38	-1.07	-1.67	-1.32	-1.06	-1.66	-1.31	-1.04	-1.64	-1.38
14	-0.46	-1.37	-0.98	-0.52	-1.37	-1.01	-0.51	-1.36	-1.00	-0.49	-1.39	-1.00
15	-0.36	-1.27	-0.77	-0.42	-1.27	-0.77	-0.41	-1.26	-0.78	-0.39	-1.24	-0.78
16	-0.36	-1.42	-0.74	-0.36	-1.42	-0.75	-0.36	-1.41	-0.75	-0.34	-1.39	-0.74
17	-0.46	-1.57	-0.95	-0.47	-1.62	-0.97	-0.46	-1.56	-0.95	-0.44	-1.59	-0.96
18	-0.77	-1.77	-1.23	-0.77	-1.77	-1.25	-0.76	-1.76	-1.24	-0.74	-1.74	-1.23
19	-1.02	-1.77	-1.37	-1.02	-1.82	-1.38	-1.01	-1.81	-1.37	-1.04	-1.79	-1.37
20	-1.07	-1.77	-1.45	-1.12	-1.82	-1.47	-1.06	-1.81	-1.46	-1.09	-1.79	-1.45
21	-1.12	-1.77	-1.58	-1.12	-1.82	-1.52	-1.11	-1.81	-1.51	-1.09	-1.79	-1.58
22	-1.17	-1.82	-1.53	-1.17	-1.82	-1.55	-1.16	-1.81	-1.54	-1.14	-1.79	-1.53
23	-1.17	-1.82	-1.51	-1.17	-1.82	-1.52	-1.16	-1.81	-1.51	-1.19	-1.79	-1.51
24	-1.12	-1.82	-1.49	-1.12	-1.82	-1.49	-1.11	-1.81	-1.49	-1.09	-1.79	-1.47
25	-1.12	-1.82	-1.44	-1.12	-1.72	-1.36	-1.11	-1.71	-1.36	-1.09	-1.74	-1.35
26	-1.12	-1.57	-1.41	-0.72	-1.32	-1.15	-0.71	-1.38	-1.14	-0.69	-1.34	-1.13
27	-1.07	-1.62	-1.21	-0.42	-1.27	-0.64	-0.41	-1.26	-0.60	-0.39	-1.29	-0.60
28	-1.07	-1.27	-1.12	-0.57	-1.17	-0.70	-0.31	-1.16	-0.52	-0.29	-1.14	-0.53
29	-1.07	-1.17	-1.12	-0.72	-1.02	-0.84	-0.41	-1.11	-0.63	-0.39	-1.09	-0.62
30	-1.12	-1.27	-1.19	-0.87	-1.17	-0.98	-0.31	-1.31	-0.73	-0.24	-1.29	-0.71
31	-1.02	-1.17	-1.08	-0.72	-1.07	-0.84	-0.36	-1.16	-0.62	-0.24	-1.24	-0.56
Month	-0.36	-1.82	-1.25	-0.36	-1.82	-1.15	-0.31	-1.81	-1.10	-0.24	-1.79	-1.09

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -62.5cm			Depth: -65.0cm			Depth: -67.5cm			Depth: -70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-1.18	-1.83	-1.54	-1.22	-1.82	-1.54	-1.20	-1.80	-1.51	-1.18	-1.84	-1.54
13	-1.08	-1.68	-1.31	-1.07	-1.67	-1.32	-1.05	-1.65	-1.30	-1.08	-1.69	-1.32
14	-0.48	-1.38	-1.01	-0.52	-1.37	-1.00	-0.45	-1.35	-0.99	-0.48	-1.38	-1.01
15	-0.38	-1.23	-0.80	-0.37	-1.27	-0.80	-0.40	-1.25	-0.79	-0.38	-1.23	-0.81
16	-0.38	-1.43	-0.75	-0.37	-1.42	-0.77	-0.35	-1.40	-0.74	-0.33	-1.38	-0.75
17	-0.48	-1.58	-0.96	-0.47	-1.57	-0.97	-0.45	-1.55	-0.94	-0.48	-1.59	-0.97
18	-0.78	-1.78	-1.24	-0.77	-1.77	-1.24	-0.75	-1.75	-1.22	-0.78	-1.79	-1.24
19	-1.03	-1.78	-1.37	-1.02	-1.77	-1.37	-1.00	-1.75	-1.35	-1.03	-1.79	-1.37
20	-1.08	-1.78	-1.46	-1.07	-1.77	-1.46	-1.05	-1.75	-1.44	-1.08	-1.79	-1.46
21	-1.13	-1.78	-1.51	-1.12	-1.77	-1.51	-1.10	-1.75	-1.48	-1.13	-1.79	-1.51
22	-1.18	-1.83	-1.54	-1.17	-1.82	-1.53	-1.15	-1.80	-1.52	-1.18	-1.84	-1.53
23	-1.18	-1.83	-1.51	-1.17	-1.82	-1.51	-1.15	-1.80	-1.49	-1.18	-1.84	-1.51
24	-1.13	-1.83	-1.49	-1.12	-1.82	-1.49	-1.10	-1.80	-1.47	-1.13	-1.84	-1.49
25	-1.08	-1.73	-1.36	-1.07	-1.72	-1.36	-1.05	-1.70	-1.34	-1.08	-1.74	-1.36
26	-0.68	-1.33	-1.14	-0.72	-1.37	-1.14	-0.70	-1.35	-1.12	-0.68	-1.38	-1.14
27	-0.43	-1.28	-0.61	-0.42	-1.27	-0.63	-0.40	-1.25	-0.61	-0.43	-1.28	-0.65
28	-0.28	-1.13	-0.57	-0.32	-1.17	-0.59	-0.30	-1.15	-0.58	-0.28	-1.13	-0.60
29	-0.43	-1.13	-0.63	-0.37	-1.12	-0.64	-0.40	-1.10	-0.63	-0.38	-1.13	-0.64
30	-0.28	-1.33	-0.72	-0.27	-1.32	-0.72	-0.24	-1.30	-0.70	-0.28	-1.33	-0.71
31	-0.28	-1.28	-0.57	-0.27	-1.27	-0.57	-0.24	-1.25	-0.56	-0.28	-1.23	-0.58
Month	-0.28	-1.83	-1.11	-0.27	-1.82	-1.11	-0.24	-1.80	-1.09	-0.28	-1.84	-1.11

Chaivo Bay
February 1993
Natural Area

(Recording Interval 60 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: -10.0cm			Depth: -20.0cm			Depth: -30.0cm			Depth: -40.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.32	-3.42	-3.39	-2.87	-2.97	-2.93	-2.38	-2.53	-2.44	-1.81	-1.91	-1.86
2	-3.42	-3.57	-3.50	-2.87	-2.97	-2.90	-2.33	-2.38	-2.36	-1.81	-1.81	-1.81
3	-3.62	-3.87	-3.77	-2.97	-3.13	-3.04	-2.38	-2.48	-2.43	-1.81	-1.96	-1.86
4	-3.77	-3.82	-3.78	-3.13	-3.13	-3.13	-2.48	-2.58	-2.55	-1.96	-2.06	-2.01
5	-3.77	-4.02	-3.92	-3.13	-3.33	-3.23	-2.58	-2.68	-2.64	-2.06	-2.16	-2.10
6	-4.02	-4.07	-4.06	-3.33	-3.43	-3.38	-2.68	-2.83	-2.77	-2.16	-2.31	-2.19
7	-4.07	-4.12	-4.11	-3.43	-3.48	-3.46	-2.83	-2.88	-2.85	-2.26	-2.36	-2.30
8	-4.12	-4.32	-4.24	-3.48	-3.63	-3.57	-2.93	-3.03	-2.96	-2.31	-2.41	-2.35
9	-4.27	-4.42	-4.38	-3.63	-3.73	-3.70	-3.03	-3.08	-3.05	-2.36	-2.46	-2.40
10	-4.37	-4.52	-4.45	-3.73	-3.78	-3.75	-3.03	-3.08	-3.07	-2.31	-2.46	-2.38
11	-4.47	-4.67	-4.58	-3.78	-3.83	-3.80	-3.03	-3.03	-3.03	-2.21	-2.31	-2.28
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-3.32	-4.67	-4.02	-2.87	-3.83	-3.35	-2.33	-3.08	-2.74	-1.81	-2.46	-2.14

Date	Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -42.5cm			Depth: -45.0cm			Depth: -47.5cm			Depth: -50.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.66	-1.76	-1.71	-1.52	-1.57	-1.54	-1.38	-1.43	-1.40	-1.20	-1.30	-1.23
2	-1.66	-1.71	-1.68	-1.52	-1.57	-1.54	-1.33	-1.48	-1.42	-1.20	-1.35	-1.28
3	-1.66	-1.81	-1.75	-1.52	-1.72	-1.61	-1.38	-1.64	-1.51	-1.25	-1.55	-1.40
4	-1.81	-1.96	-1.87	-1.67	-1.82	-1.74	-1.53	-1.79	-1.65	-1.40	-1.70	-1.53
5	-1.91	-2.06	-1.98	-1.72	-1.92	-1.82	-1.59	-1.89	-1.73	-1.40	-1.81	-1.59
6	-2.01	-2.17	-2.07	-1.82	-2.02	-1.92	-1.69	-1.94	-1.80	-1.45	-1.86	-1.65
7	-2.11	-2.22	-2.15	-1.92	-2.07	-1.98	-1.74	-2.04	-1.86	-1.50	-1.91	-1.68
8	-2.17	-2.32	-2.20	-1.92	-2.12	-2.02	-1.74	-2.04	-1.87	-1.45	-1.91	-1.67
9	-2.22	-2.32	-2.24	-1.97	-2.12	-2.04	-1.79	-2.04	-1.87	-1.45	-1.86	-1.64
10	-2.11	-2.27	-2.19	-1.87	-2.12	-1.96	-1.69	-1.99	-1.76	-1.40	-1.81	-1.58
11	-2.01	-2.11	-2.07	-1.72	-1.92	-1.82	-1.48	-1.69	-1.60	-1.25	-1.50	-1.35
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-1.66	-2.32	-1.99	-1.52	-2.12	-1.82	-1.33	-2.04	-1.68	-1.20	-1.91	-1.50

Chaivo Bay
February 1993
Natural Area

(Recording Interval 60 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: -52.5cm			Depth: -55.0cm			Depth: -57.5cm			Depth: -60.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.97	-1.22	-1.06	-0.77	-1.27	-0.91	-0.41	-1.31	-0.76	-0.29	-1.34	-0.75
2	-1.02	-1.32	-1.17	-0.77	-1.42	-1.04	-0.46	-1.51	-0.96	-0.39	-1.54	-0.94
3	-1.07	-1.57	-1.30	-0.72	-1.72	-1.18	-0.51	-1.76	-1.15	-0.49	-1.74	-1.14
4	-1.12	-1.72	-1.40	-0.77	-1.77	-1.31	-0.76	-1.76	-1.30	-0.74	-1.74	-1.29
5	-1.07	-1.77	-1.44	-0.87	-1.82	-1.39	-0.86	-1.81	-1.38	-0.84	-1.79	-1.37
6	-1.12	-1.82	-1.49	-0.97	-1.82	-1.45	-1.01	-1.81	-1.45	-0.99	-1.79	-1.44
7	-1.12	-1.82	-1.48	-1.07	-1.82	-1.48	-1.06	-1.81	-1.47	-1.04	-1.79	-1.46
8	-1.07	-1.82	-1.47	-1.02	-1.82	-1.45	-1.01	-1.81	-1.45	-1.04	-1.79	-1.44
9	-1.07	-1.77	-1.38	-0.97	-1.77	-1.34	-0.96	-1.76	-1.34	-0.94	-1.79	-1.32
10	-0.97	-1.52	-1.15	-0.72	-1.42	-0.95	-0.71	-1.41	-0.94	-0.69	-1.39	-0.93
11	-0.97	-1.32	-1.04	-0.42	-1.17	-0.65	-0.31	-1.16	-0.55	-0.34	-1.14	-0.54
12												
13												
14												
15												
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17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-0.97	-1.82	-1.31	-0.42	-1.82	-1.28	-0.31	-1.81	-1.16	-0.29	-1.79	-1.15

Date	Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -62.5cm			Depth: -65.0cm			Depth: -67.5cm			Depth: -70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.28	-1.38	-0.75	-0.32	-1.37	-0.75	-0.30	-1.35	-0.74	-0.28	-1.38	-0.76
2	-0.43	-1.53	-0.95	-0.42	-1.57	-0.95	-0.40	-1.50	-0.93	-0.43	-1.53	-0.95
3	-0.48	-1.73	-1.15	-0.52	-1.77	-1.16	-0.45	-1.70	-1.13	-0.48	-1.74	-1.15
4	-0.78	-1.73	-1.30	-0.72	-1.77	-1.30	-0.75	-1.75	-1.27	-0.73	-1.74	-1.29
5	-0.83	-1.78	-1.37	-0.87	-1.77	-1.37	-0.80	-1.80	-1.35	-0.83	-1.79	-1.37
6	-0.98	-1.83	-1.45	-0.97	-1.77	-1.44	-1.00	-1.80	-1.43	-0.98	-1.79	-1.44
7	-1.08	-1.83	-1.47	-1.07	-1.77	-1.46	-1.05	-1.80	-1.44	-1.03	-1.79	-1.46
8	-1.03	-1.83	-1.45	-1.02	-1.82	-1.44	-1.00	-1.80	-1.43	-1.03	-1.84	-1.44
9	-0.98	-1.78	-1.34	-0.97	-1.77	-1.33	-0.95	-1.75	-1.32	-0.98	-1.79	-1.33
10	-0.73	-1.43	-0.94	-0.72	-1.42	-0.94	-0.70	-1.40	-0.93	-0.68	-1.43	-0.94
11	-0.33	-1.13	-0.55	-0.32	-1.17	-0.58	-0.30	-1.15	-0.54	-0.33	-1.13	-0.55
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
Month	-0.28	-1.83	-1.15	-0.32	-1.82	-1.15	-0.30	-1.80	-1.14	-0.28	-1.84	-1.15

Table 8 Observations of meteorological and ice conditions at Kleye Strait, Chaivo during the period from 11 December 1993 to 6 April 1994.

Area	Observation	Period	Sampling interval
Natural	Meteorological conditions Air temperature at 0.97 m Humidity at 0.97 and 1.9 m Wind speed at 0.94 and 2.12 m Wind direction at 2.12 m Incoming solar radiation Reflected solar radiation	20 Mar. - 06 Apr.	1 h
	Air/snow temperature at 0, 0.05, 0.10, 0.15, 0.20, 0.25, 0.30 and 1.50 m above snow-ice interface	11 Dec. - 06 Apr.	2 h
	Ice/water temperature at -0.1, -0.2, -0.3, -0.4, -0.5, -0.6, -0.7 and -1.0 m below snow-ice interface	11 Dec. - 06 Apr.	2 h
Grid site 1, 2, 3 and 4	Snow/ice/water temperature at 0, -0.2, -0.4 and -0.6 m below snow-ice interface	11 Dec. - 06 Apr.	2 h
Snow-removed	Ice/water temperature at 0, -0.1, -0.2, -0.3, -0.4, -0.5, -0.6 and -0.7 m below air-ice interface	11 Dec. - 06 Apr.	10 min

Table 9 Daily mean, minimum and maximum air temperatures at the height of 97 cm, humidities at heights of 97 and 190 cm, wind speeds at heights of 94 and 212 cm, and incoming and reflected solar radiations, in the natural area during the 1993-1994 experiment.

March 1994

Natural Area

Date	Air Temperature [deg.C]						Humidity [%]					
	Height:97cm			Height:190cm			Height:97cm			Height:190cm		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20	-2.10	-5.50	-3.54				95.90	91.70	93.90	89.20	81.30	86.14
21	-4.60	-17.40	-8.33				92.10	58.50	77.80	83.00	49.10	68.35
22	-5.40	-23.60	-15.07				83.50	50.40	71.82	74.30	44.50	63.40
23	-6.45	-25.60	-15.76				88.50	45.40	72.82	89.90	38.70	65.98 *
24	-5.25	-14.15	-8.59				90.70	80.60	85.45	82.30	71.90	76.72
25	-7.80	-15.00	-9.91				91.00	78.90	85.80	80.80	68.00	75.08
26	-11.20	-23.00	-15.54				78.80	52.30	65.33	67.40	45.20	56.29
27	-6.35	-23.95	-15.30				88.20	66.10	77.76	85.80	60.20	70.44 *
28	-6.50	-16.55	-11.45				91.10	75.30	83.58	83.20	69.30	75.29
29	-7.50	-16.70	-12.24				86.10	63.30	75.66	76.00	56.30	66.97
30	-7.95	-20.40	-14.17				80.10	48.70	61.88	70.70	41.90	53.41
31	-1.05	-23.35	-11.66				88.00	48.70	70.10	77.80	55.80	64.45 *
Month	-1.05	-25.60	-11.80				95.90	45.40	76.91	89.90	38.70	68.54

* Incomplete time series data sets.

March 1994

Natural Area

Date	Solar Radiation				Wind				Direction Most Frequent
	Incoming		Reflected		Speed [m/s]		Height:212cm	Height:212cm	
	Max. [kW/m ²]	Cumulative [MJ/m ²]	Max. [kW/m ²]	Cumulative [MJ/m ²]	Height:94cm Max.	Mean			
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20	0.53	11.82	0.44	9.64	7.50	4.90	7.48	5.97 *	NNE
21	0.72	18.50	0.61	15.45	4.64	2.55	7.74	5.75	N, NNW
22	0.72	18.92	0.59	15.62	4.28	2.16	4.28	2.31 *	WNW
23	0.71	18.39	0.58	14.85	3.47	1.42	3.19	1.44	NE, ENE
24	0.68	14.95	0.55	12.13	7.00	4.65	7.05	4.85	ENE, E
25	0.83	15.92	0.51	12.98	10.07	6.82	11.98	8.66	NNE
26	0.75	20.24	0.63	16.85	6.87	4.91	7.05	5.35 *	WNW, NNW
27	0.74	19.95	0.61	16.32	3.48	1.81	3.89	2.20 *	NNE
28	0.76	17.53	0.63	14.54	5.60	3.50	5.29	3.61	NNE
29	0.72	18.46	0.59	15.44	5.65	2.53	7.15	4.90	NNW
30	0.77	21.28	0.63	17.22	6.93	3.99	6.89	4.05	NW
31	0.77	21.30	0.62	17.06	4.06	2.22	1.49	0.85 *	SSW

Frequency of Wind Direction

Date	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20	4	17	1	0	0	0	0	0	0	0	0	0	0	0	0	2	24
21	9	4	0	0	0	0	0	0	0	0	0	0	0	0	2	9	24
22	0	0	6	1	0	0	0	1	0	0	0	2	2	8	0	4	24
23	0	3	4	4	1	0	0	0	1	0	1	3	1	1	2	3	24
24	0	4	4	8	8	0	0	0	0	0	0	0	0	0	0	0	24
25	2	9	5	3	0	0	0	0	0	0	0	0	0	0	0	5	24
26	0	0	0	0	0	1	0	0	1	0	0	0	3	8	3	8	24
27	1	8	3	3	1	4	0	1	0	0	0	1	1	0	0	1	24
28	3	17	4	0	0	0	0	0	0	0	0	0	0	0	0	0	24
29	7	3	0	0	0	0	0	0	0	0	0	0	0	0	3	11	24
30	0	0	0	0	0	0	0	0	0	0	0	0	2	8	11	3	24
31	0	0	2	0	0	1	0	6	3	8	2	0	2	0	0	0	24
TOTAL	26	70	36	22	10	0	0	8	5	8	3	6	11	25	21	46	303

* Incomplete time series data sets.

April 1984

Natural Area

Date	Air Temperature [deg.C]						Humidity [%]					
	Height:97cm			Height:190cm			Height:97cm			Height:190cm		
	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean	Max.	Min.	Mean
1	-1.00	-6.25	-3.77				94.40	78.70	87.15	88.10	69.40	78.61 *
2	-1.80	-16.15	-5.79				96.70	88.80	93.22	94.40	75.90	85.20 *
3	-1.75	-5.00	-3.23				96.50	68.10	86.80	88.80	57.80	77.82
4	-3.50	-5.05	-4.24				96.00	73.40	87.69	88.80	62.50	77.46
5	-0.25	-6.55	-2.66				98.60	71.60	84.85	96.90	64.80	79.89 *
6	-4.20	-9.95	-6.33				91.90	77.80	85.45	81.20	67.30	73.23
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	1.40	-16.15	-4.68				96.70	68.10	87.49	96.90	57.80	78.70

* Incomplete time series data sets.

April 1994

Natural Area

Date	Solar Radiation				Wind				Direction Most Frequent
	Incoming		Reflected		Speed [m/s]		Height:212cm	Height:212cm	
	Max.	Cumulative	Max.	Cumulative	Height:94cm	Height:212cm			
	[kW/m ²]	[MJ/m ²]	[kW/m ²]	[MJ/m ²]	Max.	Mean	Max.	Mean	
1	0.79	16.33	0.63	12.97	5.22	2.67 *			SSE
2	0.45	12.09	0.36	9.56	7.61	4.22			ENE
3	0.86	16.87	0.71	13.76	7.68	5.22			NE
4	0.61	13.13	0.49	10.54	8.81	5.94			SSE
5	0.76	17.99	0.62	14.63	6.74	4.86			WNW
6	0.93	21.19	0.76	17.37	12.58	8.54			WNW
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Frequency of Wind Direction

Date	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1	1	4	2	0	2	2	1	7	1	0	0	1	0	1	1	1	24
2	0	1	1	8	5	4	0	0	0	1	0	2	0	1	0	1	24
3	0	3	14	7	0	0	0	0	0	0	0	0	0	0	0	0	24
4	0	0	0	0	0	2	2	20	0	0	0	0	0	0	0	0	24
5	0	0	0	0	0	0	0	1	3	2	1	0	0	12	5	0	24
6	0	0	0	0	0	0	0	0	0	0	0	0	4	20	0	0	24
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24																	
25																	
26																	
27																	
28																	
29																	
30																	
TOTAL	1	8	17	15	7	0	3	28	4	3	2	6	9	36	7	2	156

* Incomplete time series data sets.

Table 10 Daily mean, minimum and maximum air/snow temperatures at the snow-ice interface (0 cm) and at the heights of 5, 10, 15, 20, 25, 30 and 150 cm above the snow-ice interface in the natural area during the 1993-1994 winter experiment.

Chaivo Bay
December 1993
Natural Area (Recording Interval 120 min)

Date	Air Temperature (degrees C) Height: +150cm			Air Temperature (degrees C) Height: +30cm			Air Temperature (degrees C) Height: +25cm			Air Temperature (degrees C) Height: +20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-15.19	-20.96	-17.72	-15.25	-20.61	-17.66	-15.18	-20.53	-17.61	-15.04	-20.30	-17.45
13	-4.62	-20.16	-9.90	-4.78	-19.70	-9.87	-4.78	-19.58	-9.84	-4.82	-19.40	-9.82
14	-4.12	-6.73	-4.81	-4.23	-6.88	-5.12	-4.23	-6.93	-5.23	-4.31	-6.42	-5.11
15	-6.78	-13.89	-11.65	-6.93	-13.69	-11.59	-6.93	-13.63	-11.52	-6.42	-13.53	-11.43
16	-12.44	-16.60	-14.21	-12.44	-16.45	-14.12	-12.43	-16.38	-14.09	-12.38	-16.29	-14.02
17	-16.85	-21.56	-19.16	-16.70	-22.21	-19.37	-16.68	-22.38	-19.38	-16.59	-22.40	-19.32
18	-16.05	-18.65	-17.37	-15.95	-18.55	-17.28	-15.88	-18.53	-17.24	-15.84	-18.39	-17.15
19	-17.85	-20.51	-18.88	-17.75	-20.51	-18.82	-17.68	-20.43	-18.79	-17.54	-20.35	-18.58
20	-4.77	-20.31	-14.06	-5.13	-20.06	-14.12	-5.18	-19.98	-14.05	-5.17	-19.90	-13.98
21	-2.02	-11.84	-5.55	-2.27	-11.69	-5.68	-2.13	-11.63	-5.67	-2.16	-11.53	-5.71
22	-0.46	-8.88	-2.06	-0.52	-8.89	-2.27	-0.53	-8.88	-2.41	-0.61	-8.82	-2.76
23	-1.16	-8.73	-4.60	-2.27	-14.20	-6.13	-2.68	-10.03	-5.68	-2.81	-7.17	-4.90
24	-1.97	-11.89	-5.01	-3.18	-14.90	-6.16	-3.38	-10.98	-5.09	-3.41	-7.67	-4.42
25	-9.83	-23.96	-16.83	-12.74	-24.46	-19.50	-11.88	-19.03	-15.38	-9.33	-14.19	-11.50
26	-10.43	-25.92	-20.13	-14.20	-25.67	-20.33	-12.63	-19.88	-16.81	-10.53	-14.79	-13.03
27	-11.74	-19.70	-14.09	-11.04	-18.35	-13.21	-8.93	-16.73	-11.36	-7.22	-13.48	-9.42
28	-11.09	-15.65	-12.85	-9.44	-11.29	-10.66	-7.93	-8.83	-8.45	-6.62	-7.12	-6.86
29	-16.65	-25.57	-20.66	-11.94	-18.25	-14.41	-9.13	-13.23	-11.06	-7.22	-9.88	-8.58
30	-17.90	-27.62	-23.70	-14.04	-19.70	-17.30	-11.38	-14.68	-13.17	-9.07	-11.08	-10.09
31	-22.06	-31.63	-27.60	-17.30	-23.16	-20.94	-14.23	-17.13	-15.99	-11.28	-12.98	-12.16
Month	-0.46	-31.63	-14.04	-0.52	-25.67	-13.23	-0.53	-22.38	-11.94	-0.61	-22.40	-10.81

Date	Air Temperature (degrees C) Height: +15cm			Air Temperature (degrees C) Height: +10cm			Air Temperature (degrees C) Height: +5cm			Air/Ice Temperature (degrees C) Depth: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-14.94	-20.29	-17.40	-14.52	-19.82	-17.08	-9.63	-12.13	-10.66	-7.29	-8.54	-7.63
13	-4.87	-19.34	-9.79	-5.27	-19.02	-9.52	-5.32	-11.78	-7.89	-5.09	-8.54	-6.73
14	-4.52	-5.17	-4.84	-4.57	-5.12	-4.80	-4.26	-5.16	-4.64	-3.99	-4.94	-4.40
15	-5.07	-13.53	-10.92	-4.57	-10.47	-7.48	-4.16	-5.57	-4.97	-3.84	-4.34	-4.09
16	-12.23	-15.89	-13.78	-8.87	-10.87	-9.71	-5.52	-6.47	-5.98	-4.39	-4.94	-4.65
17	-16.24	-22.15	-19.14	-11.22	-15.27	-13.33	-6.57	-8.32	-7.54	-4.99	-5.99	-5.54
18	-15.64	-18.19	-16.82	-11.07	-13.22	-12.22	-7.27	-7.97	-7.65	-5.79	-6.14	-5.94
19	-14.28	-20.14	-17.96	-10.42	-14.37	-13.14	-7.47	-8.83	-8.27	-5.99	-6.64	-6.32
20	-5.27	-19.74	-13.90	-6.42	-14.42	-11.49	-6.37	-9.03	-8.14	-5.89	-6.84	-6.60
21	-2.77	-10.20	-5.42	-4.17	-6.47	-5.24	-4.51	-6.07	-5.09	-4.34	-5.64	-4.90
22	-1.21	-8.78	-3.48	-3.47	-7.72	-4.32	-3.71	-5.11	-4.26	-3.69	-4.39	-4.05
23	-3.17	-5.22	-4.22	-3.47	-4.17	-3.81	-3.56	-3.66	-3.61	-3.44	-3.64	-3.50
24	-3.52	-5.12	-3.92	-3.47	-3.87	-3.63	-3.31	-3.61	-3.43	-3.19	-3.44	-3.30
25	-5.97	-9.18	-7.65	-4.17	-6.07	-5.26	-3.41	-4.01	-3.74	-3.14	-3.24	-3.19
26	-7.87	-9.73	-8.93	-5.82	-6.47	-6.19	-4.11	-4.26	-4.19	-3.24	-3.39	-3.36
27	-5.62	-9.38	-7.13	-4.57	-6.42	-5.44	-3.71	-4.26	-4.03	-3.24	-3.44	-3.34
28	-5.22	-5.52	-5.34	-4.17	-4.47	-4.28	-3.31	-3.66	-3.47	-2.89	-3.19	-3.04
29	-5.37	-6.67	-6.05	-4.17	-4.72	-4.44	-3.26	-3.31	-3.30	-2.74	-2.89	-2.79
30	-6.57	-7.42	-6.92	-4.72	-5.12	-4.90	-3.31	-3.41	-3.36	-2.69	-2.74	-2.73
31	-7.67	-8.53	-8.17	-5.22	-5.72	-5.54	-3.41	-3.56	-3.52	-2.69	-2.74	-2.69
Month	-1.21	-22.15	-9.59	-3.47	-19.82	-7.59	-3.26	-12.13	-5.39	-2.69	-8.54	-4.44

Chaivo Bay
January 1994
Natural Area

(Recording Interval 120 min)

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)		
	Height: +150cm			Height: +30cm			Height: +25cm			Height: +20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-20.51	-31.68	-25.81	-17.15	-21.71	-20.08	-13.28	-16.23	-15.09	-10.53	-12.38	-11.58
2	-18.25	-28.37	-24.27	-15.68	-23.31	-20.19	-12.68	-17.03	-15.19	-10.18	-12.88	-11.66
3	-15.24	-28.77	-22.78	-14.35	-22.06	-18.90	-12.28	-15.83	-14.36	-9.88	-11.83	-11.07
4	-25.32	-34.94	-31.05	-20.41	-27.77	-24.27	-15.78	-19.53	-17.69	-12.13	-14.44	-13.22
5	-27.82	-41.15	-35.98	-22.96	-30.67	-28.35	-17.58	-21.78	-20.46	-13.63	-15.99	-15.18
6	-29.43	-40.25	-36.53	-22.81	-31.33	-28.63	-17.78	-22.73	-21.05	-13.63	-16.69	-15.55
7	-25.42	-40.90	-34.33	-20.91	-30.07	-27.06	-16.33	-21.68	-19.85	-12.38	-15.79	-14.43
8	-22.01	-38.75	-32.03	-19.60	-28.62	-25.14	-14.38	-20.08	-18.04	-10.58	-14.29	-12.83
9	-23.01	-40.90	-31.50	-18.60	-27.77	-23.42	-13.98	-19.78	-16.84	-9.78	-13.83	-11.93
10	-9.18	-22.31	-14.25	-7.93	-19.45	-12.30	-6.08	-13.48	-9.02	-4.72	-9.48	-6.67
11	-8.08	-17.35	-11.68	-5.83	-9.14	-6.98	-4.53	-6.23	-5.24	-3.41	-4.46	-4.00
12	-15.39	-17.75	-16.76	-6.93	-16.55	-12.39	-4.98	-12.43	-8.15	-2.41	-6.17	-4.46
13	-7.83	-22.36	-15.17	-0.67	-9.89	-5.07	-0.58	-5.93	-2.80	-0.41	-1.46	-0.97
14	-11.79	-28.17	-22.85	-0.97	-4.93	-2.68	-0.33	-1.63	-0.73	-0.21	-1.16	-0.52
15	-17.10	-26.22	-21.56	-3.68	-5.13	-4.20	-2.03	-2.73	-2.24	-0.41	-1.11	-0.69
16	-19.60	-28.17	-24.11	-5.13	-7.53	-6.20	-2.98	-4.93	-3.91	-1.21	-2.76	-2.01
17	-18.40	-24.72	-21.88	-8.23	-9.99	-9.08	-5.38	-6.98	-6.46	-3.06	-4.72	-4.17
18	-19.15	-28.67	-22.33	-8.99	-10.49	-9.44	-6.88	-8.03	-7.26	-4.87	-6.87	-5.38
19	-16.60	-29.73	-24.91	-10.84	-12.19	-11.55	-8.43	-9.78	-9.37	-6.37	-7.92	-7.44
20	-15.80	-18.50	-16.79	-9.49	-10.54	-9.98	-8.23	-9.03	-8.64	-7.12	-7.62	-7.39
21	-17.90	-29.33	-22.07	-10.94	-14.20	-12.27	-9.33	-12.03	-10.51	-7.82	-10.13	-8.91
22	-15.75	-32.13	-25.30	-11.99	-16.80	-14.41	-11.08	-14.48	-12.78	-10.03	-12.38	-11.22
23	-20.61	-30.73	-26.41	-11.79	-13.14	-12.49	-10.83	-11.63	-11.21	-9.78	-10.33	-10.06
24	-15.49	-21.31	-18.91	-11.29	-12.44	-11.96	-10.38	-11.23	-10.87	-9.58	-10.08	-9.85
25	-20.66	-23.36	-21.89	-11.79	-12.39	-12.09	-10.78	-11.18	-11.00	-9.83	-10.23	-10.01
26	-22.01	-27.72	-24.31	-11.14	-12.04	-11.52	-10.33	-11.08	-10.62	-9.58	-10.13	-9.78
27	-19.75	-34.14	-28.95	-12.14	-13.24	-12.70	-10.93	-11.88	-11.46	-9.88	-10.73	-10.42
28	-10.48	-32.13	-20.93	-10.39	-13.69	-12.32	-9.93	-12.38	-11.46	-9.53	-11.23	-10.64
29	-15.19	-29.02	-22.91	-10.19	-10.89	-10.56	-9.68	-10.08	-9.86	-9.12	-9.43	-9.30
30	-16.00	-28.17	-23.16	-10.29	-11.04	-10.71	-9.68	-10.18	-9.95	-9.12	-9.48	-9.32
31	-16.65	-30.38	-24.69	-10.49	-11.24	-10.92	-9.88	-10.38	-10.08	-9.22	-9.58	-9.40
Month	-7.83	-41.15	-24.07	-0.67	-31.33	-14.12	-0.33	-22.73	-11.04	-0.21	-16.69	-8.71

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air/Ice Temperature (degrees C)		
	Height: +150cm			Height: +10cm			Height: +5cm			Depth: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-7.57	-8.37	-7.97	-5.27	-5.67	-5.49	-3.46	-3.56	-3.52	-2.59	-2.69	-2.64
2	-7.47	-8.58	-8.02	-5.27	-5.72	-5.48	-3.36	-3.46	-3.43	-2.54	-2.59	-2.57
3	-7.12	-8.07	-7.68	-5.07	-5.47	-5.29	-3.21	-3.36	-3.31	-2.39	-2.54	-2.47
4	-8.07	-9.38	-8.73	-5.32	-5.92	-5.65	-3.21	-3.26	-3.22	-2.29	-2.39	-2.32
5	-9.38	-10.28	-9.88	-5.97	-6.32	-6.14	-3.11	-3.26	-3.22	-2.34	-2.44	-2.37
6	-9.23	-10.68	-10.06	-5.67	-6.32	-6.03	-2.61	-3.11	-2.92	-2.14	-2.34	-2.23
7	-8.07	-9.93	-9.03	-4.67	-5.67	-5.08	-2.21	-2.61	-2.40	-1.89	-2.04	-1.96
8	-6.67	-8.63	-7.69	-3.72	-4.62	-4.08	-1.91	-2.21	-2.02	-1.59	-1.84	-1.69
9	-5.87	-7.82	-7.01	-3.27	-3.92	-3.65	-1.86	-2.01	-1.93	-1.33	-1.59	-1.49
10	-3.47	-5.67	-4.44	-2.57	-3.27	-2.91	-1.91	-2.16	-2.03	-1.48	-1.59	-1.54
11	-2.32	-3.32	-2.89	-1.02	-2.47	-1.91	-1.00	-1.86	-1.57	-1.28	-1.53	-1.45
12	-0.81	-2.47	-1.84	-0.32	-1.37	-0.83	-0.75	-1.35	-0.96	-0.88	-1.23	-1.09
13	-0.26	-1.66	-0.86	-0.52	-1.67	-0.93	-0.70	-1.60	-0.94	-0.78	-1.20	-1.02
14	-0.16	-1.16	-0.62	-0.37	-1.17	-0.72	-0.55	-1.15	-0.86	-0.83	-1.10	-1.02
15	-0.51	-0.61	-0.59	-0.52	-0.62	-0.61	-0.65	-0.65	-0.65	-0.68	-0.78	-0.72
16	-0.51	-0.86	-0.60	-0.57	-0.57	-0.57	-0.65	-0.65	-0.65	-0.63	-0.68	-0.68
17	-1.01	-2.72	-1.95	-0.62	-0.87	-0.71	-0.65	-0.75	-0.69	-0.68	-0.68	-0.68
18	-2.87	-4.22	-3.54	-0.97	-2.57	-1.81	-0.80	-1.25	-1.05	-0.68	-0.83	-0.73
19	-4.42	-6.27	-5.57	-2.72	-4.47	-3.80	-1.30	-3.21	-2.26	-0.83	-1.84	-1.24
20	-6.02	-6.32	-6.13	-4.77	-5.07	-4.87	-3.36	-3.91	-3.66	-1.99	-2.84	-2.47
21	-6.47	-8.43	-7.39	-5.17	-6.82	-5.96	-4.01	-5.42	-4.69	-2.89	-4.09	-3.47
22	-8.78	-10.53	-9.69	-7.12	-8.82	-8.15	-5.62	-7.32	-6.71	-4.24	-5.84	-5.26
23	-8.83	-9.13	-8.98	-7.82	-7.97	-7.87	-6.72	-6.92	-6.82	-5.64	-5.89	-5.75
24	-8.73	-9.08	-8.90	-7.82	-8.02	-7.92	-6.87	-7.07	-7.01	-5.89	-6.19	-6.07
25	-8.98	-9.28	-9.11	-8.02	-8.37	-8.19	-7.12	-7.52	-7.35	-6.24	-6.69	-6.46
26	-8.83	-9.28	-9.03	-8.07	-8.42	-8.25	-7.42	-7.62	-7.53	-6.64	-6.79	-6.72
27	-9.03	-9.73	-9.47	-8.17	-8.82	-8.57	-7.47	-7.92	-7.76	-6.69	-7.09	-6.91
28	-9.03	-10.23	-9.81	-8.47	-9.32	-9.03	-7.87	-8.42	-8.21	-7.14	-7.54	-7.38
29	-8.53	-8.88	-8.70	-7.92	-8.32	-8.09	-7.32	-7.77	-7.52	-6.69	-7.14	-6.86
30	-8.53	-8.78	-8.65	-7.87	-8.07	-7.98	-7.27	-7.47	-7.37	-6.64	-6.74	-6.69
31	-8.53	-8.93	-8.69	-7.87	-8.12	-7.99	-7.27	-7.47	-7.36	-6.59	-6.74	-6.65
Month	-0.16	-10.68	-6.57	-0.32	-9.32	-4.99	-0.55	-8.42	-3.86	-0.63	-7.54	-3.25

Chaivo Bay
February 1994
Natural Area

(Recording Interval 120 min)

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)		
	Height: +150cm			Height: +30cm			Height: +25cm			Height: +20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-11.89	-31.13	-24.70	-10.99	-11.69	-11.32	-10.33	-10.73	-10.49	-9.53	-9.88	-9.70
2	-16.30	-27.92	-21.61	-10.24	-11.14	-10.71	-9.68	-10.38	-9.99	-9.07	-9.63	-9.38
3	-18.60	-29.93	-24.20	-10.89	-11.54	-11.18	-9.98	-10.58	-10.30	-9.27	-9.73	-9.54
4	-17.25	-25.62	-22.09	-11.34	-12.84	-11.91	-10.43	-11.53	-10.91	-9.58	-10.48	-10.00
5	-11.89	-26.67	-20.03	-11.79	-13.99	-13.02	-11.23	-12.73	-11.99	-10.58	-11.53	-11.05
6	-15.85	-28.22	-21.98	-12.79	-14.40	-13.59	-12.03	-12.98	-12.49	-11.03	-11.88	-11.50
7	-19.70	-30.93	-26.57	-14.65	-16.20	-15.45	-13.38	-14.68	-14.13	-12.13	-13.38	-12.95
8	-18.25	-29.12	-24.85	-14.95	-17.10	-16.15	-14.23	-15.63	-14.96	-13.38	-14.39	-13.85
9	-17.60	-29.33	-24.85	-15.10	-17.15	-16.19	-14.38	-15.78	-15.08	-13.53	-14.54	-14.03
10	-14.69	-28.32	-20.36	-13.59	-16.80	-15.18	-13.08	-15.58	-14.34	-12.48	-14.39	-13.52
11	-8.73	-16.50	-11.86	-9.94	-13.54	-11.60	-9.78	-12.98	-11.34	-9.63	-12.38	-11.01
12	-10.43	-12.54	-11.44	-9.49	-10.04	-9.76	-9.13	-9.73	-9.45	-8.77	-9.53	-9.13
13	-10.58	-12.89	-11.79	-8.69	-9.44	-9.04	-8.33	-9.03	-8.65	-7.97	-8.67	-8.27
14	-1.71	-10.68	-4.66	-7.58	-8.99	-8.21	-7.43	-8.63	-7.96	-7.22	-8.22	-7.68
15	-2.47	-5.67	-3.91	-6.43	-7.48	-6.94	-6.38	-7.33	-6.82	-6.27	-7.12	-6.67
16	-3.47	-6.08	-5.29	-5.68	-6.38	-6.03	-5.63	-6.28	-5.94	-5.52	-6.17	-5.83
17	-5.07	-20.51	-9.68	-5.13	-5.63	-5.38	-5.08	-5.53	-5.31	-4.97	-5.47	-5.22
18	-11.29	-19.25	-15.19	-4.93	-5.13	-5.00	-4.78	-5.03	-4.88	-4.62	-4.92	-4.74
19	-11.29	-26.27	-15.65	-4.83	-4.93	-4.80	-4.58	-4.73	-4.68	-4.41	-4.57	-4.50
20	-10.68	-29.38	-21.26	-4.78	-4.88	-4.83	-4.53	-4.63	-4.58	-4.31	-4.41	-4.36
21	-7.23	-30.23	-18.15	-4.88	-5.08	-4.99	-4.58	-4.73	-4.66	-4.31	-4.46	-4.40
22	-3.67	-7.28	-5.15	-4.83	-5.08	-4.97	-4.58	-4.78	-4.69	-4.36	-4.46	-4.44
23	-0.76	-3.47	-1.97	-4.38	-4.78	-4.57	-4.23	-4.53	-4.39	-4.11	-4.36	-4.25
24	-0.86	-7.83	-3.18	-3.98	-4.33	-4.13	-3.88	-4.23	-4.04	-3.81	-4.11	-3.95
25	-1.51	-4.27	-3.10	-3.68	-3.98	-3.82	-3.63	-3.88	-3.76	-3.56	-3.81	-3.69
26	-0.51	-8.58	-4.01	-3.48	-3.68	-3.60	-3.48	-3.63	-3.54	-3.41	-3.56	-3.48
27	-4.02	-13.29	-7.72	-3.43	-3.48	-3.47	-3.38	-3.43	-3.39	-3.26	-3.36	-3.32
28	-1.46	-8.78	-6.47	-3.38	-3.48	-3.43	-3.33	-3.38	-3.34	-3.21	-3.26	-3.25
Month	-8.51	-31.13	-13.92	-3.38	-17.15	-8.55	-3.33	-15.78	-8.08	-3.21	-14.54	-7.63

Date	Air Temperature (degrees C)			Air Temperature (degrees C)			Air Temperature (degrees C)			Air/Ice Temperature (degrees C)		
	Height: +15cm			Height: +10cm			Height: +5cm			Depth: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-8.79	-9.13	-8.98	-8.02	-8.37	-8.22	-7.37	-7.67	-7.54	-6.64	-6.84	-6.76
2	-8.48	-8.93	-8.72	-7.82	-8.22	-8.05	-7.22	-7.57	-7.44	-6.54	-6.79	-6.71
3	-8.53	-8.98	-8.79	-7.82	-8.17	-8.04	-7.22	-7.47	-7.38	-6.54	-6.69	-6.63
4	-8.83	-9.53	-9.20	-8.07	-8.62	-8.37	-7.42	-7.82	-7.63	-6.69	-6.99	-6.85
5	-9.68	-10.58	-10.12	-8.77	-9.57	-9.25	-7.92	-8.67	-8.39	-7.09	-7.74	-7.53
6	-10.08	-10.88	-10.58	-9.27	-9.87	-9.66	-8.47	-9.08	-8.87	-7.64	-8.14	-7.98
7	-11.03	-12.18	-11.84	-9.97	-11.12	-10.78	-9.13	-10.13	-9.79	-8.24	-9.19	-8.84
8	-12.43	-13.18	-12.79	-11.27	-12.07	-11.74	-10.28	-11.03	-10.77	-9.29	-9.95	-9.72
9	-12.73	-13.38	-13.03	-11.77	-12.32	-12.04	-10.83	-11.33	-11.09	-9.79	-10.30	-10.07
10	-11.83	-13.33	-12.71	-11.12	-12.32	-11.85	-10.48	-11.33	-11.02	-9.69	-10.35	-10.10
11	-9.38	-11.73	-10.61	-9.07	-11.07	-10.14	-8.67	-10.38	-9.62	-8.19	-9.64	-9.03
12	-8.37	-9.23	-8.78	-7.97	-8.92	-8.40	-7.62	-8.52	-8.01	-7.14	-8.04	-7.56
13	-7.62	-8.32	-7.90	-7.27	-7.92	-7.54	-6.92	-7.57	-7.16	-6.49	-7.09	-6.74
14	-6.92	-7.77	-7.37	-6.62	-7.37	-7.02	-6.37	-6.92	-6.67	-6.04	-6.49	-6.29
15	-6.12	-6.87	-6.47	-5.92	-6.57	-6.24	-5.67	-6.32	-6.01	-5.39	-5.99	-5.70
16	-5.37	-6.02	-5.69	-5.22	-5.82	-5.51	-5.06	-5.62	-5.34	-4.84	-5.39	-5.10
17	-4.47	-5.32	-4.89	-4.67	-5.17	-4.92	-4.51	-5.01	-4.74	-4.29	-4.79	-4.53
18	-4.47	-4.77	-4.60	-4.27	-4.62	-4.43	-4.16	-4.46	-4.28	-3.94	-4.24	-4.08
19	-4.22	-4.42	-4.34	-4.02	-4.27	-4.16	-3.86	-4.11	-4.00	-3.69	-3.94	-3.80
20	-4.12	-4.22	-4.18	-3.92	-4.02	-3.97	-3.71	-3.86	-3.80	-3.54	-3.64	-3.58
21	-4.12	-4.22	-4.16	-3.87	-3.97	-3.93	-3.66	-3.76	-3.72	-3.44	-3.54	-3.48
22	-4.17	-4.22	-4.21	-3.92	-3.97	-3.96	-3.71	-3.76	-3.76	-3.49	-3.54	-3.49
23	-3.97	-4.17	-4.07	-3.82	-3.92	-3.87	-3.61	-3.71	-3.68	-3.44	-3.49	-3.47
24	-3.72	-3.92	-3.83	-3.57	-3.77	-3.68	-3.46	-3.61	-3.54	-3.29	-3.44	-3.37
25	-3.52	-3.72	-3.60	-3.37	-3.57	-3.48	-3.26	-3.46	-3.37	-3.14	-3.29	-3.22
26	-3.32	-3.47	-3.40	-3.22	-3.37	-3.30	-3.11	-3.26	-3.20	-3.04	-3.14	-3.08
27	-3.22	-3.32	-3.24	-3.07	-3.17	-3.13	-3.01	-3.11	-3.06	-2.89	-2.99	-2.94
28	-3.12	-3.22	-3.16	-2.97	-3.07	-3.03	-2.91	-3.01	-2.94	-2.79	-2.89	-2.83
Month	-3.12	-13.38	-7.19	-2.97	-12.32	-6.74	-2.91	-11.33	-6.32	-2.79	-10.35	-5.84

Chaivo Bay
March 1994
Natural Area

(Recording Interval 120 min)

Date	Air Temperature (degrees C) Height: +150cm			Air Temperature (degrees C) Height: +30cm			Air Temperature (degrees C) Height: +25cm			Air Temperature (degrees C) Height: +20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-3.12	-13.94	-7.46	-3.33	-3.38	-3.34	-3.18	-3.28	-3.25	-3.11	-3.21
2	-1.71	-9.53	-7.32	-3.18	-3.28	-3.23	-3.08	-3.18	-3.15	-3.01	-3.11	-3.06
3	-5.22	-13.54	-9.24	-3.08	-3.13	-3.11	-2.98	-3.08	-3.03	-2.91	-3.01	-2.95
4	-6.32	-14.44	-10.12	-3.03	-3.08	-3.03	-2.93	-2.98	-2.96	-2.81	-2.86	-2.86
5	-9.63	-13.54	-11.57	-2.97	-3.03	-3.00	-2.83	-2.93	-2.89	-2.71	-2.81	-2.78
6	-7.23	-10.99	-9.47	-2.97	-3.03	-3.00	-2.83	-2.88	-2.87	-2.71	-2.76	-2.73
7	-1.97	-20.51	-12.08	-3.03	-3.23	-3.11	-2.88	-3.03	-2.93	-2.71	-2.81	-2.76
8	-5.37	-23.51	-11.24	-3.13	-3.18	-3.13	-2.96	-3.03	-2.98	-2.81	-2.86	-2.84
9	-1.66	-4.62	-3.02	-3.08	-3.18	-3.13	-3.03	-3.08	-3.05	-2.86	-2.86	-2.86
10	1.09	-7.08	-3.07	-3.08	-3.28	-3.18	-3.03	-3.23	-3.14	-2.86	-3.06	-2.99
11	-0.56	-12.34	-5.01	-2.97	-3.18	-3.10	-2.98	-3.13	-3.06	-2.91	-3.06	-2.99
12	-3.57	-7.73	-5.31	-2.87	-3.08	-2.97	-2.68	-3.03	-2.86	-2.66	-3.06	-2.85
13	-6.32	-18.50	-10.64	-2.82	-2.92	-2.87	-2.73	-2.78	-2.74	-2.66	-2.71	-2.70
14	-5.07	-20.41	-13.34	-2.87	-2.82	-2.82	-2.48	-2.73	-2.61	-2.46	-2.66	-2.58
15	0.09	-18.35	-10.78	-2.87	-2.47	-2.33	-2.23	-2.43	-2.38	-2.26	-2.46	-2.39
16												
17	-1.66	-16.05	-8.00	-1.72	-1.77	-1.75	-1.78	-1.78	-1.78	-1.81	-1.86	-1.82
18	-2.27	-9.63	-5.29	-1.72	-1.82	-1.80	-1.78	-1.88	-1.84	-1.81	-1.86	-1.84
19	-0.36	-3.37	-2.14	-1.62	-1.77	-1.69	-1.68	-1.78	-1.73	-1.76	-1.81	-1.78
20	-0.06	-5.57	-3.08	-1.72	-1.81	-1.81	-1.83	-1.88	-1.86	-1.81	-1.91	-1.86
21	-3.57	-19.85	-8.47	-1.72	-1.87	-1.77	-1.78	-1.88	-1.83	-1.81	-1.91	-1.84
22	-2.52	-25.72	-14.87	-1.72	-1.87	-1.80	-1.78	-1.88	-1.85	-1.76	-1.88	-1.84
23	0.89	-25.77	-14.13	-1.67	-1.92	-1.79	-1.73	-1.88	-1.81	-1.71	-1.86	-1.81
24	-3.87	-14.04	-7.79	-1.67	-1.72	-1.69	-1.73	-1.78	-1.73	-1.71	-1.76	-1.74
25	-6.73	-15.65	-9.89	-1.62	-1.67	-1.65	-1.63	-1.68	-1.67	-1.66	-1.71	-1.67
26	-10.08	-23.36	-15.67	-1.57	-1.67	-1.62	-1.68	-1.73	-1.69	-1.66	-1.76	-1.70
27	-5.07	-25.62	-14.23	-1.57	-1.57	-1.57	-1.63	-1.73	-1.68	-1.61	-1.76	-1.69
28	-4.67	-18.75	-10.91	-1.52	-1.57	-1.55	-1.63	-1.68	-1.66	-1.66	-1.71	-1.69
29	-5.97	-17.50	-11.86	-1.52	-1.52	-1.52	-1.53	-1.58	-1.57	-1.56	-1.66	-1.63
30	-6.93	-20.98	-14.05	-1.52	-1.57	-1.55	-1.53	-1.58	-1.56	-1.51	-1.56	-1.54
31	1.34	-23.56	-9.34	-1.57	-1.62	-1.60	-1.53	-1.63	-1.60	-1.51	-1.61	-1.55
Month	1.34	-25.77	-9.31	-1.52	-3.38	-2.34	-1.53	-3.28	-2.33	-1.51	-3.21	-2.28

Date	Air Temperature (degrees C) Height: +15cm			Air Temperature (degrees C) Height: +18cm			Air Temperature (degrees C) Height: +5cm			Air/Ice Temperature (degrees C) Depth: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-3.02	-3.12	-3.07	-2.92	-2.97	-2.96	-2.81	-2.91	-2.85	-2.69	-2.79
2	-2.92	-3.02	-2.97	-2.82	-2.92	-2.86	-2.71	-2.81	-2.76	-2.59	-2.69	-2.63
3	-2.82	-2.92	-2.86	-2.72	-2.77	-2.75	-2.61	-2.71	-2.65	-2.49	-2.59	-2.53
4	-2.72	-2.82	-2.77	-2.62	-2.67	-2.65	-2.51	-2.56	-2.55	-2.39	-2.49	-2.43
5	-2.62	-2.72	-2.69	-2.47	-2.62	-2.56	-2.41	-2.51	-2.46	-2.24	-2.39	-2.34
6	-2.62	-2.62	-2.62	-2.47	-2.47	-2.47	-2.36	-2.41	-2.39	-2.24	-2.24	-2.24
7	-2.57	-2.62	-2.61	-2.42	-2.47	-2.46	-2.36	-2.36	-2.36	-2.24	-2.24	-2.24
8	-2.62	-2.72	-2.68	-2.47	-2.52	-2.50	-2.36	-2.41	-2.39	-2.19	-2.29	-2.26
9	-2.72	-2.72	-2.72	-2.52	-2.52	-2.52	-2.41	-2.41	-2.41	-2.29	-2.29	-2.29
10	-2.72	-2.82	-2.76	-2.52	-2.62	-2.56	-2.41	-2.46	-2.43	-2.29	-2.34	-2.29
11	-2.77	-2.82	-2.78	-2.57	-2.62	-2.60	-2.46	-2.46	-2.46	-2.29	-2.34	-2.32
12	-2.62	-2.87	-2.75	-2.52	-2.62	-2.60	-2.46	-2.56	-2.50	-2.34	-2.44	-2.38
13	-2.57	-2.62	-2.61	-2.42	-2.52	-2.47	-2.36	-2.41	-2.39	-2.24	-2.34	-2.26
14	-2.47	-2.57	-2.52	-2.37	-2.42	-2.41	-2.31	-2.36	-2.34	-2.19	-2.24	-2.22
15	-2.32	-2.42	-2.38	-2.27	-2.32	-2.31	-2.21	-2.26	-2.25	-2.14	-2.19	-2.18
16												
17	-1.81	-1.96	-1.89	-1.87	-2.02	-1.94	-1.86	-2.06	-1.97	-1.84	-1.99	-1.95
18	-1.81	-1.86	-1.84	-1.82	-1.87	-1.83	-1.81	-1.86	-1.85	-1.79	-1.84	-1.83
19	-1.76	-1.81	-1.79	-1.72	-1.82	-1.77	-1.75	-1.81	-1.79	-1.69	-1.79	-1.75
20	-1.81	-1.86	-1.84	-1.77	-1.77	-1.77	-1.70	-1.75	-1.74	-1.69	-1.69	-1.69
21	-1.81	-1.86	-1.82	-1.72	-1.77	-1.74	-1.70	-1.70	-1.70	-1.64	-1.69	-1.68
22	-1.76	-1.86	-1.81	-1.72	-1.77	-1.74	-1.70	-1.75	-1.72	-1.64	-1.69	-1.67
23	-1.71	-1.86	-1.80	-1.67	-1.77	-1.73	-1.65	-1.75	-1.70	-1.58	-1.69	-1.65
24	-1.71	-1.76	-1.73	-1.67	-1.72	-1.70	-1.65	-1.70	-1.68	-1.58	-1.64	-1.63
25	-1.66	-1.66	-1.66	-1.57	-1.67	-1.62	-1.55	-1.65	-1.60	-1.53	-1.58	-1.56
26	-1.66	-1.76	-1.70	-1.57	-1.62	-1.60	-1.55	-1.65	-1.60	-1.48	-1.64	-1.54
27	-1.66	-1.71	-1.69	-1.57	-1.67	-1.62	-1.55	-1.70	-1.63	-1.48	-1.64	-1.57
28	-1.66	-1.71	-1.69	-1.62	-1.67	-1.64	-1.60	-1.70	-1.65	-1.58	-1.69	-1.63
29	-1.61	-1.66	-1.65	-1.57	-1.62	-1.61	-1.60	-1.65	-1.62	-1.58	-1.69	-1.61
30	-1.51	-1.61	-1.55	-1.47	-1.57	-1.55	-1.50	-1.55	-1.54	-1.48	-1.58	-1.53
31	-1.51	-1.56	-1.54	-1.47	-1.57	-1.52	-1.50	-1.55	-1.50	-1.48	-1.53	-1.50
Month	-1.51	-3.12	-2.22	-1.47	-2.97	-2.14	-1.50	-2.91	-2.08	-1.48	-2.79	-2.00

Chaivo Bay
 April 1994
 Natural Area (Recording Interval 120 min)

Date	Air Temperature (degrees C) Height: +150cm			Air Temperature (degrees C) Height: +30cm			Air Temperature (degrees C) Height: +25cm			Air Temperature (degrees C) Height: +20cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-0.41	-9.58	-3.53	-1.62	-1.67	-1.65	-1.58	-1.63	-1.63	-1.56	-1.61
2	-0.96	-15.90	-5.01	-1.67	-1.72	-1.70	-1.58	-1.63	-1.60	-1.51	-1.56	-1.55
3	-0.61	-4.42	-2.87	-1.67	-1.67	-1.67	-1.53	-1.58	-1.53	-1.46	-1.51	-1.48
4	-2.52	-4.92	-3.68	-1.62	-1.67	-1.66	-1.53	-1.53	-1.53	-1.46	-1.46	-1.46
5	1.49	-6.27	-2.02	-1.62	-1.62	-1.62	-1.53	-1.53	-1.53	-1.46	-1.46	-1.46
6	-2.97	-11.29	-6.04	-1.57	-1.62	-1.61	-1.48	-1.53	-1.52	-1.41	-1.46	-1.45
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	1.49	-15.90	-3.86	-1.57	-1.72	-1.65	-1.48	-1.63	-1.56	-1.41	-1.61	-1.50

Date	Air Temperature (degrees C) Height: +15cm			Air Temperature (degrees C) Height: +10cm			Air Temperature (degrees C) Height: +5cm			Air/Ice Temperature (degrees C) Depth: 0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-1.56	-1.61	-1.57	-1.52	-1.57	-1.54	-1.45	-1.50	-1.48	-1.43	-1.53
2	-1.51	-1.56	-1.53	-1.47	-1.52	-1.52	-1.45	-1.45	-1.45	-1.43	-1.43	-1.43
3	-1.46	-1.51	-1.47	-1.42	-1.47	-1.45	-1.40	-1.45	-1.42	-1.38	-1.43	-1.39
4	-1.46	-1.46	-1.46	-1.37	-1.42	-1.41	-1.35	-1.35	-1.35	-1.33	-1.33	-1.33
5	-1.41	-1.46	-1.45	-1.37	-1.42	-1.37	-1.30	-1.35	-1.34	-1.28	-1.33	-1.32
6	-1.36	-1.41	-1.40	-1.37	-1.37	-1.37	-1.30	-1.30	-1.30	-1.28	-1.28	-1.28
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-1.36	-1.61	-1.48	-1.37	-1.57	-1.44	-1.30	-1.50	-1.39	-1.28	-1.53	-1.37

Table 11 Daily mean, minimum and maximum ice/water temperatures at the depths of 10, 20, 30, 40, 50, 60, 70 and 100 cm below the snow-ice interface in the natural area during the 1993-1994 winter experiment.

Chaivo Bay
December 1993
Natural Area

(Recording Interval 120 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -10cm			Depth: -20cm			Depth: -30cm			Depth: -40cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-2.98	-5.03	-4.18	-1.07	-2.02	-1.59	-1.06	-1.76	-1.46	-1.04	-1.74	-1.44
13	-4.23	-5.24	-4.85	-1.87	-2.77	-2.42	-1.16	-1.76	-1.52	-1.14	-1.74	-1.51
14	-3.38	-4.13	-3.70	-2.37	-2.77	-2.48	-1.26	-1.71	-1.48	-1.29	-1.74	-1.48
15	-3.18	-3.33	-3.22	-2.27	-2.42	-2.34	-1.41	-1.76	-1.59	-1.39	-1.74	-1.59
16	-3.28	-3.58	-3.42	-2.22	-2.52	-2.36	-1.16	-1.76	-1.53	-1.14	-1.74	-1.52
17	-3.53	-4.08	-3.76	-2.37	-2.67	-2.52	-1.16	-1.71	-1.50	-1.14	-1.69	-1.48
18	-4.03	-4.58	-4.19	-2.47	-3.28	-2.75	-1.16	-1.76	-1.55	-1.19	-1.74	-1.55
19	-4.18	-4.63	-4.39	-2.89	-3.08	-2.95	-1.41	-1.76	-1.66	-1.39	-1.74	-1.65
20	-4.68	-4.83	-4.78	-3.08	-3.18	-3.11	-1.01	-1.71	-1.44	-1.04	-1.69	-1.43
21	-3.68	-4.58	-4.13	-2.72	-3.18	-2.90	-0.81	-1.66	-1.26	-0.84	-1.64	-1.25
22	-3.33	-3.03	-3.49	-2.67	-2.72	-2.70	-1.36	-1.81	-1.63	-1.39	-1.74	-1.61
23	-3.08	-3.28	-3.16	-2.47	-2.67	-2.57	-1.51	-1.71	-1.56	-1.39	-1.64	-1.44
24	-2.83	-3.03	-2.93	-2.22	-2.47	-2.36	-1.36	-1.51	-1.44	-1.09	-1.34	-1.20
25	-2.62	-2.77	-2.71	-2.02	-2.17	-2.11	-1.21	-1.36	-1.28	-0.89	-1.09	-0.99
26	-2.57	-2.67	-2.62	-1.97	-2.02	-1.99	-1.01	-1.16	-1.11	-0.59	-0.84	-0.75
27	-2.52	-2.62	-2.58	-1.82	-1.92	-1.90	-0.86	-1.01	-0.95	-0.29	-0.59	-0.44
28	-2.32	-2.52	-2.44	-1.62	-1.82	-1.73	-0.71	-0.86	-0.79	-0.09	-0.24	-0.18
29	-2.12	-2.32	-2.20	-1.47	-1.62	-1.51	-0.51	-0.66	-0.61	0.01	-0.09	-0.03
30	-2.02	-2.12	-2.06	-1.32	-1.47	-1.40	-0.46	-0.51	-0.50	0.06	0.01	0.02
31	-1.87	-2.02	-1.93	-1.17	-1.32	-1.24	-0.46	-0.51	-0.48	0.11	0.06	0.07
Month	-1.87	-5.24	-3.34	-1.07	-3.28	-2.25	-0.46	-1.81	-1.27	0.11	-1.74	-1.07

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -50cm			Depth: -60cm			Depth: -70cm			Depth: -100cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-1.08	-1.73	-1.46	-1.07	-1.77	-1.46	-1.05	-1.75	-1.43	-1.08	-1.74	-1.47
13	-1.13	-1.73	-1.51	-1.12	-1.77	-1.51	-1.15	-1.75	-1.49	-1.13	-1.74	-1.52
14	-1.28	-1.73	-1.49	-1.27	-1.72	-1.48	-1.25	-1.70	-1.48	-1.28	-1.74	-1.51
15	-1.38	-1.73	-1.58	-1.42	-1.77	-1.61	-1.40	-1.70	-1.56	-1.38	-1.74	-1.60
16	-1.13	-1.73	-1.52	-1.12	-1.77	-1.53	-1.15	-1.70	-1.50	-1.13	-1.74	-1.53
17	-1.13	-1.73	-1.58	-1.12	-1.72	-1.49	-1.10	-1.70	-1.47	-1.13	-1.74	-1.51
18	-1.18	-1.78	-1.55	-1.22	-1.77	-1.57	-1.15	-1.75	-1.52	-1.18	-1.74	-1.55
19	-1.38	-1.78	-1.65	-1.42	-1.77	-1.66	-1.40	-1.75	-1.63	-1.43	-1.74	-1.66
20	-1.03	-1.68	-1.43	-1.12	-1.67	-1.44	-1.15	-1.70	-1.43	-1.13	-1.69	-1.45
21	-0.83	-1.68	-1.27	-0.87	-1.67	-1.27	-0.85	-1.65	-1.25	-0.93	-1.74	-1.31
22	-1.38	-1.78	-1.62	-1.37	-1.77	-1.62	-1.35	-1.75	-1.60	-1.43	-1.74	-1.65
23	-1.38	-1.63	-1.44	-1.37	-1.62	-1.43	-1.35	-1.65	-1.41	-1.48	-1.74	-1.60
24	-1.13	-1.33	-1.20	-1.12	-1.37	-1.23	-1.15	-1.35	-1.25	-1.43	-1.48	-1.47
25	-0.88	-1.08	-0.98	-0.92	-1.07	-1.02	-1.00	-1.15	-1.08	-1.33	-1.43	-1.38
26	-0.63	-0.88	-0.76	-0.67	-0.92	-0.82	-0.80	-1.00	-0.93	-1.28	-1.33	-1.31
27	-0.28	-0.58	-0.45	-0.37	-0.67	-0.56	-0.58	-0.85	-0.74	-1.13	-1.33	-1.23
28	-0.13	-0.28	-0.20	-0.22	-0.42	-0.31	-0.35	-0.70	-0.46	-0.98	-1.28	-1.07
29	-0.03	-0.08	-0.04	-0.07	-0.17	-0.12	-0.09	-0.35	-0.22	-0.68	-0.98	-0.84
30	0.02	-0.03	0.02	-0.02	-0.07	-0.02	-0.04	-0.19	-0.09	-0.58	-0.88	-0.69
31	0.07	0.02	0.07	0.03	-0.02	0.03	0.06	-0.09	0.01	-0.43	-0.78	-0.54
Month	0.07	-1.78	-1.08	0.03	-1.77	-1.11	0.06	-1.75	-1.13	-0.43	-1.74	-1.34

Chaivo Bay
January 1994
Natural Area

(Recording Interval 120 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -10cm			Depth: -20cm			Depth: -30cm			Depth: -40cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.82	-1.87	-1.84	-1.07	-1.47	-1.25	-0.46	-0.46	-0.46	0.11	0.06	0.09
2	-1.77	-1.82	-1.80	-1.02	-1.17	-1.08	-0.36	-0.56	-0.47	0.11	0.06	0.09
3	-1.67	-1.82	-1.75	-1.12	-1.27	-1.15	-0.16	-0.51	-0.33	0.11	0.06	0.10
4	-1.42	-1.62	-1.54	-0.77	-1.17	-0.89	-0.21	-0.56	-0.34	0.16	0.11	0.11
5	-1.52	-1.72	-1.60	-0.87	-1.02	-0.93	-0.21	-0.31	-0.28	0.16	0.11	0.14
6	-1.47	-1.82	-1.72	-0.87	-1.52	-1.14	-0.26	-0.31	-0.30	0.16	0.11	0.15
7	-1.17	-1.47	-1.34	-0.92	-1.42	-1.16	-0.31	-0.61	-0.50	0.16	0.11	0.14
8	-1.12	-1.42	-1.26	-0.62	-0.87	-0.73	-0.31	-0.56	-0.39	0.11	0.06	0.10
9	-1.17	-1.67	-1.42	-0.62	-0.77	-0.68	-0.26	-0.51	-0.37	0.11	0.01	0.06
10	-1.02	-1.12	-1.08	-0.67	-0.72	-0.71	-0.41	-0.56	-0.49	0.01	-0.14	-0.05
11	-0.97	-0.97	-0.97	-0.72	-0.77	-0.74	-0.31	-0.41	-0.35	-0.04	-0.24	-0.18
12	-0.92	-0.97	-0.95	-0.77	-0.97	-0.80	-0.31	-0.36	-0.31	-0.09	-1.44	-0.51
13	-0.82	-1.32	-1.00	-0.82	-1.67	-1.06	-0.41	-0.96	-0.56	-0.19	-1.69	-0.81
14	-1.02	-1.22	-1.12	-1.02	-1.37	-1.17	-0.91	-1.11	-0.99	-0.14	-1.04	-0.56
15	-0.77	-1.02	-0.92	-0.82	-1.02	-0.88	-0.81	-0.96	-0.88	-0.14	-0.69	-0.44
16	-0.72	-0.77	-0.73	-0.72	-0.82	-0.77	-0.66	-0.81	-0.74	-0.14	-0.59	-0.39
17	-0.67	-0.72	-0.70	-0.52	-0.72	-0.67	-0.46	-0.71	-0.66	-0.09	-0.49	-0.36
18	-0.62	-0.62	-0.62	-0.42	-0.57	-0.49	-0.46	-0.61	-0.51	-0.24	-1.19	-0.55
19	-0.62	-0.72	-0.64	-0.47	-0.57	-0.52	-0.46	-0.61	-0.53	-0.39	-1.14	-0.67
20	-0.72	-1.12	-0.88	-0.62	-0.67	-0.63	-0.61	-0.66	-0.62	-0.34	-1.14	-0.70
21	-1.17	-1.97	-1.54	-0.67	-0.77	-0.72	-0.26	-0.56	-0.46	-0.09	-0.59	-0.30
22	-2.07	-3.48	-2.81	-0.82	-1.67	-1.12	-0.41	-0.61	-0.51	-0.04	-0.49	-0.23
23	-3.53	-3.98	-3.75	-1.62	-2.27	-1.90	-0.66	-1.01	-0.78	-0.09	-1.09	-0.50
24	-4.03	-4.53	-4.30	-2.37	-3.08	-2.70	-1.06	-1.91	-1.45	-0.24	-1.69	-0.93
25	-4.58	-5.13	-4.89	-3.18	-3.73	-3.42	-1.86	-2.42	-2.05	-0.44	-1.64	-1.06
26	-5.24	-5.34	-5.29	-3.78	-3.98	-3.83	-2.17	-2.67	-2.39	-0.54	-1.79	-1.16
27	-5.34	-5.59	-5.44	-3.93	-4.13	-3.98	-2.32	-2.77	-2.53	-0.44	-1.74	-1.16
28	-5.59	-5.89	-5.80	-4.18	-4.38	-4.26	-2.47	-3.02	-2.70	-0.49	-1.79	-1.23
29	-5.44	-5.84	-5.61	-4.13	-4.43	-4.25	-2.62	-3.02	-2.76	-0.59	-1.64	-1.14
30	-5.39	-5.44	-5.42	-4.03	-4.13	-4.08	-2.52	-2.87	-2.65	-0.54	-1.24	-0.98
31	-5.34	-5.39	-5.36	-3.93	-4.03	-4.01	-2.42	-2.72	-2.57	-0.59	-1.34	-0.88
Month	-0.62	-5.89	-2.39	-0.42	-4.43	-1.67	-0.16	-3.02	-1.00	0.16	-1.79	-0.44

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -50cm			Depth: -60cm			Depth: -70cm			Depth: -100cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	0.07	0.07	0.07	0.09	0.03	0.07	0.11	0.01	0.06	-0.28	-0.53	-0.39
2	0.07	0.07	0.07	0.09	0.03	0.07	0.11	0.06	0.07	-0.18	-0.28	-0.23
3	0.07	0.07	0.07	0.09	0.03	0.08	0.11	0.06	0.09	-0.03	-0.18	-0.10
4	0.12	0.07	0.12	0.14	0.09	0.13	0.16	0.11	0.14	0.17	-0.03	0.08
5	0.17	0.12	0.15	0.14	0.14	0.14	0.21	0.16	0.19	0.17	0.12	0.15
6	0.17	0.12	0.16	0.19	0.14	0.14	0.21	0.16	0.19	0.17	0.12	0.15
7	0.17	0.07	0.14	0.14	0.14	0.14	0.21	0.11	0.18	0.17	0.12	0.15
8	0.12	0.07	0.10	0.14	0.03	0.11	0.16	0.06	0.13	0.12	0.02	0.09
9	0.12	-0.03	0.06	0.14	-0.02	0.06	0.16	0.01	0.09	0.12	-0.13	0.05
10	0.02	-0.18	-0.06	0.03	-0.22	-0.07	0.06	-0.14	-0.04	0.02	-1.08	-0.19
11	-0.03	-0.78	-0.24	-0.02	-1.12	-0.33	0.01	-1.20	-0.36	-0.03	-1.48	-0.52
12	-0.08	-1.58	-0.56	-0.07	-1.57	-0.61	-0.04	-1.55	-0.62	-0.08	-1.69	-0.74
13	-0.13	-1.68	-0.81	-0.17	-1.72	-0.84	-0.14	-1.70	-0.83	-0.18	-1.79	-0.94
14	-0.13	-1.03	-0.57	-0.17	-1.07	-0.60	-0.09	-1.05	-0.62	-0.13	-1.48	-0.82
15	-0.13	-0.68	-0.46	-0.17	-0.72	-0.48	-0.14	-0.70	-0.46	-0.23	-1.08	-0.63
16	-0.13	-0.58	-0.39	-0.17	-0.57	-0.42	-0.09	-0.60	-0.40	-0.18	-0.78	-0.52
17	-0.08	-0.48	-0.38	-0.12	-0.52	-0.40	-0.09	-0.50	-0.40	-0.13	-0.78	-0.54
18	-0.28	-1.33	-0.59	-0.27	-1.37	-0.64	-0.30	-1.35	-0.65	-0.38	-1.53	-0.89
19	-0.43	-1.18	-0.69	-0.47	-1.37	-0.73	-0.45	-1.35	-0.73	-0.63	-1.59	-0.98
20	-0.43	-1.28	-0.74	-0.52	-1.42	-0.81	-0.55	-1.45	-0.82	-0.58	-1.64	-0.97
21	-0.13	-0.63	-0.38	-0.12	-0.72	-0.41	-0.14	-0.75	-0.44	-0.33	-0.88	-0.59
22	-0.08	-0.48	-0.26	-0.02	-0.52	-0.30	0.01	-0.65	-0.31	-0.03	-1.13	-0.49
23	-0.08	-1.13	-0.55	-0.07	-1.27	-0.59	-0.04	-1.25	-0.57	-0.08	-1.43	-0.76
24	-0.28	-1.68	-0.94	-0.27	-1.72	-0.95	-0.24	-1.70	-0.94	-0.28	-1.69	-1.03
25	-0.48	-1.68	-1.07	-0.47	-1.67	-1.08	-0.45	-1.65	-1.07	-0.53	-1.69	-1.12
26	-0.53	-1.78	-1.15	-0.57	-1.77	-1.17	-0.50	-1.75	-1.13	-0.58	-1.79	-1.19
27	-0.43	-1.78	-1.17	-0.47	-1.77	-1.18	-0.45	-1.75	-1.15	-0.48	-1.79	-1.28
28	-0.53	-1.83	-1.25	-0.52	-1.82	-1.24	-0.50	-1.80	-1.22	-0.53	-1.84	-1.28
29	-0.63	-1.68	-1.15	-0.62	-1.67	-1.16	-0.65	-1.65	-1.14	-0.68	-1.74	-1.19
30	-0.53	-1.33	-0.98	-0.57	-1.42	-1.01	-0.55	-1.40	-1.00	-0.63	-1.69	-1.12
31	-0.38	-1.28	-0.72	-0.37	-1.27	-0.76	-0.35	-1.25	-0.77	-0.43	-1.28	-0.98
Month	0.17	-1.83	-0.46	0.19	-1.82	-0.48	0.21	-1.80	-0.47	0.17	-1.84	-0.60

Chaivo Bay
February 1994
Natural Area

(Recording Interval 120 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -10cm			Depth: -20cm			Depth: -30cm			Depth: -40cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-5.34	-5.44	-5.39	-3.93	-3.98	-3.95	-2.42	-2.52	-2.47	-0.79	-1.09	-0.88
2	-5.29	-5.44	-5.38	-3.93	-3.98	-3.95	-2.42	-2.47	-2.46	-0.84	-0.99	-0.94
3	-5.24	-5.34	-5.29	-3.88	-3.93	-3.90	-2.42	-2.57	-2.46	-0.94	-1.19	-1.04
4	-5.34	-5.59	-5.44	-3.93	-4.18	-4.02	-2.57	-2.92	-2.66	-1.09	-1.84	-1.34
5	-5.59	-6.19	-5.96	-4.23	-4.78	-4.47	-2.92	-3.42	-3.08	-1.39	-2.15	-1.75
6	-6.24	-6.59	-6.43	-4.83	-5.19	-4.95	-3.27	-3.72	-3.45	-1.64	-2.35	-2.03
7	-6.64	-7.39	-7.05	-5.19	-5.69	-5.39	-3.62	-4.07	-3.77	-1.84	-2.60	-2.23
8	-7.50	-8.00	-7.83	-5.74	-6.29	-6.01	-4.02	-4.48	-4.18	-2.15	-2.85	-2.47
9	-8.05	-8.35	-8.23	-6.29	-6.49	-6.38	-4.37	-4.73	-4.49	-2.35	-2.95	-2.65
10	-8.15	-8.45	-8.34	-6.49	-6.54	-6.52	-4.58	-4.83	-4.66	-2.55	-3.10	-2.81
11	-7.14	-8.10	-7.70	-5.89	-6.49	-6.24	-4.42	-4.83	-4.58	-2.70	-3.10	-2.90
12	-6.24	-7.04	-6.60	-5.24	-5.84	-5.51	-4.07	-4.48	-4.23	-2.70	-3.15	-2.88
13	-5.59	-6.19	-5.90	-4.68	-5.19	-4.95	-3.67	-4.07	-3.85	-2.55	-2.95	-2.69
14	-5.29	-5.59	-5.47	-4.43	-4.68	-4.57	-3.52	-3.67	-3.59	-2.50	-2.70	-2.59
15	-4.83	-5.29	-5.07	-4.08	-4.43	-4.26	-3.22	-3.52	-3.40	-2.20	-2.60	-2.44
16	-4.28	-4.78	-4.51	-3.63	-4.03	-3.83	-2.82	-3.17	-2.99	-1.89	-2.20	-2.01
17	-3.83	-4.23	-4.03	-3.23	-3.58	-3.41	-2.52	-2.77	-2.65	-1.69	-1.89	-1.77
18	-3.48	-3.78	-3.63	-2.93	-3.23	-3.08	-2.27	-2.47	-2.39	-1.54	-1.69	-1.63
19	-3.23	-3.48	-3.36	-2.72	-2.93	-2.83	-2.12	-2.27	-2.20	-1.44	-1.54	-1.49
20	-3.08	-3.23	-3.15	-2.62	-2.72	-2.67	-2.07	-2.12	-2.09	-1.44	-1.59	-1.53
21	-3.03	-3.08	-3.06	-2.57	-2.62	-2.60	-2.07	-2.12	-2.09	-1.49	-1.69	-1.59
22	-3.08	-3.08	-3.08	-2.62	-2.62	-2.62	-2.12	-2.17	-2.13	-1.59	-1.79	-1.68
23	-3.08	-3.08	-3.08	-2.62	-2.62	-2.62	-2.17	-2.22	-2.17	-1.64	-1.79	-1.71
24	-2.98	-3.08	-3.01	-2.57	-2.62	-2.61	-2.12	-2.17	-2.14	-1.59	-1.74	-1.65
25	-2.88	-2.93	-2.90	-2.47	-2.57	-2.52	-2.07	-2.12	-2.09	-1.54	-1.64	-1.61
26	-2.72	-2.83	-2.79	-2.37	-2.47	-2.45	-1.96	-2.07	-2.04	-1.44	-1.64	-1.56
27	-2.62	-2.72	-2.69	-2.32	-2.37	-2.35	-1.86	-1.96	-1.91	-1.44	-1.49	-1.46
28	-2.52	-2.62	-2.57	-2.22	-2.27	-2.26	-1.81	-1.86	-1.84	-1.29	-1.44	-1.37
Month	-2.52	-8.45	-4.93	-2.22	-6.54	-3.96	-1.81	-4.83	-2.93	-0.79	-3.15	-1.88

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -50cm			Depth: -60cm			Depth: -70cm			Depth: -80cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.23	-0.98	-0.50	-0.22	-0.97	-0.51	-0.19	-0.95	-0.51	-0.33	-0.98	-0.68
2	-0.23	-0.63	-0.36	-0.22	-0.72	-0.38	-0.24	-0.70	-0.39	-0.28	-0.73	-0.51
3	-0.13	-0.63	-0.36	-0.17	-0.67	-0.40	-0.14	-0.70	-0.40	-0.23	-1.03	-0.57
4	-0.13	-1.58	-0.77	-0.12	-1.62	-0.82	-0.09	-1.65	-0.85	-0.13	-1.74	-1.05
5	-0.30	-1.78	-1.06	-0.37	-1.77	-1.09	-0.35	-1.75	-1.07	-0.38	-1.79	-1.17
6	-0.53	-1.83	-1.25	-0.52	-1.77	-1.25	-0.50	-1.80	-1.23	-0.58	-1.84	-1.28
7	-0.63	-1.83	-1.31	-0.62	-1.82	-1.31	-0.60	-1.80	-1.28	-0.73	-1.84	-1.32
8	-0.73	-1.83	-1.35	-0.72	-1.82	-1.36	-0.70	-1.80	-1.33	-0.78	-1.84	-1.38
9	-0.73	-1.83	-1.33	-0.72	-1.82	-1.33	-0.70	-1.80	-1.31	-0.78	-1.84	-1.36
10	-0.78	-1.83	-1.31	-0.82	-1.77	-1.31	-0.80	-1.80	-1.29	-0.78	-1.79	-1.33
11	-0.73	-1.83	-1.38	-0.72	-1.87	-1.38	-0.75	-1.85	-1.37	-0.78	-1.84	-1.40
12	-0.98	-1.88	-1.55	-1.02	-1.81	-1.56	-1.00	-1.85	-1.54	-1.13	-1.84	-1.57
13	-0.93	-1.83	-1.45	-0.92	-1.82	-1.48	-0.90	-1.80	-1.46	-0.98	-1.84	-1.53
14	-0.98	-1.83	-1.48	-1.02	-1.82	-1.50	-1.00	-1.80	-1.48	-1.08	-1.84	-1.57
15	-0.63	-1.53	-1.14	-0.62	-1.57	-1.14	-0.65	-1.50	-1.13	-0.78	-1.59	-1.24
16	-0.43	-1.13	-0.68	-0.32	-1.12	-0.63	-0.30	-1.10	-0.64	-0.38	-1.23	-0.81
17	-0.38	-1.13	-0.68	-0.27	-1.07	-0.68	-0.24	-1.05	-0.67	-0.28	-1.08	-0.84
18	-0.38	-1.03	-0.62	-0.22	-0.97	-0.56	-0.19	-0.95	-0.56	-0.23	-1.23	-0.73
19	-0.43	-1.18	-0.77	-0.27	-1.27	-0.85	-0.24	-1.40	-0.89	-0.28	-1.64	-1.08
20	-0.48	-1.43	-0.95	-0.37	-1.42	-0.95	-0.38	-1.45	-0.93	-0.33	-1.64	-1.08
21	-0.43	-1.63	-1.06	-0.42	-1.62	-1.05	-0.40	-1.68	-1.03	-0.48	-1.69	-1.11
22	-0.48	-1.68	-1.15	-0.52	-1.67	-1.15	-0.50	-1.65	-1.13	-0.58	-1.69	-1.19
23	-0.53	-1.68	-1.14	-0.57	-1.67	-1.13	-0.60	-1.65	-1.13	-0.63	-1.69	-1.18
24	-0.43	-1.48	-1.03	-0.47	-1.47	-1.04	-0.45	-1.45	-1.02	-0.53	-1.53	-1.08
25	-0.48	-1.48	-1.05	-0.47	-1.62	-1.06	-0.45	-1.60	-1.05	-0.53	-1.64	-1.10
26	-0.53	-1.28	-0.83	-0.52	-1.27	-0.89	-0.50	-1.35	-0.90	-0.53	-1.53	-1.05
27	-0.48	-1.13	-0.68	-0.47	-1.12	-0.72	-0.45	-1.10	-0.73	-0.48	-1.13	-0.86
28	-0.48	-1.03	-0.64	-0.37	-1.02	-0.60	-0.38	-1.00	-0.58	-0.33	-1.08	-0.68
Month	-0.13	-1.88	-1.00	-0.12	-1.87	-1.00	-0.09	-1.85	-1.00	-0.13	-1.84	-1.10

Chaivo Bay
March 1994
Natural Area

(Recording Interval 120 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -10cm			Depth: -20cm			Depth: -30cm			Depth: -40cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.42	-2.52	-2.47	-2.12	-2.17	-2.16	-1.71	-1.76	-1.74	-1.24	-1.29	-1.28
2	-2.32	-2.42	-2.37	-2.02	-2.07	-2.04	-1.61	-1.71	-1.66	-1.19	-1.24	-1.21
3	-2.22	-2.32	-2.23	-1.87	-2.02	-1.88	-1.41	-1.61	-1.47	-0.99	-1.19	-1.05
4	-2.12	-2.17	-2.16	-1.82	-1.87	-1.85	-1.41	-1.46	-1.46	-1.04	-1.14	-1.08
5	-2.02	-2.12	-2.08	-1.72	-1.82	-1.78	-1.46	-1.51	-1.48	-1.14	-1.34	-1.23
6	-2.02	-2.02	-2.02	-1.77	-1.77	-1.77	-1.51	-1.56	-1.52	-1.24	-1.44	-1.35
7	-2.02	-2.02	-2.02	-1.77	-1.82	-1.80	-1.56	-1.56	-1.56	-1.29	-1.44	-1.36
8	-1.97	-2.07	-2.03	-1.77	-1.82	-1.80	-1.51	-1.56	-1.55	-1.24	-1.39	-1.31
9	-2.02	-2.07	-2.05	-1.82	-1.82	-1.82	-1.56	-1.56	-1.56	-1.24	-1.34	-1.27
10	-2.02	-2.07	-2.06	-1.82	-1.82	-1.82	-1.51	-1.56	-1.55	-1.19	-1.29	-1.24
11	-2.07	-2.07	-2.07	-1.82	-1.82	-1.82	-1.51	-1.56	-1.55	-1.19	-1.39	-1.25
12	-2.07	-2.27	-2.19	-1.82	-2.07	-1.96	-1.56	-1.71	-1.68	-1.34	-1.44	-1.39
13	-2.02	-2.17	-2.08	-1.82	-2.02	-1.98	-1.51	-1.71	-1.61	-1.04	-1.39	-1.21
14	-1.97	-2.02	-2.00	-1.67	-1.77	-1.72	-1.41	-1.51	-1.46	-0.94	-1.04	-0.99
15	-1.87	-1.97	-1.95	-1.57	-1.67	-1.65	-1.21	-1.41	-1.33	-0.84	-0.99	-0.94
16												
17	-1.72	-1.82	-1.88	-1.47	-1.57	-1.55	-1.16	-1.21	-1.17	-0.79	-0.84	-0.83
18	-1.67	-1.72	-1.69	-1.42	-1.47	-1.46	-1.06	-1.16	-1.12	-0.74	-0.79	-0.76
19	-1.57	-1.67	-1.62	-1.37	-1.42	-1.40	-1.01	-1.06	-1.05	-0.69	-0.74	-0.72
20	-1.57	-1.57	-1.57	-1.37	-1.42	-1.37	-1.01	-1.16	-1.08	-0.69	-0.74	-0.73
21	-1.47	-1.57	-1.51	-1.32	-1.37	-1.35	-1.11	-1.16	-1.13	-0.74	-0.79	-0.76
22	-1.47	-1.52	-1.48	-1.27	-1.37	-1.32	-1.01	-1.11	-1.08	-0.74	-0.84	-0.79
23	-1.47	-1.52	-1.49	-1.32	-1.37	-1.34	-1.11	-1.16	-1.13	-0.79	-0.89	-0.84
24	-1.47	-1.47	-1.47	-1.32	-1.32	-1.32	-1.06	-1.11	-1.09	-0.79	-0.84	-0.83
25	-1.37	-1.47	-1.45	-1.22	-1.32	-1.27	-1.01	-1.06	-1.04	-0.74	-0.79	-0.77
26	-1.37	-1.42	-1.38	-1.17	-1.22	-1.18	-0.91	-0.98	-0.95	-0.64	-0.69	-0.68
27	-1.32	-1.47	-1.41	-1.12	-1.27	-1.21	-0.91	-1.01	-0.96	-0.64	-0.74	-0.67
28	-1.42	-1.47	-1.45	-1.22	-1.27	-1.25	-0.96	-1.06	-1.00	-0.64	-0.69	-0.67
29	-1.42	-1.47	-1.45	-1.22	-1.27	-1.25	-1.06	-1.16	-1.10	-0.74	-0.89	-0.82
30	-1.37	-1.47	-1.42	-1.22	-1.32	-1.28	-1.11	-1.16	-1.15	-0.69	-0.79	-0.74
31	-1.32	-1.37	-1.34	-1.17	-1.27	-1.22	-1.06	-1.11	-1.08	-0.64	-0.84	-0.80
Month	-1.32	-2.52	-1.81	-1.12	-2.17	-1.58	-0.91	-1.76	-1.31	-0.64	-1.44	-0.99

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -50cm			Depth: -60cm			Depth: -70cm			Depth: -100cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.53	-0.63	-0.61	-0.22	-0.92	-0.46	-0.14	-0.85	-0.45	-0.23	-0.88	-0.52
2	-0.53	-0.63	-0.68	-0.17	-0.62	-0.43	-0.14	-0.70	-0.44	-0.23	-0.88	-0.52
3	-0.58	-0.78	-0.64	-0.27	-0.87	-0.51	-0.24	-0.85	-0.50	-0.28	-1.13	-0.64
4	-0.53	-1.33	-0.89	-0.52	-1.57	-0.95	-0.50	-1.55	-0.94	-0.58	-1.69	-1.10
5	-0.48	-1.68	-1.19	-0.47	-1.72	-1.18	-0.45	-1.70	-1.17	-0.48	-1.69	-1.21
6	-0.63	-1.73	-1.24	-0.62	-1.77	-1.24	-0.60	-1.75	-1.22	-0.68	-1.74	-1.26
7	-0.73	-1.68	-1.11	-0.72	-1.67	-1.11	-0.75	-1.65	-1.10	-0.78	-1.69	-1.13
8	-0.63	-1.58	-1.05	-0.67	-1.57	-1.05	-0.65	-1.55	-1.03	-0.63	-1.59	-1.08
9	-0.53	-1.43	-0.96	-0.52	-1.42	-0.99	-0.50	-1.45	-0.99	-0.58	-1.48	-1.05
10	-0.43	-1.38	-0.89	-0.47	-1.42	-0.97	-0.45	-1.45	-0.99	-0.53	-1.48	-1.05
11	-0.38	-1.68	-1.05	-0.37	-1.67	-1.09	-0.35	-1.70	-1.08	-0.43	-1.69	-1.14
12	-0.63	-1.38	-0.92	-0.62	-1.37	-0.95	-0.60	-1.35	-0.95	-0.63	-1.38	-1.06
13	-0.33	-1.03	-0.50	-0.32	-1.07	-0.55	-0.30	-1.00	-0.54	-0.33	-1.08	-0.69
14	-0.08	-0.38	-0.16	-0.07	-0.37	-0.18	-0.04	-0.35	-0.17	-0.08	-0.43	-0.23
15	-0.13	-0.23	-0.17	-0.07	-0.17	-0.12	-0.04	-0.14	-0.10	-0.08	-0.18	-0.14
16												
17	-0.28	-0.38	-0.31	-0.12	-0.32	-0.22	-0.09	-0.30	-0.19	-0.13	-0.33	-0.23
18	-0.33	-0.48	-0.40	-0.17	-0.47	-0.30	-0.09	-0.45	-0.28	-0.18	-0.48	-0.34
19	-0.33	-0.63	-0.43	-0.22	-0.67	-0.42	-0.19	-0.65	-0.43	-0.28	-0.68	-0.53
20	-0.38	-0.83	-0.53	-0.27	-1.02	-0.54	-0.24	-1.00	-0.55	-0.28	-1.38	-0.72
21	-0.28	-0.78	-0.50	-0.22	-0.92	-0.51	-0.14	-0.90	-0.53	-0.28	-0.99	-0.66
22	-0.28	-0.73	-0.43	-0.17	-0.77	-0.44	-0.14	-0.75	-0.47	-0.23	-0.78	-0.61
23	-0.28	-0.63	-0.41	-0.17	-0.72	-0.36	-0.14	-0.70	-0.39	-0.18	-0.78	-0.58
24	-0.28	-0.43	-0.33	-0.12	-0.57	-0.28	-0.09	-0.55	-0.27	-0.18	-0.58	-0.46
25	-0.28	-0.43	-0.30	-0.07	-0.52	-0.24	-0.09	-0.50	-0.24	-0.13	-0.63	-0.46
26	-0.28	-0.58	-0.34	-0.12	-0.42	-0.23	-0.09	-0.45	-0.22	-0.18	-0.53	-0.35
27	-0.28	-0.68	-0.33	-0.07	-0.37	-0.21	-0.04	-0.40	-0.20	-0.08	-0.48	-0.27
28	-0.33	-0.38	-0.33	-0.07	-0.32	-0.17	-0.04	-0.30	-0.16	-0.08	-0.63	-0.26
29	-0.33	-0.48	-0.41	-0.12	-0.37	-0.22	-0.09	-0.45	-0.20	-0.13	-0.83	-0.28
30	-0.43	-0.48	-0.44	-0.17	-0.57	-0.36	-0.09	-0.55	-0.33	-0.23	-0.63	-0.39
31	-0.43	-0.68	-0.53	-0.32	-0.87	-0.58	-0.30	-0.95	-0.58	-0.43	-1.23	-0.73
Month	-0.08	-1.73	-0.60	-0.07	-1.77	-0.58	-0.04	-1.75	-0.56	-0.08	-1.74	-0.66

Chaivo Bay
 April 1994
 Natural Area (Recording Interval 120 min)

Date	Ice Temperature (degrees C) Depth: -10cm			Ice Temperature (degrees C) Depth: -20cm			Ice Temperature (degrees C) Depth: -30cm			Water Temperature (degrees C) Depth: -40cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-1.32	-1.32	-1.32	-1.12	-1.17	-1.15	-1.01	-1.06	-1.01	-0.89	-1.09
2	-1.27	-1.32	-1.32	-1.12	-1.12	-1.12	-0.91	-1.01	-0.99	-0.89	-1.09	-0.98
3	-1.27	-1.32	-1.28	-1.07	-1.12	-1.08	-0.81	-0.91	-0.87	-0.89	-1.04	-0.95
4	-1.22	-1.27	-1.27	-1.07	-1.07	-1.07	-0.86	-0.91	-0.89	-0.89	-0.99	-0.93
5	-1.22	-1.27	-1.24	-1.07	-1.07	-1.07	-0.81	-0.86	-0.82	-0.69	-0.89	-0.73
6	-1.22	-1.22	-1.22	-1.07	-1.07	-1.07	-0.81	-0.86	-0.84	-0.64	-0.74	-0.68
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-1.22	-1.32	-1.27	-1.07	-1.17	-1.09	-0.81	-1.06	-0.98	-0.64	-1.09	-0.87

Date	Water Temperature (degrees C) Depth: -50cm			Water Temperature (degrees C) Depth: -60cm			Water Temperature (degrees C) Depth: -70cm			Water Temperature (degrees C) Depth: -100cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1	-0.68	-1.33	-0.94	-0.67	-1.57	-1.02	-0.70	-1.55	-1.01	-0.78	-1.59
2	-0.73	-1.63	-1.19	-0.77	-1.62	-1.19	-0.80	-1.60	-1.18	-0.88	-1.69	-1.24
3	-0.73	-1.63	-1.19	-0.77	-1.62	-1.19	-0.75	-1.65	-1.18	-0.83	-1.69	-1.22
4	-0.48	-1.38	-1.00	-0.52	-1.37	-1.02	-0.45	-1.35	-1.00	-0.53	-1.43	-1.05
5	-0.38	-1.13	-0.66	-0.37	-1.22	-0.73	-0.40	-1.25	-0.76	-0.63	-1.38	-0.93
6	-0.33	-1.08	-0.59	-0.37	-1.07	-0.69	-0.35	-1.35	-0.77	-0.58	-1.43	-1.01
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-0.33	-1.63	-0.93	-0.37	-1.62	-0.97	-0.35	-1.65	-0.98	-0.53	-1.69	-1.09

Table 12 Daily mean, minimum and maximum snow/ice/water temperatures at the snow-ice interface (0 cm) and the depths of 20, 40 and 60 cm below the snow-ice interface at the grid site in the natural area during the 1993-1994 winter experiment.

Chaivo Bay
December 1993
Grid Site (1,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-8.93	-10.73	-9.50	-1.10	-2.76	-1.75	-1.05	-1.75	-1.47			
13	-5.81	-10.68	-7.82	-3.01	-3.81	-3.61	-1.15	-1.80	-1.55			
14	-4.61	-5.66	-5.07	-3.01	-3.61	-3.21	-1.30	-1.75	-1.50			
15	-4.51	-5.36	-5.00	-2.81	-2.96	-2.87	-1.40	-1.80	-1.63			
16	-5.31	-5.46	-5.39	-2.81	-3.21	-2.95	-1.15	-1.80	-1.55			
17	-5.46	-5.96	-5.68	-2.86	-3.21	-2.98	-1.20	-1.75	-1.54			
18	-6.01	-6.47	-6.19	-3.06	-3.36	-3.17	-1.25	-1.80	-1.60			
19	-6.52	-7.22	-7.01	-3.26	-3.71	-3.49	-1.45	-1.80	-1.68			
20	-6.22	-7.42	-7.09	-3.76	-3.81	-3.77	-1.15	-1.70	-1.44			
21	-4.56	-6.01	-5.16	-3.11	-3.76	-3.41	-0.80	-1.70	-1.29			
22	-3.81	-4.51	-4.18	-2.86	-3.06	-2.96	-1.45	-1.80	-1.64			
23	-3.56	-3.78	-3.62	-2.61	-2.86	-2.74	-1.40	-1.60	-1.45			
24	-3.25	-3.56	-3.41	-2.41	-2.61	-2.52	-1.15	-1.35	-1.22			
25	-3.25	-3.56	-3.40	-2.21	-2.41	-2.31	-0.90	-1.10	-1.01			
26	-3.61	-3.76	-3.71	-2.16	-2.21	-2.19	-0.65	-0.90	-0.77			
27	-3.61	-3.81	-3.74	-2.11	-2.16	-2.14	-0.29	-0.68	-0.46			
28	-3.25	-3.58	-3.39	-1.95	-2.11	-2.02	-0.14	-0.29	-0.21			
29	-3.10	-3.25	-3.15	-1.75	-1.95	-1.85	0.01	-0.09	-0.06			
30	-3.10	-3.15	-3.12	-1.65	-1.75	-1.71	0.01	-0.04	-0.00			
31	-3.15	-3.25	-3.21	-1.60	-1.65	-1.64	0.01	0.01	0.01			
Month	-3.10	-10.73	-4.95	-1.10	-3.81	-2.66	0.01	-1.80	-1.10			

Chaivo Bay
December 1993
Grid Site (2,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-9.01	-10.62	-9.61	-1.00	-3.94	-2.46	-0.95	-1.66	-1.37	-1.10	-1.85	-1.53
13	-5.85	-10.57	-7.93	-3.79	-4.19	-4.06	-1.05	-1.66	-1.44	-1.20	-1.85	-1.60
14	-4.49	-5.65	-4.99	-3.04	-3.74	-3.31	-1.21	-1.66	-1.41	-1.40	-1.80	-1.56
15	-4.44	-5.85	-5.18	-2.84	-3.04	-2.91	-1.31	-1.66	-1.52	-1.45	-1.85	-1.69
16	-5.60	-5.75	-5.62	-2.99	-3.29	-3.08	-1.05	-1.66	-1.44	-1.20	-1.85	-1.60
17	-5.65	-6.15	-5.87	-2.99	-3.39	-3.11	-1.10	-1.66	-1.44	-1.25	-1.80	-1.59
18	-6.20	-6.65	-6.36	-3.14	-3.39	-3.24	-1.10	-1.66	-1.48	-1.30	-1.85	-1.65
19	-6.65	-7.86	-7.36	-3.29	-3.79	-3.55	-1.31	-1.66	-1.56	-1.50	-1.85	-1.72
20	-6.20	-7.56	-7.12	-3.79	-3.89	-3.84	-1.05	-1.61	-1.33	-1.20	-1.75	-1.50
21	-4.44	-5.95	-5.08	-3.09	-3.74	-3.38	-0.75	-1.61	-1.20	-0.90	-1.75	-1.34
22	-3.74	-4.44	-4.10	-2.84	-3.04	-2.92	-1.31	-1.66	-1.54	-1.50	-1.85	-1.71
23	-3.39	-3.69	-3.50	-2.58	-2.84	-2.70	-1.31	-1.51	-1.35	-1.45	-1.65	-1.50
24	-3.14	-3.39	-3.27	-2.38	-2.53	-2.46	-1.05	-1.26	-1.13	-1.20	-1.40	-1.28
25	-3.09	-3.19	-3.13	-2.13	-2.33	-2.24	-0.80	-1.00	-0.93	-0.95	-1.15	-1.06
26	-3.19	-3.39	-3.33	-2.03	-2.13	-2.08	-0.60	-0.80	-0.72	-0.70	-0.95	-0.83
27	-3.34	-3.44	-3.41	-1.98	-2.03	-2.01	-0.30	-0.55	-0.46	-0.34	-0.65	-0.51
28	-3.09	-3.29	-3.18	-1.83	-1.93	-1.89	-0.05	-0.35	-0.22	-0.19	-0.34	-0.26
29	-2.88	-3.04	-2.94	-1.68	-1.83	-1.73	0.05	-0.05	-0.00	-0.09	-0.19	-0.12
30	-2.83	-2.88	-2.88	-1.58	-1.68	-1.63	0.10	0.05	0.09	-0.04	-0.14	-0.09
31	-2.83	-2.88	-2.86	-1.48	-1.58	-1.53	0.15	0.10	0.12	-0.04	-0.09	-0.09
Month	-2.83	-10.62	-4.89	-1.00	-4.19	-2.71	0.15	-1.66	-1.02	-0.04	-1.85	-1.16

Chaivo Bay
December 1993
Grid Site (3,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-9.33	-10.89	-9.95	-1.05	-3.71	-2.08	-1.03	-1.74	-1.46	-1.08	-1.78	-1.48
13	-6.21	-10.89	-8.25	-3.91	-4.26	-4.18	-1.14	-1.74	-1.53	-1.13	-1.78	-1.54
14	-4.85	-6.06	-5.29	-3.15	-4.21	-3.48	-1.29	-1.74	-1.50	-1.33	-1.73	-1.51
15	-4.70	-5.05	-4.88	-2.90	-3.10	-2.97	-1.39	-1.79	-1.62	-1.43	-1.78	-1.63
16	-4.70	-5.20	-4.88	-2.85	-3.56	-3.05	-1.14	-1.79	-1.54	-1.13	-1.78	-1.55
17	-4.85	-5.10	-4.96	-2.65	-3.46	-2.77	-1.19	-1.74	-1.52	-1.18	-1.73	-1.52
18	-5.15	-5.36	-5.23	-2.80	-3.15	-2.98	-1.24	-1.79	-1.58	-1.23	-1.78	-1.59
19	-5.15	-5.41	-5.27	-2.95	-3.05	-2.97	-1.44	-1.74	-1.66	-1.43	-1.78	-1.67
20	-5.31	-5.61	-5.50	-3.05	-3.10	-3.06	-1.19	-1.69	-1.43	-1.18	-1.68	-1.44
21	-4.20	-5.20	-4.67	-2.80	-3.10	-2.97	-0.83	-1.69	-1.28	-0.88	-1.73	-1.30
22	-3.70	-4.20	-3.96	-2.78	-2.80	-2.73	-1.44	-1.74	-1.62	-1.43	-1.78	-1.66
23	-3.49	-3.64	-3.57	-2.50	-2.65	-2.59	-1.39	-1.59	-1.44	-1.38	-1.58	-1.44
24	-3.29	-3.54	-3.42	-2.35	-2.50	-2.44	-1.14	-1.34	-1.21	-1.13	-1.33	-1.25
25	-3.24	-3.29	-3.27	-2.15	-2.35	-2.24	-0.88	-1.09	-1.00	-0.98	-1.13	-1.06
26	-3.29	-3.44	-3.39	-2.00	-2.15	-2.09	-0.58	-0.88	-0.76	-0.73	-0.98	-0.86
27	-3.34	-3.44	-3.41	-1.95	-2.00	-2.00	-0.33	-0.58	-0.44	-0.43	-0.73	-0.63
28	-3.09	-3.29	-3.20	-1.85	-1.95	-1.91	-0.13	-0.28	-0.19	-0.23	-0.53	-0.37
29	-2.94	-3.09	-3.00	-1.70	-1.85	-1.76	0.02	-0.13	-0.03	-0.07	-0.23	-0.14
30	-2.94	-3.04	-2.98	-1.60	-1.65	-1.63	0.02	-0.03	0.01	0.03	-0.12	-0.02
31	-2.99	-3.09	-3.04	-1.55	-1.60	-1.55	0.07	0.02	0.04	0.03	-0.02	0.02
Month	-2.94	-10.89	-4.61	-1.05	-4.26	-2.57	0.07	-1.79	-1.09	0.03	-1.78	-1.13

Chaivo Bay
December 1993
Grid Site (4,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-8.69	-9.89	-9.33	-1.05	-3.81	-2.23	-1.04	-1.75	-1.45	-1.04	-1.74	-1.44
13	-5.93	-9.69	-7.64	-3.86	-4.06	-3.97	-1.15	-1.75	-1.53	-1.14	-1.74	-1.52
14	-4.62	-5.78	-5.16	-3.10	-3.98	-3.43	-1.25	-1.75	-1.49	-1.29	-1.74	-1.50
15	-4.37	-4.57	-4.47	-2.85	-3.10	-2.95	-1.40	-1.75	-1.61	-1.39	-1.74	-1.61
16	-4.72	-4.93	-4.75	-2.80	-3.61	-3.07	-1.15	-1.75	-1.53	-1.14	-1.74	-1.52
17	-4.88	-5.28	-5.10	-2.75	-4.01	-3.21	-1.15	-1.75	-1.51	-1.19	-1.74	-1.52
18	-5.38	-5.58	-5.49	-2.50	-3.25	-2.86	-1.20	-1.75	-1.56	-1.19	-1.74	-1.56
19	-5.68	-6.23	-6.02	-2.95	-3.35	-3.16	-1.40	-1.75	-1.66	-1.39	-1.74	-1.64
20	-5.93	-6.53	-6.38	-3.40	-3.55	-3.50	-1.15	-1.70	-1.42	-1.14	-1.69	-1.42
21	-4.52	-5.73	-5.05	-3.10	-3.55	-3.33	-0.79	-1.70	-1.27	-0.84	-1.69	-1.27
22	-3.97	-4.52	-4.26	-2.90	-3.05	-2.96	-1.40	-1.75	-1.62	-1.39	-1.74	-1.62
23	-3.62	-3.87	-3.73	-2.70	-2.90	-2.79	-1.35	-1.60	-1.43	-1.39	-1.54	-1.43
24	-3.27	-3.57	-3.42	-2.45	-2.65	-2.57	-1.09	-1.35	-1.20	-1.14	-1.34	-1.22
25	-3.22	-3.32	-3.28	-2.20	-2.45	-2.34	-0.89	-1.04	-0.98	-0.94	-1.09	-1.04
26	-3.32	-3.42	-3.38	-2.10	-2.20	-2.17	-0.59	-0.84	-0.74	-0.74	-0.94	-0.86
27	-3.27	-3.47	-3.38	-2.08	-2.18	-2.04	-0.29	-0.54	-0.43	-0.44	-0.74	-0.65
28	-3.07	-3.27	-3.16	-1.85	-1.95	-1.93	-0.14	-0.29	-0.19	-0.24	-0.59	-0.38
29	-2.87	-3.07	-2.94	-1.70	-1.85	-1.78	0.01	-0.09	-0.02	-0.04	-0.24	-0.14
30	-2.77	-2.87	-2.82	-1.60	-1.70	-1.66	0.01	-0.04	0.00	0.01	-0.14	-0.02
31	-2.67	-2.77	-2.73	-1.50	-1.60	-1.55	0.01	0.01	0.01	0.06	0.01	0.02
Month	-2.67	-9.89	-4.62	-1.05	-4.06	-2.67	0.01	-1.75	-1.08	0.06	-1.74	-1.12

Chaivo Bay
January 1994
Grid Site (1,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.25	-3.25	-3.25	-1.55	-1.60	-1.59	0.07	-0.04	-0.01			
2	-3.25	-3.30	-3.27	-1.55	-1.55	-1.55	0.01	-0.04	-0.02			
3	-3.20	-3.25	-3.25	-1.55	-1.60	-1.56	-0.04	-0.09	-0.06			
4	-3.20	-3.30	-3.26	-1.50	-1.55	-1.54	-0.04	-0.04	-0.04			
5	-3.35	-3.56	-3.46	-1.45	-1.50	-1.48	0.01	-0.09	-0.07			
6	-3.56	-3.71	-3.66	-1.45	-1.50	-1.50	0.01	-0.09	-0.07			
7	-3.71	-3.81	-3.79	-1.50	-1.55	-1.52	-0.04	-0.14	-0.09			
8	-3.81	-3.86	-3.84	-1.55	-1.65	-1.60	-0.09	-0.14	-0.10			
9	-3.86	-3.96	-3.91	-1.65	-1.75	-1.68	-0.14	-0.19	-0.16			
10	-3.61	-3.86	-3.77	-1.75	-1.85	-1.80	-0.19	-0.34	-0.26			
11	-3.20	-3.56	-3.38	-1.80	-1.85	-1.85	-0.34	-0.44	-0.38			
12	-1.90	-3.20	-2.90	-1.80	-1.85	-1.84	-0.44	-1.05	-0.65			
13	-1.45	-1.90	-1.66	-1.60	-1.85	-1.74	-0.65	-1.45	-0.95			
14	-1.35	-1.50	-1.46	-1.45	-1.60	-1.54	-0.65	-1.15	-0.83			
15	-1.00	-1.30	-1.15	-1.35	-1.45	-1.41	-0.70	-1.10	-0.90			
16	-0.85	-1.00	-0.90	-1.20	-1.30	-1.25	-0.24	-1.05	-0.53			
17	-0.80	-0.80	-0.80	-1.10	-1.15	-1.12	-0.44	-0.60	-0.53			
18	-0.80	-0.80	-0.80	-1.00	-1.10	-1.03	-0.49	-0.95	-0.65			
19	-0.75	-0.80	-0.78	-0.95	-0.95	-0.95	-0.65	-0.95	-0.75			
20	-0.80	-0.90	-0.84	-0.95	-0.95	-0.95	-0.65	-0.95	-0.76			
21	-0.90	-0.95	-0.92	-0.90	-0.95	-0.92	-0.44	-0.65	-0.51			
22	-0.95	-1.15	-1.03	-0.95	-0.95	-0.95	-0.39	-0.60	-0.47			
23	-1.20	-1.45	-1.29	-0.95	-1.00	-0.98	-0.49	-0.85	-0.67			
24	-1.45	-1.75	-1.53	-0.95	-1.10	-1.05	-0.60	-1.50	-1.02			
25	-1.65	-1.90	-1.77	-1.05	-1.10	-1.06	-0.65	-1.60	-1.11			
26	-1.95	-2.35	-2.15	-1.10	-1.15	-1.11	-0.55	-1.75	-1.19			
27	-2.40	-3.25	-2.81	-1.10	-1.20	-1.15	-0.60	-1.80	-1.27			
28	-3.35	-4.26	-3.90	-1.20	-1.45	-1.28	-0.65	-1.85	-1.29			
29	-4.26	-4.91	-4.55	-1.50	-2.26	-1.88	-0.60	-1.70	-1.20			
30	-5.01	-5.81	-5.46	-2.31	-3.06	-2.71	-0.49	-1.30	-0.98			
31	-5.86	-6.52	-6.27	-3.11	-3.61	-3.39	-0.44	-1.20	-0.70			
Month	-0.75	-6.52	-2.64	-0.90	-3.61	-1.48	0.01	-1.85	-0.59			

Chaivo Bay
January 1994
Grid Site (2,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.88	-2.94	-2.92	-1.48	-1.48	-1.48	0.15	0.15	0.15	-0.09	-0.09	-0.09
2	-2.94	-2.99	-2.94	-1.43	-1.48	-1.47	0.15	0.10	0.15	-0.09	-0.14	-0.13
3	-2.88	-2.99	-2.94	-1.43	-1.48	-1.44	0.20	0.10	0.15	-0.14	-0.14	-0.14
4	-2.88	-2.94	-2.91	-1.38	-1.38	-1.38	0.20	0.20	0.20	-0.09	-0.14	-0.13
5	-2.94	-3.09	-3.03	-1.33	-1.38	-1.36	0.25	0.20	0.23	-0.09	-0.14	-0.11
6	-3.09	-3.24	-3.18	-1.33	-1.38	-1.35	0.25	0.20	0.23	-0.09	-0.14	-0.13
7	-3.24	-3.34	-3.30	-1.33	-1.39	-1.35	0.25	0.20	0.22	-0.09	-0.14	-0.12
8	-3.34	-3.39	-3.36	-1.33	-1.38	-1.36	0.20	0.15	0.17	-0.14	-0.14	-0.14
9	-3.34	-3.44	-3.40	-1.38	-1.48	-1.45	0.20	0.05	0.12	-0.14	-0.19	-0.16
10	-3.24	-3.49	-3.39	-1.48	-1.53	-1.51	0.10	-0.10	-0.00	-0.24	-0.34	-0.29
11	-2.99	-3.24	-3.12	-1.58	-1.58	-1.58	0.05	-0.95	-0.22	-0.34	-0.49	-0.42
12	-1.58	-2.99	-2.52	-1.53	-1.63	-1.58	-0.00	-1.31	-0.52	-0.44	-1.00	-0.60
13	-1.23	-1.53	-1.37	-1.38	-1.58	-1.48	-0.10	-1.66	-0.77	-0.60	-1.40	-0.91
14	-1.18	-1.38	-1.31	-1.28	-1.33	-1.32	-0.05	-1.05	-0.53	-0.65	-1.10	-0.83
15	-0.93	-1.18	-1.04	-1.23	-1.33	-1.28	-0.10	-0.55	-0.36	-0.65	-0.85	-0.73
16	-0.83	-0.93	-0.88	-1.08	-1.18	-1.13	-0.05	-0.45	-0.30	-0.54	-0.75	-0.65
17	-0.83	-1.18	-0.90	-1.03	-1.09	-1.04	-0.05	-0.40	-0.30	-0.49	-0.65	-0.59
18	-1.33	-3.24	-2.36	-1.03	-1.13	-1.07	-0.20	-1.36	-0.53	-0.54	-1.10	-0.76
19	-3.44	-5.25	-4.38	-1.03	-1.33	-1.16	-0.30	-1.10	-0.61	-0.85	-1.15	-1.01
20	-5.30	-5.80	-5.53	-1.43	-2.23	-1.84	-0.35	-1.36	-0.71	-0.85	-1.10	-1.03
21	-5.90	-7.51	-6.64	-2.33	-3.19	-2.75	-0.05	-0.55	-0.31	-0.65	-1.05	-0.78
22	-7.76	-9.26	-8.73	-3.29	-4.54	-3.98	0.05	-0.45	-0.21	-0.49	-1.20	-0.69
23	-8.41	-8.56	-8.50	-4.59	-4.94	-4.76	-0.00	-1.10	-0.47	-0.90	-1.85	-1.38
24	-7.91	-8.41	-8.21	-4.94	-5.02	-4.94	-0.15	-1.66	-0.93	-1.55	-2.40	-1.99
25	-7.91	-8.36	-8.16	-5.05	-5.15	-5.07	-0.30	-1.66	-0.98	-1.75	-2.40	-2.09
26	-7.91	-8.11	-8.02	-5.05	-5.20	-5.10	-0.30	-1.66	-1.05	-1.90	-2.50	-2.22
27	-8.21	-9.62	-9.02	-5.20	-5.80	-5.42	-0.40	-1.71	-1.12	-2.00	-2.70	-2.35
28	-9.57	-10.32	-10.03	-5.90	-6.40	-6.23	-0.55	-1.76	-1.17	-2.30	-3.06	-2.65
29	-9.37	-9.57	-9.45	-6.10	-6.35	-6.18	-0.45	-1.56	-1.07	-2.50	-2.96	-2.77
30	-9.47	-9.82	-9.66	-6.15	-6.20	-6.17	-0.35	-1.26	-0.94	-2.60	-2.96	-2.73
31	-9.62	-9.97	-9.79	-6.15	-6.30	-6.24	-0.35	-1.10	-0.63	-2.65	-2.91	-2.75
Month	-0.83	-10.32	-4.87	-1.03	-6.40	-2.73	0.25	-1.76	-0.39	-0.09	-3.06	-1.01

Chaivo Bay
January 1994
Grid Site (3,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.09	-3.14	-3.11	-1.50	-1.55	-1.50	0.07	0.02	0.03	0.08	0.03	0.06
2	-3.14	-3.24	-3.18	-1.45	-1.50	-1.49	0.02	-0.03	0.01	0.08	0.03	0.07
3	-3.14	-3.24	-3.19	-1.45	-1.50	-1.46	0.02	-0.03	-0.00	0.08	0.03	0.07
4	-3.14	-3.19	-3.15	-1.45	-1.45	-1.45	0.02	-0.03	-0.01	0.13	0.08	0.08
5	-3.14	-3.24	-3.18	-1.40	-1.55	-1.46	0.02	-0.03	0.02	0.13	0.08	0.11
6	-3.19	-3.24	-3.22	-1.40	-1.55	-1.46	0.02	-0.23	-0.02	0.13	0.08	0.11
7	-3.09	-3.14	-3.14	-1.40	-1.45	-1.41	0.02	-0.03	-0.00	0.13	0.08	0.10
8	-2.94	-3.09	-3.03	-1.40	-1.45	-1.41	-0.03	-0.13	-0.10	0.08	0.08	0.08
9	-2.89	-3.04	-2.95	-1.40	-1.45	-1.42	-0.13	-0.18	-0.16	0.08	-0.02	0.04
10	-2.99	-3.09	-3.05	-1.45	-1.55	-1.48	-0.18	-0.23	-0.19	0.03	-0.23	-0.10
11	-2.44	-2.94	-2.76	-1.55	-1.55	-1.55	-0.23	-0.43	-0.31	-0.07	-1.13	-0.36
12	-1.73	-2.34	-2.00	-1.30	-1.50	-1.48	-0.43	-1.03	-0.61	-0.07	-1.48	-0.63
13	-1.48	-1.73	-1.58	-1.25	-1.35	-1.29	-0.53	-1.34	-0.83	-0.23	-1.73	-0.87
14	-1.33	-1.48	-1.43	-1.20	-1.30	-1.24	-0.48	-1.03	-0.70	-0.18	-1.18	-0.64
15	-1.03	-1.33	-1.20	-1.15	-1.25	-1.19	-0.53	-0.73	-0.64	-0.23	-0.63	-0.48
16	-0.83	-0.98	-0.91	-1.00	-1.10	-1.06	-0.38	-0.78	-0.56	-0.18	-0.58	-0.41
17	-0.78	-0.83	-0.79	-0.90	-1.00	-0.94	-0.38	-0.58	-0.50	-0.18	-0.53	-0.43
18	-0.78	-0.98	-0.83	-0.85	-0.90	-0.89	-0.48	-0.98	-0.67	-0.33	-1.48	-0.66
19	-0.98	-2.74	-1.70	-0.85	-0.90	-0.86	-0.48	-0.88	-0.72	-0.43	-1.23	-0.73
20	-2.89	-3.00	-3.46	-0.90	-1.05	-0.96	-0.58	-1.03	-0.76	-0.58	-1.48	-0.87
21	-3.05	-4.65	-4.20	-1.10	-1.50	-1.27	-0.23	-0.63	-0.43	-0.18	-0.78	-0.45
22	-4.00	-6.11	-5.63	-1.55	-2.35	-1.92	-0.28	-0.73	-0.42	-0.07	-0.63	-0.34
23	-6.01	-6.16	-6.09	-2.40	-3.00	-2.69	-0.33	-0.98	-0.65	-0.12	-1.23	-0.62
24	-6.01	-6.16	-6.13	-3.05	-3.46	-3.25	-0.53	-1.79	-1.15	-0.23	-1.73	-1.02
25	-6.01	-6.26	-6.14	-3.51	-3.76	-3.60	-0.68	-1.84	-1.26	-0.43	-1.73	-1.09
26	-6.31	-6.56	-6.48	-3.81	-4.06	-3.91	-0.88	-1.94	-1.45	-0.43	-1.78	-1.16
27	-6.56	-6.66	-6.59	-4.11	-4.16	-4.11	-1.09	-2.04	-1.58	-0.48	-1.78	-1.23
28	-6.61	-6.76	-6.68	-4.16	-4.26	-4.22	-1.19	-2.14	-1.69	-0.63	-1.83	-1.28
29	-6.36	-6.56	-6.42	-4.11	-4.26	-4.17	-1.39	-2.04	-1.71	-0.58	-1.68	-1.18
30	-6.31	-6.41	-6.35	-4.01	-4.11	-4.06	-1.34	-1.84	-1.61	-0.48	-1.48	-1.08
31	-6.26	-6.36	-6.31	-3.91	-4.01	-3.99	-1.39	-1.84	-1.52	-0.43	-1.18	-0.77
Month	-0.78	-6.76	-3.71	-0.85	-4.26	-2.04	0.07	-2.14	-0.65	0.13	-1.83	-0.51

Chaivo Bay
January 1994
Grid Site (4,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.57	-2.62	-2.58	-1.50	-1.50	-1.50	0.01	-0.04	-0.02	0.06	0.01	0.06
2	-2.57	-2.57	-2.57	-1.50	-1.55	-1.50	-0.04	-0.19	-0.08	0.06	0.01	0.06
3	-2.42	-2.57	-2.53	-1.50	-1.60	-1.54	-0.04	-0.14	-0.07	0.11	0.06	0.07
4	-2.22	-2.42	-2.31	-1.45	-1.50	-1.45	-0.04	-0.09	-0.06	0.16	0.11	0.12
5	-2.01	-2.22	-2.12	-1.45	-1.50	-1.46	-0.04	-0.09	-0.05	0.16	0.11	0.15
6	-1.86	-2.01	-1.93	-1.35	-1.60	-1.48	-0.04	-0.14	-0.08	0.16	0.11	0.15
7	-1.81	-1.91	-1.88	-1.00	-1.30	-1.16	-0.09	-0.14	-0.12	0.16	0.11	0.14
8	-1.56	-1.76	-1.67	-1.00	-1.05	-1.01	-0.09	-0.39	-0.25	0.11	0.06	0.09
9	-1.51	-1.56	-1.52	-1.10	-1.20	-1.17	-0.04	-0.14	-0.11	0.11	-0.04	0.04
10	-1.41	-1.46	-1.45	-1.05	-1.15	-1.09	-0.19	-0.29	-0.23	0.01	-0.19	-0.08
11	-1.26	-1.36	-1.32	-0.95	-1.00	-0.99	-0.24	-0.34	-0.26	-0.04	-1.19	-0.38
12	-1.11	-1.26	-1.19	-0.90	-1.00	-0.96	-0.34	-0.84	-0.48	-0.09	-1.39	-0.63
13	-1.11	-1.46	-1.21	-0.95	-1.15	-1.00	-0.59	-1.48	-0.90	-0.19	-1.74	-0.85
14	-1.16	-1.26	-1.21	-1.15	-1.15	-1.15	-0.69	-1.15	-0.84	-0.14	-1.14	-0.62
15	-0.86	-1.16	-1.02	-1.05	-1.15	-1.12	-0.59	-0.84	-0.71	-0.19	-0.64	-0.46
16	-0.61	-0.86	-0.73	-0.95	-1.05	-0.98	-0.34	-0.69	-0.52	-0.14	-0.54	-0.40
17	-0.61	-0.61	-0.61	-0.80	-0.90	-0.84	-0.29	-0.64	-0.41	-0.14	-0.49	-0.48
18	-0.56	-0.61	-0.60	-0.75	-0.80	-0.79	-0.34	-1.30	-0.60	-0.29	-1.44	-0.65
19	-0.56	-0.66	-0.61	-0.75	-0.80	-0.75	-0.44	-1.09	-0.69	-0.44	-1.29	-0.71
20	-0.66	-0.76	-0.71	-0.75	-0.80	-0.75	-0.39	-1.20	-0.73	-0.54	-1.44	-0.84
21	-0.81	-1.46	-1.09	-0.70	-0.80	-0.75	-0.09	-0.64	-0.38	-0.19	-0.74	-0.43
22	-1.61	-2.92	-2.33	-0.70	-0.80	-0.75	-0.04	-0.54	-0.27	-0.04	-0.69	-0.34
23	-2.97	-3.47	-3.24	-0.70	-1.10	-0.84	-0.09	-1.20	-0.55	-0.09	-1.24	-0.60
24	-3.52	-3.92	-3.76	-1.05	-1.20	-1.10	-0.19	-1.75	-1.01	-0.19	-1.74	-1.01
25	-3.97	-4.57	-4.24	-1.05	-1.50	-1.19	-0.39	-1.70	-1.06	-0.39	-1.74	-1.06
26	-4.67	-5.08	-4.88	-1.55	-2.25	-1.92	-0.39	-1.75	-1.14	-0.39	-1.74	-1.14
27	-5.08	-6.28	-5.70	-2.30	-3.10	-2.66	-0.49	-1.75	-1.20	-0.49	-1.79	-1.21
28	-6.38	-7.18	-6.91	-3.15	-4.06	-3.62	-0.59	-1.85	-1.26	-0.64	-1.84	-1.25
29	-6.83	-6.98	-6.90	-4.06	-4.16	-4.14	-0.54	-1.65	-1.16	-0.54	-1.64	-1.16
30	-6.83	-6.98	-6.89	-4.16	-4.21	-4.17	-0.44	-1.30	-1.01	-0.44	-1.44	-1.07
31	-6.83	-6.98	-6.89	-4.11	-4.21	-4.16	-0.39	-1.20	-0.72	-0.39	-1.19	-0.76
Month	-0.56	-7.18	-2.66	-0.70	-4.21	-1.55	0.01	-1.85	-0.55	0.16	-1.84	-0.49

Chaivo Bay
February 1994
Grid Site (1,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-6.57	-7.17	-6.94	-3.66	-4.01	-3.83	-0.34	-0.90	-0.60			
2	-7.02	-7.22	-7.14	-4.01	-4.16	-4.10	-0.70	-1.00	-0.88			
3	-7.02	-7.42	-7.25	-4.11	-4.26	-4.18	-1.00	-1.35	-1.13			
4	-7.37	-7.57	-7.58	-4.31	-4.61	-4.43	-1.20	-2.10	-1.58			
5	-7.52	-7.87	-7.72	-4.61	-4.97	-4.77	-1.55	-2.35	-1.96			
6	-7.67	-7.97	-7.83	-4.97	-5.17	-5.02	-1.85	-2.50	-2.21			
7	-7.92	-8.57	-8.31	-5.17	-5.52	-5.26	-1.95	-2.65	-2.35			
8	-8.62	-9.13	-8.95	-5.52	-5.87	-5.67	-2.20	-2.80	-2.53			
9	-9.03	-9.43	-9.24	-5.92	-6.12	-5.98	-2.40	-2.95	-2.68			
10	-8.98	-9.43	-9.27	-6.12	-6.12	-6.12	-2.55	-3.10	-2.92			
11	-7.82	-8.93	-8.44	-5.62	-6.17	-5.91	-2.75	-3.10	-2.92			
12	-6.82	-7.72	-7.22	-5.07	-5.62	-5.33	-2.75	-3.10	-2.90			
13	-6.22	-6.72	-6.46	-4.56	-5.02	-4.82	-2.60	-2.95	-2.72			
14	-5.71	-6.17	-5.99	-4.31	-4.56	-4.43	-2.55	-2.70	-2.62			
15	-5.11	-5.66	-5.39	-3.96	-4.26	-4.13	-2.45	-2.55	-2.53			
16	-4.56	-5.06	-4.79	-3.51	-3.91	-3.70	0.36	-1.05	-0.61			
17	-4.11	-4.51	-4.31	-3.11	-3.46	-3.31	-1.10	-1.55	-1.32			
18	-3.86	-4.06	-3.94	-2.91	-3.11	-3.00	-1.50	-1.55	-1.52			
19	-3.66	-3.81	-3.76	-2.71	-2.86	-2.81	-1.50	-1.50	-1.50			
20	-3.61	-3.66	-3.61	-2.66	-2.71	-2.69	-1.50	-1.65	-1.55			
21	-3.61	-3.66	-3.63	-2.61	-2.71	-2.66	-1.55	-1.70	-1.62			
22	-3.66	-3.71	-3.70	-2.71	-2.71	-2.71	-1.35	-1.70	-1.49			
23	-3.61	-3.71	-3.65	-2.71	-2.71	-2.71	1.41	-1.30	0.14			
24	-3.41	-3.61	-3.50	-2.66	-2.71	-2.70	1.86	-1.10	0.26			
25	-3.25	-3.41	-3.31	-2.56	-2.66	-2.61	1.31	-0.49	0.14			
26	-3.10	-3.20	-3.15	-2.46	-2.56	-2.52	0.76	-1.00	-0.34			
27	-2.95	-3.05	-3.00	-2.36	-2.46	-2.40	-1.00	-1.30	-1.14			
28	-2.85	-2.95	-2.89	-2.21	-2.36	-2.29	-0.65	-1.10	-0.90			
Month	-2.85	-9.43	-5.75	-2.21	-6.17	-3.93	1.86	-3.10	-1.57			

Feb.15,16: Incomplete
time series

Chaivo Bay
February 1994
Grid Site (2,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-9.87	-10.27	-10.10	-6.25	-6.45	-6.35	-0.15	-0.75	-0.44	-2.65	-2.81	-2.75
2	-9.52	-10.07	-9.78	-6.20	-6.40	-6.33	-0.05	-0.60	-0.30	-2.75	-2.86	-2.81
3	-9.57	-9.92	-9.77	-6.15	-6.30	-6.23	-0.05	-0.80	-0.33	-2.81	-2.96	-2.84
4	-9.62	-9.77	-9.73	-6.30	-6.35	-6.33	-0.25	-1.46	-0.77	-2.96	-3.36	-3.08
5	-9.82	-10.37	-10.09	-6.35	-6.70	-6.58	-0.30	-1.71	-1.03	-3.26	-3.71	-3.43
6	-9.92	-10.47	-10.26	-6.70	-6.90	-6.80	-0.50	-1.76	-1.16	-3.51	-3.91	-3.69
7	-10.52	-11.47	-11.18	-6.95	-7.61	-7.28	-0.55	-1.71	-1.25	-3.76	-4.21	-3.94
8	-11.63	-12.33	-12.02	-7.66	-8.11	-7.94	-0.65	-1.71	-1.28	-4.11	-4.56	-4.29
9	-12.03	-12.53	-12.27	-8.11	-8.36	-8.27	-0.65	-1.76	-1.26	-4.41	-4.76	-4.54
10	-11.32	-12.48	-12.05	-8.21	-8.46	-8.38	-0.60	-1.76	-1.23	-4.56	-4.86	-4.69
11	-9.26	-11.27	-10.34	-7.20	-8.16	-7.75	-0.60	-1.81	-1.33	-4.51	-4.91	-4.64
12	-8.11	-9.11	-8.53	-6.25	-7.18	-6.62	-1.00	-1.81	-1.49	-4.06	-4.56	-4.26
13	-7.61	-8.01	-7.77	-5.70	-6.20	-5.93	-0.90	-1.76	-1.38	-3.71	-4.11	-3.87
14	-6.80	-7.56	-7.21	-5.30	-5.65	-5.50	-0.90	-1.76	-1.41	-3.56	-3.71	-3.62
15	-5.90	-6.70	-6.31	-4.79	-5.30	-5.05	-0.55	-1.46	-1.10	-3.26	-3.56	-3.41
16	-5.25	-5.85	-5.53	-4.19	-4.74	-4.45	-0.25	-1.05	-0.59	-2.81	-3.21	-2.98
17	-4.69	-5.20	-4.95	-3.74	-4.14	-3.96	-0.15	-0.85	-0.53	-2.50	-2.81	-2.62
18	-4.54	-4.64	-4.59	-3.44	-3.74	-3.59	-0.20	-0.90	-0.49	-2.15	-2.45	-2.39
19	-4.49	-4.54	-4.53	-3.34	-3.44	-3.40	-0.30	-1.10	-0.72	-2.10	-2.20	-2.18
20	-4.49	-4.64	-4.56	-3.29	-3.34	-3.30	-0.30	-1.41	-0.88	-2.15	-2.20	-2.18
21	-4.69	-4.99	-4.83	-3.29	-3.49	-3.39	-0.35	-1.56	-0.99	-2.20	-2.35	-2.25
22	-4.74	-5.04	-4.91	-3.49	-3.59	-3.56	-0.45	-1.56	-1.10	-2.35	-2.45	-2.41
23	-4.34	-4.74	-4.54	-3.49	-3.59	-3.56	-0.45	-1.51	-1.05	-2.45	-2.55	-2.49
24	-4.04	-4.34	-4.17	-3.29	-3.49	-3.40	-0.35	-1.46	-0.93	-2.35	-2.60	-2.47
25	-3.74	-3.99	-3.89	-3.09	-3.29	-3.20	-0.45	-1.36	-0.96	-2.25	-2.45	-2.33
26	-3.54	-3.74	-3.64	-2.99	-3.09	-3.05	-0.40	-1.10	-0.77	-2.15	-2.30	-2.23
27	-3.44	-3.54	-3.47	-2.84	-2.99	-2.89	-0.35	-1.00	-0.58	-2.05	-2.20	-2.11
28	-3.39	-3.44	-3.41	-2.69	-2.79	-2.75	-0.25	-0.90	-0.44	-1.90	-2.05	-1.97
Month	-3.39	-12.53	-7.30	-2.69	-8.46	-5.21	-0.05	-1.81	-0.92	-1.90	-4.91	-3.09

Chaivo Bay
February 1994
Grid Site (3,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-6.26	-6.41	-6.34	-3.91	-3.96	-3.91	-1.34	-1.54	-1.42	-0.28	-0.88	-0.56
2	-6.16	-6.36	-6.27	-3.81	-3.91	-3.86	-1.34	-1.44	-1.37	-0.18	-0.73	-0.41
3	-6.11	-6.16	-6.14	-3.76	-3.81	-3.76	-1.34	-1.49	-1.41	-0.18	-0.93	-0.46
4	-6.11	-6.16	-6.15	-3.76	-3.86	-3.78	-1.44	-1.94	-1.62	-0.38	-1.53	-0.92
5	-6.11	-6.31	-6.22	-3.86	-4.06	-3.92	-1.69	-2.19	-1.94	-0.43	-1.83	-1.16
6	-6.26	-6.46	-6.35	-4.06	-4.21	-4.11	-1.84	-2.34	-2.11	-0.58	-1.83	-1.27
7	-6.46	-7.07	-6.78	-4.26	-4.51	-4.34	-1.99	-2.49	-2.25	-0.63	-1.83	-1.35
8	-7.12	-7.67	-7.47	-4.56	-4.96	-4.75	-2.14	-2.64	-2.39	-0.78	-1.83	-1.39
9	-7.67	-8.02	-7.88	-5.01	-5.26	-5.12	-2.29	-2.79	-2.54	-0.78	-1.83	-1.36
10	-7.97	-8.22	-8.09	-5.31	-5.41	-5.34	-2.44	-2.89	-2.65	-0.73	-1.83	-1.34
11	-7.27	-7.97	-7.68	-5.21	-5.46	-5.33	-2.59	-3.00	-2.76	-0.73	-1.88	-1.43
12	-6.51	-7.17	-6.82	-4.76	-5.21	-4.99	-2.64	-3.00	-2.81	-1.00	-1.88	-1.59
13	-6.06	-6.46	-6.25	-4.41	-4.70	-4.58	-2.54	-2.89	-2.65	-1.03	-1.83	-1.50
14	-5.61	-6.06	-5.86	-4.16	-4.36	-4.28	-2.49	-2.84	-2.58	-0.99	-1.83	-1.52
15	-5.00	-5.56	-5.26	-3.81	-4.16	-4.00	-2.24	-2.64	-2.40	-0.68	-1.58	-1.21
16	-4.45	-4.95	-4.68	-3.41	-3.76	-3.56	-1.84	-2.14	-1.94	-0.38	-1.13	-0.69
17	-4.05	-4.40	-4.24	-3.05	-3.36	-3.20	-1.69	-1.84	-1.75	-0.28	-1.03	-0.72
18	-3.80	-4.00	-3.88	-2.80	-3.00	-2.91	-1.59	-1.69	-1.60	-0.33	-1.08	-0.62
19	-3.54	-3.75	-3.65	-2.55	-2.80	-2.70	-1.44	-1.54	-1.50	-0.38	-1.48	-0.90
20	-3.39	-3.49	-3.46	-2.50	-2.55	-2.54	-1.44	-1.59	-1.52	-0.38	-1.53	-0.99
21	-3.34	-3.44	-3.39	-2.50	-2.50	-2.50	-1.49	-1.69	-1.58	-0.43	-1.68	-1.08
22	-3.39	-3.39	-3.39	-2.50	-2.50	-2.50	-1.54	-1.74	-1.65	-0.58	-1.68	-1.21
23	-3.29	-3.39	-3.35	-2.50	-2.50	-2.50	-1.59	-1.74	-1.68	-0.53	-1.63	-1.15
24	-3.14	-3.29	-3.22	-2.45	-2.50	-2.49	-1.54	-1.74	-1.63	-0.48	-1.58	-1.04
25	-3.04	-3.14	-3.09	-2.35	-2.45	-2.41	-1.54	-1.69	-1.59	-0.58	-1.53	-1.06
26	-2.89	-2.99	-2.95	-2.30	-2.35	-2.34	-1.44	-1.64	-1.52	-0.48	-1.38	-0.95
27	-2.79	-2.89	-2.85	-2.20	-2.30	-2.24	-1.34	-1.49	-1.42	-0.43	-1.08	-0.74
28	-2.74	-2.79	-2.78	-2.10	-2.20	-2.15	-1.24	-1.39	-1.31	-0.38	-1.03	-0.59
Month	-2.74	-8.22	-5.16	-2.10	-5.46	-3.58	-1.24	-3.00	-1.91	-0.18	-1.88	-1.04

Chaivo Bay
February 1994
Grid Site (4,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-6.88	-7.13	-7.00	-4.11	-4.16	-4.13	-0.59	-1.09	-0.81	-0.24	-0.89	-0.55
2	-6.78	-7.03	-6.94	-4.11	-4.16	-4.14	-0.89	-1.25	-1.01	-0.14	-0.74	-0.39
3	-6.73	-6.93	-6.85	-4.06	-4.11	-4.07	-0.99	-1.30	-1.14	-0.14	-0.94	-0.45
4	-6.88	-6.98	-6.94	-4.11	-4.26	-4.18	-1.09	-1.95	-1.48	-0.34	-1.54	-0.90
5	-6.98	-7.54	-7.32	-4.26	-4.66	-4.42	-1.35	-2.10	-1.76	-0.39	-1.79	-1.13
6	-7.43	-7.84	-7.69	-4.66	-5.01	-4.80	-1.70	-2.35	-2.04	-0.59	-1.84	-1.24
7	-7.89	-8.74	-8.38	-5.01	-5.40	-5.19	-1.90	-2.55	-2.23	-0.64	-1.79	-1.34
8	-8.79	-9.44	-9.21	-5.51	-5.98	-5.72	-2.15	-2.75	-2.46	-0.74	-1.79	-1.36
9	-9.39	-9.74	-9.60	-6.01	-6.26	-6.11	-2.35	-2.90	-2.64	-0.74	-1.84	-1.34
10	-9.39	-9.84	-9.68	-6.26	-6.31	-6.29	-2.55	-3.05	-2.79	-0.69	-1.84	-1.33
11	-8.14	-9.34	-8.83	-5.86	-6.36	-6.11	-2.70	-3.15	-2.91	-0.69	-1.89	-1.42
12	-7.03	-7.99	-7.49	-5.81	-5.81	-5.48	-2.75	-3.15	-2.91	-1.04	-1.89	-1.57
13	-6.43	-6.98	-6.69	-4.71	-5.16	-4.93	-2.60	-2.95	-2.72	-0.99	-1.84	-1.48
14	-5.83	-6.38	-6.14	-4.36	-4.71	-4.54	-2.55	-2.70	-2.63	-0.99	-1.79	-1.50
15	-5.00	-5.73	-5.41	-3.96	-4.36	-4.18	-2.30	-2.60	-2.45	-0.69	-1.54	-1.19
16	-4.52	-5.08	-4.77	-3.50	-3.91	-3.71	-1.90	-2.15	-2.00	-0.34	-1.14	-0.68
17	-4.07	-4.47	-4.29	-3.10	-3.45	-3.30	-1.70	-1.90	-1.78	-0.24	-0.94	-0.68
18	-3.87	-4.02	-3.94	-2.90	-3.10	-2.99	-1.55	-1.70	-1.60	-0.34	-1.04	-0.60
19	-3.67	-3.82	-3.79	-2.70	-2.85	-2.79	-1.45	-1.60	-1.52	-0.34	-1.44	-0.89
20	-3.62	-3.67	-3.65	-2.60	-2.70	-2.66	-1.50	-1.60	-1.55	-0.39	-1.49	-0.96
21	-3.62	-3.77	-3.68	-2.60	-2.65	-2.63	-1.55	-1.75	-1.62	-0.44	-1.69	-1.07
22	-3.72	-3.77	-3.75	-2.65	-2.70	-2.70	-1.68	-1.75	-1.68	-0.54	-1.69	-1.18
23	-3.52	-3.67	-3.62	-2.70	-2.75	-2.72	-1.65	-1.75	-1.71	-0.49	-1.59	-1.13
24	-3.32	-3.52	-3.43	-2.60	-2.70	-2.65	-1.68	-1.75	-1.66	-0.44	-1.54	-1.01
25	-3.17	-3.32	-3.24	-2.50	-2.60	-2.56	-1.60	-1.70	-1.64	-0.54	-1.54	-1.05
26	-3.02	-3.12	-3.08	-2.40	-2.50	-2.46	-1.50	-1.70	-1.58	-0.49	-1.39	-0.94
27	-2.87	-2.97	-2.93	-2.30	-2.40	-2.35	-1.40	-1.55	-1.46	-0.39	-1.04	-0.72
28	-2.82	-2.87	-2.84	-2.20	-2.30	-2.23	-1.30	-1.40	-1.36	-0.34	-0.99	-0.57
Month	-2.82	-9.84	-5.76	-2.20	-6.36	-3.93	-0.59	-3.15	-1.90	-0.14	-1.89	-1.02

Chaivo Bay

March 1994

Grid Site (1,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.75	-2.85	-2.80	-2.16	-2.21	-2.17	-0.09	-0.90	-0.62			
2	-2.70	-2.75	-2.73	-2.06	-2.16	-2.09	0.41	-0.70	-0.43			
3	-2.60	-2.65	-2.63	-2.00	-2.06	-2.01	-0.44	-0.80	-0.69			
4	-2.50	-2.55	-2.55	-1.85	-1.95	-1.93	-0.85	-1.05	-0.91			
5	-2.45	-2.50	-2.49	-1.85	-1.85	-1.85	-1.05	-1.25	-1.14			
6	-2.45	-2.45	-2.45	-1.85	-1.90	-1.88	-1.15	-1.35	-1.24			
7	-2.45	-2.45	-2.45	-1.90	-1.90	-1.90	-1.15	-1.25	-1.19			
8	-2.40	-2.45	-2.44	-1.90	-1.95	-1.93	-1.20	-1.30	-1.23			
9	-2.45	-2.50	-2.48	-1.95	-1.95	-1.95	-0.29	-1.15	-0.79			
10	-2.50	-2.55	-2.51	-1.90	-1.95	-1.95	1.81	-0.29	0.67			
11	-2.50	-2.55	-2.55	-1.90	-1.95	-1.91	1.71	0.26	1.04			
12	-2.50	-2.50	-2.50	-1.90	-1.95	-1.92	1.56	0.56	1.15			
13	-2.45	-2.50	-2.49	-1.90	-1.95	-1.91	0.26	-0.70	-0.35			
14	-2.30	-2.45	-2.38	-1.85	-1.90	-1.87	-0.80	-0.90	-0.83			
15	-2.10	-2.30	-2.19	-1.75	-1.85	-1.80	-0.70	-0.80	-0.78			
16												
17	-1.85	-1.95	-1.91	-1.55	-1.65	-1.61	0.46	-0.55	-0.19			
18	-1.80	-1.85	-1.83	-1.45	-1.55	-1.50	1.36	-0.55	0.81			
19	-1.75	-1.80	-1.76	-1.40	-1.45	-1.43	3.82	1.51	2.67			
20	-1.70	-1.70	-1.70	-1.30	-1.35	-1.33	3.92	3.27	3.61			
21	-1.60	-1.70	-1.67	-1.25	-1.30	-1.30	3.37	1.06	2.19			
22	-1.55	-1.65	-1.60	-1.25	-1.30	-1.28	0.56	-0.19	0.11			
23	-1.55	-1.60	-1.56	-1.20	-1.25	-1.24	-0.09	-0.39	-0.26			
24	-1.55	-1.55	-1.55	-1.25	-1.30	-1.25	0.61	-0.29	0.04			
25	-1.55	-1.55	-1.55	-1.25	-1.30	-1.29	0.01	-0.49	-0.22			
26	-1.50	-1.55	-1.53	-1.20	-1.25	-1.23	-0.49	-0.55	-0.51			
27	-1.50	-1.50	-1.50	-1.15	-1.20	-1.18	-0.49	-0.65	-0.57			
28	-1.50	-1.50	-1.50	-1.10	-1.15	-1.15	-0.39	-0.55	-0.50			
29	-1.45	-1.50	-1.49	-1.10	-1.15	-1.12	-0.39	-0.70	-0.53			
30	-1.40	-1.45	-1.44	-1.00	-1.10	-1.08	-0.39	-0.60	-0.50			
31	-1.40	-1.45	-1.41	-1.00	-1.05	-1.01	-0.29	-0.44	-0.38			
Month	-1.40	-2.85	-2.86	-1.80	-2.21	-1.60	3.92	-1.35	-0.88			

Chaivo Bay

March 1994

Grid Site (2,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.24	-3.34	-3.29	-2.58	-2.69	-2.64	-0.25	-0.70	-0.43	-1.80	-1.90	-1.86
2	-3.09	-3.24	-3.16	-2.48	-2.58	-2.53	-0.35	-0.50	-0.43	-1.70	-1.80	-1.74
3	-2.99	-3.09	-3.04	-2.38	-2.48	-2.43	-0.40	-0.65	-0.48	-1.65	-1.70	-1.68
4	-2.94	-2.99	-2.95	-2.28	-2.38	-2.35	-0.40	-1.36	-0.87	-1.60	-1.65	-1.64
5	-2.88	-2.94	-2.89	-2.28	-2.28	-2.28	-0.60	-1.66	-1.14	-1.65	-1.70	-1.67
6	-2.94	-2.94	-2.94	-2.28	-2.28	-2.28	-0.60	-1.66	-1.18	-1.75	-1.80	-1.76
7	-2.94	-3.04	-2.96	-2.28	-2.38	-2.34	-0.60	-1.51	-1.04	-1.80	-2.00	-1.83
8	-2.88	-2.99	-2.94	-2.33	-2.38	-2.38	-0.50	-1.51	-0.98	-2.05	-2.10	-2.08
9	-2.88	-2.94	-2.90	-2.33	-2.38	-2.36	-0.50	-1.36	-0.92	-1.85	-2.05	-1.94
10	-2.83	-2.88	-2.88	-2.28	-2.33	-2.33	-0.40	-1.31	-0.84	-1.60	-1.80	-1.74
11	-2.78	-2.83	-2.82	-2.18	-2.23	-2.22	-0.30	-1.61	-0.99	-1.50	-1.55	-1.52
12	-2.78	-2.78	-2.78	-2.18	-2.23	-2.21	-0.50	-1.26	-0.79	-1.60	-1.70	-1.68
13	-2.73	-2.88	-2.78	-2.18	-2.23	-2.22	-0.25	-0.95	-0.42	-1.60	-1.70	-1.68
14	-2.68	-2.83	-2.74	-2.13	-2.20	-2.21	-0.00	-0.25	-0.88	-1.50	-1.60	-1.56
15	-2.53	-2.68	-2.58	-2.08	-2.13	-2.12	-0.00	-0.10	-0.84	-1.40	-1.50	-1.45
16												
17	-2.23	-2.38	-2.31	-1.88	-2.03	-1.98	-0.05	-0.25	-0.13	-1.35	-1.40	-1.38
18	-2.18	-2.23	-2.21	-1.78	-1.93	-1.86	-0.15	-0.40	-0.23	-1.35	-1.40	-1.40
19	-2.08	-2.18	-2.14	-1.73	-1.83	-1.78	-0.15	-0.60	-0.33	-1.25	-1.35	-1.30
20	-2.03	-2.08	-2.07	-1.68	-1.73	-1.69	-0.20	-0.90	-0.43	-1.25	-1.25	-1.25
21	-1.98	-2.03	-2.03	-1.63	-1.68	-1.67	-0.10	-0.80	-0.37	-1.20	-1.25	-1.23
22	-1.93	-2.03	-1.99	-1.58	-1.63	-1.61	-0.10	-0.70	-0.30	-1.15	-1.20	-1.19
23	-1.93	-1.98	-1.96	-1.58	-1.63	-1.59	-0.05	-0.65	-0.26	-1.15	-1.20	-1.18
24	-1.93	-1.98	-1.97	-1.58	-1.58	-1.58	-0.05	-0.40	-0.15	-1.20	-1.20	-1.20
25	-1.93	-1.98	-1.93	-1.58	-1.63	-1.60	-0.10	-0.45	-0.16	-1.20	-1.20	-1.20
26	-1.83	-1.93	-1.88	-1.53	-1.63	-1.58	-0.10	-0.30	-0.17	-1.15	-1.20	-1.15
27	-1.83	-1.88	-1.84	-1.53	-1.63	-1.58	-0.15	-0.30	-0.19	-1.10	-1.15	-1.14
28	-1.83	-1.88	-1.83	-1.58	-1.63	-1.61	-0.20	-0.30	-0.23	-1.05	-1.10	-1.10
29	-1.83	-1.88	-1.86	-1.58	-1.63	-1.62	-0.20	-0.25	-0.25	-1.05	-1.10	-1.07
30	-1.83	-1.88	-1.87	-1.48	-1.58	-1.54	-0.25	-0.40	-0.30	-1.05	-1.10	-1.07
31	-1.83	-1.83	-1.83	-1.33	-1.43	-1.38	-0.35	-0.65	-0.46	-1.00	-1.05	-1.05
Month	-1.83	-3.34	-2.45	-1.33	-2.69	-1.99	-0.00	-1.66	-0.49	-1.00	-2.10	-1.46

Chaivo Bay
March 1994
Grid Site (3.1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.69	-2.74	-2.73	-2.00	-2.10	-2.06	-1.19	-1.24	-1.21	-0.23	-0.78	-0.52
2	-2.59	-2.69	-2.64	-1.95	-2.00	-1.99	-1.14	-1.19	-1.14	-0.18	-0.63	-0.46
3	-2.54	-2.59	-2.55	-1.85	-1.95	-1.91	-1.09	-1.14	-1.09	-0.33	-0.93	-0.56
4	-2.39	-2.54	-2.45	-1.65	-1.85	-1.77	-1.09	-1.24	-1.15	-0.48	-1.53	-1.00
5	-2.29	-2.39	-2.33	-1.70	-1.70	-1.70	-1.19	-1.44	-1.30	-0.73	-1.73	-1.24
6	-2.29	-2.29	-2.29	-1.70	-1.75	-1.74	-1.24	-1.49	-1.37	-0.68	-1.78	-1.27
7	-2.29	-2.29	-2.29	-1.75	-1.80	-1.76	-1.29	-1.44	-1.36	-0.73	-1.63	-1.15
8	-2.24	-2.29	-2.27	-1.75	-1.80	-1.78	-1.19	-1.39	-1.29	-0.63	-1.63	-1.09
9	-2.29	-2.34	-2.32	-1.80	-1.80	-1.80	-1.24	-1.34	-1.29	-0.63	-1.49	-1.03
10	-2.29	-2.34	-2.31	-1.80	-1.80	-1.80	-1.19	-1.34	-1.24	-0.53	-1.38	-1.01
11	-2.19	-2.29	-2.24	-1.75	-1.75	-1.75	-1.14	-1.39	-1.25	-0.43	-1.68	-1.12
12	-2.14	-2.19	-2.17	-1.75	-1.75	-1.75	-1.19	-1.44	-1.28	-0.63	-1.33	-0.94
13	-2.03	-2.14	-2.08	-1.65	-1.75	-1.70	-0.98	-1.24	-1.11	-0.33	-1.03	-0.55
14	-1.98	-2.03	-2.00	-1.60	-1.65	-1.64	-0.83	-0.98	-0.91	-0.12	-0.38	-0.21
15	-1.88	-1.93	-1.92	-1.50	-1.60	-1.55	-0.78	-0.83	-0.82	-0.07	-0.18	-0.15
16												
17	-1.73	-1.83	-1.78	-1.40	-1.45	-1.44	-0.73	-0.83	-0.77	-0.12	-0.33	-0.23
18	-1.68	-1.73	-1.73	-1.30	-1.40	-1.35	-0.68	-0.78	-0.70	-0.18	-0.48	-0.31
19	-1.68	-1.68	-1.68	-1.30	-1.35	-1.32	-0.68	-0.73	-0.71	-0.23	-0.68	-0.45
20	-1.63	-1.68	-1.66	-1.25	-1.30	-1.28	-0.73	-0.78	-0.75	-0.28	-0.98	-0.57
21	-1.53	-1.63	-1.61	-1.20	-1.25	-1.24	-0.73	-0.78	-0.74	-0.23	-0.93	-0.53
22	-1.53	-1.58	-1.55	-1.20	-1.25	-1.23	-0.68	-0.73	-0.72	-0.23	-0.78	-0.48
23	-1.48	-1.53	-1.51	-1.15	-1.25	-1.20	-0.73	-0.88	-0.80	-0.18	-0.73	-0.40
24	-1.48	-1.53	-1.51	-1.15	-1.20	-1.19	-0.83	-0.93	-0.89	-0.12	-0.63	-0.31
25	-1.48	-1.48	-1.48	-1.10	-1.20	-1.13	-0.58	-0.83	-0.68	-0.12	-0.53	-0.23
26	-1.43	-1.48	-1.46	-1.05	-1.10	-1.10	-0.53	-0.58	-0.56	-0.12	-0.43	-0.24
27	-1.43	-1.48	-1.46	-1.05	-1.10	-1.09	-0.48	-0.58	-0.54	-0.07	-0.43	-0.23
28	-1.43	-1.48	-1.45	-1.05	-1.10	-1.09	-0.53	-0.58	-0.56	-0.07	-0.38	-0.20
29	-1.43	-1.48	-1.44	-1.05	-1.10	-1.09	-0.53	-0.58	-0.56	-0.12	-0.43	-0.25
30	-1.43	-1.48	-1.46	-1.05	-1.05	-1.21	-0.58	-1.09	-0.72	-0.18	-0.58	-0.38
31	-1.48	-1.73	-1.60	-1.05	-1.00	-1.44	-0.83	-2.09	-1.45	-0.33	-0.88	-0.61
Month	-1.43	-2.74	-1.93	-1.05	-2.10	-1.50	-0.48	-2.09	-0.97	-0.07	-1.78	-0.59

Chaivo Bay
March 1994
Grid Site (4.1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.72	-2.82	-2.76	-2.10	-2.20	-2.14	-1.25	-1.30	-1.25	-0.19	-0.74	-0.49
2	-2.62	-2.72	-2.66	-2.00	-2.10	-2.05	-1.15	-1.20	-1.18	-0.14	-0.54	-0.44
3	-2.52	-2.62	-2.56	-1.95	-2.00	-1.98	-1.09	-1.15	-1.11	-0.29	-0.89	-0.55
4	-2.37	-2.52	-2.44	-1.80	-1.95	-1.86	-1.09	-1.25	-1.15	-0.49	-1.54	-0.98
5	-2.27	-2.37	-2.33	-1.75	-1.80	-1.76	-1.15	-1.35	-1.24	-0.69	-1.69	-1.22
6	-2.27	-2.27	-2.27	-1.75	-1.75	-1.75	-1.25	-1.45	-1.34	-0.64	-1.74	-1.25
7	-2.27	-2.32	-2.29	-1.75	-1.80	-1.77	-1.30	-1.40	-1.35	-0.69	-1.59	-1.13
8	-2.27	-2.32	-2.30	-1.75	-1.80	-1.78	-1.25	-1.40	-1.31	-0.64	-1.59	-1.07
9	-2.37	-2.37	-2.37	-1.80	-1.85	-1.82	-1.25	-1.35	-1.27	-0.59	-1.44	-1.01
10	-2.37	-2.37	-2.37	-1.80	-1.85	-1.81	-1.20	-1.30	-1.24	-0.49	-1.39	-0.99
11	-2.32	-2.37	-2.35	-1.80	-1.80	-1.80	-1.15	-1.40	-1.25	-0.44	-1.69	-1.09
12	-2.32	-2.32	-2.32	-1.80	-1.80	-1.80	-1.25	-1.40	-1.30	-0.59	-1.34	-0.92
13	-2.27	-2.32	-2.28	-1.80	-1.80	-1.80	-1.04	-1.25	-1.14	-0.34	-1.04	-0.56
14	-2.22	-2.27	-2.24	-1.75	-1.75	-1.75	-0.89	-1.04	-0.96	-0.09	-0.34	-0.19
15	-2.17	-2.22	-2.19	-1.65	-1.70	-1.70	-0.84	-0.89	-0.89	-0.09	-0.14	-0.12
16												
17	-1.96	-2.07	-2.01	-1.50	-1.60	-1.55	-0.74	-0.79	-0.78	-0.14	-0.29	-0.20
18	-1.91	-1.96	-1.92	-1.45	-1.50	-1.50	-0.74	-0.74	-0.74	-0.14	-0.49	-0.28
19	-1.86	-1.86	-1.86	-1.40	-1.45	-1.44	-0.74	-0.74	-0.74	-0.24	-0.64	-0.43
20	-1.81	-1.86	-1.82	-1.35	-1.40	-1.38	-0.74	-0.79	-0.75	-0.24	-0.94	-0.54
21	-1.26	-1.70	-1.71	-1.30	-1.35	-1.35	-0.74	-0.79	-0.79	-0.19	-0.89	-0.52
22	0.39	-0.46	0.06	-1.25	-1.35	-1.30	-0.74	-0.79	-0.76	-0.19	-0.79	-0.46
23	0.44	0.04	0.13	-1.25	-1.30	-1.27	-0.74	-0.89	-0.79	-0.19	-0.69	-0.38
24	0.04	-0.11	-0.02	-1.25	-1.30	-1.27	-0.69	-0.79	-0.74	-0.14	-0.59	-0.29
25	-0.11	-0.26	-0.17	-1.20	-1.25	-1.25	-0.69	-0.69	-0.69	-0.09	-0.54	-0.24
26	-0.31	-0.66	-0.51	-1.15	-1.20	-1.19	-0.64	-0.74	-0.68	-0.09	-0.41	-0.24
27	-0.66	-0.71	-0.69	-1.15	-1.15	-1.15	-0.64	-0.69	-0.67	-0.09	-0.39	-0.22
28	-0.66	-0.71	-0.67	-1.15	-1.15	-1.15	-0.59	-0.64	-0.64	-0.04	-0.34	-0.19
29	-0.66	-0.71	-0.69	-1.10	-1.10	-1.10	-0.54	-0.59	-0.59	-0.14	-0.34	-0.23
30	-0.71	-0.76	-0.72	-1.05	-1.10	-1.09	-0.54	-0.59	-0.58	-0.14	-0.54	-0.36
31	-0.71	-0.81	-0.75	-1.05	-1.10	-1.07	-0.54	-0.69	-0.62	-0.34	-0.94	-0.59
Month	0.44	-2.82	-1.64	-1.05	-2.20	-1.55	-0.54	-1.45	-0.95	-0.04	-1.74	-0.57

Chaivo Bay
 April 1994
 Grid Site (1,1-4) (Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.35	-1.40	-1.39	-0.95	-1.00	-0.98	0.86	-0.24	0.13			
2	-1.35	-1.35	-1.35	-0.95	-0.95	-0.95	0.81	0.16	0.51			
3	-1.35	-1.35	-1.35	-0.95	-0.95	-0.95	1.61	0.81	1.12			
4	-1.30	-1.35	-1.34	-0.95	-1.00	-1.00	1.16	0.71	0.94			
5	-1.35	-1.35	-1.35	-1.05	-1.05	-1.05	2.67	1.26	1.81			
6	-1.35	-1.35	-1.35	-1.05	-1.05	-1.05	2.77	2.16	2.44			
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-1.30	-1.40	-1.35	-0.95	-1.05	-1.00	2.77	-0.24	1.16			

Chaivo Bay
 April 1994
 Grid Site (2,1-4)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.83	-1.88	-1.84	-1.33	-1.33	-1.33	-0.60	-1.26	-0.86	-1.00	-1.05	-1.01
2	-1.83	-1.88	-1.84	-1.33	-1.33	-1.33	-0.65	-1.56	-1.10	-1.00	-1.05	-1.03
3	-1.83	-1.83	-1.83	-1.33	-1.33	-1.33	-0.65	-1.56	-1.10	-1.05	-1.15	-1.11
4	-1.83	-1.83	-1.83	-1.33	-1.33	-1.33	-0.40	-1.26	-0.91	-1.15	-1.20	-1.19
5	-1.78	-1.83	-1.81	-1.33	-1.33	-1.33	-0.30	-1.05	-0.54	-1.15	-1.20	-1.20
6	-1.78	-1.83	-1.80	-1.33	-1.38	-1.37	-0.25	-1.00	-0.53	-1.10	-1.15	-1.15
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-1.78	-1.88	-1.83	-1.33	-1.38	-1.34	-0.25	-1.56	-0.84	-1.00	-1.20	-1.11

Chaivo Bay
April 1994
Grid Site (3,1-4)

(Recording Interval 120 min)

Date	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.48	-1.53	-1.50	-1.10	-1.15	-1.13	-0.88	-1.09	-0.95	-0.68	-1.58	-1.03
2	-1.48	-1.53	-1.51	-1.10	-1.10	-1.10	-0.88	-1.09	-0.98	-0.83	-1.68	-1.23
3	-1.53	-1.58	-1.56	-1.10	-1.10	-1.10	-1.03	-1.19	-1.06	-0.78	-1.68	-1.21
4	-1.58	-1.63	-1.61	-1.10	-1.10	-1.10	-0.88	-1.09	-1.00	-0.53	-1.38	-1.03
5	-1.68	-1.73	-1.69	-1.10	-1.10	-1.10	-0.73	-0.83	-0.77	-0.43	-1.23	-0.78
6	-1.73	-1.78	-1.76	-1.10	-1.10	-1.10	-0.68	-0.83	-0.72	-0.38	-1.13	-0.74
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-1.48	-1.78	-1.61	-1.10	-1.15	-1.10	-0.68	-1.19	-0.91	-0.38	-1.68	-1.00

Chaivo Bay
April 1994
Grid Site (4,1-4)

	Air/Ice Temperature (degrees C)			Ice Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 0cm			Depth: -20cm			Depth: -40cm			Depth: -60cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-0.76	-0.81	-0.79	-1.05	-1.05	-1.05	-0.69	-1.04	-0.79	-0.69	-1.54	-1.02
2	-0.76	-0.86	-0.81	-1.00	-1.05	-1.03	-0.74	-1.04	-0.89	-0.84	-1.64	-1.21
3	-0.86	-0.96	-0.91	-1.05	-1.05	-1.05	-0.94	-1.15	-1.03	-0.79	-1.64	-1.20
4	-0.96	-1.01	-0.99	-1.05	-1.10	-1.09	-0.99	-1.09	-1.04	-0.49	-1.39	-1.01
5	-1.01	-1.06	-1.03	-1.10	-1.15	-1.13	-0.84	-0.99	-0.88	-0.44	-1.24	-0.76
6	-1.06	-1.16	-1.12	-1.15	-1.15	-1.15	-0.74	-0.89	-0.81	-0.34	-1.24	-0.73
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
Month	-0.76	-1.16	-0.94	-1.00	-1.15	-1.08	-0.69	-1.15	-0.91	-0.34	-1.64	-0.99

Table 13 Daily mean, minimum and maximum values of ice/water temperatures at the air-ice interface (0 cm) and at the depths of 10, 20, 30, 40, 50, 60 and 70 cm below the air-ice interface in the snow-removed area during the 1993-1994 winter experiment.

December 1993 Snow-Removed Area (Recording Interval 10 min)												
Date	Ice Temperature (degrees C) Depth: 0cm			Ice Temperature (degrees C) Depth: 10.0cm			Ice Temperature (degrees C) Depth: 20.0cm			Ice Temperature (degrees C) Depth: 30.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-7.54	-11.30	-9.51	-1.77	-7.70	-5.46	-0.74	-4.00	-1.96	-0.98	-1.78	-1.45
13	-5.98	-11.40	-8.60	-5.34	-8.05	-6.88	-3.95	-4.70	-4.37	-1.13	-2.34	-1.60
14	-4.68	-5.98	-5.12	-3.93	-5.34	-4.49	-2.84	-3.90	-3.24	-1.73	-2.09	-1.89
15	-4.63	-5.18	-4.96	-3.83	-4.08	-3.92	-2.64	-2.84	-2.72	-1.88	-2.19	-2.02
16	-5.18	-5.23	-5.20	-4.03	-4.13	-4.08	-2.84	-3.14	-3.02	-1.73	-2.24	-2.01
17	-5.23	-9.24	-6.20	-4.08	-5.89	-4.42	-3.14	-3.75	-3.21	-1.73	-2.29	-2.03
18	-9.29	-10.65	-10.23	-5.94	-8.05	-7.43	-3.75	-5.75	-5.05	-2.29	-3.25	-2.64
19	-9.74	-10.50	-10.16	-7.85	-8.25	-8.07	-5.80	-6.10	-6.00	-3.25	-3.65	-3.46
20	-7.08	-9.74	-8.97	-6.34	-7.85	-7.37	-5.15	-6.00	-5.66	-3.30	-3.65	-3.43
21	-4.83	-7.03	-5.54	-4.23	-6.29	-5.09	-3.60	-5.10	-4.25	-2.59	-3.30	-2.86
22	-3.87	-5.13	-4.53	-3.63	-4.23	-4.01	-3.14	-3.60	-3.37	-2.49	-2.59	-2.53
23	-3.62	-3.87	-3.70	-3.23	-3.63	-3.41	-2.79	-3.14	-2.96	-2.24	-2.49	-2.37
24	-3.27	-3.62	-3.43	-2.93	-3.23	-3.11	-2.44	-2.79	-2.64	-1.98	-2.24	-2.12
25	-3.27	-6.08	-3.94	-2.88	-3.48	-2.98	-2.24	-2.44	-2.31	-1.78	-1.98	-1.90
26	-6.18	-8.84	-7.49	-3.48	-6.24	-5.00	-2.34	-4.15	-3.26	-1.78	-2.29	-1.97
27	-7.03	-8.84	-7.88	-5.64	-6.44	-6.16	-4.20	-4.65	-4.50	-2.29	-2.79	-2.66
28	-5.63	-7.08	-6.18	-4.58	-5.64	-5.10	-3.65	-4.35	-3.99	-2.39	-2.74	-2.58
29	-5.73	-11.55	-7.13	-4.53	-7.09	-4.97	-3.44	-4.35	-3.60	-2.19	-2.39	-2.28
30	-11.60	-15.87	-13.55	-7.19	-11.51	-9.62	-4.35	-8.01	-6.48	-2.34	-4.46	-3.39
31	-15.06	-17.42	-16.42	-11.51	-13.47	-12.63	-8.06	-10.06	-9.32	-4.46	-6.38	-5.65
Month	-3.27	-17.42	-7.44	-1.77	-13.47	-5.71	-0.74	-10.06	-4.10	-0.98	-6.38	-2.54

Date	Water Temperature (degrees C) Depth: 40.0cm			Water Temperature (degrees C) Depth: 50.0cm			Water Temperature (degrees C) Depth: 60.0cm			Water Temperature (degrees C) Depth: 70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
	1											
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12	-0.96	-1.76	-1.40	-0.97	-1.77	-1.46	-1.02	-1.77	-1.45	-1.03	-1.78	-1.48
13	-0.80	-1.36	-1.17	-1.07	-1.77	-1.53	-1.12	-1.77	-1.52	-1.13	-1.78	-1.56
14	-0.85	-1.36	-1.09	-1.27	-1.77	-1.48	-1.22	-1.77	-1.49	-1.28	-1.78	-1.52
15	-0.85	-1.41	-1.22	-1.27	-1.77	-1.60	-1.27	-1.77	-1.59	-1.33	-1.78	-1.63
16	-0.70	-1.41	-1.15	-1.07	-1.77	-1.52	-1.07	-1.72	-1.51	-1.13	-1.78	-1.55
17	-0.75	-1.36	-1.13	-1.12	-1.77	-1.50	-1.12	-1.72	-1.50	-1.13	-1.78	-1.53
18	-0.80	-1.36	-1.17	-1.17	-1.77	-1.57	-1.17	-1.77	-1.55	-1.18	-1.78	-1.59
19	-1.01	-1.36	-1.27	-1.42	-1.77	-1.66	-1.37	-1.77	-1.65	-1.43	-1.78	-1.68
20	-0.60	-1.31	-1.04	-1.02	-1.72	-1.43	-1.02	-1.72	-1.43	-1.08	-1.73	-1.46
21	-0.35	-1.31	-0.87	-0.72	-1.67	-1.26	-0.82	-1.72	-1.26	-0.83	-1.73	-1.29
22	-1.01	-1.41	-1.23	-1.42	-1.77	-1.62	-1.42	-1.77	-1.62	-1.43	-1.78	-1.66
23	-1.01	-1.21	-1.05	-1.32	-1.62	-1.43	-1.37	-1.57	-1.41	-1.38	-1.68	-1.46
24	-0.75	-1.01	-0.86	-1.07	-1.32	-1.18	-1.07	-1.37	-1.22	-1.18	-1.38	-1.29
25	-0.65	-0.75	-0.72	-0.87	-1.07	-0.97	-0.92	-1.07	-1.01	-1.03	-1.18	-1.13
26	-0.50	-0.65	-0.60	-0.57	-0.87	-0.72	-0.66	-0.92	-0.80	-0.83	-1.03	-0.97
27	-0.50	-0.55	-0.52	-0.22	-0.57	-0.41	-0.31	-0.66	-0.52	-0.38	-0.88	-0.73
28	-0.50	-0.55	-0.54	-0.06	-0.27	-0.17	-0.11	-0.36	-0.26	-0.27	-0.73	-0.46
29	-0.45	-0.55	-0.50	-0.01	-0.06	-0.03	-0.01	-0.16	-0.06	-0.12	-0.38	-0.24
30	-0.55	-1.11	-0.69	0.04	-0.01	0.01	0.04	-0.06	0.02	-0.02	-0.22	-0.11
31	-1.11	-2.47	-1.87	0.09	0.04	0.05	0.04	-0.01	0.04	0.03	-0.12	-0.03
Month	-0.35	-2.47	-1.00	0.09	-1.77	-1.07	0.04	-1.77	-1.09	0.03	-1.78	-1.17

January 1994

Snow-Removed Area

(Recording Interval 10 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: -0cm			Depth: -10.0cm			Depth: -20.0cm			Depth: -30.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-15.82	-18.63	-17.42	-13.27	-14.52	-13.89	-10.11	-11.11	-10.71	-6.38	-7.38	-7.02
2	-15.67	-19.33	-17.68	-13.47	-15.42	-14.45	-10.96	-12.02	-11.43	-7.38	-8.14	-7.86
3	-14.31	-17.92	-16.40	-12.51	-14.52	-13.61	-10.31	-11.51	-11.00	-7.54	-8.14	-7.87
4	-16.82	-20.63	-18.50	-13.52	-16.23	-14.84	-10.61	-12.77	-11.75	-7.59	-9.10	-8.37
5	-20.58	-23.75	-22.12	-16.28	-19.04	-17.94	-12.77	-15.32	-14.39	-9.10	-11.27	-10.46
6	-21.44	-25.15	-23.47	-18.69	-20.49	-19.52	-15.32	-16.68	-16.05	-11.27	-12.48	-12.11
7	-21.34	-25.15	-23.40	-18.84	-20.84	-19.78	-15.98	-17.18	-16.54	-12.33	-13.19	-12.80
8	-20.03	-23.95	-22.25	-17.93	-20.04	-19.03	-15.42	-16.78	-16.13	-12.33	-13.09	-12.75
9	-19.53	-23.85	-21.48	-17.23	-19.84	-18.59	-14.97	-16.58	-15.89	-12.23	-13.09	-12.71
10	-11.40	-19.48	-15.06	-11.21	-17.23	-14.22	-10.46	-14.97	-12.88	-9.10	-12.23	-10.89
11	-8.99	-11.35	-9.89	-8.35	-11.16	-9.51	-7.66	-10.41	-8.81	-6.63	-9.10	-7.70
12	-8.44	-8.99	-8.71	-7.54	-8.35	-7.87	-6.65	-7.61	-7.07	-5.67	-6.63	-6.08
13	-7.34	-8.44	-7.84	-6.59	-7.49	-7.06	-5.95	-6.65	-6.32	-5.11	-5.67	-5.40
14	-7.14	-7.34	-7.19	-6.19	-6.59	-6.37	-5.50	-5.95	-5.69	-4.66	-5.11	-4.90
15	-6.98	-10.65	-7.71	-6.09	-8.05	-6.42	-5.30	-6.25	-5.47	-4.41	-4.71	-4.52
16	-10.70	-14.81	-13.49	-8.10	-12.46	-10.98	-6.25	-10.41	-8.79	-4.71	-8.14	-6.57
17	-12.81	-15.26	-14.27	-11.56	-13.17	-12.58	-10.36	-11.26	-10.90	-8.14	-9.20	-8.91
18	-11.25	-12.81	-11.85	-10.00	-11.51	-10.65	-8.91	-10.31	-9.53	-7.59	-8.80	-8.14
19	-11.05	-11.85	-11.54	-9.75	-10.15	-9.99	-8.61	-8.91	-8.77	-7.28	-7.59	-7.40
20	-9.39	-11.05	-10.08	-8.45	-9.75	-9.10	-7.61	-8.61	-8.12	-6.58	-7.28	-6.94
21	-9.19	-9.49	-9.32	-8.10	-8.45	-8.24	-7.10	-7.61	-7.35	-6.07	-6.58	-6.30
22	-9.49	-10.25	-9.84	-8.15	-8.60	-8.41	-7.10	-7.40	-7.27	-6.02	-6.12	-6.06
23	-9.44	-14.01	-10.56	-8.15	-10.81	-8.64	-7.10	-8.51	-7.32	-5.97	-6.43	-6.04
24	-10.50	-14.21	-12.36	-9.60	-11.51	-10.74	-8.51	-9.56	-9.21	-6.48	-7.79	-7.47
25	-8.89	-10.50	-9.61	-8.15	-9.60	-8.82	-7.45	-8.66	-8.03	-6.58	-7.54	-7.04
26	-8.24	-11.00	-8.90	-7.49	-8.80	-7.86	-6.80	-7.45	-7.07	-5.97	-6.58	-6.22
27	-11.05	-16.72	-13.40	-8.85	-13.27	-10.88	-7.35	-10.76	-9.00	-6.07	-8.44	-7.21
28	-13.26	-18.73	-16.16	-12.41	-15.47	-14.18	-10.81	-13.07	-12.25	-8.49	-10.72	-10.07
29	-11.80	-15.57	-13.16	-11.01	-12.66	-11.75	-10.01	-11.41	-10.62	-8.80	-10.06	-9.32
30	-14.41	-17.72	-16.05	-12.71	-14.82	-13.88	-10.81	-12.62	-12.06	-9.05	-10.51	-10.08
31	-15.21	-18.78	-17.14	-14.32	-16.03	-15.12	-12.52	-13.87	-13.31	-10.56	-11.62	-11.28
Month	-6.98	-25.15	-14.09	-6.09	-20.84	-12.09	-5.30	-17.18	-10.31	-4.41	-13.19	-8.27

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40.0cm			Depth: -50.0cm			Depth: -60.0cm			Depth: -70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.47	-3.37	-3.00	0.09	0.04	0.05	0.09	0.04	0.04	0.03	-0.07	0.01
2	-3.37	-4.08	-3.86	0.04	-0.77	-0.38	0.09	0.04	0.05	0.08	-0.02	0.03
3	-4.03	-4.38	-4.25	-0.77	-1.32	-1.10	0.09	0.04	0.07	0.08	0.03	0.04
4	-4.18	-5.44	-4.75	-1.32	-2.07	-1.69	0.14	0.09	0.10	0.13	0.08	0.08
5	-5.44	-7.15	-6.45	-2.07	-3.28	-2.72	0.19	0.09	0.14	0.13	0.08	0.11
6	-7.15	-8.26	-7.94	-3.28	-4.23	-3.88	0.19	-0.31	0.04	0.13	0.08	0.11
7	-8.26	-9.07	-8.79	-4.28	-5.09	-4.81	-0.31	-1.27	-0.84	0.13	0.03	0.09
8	-8.87	-9.32	-9.08	-5.09	-5.59	-5.38	-1.27	-2.02	-1.70	0.08	-0.02	0.05
9	-8.92	-9.52	-9.27	-5.49	-6.04	-5.82	-2.02	-2.72	-2.40	0.08	-0.12	0.00
10	-7.15	-9.17	-8.34	-5.04	-5.99	-5.62	-2.67	-2.82	-2.76	-0.02	-0.27	-0.12
11	-5.24	-7.10	-6.04	-3.88	-5.04	-4.37	-2.32	-2.72	-2.50	-0.17	-1.38	-0.51
12	-4.43	-5.24	-4.73	-3.38	-3.88	-3.57	-2.02	-2.52	-2.23	-0.43	-1.63	-0.84
13	-4.03	-4.43	-4.19	-3.13	-3.48	-3.28	-1.92	-2.57	-2.19	-0.58	-1.93	-1.07
14	-3.58	-4.03	-3.82	-2.83	-3.28	-3.00	-1.82	-2.37	-1.99	-0.58	-1.23	-0.85
15	-3.37	-3.58	-3.47	-2.63	-2.83	-2.72	-1.72	-1.87	-1.78	-0.63	-0.93	-0.79
16	-3.48	-6.05	-4.66	-2.68	-4.23	-3.34	-1.77	-2.57	-2.13	-0.63	-0.98	-0.84
17	-6.05	-7.10	-6.79	-4.23	-5.19	-4.90	-2.57	-3.33	-3.03	-0.98	-1.38	-1.23
18	-6.10	-6.95	-6.47	-4.73	-5.19	-4.91	-3.12	-3.38	-3.23	-1.08	-2.03	-1.49
19	-5.79	-6.10	-5.88	-4.43	-4.73	-4.52	-3.02	-3.23	-3.13	-1.53	-1.98	-1.66
20	-5.34	-5.79	-5.57	-4.23	-4.48	-4.35	-2.97	-3.12	-3.07	-1.58	-2.03	-1.75
21	-4.84	-5.34	-5.07	-3.78	-4.23	-3.98	-2.62	-3.07	-2.79	-1.38	-1.78	-1.51
22	-4.73	-4.84	-4.75	-3.68	-3.78	-3.70	-2.52	-2.62	-2.55	-1.28	-1.48	-1.34
23	-4.68	-4.94	-4.72	-3.63	-3.83	-3.68	-2.52	-2.77	-2.59	-1.33	-1.78	-1.49
24	-4.94	-6.15	-5.79	-3.83	-4.94	-4.43	-2.77	-3.68	-3.16	-1.63	-2.43	-1.96
25	-5.49	-6.15	-5.83	-4.53	-4.94	-4.69	-3.33	-3.68	-3.48	-1.98	-2.48	-2.21
26	-4.94	-5.49	-5.17	-4.08	-4.53	-4.24	-3.07	-3.48	-3.23	-1.88	-2.38	-2.16
27	-4.99	-6.50	-5.64	-4.08	-5.09	-4.45	-3.12	-3.83	-3.32	-1.88	-2.63	-2.22
28	-6.55	-8.56	-7.93	-5.14	-6.69	-6.06	-3.83	-5.03	-4.35	-2.33	-3.29	-2.74
29	-7.36	-8.41	-7.81	-5.94	-6.69	-6.28	-4.43	-5.03	-4.67	-2.78	-3.29	-2.98
30	-7.41	-8.56	-8.11	-5.94	-6.69	-6.34	-4.48	-4.98	-4.62	-2.73	-3.24	-2.94
31	-8.56	-9.52	-9.20	-6.69	-7.40	-7.18	-4.98	-5.33	-5.22	-3.13	-3.29	-3.25
Month	-2.47	-9.52	-6.04	0.09	-7.40	-4.04	0.19	-5.33	-2.34	0.13	-3.29	-1.14

February 1994

Snow-Removed Area

(Recording Interval 10 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -10.0cm			Depth: -20.0cm			Depth: -30.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-16.57	-19.73	-18.12	-15.42	-16.98	-16.09	-13.62	-14.77	-14.26	-11.47	-12.48	-12.14
2	-15.37	-18.33	-17.06	-14.37	-15.98	-15.35	-13.17	-14.27	-13.81	-11.52	-12.23	-11.98
3	-16.77	-20.43	-18.53	-15.62	-17.48	-16.40	-13.72	-15.12	-14.51	-11.67	-12.73	-12.37
4	-15.42	-19.68	-17.82	-14.37	-17.28	-16.19	-13.27	-15.22	-14.57	-11.88	-12.99	-12.65
5	-13.51	-15.42	-14.52	-12.61	-14.37	-13.36	-11.62	-13.27	-12.29	-10.31	-11.88	-11.00
6	-14.21	-16.82	-15.22	-13.12	-14.72	-13.85	-11.82	-12.97	-12.49	-10.36	-11.22	-10.88
7	-13.46	-14.51	-14.03	-12.31	-13.12	-12.77	-11.16	-12.07	-11.66	-9.91	-10.77	-10.37
8	-12.71	-13.96	-13.38	-11.56	-12.36	-12.10	-10.56	-11.16	-10.99	-9.40	-9.91	-9.71
9	-12.45	-15.72	-13.25	-11.31	-13.07	-11.67	-10.26	-11.16	-10.48	-9.10	-9.40	-9.23
10	-13.66	-17.72	-15.43	-12.91	-15.17	-13.85	-11.21	-13.12	-12.30	-9.45	-11.07	-10.54
11	-10.55	-14.21	-12.19	-10.25	-13.07	-11.72	-9.76	-11.92	-10.99	-9.10	-10.51	-9.97
12	-9.29	-10.55	-9.90	-8.90	-10.25	-9.51	-8.41	-9.76	-9.04	-7.74	-9.10	-8.36
13	-8.24	-9.29	-8.70	-7.80	-8.85	-8.30	-7.40	-8.41	-7.85	-6.78	-7.74	-7.25
14	-6.93	-8.24	-7.65	-6.79	-7.80	-7.36	-6.50	-7.40	-6.97	-6.07	-6.78	-6.45
15	-6.13	-6.93	-6.50	-6.04	-6.79	-6.38	-5.75	-6.50	-6.13	-5.42	-6.07	-5.73
16	-5.63	-6.13	-5.88	-5.44	-6.04	-5.71	-5.20	-5.75	-5.46	-4.86	-5.37	-5.12
17	-5.18	-5.63	-5.40	-4.99	-5.44	-5.22	-4.70	-5.20	-4.96	-4.36	-4.86	-4.59
18	-4.93	-5.18	-5.04	-4.63	-4.99	-4.79	-4.35	-4.70	-4.51	-4.00	-4.36	-4.17
19	-4.73	-4.93	-4.85	-4.38	-4.63	-4.50	-4.10	-4.35	-4.21	-3.75	-4.00	-3.87
20	-4.68	-4.73	-4.72	-4.28	-4.38	-4.34	-3.95	-4.10	-4.03	-3.60	-3.75	-3.68
21	-4.68	-4.98	-4.77	-4.23	-4.33	-4.28	-3.90	-4.00	-3.94	-3.55	-3.70	-3.57
22	-4.63	-5.13	-4.94	-4.33	-4.48	-4.42	-3.95	-4.05	-4.02	-3.55	-3.60	-3.57
23	-3.87	-4.63	-4.30	-3.93	-4.33	-4.17	-3.80	-4.05	-3.92	-3.50	-3.60	-3.58
24	-3.47	-3.92	-3.73	-3.53	-3.93	-3.73	-3.44	-3.80	-3.61	-3.30	-3.50	-3.40
25	-3.12	-3.52	-3.34	-3.18	-3.53	-3.35	-3.04	-3.39	-3.21	-2.99	-3.30	-3.12
26	-2.92	-3.97	-3.31	-2.98	-3.28	-3.13	-2.79	-3.04	-2.95	-2.79	-2.99	-2.87
27	-4.02	-6.23	-4.91	-3.08	-4.28	-3.83	-2.79	-3.39	-3.18	-2.74	-2.89	-2.79
28	-3.77	-4.93	-4.34	-3.58	-3.98	-3.82	-3.29	-3.44	-3.37	-2.89	-2.99	-2.96
Month	-2.92	-20.43	-9.35	-2.98	-17.48	-8.58	-2.79	-15.22	-7.85	-2.74	-12.99	-7.80

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40.0cm			Depth: -50.0cm			Depth: -60.0cm			Depth: -70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-9.42	-10.18	-9.90	-7.40	-7.95	-7.74	-5.33	-5.79	-5.61	-3.29	-3.59	-3.45
2	-9.62	-10.08	-9.93	-7.70	-7.95	-7.87	-5.74	-5.84	-5.81	-3.59	-3.69	-3.65
3	-9.67	-10.43	-10.16	-7.70	-8.25	-7.99	-5.69	-6.19	-5.90	-3.64	-3.99	-3.77
4	-10.18	-10.73	-10.55	-8.25	-8.55	-8.43	-6.19	-6.54	-6.35	-3.99	-4.54	-4.25
5	-8.87	-10.18	-9.45	-7.40	-8.35	-7.82	-5.89	-6.44	-6.13	-4.24	-4.49	-4.33
6	-8.87	-9.37	-9.17	-7.35	-7.70	-7.51	-5.74	-6.09	-5.88	-4.04	-4.44	-4.22
7	-8.56	-9.27	-8.91	-7.19	-7.70	-7.43	-5.84	-6.09	-5.92	-4.19	-4.44	-4.32
8	-8.06	-8.56	-8.33	-6.79	-7.19	-6.97	-5.48	-5.84	-5.60	-4.04	-4.34	-4.18
9	-7.71	-8.06	-7.87	-6.44	-6.79	-6.61	-5.23	-5.53	-5.34	-3.94	-4.19	-4.03
10	-7.81	-9.17	-8.76	-6.54	-7.50	-7.14	-5.28	-6.04	-5.63	-3.99	-4.49	-4.14
11	-8.01	-9.02	-8.67	-6.89	-7.55	-7.32	-5.74	-6.04	-5.92	-4.34	-4.54	-4.43
12	-6.85	-8.01	-7.41	-6.04	-6.89	-6.44	-5.08	-5.74	-5.36	-4.04	-4.44	-4.19
13	-6.05	-6.85	-6.43	-5.29	-6.04	-5.64	-4.43	-5.08	-4.74	-3.59	-4.04	-3.78
14	-5.44	-6.05	-5.74	-4.83	-5.29	-5.06	-4.08	-4.43	-4.26	-3.34	-3.64	-3.47
15	-4.84	-5.44	-5.14	-4.28	-4.78	-4.55	-3.68	-4.08	-3.89	-2.98	-3.34	-3.19
16	-4.28	-4.84	-4.55	-3.78	-4.28	-4.02	-3.18	-3.68	-3.41	-2.58	-2.98	-2.75
17	-3.83	-4.28	-4.06	-3.38	-3.78	-3.58	-2.82	-3.18	-3.01	-2.23	-2.58	-2.40
18	-3.53	-3.83	-3.68	-3.08	-3.38	-3.24	-2.57	-2.82	-2.71	-2.03	-2.23	-2.16
19	-3.27	-3.53	-3.41	-2.88	-3.08	-2.99	-2.42	-2.57	-2.50	-1.98	-2.03	-2.02
20	-3.12	-3.27	-3.23	-2.78	-2.88	-2.83	-2.37	-2.42	-2.41	-1.93	-1.98	-1.98
21	-3.12	-3.37	-3.15	-2.78	-2.83	-2.78	-2.37	-2.42	-2.38	-1.93	-2.03	-1.98
22	-3.12	-3.17	-3.14	-2.78	-2.83	-2.78	-2.37	-2.42	-2.41	-1.98	-2.03	-2.03
23	-3.17	-3.17	-3.17	-2.83	-2.83	-2.83	-2.42	-2.42	-2.42	-2.03	-2.08	-2.06
24	-2.97	-3.17	-3.07	-2.68	-2.83	-2.76	-2.32	-2.42	-2.38	-1.98	-2.08	-2.03
25	-2.77	-2.97	-2.86	-2.47	-2.68	-2.58	-2.17	-2.32	-2.24	-1.88	-1.98	-1.92
26	-2.57	-2.77	-2.66	-2.32	-2.47	-2.39	-2.02	-2.17	-2.09	-1.73	-1.88	-1.80
27	-2.37	-2.57	-2.47	-2.12	-2.32	-2.21	-1.87	-2.02	-1.94	-1.63	-1.73	-1.67
28	-2.52	-2.62	-2.57	-2.22	-2.37	-2.25	-1.87	-1.92	-1.91	-1.58	-1.63	-1.59
Month	-2.37	-10.73	-6.01	-2.12	-8.55	-5.06	-1.87	-6.54	-4.08	-1.58	-4.54	-3.06

March 1994

Snow-Removed Area

(Recording Interval 10 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: -10.0cm			Depth: -20.0cm			Depth: -30.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-3.32	-4.07	-3.70	-3.23	-3.58	-3.45	-3.04	-3.29	-3.19	-2.79	-2.99	-2.89
2	-3.02	-3.82	-3.43	-3.03	-3.28	-3.19	-2.89	-3.04	-2.99	-2.64	-2.79	-2.74
3	-3.42	-4.07	-3.74	-3.03	-3.28	-3.20	-2.89	-2.89	-2.89	-2.59	-2.64	-2.62
4	-3.92	-5.18	-4.40	-3.28	-3.68	-3.48	-2.89	-3.04	-2.98	-2.59	-2.64	-2.60
5	-5.18	-5.78	-5.46	-3.68	-4.33	-4.17	-3.04	-3.60	-3.39	-2.59	-2.94	-2.75
6	-4.48	-5.48	-5.00	-4.03	-4.38	-4.24	-3.60	-3.70	-3.67	-2.94	-3.15	-3.05
7	-4.17	-4.48	-4.31	-3.83	-4.03	-3.91	-3.44	-3.60	-3.54	-3.09	-3.30	-3.13
8	-4.22	-4.58	-4.42	-3.83	-4.03	-3.93	-3.44	-3.60	-3.53	-3.04	-3.15	-3.12
9	-4.02	-4.32	-4.19	-3.83	-3.93	-3.89	-3.55	-3.60	-3.58	-3.15	-3.20	-3.19
10	-3.97	-4.07	-4.02	-3.78	-3.83	-3.79	-3.49	-3.55	-3.52	-3.15	-3.20	-3.20
11	-3.97	-4.12	-4.05	-3.68	-3.78	-3.75	-3.44	-3.49	-3.49	-3.15	-3.20	-3.15
12	-3.52	-3.97	-3.78	-3.48	-3.68	-3.62	-3.39	-3.49	-3.44	-3.15	-3.25	-3.20
13	-2.62	-3.52	-3.38	-3.03	-3.48	-3.35	-2.99	-3.39	-3.23	-2.74	-3.25	-3.06
14	-3.22	-3.47	-3.35	-3.18	-3.28	-3.24	-3.04	-3.89	-3.07	-2.74	-2.84	-2.81
15												
16	-2.77	-3.12	-2.94	-2.78	-2.98	-2.87	-2.74	-2.94	-2.81	-2.39	-2.69	-2.50
17	-2.67	-2.97	-2.83	-2.68	-2.93	-2.80	-2.64	-2.89	-2.75	-2.54	-2.79	-2.68
18	-2.72	-2.82	-2.77	-2.68	-2.78	-2.74	-2.64	-2.74	-2.70	-2.64	-2.74	-2.66
19	-2.57	-2.72	-2.62	-2.58	-2.73	-2.64	-2.49	-2.64	-2.57	-2.44	-2.64	-2.53
20	-2.57	-2.62	-2.59	-2.53	-2.63	-2.58	-2.44	-2.54	-2.49	-2.44	-2.59	-2.48
21	-2.57	-2.62	-2.60	-2.48	-2.63	-2.57	-2.19	-2.54	-2.46	-2.19	-2.54	-2.43
22	-2.47	-2.62	-2.53	-2.48	-2.53	-2.50	-2.14	-2.19	-2.16	-1.98	-2.14	-2.07
23	-2.42	-2.62	-2.53	-2.48	-2.58	-2.52	-2.14	-2.24	-2.19	-1.98	-2.04	-2.01
24	-1.92	-2.42	-2.29	-2.38	-2.53	-2.47	-2.19	-2.24	-2.23	-1.98	-2.04	-2.02
25	-1.97	-2.27	-2.14	-2.33	-2.38	-2.33	-2.09	-2.24	-2.17	-1.98	-2.04	-2.03
26	-2.27	-2.32	-2.30	-2.28	-2.33	-2.32	-1.99	-2.09	-2.08	-1.88	-1.98	-1.93
27	-2.32	-2.52	-2.45	-2.28	-2.38	-2.33	-1.99	-2.04	-2.02	-1.83	-1.88	-1.84
28	-2.52	-2.62	-2.57	-2.33	-2.38	-2.36	-2.04	-2.09	-2.07	-1.83	-1.93	-1.89
29	-2.57	-2.62	-2.60	-2.33	-2.38	-2.36	-2.09	-2.09	-2.09	-1.88	-1.93	-1.90
30	-2.62	-2.77	-2.68	-2.33	-2.48	-2.42	-2.09	-2.19	-2.15	-1.88	-1.93	-1.90
31	-2.72	-2.87	-2.82	-2.48	-2.58	-2.52	-2.19	-2.34	-2.29	-1.88	-1.98	-1.94
Month	-1.92	-5.78	-3.28	-2.28	-4.38	-3.05	-1.99	-3.70	-2.79	-1.83	-3.30	-2.54

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: -40.0cm			Depth: -50.0cm			Depth: -60.0cm			Depth: -70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.47	-2.62	-2.55	-2.17	-2.27	-2.21	-1.82	-1.92	-1.86	-1.48	-1.58	-1.54
2	-2.37	-2.52	-2.42	-2.07	-2.17	-2.12	-1.72	-1.82	-1.76	-1.43	-1.53	-1.45
3	-2.27	-2.37	-2.31	-1.97	-2.07	-2.01	-1.67	-1.72	-1.69	-1.33	-1.43	-1.38
4	-2.22	-2.27	-2.26	-1.92	-1.97	-1.96	-1.57	-1.67	-1.64	-1.33	-1.38	-1.34
5	-2.27	-2.42	-2.31	-1.92	-2.07	-1.99	-1.62	-1.77	-1.68	-1.33	-1.53	-1.42
6	-2.42	-2.67	-2.55	-2.07	-2.32	-2.19	-1.77	-1.97	-1.88	-1.53	-1.73	-1.61
7	-2.62	-2.97	-2.72	-2.27	-2.42	-2.37	-1.97	-2.07	-2.05	-1.73	-1.78	-1.76
8	-2.72	-2.77	-2.73	-2.37	-2.47	-2.40	-2.07	-2.12	-2.07	-1.73	-1.83	-1.77
9	-2.77	-2.87	-2.82	-2.47	-2.53	-2.48	-2.12	-2.17	-2.12	-1.78	-1.83	-1.81
10	-2.82	-2.87	-2.84	-2.53	-2.58	-2.54	-2.17	-2.27	-2.21	-1.83	-1.83	-1.83
11	-2.82	-2.82	-2.82	-2.47	-2.53	-2.48	-2.12	-2.27	-2.19	-1.83	-1.98	-1.89
12	-2.77	-3.07	-2.93	-2.47	-2.93	-2.70	-2.17	-3.63	-2.89	-1.83	-3.39	-2.62
13	-2.42	-3.07	-2.88	-1.27	-3.23	-2.69	-0.46	-3.48	-2.47	-0.58	-3.44	-2.30
14	-2.42	-2.57	-2.51	-1.97	-2.17	-2.13	-0.61	-1.72	-1.42	-0.58	-1.33	-0.89
15												
16	-2.11	-2.32	-2.21	-1.92	-2.02	-1.96	-1.57	-1.67	-1.61	-1.23	-1.33	-1.27
17	-2.16	-2.27	-2.23	-1.97	-2.07	-2.01	-1.62	-1.72	-1.66	-1.28	-1.33	-1.31
18	-2.27	-2.47	-2.35	-1.97	-2.12	-2.05	-1.72	-1.87	-1.77	-1.33	-1.48	-1.38
19	-2.32	-2.47	-2.37	-1.77	-2.12	-1.97	-1.77	-1.92	-1.84	-1.28	-1.48	-1.34
20	-2.42	-2.52	-2.45	-1.77	-2.42	-2.01	-1.67	-1.82	-1.73	-1.28	-1.38	-1.30
21	-2.11	-2.62	-2.43	-2.07	-2.52	-2.33	-1.72	-2.22	-1.94	-1.38	-2.18	-1.81
22	-1.91	-2.11	-1.96	-1.57	-2.07	-1.82	-1.52	-2.07	-1.81	-1.53	-2.03	-1.80
23	-1.71	-1.91	-1.82	-1.57	-1.72	-1.62	-0.66	-1.52	-1.15	-0.68	-1.53	-1.19
24	-1.76	-1.91	-1.84	-1.57	-1.72	-1.68	-0.66	-1.37	-1.06	-0.63	-0.78	-0.72
25	-1.81	-1.91	-1.89	-1.62	-1.72	-1.69	-1.12	-1.17	-1.14	-0.78	-1.03	-0.96
26	-1.66	-1.81	-1.73	-1.42	-1.62	-1.53	-1.02	-1.17	-1.10	-0.98	-1.03	-1.01
27	-1.61	-1.71	-1.65	-1.42	-1.52	-1.46	-1.02	-1.17	-1.09	-0.98	-1.08	-1.01
28	-1.61	-1.66	-1.64	-1.42	-1.47	-1.44	-0.97	-1.07	-1.04	-0.98	-1.23	-1.12
29	-1.56	-1.66	-1.63	-1.42	-1.47	-1.45	-0.92	-0.97	-0.96	-1.23	-1.23	-1.23
30	-1.56	-1.66	-1.62	-1.42	-1.52	-1.46	-0.92	-1.02	-0.96	-1.13	-1.23	-1.20
31	-1.66	-1.76	-1.72	-1.52	-1.67	-1.62	-0.97	-1.02	-1.00	-1.08	-1.13	-1.10
Month	-1.56	-3.07	-2.27	-1.27	-3.23	-2.01	-0.46	-3.63	-1.66	-0.58	-3.44	-1.44

April 1994

Snow-Removed Area

(Recording Interval 10 min)

Date	Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)			Ice Temperature (degrees C)		
	Depth: 0cm			Depth: 10.0cm			Depth: 20.0cm			Depth: 30.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-2.77	-2.87	-2.827	-2.48	-2.53	-2.499	-2.29	-2.34	-2.336	-1.98	-2.09	-2.039
2	-2.62	-2.77	-2.684	-2.43	-2.48	-2.451	-2.29	-2.34	-2.299	-1.93	-2.04	-1.994
3	-2.52	-2.62	-2.573	-2.33	-2.43	-2.377	-2.24	-2.29	-2.271	-1.98	-1.98	-1.98
4	-2.42	-2.52	-2.448	-2.28	-2.33	-2.322	-2.19	-2.24	-2.212	-1.98	-1.98	-1.98
5	-2.32	-2.42	-2.383	-2.23	-2.28	-2.262	-2.14	-2.19	-2.164	-1.93	-1.98	-1.960
6	-2.27	-2.32	-2.313	-2.18	-2.23	-2.201	-2.09	-2.14	-2.100	-1.93	-1.93	-1.93
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Month	-2.27	-2.87	-2.54	-2.18	-2.53	-2.35	-2.09	-2.34	-2.23	-1.93	-2.09	-1.98

Date	Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)			Water Temperature (degrees C)		
	Depth: 40.0cm			Depth: 50.0cm			Depth: 60.0cm			Depth: 70.0cm		
	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
1	-1.76	-1.86	-1.808	-1.62	-1.67	-1.666	-1.02	-1.17	-1.058	-1.08	-1.13	-1.111
2	-1.71	-1.81	-1.754	-1.52	-1.62	-1.566	-1.02	-1.17	-1.084	-1.13	-1.28	-1.189
3	-1.71	-1.76	-1.752	-1.52	-1.62	-1.573	-1.07	-1.12	-1.117	-1.28	-1.33	-1.308
4	-1.76	-1.81	-1.785	-1.62	-1.62	-1.62	-1.12	-1.22	-1.174	-1.33	-1.38	-1.351
5	-1.71	-1.81	-1.774	-1.52	-1.62	-1.591	-1.02	-1.17	-1.104	-1.13	-1.38	-1.264
6	-1.71	-1.71	-1.71	-1.52	-1.52	-1.52	-1.02	-1.07	-1.023	-1.13	-1.13	-1.13
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Month	-1.71	-1.86	-1.76	-1.52	-1.67	-1.59	-1.02	-1.22	-1.09	-1.08	-1.38	-1.23