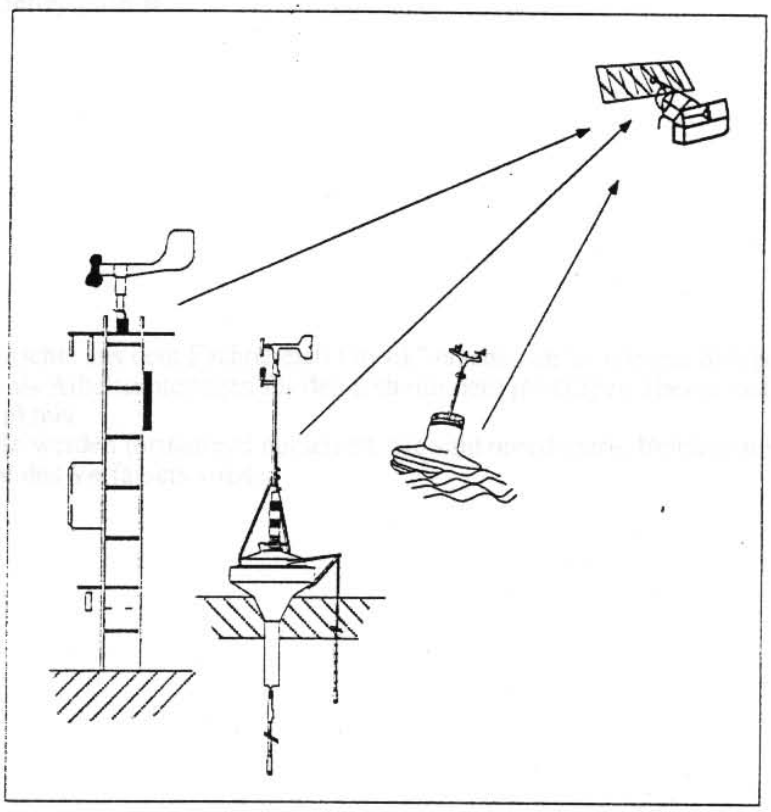
AWI

Berichte aus dem Fachbereich Physik



Meereisbojen und automatische Wetterstationen 1991 - 1996 / Datendokumentation

Sea ice buoys and automatic weather stations 1991-1996 / data documentation

Autoren: **L. Sellmann**
Ch. Kottmeier
J. Lüdemann

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Alfred - Wegener - Institut
für Polar - und Meeresforschung
Am Handelshafen 12
Postfach 120161
D-27570 Bremerhaven

Tel.: 0471/4831-0
Fax.: 0471/4831/425
Tlx.: 238695 polar d

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Autoren :

Lutz Sellmann
Christoph Kottmeier
Jens Lüdemann
Alfred-Wegener-Institut für Polar- und
Meeresforschung
Bremerhaven, Germany

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Introduction

The Alfred Wegener Institute for Polar and Marine Research (AWI) operates drifting buoys on sea ice and automatic weather stations (AWS) on continental surfaces since a number of years in the Arctic and Antarctic. This report presents the data form the years 1991 to 1996. The buoys were deployed from onboard the German research vessel "Polarstern" and the US-American icebreaker "Nathaniel B. Palmer", as well as by Norvegian and US-American aircraft.
The observational programs were partly performed within the research project "Physical processes in the Antarctic sea ice zone" of the AWI and University of Bremen, funded by the German Ministry for Education and Research (BMBF). Different measurements contributed to the "Antarctic Flux Experiment (ANZFLUX)", to the "WCRP-International Program for Antarctic Buoys (IPAB)" and to the "International Arctic Buoy Program (IABP)". Common objectives of the measurements are investigations of the interaction between the ocean, the sea ice and the atmosphere, as well as of the energy and mass balances of the Greenland ice sheet and of the Filchner-Ronne iceshelf.
The measured data are transmitted to the Global Telecommunication System (GTS) of the World Meteorological Organisation (WMO) by CLS Argos on a regular basis and thus are available for atmospheric analyses and forecasts of the Numerical Forecast Centers (NMC). An overview of the periods of operation, the launching and final positions, and of the sensors used with the buoys and the automatic weather stations in given in Table 1.

Buoy and AWS description

The buoys and AWS were produced by different manufacturers in basically three configurations:

- meteorological/oceanographic buoys with sensors for air pressure, air temperature, snow height, and sea ice and ocean temperatures
- meteorological buoys with sensors for air pressure and temperature, partly also for wind vector and air humidity,
- AWS with sensors for air pressure, air temperature, wind vector, air humidity and snow height.

The general mechanical design and the sensor equipment of the buoys and AWS is given in Fig. 1a - 1c. The sensor specifications and measurement ranges can be obtained from the data sheets.
The buoys are identified by their Argos numbers. Instruments were calibrated by the manufacturers. Additionally, the data from different instruments were compared with each other and with the ship`s weather station during test runs before deployment. A full description of the automatic stations is published as separate report (Ch. Kottmeier, J. Luedemann: Sea Ice Buoys and Automatic Weather Stations of the German Polar Research from 1986-1995 - Technical Description, AWI Berichte aus dem Fachbereich Physik, Report 69, May 1996.)

Data Analysis

The automatic stations and buoys are positioned and the data are transmitted by means of the Argos system, which makes use of two polar-orbiting NOAA-satellites. The satellites need 102 minutes for one orbit, providing 20 - 28 satellite contacts for polar stations. Every 90 or 200 seconds buoys transmit data, consisting of up to thirty-two 8-bit words for measurements and the identification. The data received by the satellites are transmitted via ground receiving stations to CLS Argos in Toulouse, France. CLS Argos converts the data to physical units and calculates positions from the Doppler shift of transmitter frequencies. Since 1994 new buoys carry Global Positioning System (GPS) receivers, whose data are part of the data transmission. GPS-positions are more accurate and more frequent than Argos-positions. Monthly collections of transmitted data and derived positions are mailed on magnetic tapes to the Alfred Wegener Institute by CLS Argos.

The data are processed at the AWI in several steps. Data are read from the tapes and assigned to the different instruments. Only the data set with the largest number of identical transmissions within a satellite pass is saved. Oceanic, sea ice and atmospheric data are stored in separate files for each month and instrument. Data files are written using a standard format with empty places for additional measurements and derived quantities. A replacement value (888.88) is assigned to missing data. All data are checked with respect to the permitted sensor ranges and outliers are found by objective methods and graphical editing. Erroneous data are flagged by replacement values. Using linear interpolation, regularly spaced time series are generated, which have a time resolution of 3 hours. Long gaps are not filled by linear interpolation.

Correct depths need to be calculated for ocean thermistor data, since the catenary of the ocean thermistor chain varies with the ice drift speed relative to the mean ocean current. The method of the University of Hannover (see Research Report 1990 of the BMBF-project 07KF001B) is applied for this purpose. The correction method is based on the catenary curve shapes of a similar thermistor string for different ice drift speeds between 0.2 and 0.7 m/s . The observed pressure at the lower end of the 250m-string provides information on the depth of the bottom sensor. The standard correction scheme assumes a minumum height of the 250m-sensor of 197.5 m at 0.7 m/s. Minimum heights of 250m-sensor of the AWI-thermistor strings were less than 197.5 m, however. The catenary curves were extrapolated to higher drift speeds therefore. The conductivity-temperature-depth-sensors (CTD) of the buoys deployed in 1992 partly failed quite early. The catenary was determined from the 50m-depth measurements and, when both CTDs failed, from the drift speeds alone.

Ocean salinities are calculated from the CTD-data according to the Practical Salinity Scale (Unesco, 1981). Shortly before or after deployment of ocean-buoys ships-CTD-profiles were obtained for comparison. Considerable differences were found between the CTD-data from the buoys and the profiling ship-system. In the here presented data the biases are not removed, so the salinities and densities can be used only qualitatively.

Data presentation

Data from buoys and automatic weather stations are presented separately for the Arctic and Antarctic and for different years (1991- 1996). The report comprises trajectories, timeseries and temperature profiles. The figures and the monthly statistics of meteorological data are based on the interpolated data with three-hourly resolution.

The ice drift is reflected by trajectories, based on daily positions (first position each day).

The time series comprise air pressure and temperature, humidity, wind speed and direction, and snow height. Only one air temperature is shown from weather stations and buoys which carrying two air temperature sensors, because the temperature differences usually were very small. The three monthly time series of buoy-CTDs give ocean temperature, pressure and salinity. Gaps in the figures are due to sensor failures like freezing of wind sensors, out-of-range data, and, e.g., the temperature-dependent failure of pressure measurements with the weather station 3317.

Sea ice and ocean thermistor data are presented as daily temperature profiles. If the ice thickness was less than the length of the thermistor string, the upper sensors give air temperatures and the lower sensors reflect ocean temperatures. Each sensor is marked by a dot. Dashed lines interpolate across missing sensors.

Monthly statistics give mean positions, mean meteorological data and mean ice drift in the first line. The second line provides rms-deviations of the same quantities. Winds and ice drift are vector-averaged (u=-west,+east; v=-south, +north). Scalar averages of ice drift speeds and wind speeds are denoted by spd-drift and spd-wind. Temperature profiles and CTD-data are not evaluated statistically, since they are from different depths.

Antarctic

Buoys:

Argos ID	Deployment Date	Position		Stop Date	Position		Sensors
8055	08.02.91	73.579S	26.088W	21.09.91	67.070S	35.955W	P
9360	12.02.91	71.466S	19.863W	19.05.91	69.305S	27.112W	P,Ta,Tw,Ti,Sd
9353	14.02.91	71.014S	20.983W	08.05.92	61.108S	41.038E	P,Ta
9354	14.02.91	72.337S	20.780W	09.05.92	53.350S	2.400E	P,Ta
9363	24.01.92	75.064S	59.235W	22.09.92	68.220S	60.582W	P,Ta,Tw,Ti,Sd,C
9356	25.01.92	74.380S	60.608W	05.09.92	69.357S	60.879W	P,Ta
9357	25.01.92	75.120S	58.732W	22.06.94	60.703S	40.599E	P,Ta
9359	25.01.92	75.094S	55.265W	18.05.93	60.749S	45.697W	P,Ta
9362	26.01.92	75.615S	55.251W	03.03.92	74.012S	59.186W	P,Ta,Tw,Ti,Sd,C
9358	12.04.92	69.893S	7.453W	24.08.93	56.716S	77.936E	P,Ta
9365	10.07.92	69.236S	25.034W	28.01.93	62.908S	12.359W	P,Ta,Tw,Ti,Sd,C
9368	10.07.92	69.639S	26.157W	26.05.94	69.309S	128.952W	P,Ta
9369	10.07.92	69.655S	23.711W	08.07.94	60.125S	96.563W	P,Ta
9364	11.07.92	68.721S	26.313W	14.12.92	64.050S	8.968W	P,Ta,Tw,Ti,Sd,C
9366	11.07.92	68.245S	27.558W	08.07.94	65.325S	110.794W	P,Ta
9367	11.07.92	68.244S	24.935W	26.01.93	58.322S	10.211W	P,Ta
8056	29.04.94	68.740S	12.736E	02.11.94	68.004S	18.248W	P,Ta,GPS
8057	18.07.94	65.197S	5.029W	27.09.94	62.313S	8.789E	P,Ta,GPS
8058	18.07.94	66.087S	5.016W	02.11.94	62.189S	7.998E	P,Ta,GPS
8059	20.07.94	66.971S	7.290W	19.09.94	65.885S	3.793W	P,Ta,GPS
8060	20.07.94	67.883S	5.035W	24.08.95	56.570S	40.652E	P,Ta,GPS
8061	19.07.94	66.928S	2.746W	05.09.94	65.389S	1.384E	P,Ta,GPS
9364	30.07.94	66.903S	6.934W	16.09.94	65.613S	0.084W	P,Ta,Tw,Ti,Sd,C
8064	11.02.95	75.870S	46.181W	04.12.95	62.728S	43.973W	P
14954	11.02.95	75.178S	51.176W	15.06.95	69.212S	54.751W	P,Ta,GPS
14955	11.02.95	74.581S	47.848W	11.01.96	60.922S	33.173W	P,Ta,GPS
14956	11.02.95	75.968S	49.354W	31.07.96	55.652S	15.159E	P,Ta,GPS
14957	16.02.95	74.713S	57.327W	31.05.96	62.522S	56.116W	P,Ta,GPS
14958	16.02.95	73.906S	60.001W	08.03.95	72.933S	59.768W	P,Ta,GPS
14959	16.02.95	73.809S	57.366W	19.03.95	72.591S	57.601W	P,Ta,GPS
3313	16.02.95	74.609S	60.829W	06.03.95	73.616S	60.285W	P,Ta,H,W,Sd

Automatic Weather Stations:

Argos ID	Position Lat.	Lon	Heigth a. msl	Start Date	Stop Date	Sensors
3315	77.087S	50.214W	40m	Jan. 90	22.05.94	P,2Ta,W
3317	72.879S	19.021W	35m	02.02.92	05.03.95	P,2Ta,W,Sd
3310	72.870S	19.048W	34m	18.01.95		P,2Ta,W,H
3312	77.071S	50.109W	40m	06.02.95	30.03.96	P,2Ta,W,H
14953	83.167S	59.583W	165m	02.02.95	17.07.95	P,2Ta,W,H,Sd

Tab.1: List of the buoys and automatic weather stations operated from 1991 to 1996 in the Antarctic
(legende for the sensors see next page)

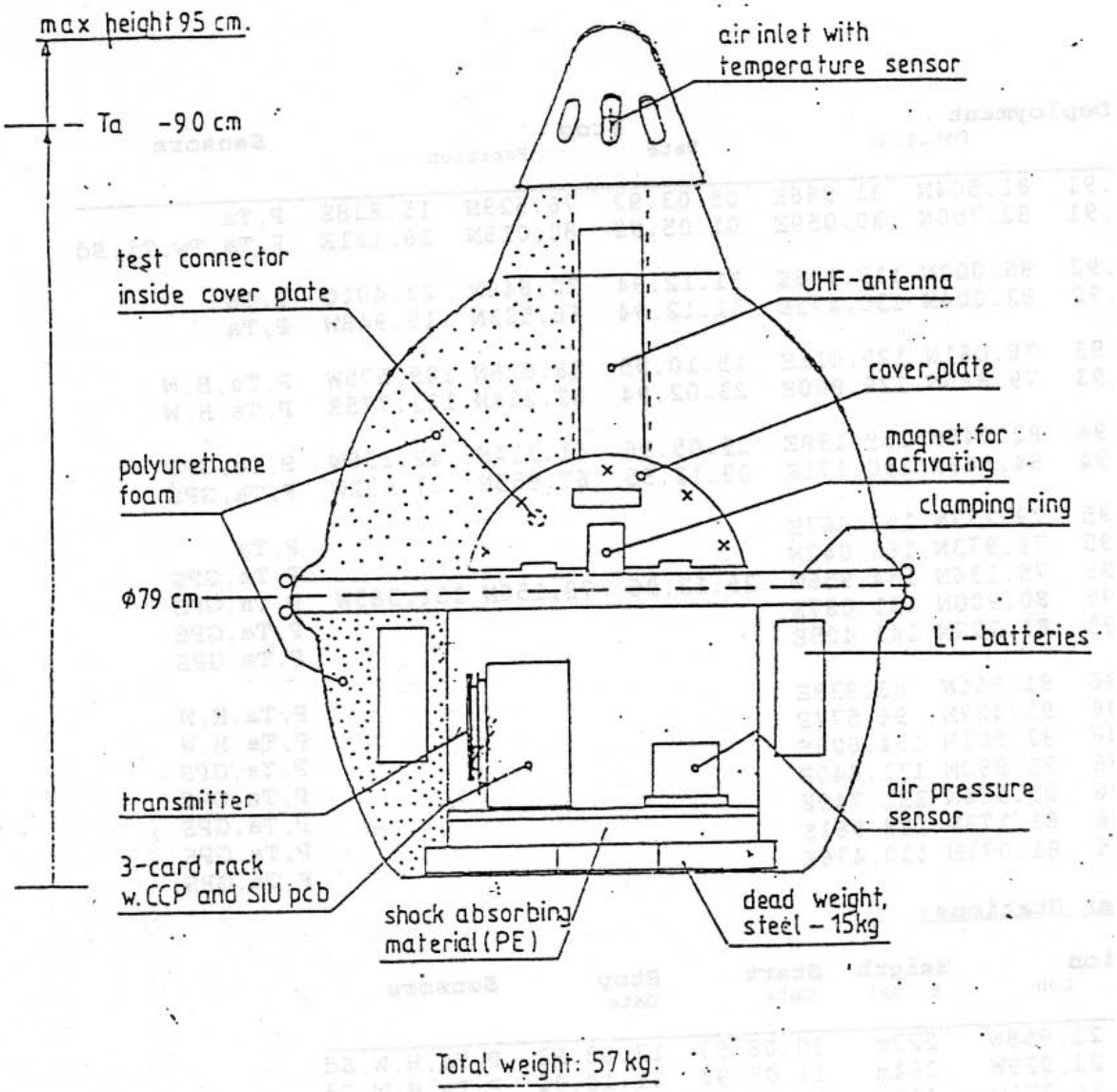


Fig 1a: Layout of a meteorological buoy (SimTronix, Norway).
Sensors: air temperature and air pressure

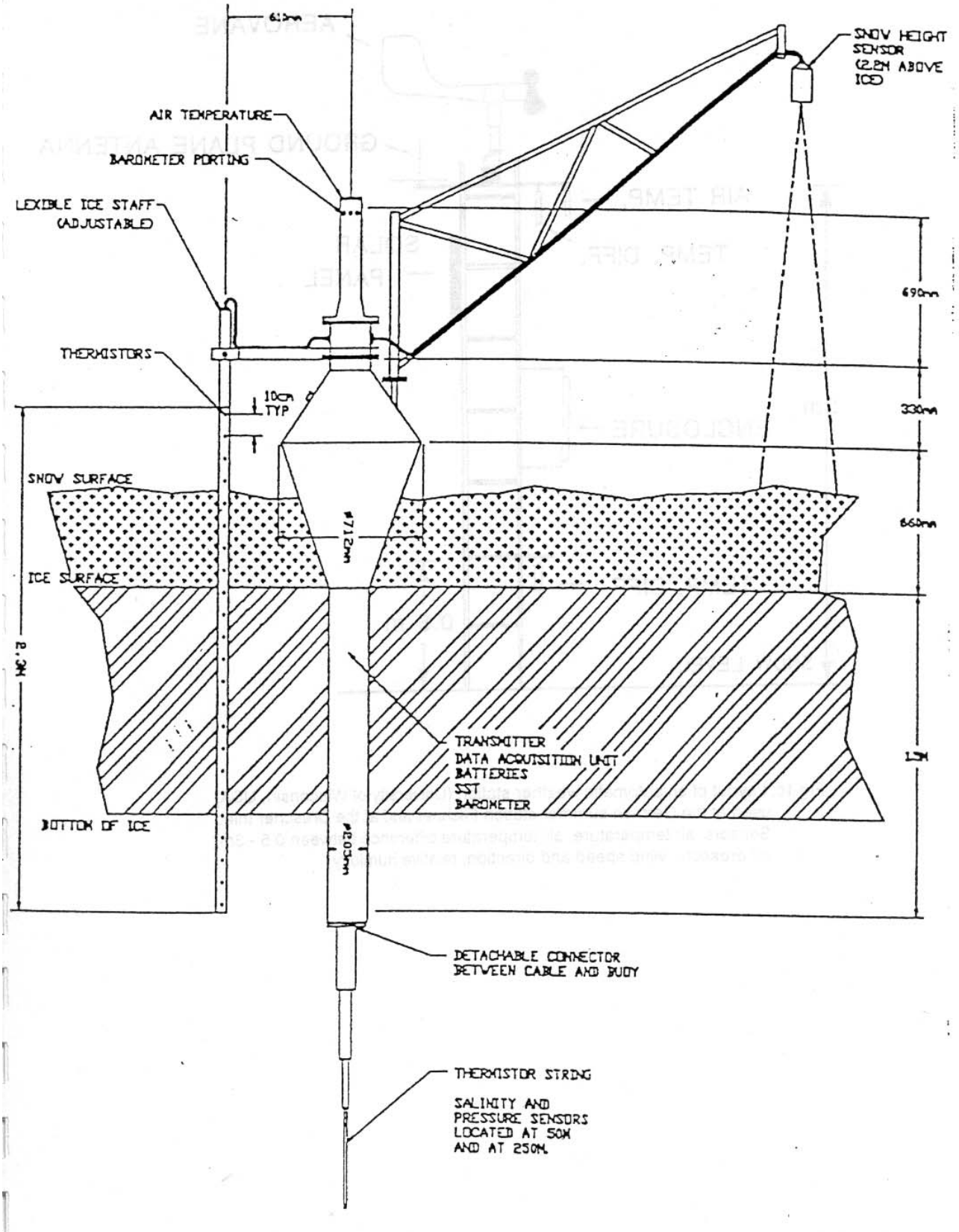


Fig 1b: Layout of a meteorogical.oceanogrphic buoy (Metocean, Canada) . Sensors: air temperature, air pressure, snow depth, ice- and ocean thermistorchains

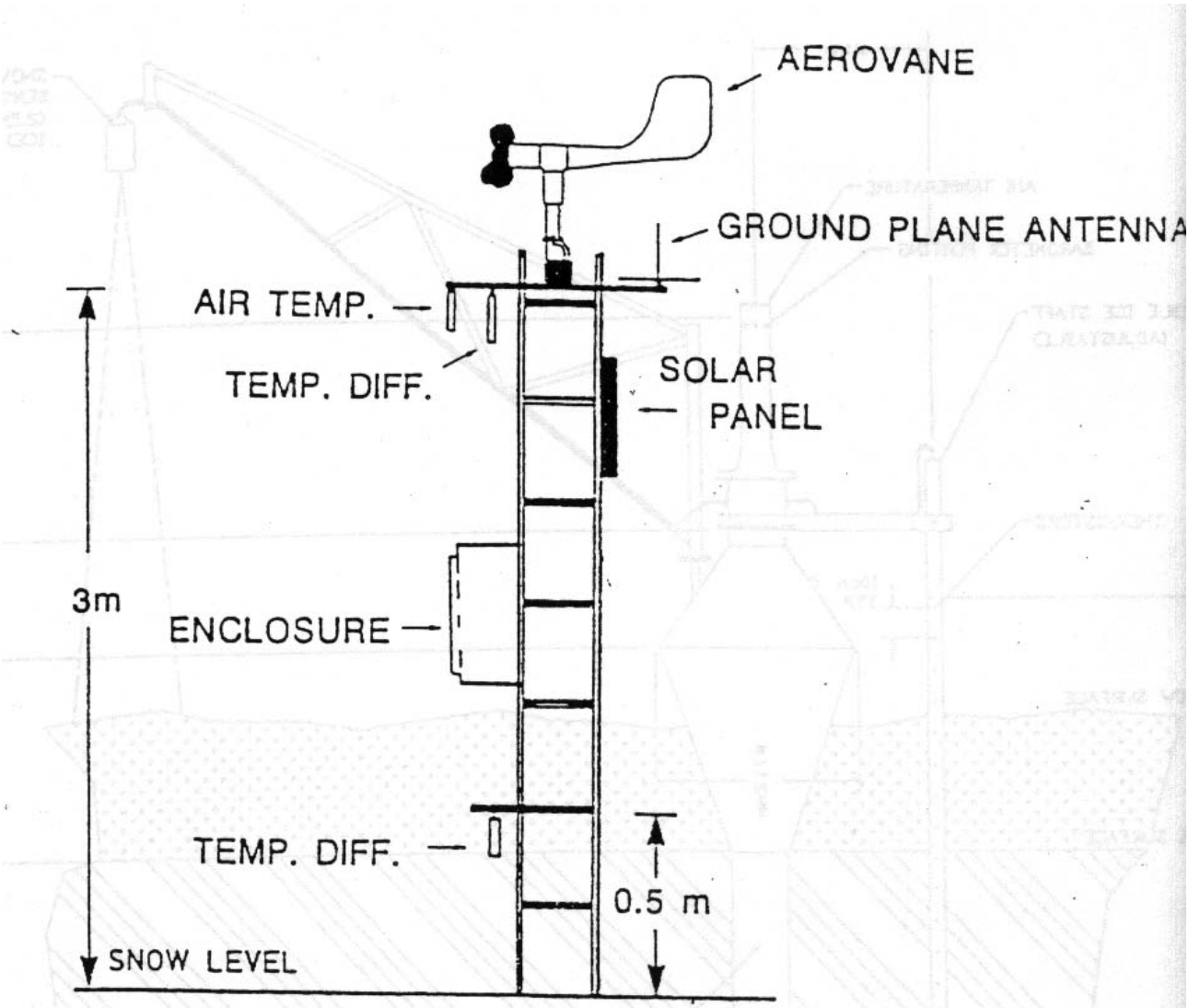
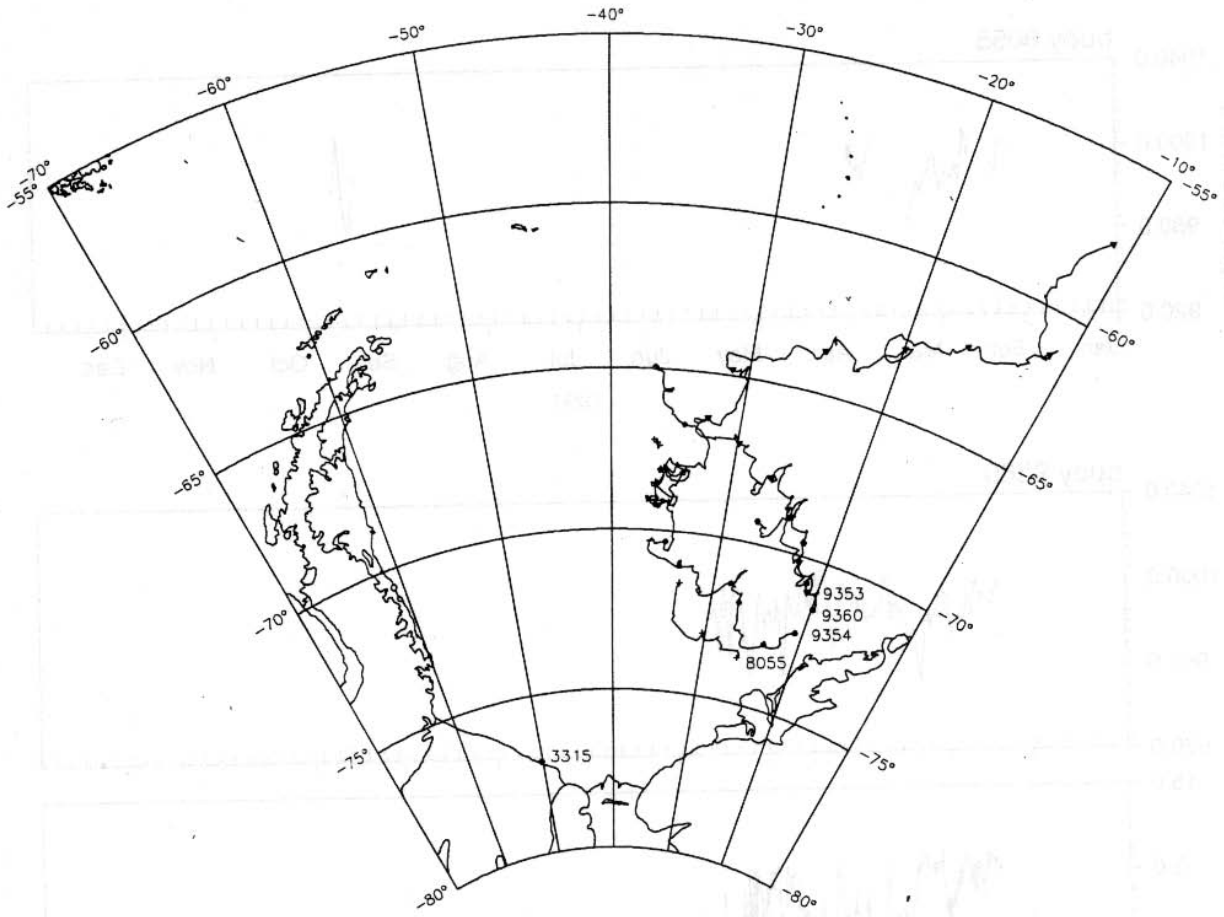
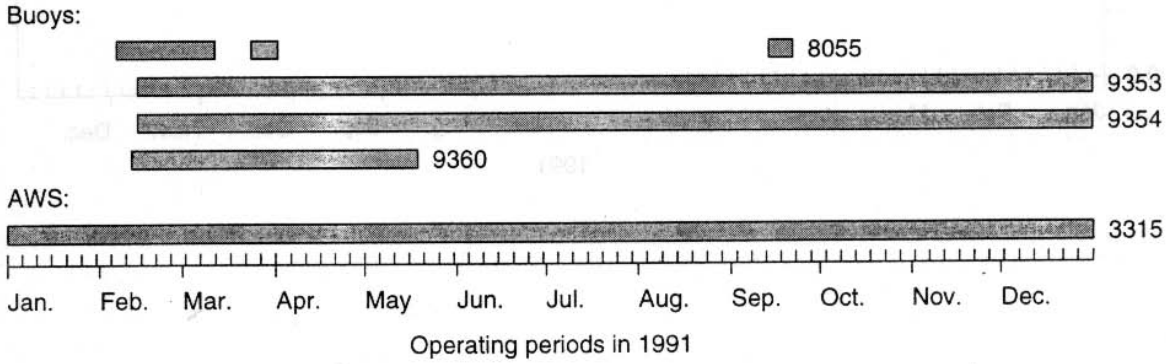


Fig 1c: Layout of an automatic weather station (University of Wisconsin, USA) used at the German summer station Filchner and at the Drescher Inlet. Sensors: air temperature, air temperature difference between 0.5 - 3m, air pressure, wind speed and direction, relative humidity

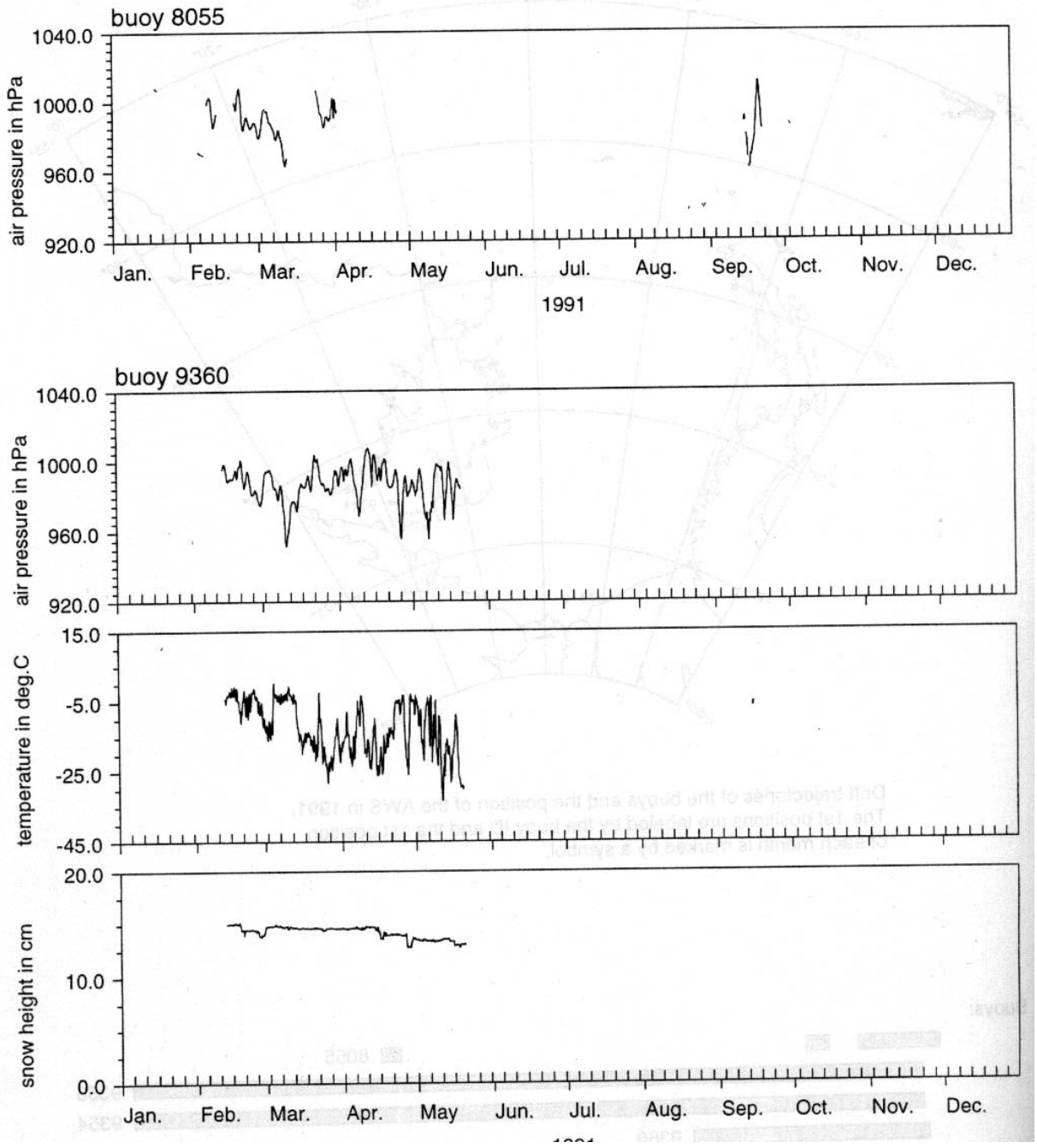
Antarctic Data

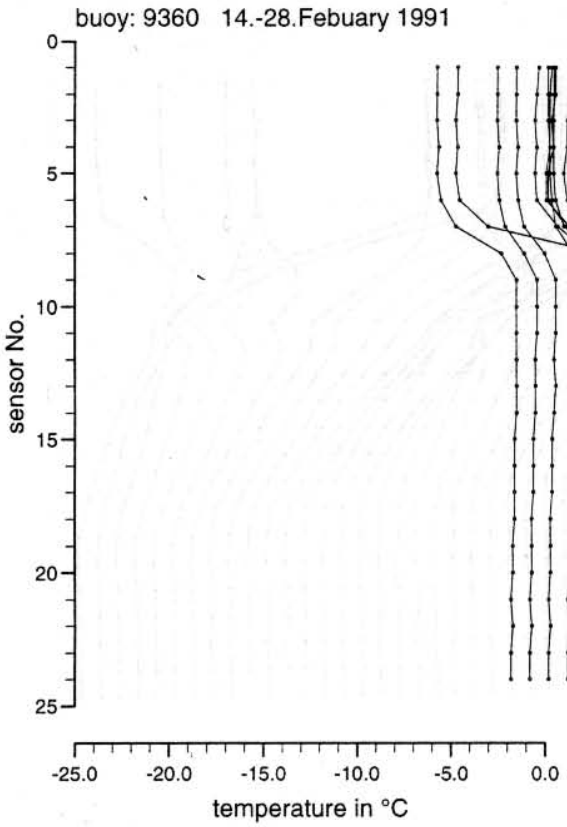


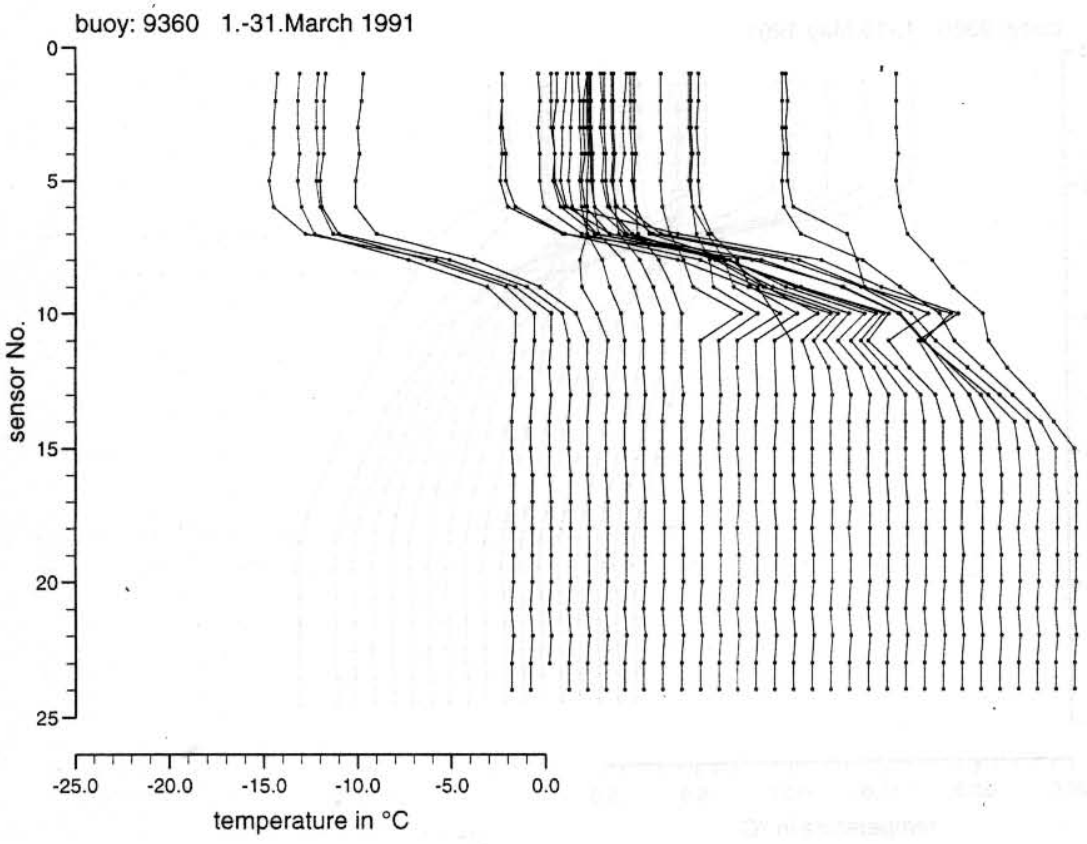
Drift trajectories of the buoys and the position of the AWS in 1991. The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.



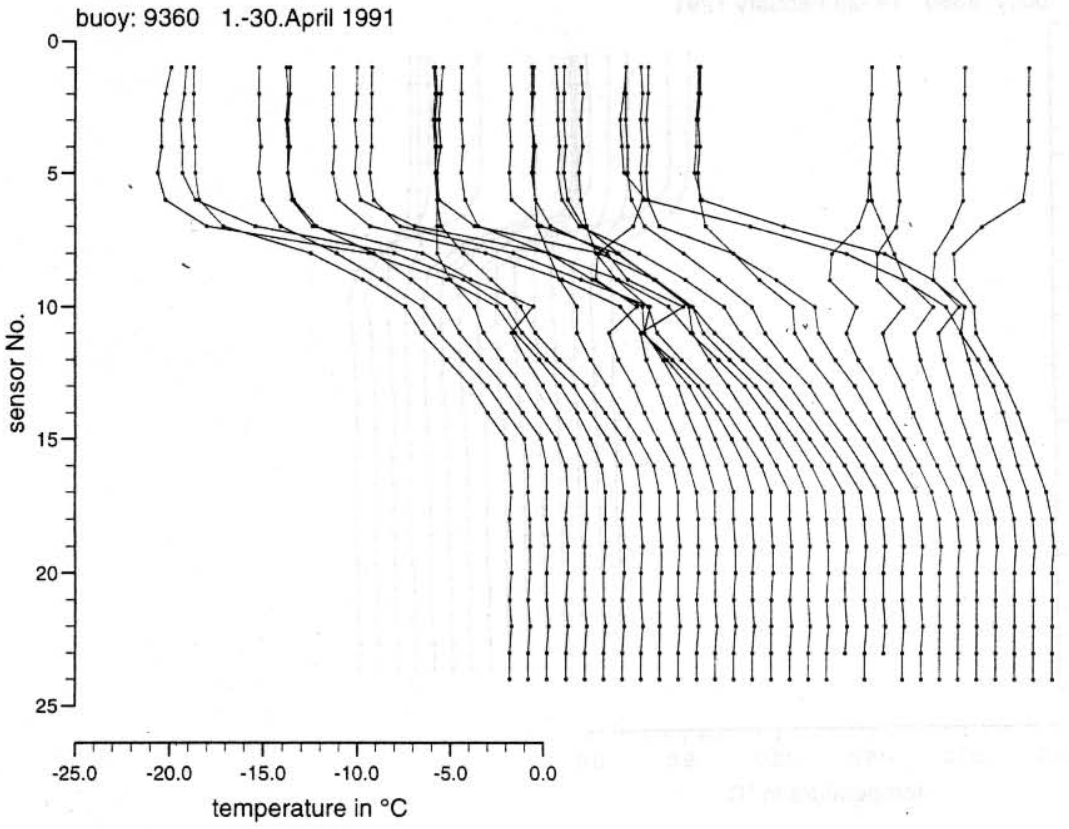
Operating periods in 1991

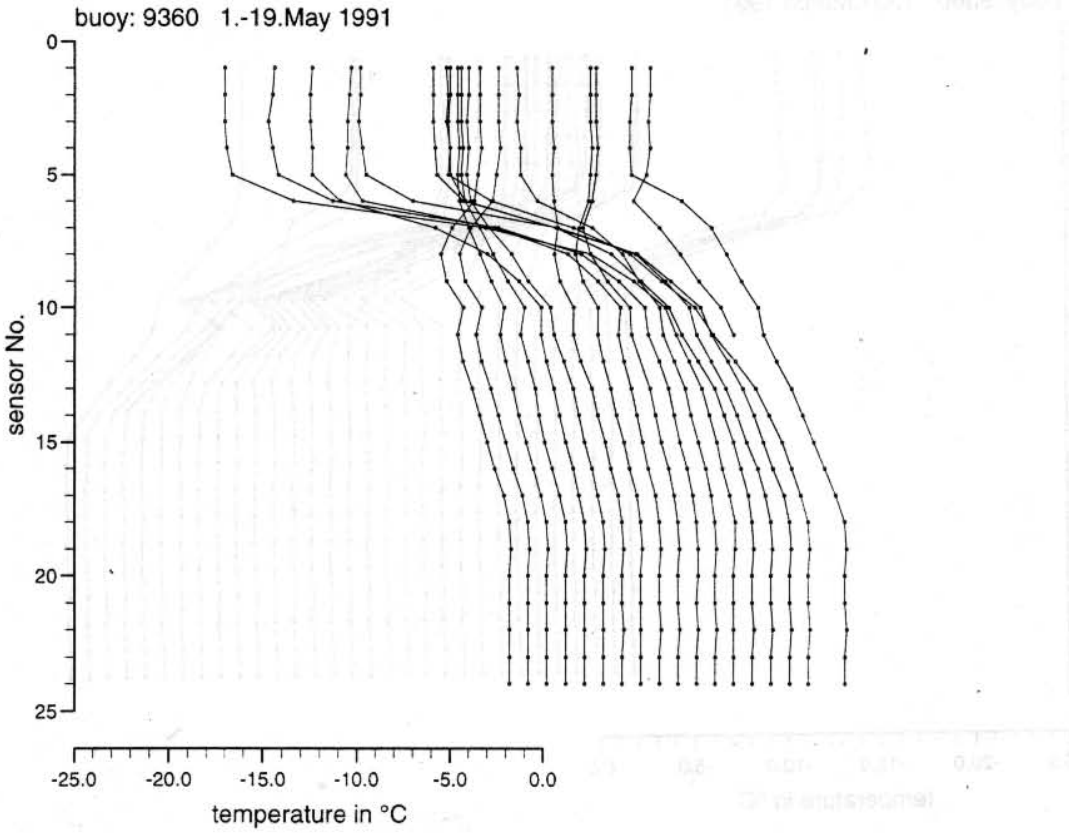

buoy 8055
air pressure in hPa
1040.0
1000.0
960.0
920.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1991
buoy 9360
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
snow height in cm
20.0
10.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.



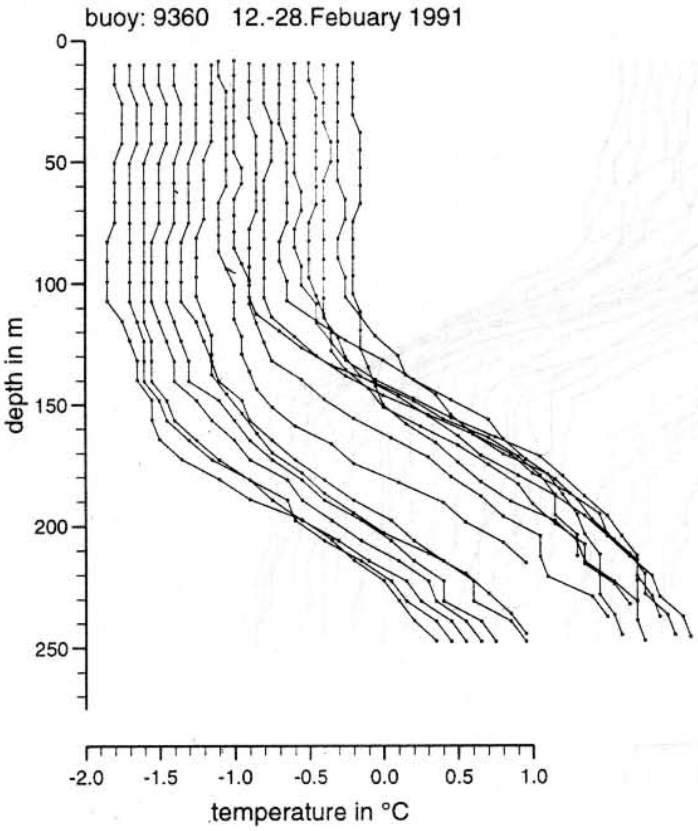


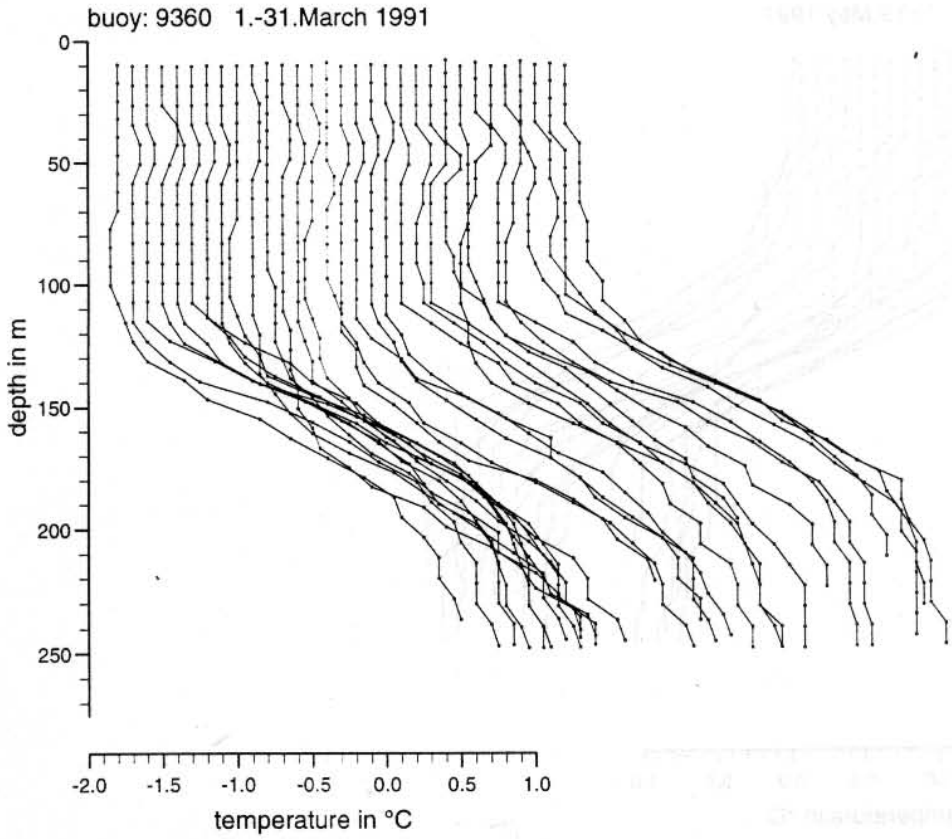
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 15 cm, ice thickness = 60 cm, the distance from sensor 1 to the snow surface = 60 cm, the sensors 7 to 16 were in the ice and the sensors 17 to 24 in water.



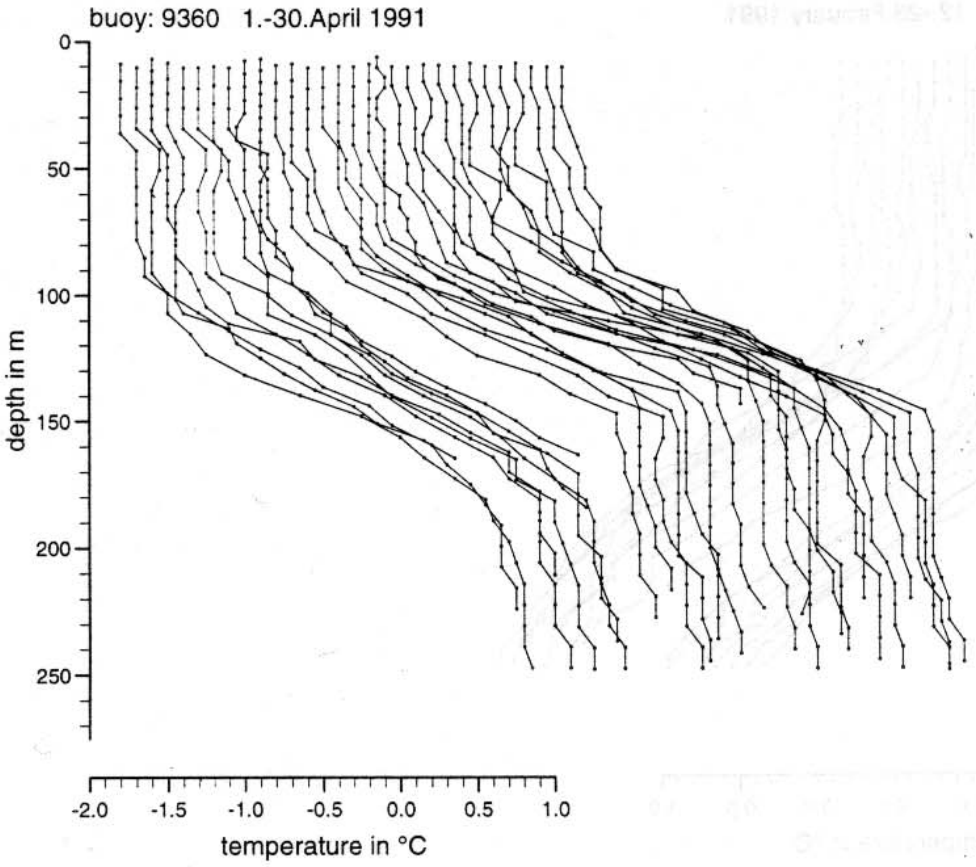


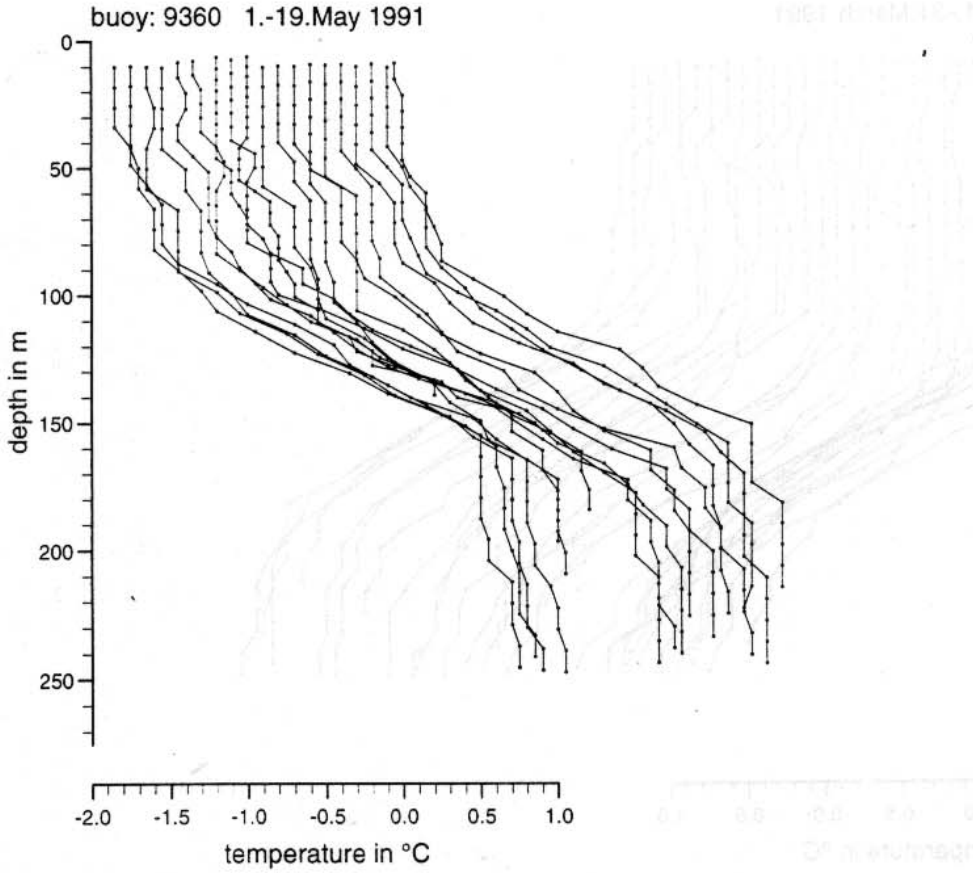
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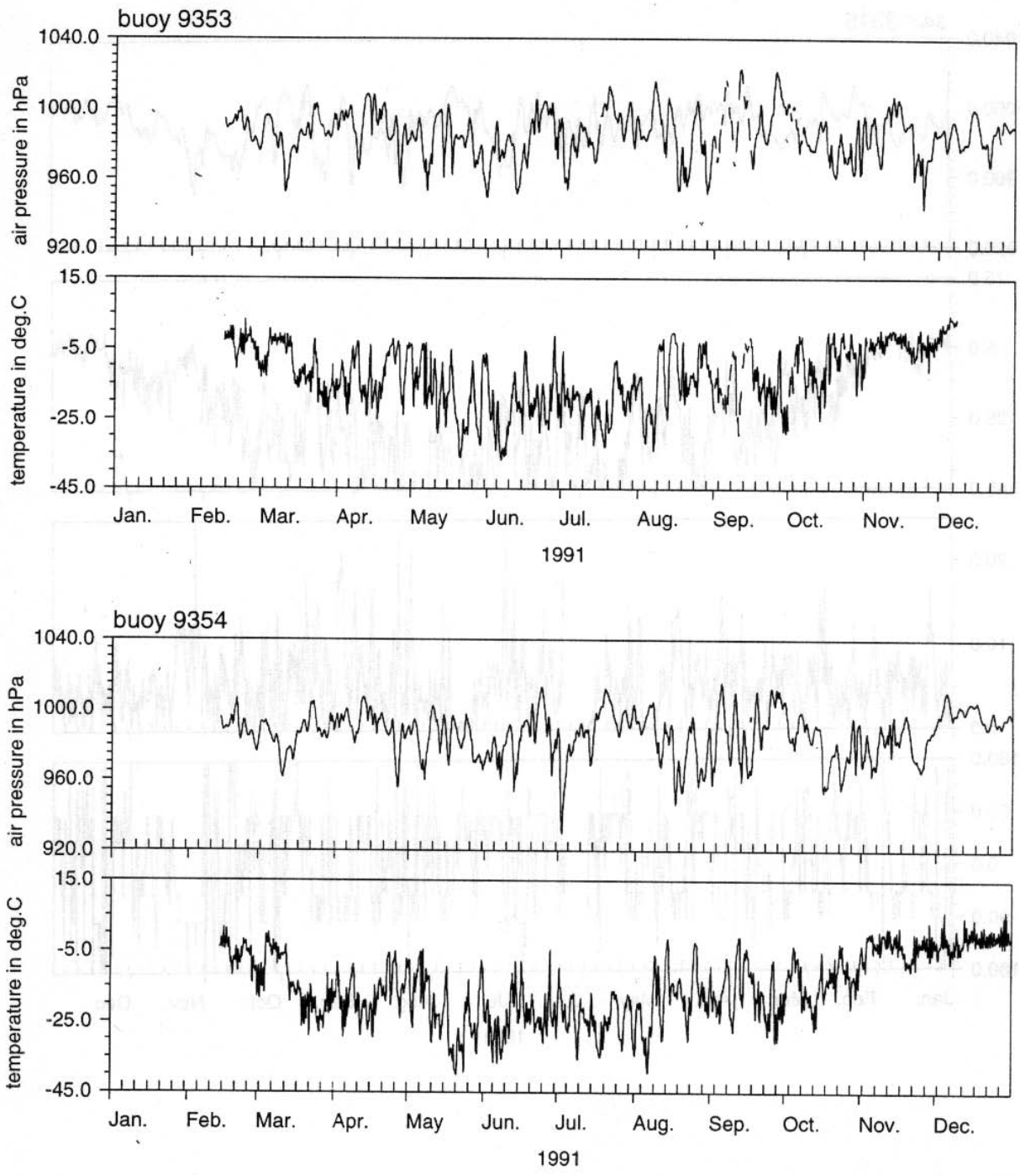


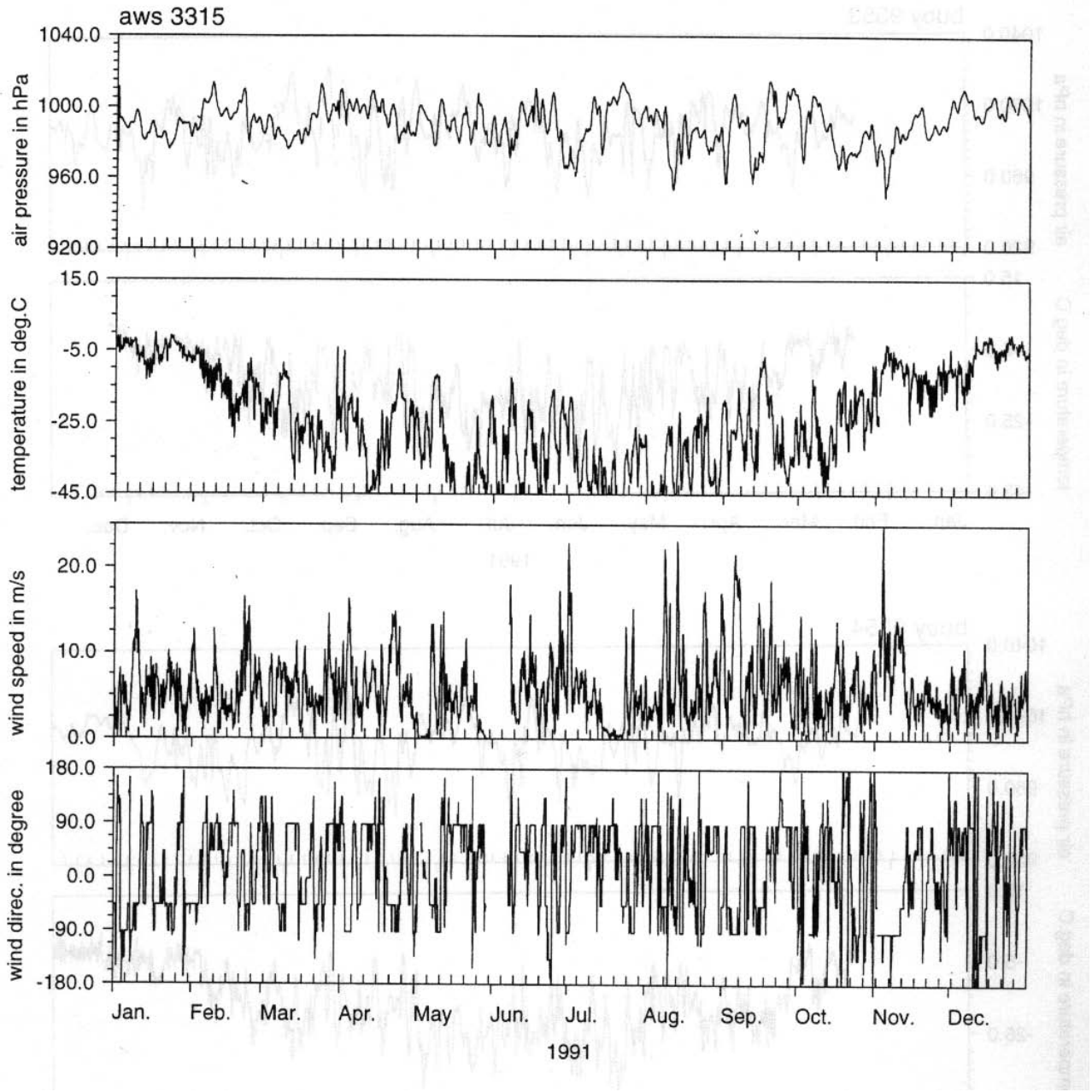
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

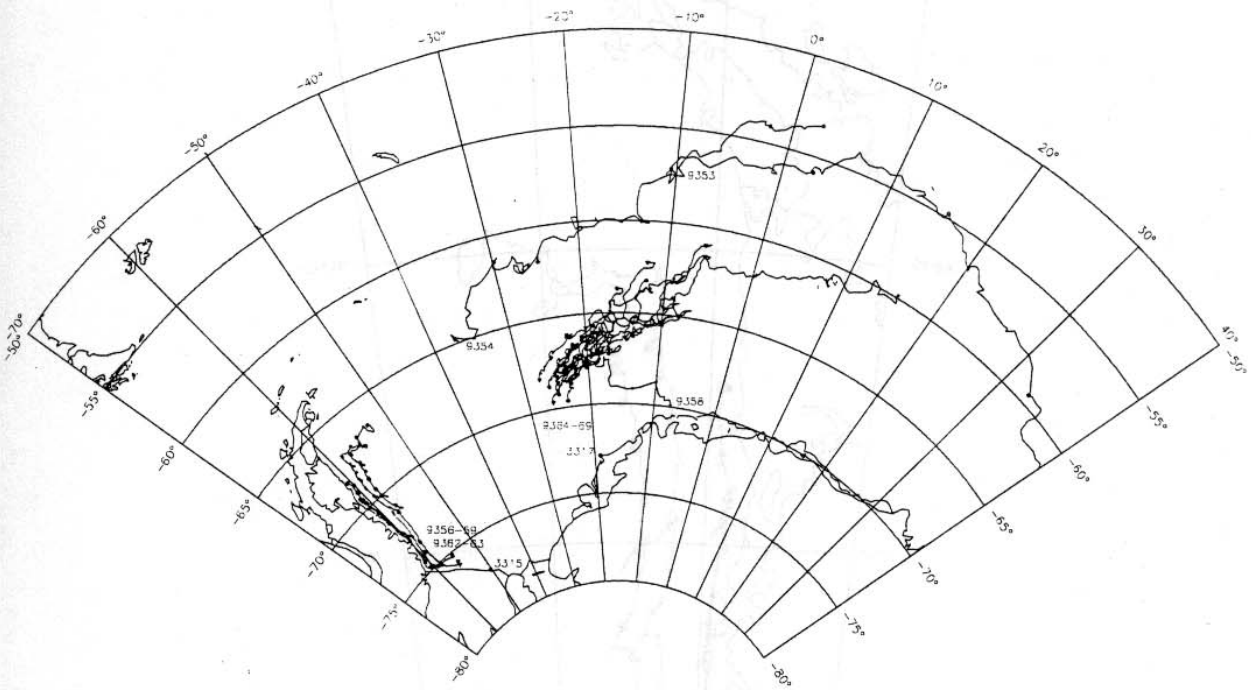




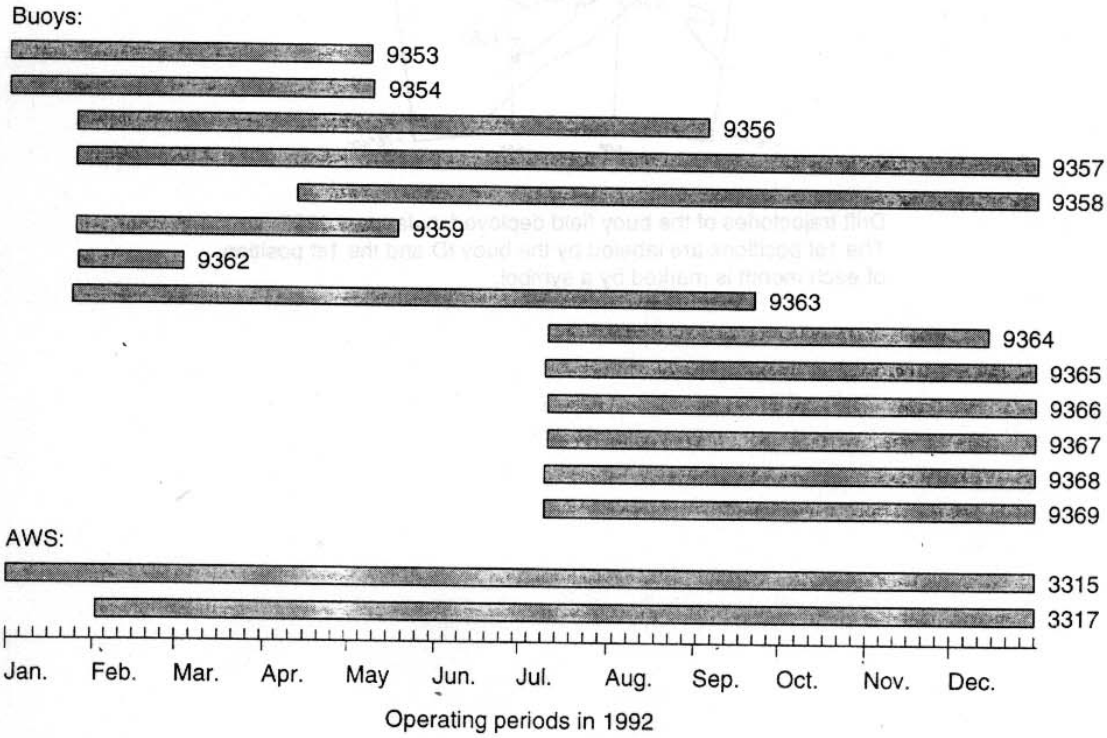
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

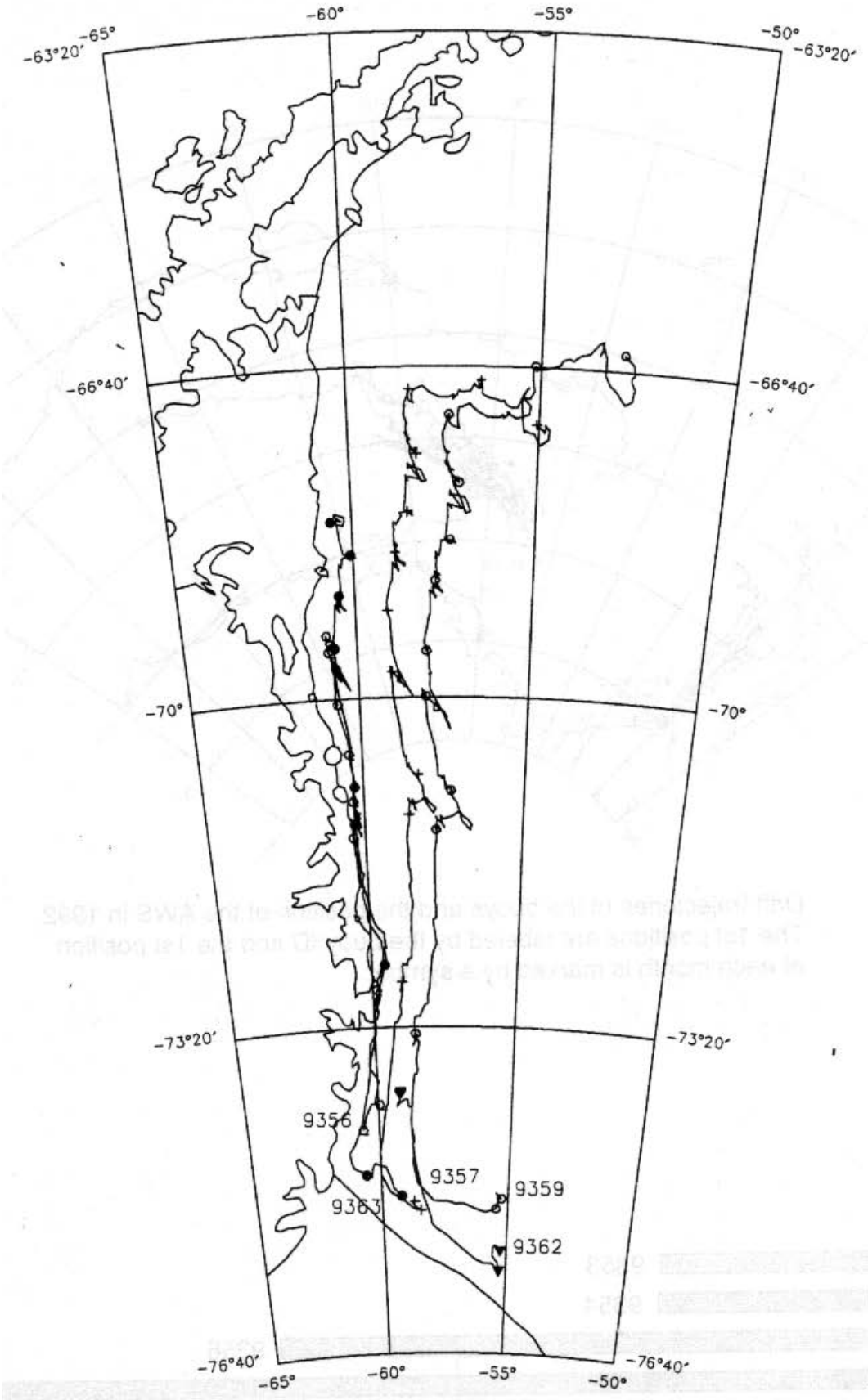

buoy 9353
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1991
buoy 9354
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1991


aws 3315
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1991

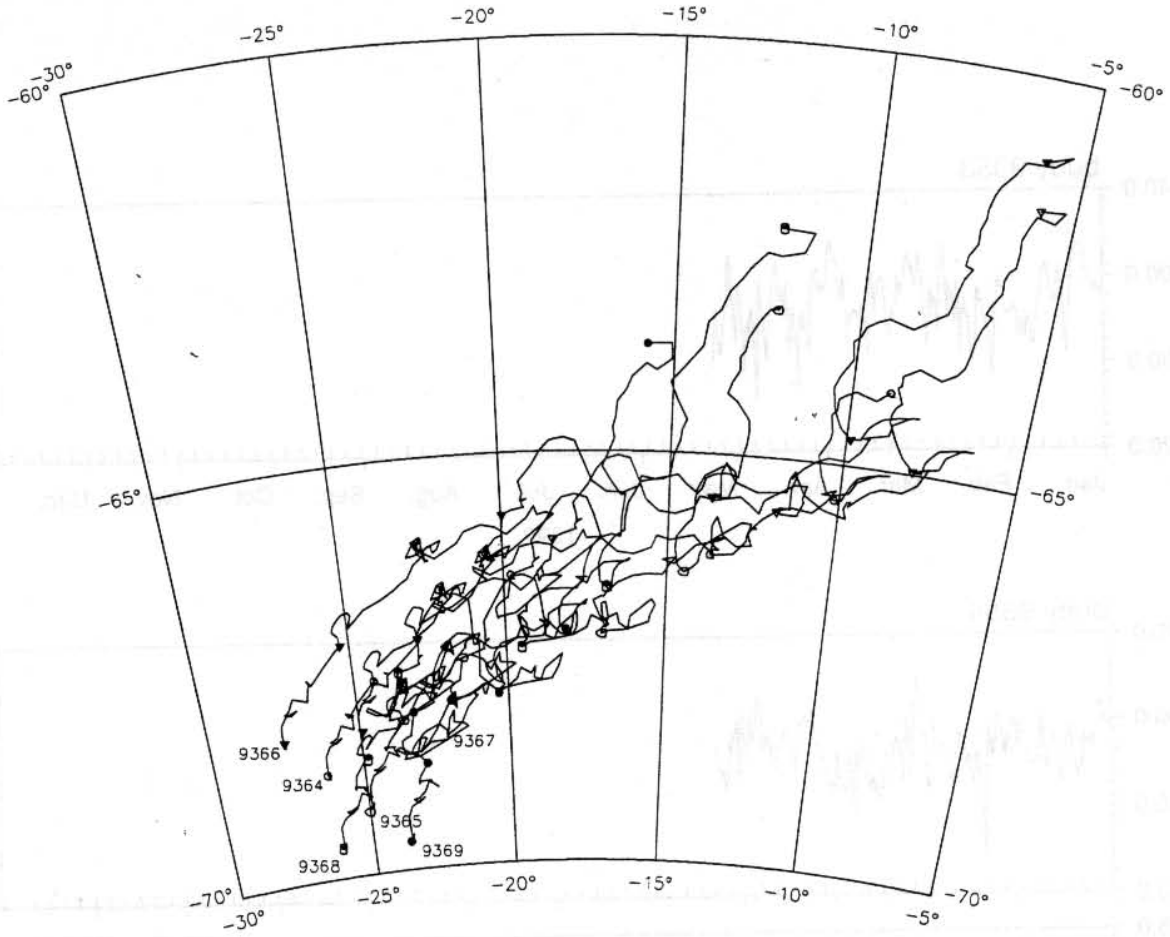


Drift trajectories of the buoys and the position of the AWS in 1992.
The 1st positions are labeled by the buoy ID and the 1st position
of each month is marked by a symbol.

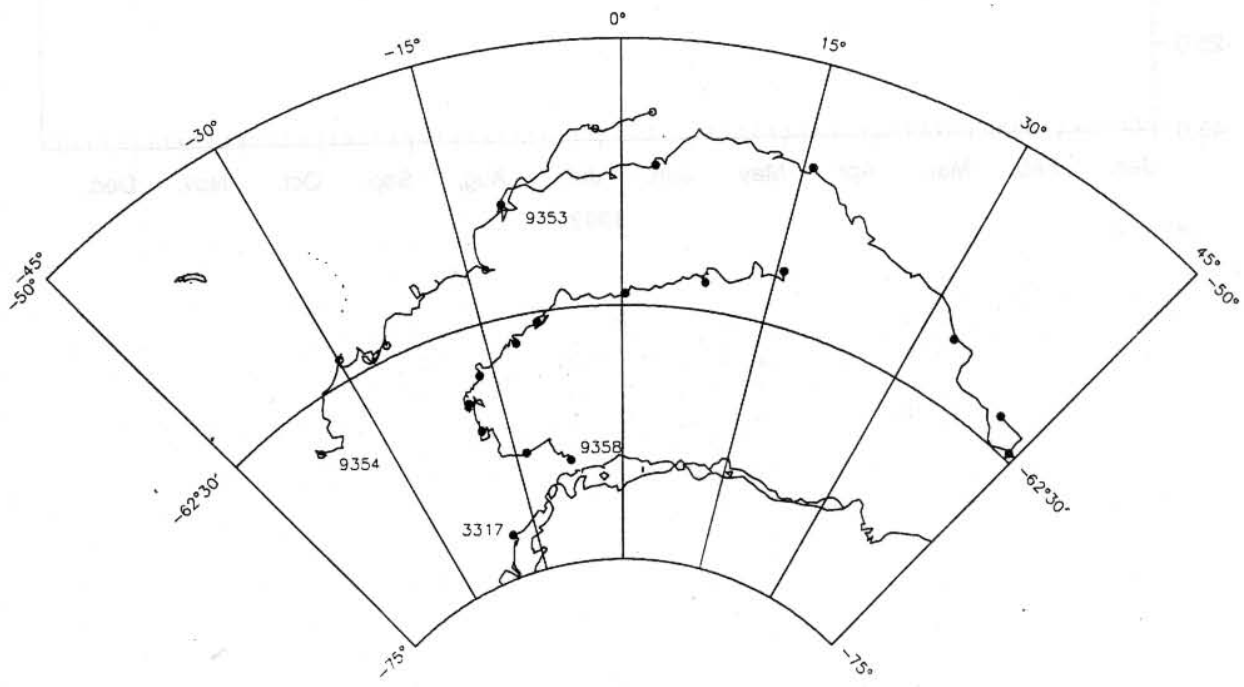




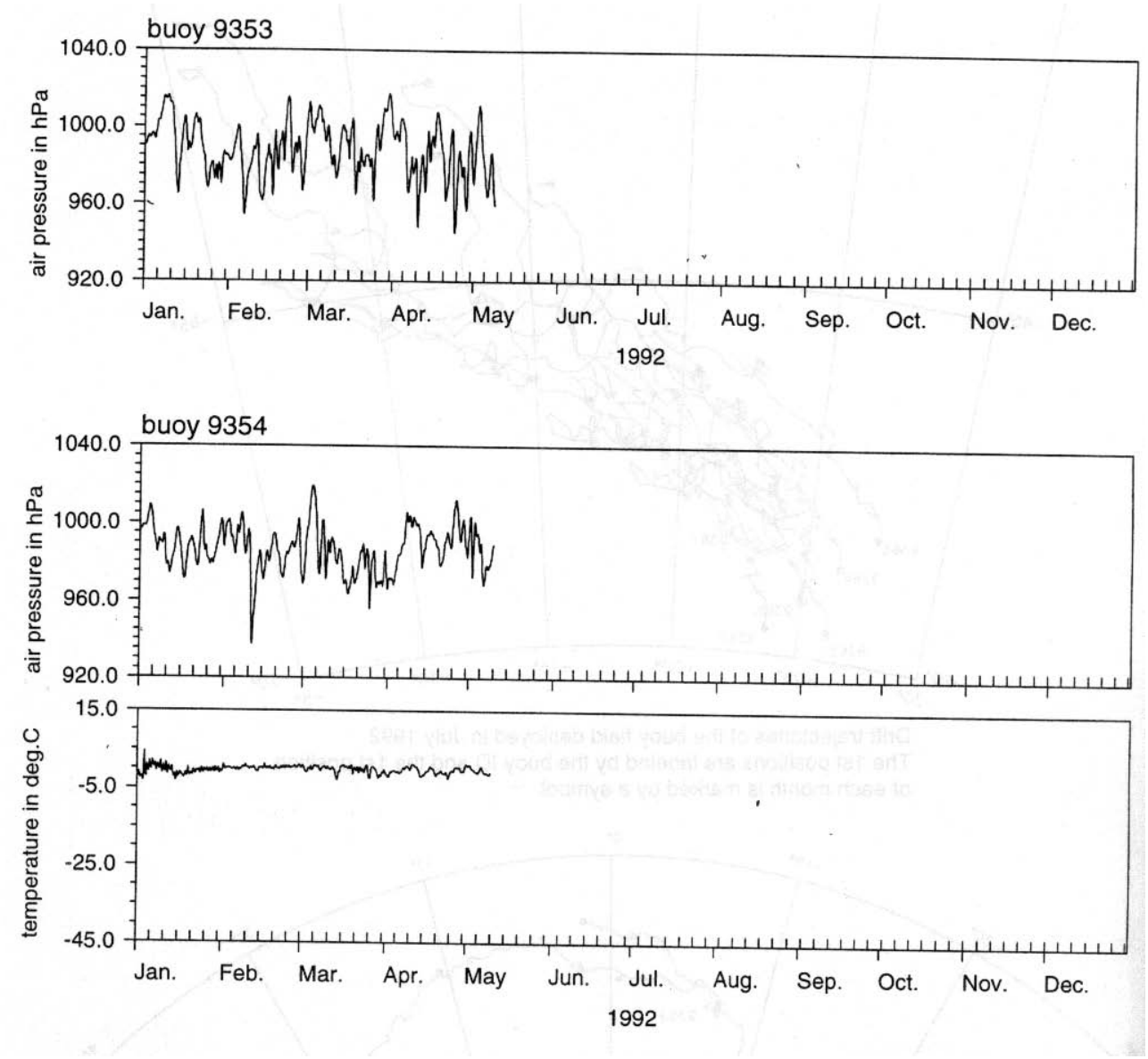
Drift trajectories of the buoy field deployed in January 1992. The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

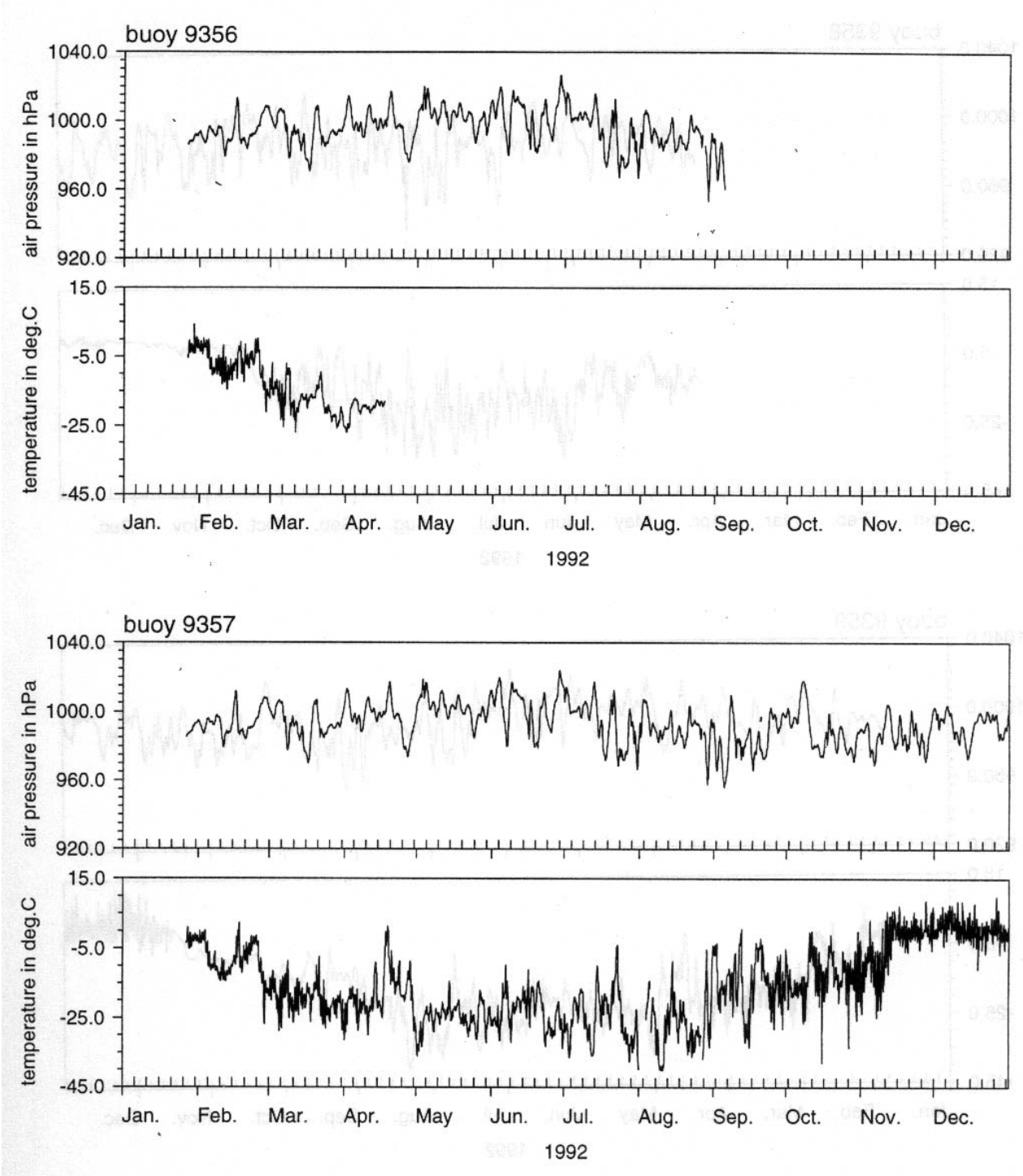


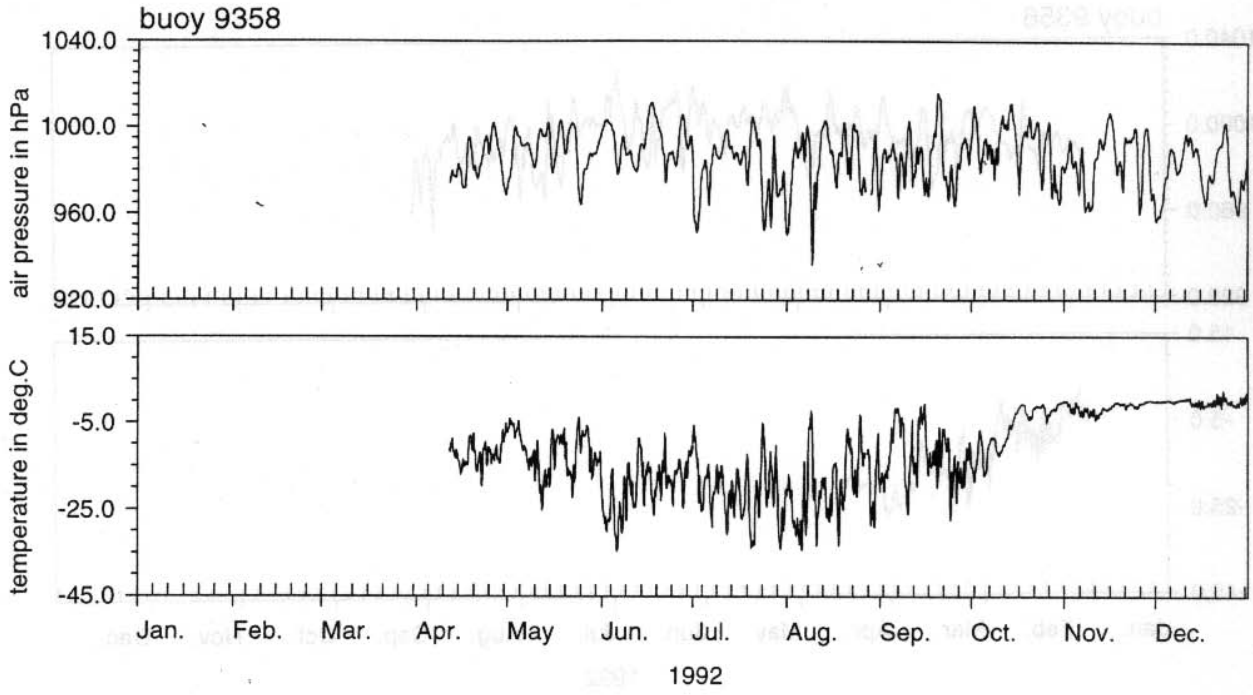
Drift trajectories of the buoy field deployed in July 1992.
The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

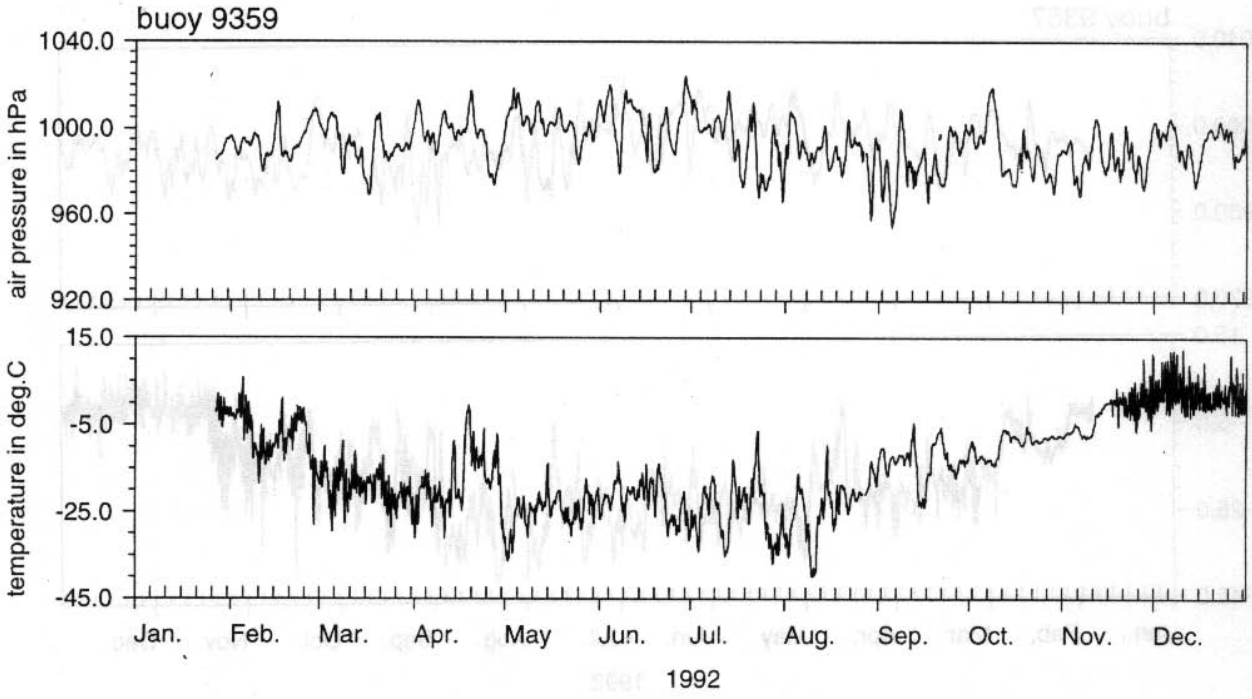


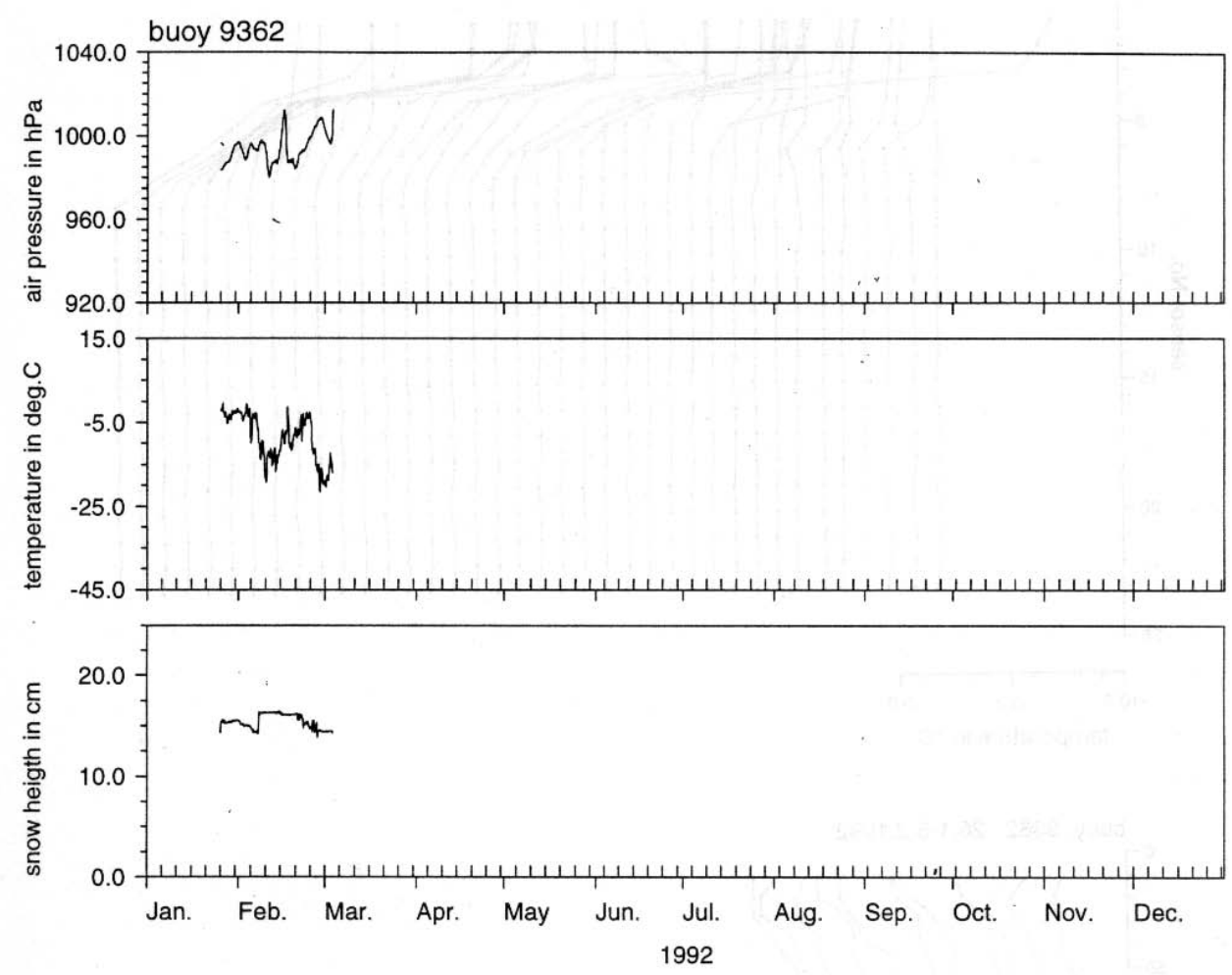
Drift trajectories of the buoys 9353, 9354 (deployed 1991) and 9358 depolyed in April 1992. The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

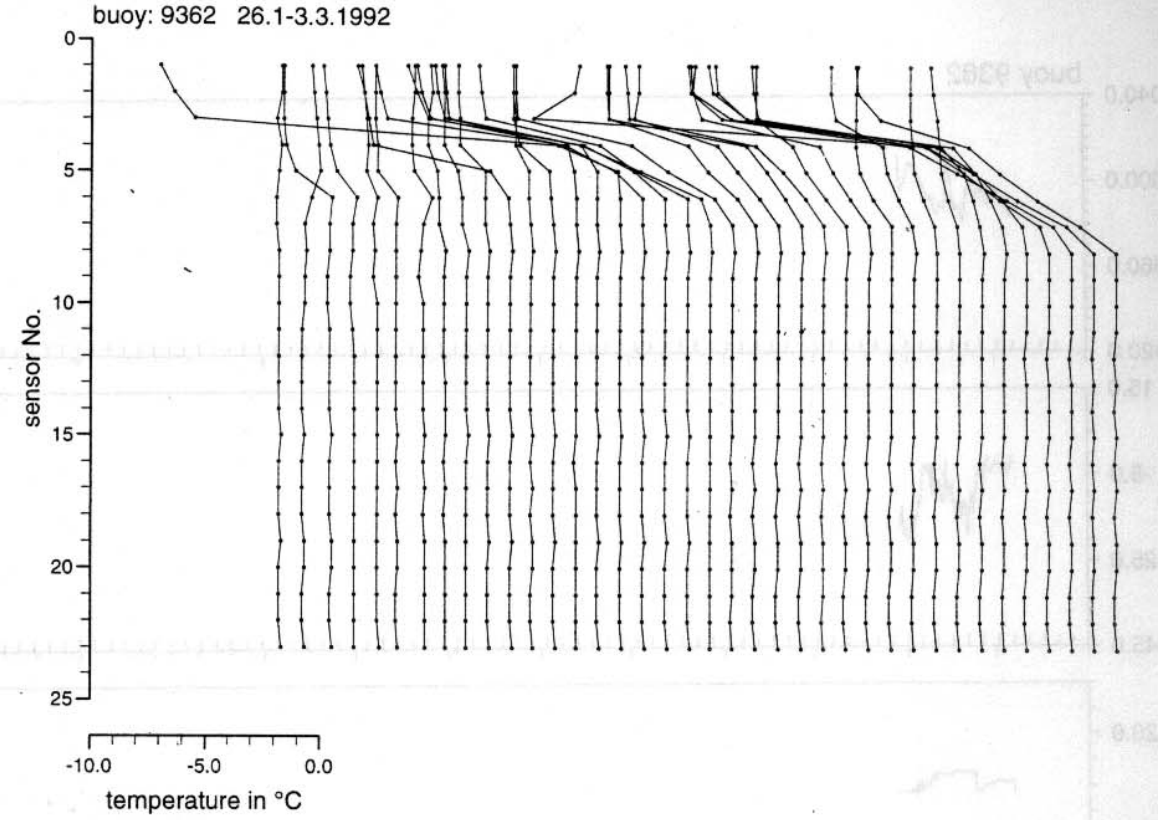

buoy 9353
air pressure in hPa
1040.0
1000.0
960.0
920.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992
buoy 9354
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

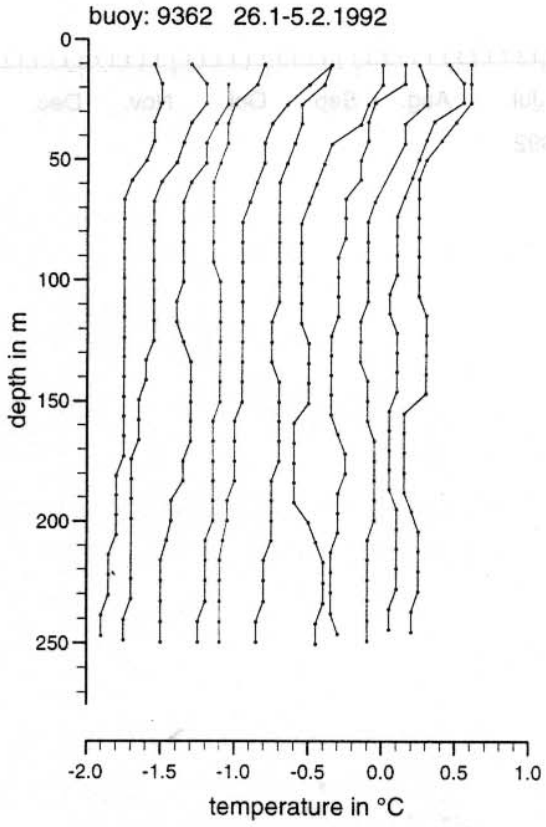

buoy 9356
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992
buoy 9357
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992


buoy 9358
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

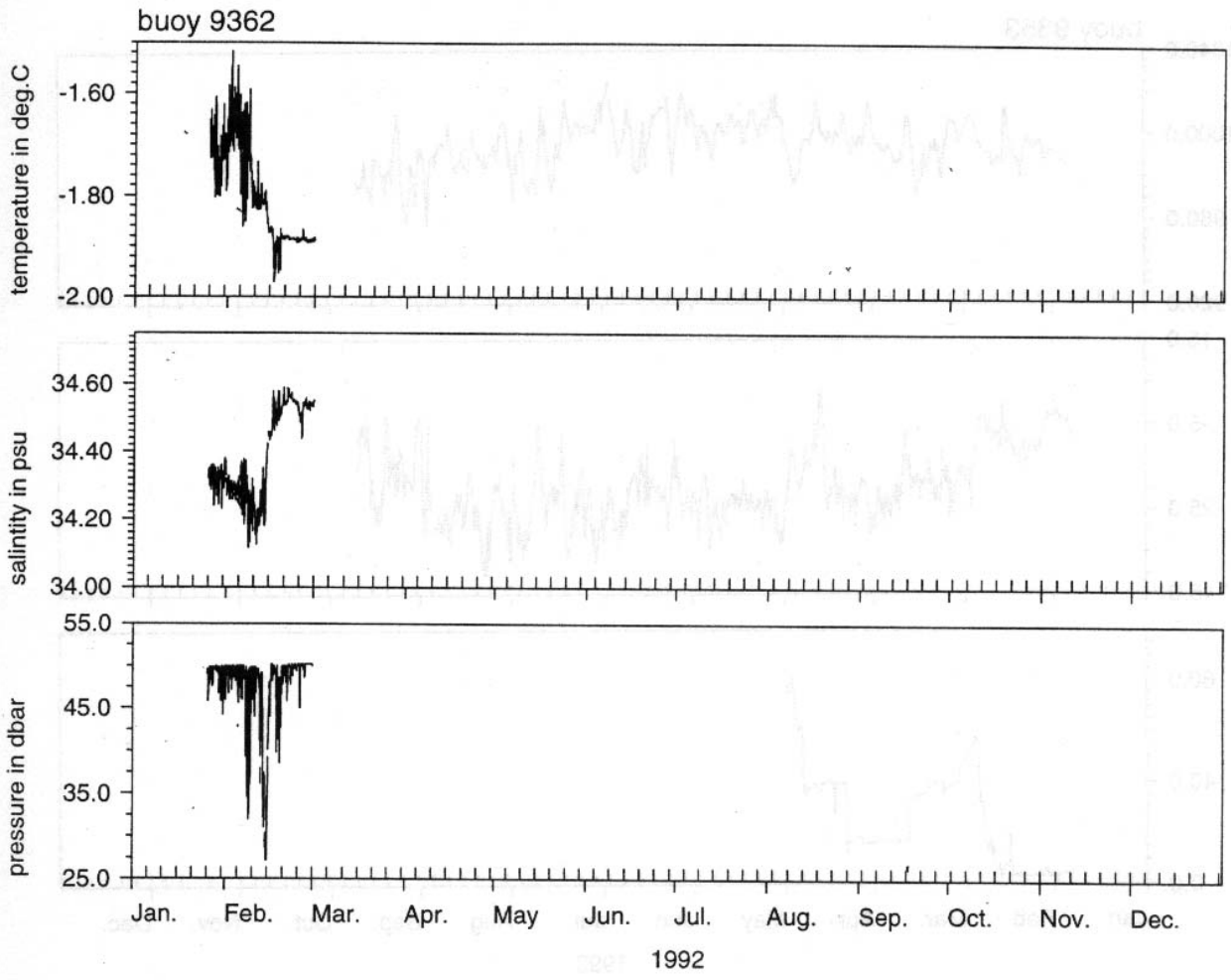

buoy 9359
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992


buoy 9362
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
20.0
10.0
0.0
snow heigth in cm
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

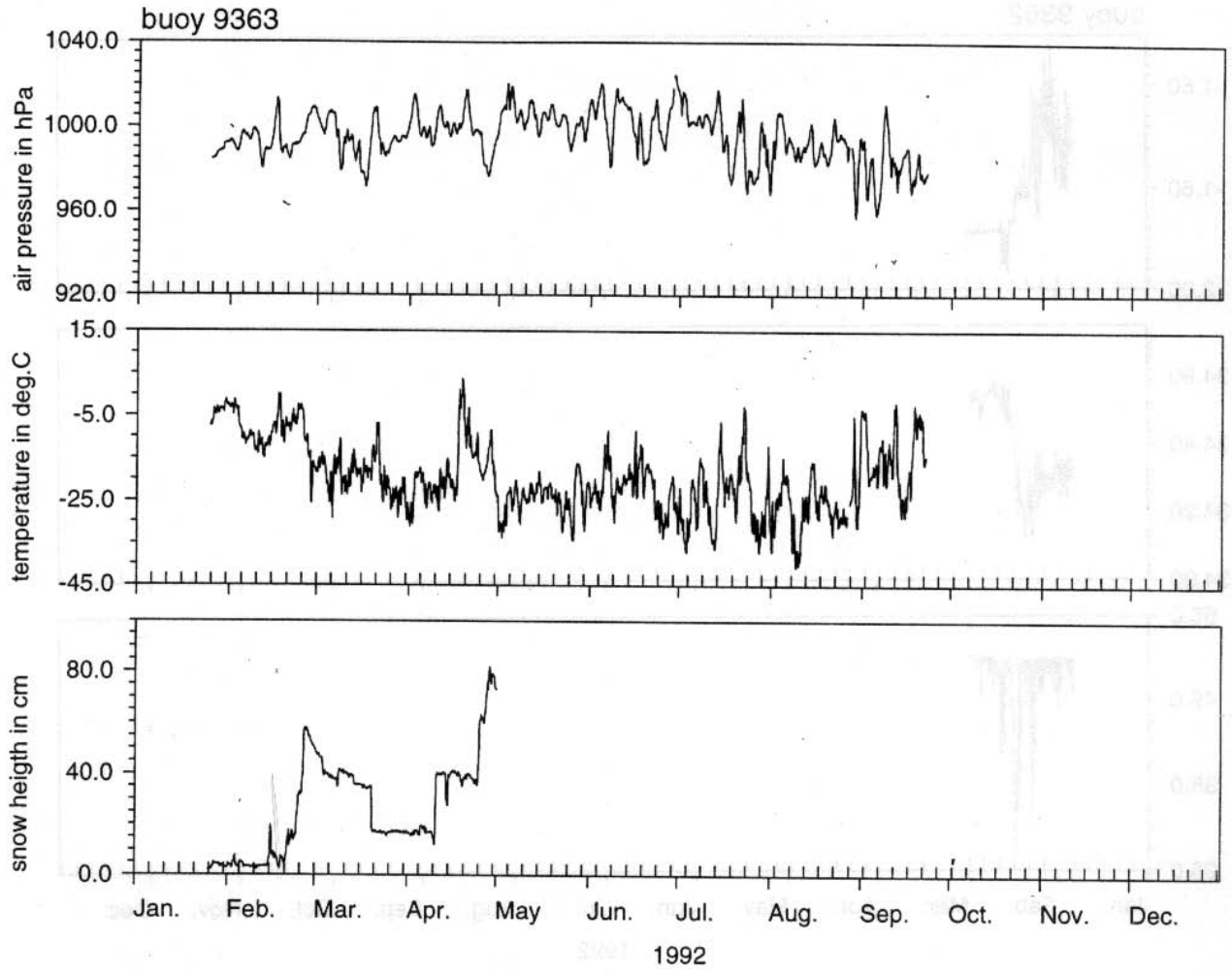


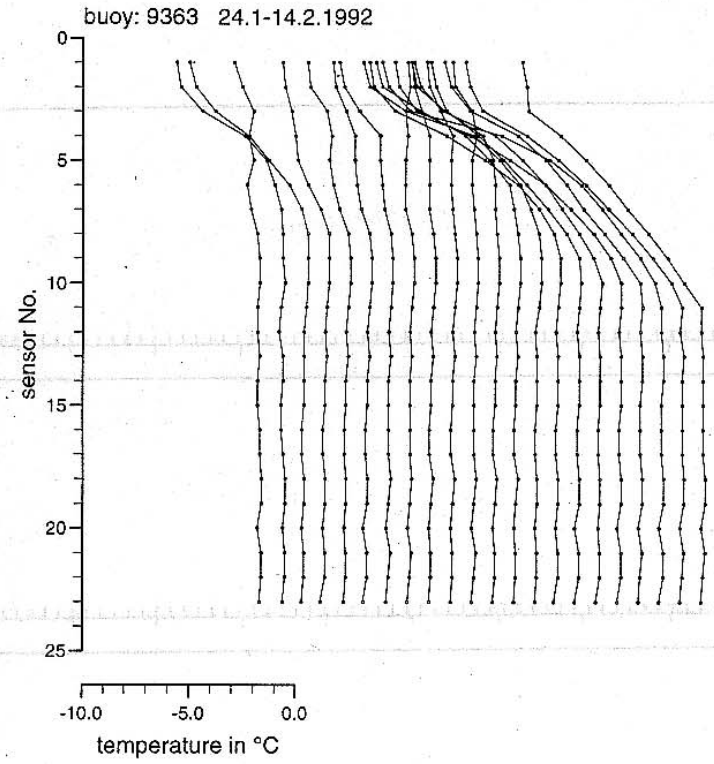


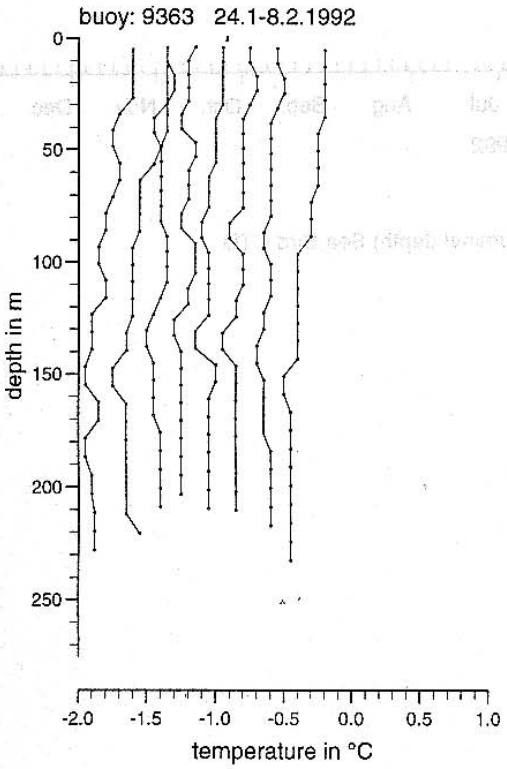
Temperature profiles from the ice (top) and ocean (below) thermistorchain (1 profile per day). The profiles are shifted by 1 K/day (ice) and 0.2 K/day (ocean). The positions of the thermistors are marked by dots. The sensor separation in the ice thermistorchain is 0.1 cm. The initial ice conditions were: snow depth = 15 cm, ice thickness = 80 cm, the sensors 6 to 10 were in ice and the sensors 15 to 23 in water.



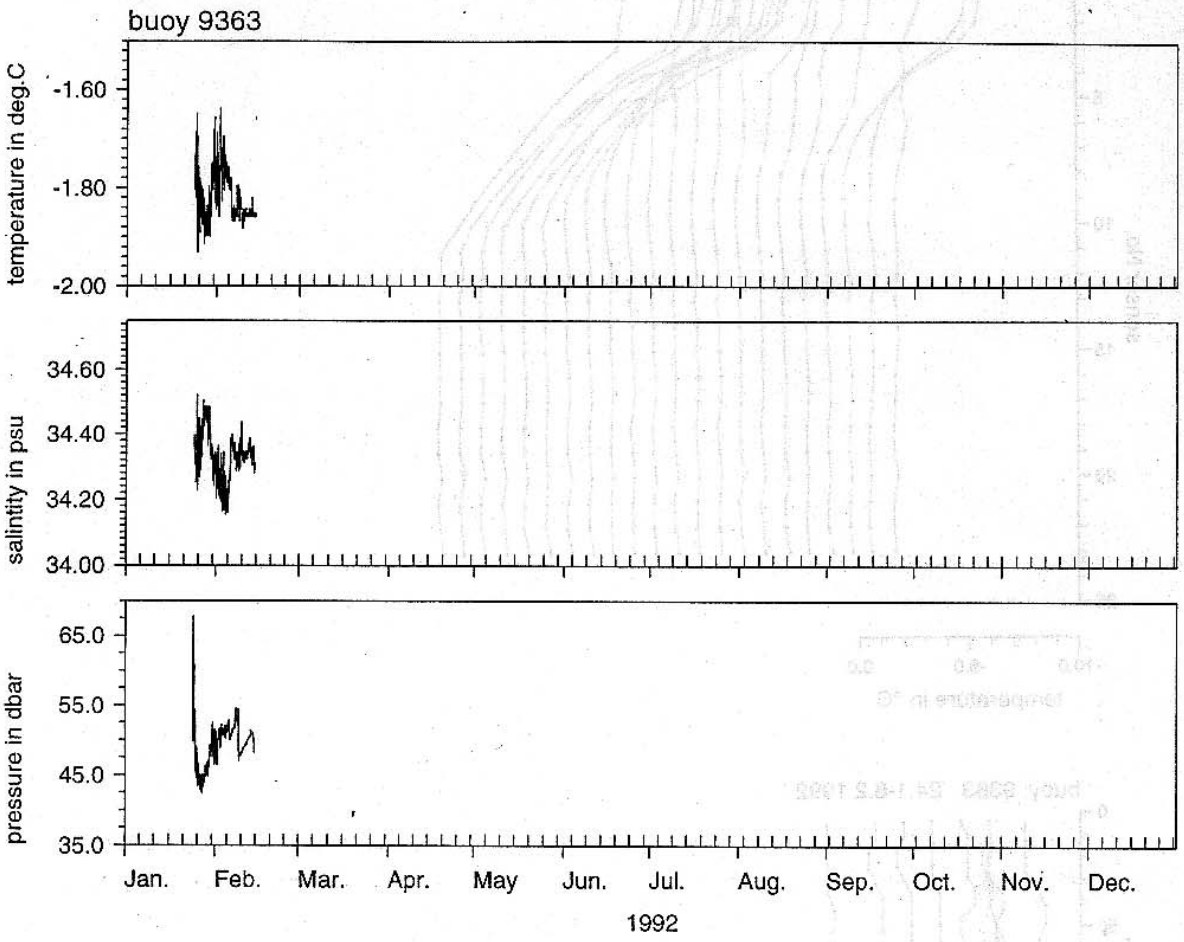
Time series of the 50 meter (nominal depth) Sea-Bird CTD


buoy 9363
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
snow heigth in cm
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

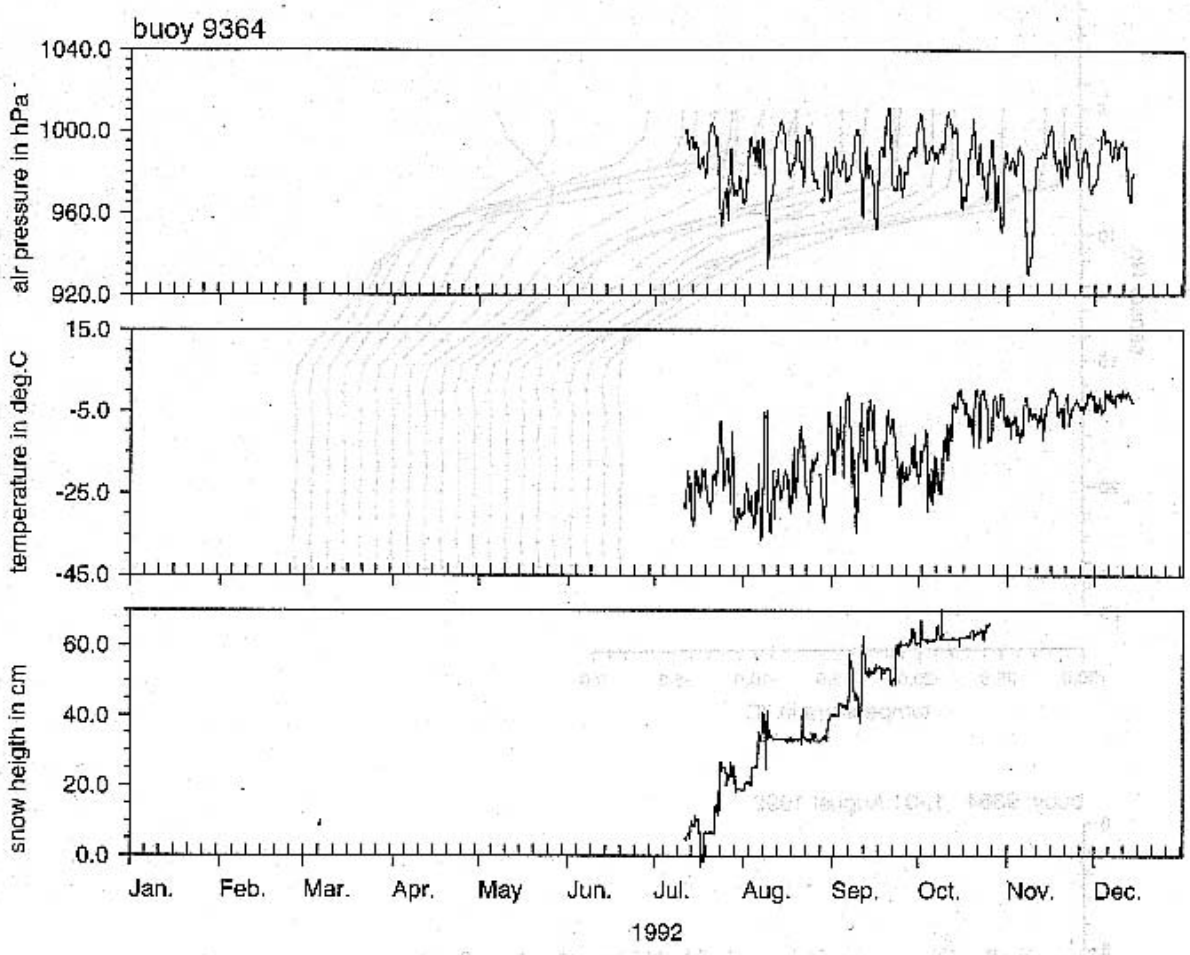


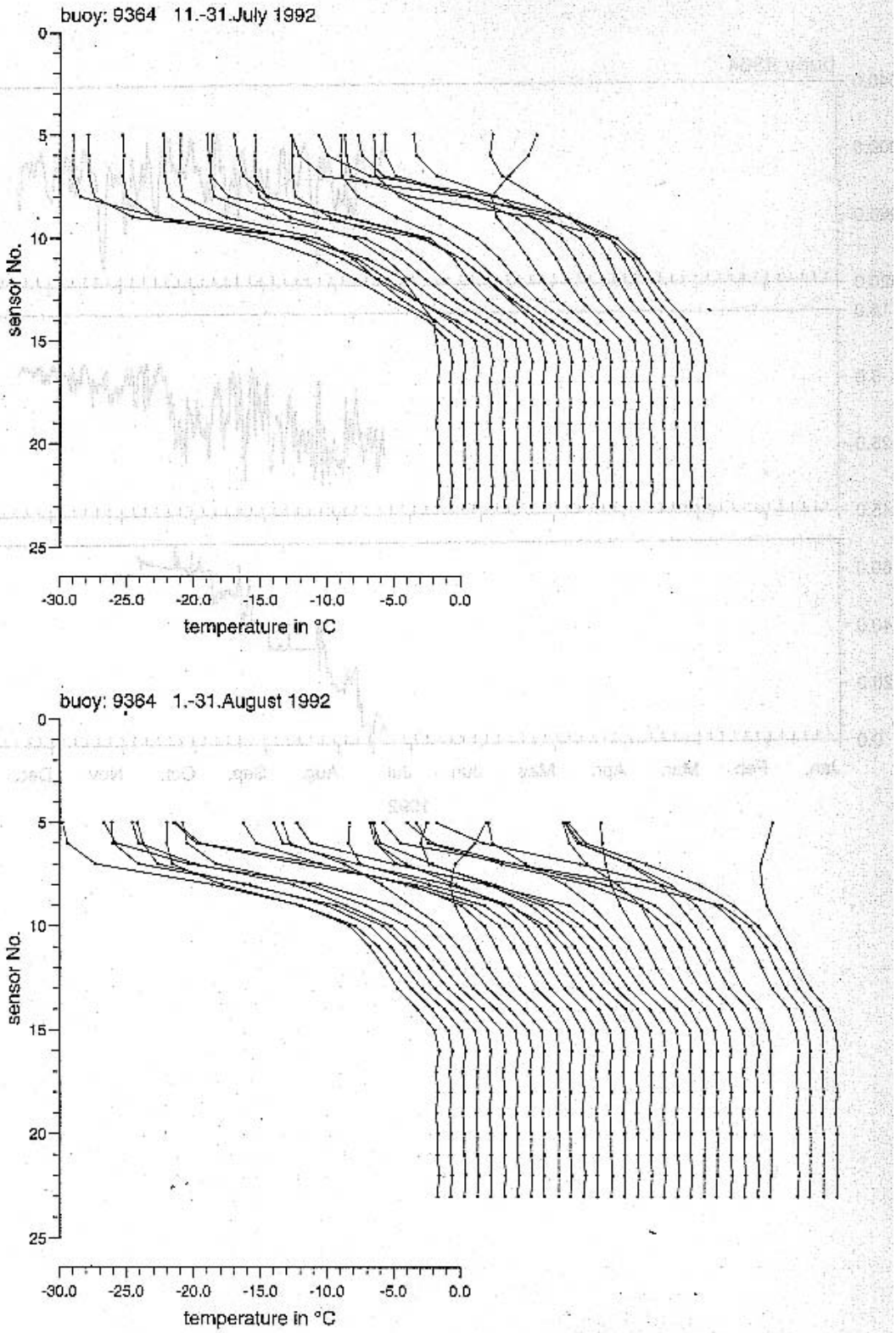


Temperature profiles from the ice (top) and ocean (below) thermistorchain (1 profile per day). The profiles are shifted by 1 K/day (ice) and 0.2 K/day (ocean). The positions of the thermistors are marked by dots.
The sensor separation in the ice thermistorchain is 0.1 cm. The initial ice conditions were: snow depth = 3 cm, ice thickness = 3 m, the sensors 4 to 23 were in ice.

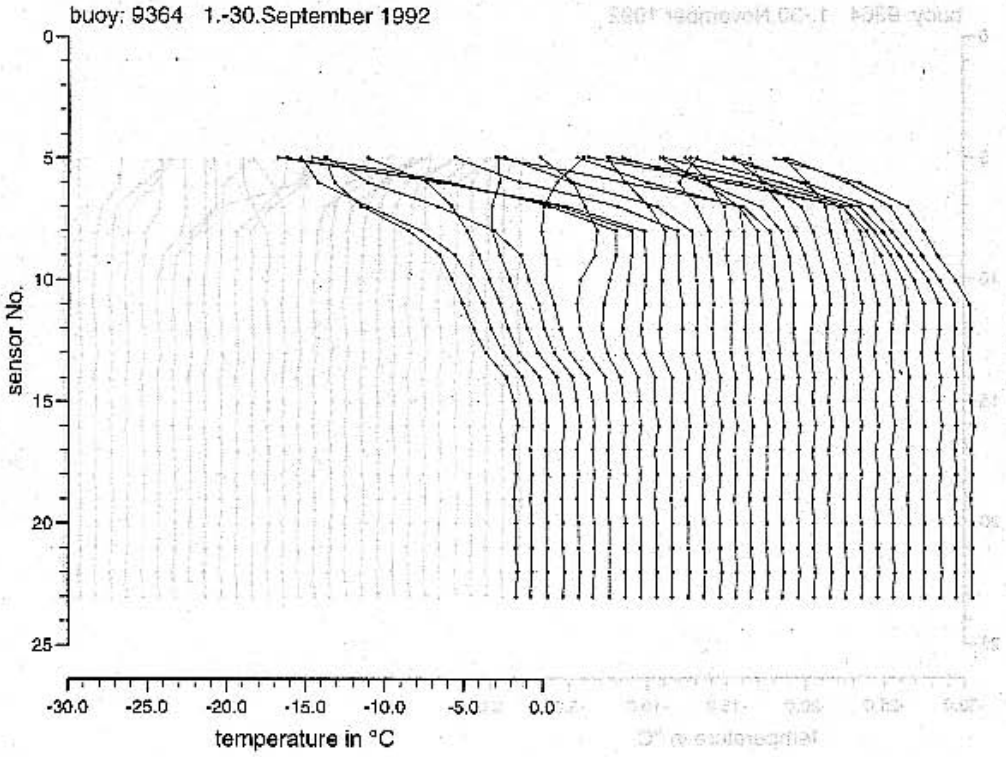


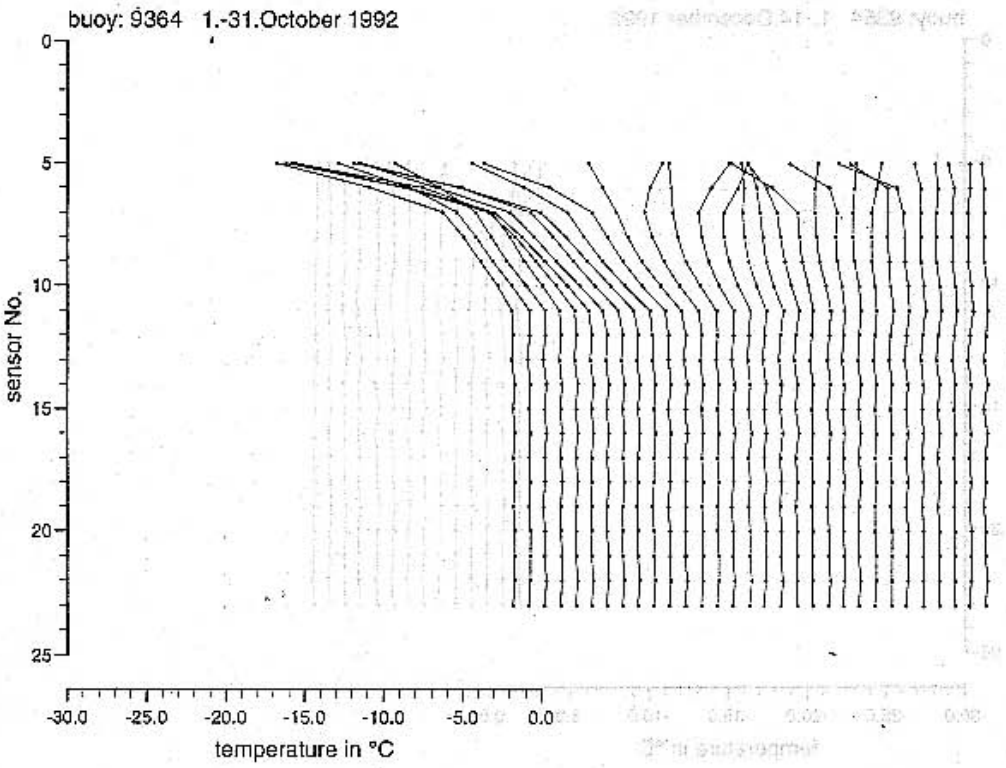
Time series of the 50 meter (nominal depth) Sea-Bird CTD


buoy 9364
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
snow heigth in cm
60.0
40.0
20.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

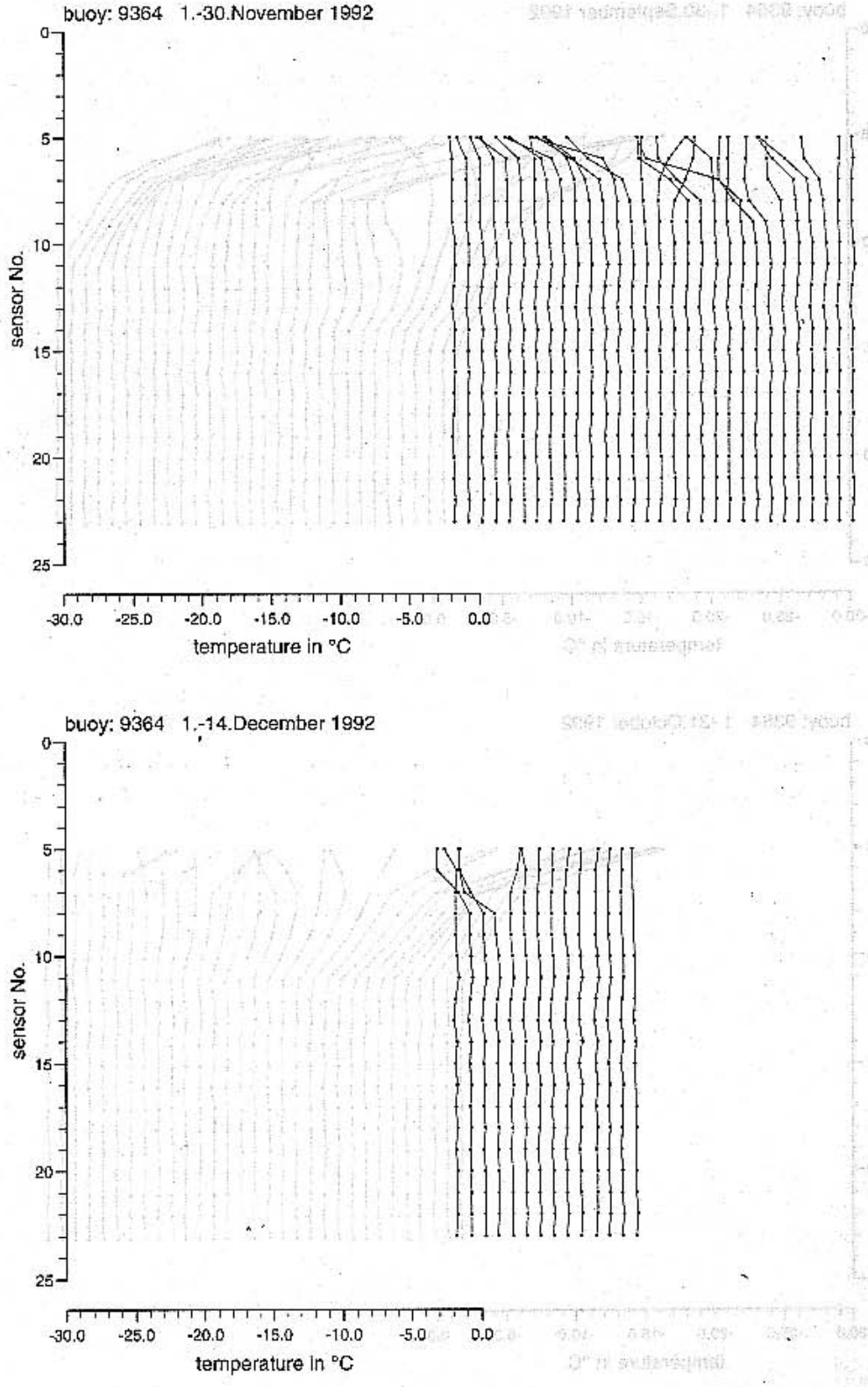


Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 5 cm, ice thickness = 53 cm, the distance from sensor 1 to the snow surface = 74 cm, the sensors 9 to 14 were in the ice and the sensors 15 to 23 in water.

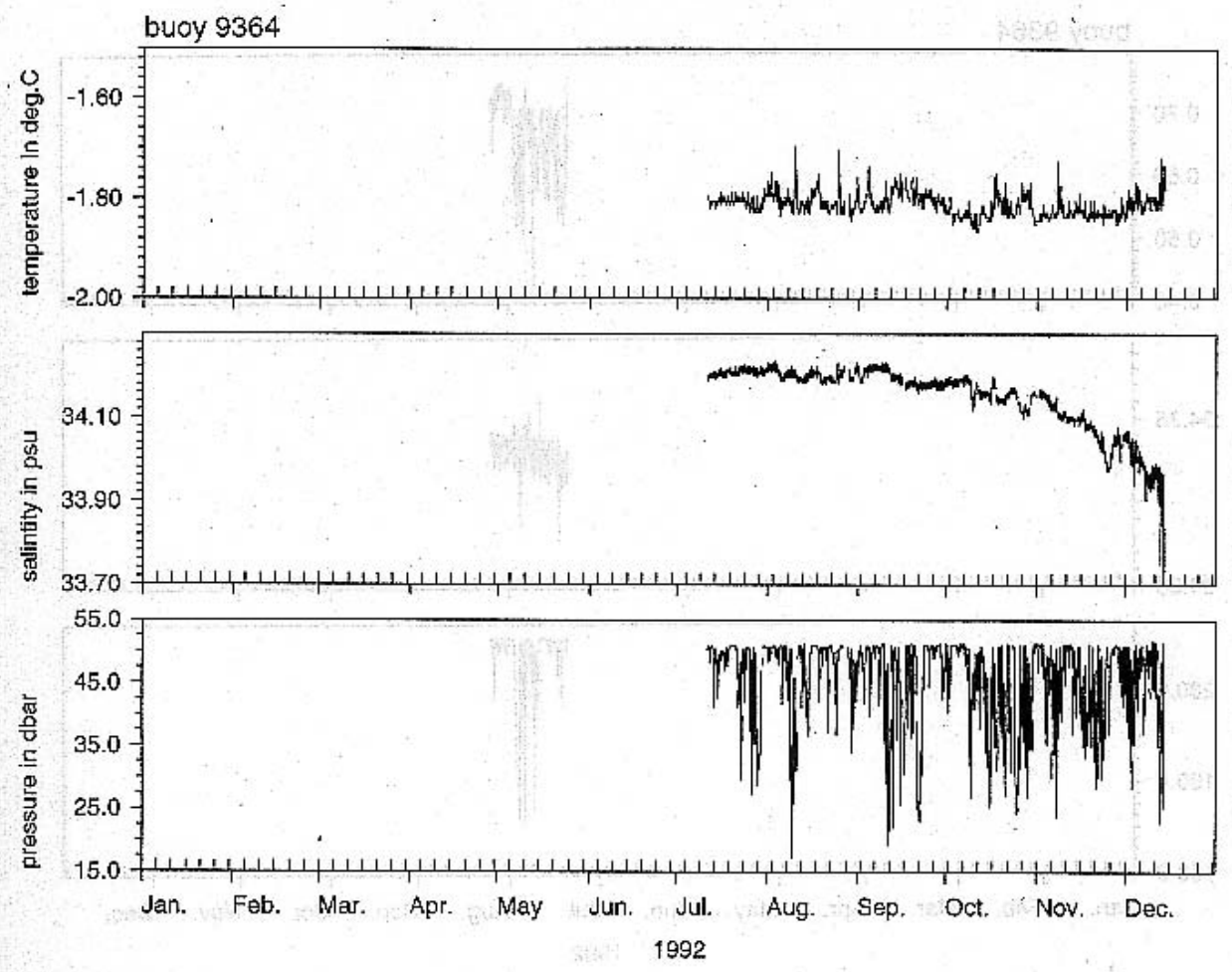




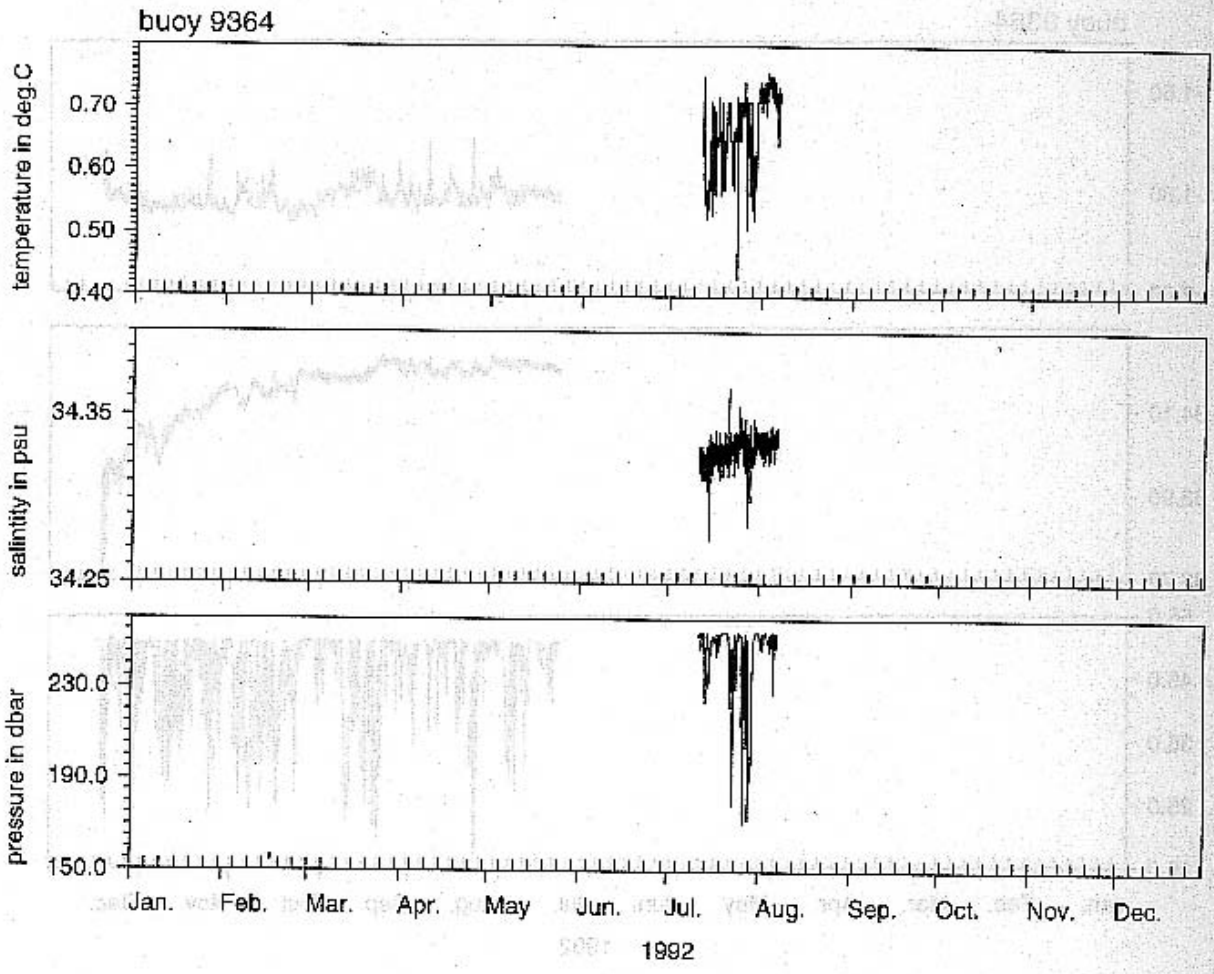
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 5 cm, ice thickness = 53 cm, the distance from sensor 1 to the snow surface = 74 cm, the sensors 9 to 14 were in the ice and the sensors 15 to 23 in water.



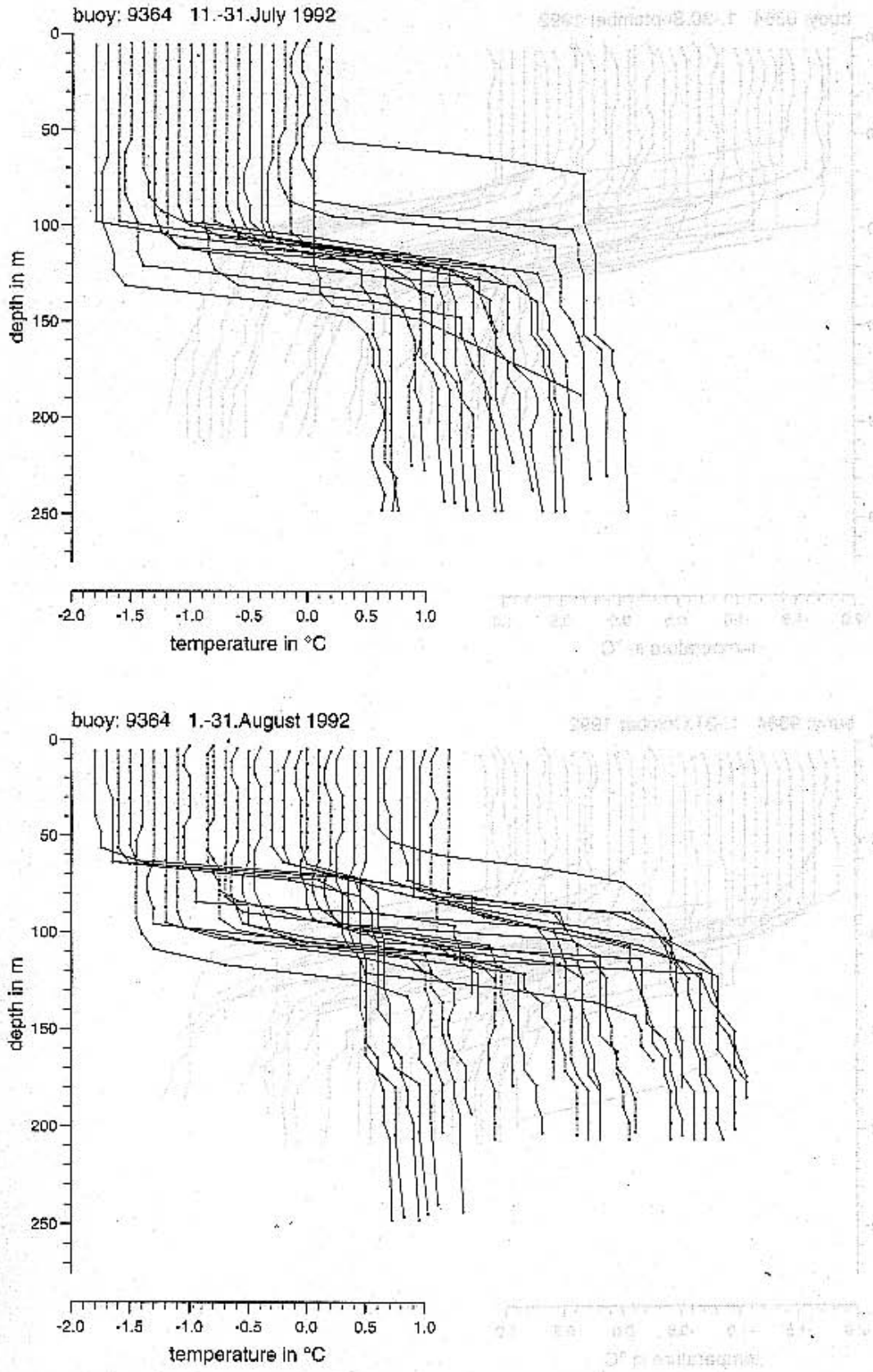
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 5 cm, ice thickness = 53 cm, the distance from sensor 1 to the snow surface = 74 cm, the sensors 9 to 14 were in the ice and the sensors 15 to 23 in water.



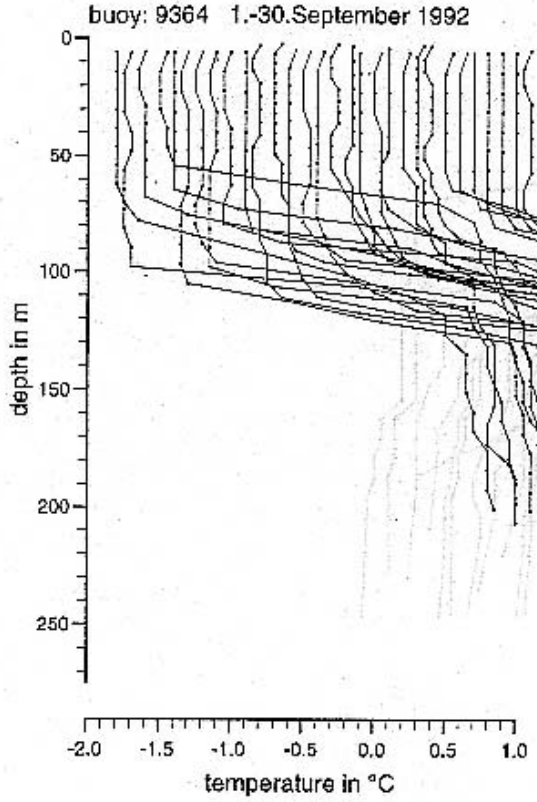
Time series of the 50 meter (nominal depth) Sea-Bird CTD

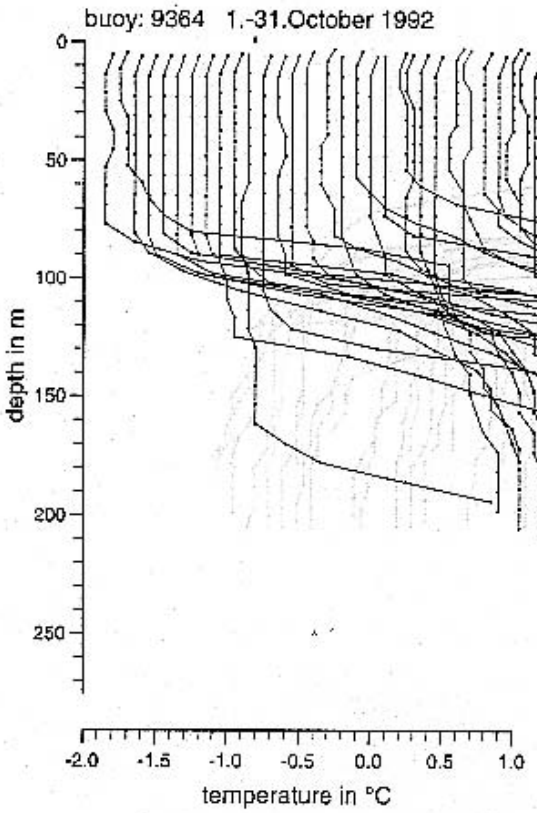


Time series of the 250 meter (nominal depth) Sea-Bird CTD

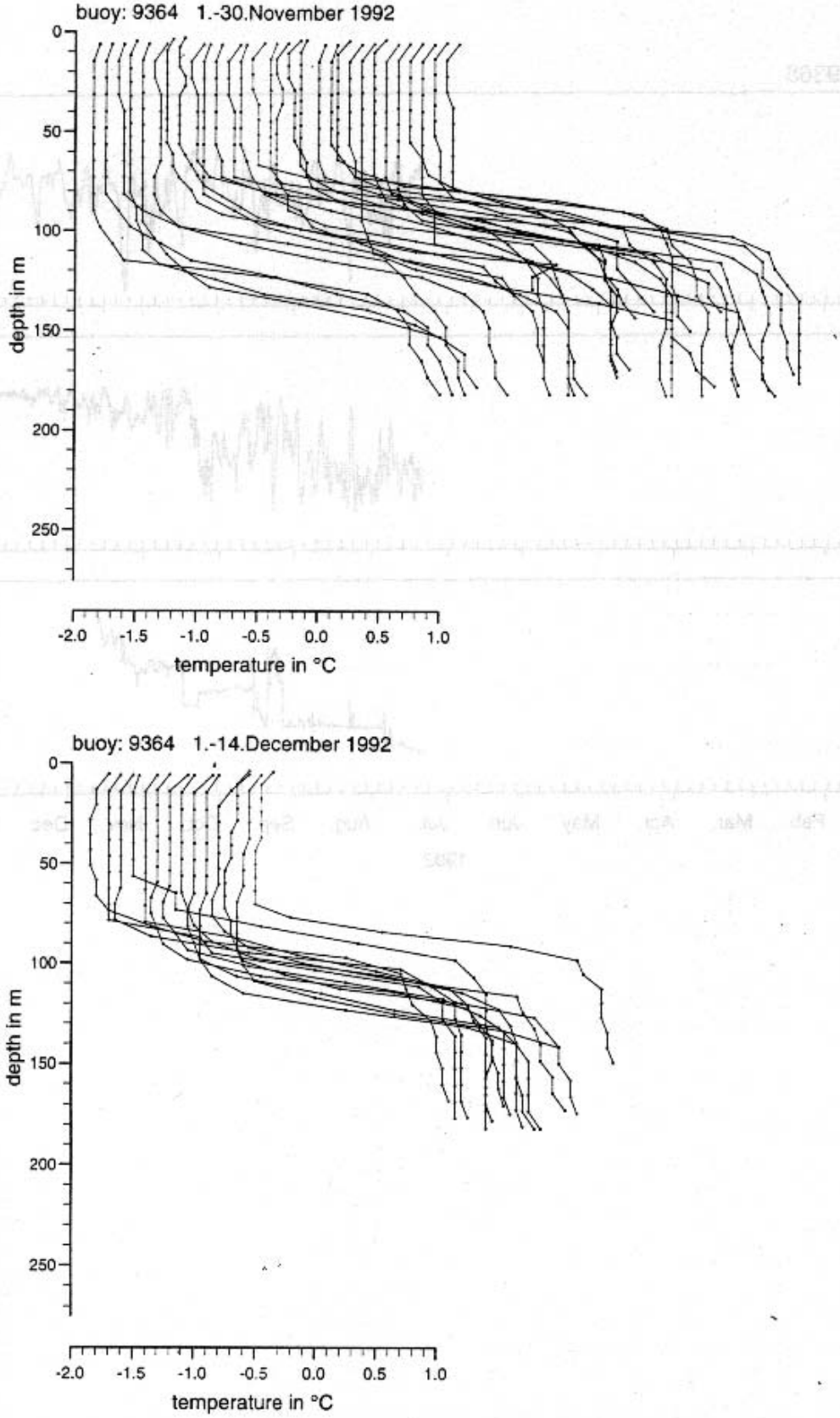


Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

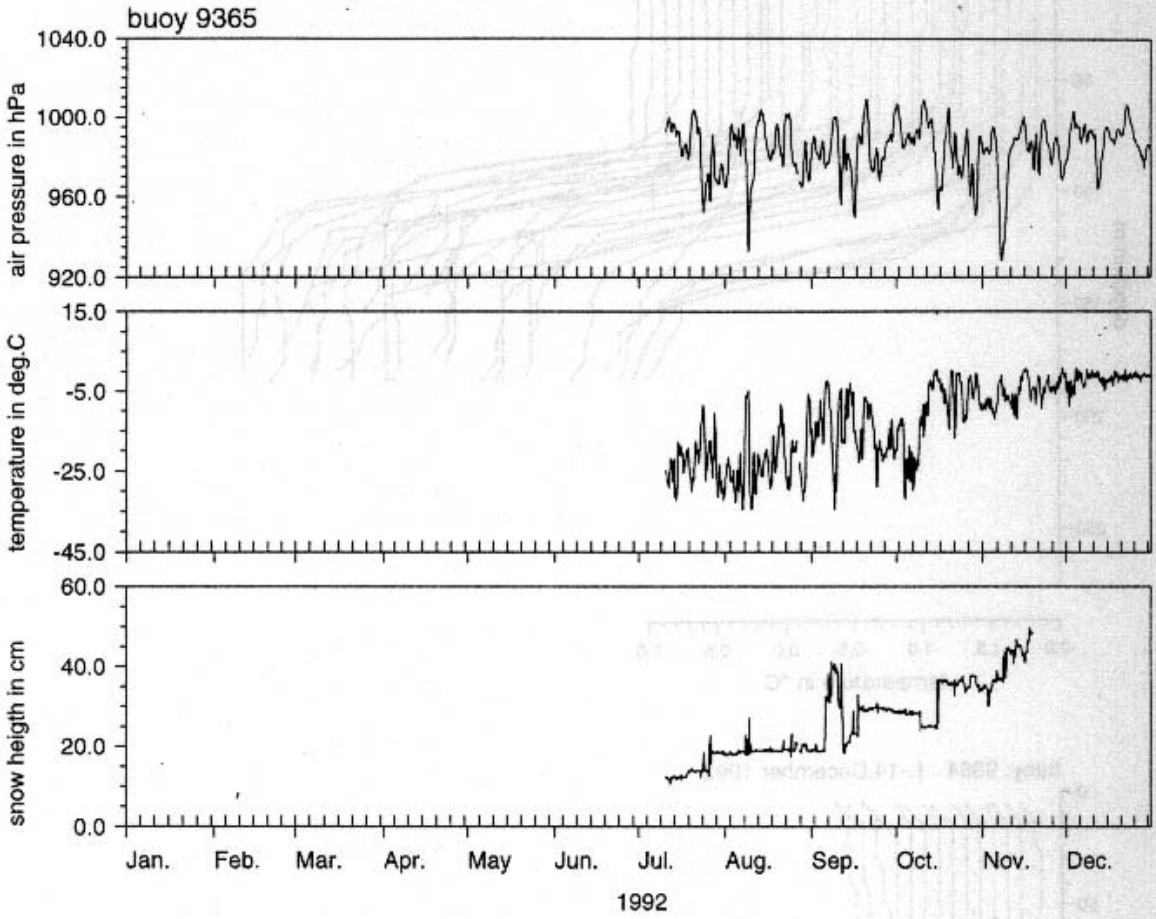


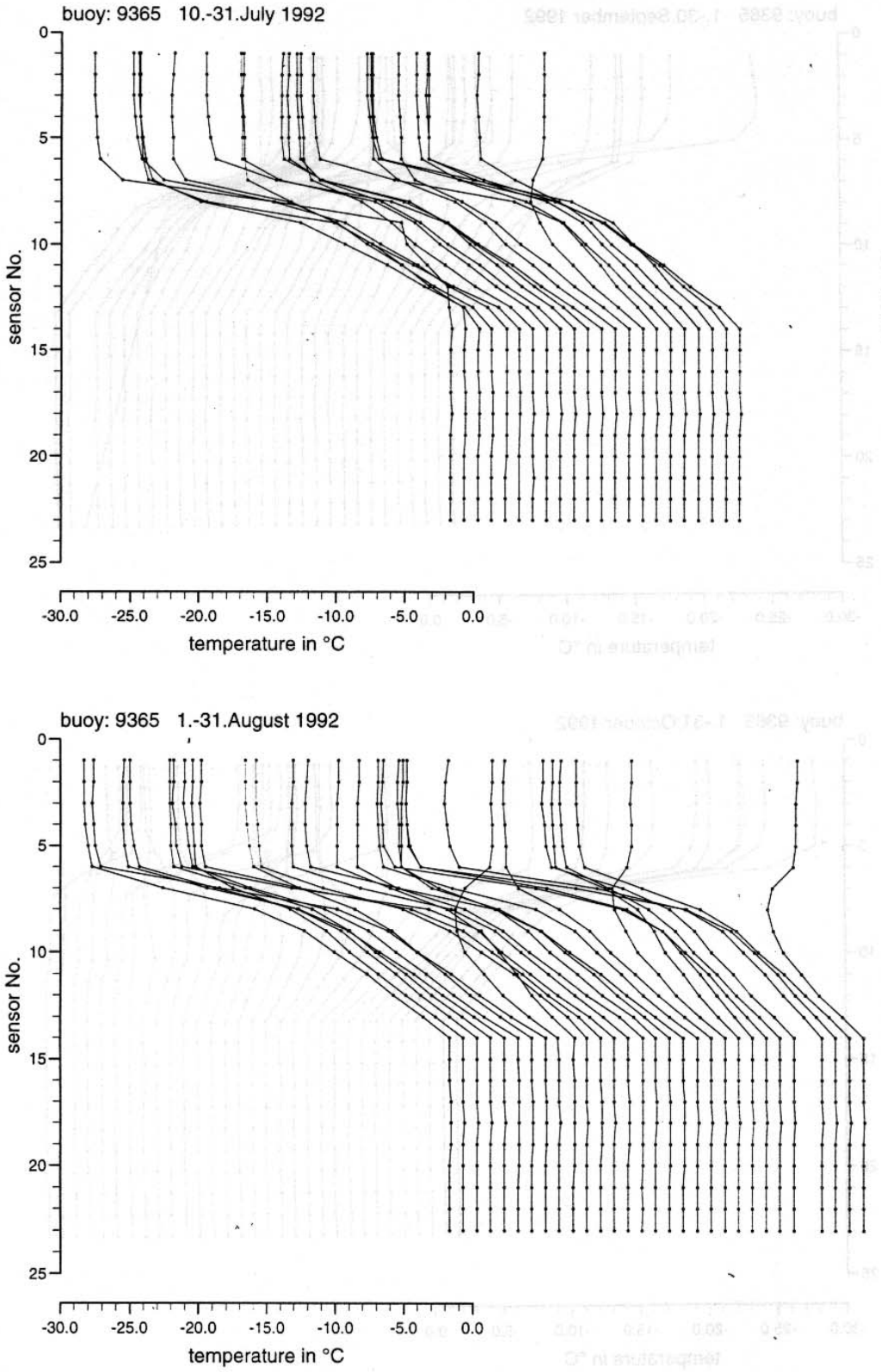


Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

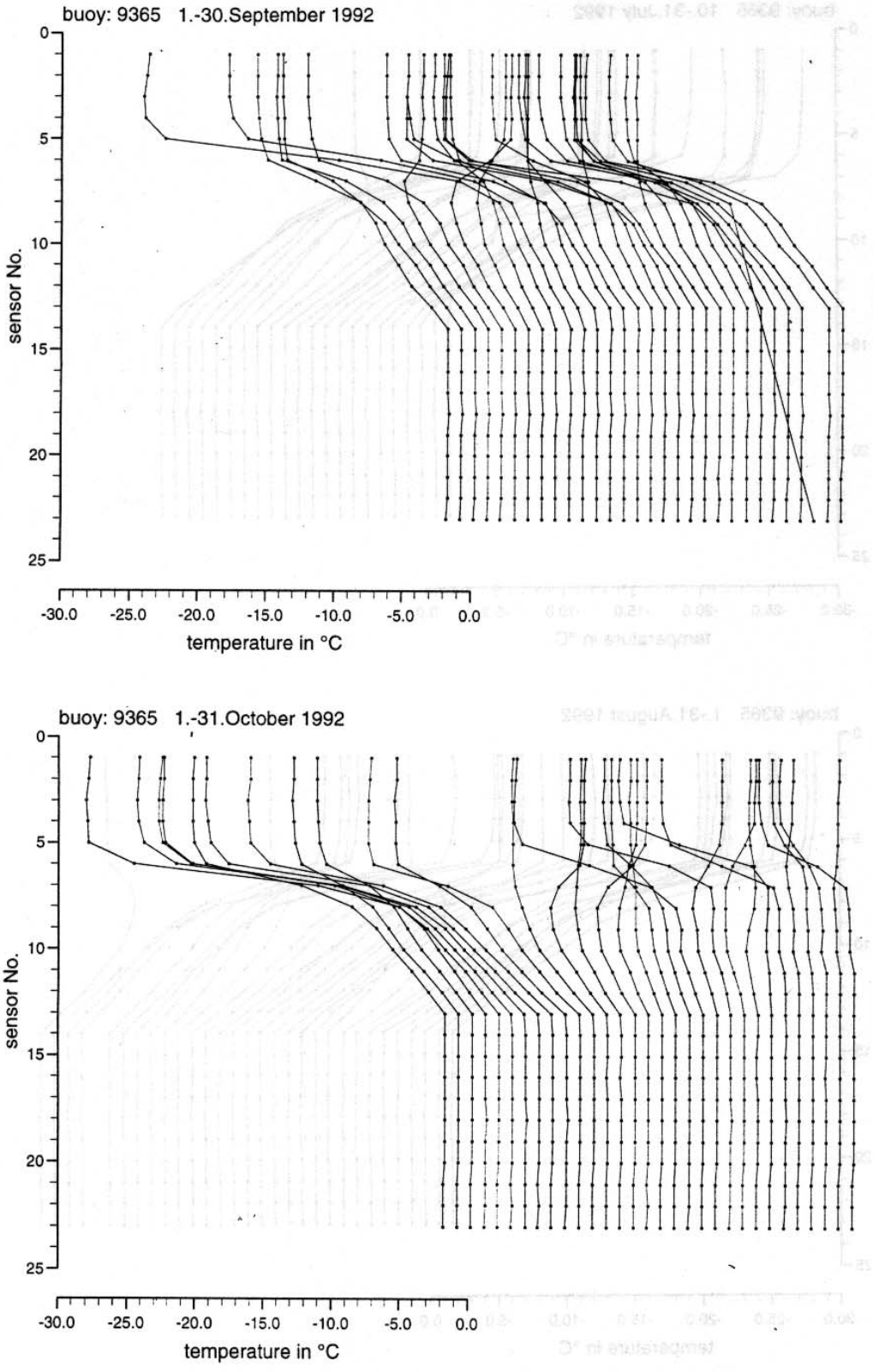


Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

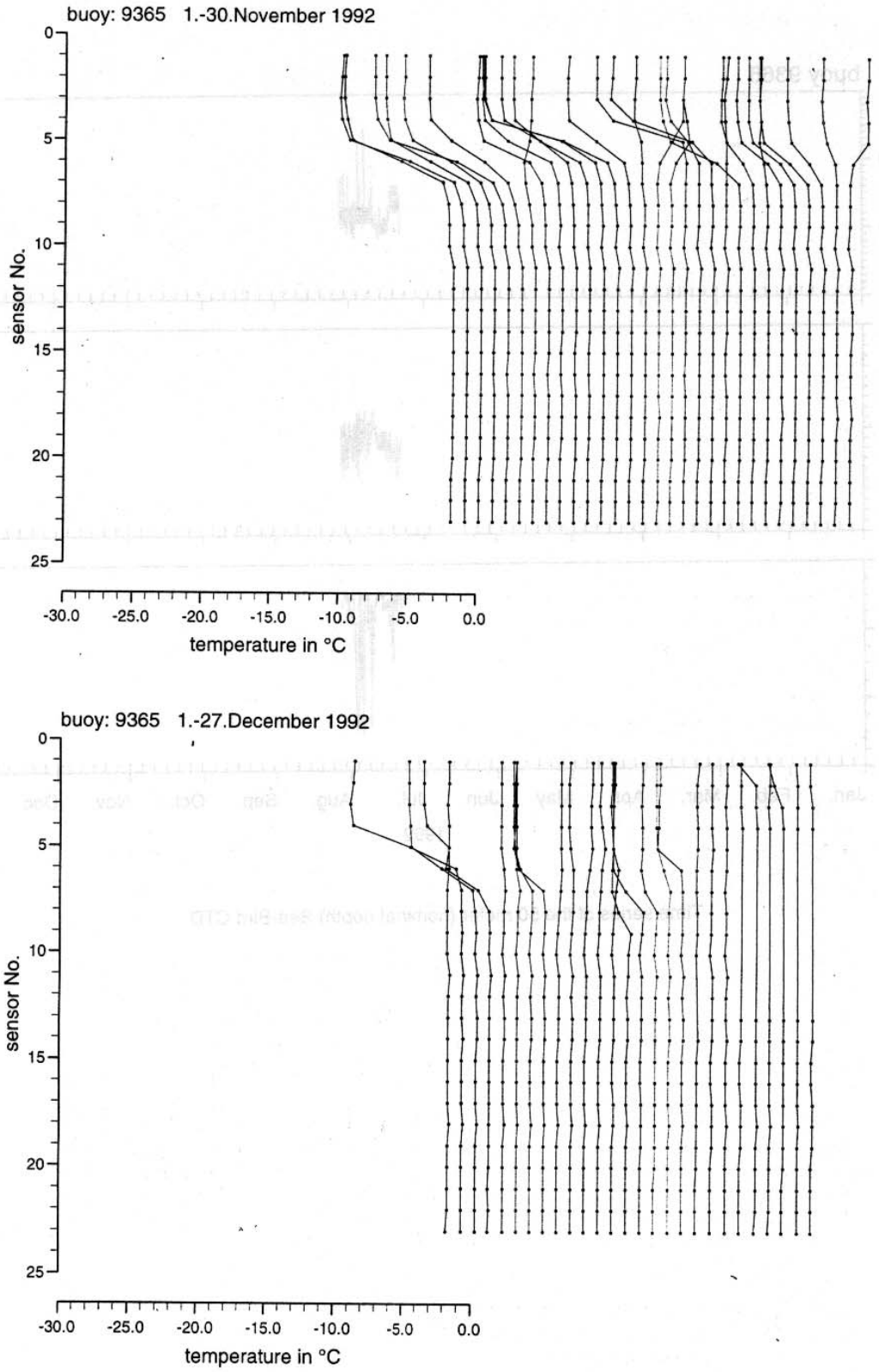

buoy 9365
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
snow heigth in cm
60.0
40.0
20.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992



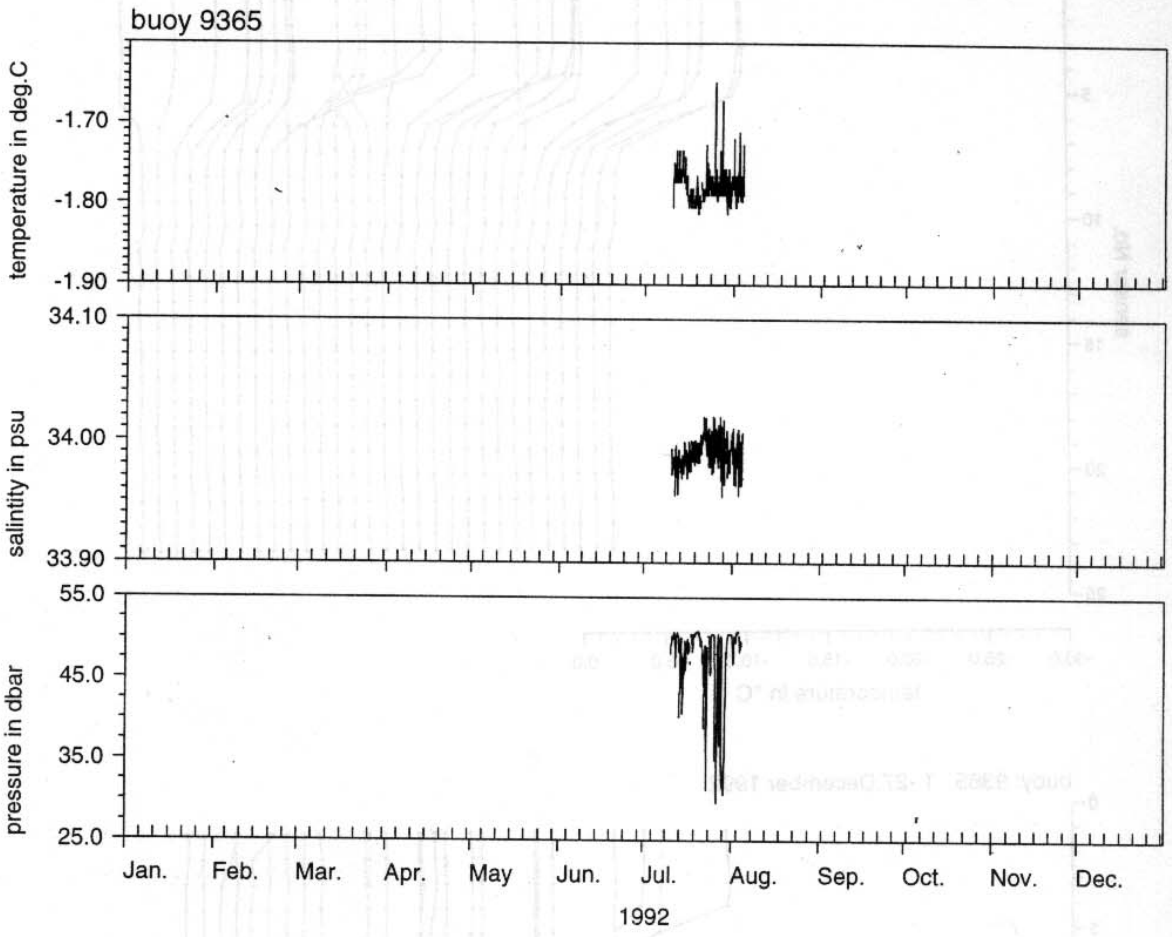
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 12 cm, ice thickness = 60 cm, the distance from sensor 1 to the snow surface = 63 cm, the sensors 8 to 14 were in the ice and the sensors 15 to 23 in water.



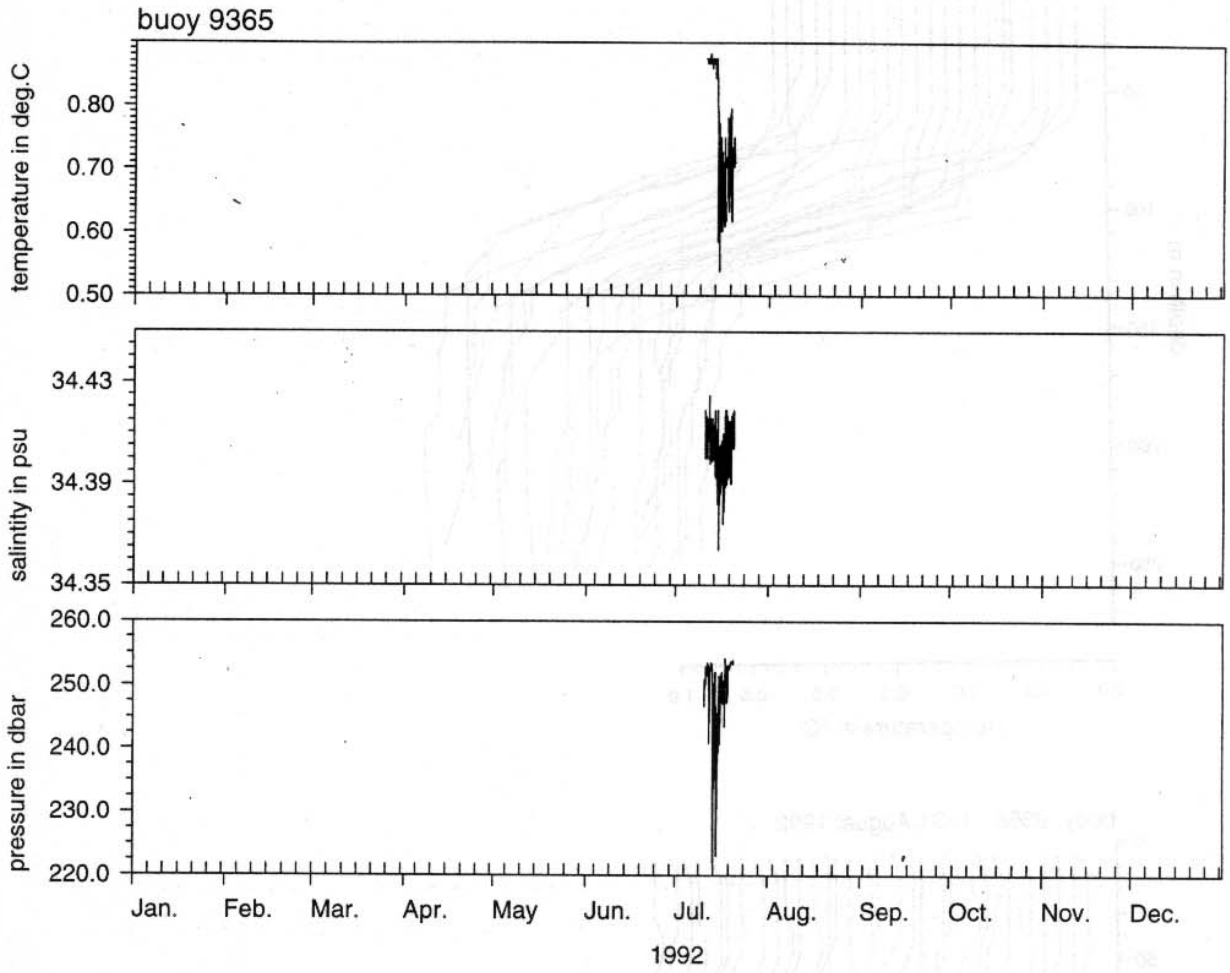
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 12 cm, ice thickness = 60 cm, the distance from sensor 1 to the snow surface = 63 cm, the sensors 8 to 14 were in the ice and the sensors 15 to 23 in water.



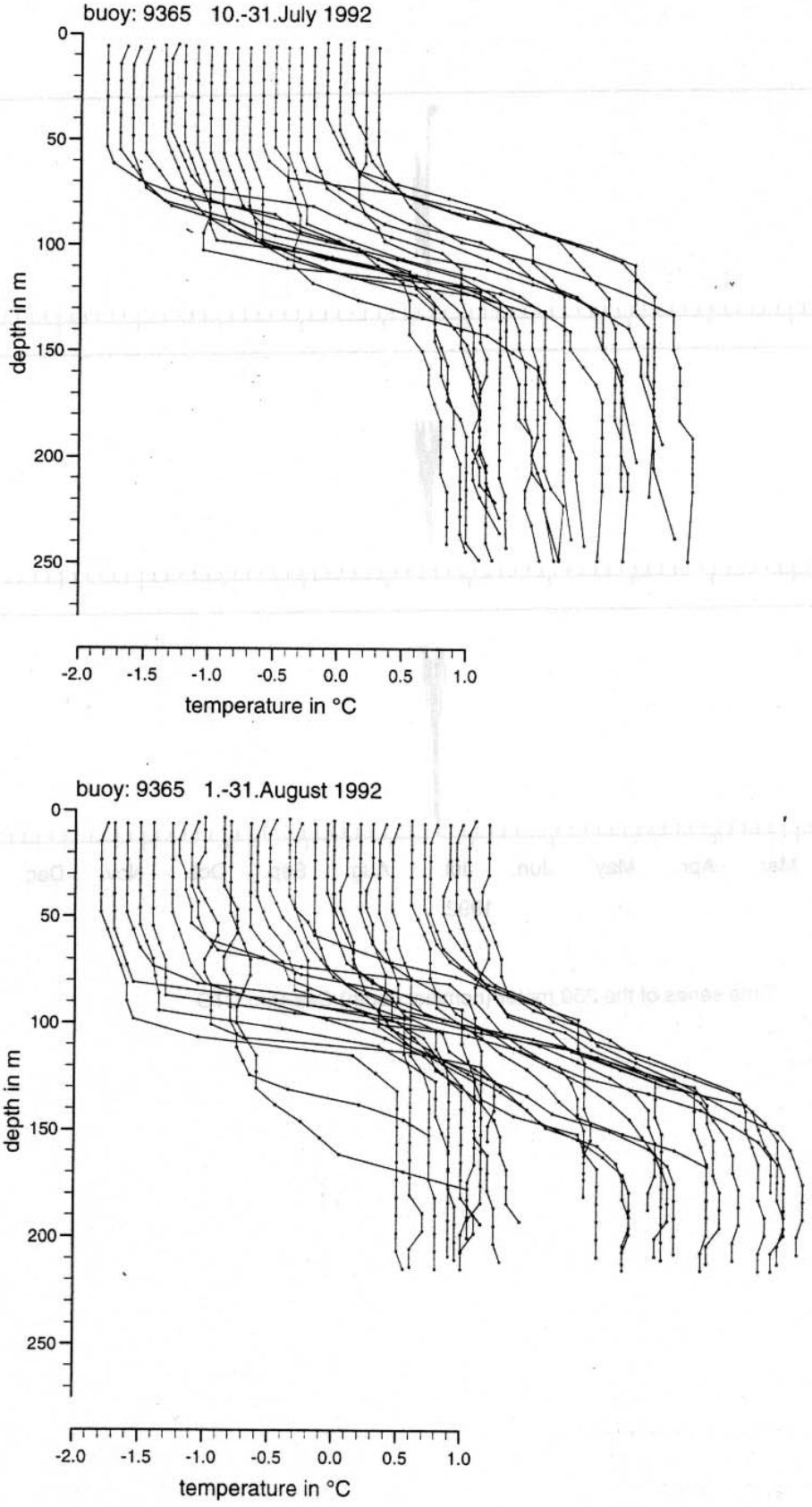
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 12 cm, ice thickness = 60 cm, the distance from sensor 1 to the snow surface = 63 cm, the sensors 8 to 14 were in the ice and the sensors 15 to 23 in water.



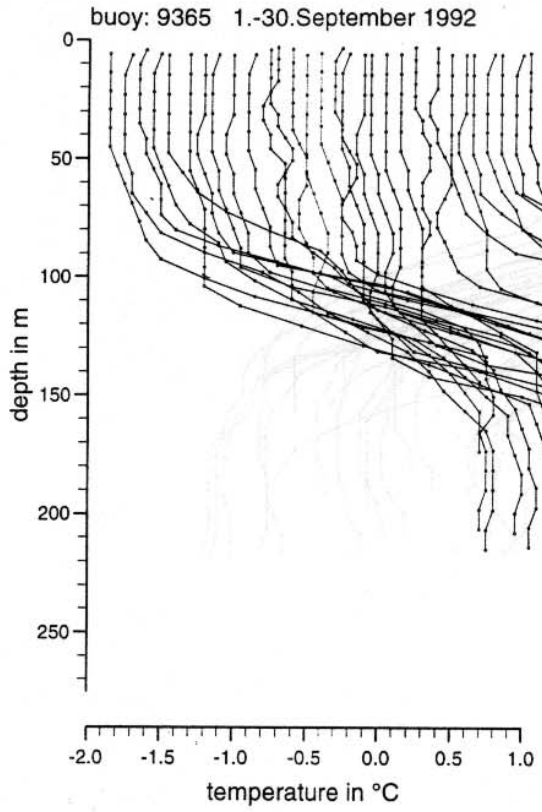
Time series of the 50 meter (nominal depth) Sea-Bird CTD

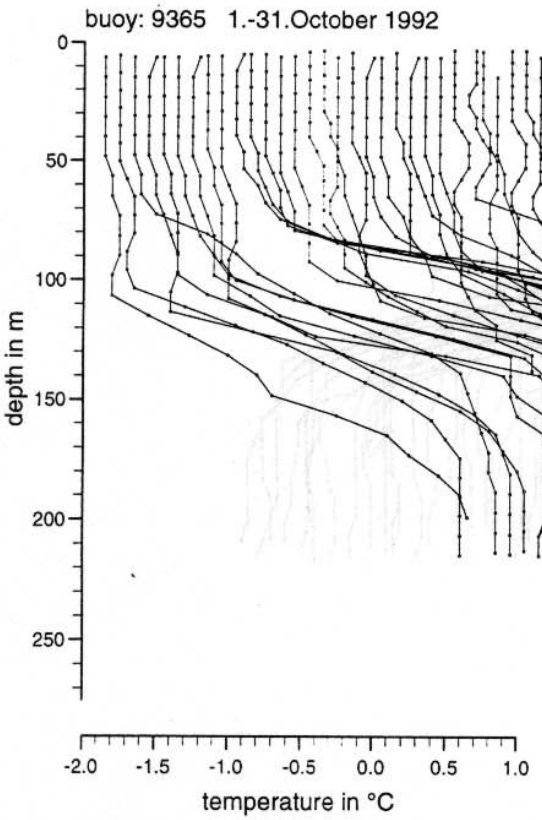


Time series of the 250 meter (nominal depth) Sea-Bird CTD

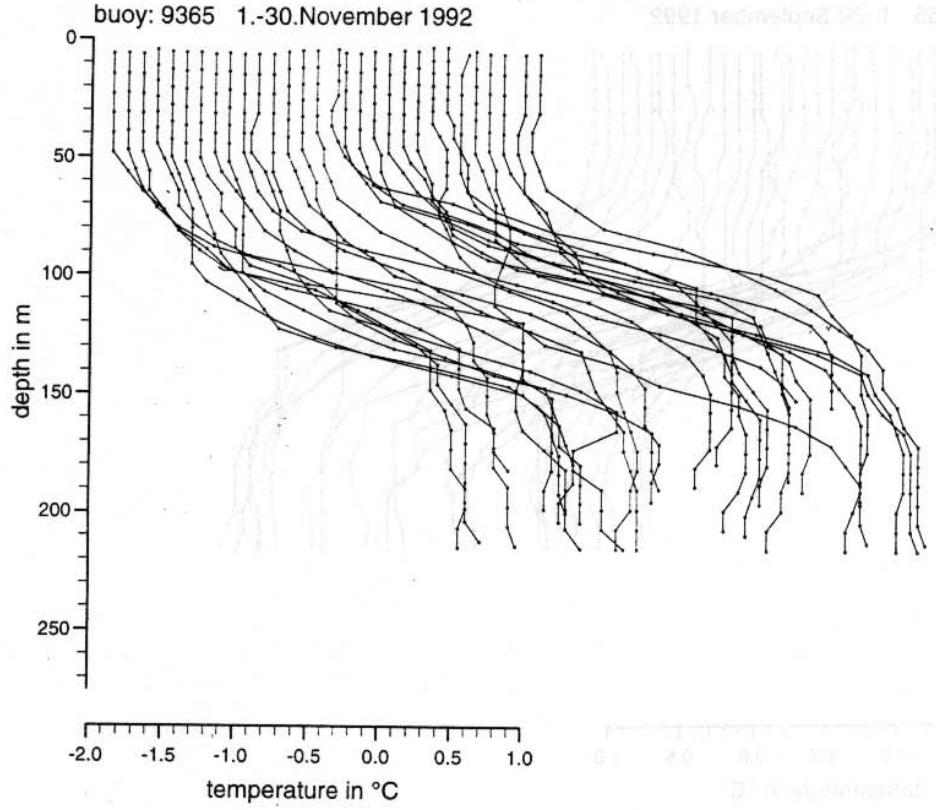


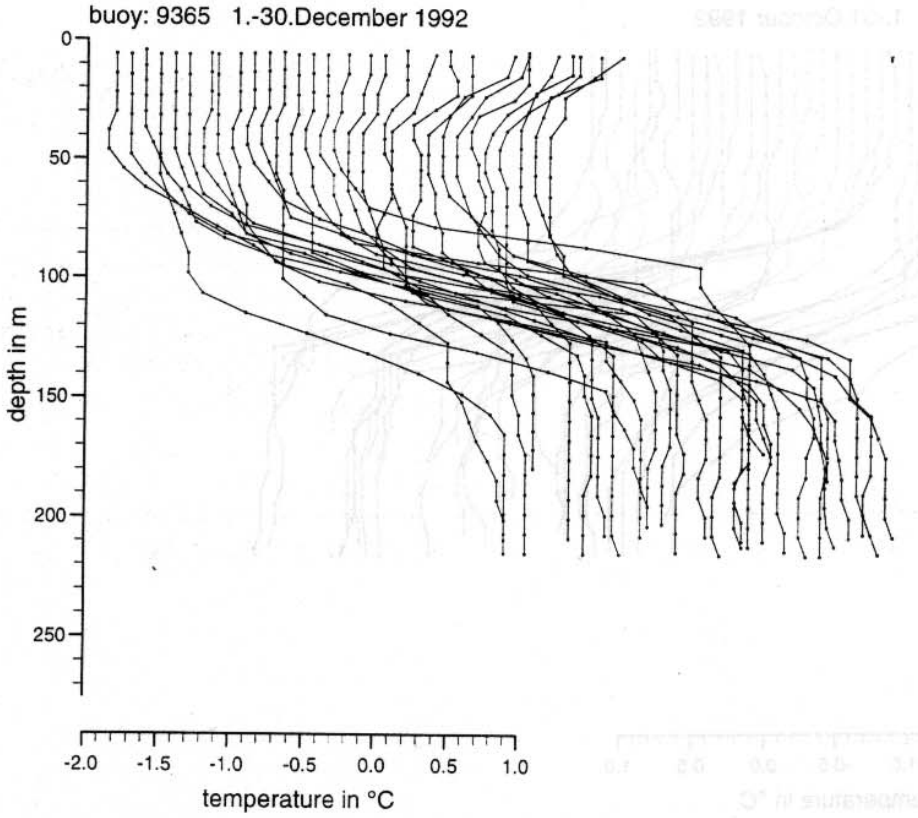
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.



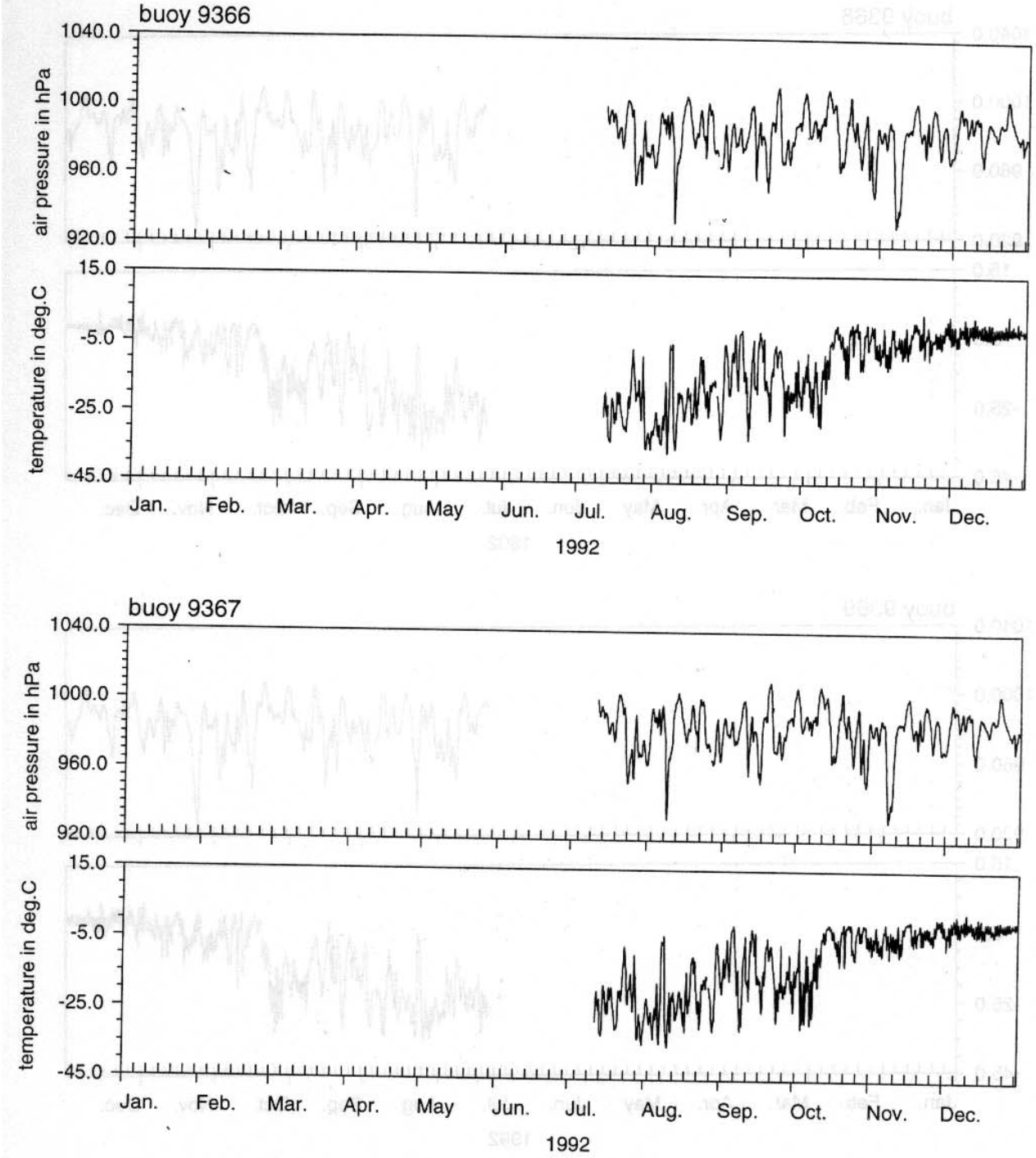


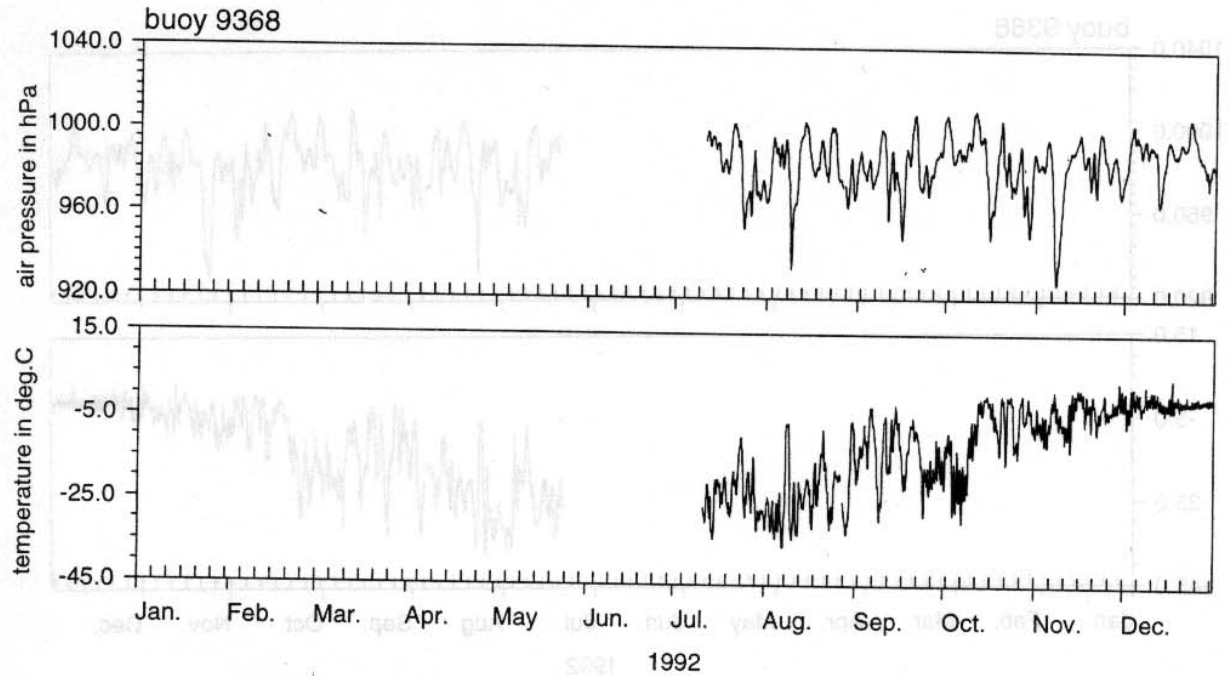
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

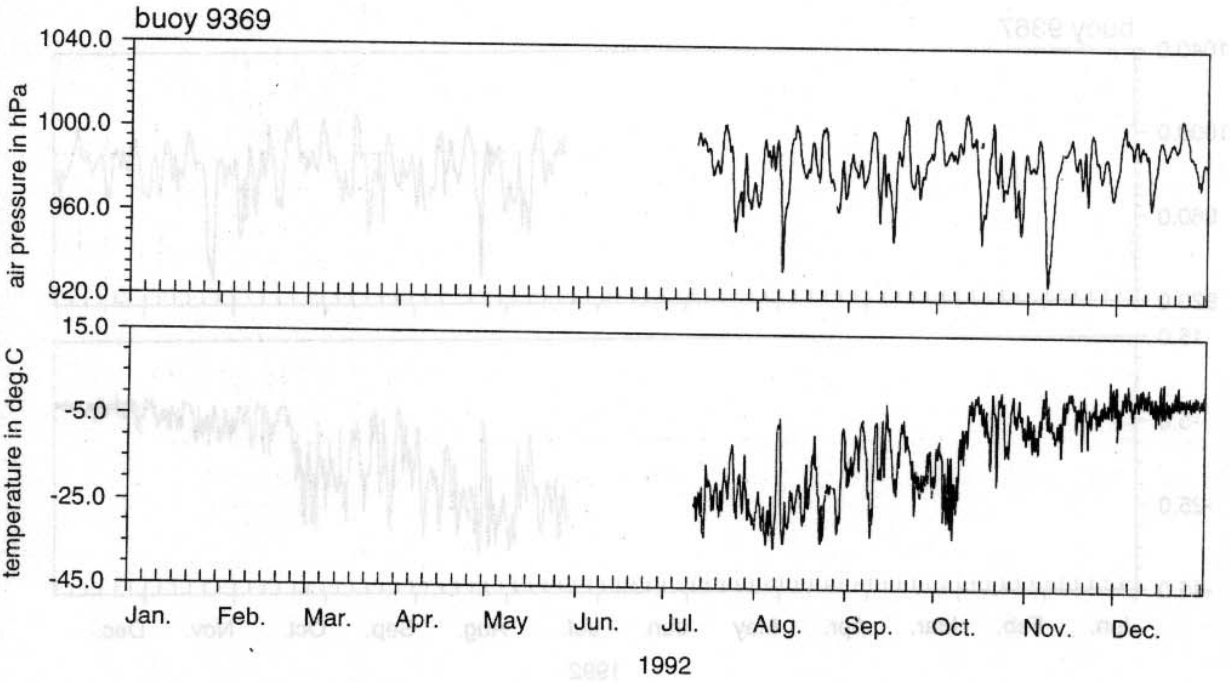


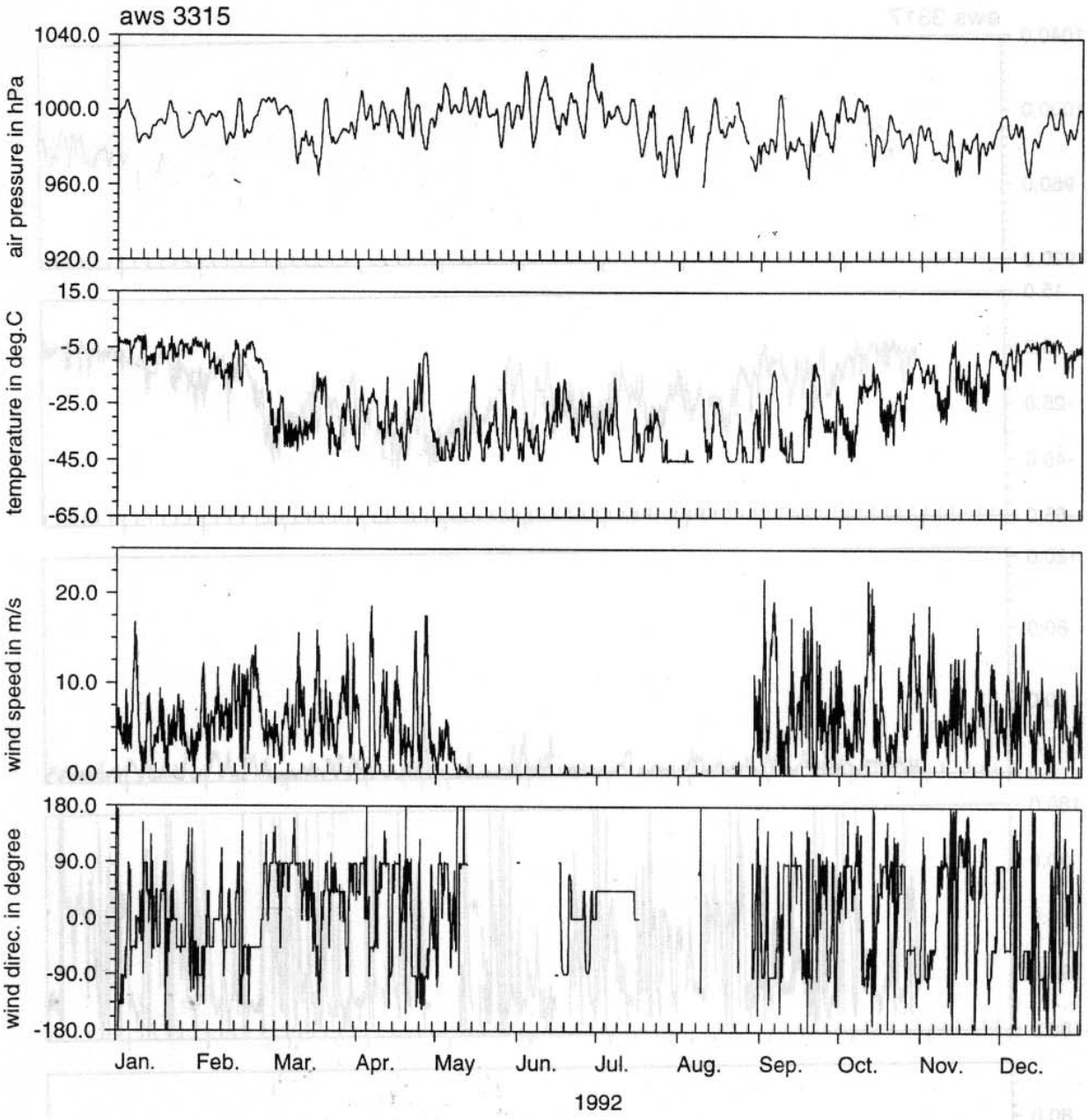


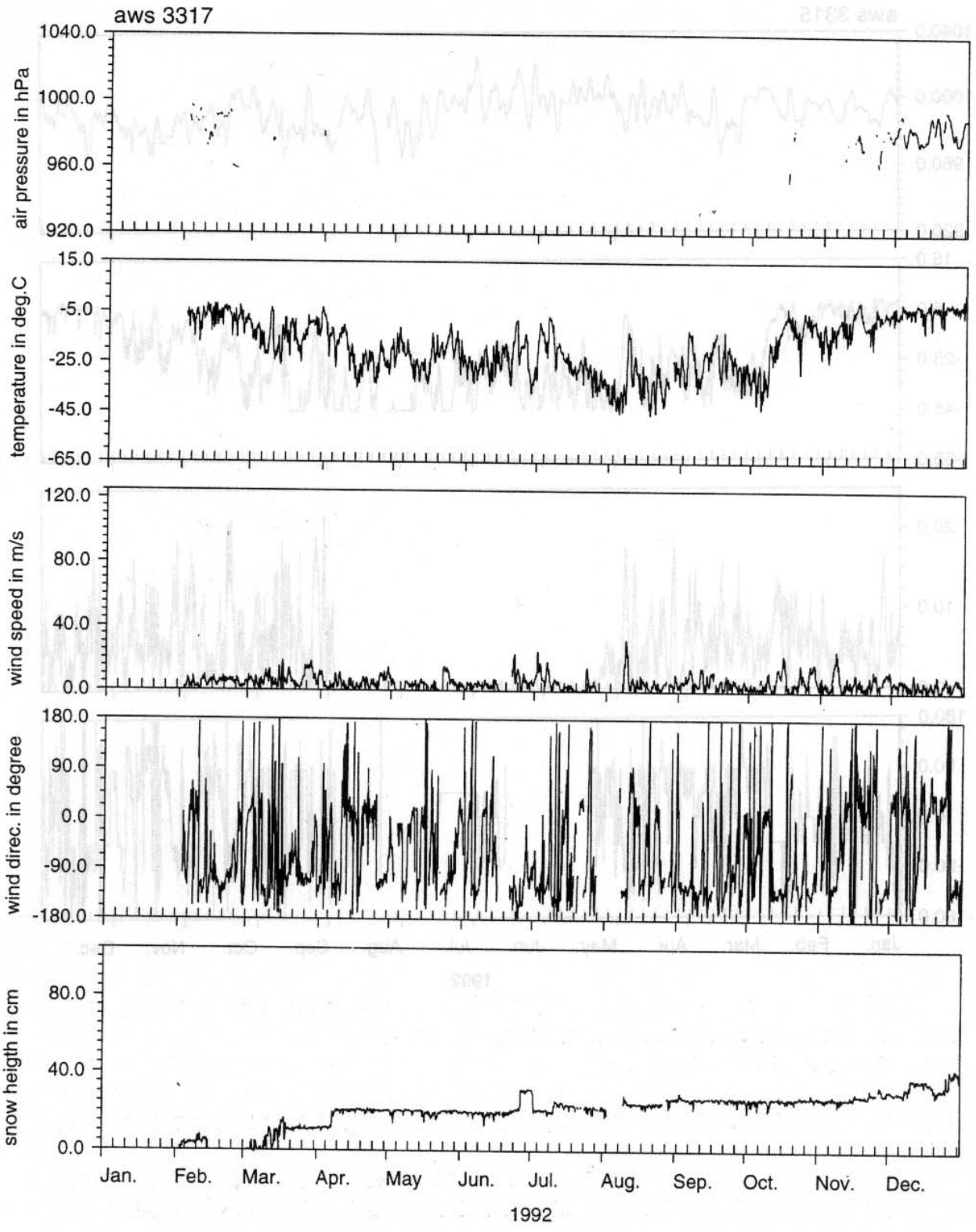
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

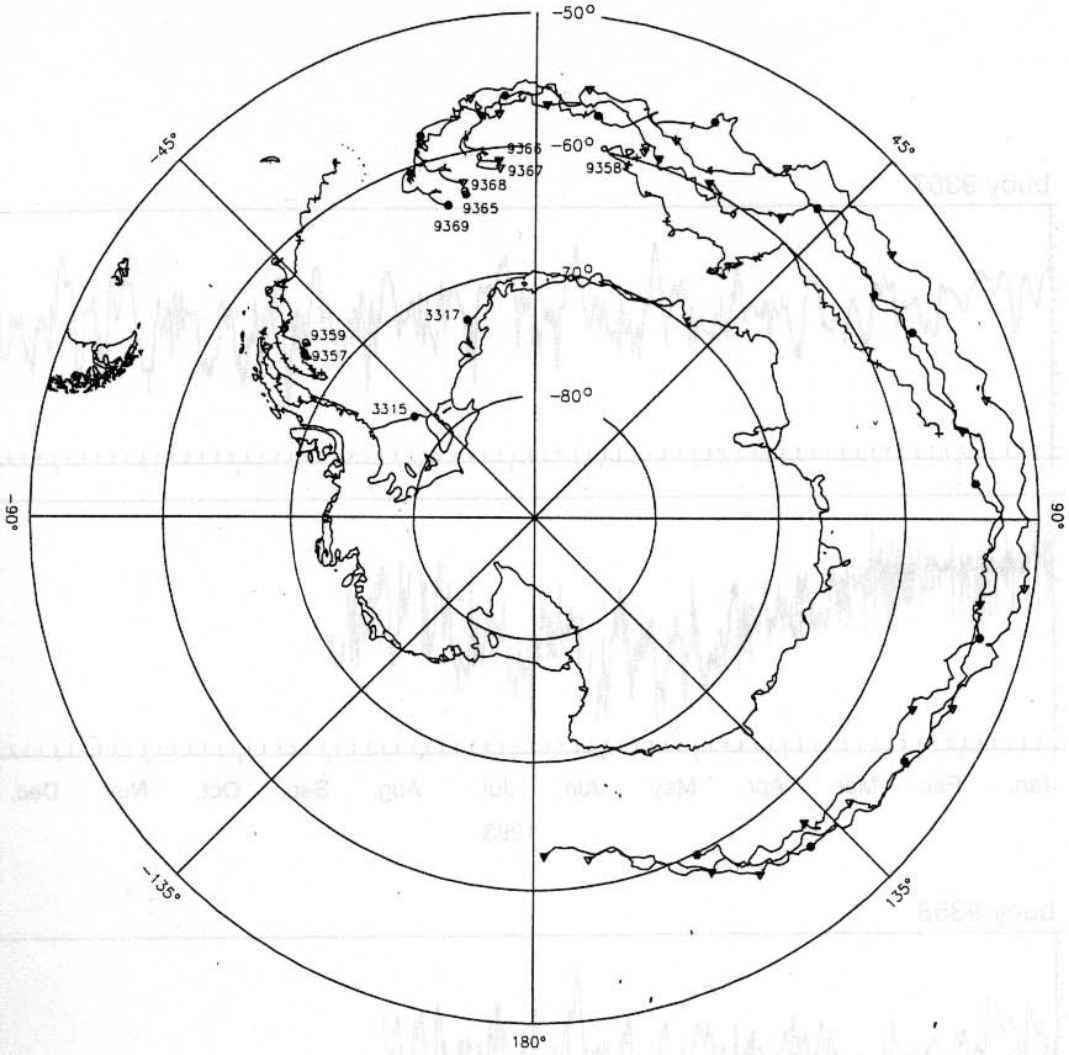

buoy 9366
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992
buoy 9367
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992


buoy 9368
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

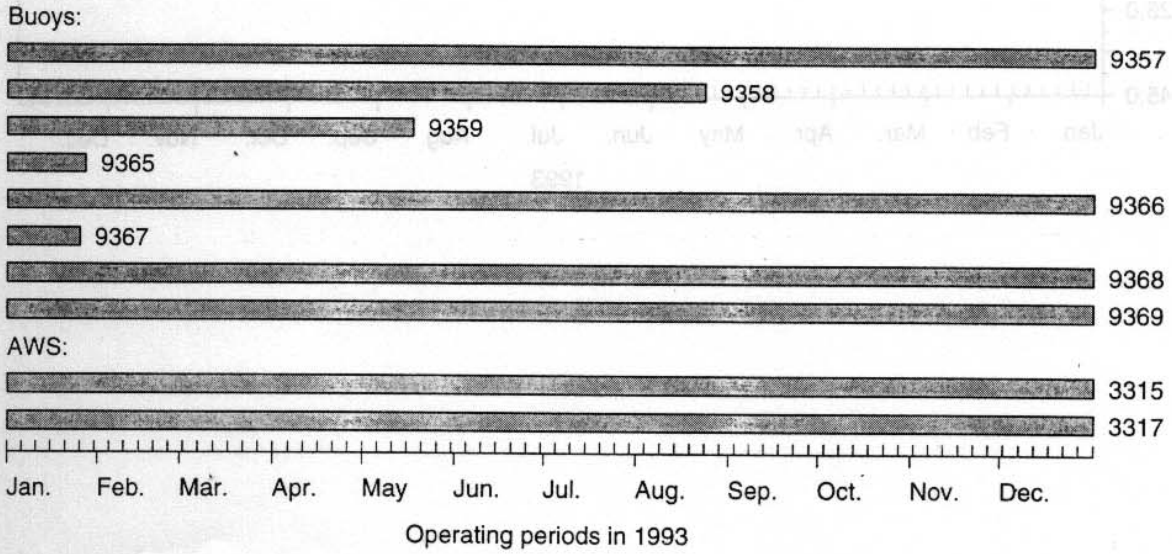

buoy 9369
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

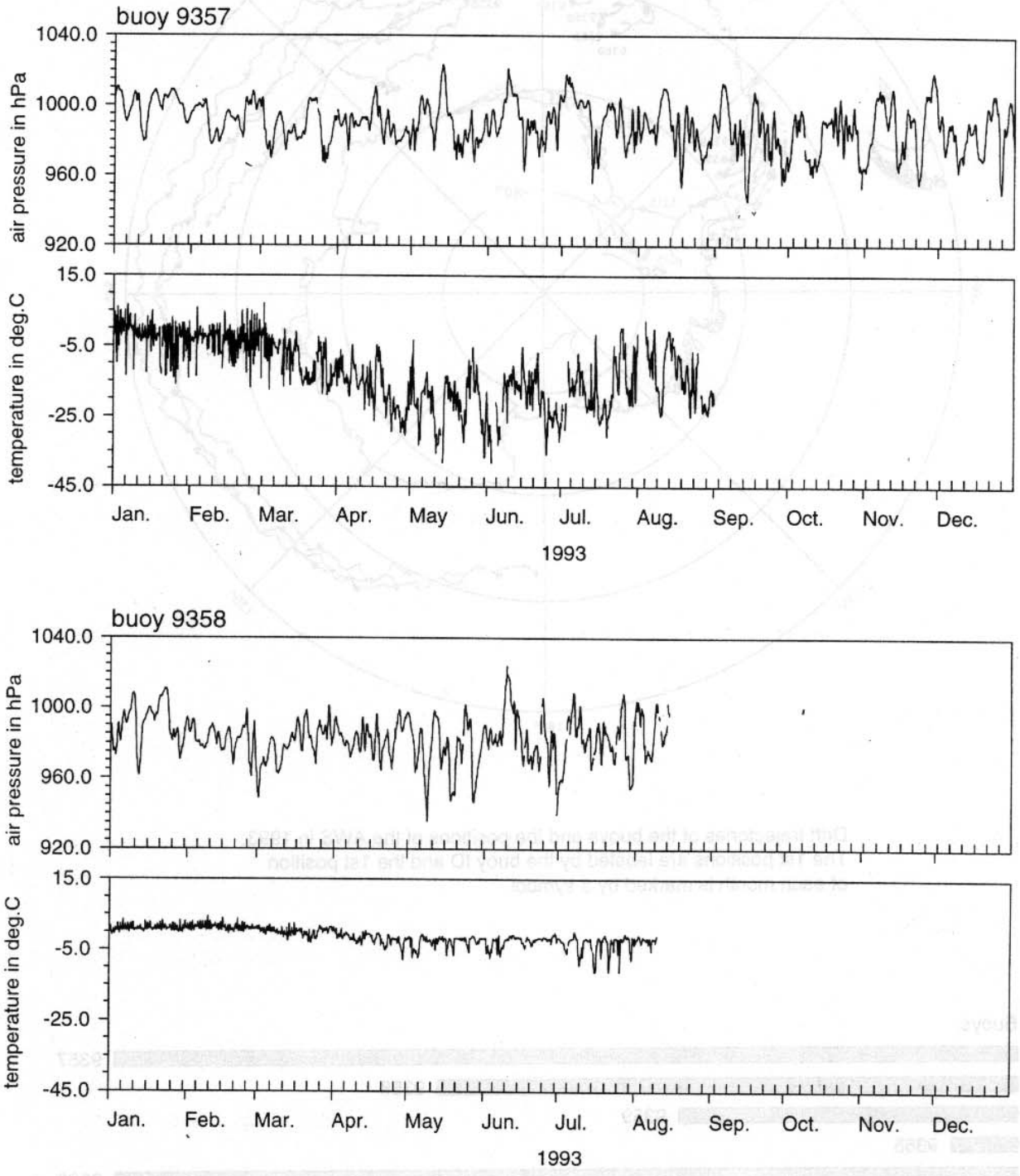

aws 3315
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

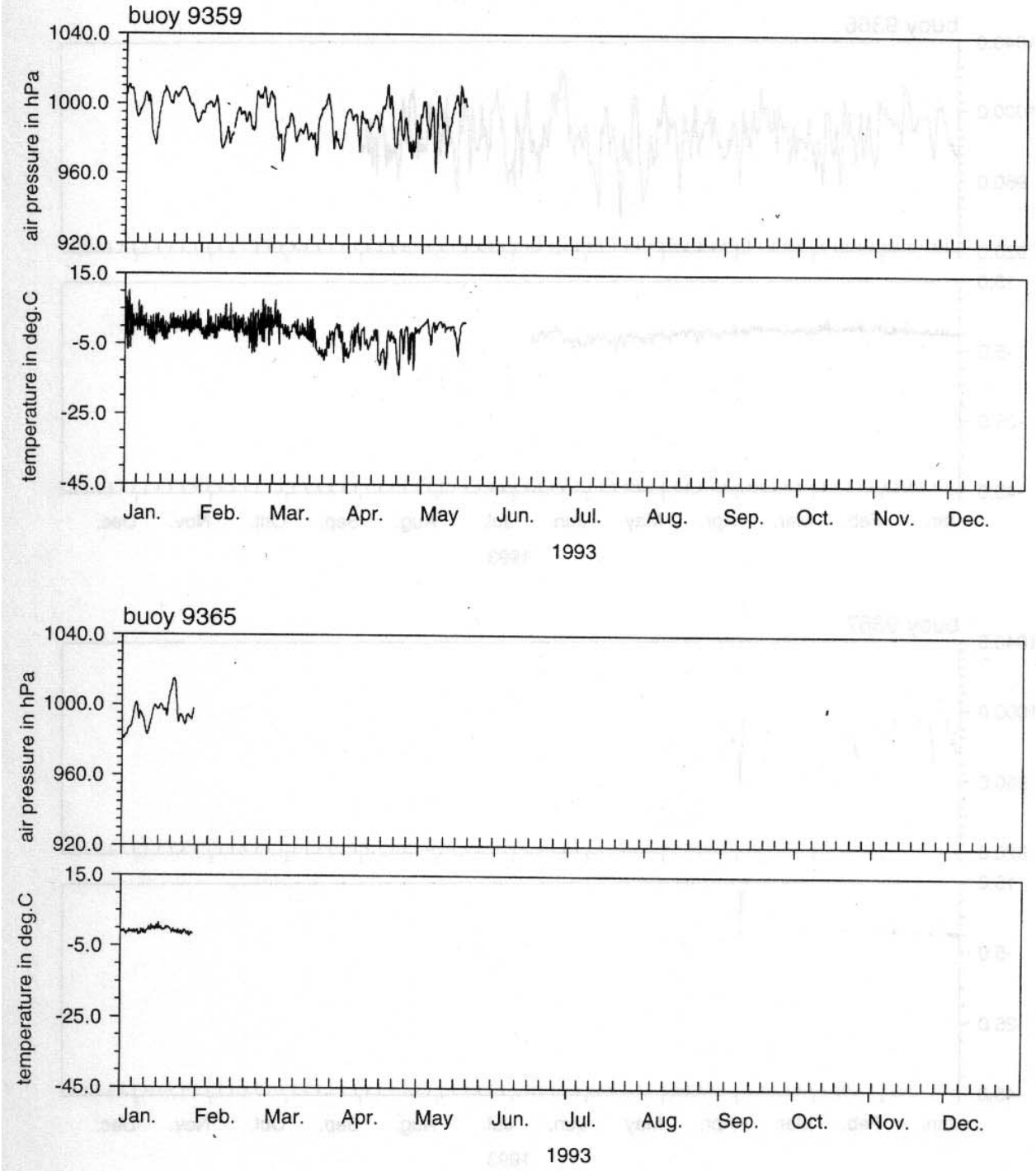

aws 3317
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
120.0
80.0
40.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
snow heigth in cm
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1992

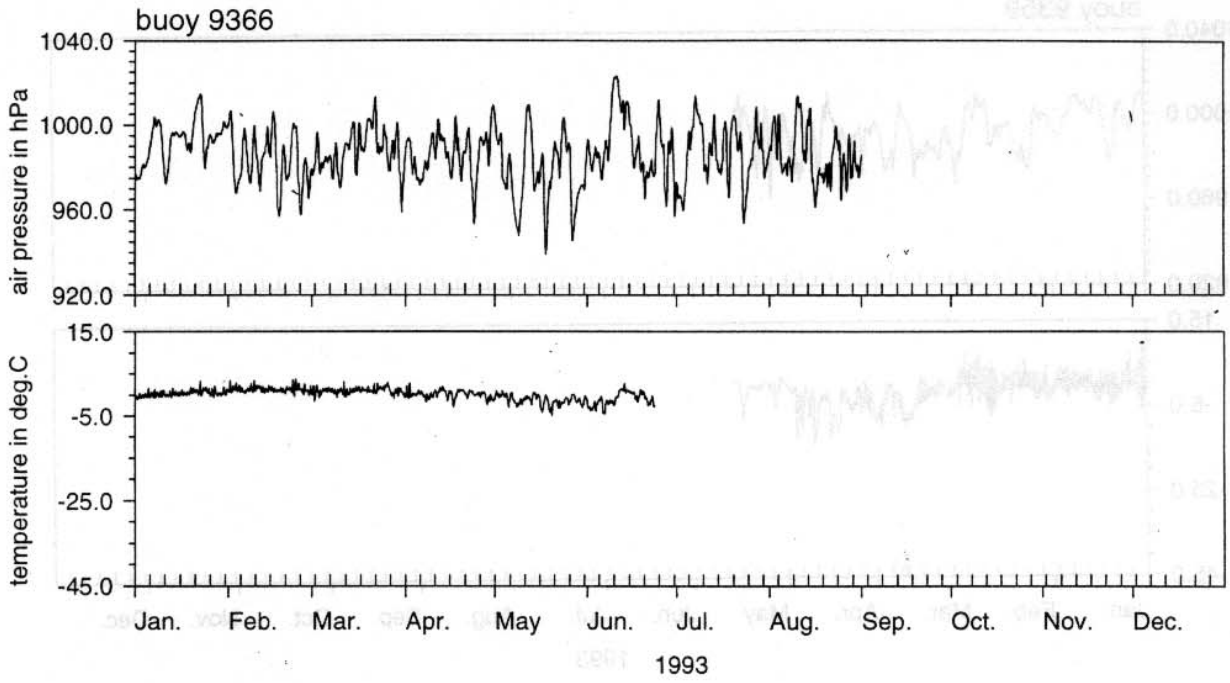


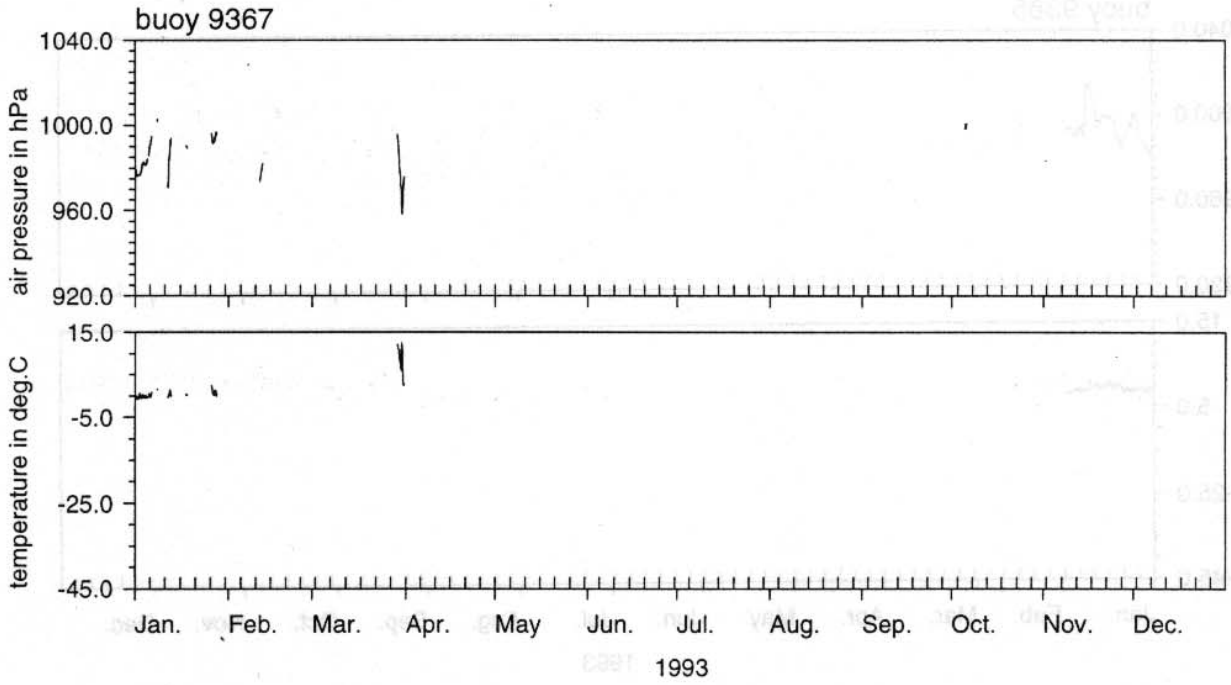
Drift trajectories of the buoys and the positions of the AWS in 1993.
The 1st positions are labeled by the buoy ID and the 1st position
of each month is marked by a symbol.

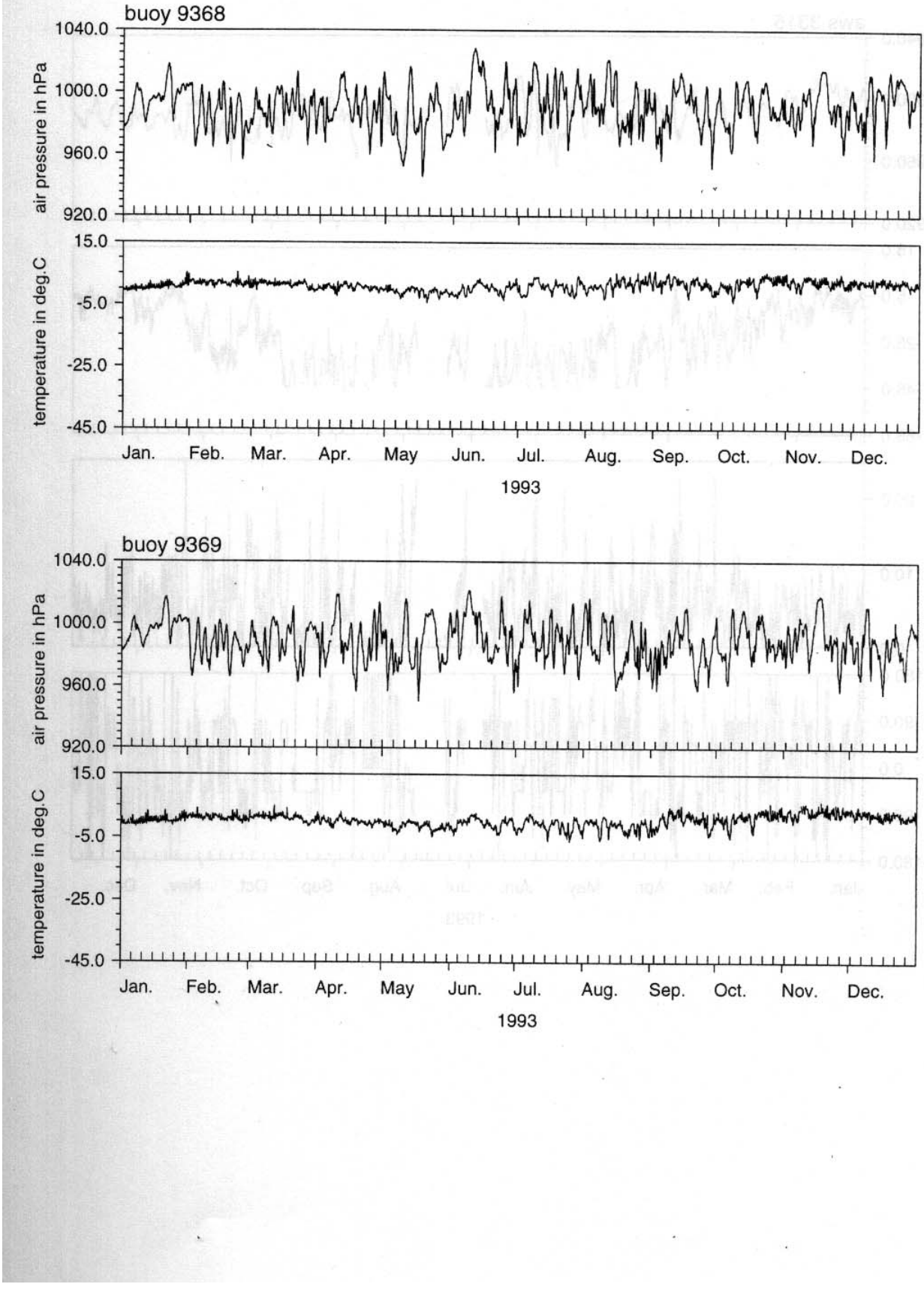


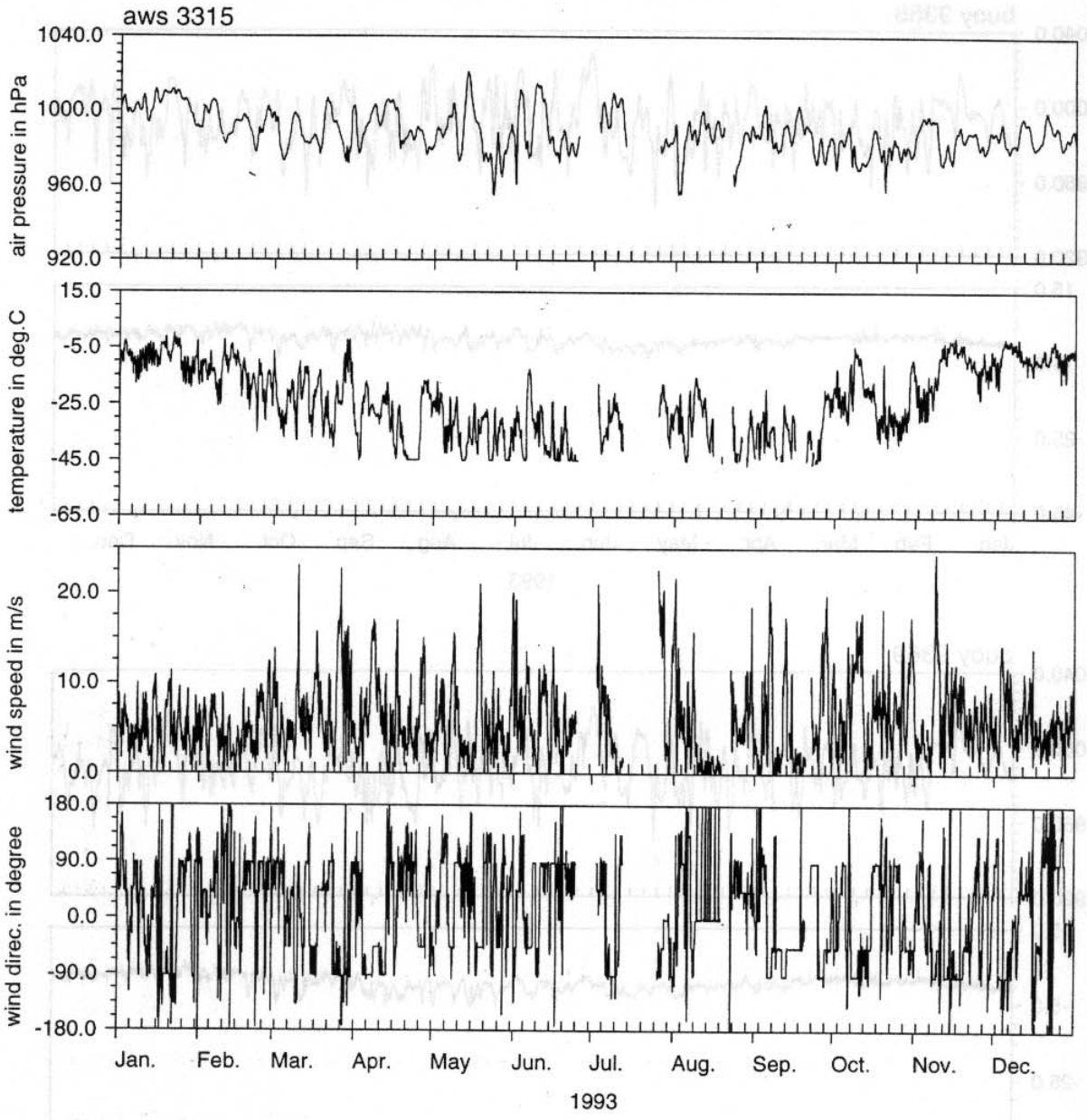

buoy 9357
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993
buoy 9358
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993

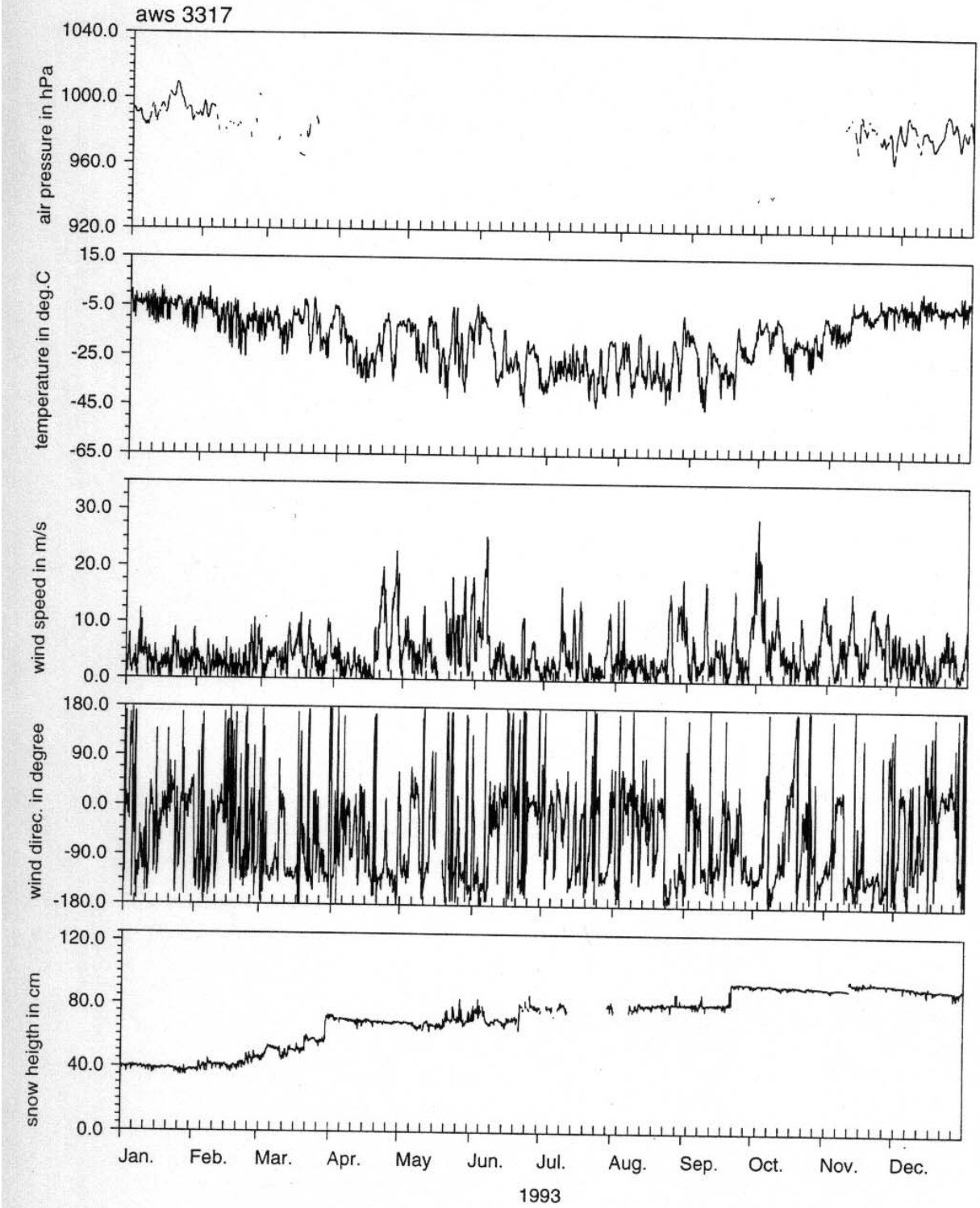

buoy 9359
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993
buoy 9365
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993

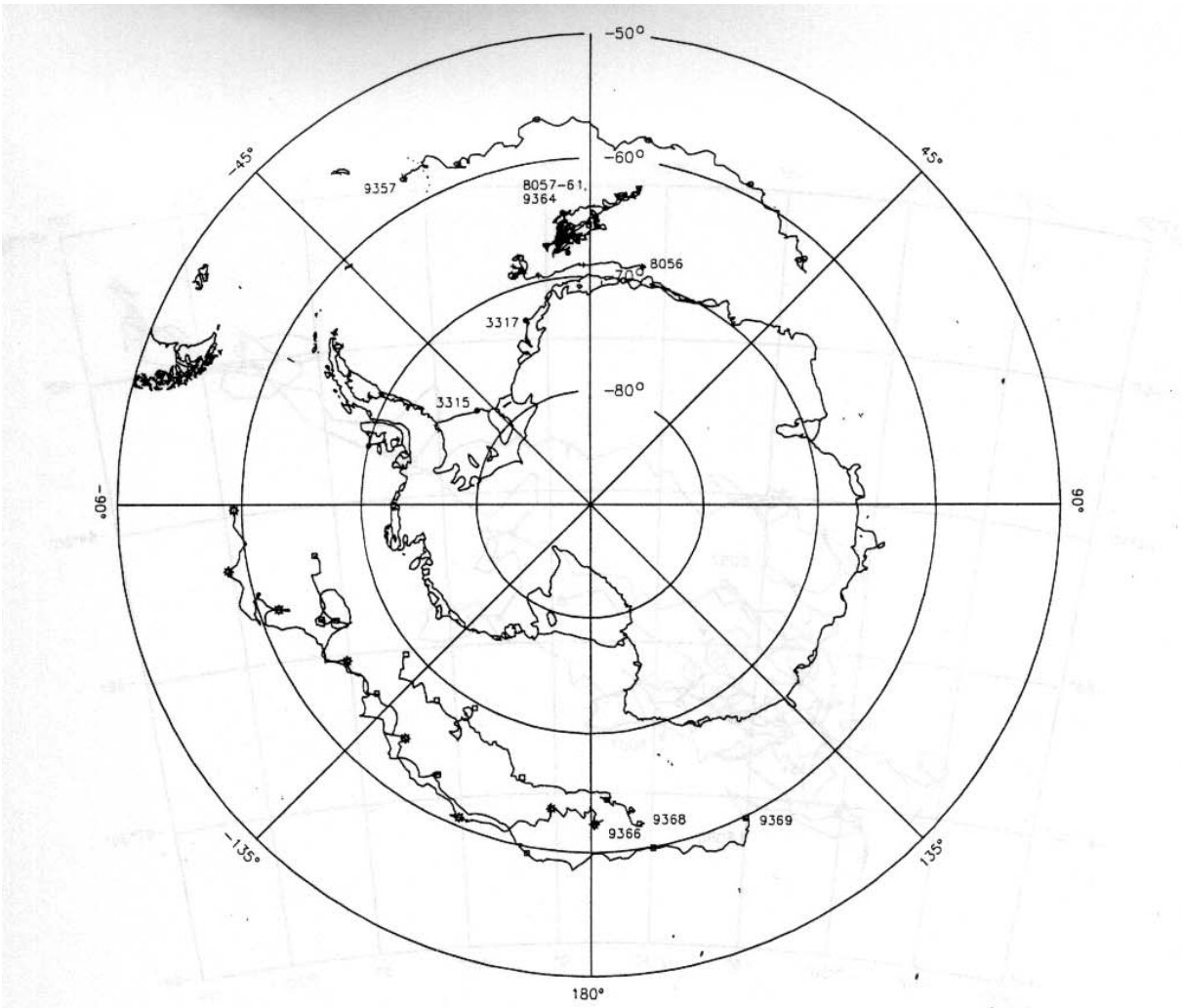

buoy 9366
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993


buoy 9367
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993

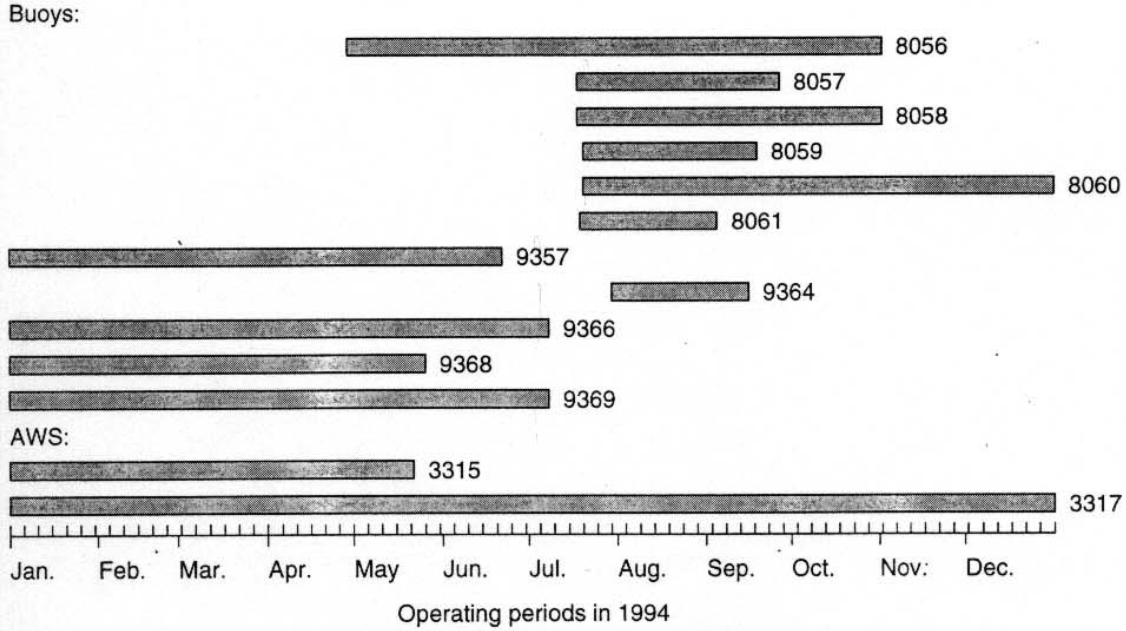

buoy 9368
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.
1993
buoy 9369
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan. Feb. Mar. Apr. May Jun. Jul. Aug. Sep. Oct. Nov. Dec.
1993


aws 3315
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993

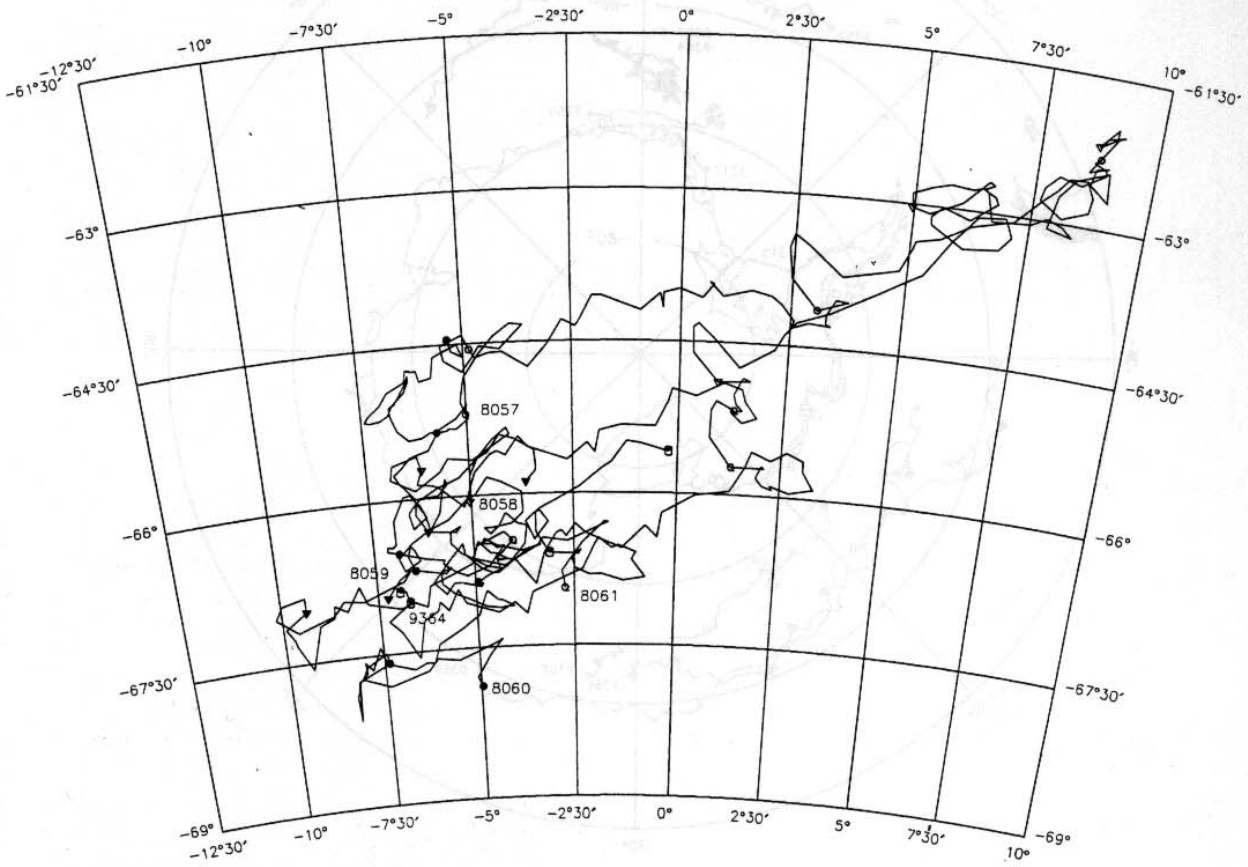

aws 3317
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
30.0
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
snow heigth in cm
120.0
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1993



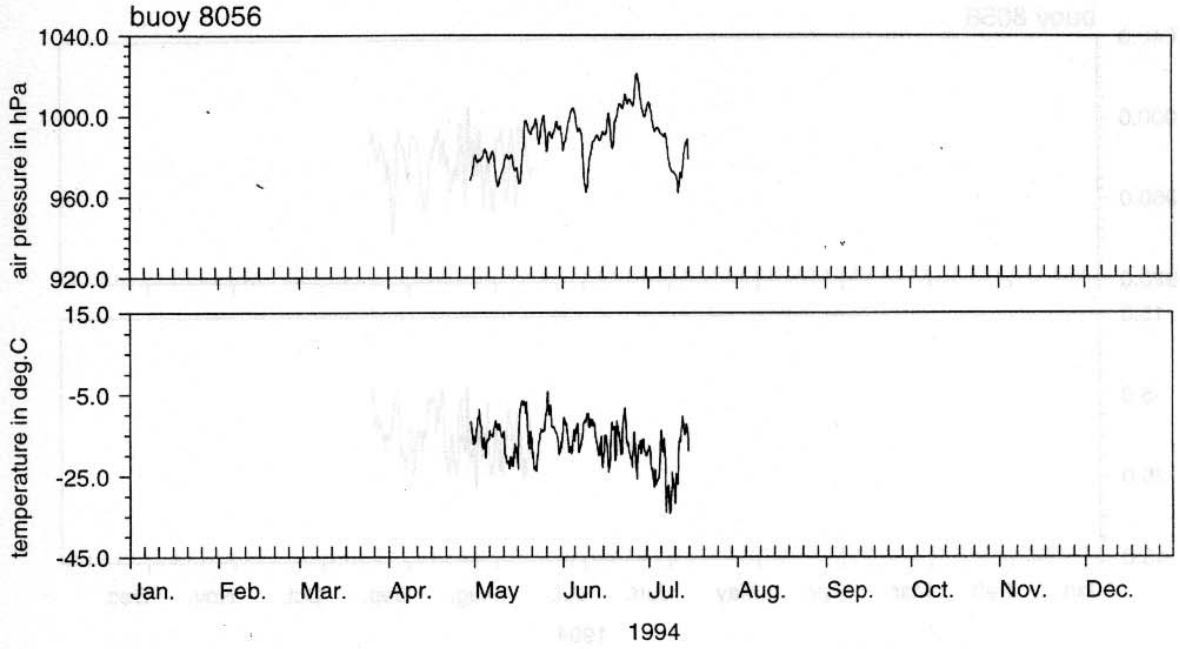
Drift trajectories of the buoys and the positions of the AWS in 1994. The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

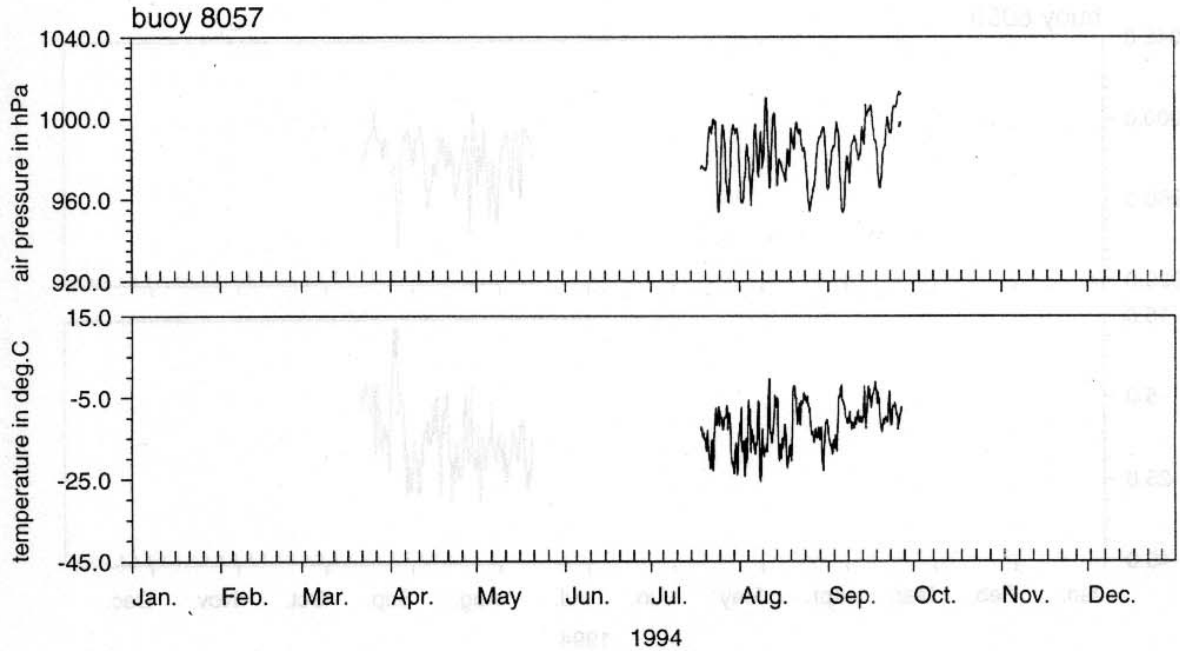


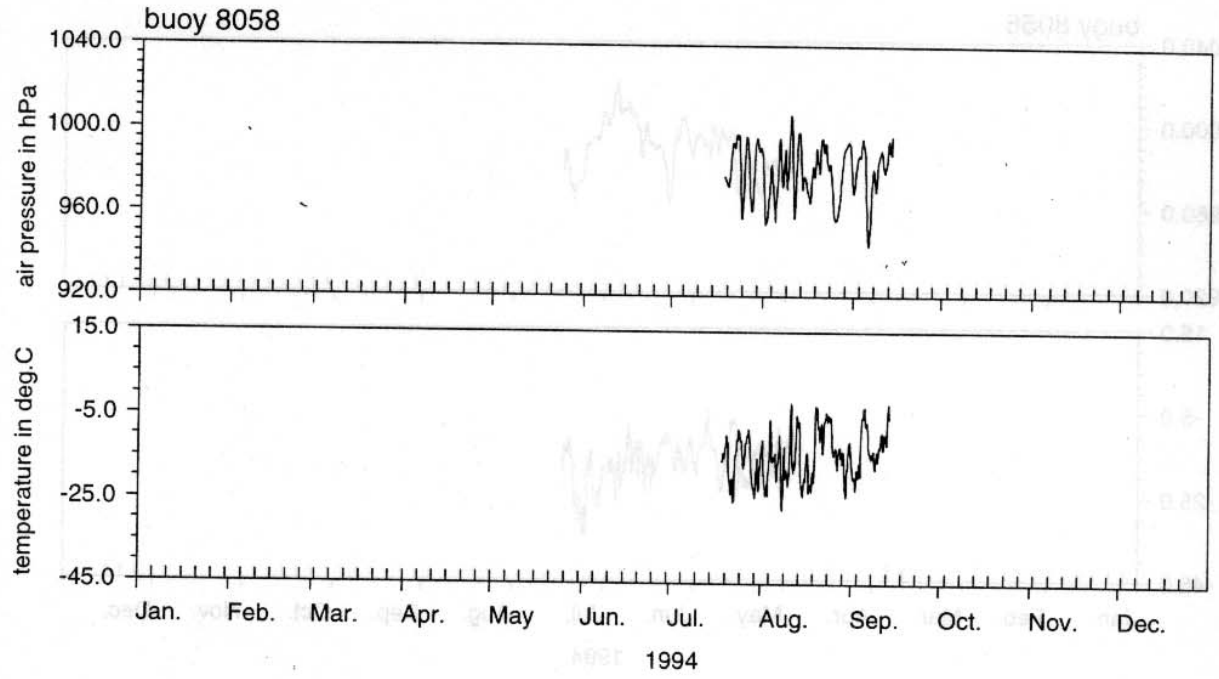
Operating periods in 1994

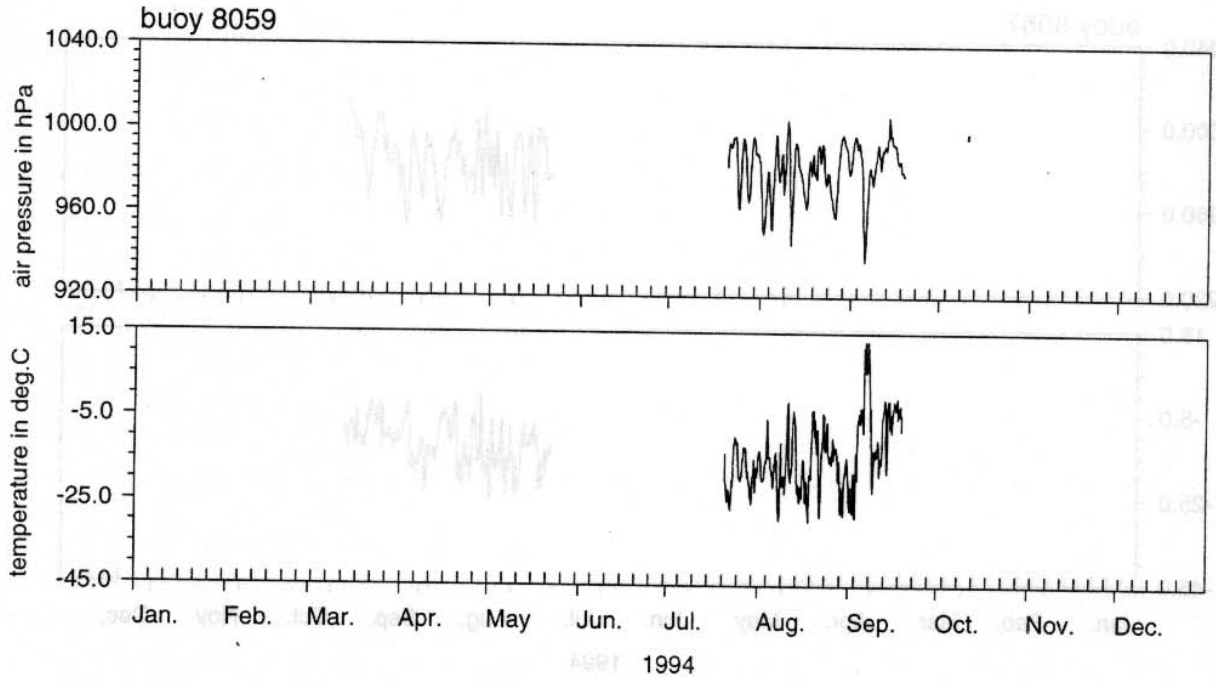


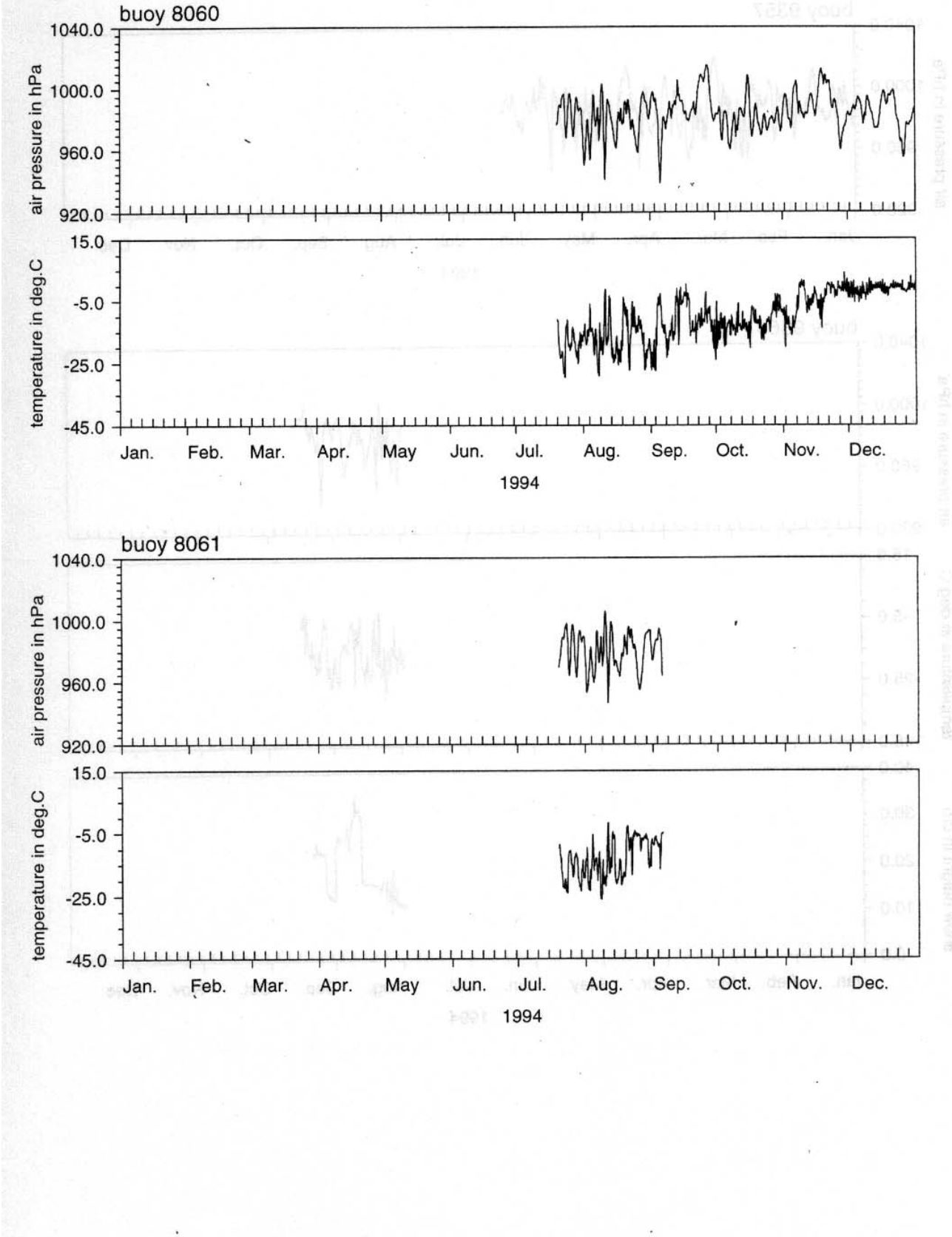
Drift trajectories of the buoys depolyed in July 1994.
The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

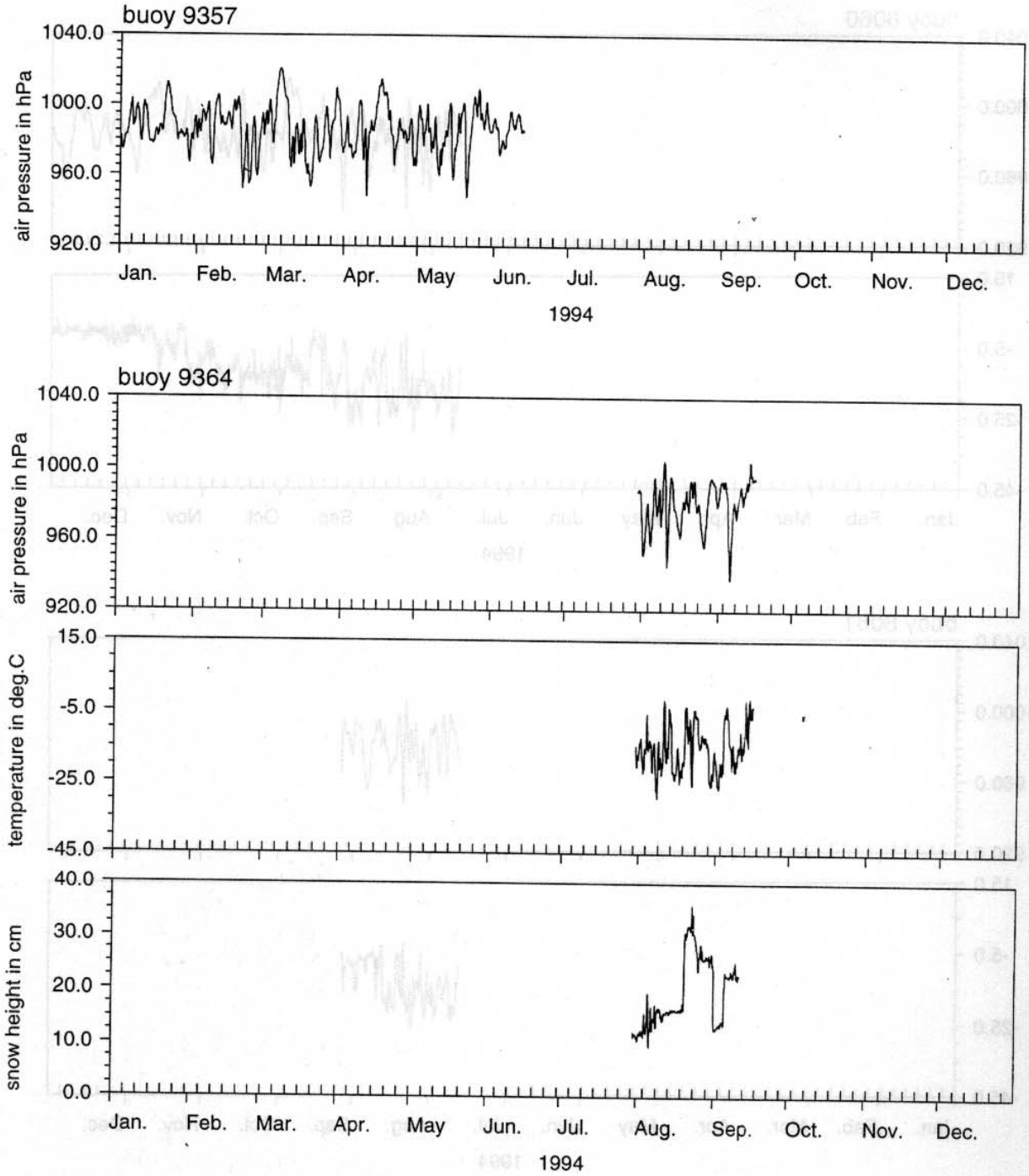

buoy 8056
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994

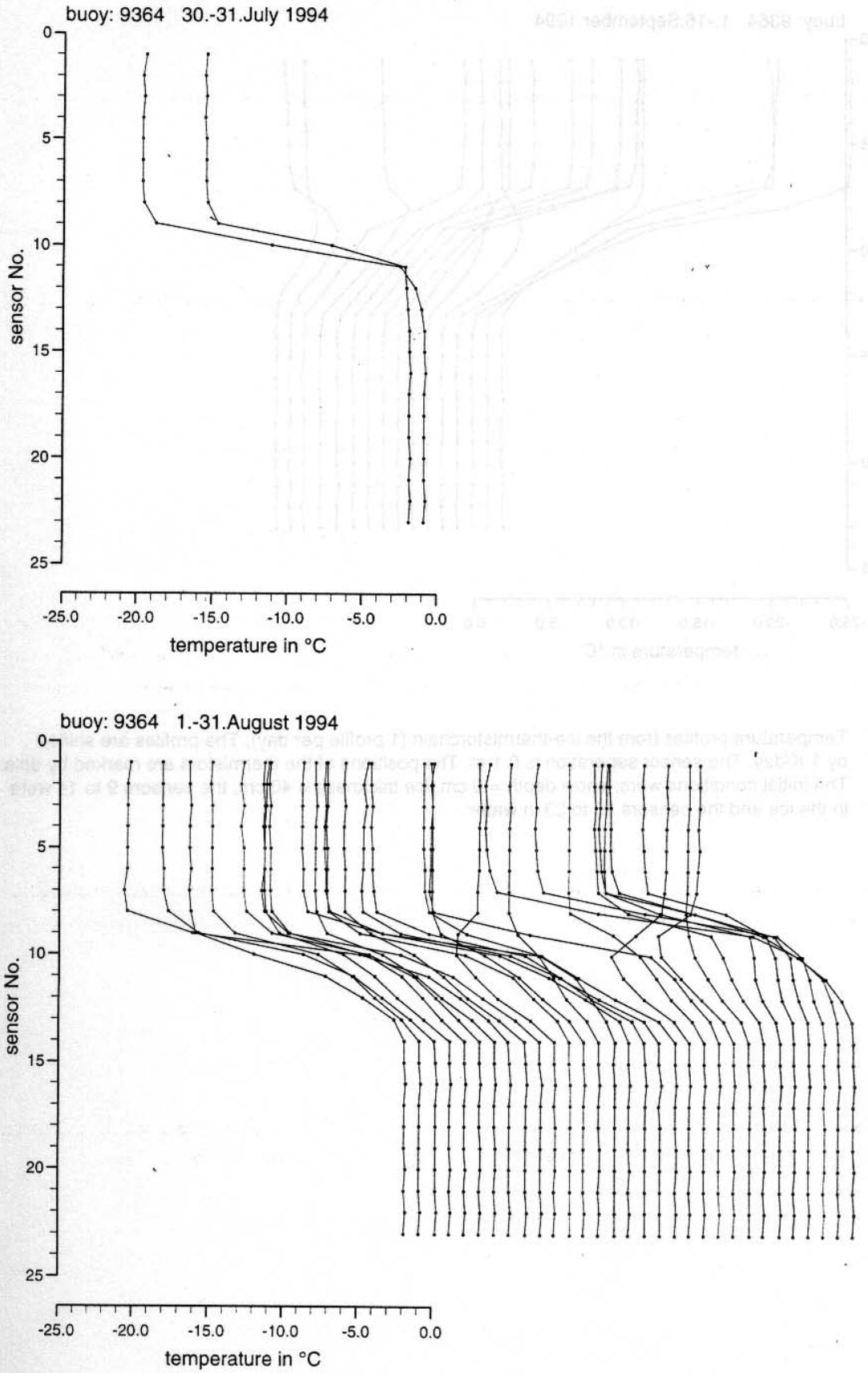

buoy 8057
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994


buoy 8058
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994

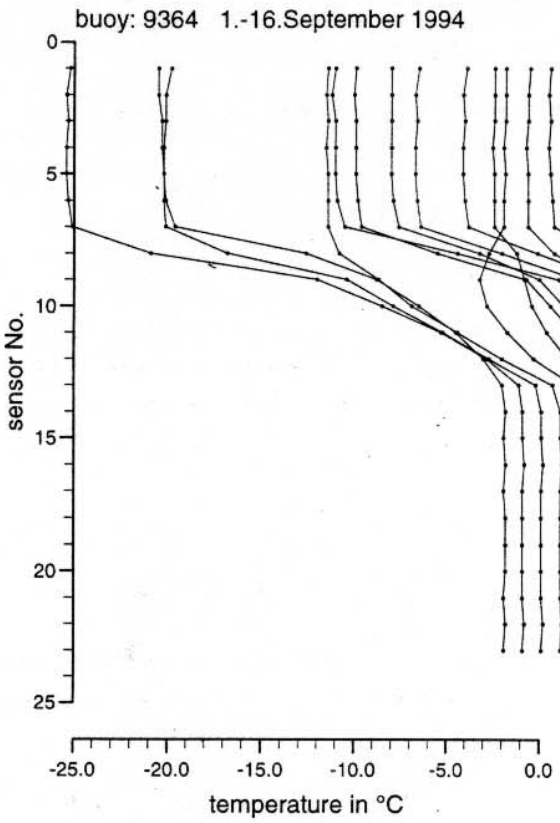

buoy 8059
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994


buoy 8060
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994
buoy 8061
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994

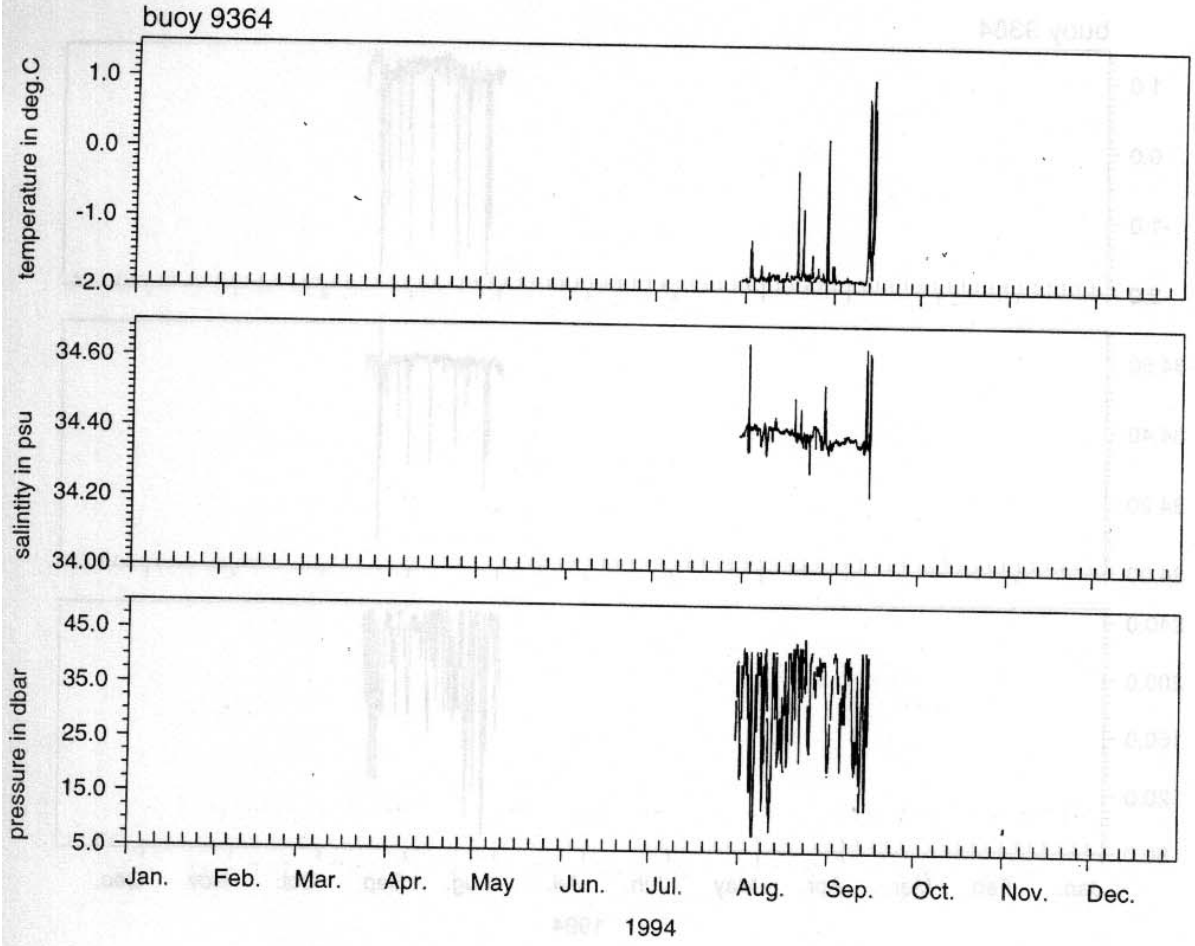

buoy 9357
air pressure in hPa
1040.0
1000.0
960.0
920.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994
buoy 9364
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
snow height in cm
40.0
30.0
20.0
10.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994



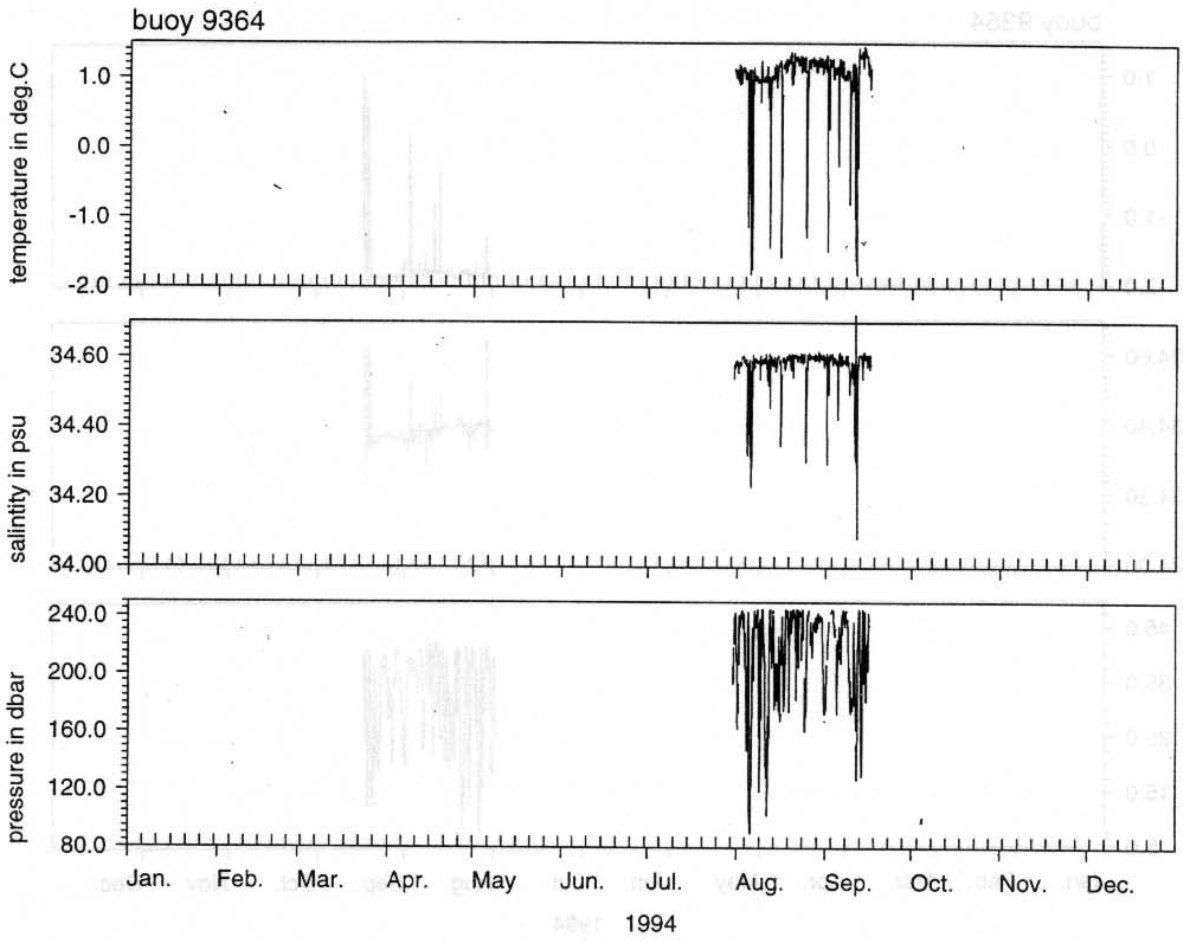
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 0 cm, ice thickness = 40 cm, the sensors 9 to 14 were in the ice and the sensors 15 to 23 in water.



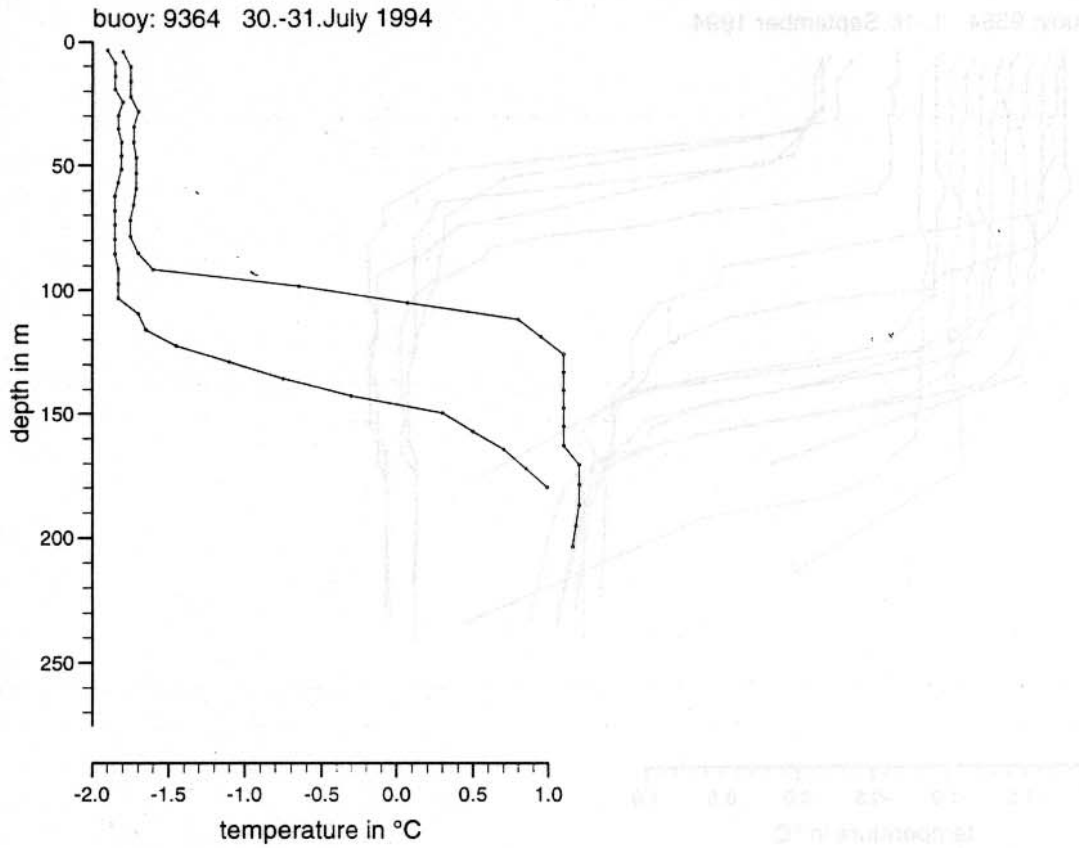
Temperature profiles from the ice-thermistorchain (1 profile per day). The profiles are shifted by 1 K/day. The sensor seperation is 0.1 m. The positions of the thermistors are marked by dots. The initial conditions were: snow depth = 0 cm, ice thickness = 40 cm, the sensors 9 to 14 were in the ice and the sensors 15 to 23 in water.

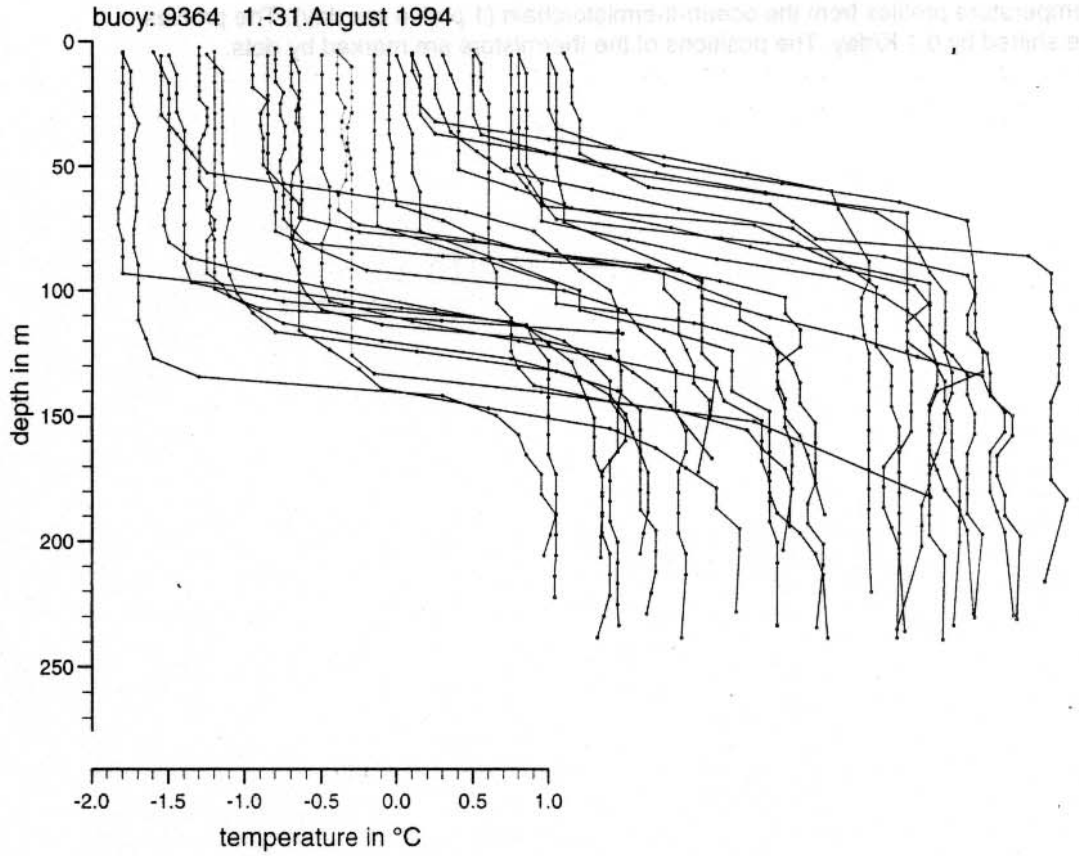


Time series of the 50 meter (nominal depth) Sea-Bird CTD

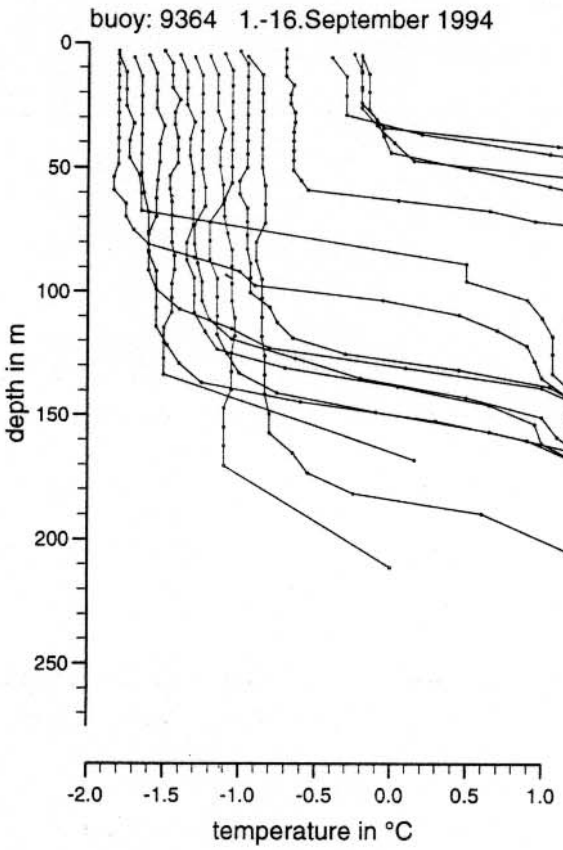


Time series of the 250 meter (nominal depth) Sea-Bird CTD

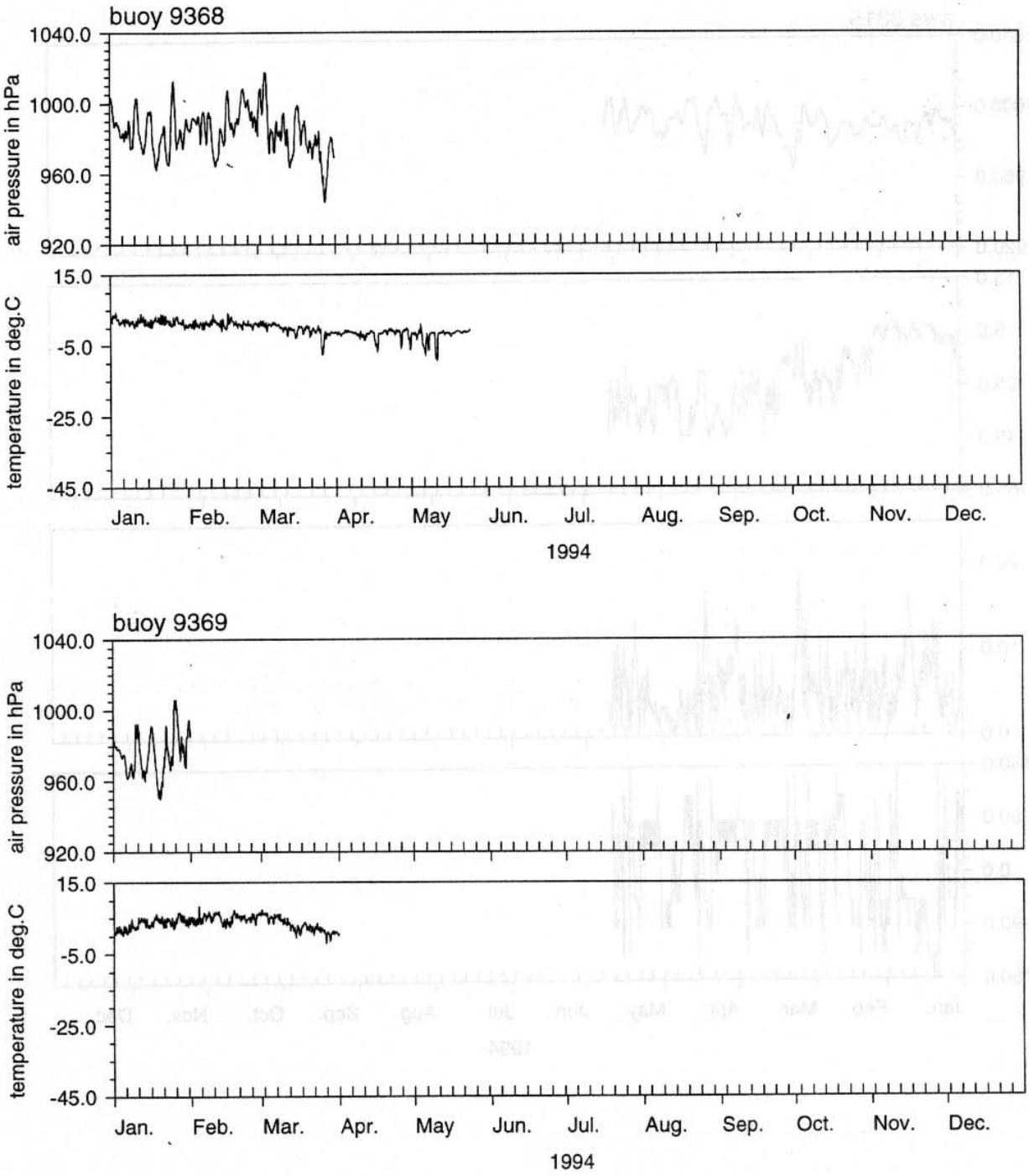


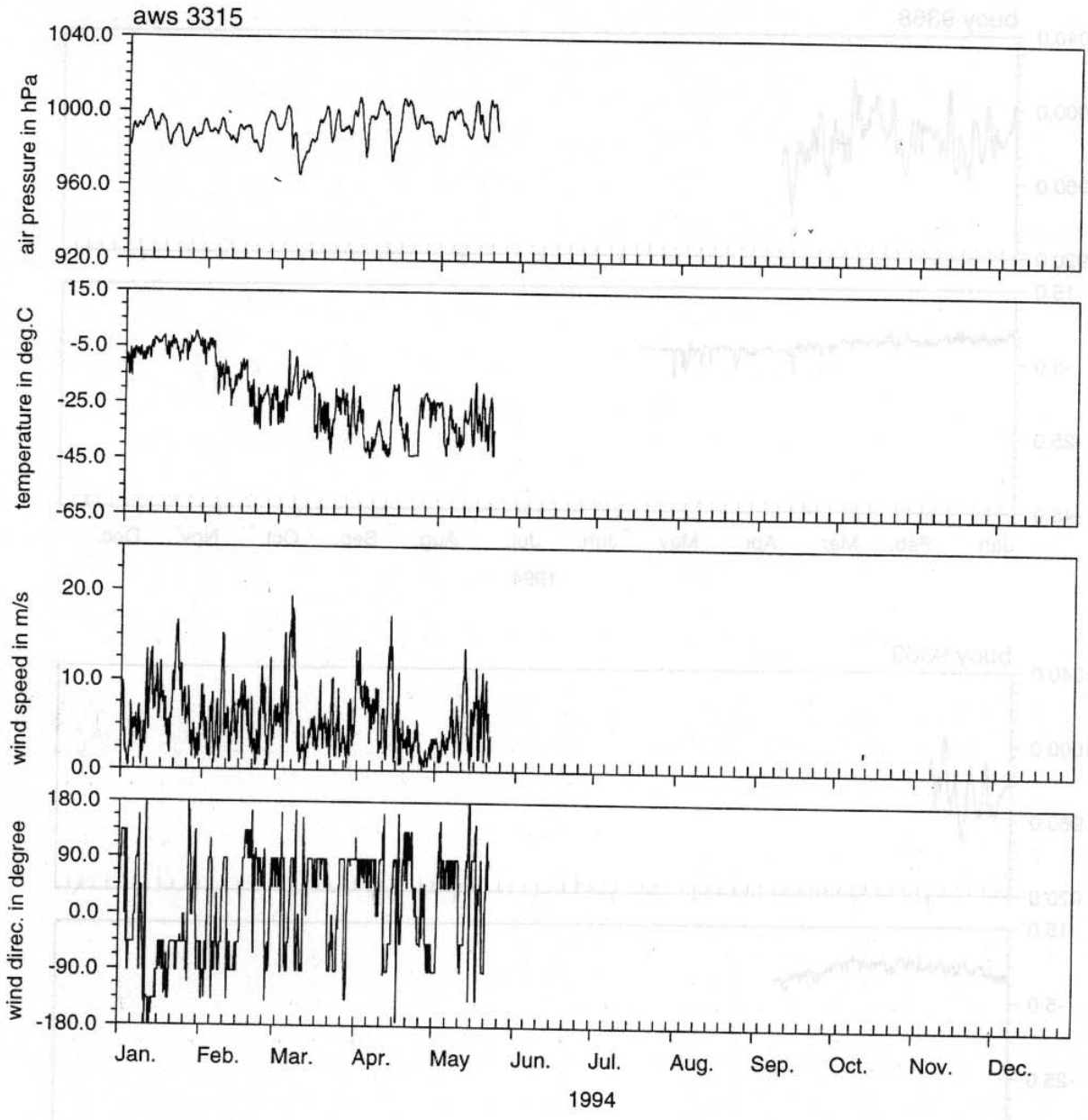


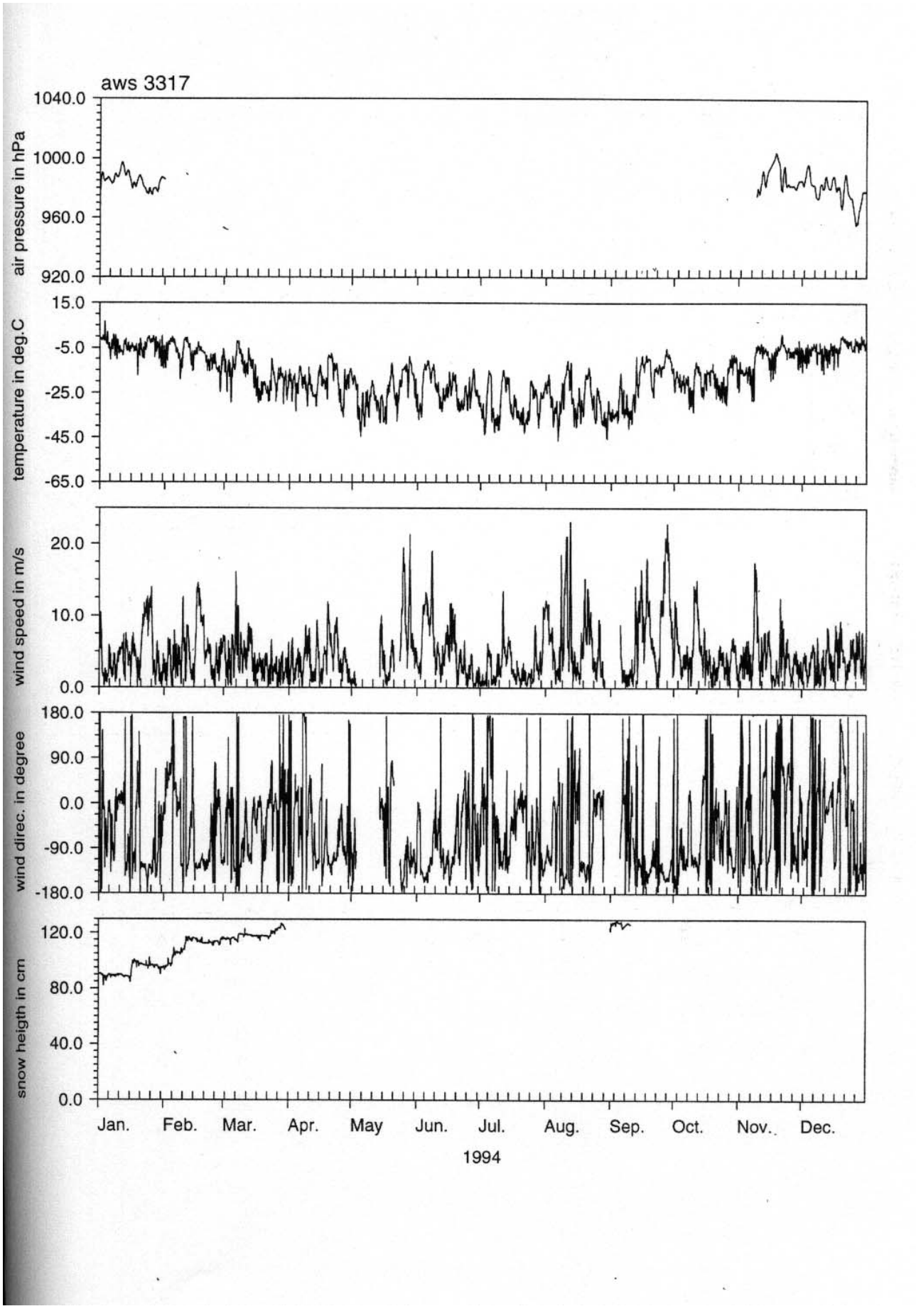
Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

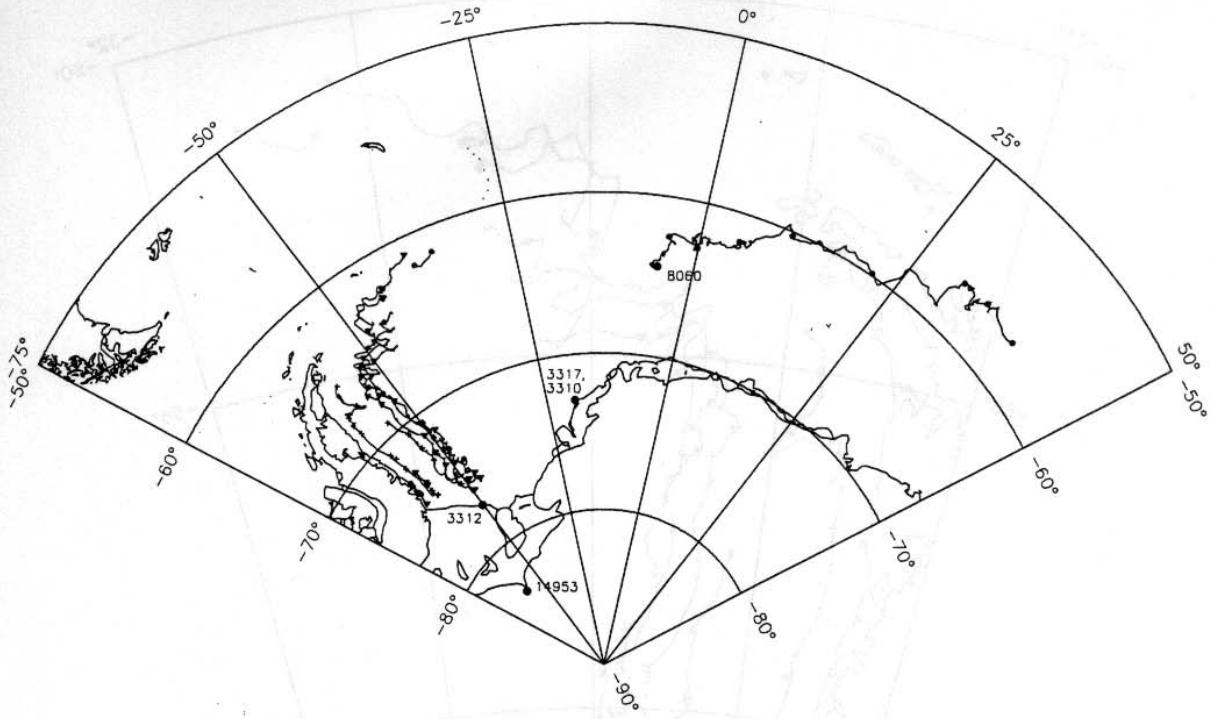


Temperature profiles from the ocean-thermistorchain (1 profile per day). The profiles are shifted by 0.1 K/day. The positions of the thermistors are marked by dots.

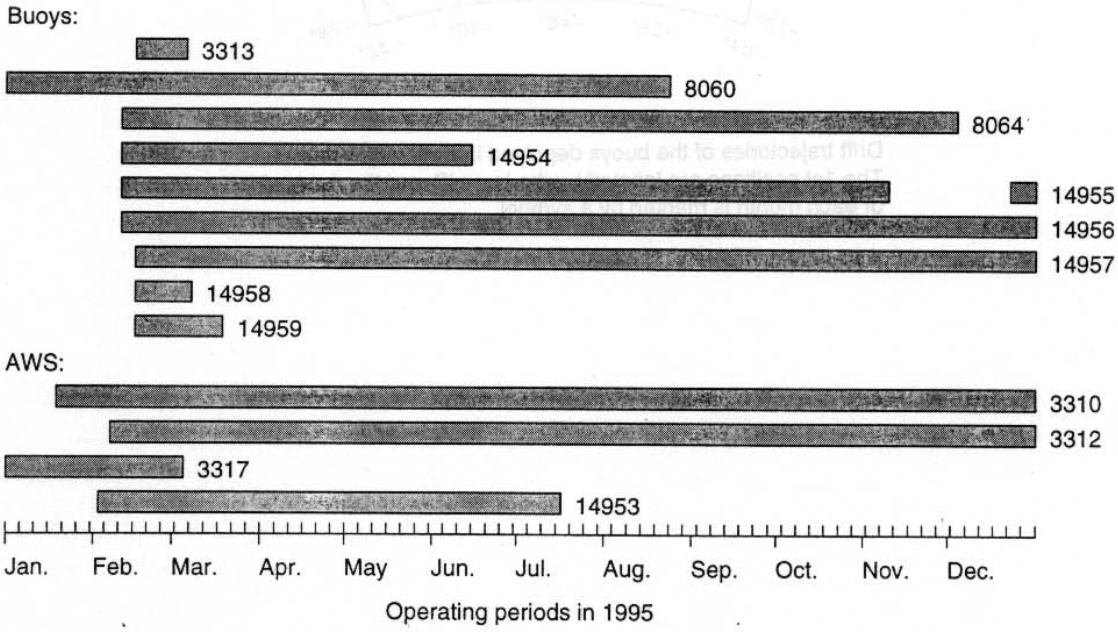

buoy 9368
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994
buoy 9369
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994

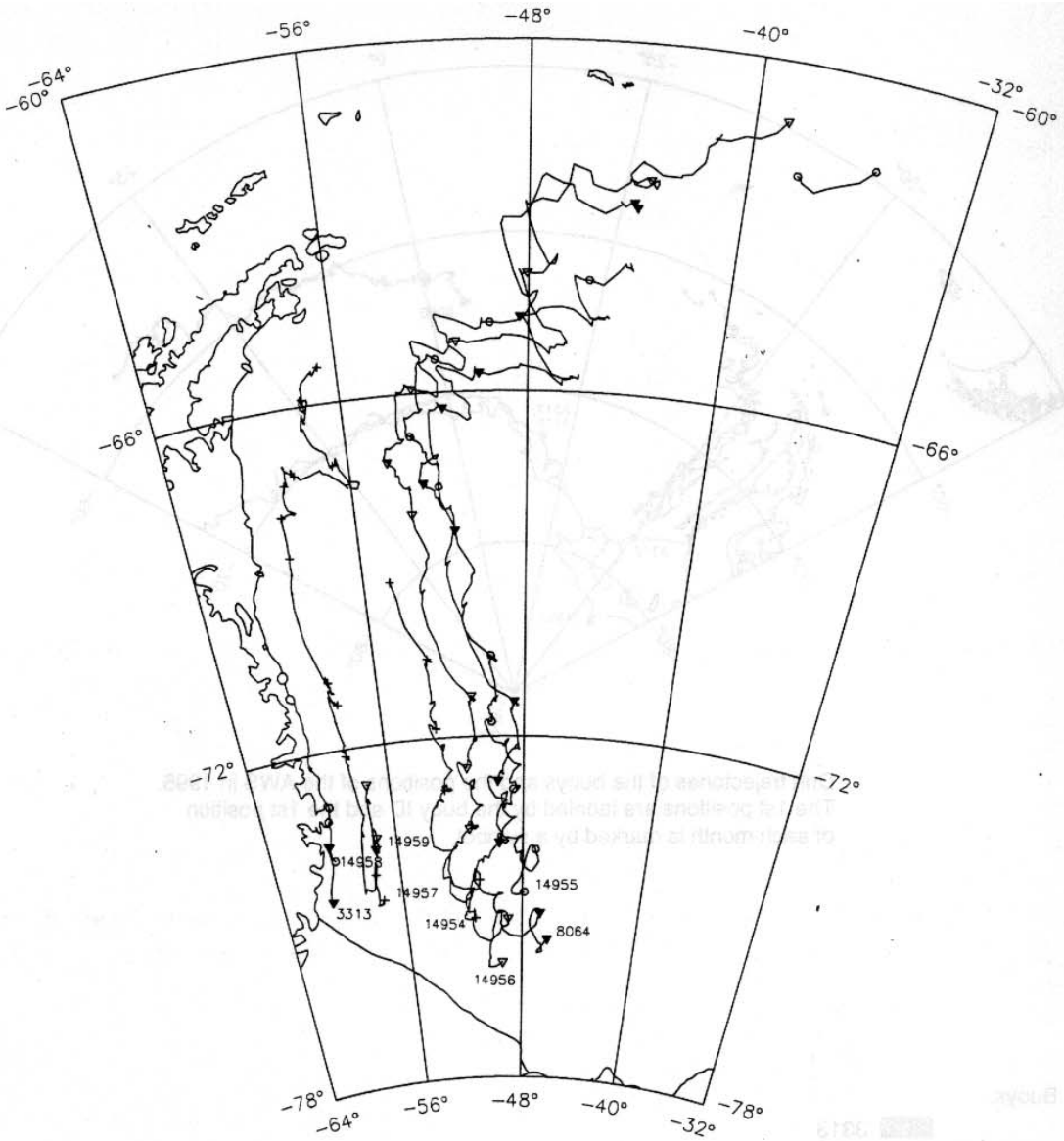

aws 3315
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994


aws 3317
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
snow heigth in cm
120.0
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1994

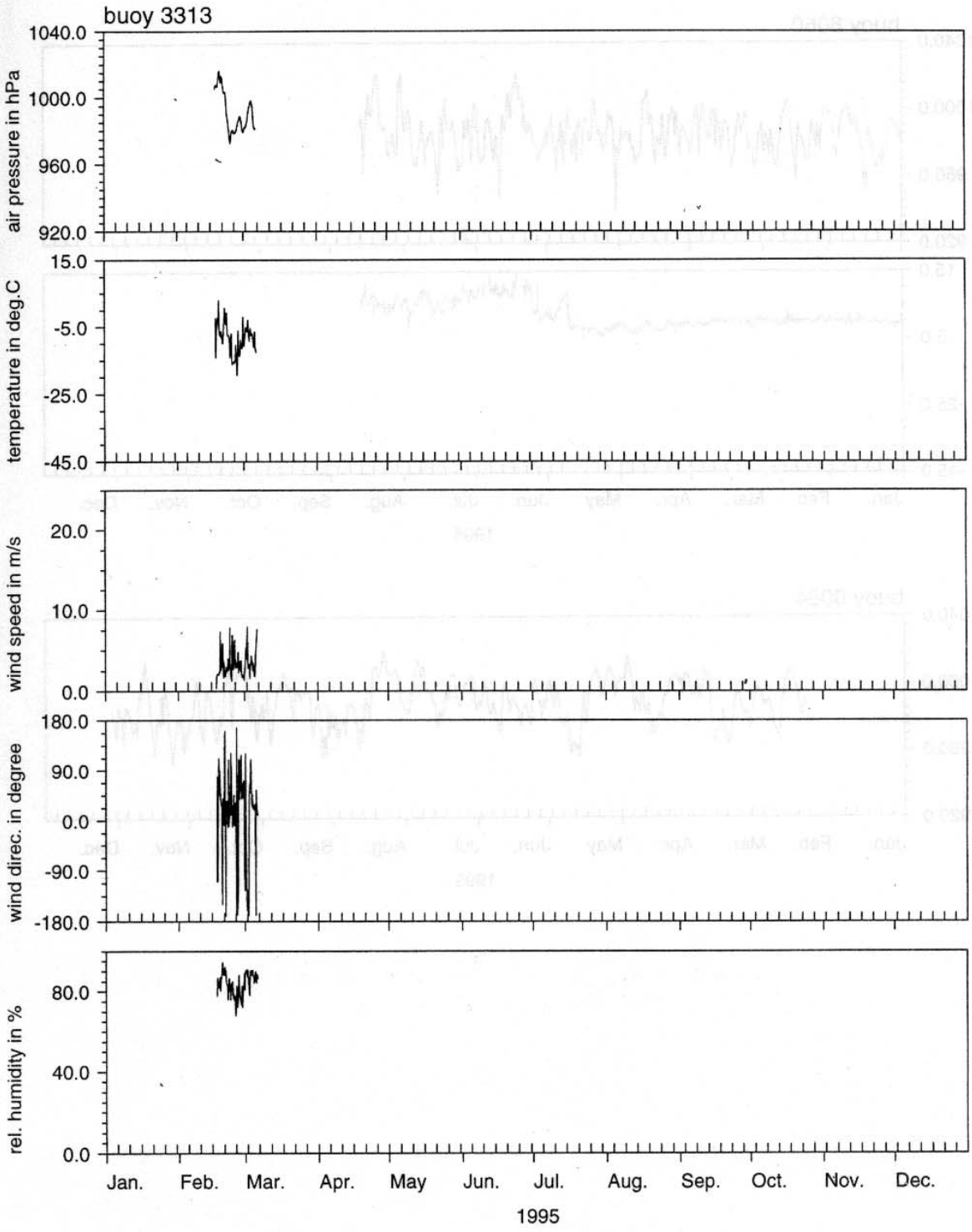


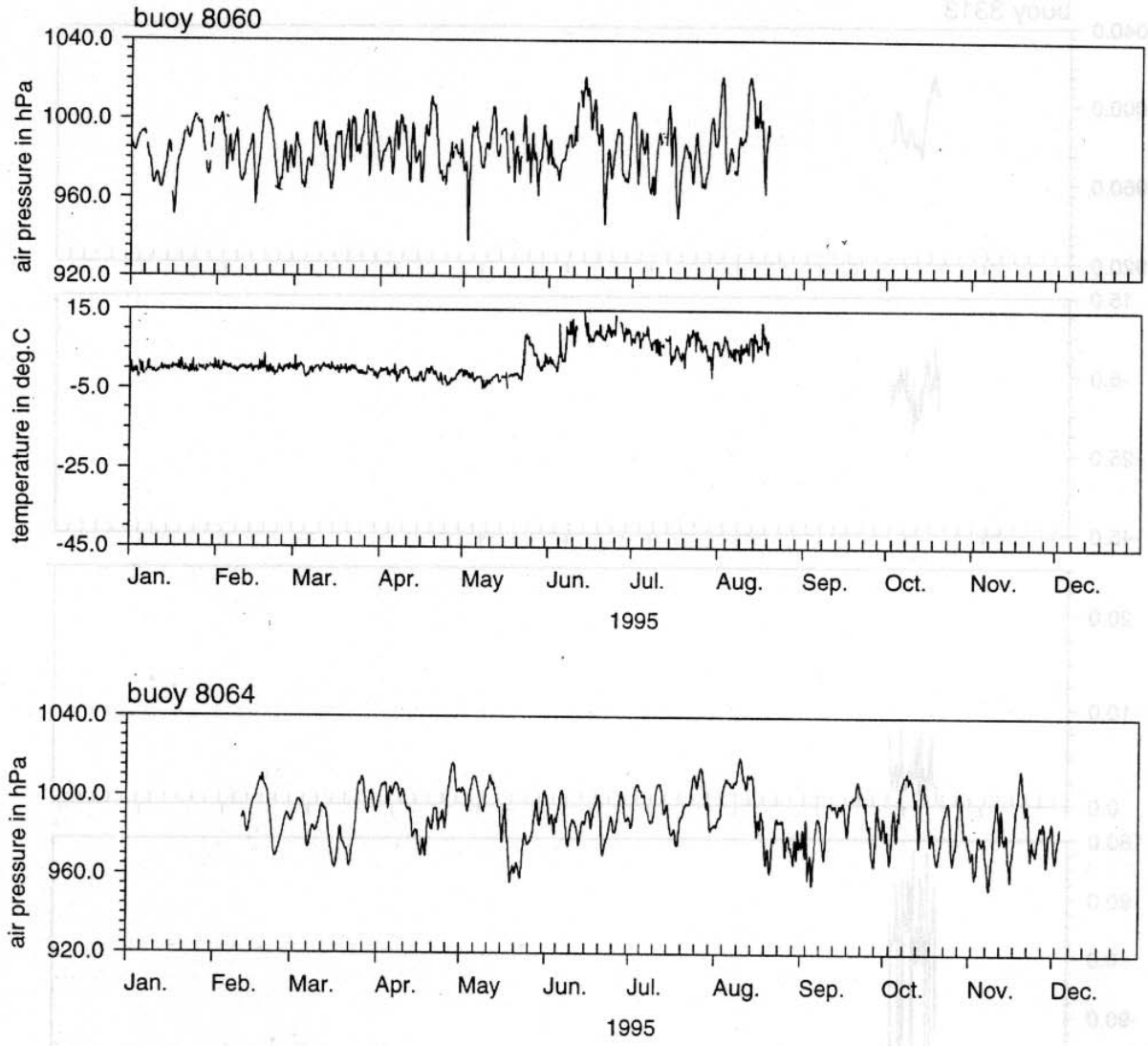
Drift trajectories of the buoys and the positions of the AWS in 1995. The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

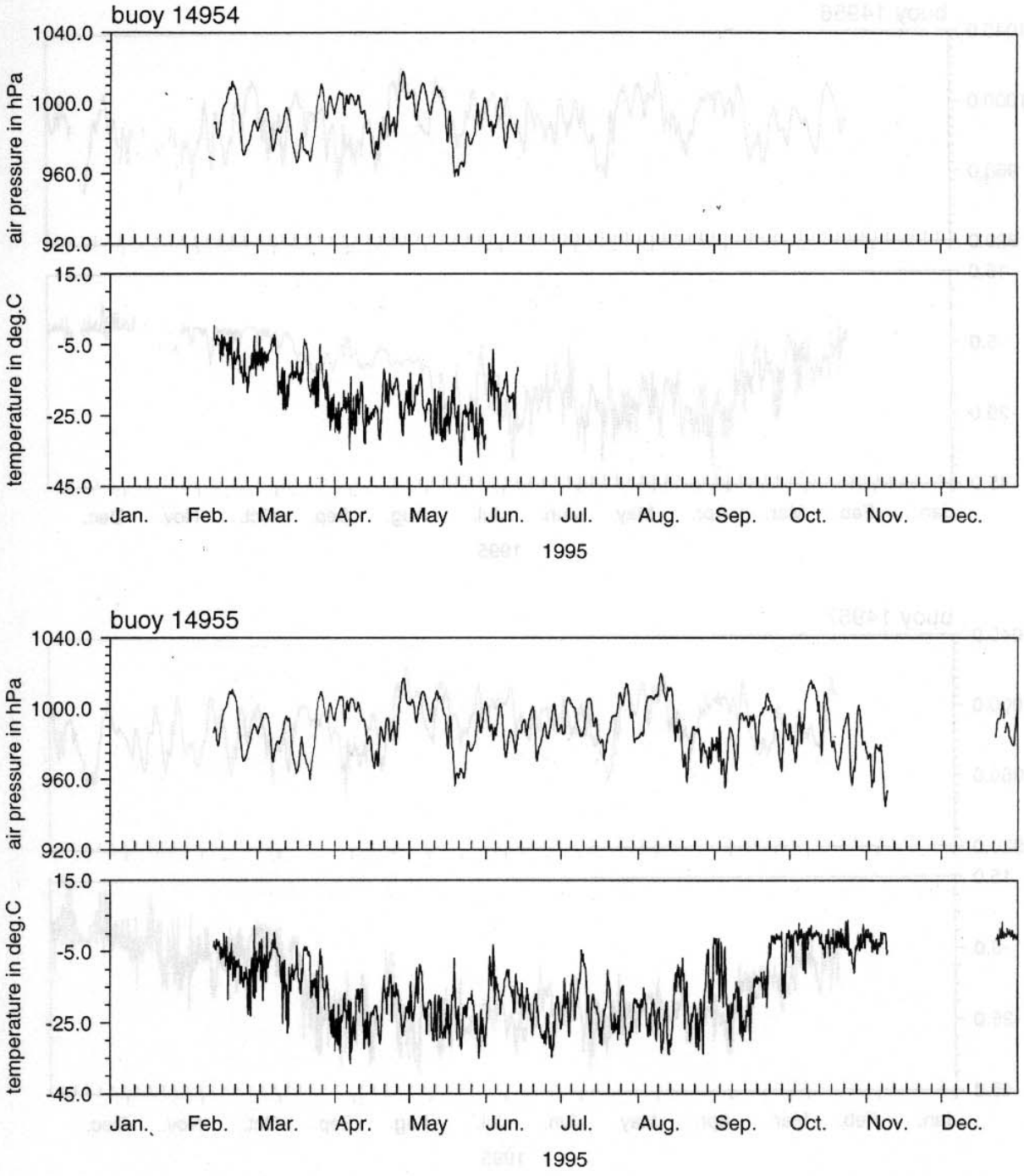


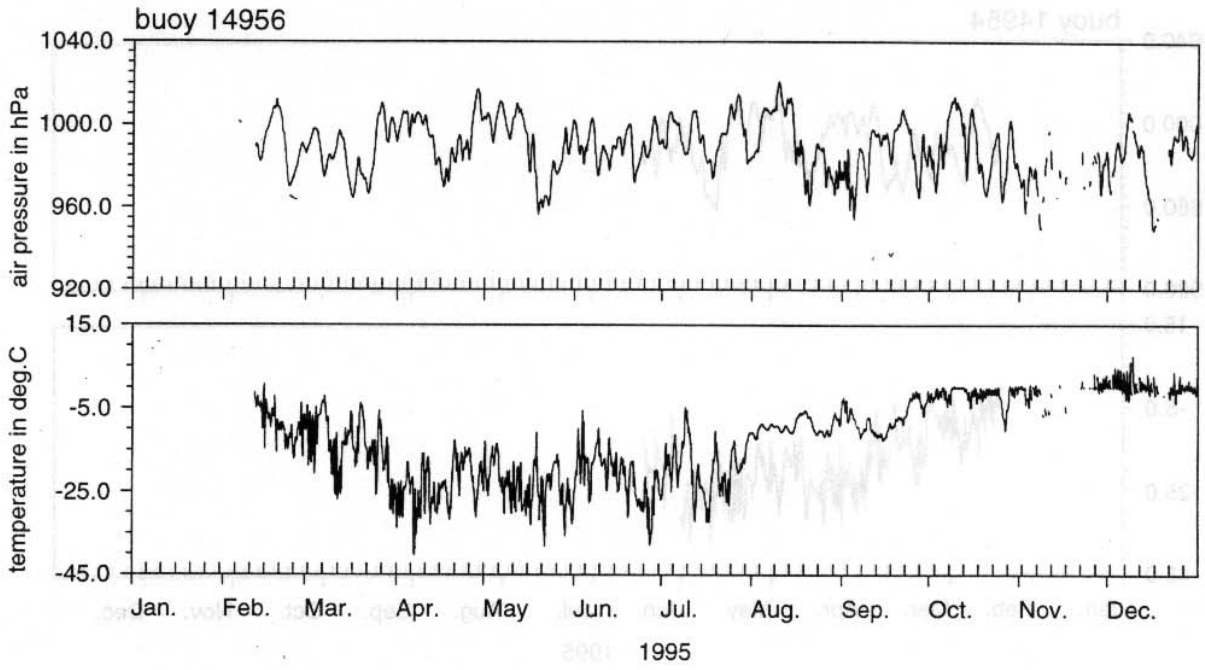


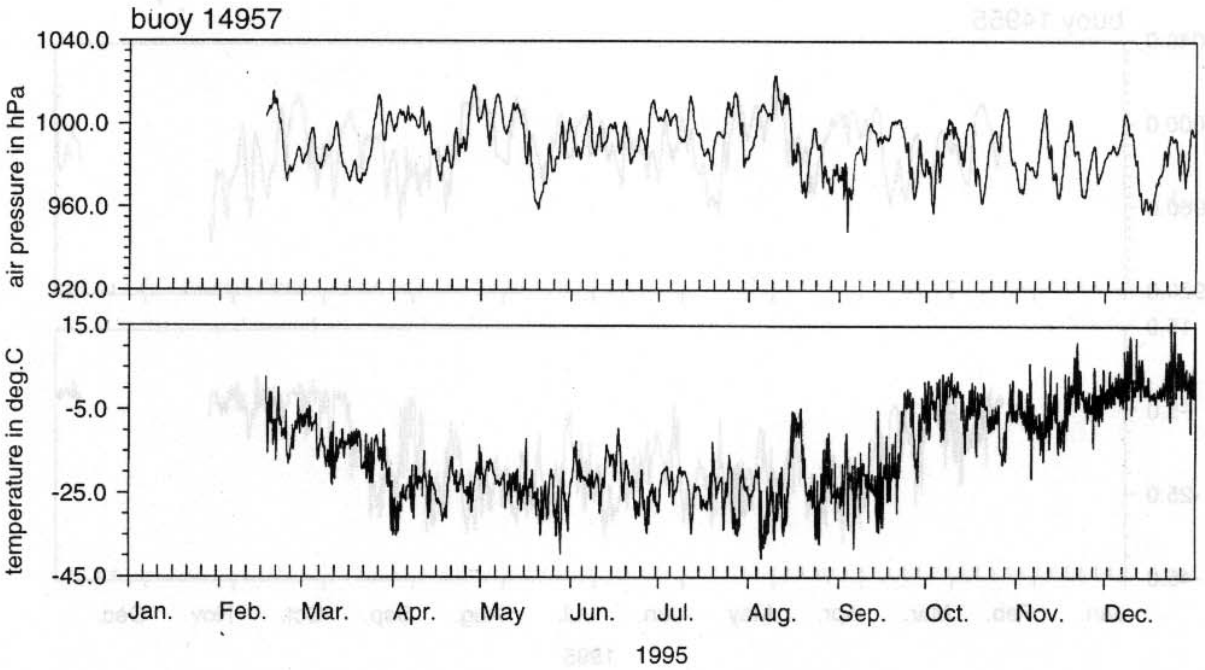
Drift trajectories of the buoys depolyed in February 1995.
The 1st positions are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

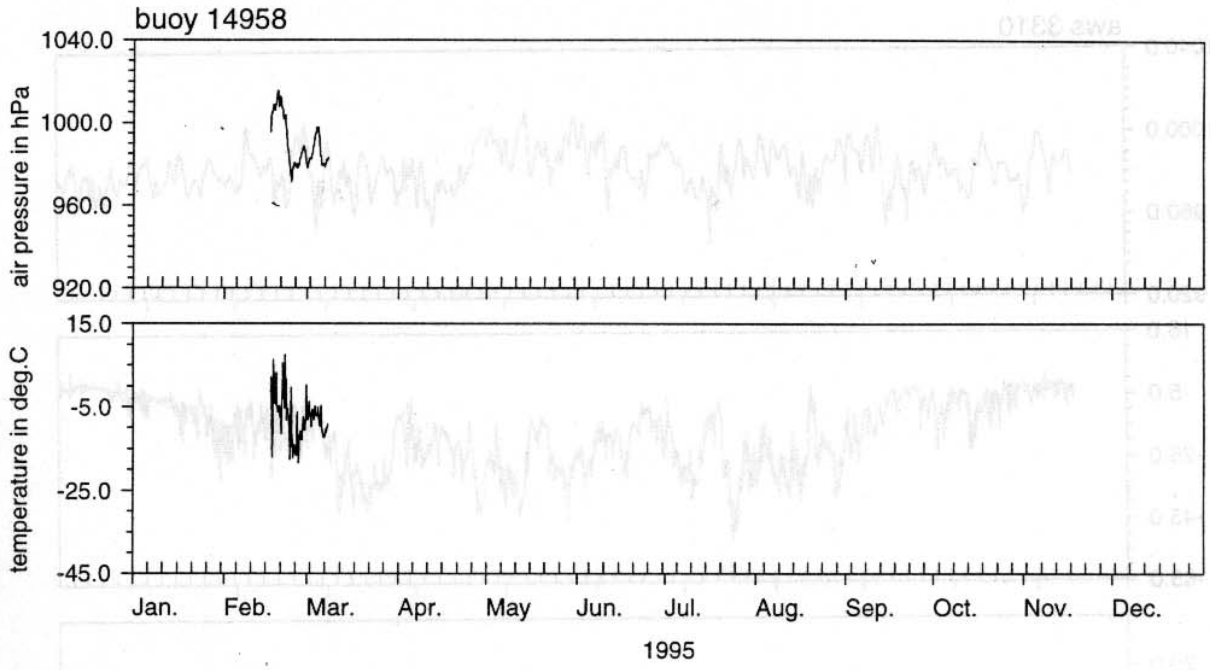

buoy 3313
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

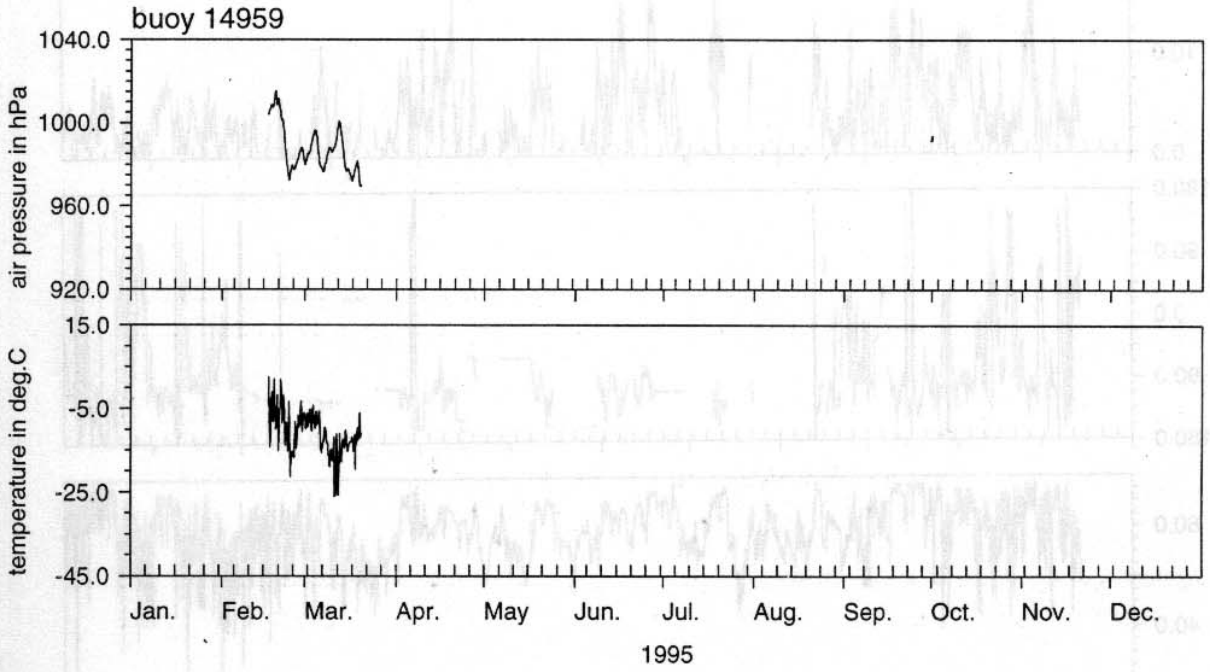

buoy 8060
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995
buoy 8064
air pressure in hPa
1040.0
1000.0
960.0
920.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

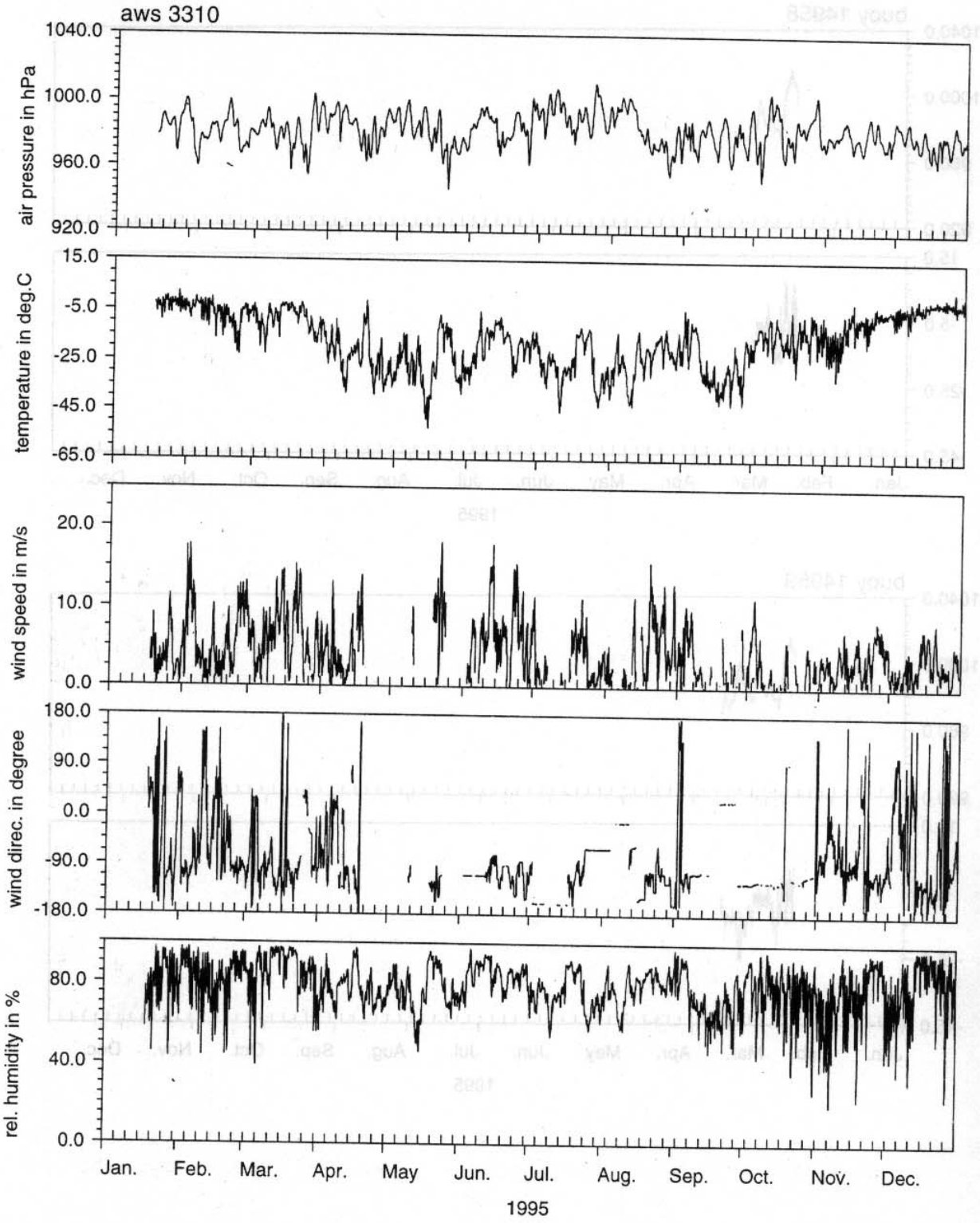

buoy 14954
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995
buoy 14955
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

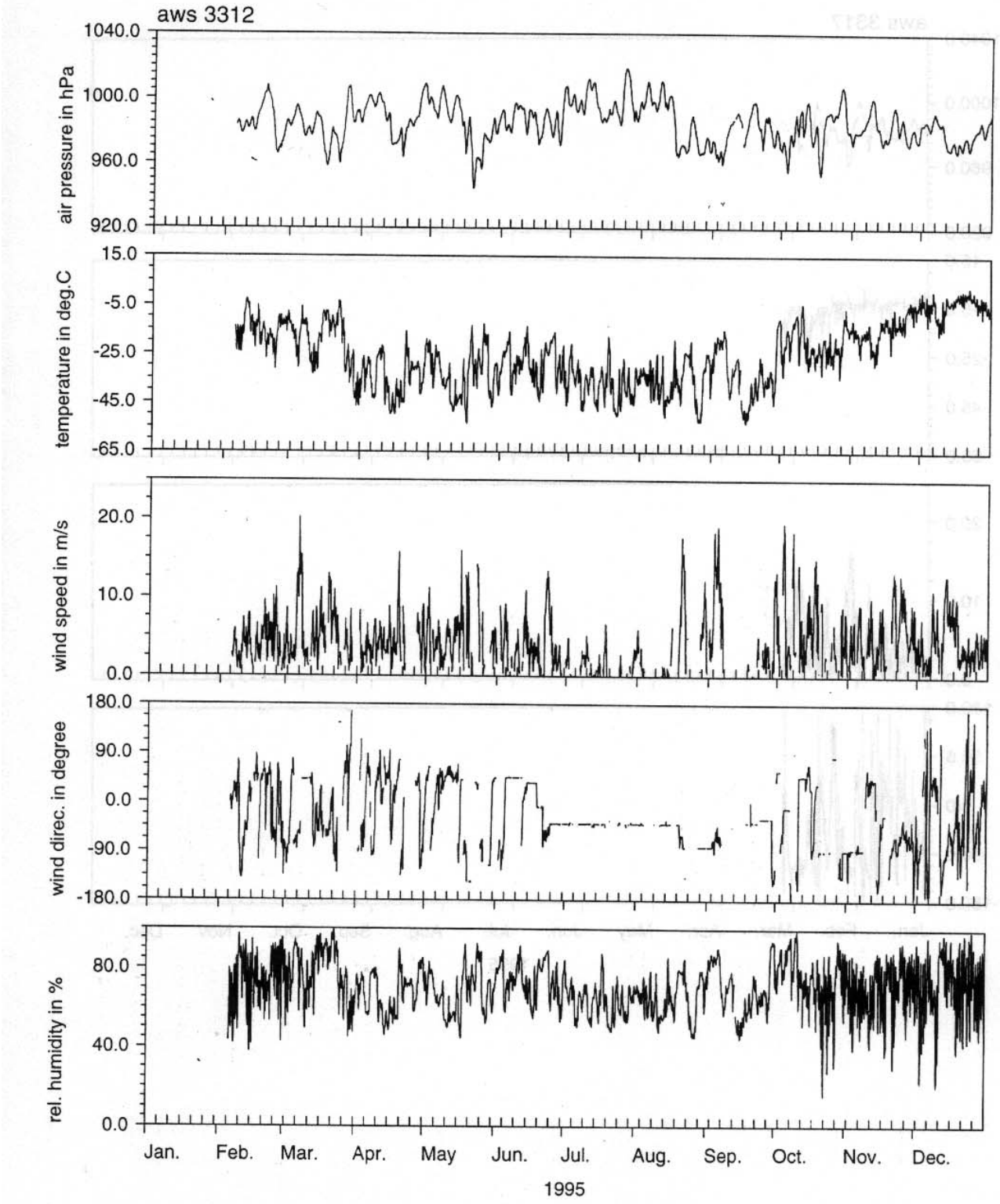

buoy 14956
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

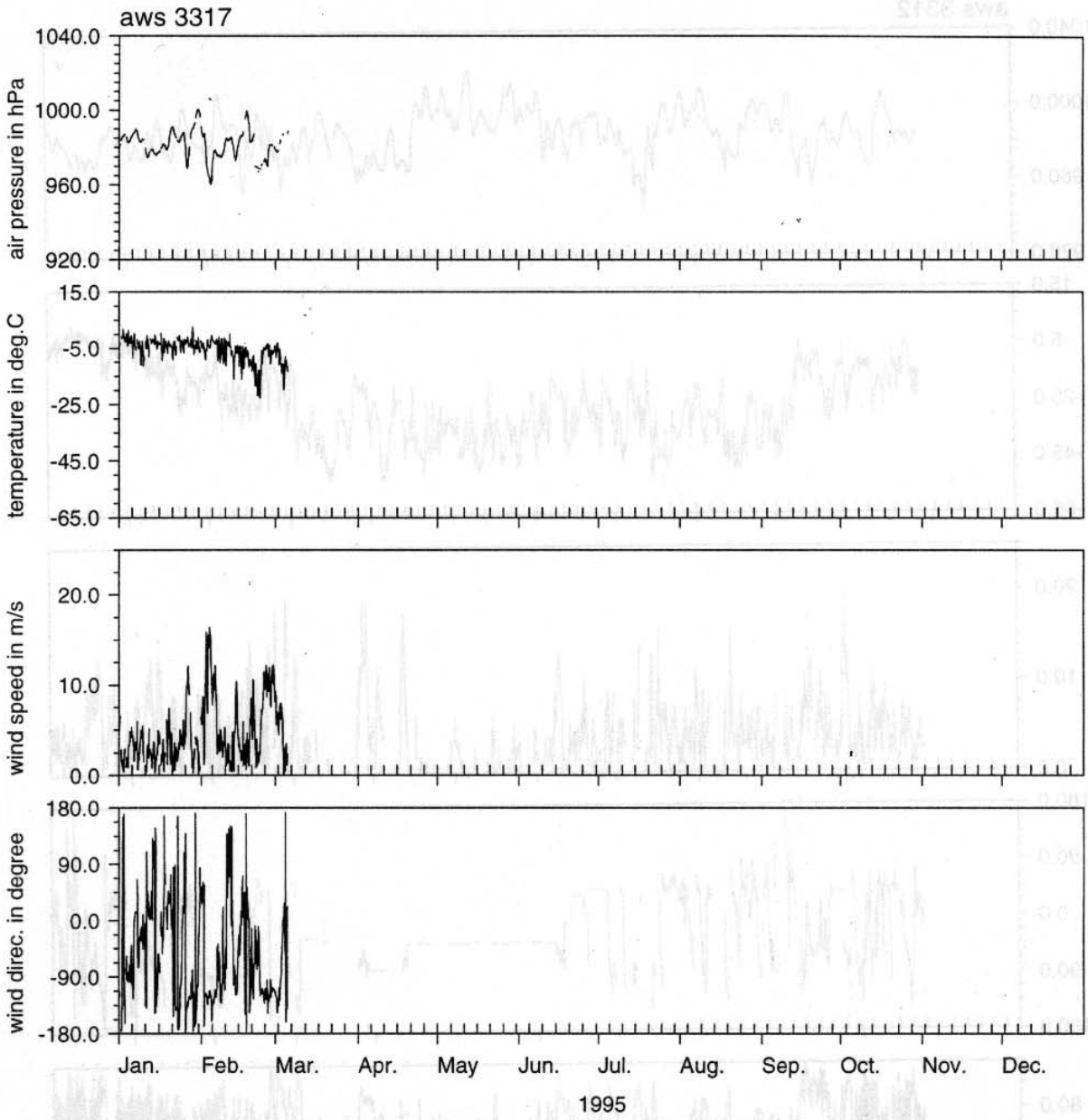

buoy 14957
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

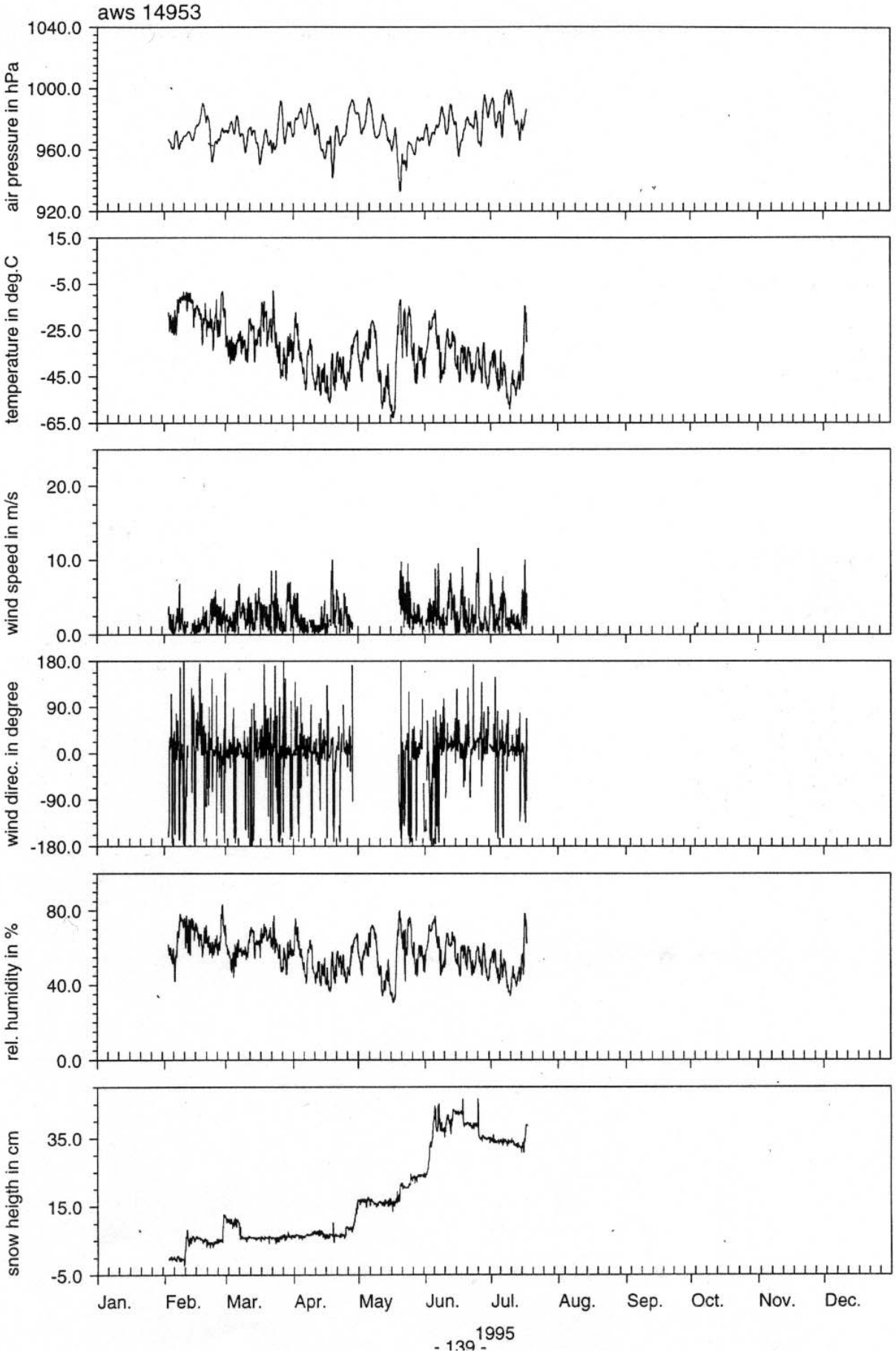

buoy 14958
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

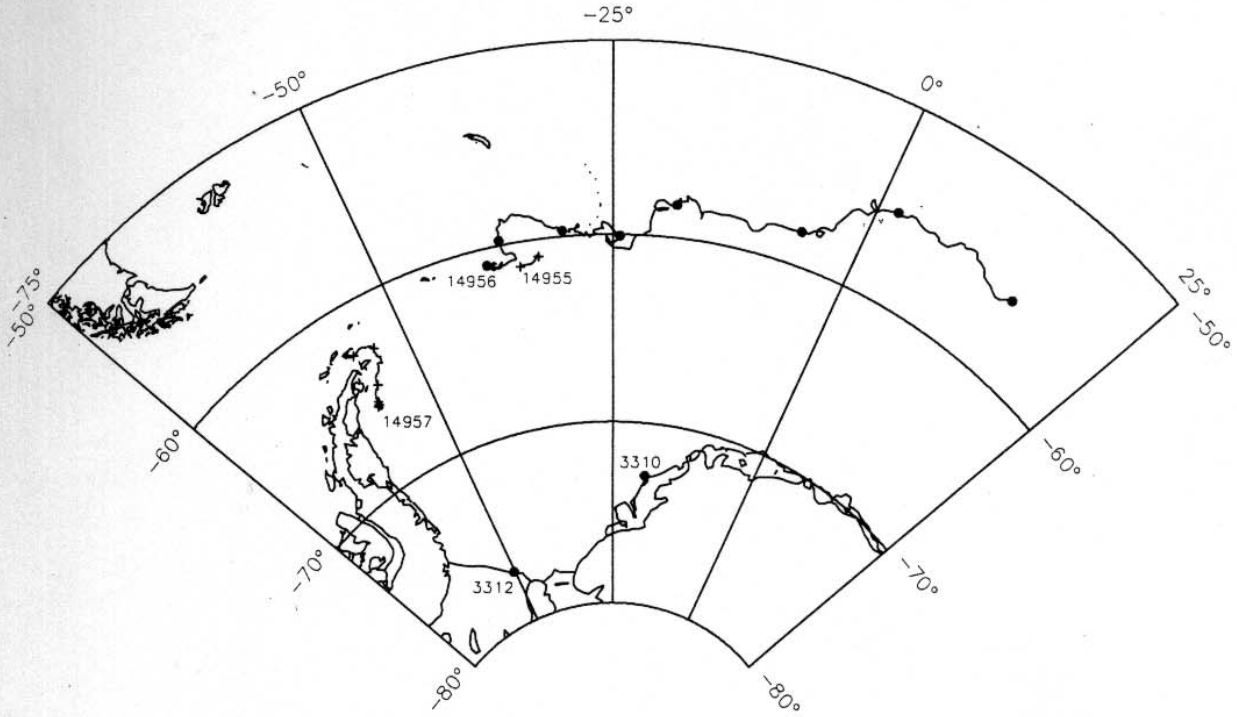

buoy 14959
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995


aws 3310
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

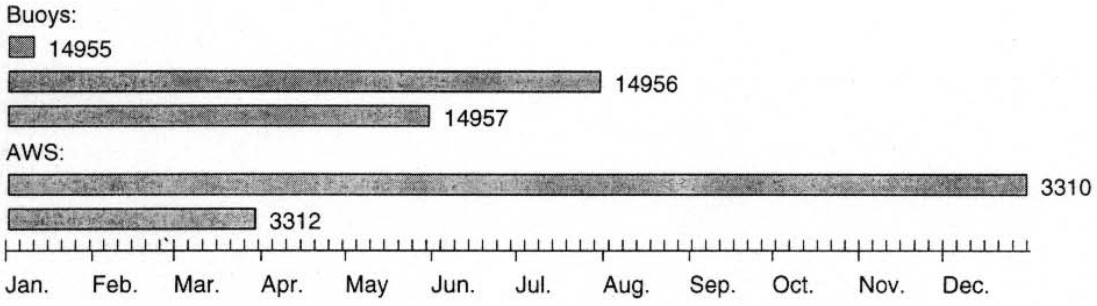

aws 3312
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995


aws 3317
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

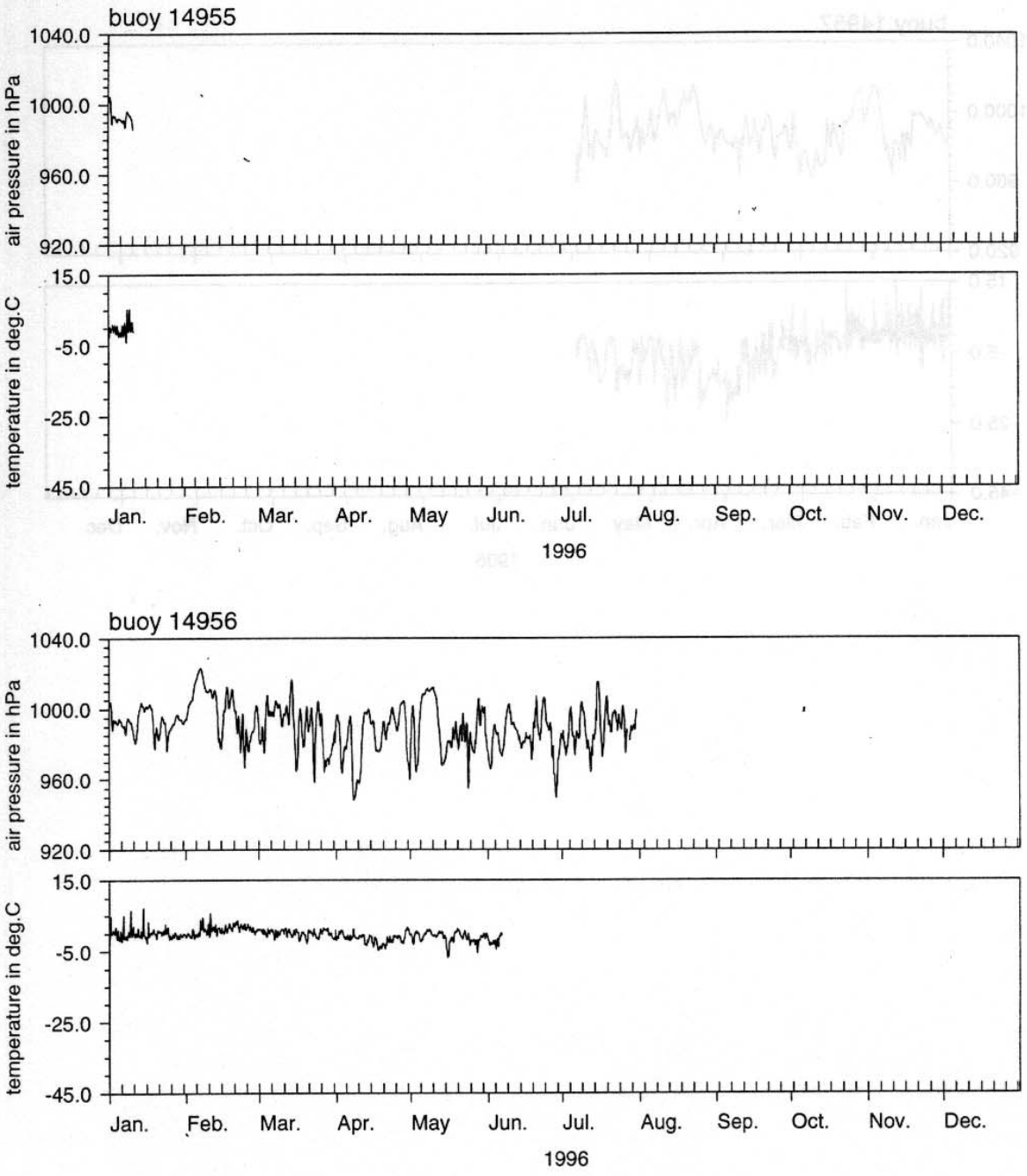

aws 14953
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
snow heigth in cm
35.0
15.0
-5.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1995

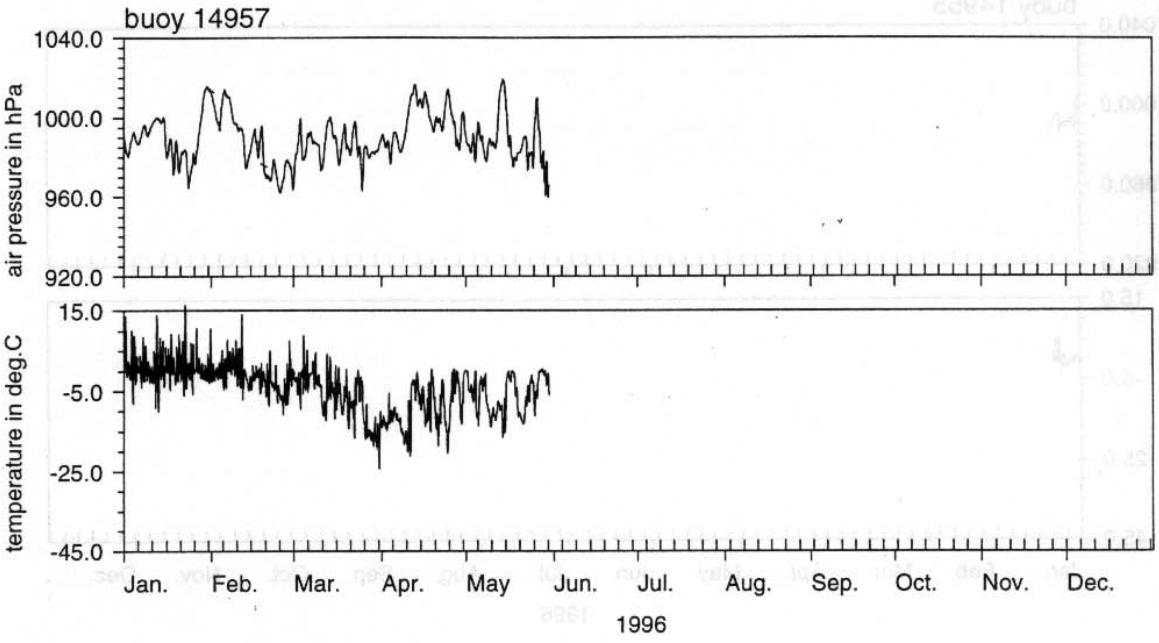


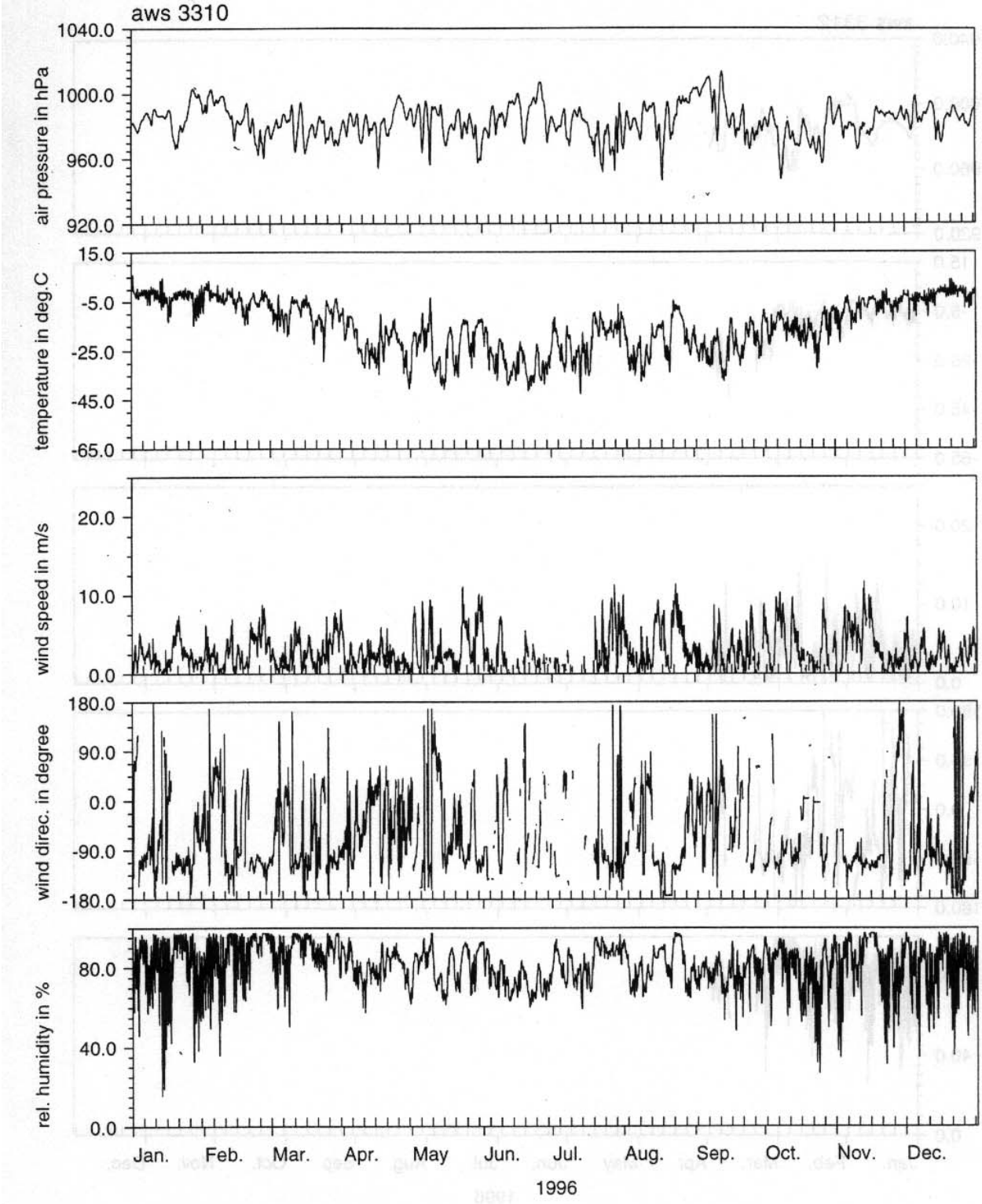
Drift trajectories of the buoys in 1996.
The 1st positions in 1996 are labeled by the buoy ID and the 1st position of each month is marked by a symbol.

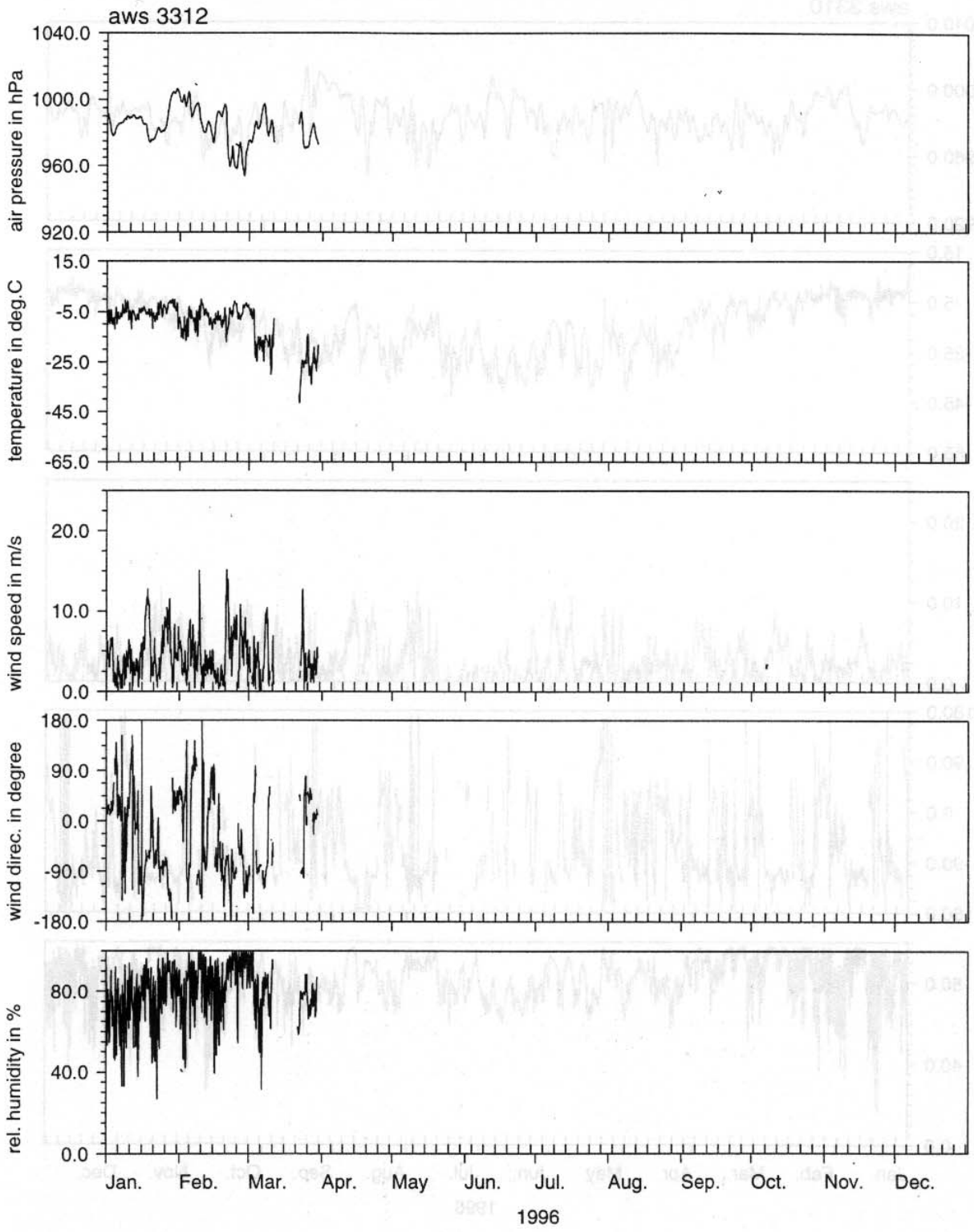


Operating periods in 1996


buoy 14955
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1996
buoy 14956
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1996


buoy 14957
1040.0
1000.0
960.0
920.0
air pressure in hPa
15.0
-5.0
-25.0
-45.0
temperature in deg.C
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1996


aws 3310
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1996


aws 3312
air pressure in hPa
1040.0
1000.0
960.0
920.0
temperature in deg.C
15.0
-5.0
-25.0
-45.0
-65.0
wind speed in m/s
20.0
10.0
0.0
wind direc. in degree
180.0
90.0
0.0
-90.0
-180.0
rel. humidity in %
80.0
40.0
0.0
Jan.
Feb.
Mar.
Apr.
May
Jun.
Jul.
Aug.
Sep.
Oct.
Nov.
Dec.
1996

buoy 8055

operating period: 08.02.91 - 05.04.91

month	position degree		press. hPa	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 91	73.367 S	28.136 W	992.02	-0.07	0.03	0.12
			7.48	0.07	0.08	0.06
Mar. 91	72.611 S	31.894 W	986.97	-0.04	0.04	0.10
			9.54	0.07	0.08	0.06
Apr. 91	71.974 S	33.540 W	997.11	0.03	0.26	0.27
			3.12	0.04	0.08	0.07

buoy 9353

operating period: 14.02.91 - 31.12.91

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 91	70.627 S	21.757 W	988.65	-3.83	-0.05	0.07	0.16
			6.54	3.15	0.10	0.12	0.08
Mar. 91	69.475 S	23.641 W	985.44	-10.61	-0.03	0.06	0.14
			10.26	6.29	0.09	0.11	0.07
Apr. 91	68.295 S	25.809 W	990.46	-12.38	-0.03	0.04	0.16
			11.14	6.25	0.12	0.14	0.10
May 91	67.462 S	28.317 W	980.13	-18.13	-0.05	0.04	0.18
			12.39	8.40	0.13	0.13	0.08
June 91	66.700 S	31.225 W	982.67	-21.45	-0.05	0.03	0.17
			13.73	7.50	0.17	0.10	0.11
July 91	65.593 S	31.903 W	987.58	-20.28	0.02	0.06	0.16
			12.91	5.64	0.12	0.14	0.10
Aug. 91	64.256 S	28.165 W	983.63	-13.54	0.11	0.05	0.19
			16.06	8.41	0.12	0.12	0.09
Sep. 91	63.305 S	22.508 W	995.53	-15.57	0.10	0.03	0.20
			14.78	6.72	0.13	0.15	0.11
Oct. 91	62.535 S	18.050 W	980.66	-9.27	0.07	0.03	0.22
			10.44	5.98	0.16	0.16	0.10
Nov. 91	61.693 S	13.657 W	984.62	-3.28	0.10	0.04	0.20
			13.91	2.36	0.15	0.15	0.12
Dec. 91	59.221 S	10.951 W	986.26	1.57	0.01	0.17	0.25
			6.98	1.87	0.17	0.16	0.14

buoy 9354

operating period: 14.02.91 - 31.12.91

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 91	72.654 S	22.203 W	989.42	-5.73	-0.07	-0.05	0.11
			6.45	3.14	0.07	0.06	0.05
Mar. 91	72.440 S	25.408 W	986.05	-14.63	-0.04	0.04	0.12
			9.11	7.43	0.09	0.08	0.07
Apr. 91	71.626 S	27.764 W	990.65	-17.45	-0.02	0.02	0.12
			9.60	5.67	0.09	0.10	0.06
May 91	71.223 S	30.893 W	983.31	-21.99	-0.07	0.01	0.13
			10.28	9.18	0.11	0.09	0.08
June 91	70.708 S	34.266 W	984.24	-23.45	-0.02	0.03	0.15
			12.42	6.00	0.13	0.10	0.08
July 91	69.783 S	35.576 W	988.09	-23.93	-0.02	0.05	0.15
			15.96	5.30	0.09	0.14	0.09
Aug. 91	68.859 S	36.163 W	980.24	-18.93	0.00	0.03	0.15
			14.48	8.40	0.11	0.13	0.09
Sep. 91	68.352 S	35.109 W	990.65	-16.77	0.03	0.01	0.19
			15.91	6.92	0.15	0.16	0.11
Oct. 91	68.140 S	34.962 W	980.17	-13.43	-0.03	0.00	0.18
			12.55	5.15	0.15	0.14	0.09
Nov. 91	67.402 S	35.040 W	980.84	-3.55	0.03	0.06	0.18
			8.97	2.86	0.13	0.13	0.09
Dec. 91	65.733 S	35.643 W	998.19	-1.57	-0.05	0.08	0.14
			4.97	2.47	0.10	0.09	0.08

buoy 9360

operating period: 12.02.91 - 19.05.91

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd_drift m/s
Feb. 91	71.119 S	20.577 W	989.04	-4.95	14.58	-0.03	0.05	0.12
			6.78	2.76	0.38	0.08	0.10	0.08
Mar. 91	70.185 S	21.955 W	984.73	-12.59	14.66	-0.02	0.05	0.12
			10.09	7.11	0.11	0.09	0.10	0.07
Apr. 91	69.271 S	23.560 W	990.01	-14.11	14.16	-0.02	0.03	0.15
			10.19	6.61	0.52	0.12	0.12	0.08
May 91	69.107 S	25.835 W	983.65	-16.65	13.32	-0.06	-0.02	0.16
			10.58	8.07	0.21	0.11	0.13	0.08

automatic weather station 3315

position: 77.087 S 50.214 W
heigth above msl: 40 meters
operating period: 01.01.91 - 31.12.91

month	press. hPa	temp. °C	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 91	987.28	-5.21	-2.07	1.35	5.66
	5.27	2.67	4.91	3.17	2.85
Feb. 91	996.71	-14.73	0.50	2.78	5.85
	7.35	5.67	5.33	3.10	3.42
Mar. 91	991.20	-25.62	0.86	2.02	5.49
	9.37	7.82	5.02	2.70	2.65
Apr. 91	995.34	-27.20	-0.15	1.95	6.37
	7.21	9.16	6.40	3.05	3.65
May 91	991.08	-33.60	0.76	1.01	3.56
	7.36	10.11	4.18	2.25	3.38
June 91	988.81	-31.27	0.90	1.27	5.12
	11.19	9.19	5.40	3.57	4.24
July 91	994.15	-37.04	0.52	1.36	4.27
	12.74	6.87	5.29	2.18	4.07
Aug. 91	983.38	-36.42	-1.46	2.09	6.56
	10.56	8.08	7.05	3.34	4.91
Sep. 91	992.24	-27.41	-1.01	1.79	7.84
	15.87	8.96	8.33	3.55	4.95
Oct. 91	984.42	-25.24	-0.80	0.62	5.52
	11.48	7.94	4.95	3.84	3.13
Nov. 91	985.56	-11.87	-3.23	1.42	6.55
	10.64	4.87	6.15	3.07	4.09
Dec. 91	1001.36	-6.14	1.56	0.54	4.59
	4.70	4.23	3.93	2.73	2.12

buoy 9353

operating period: 01.01.92 - 08.05.92

month	position degree		press. hPa	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	56.484 S	3.898 W	992.15	0.30	0.06	0.50
			13.18	0.29	0.32	0.20
Feb. 92	55.287 S	9.243 E	984.73	0.33	0.05	0.54
			12.66	0.32	0.34	0.20
Mar. 92	57.106 S	24.332 E	993.26	0.39	-0.19	0.58
			12.61	0.33	0.31	0.23
Apr. 92	60.814 S	38.626 E	983.18	0.26	-0.15	0.53
			14.53	0.39	0.30	0.22
May 92	61.559 S	42.217 E	982.83	-0.39	0.25	0.63
			15.01	0.38	0.32	0.24

buoy 9354

operating period: 01.01.92 - 09.05.92

month	position degree		press. hPa	temp. C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	63.109 S	33.415 W	989.19	-0.75	0.14	0.14	0.35
			8.87	1.09	0.24	0.24	0.18
Feb. 92	61.671 S	27.833 W	985.04	0.10	0.10	-0.02	0.39
			12.49	0.36	0.28	0.30	0.16
Mar. 92	60.976 S	19.207 W	982.24	-0.26	0.24	0.08	0.48
			13.44	0.86	0.30	0.34	0.19
Apr. 92	57.080 S	7.715 W	990.76	-0.52	0.26	0.25	0.56
			10.16	0.83	0.34	0.32	0.20
May 92	53.715 S	0.300 E	985.09	-0.33	0.43	0.13	0.55
			9.85	0.76	0.23	0.30	0.21

buoy 9356

operating period: 25.01.92 - 05.09.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	74.236 S	60.279 W	989.96	-2.18	0.05	0.07	0.12
			2.16	1.93	0.04	0.11	0.07
Feb. 92	73.542 S	59.916 W	993.79	-7.18	0.00	0.05	0.08
			7.07	4.11	0.06	0.10	0.10
Mar. 92	72.192 S	60.136 W	993.31	-17.93	-0.01	0.06	0.09
			8.71	4.29	0.05	0.08	0.07
Apr. 92	71.233 S	60.365 W	997.68	-20.09	0.00	0.02	0.08
			8.75	2.38	0.06	0.08	0.07
May 92	70.809 S	60.369 W	1003.56		0.00	0.02	0.06
			6.26		0.02	0.08	0.06
June 92	70.305 S	60.551 W	1003.15		0.00	0.02	0.05
			11.17		0.04	0.09	0.09
July 92	69.785 S	60.759 W	994.03		0.00	0.02	0.09
			12.89		0.04	0.10	0.07
Aug. 92	69.488 S	60.816 W	990.55		0.00	0.00	0.03
			8.39		0.03	0.04	0.04
Sep. 92	69.395 S	60.828 W	976.29		0.00	0.03	0.09
			8.52		0.07	0.07	0.05

buoy 9357

operating period: 25.01.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	75.162 S	58.589 W	990.15	-2.41	0.03	-0.02	0.10
			2.89	1.35	0.08	0.07	0.05
Feb. 92	74.046 S	58.733 W	993.49	-8.22	0.00	0.11	0.15
			6.96	4.74	0.07	0.13	0.11
Mar. 92	72.037 S	58.800 W	992.48	-19.51	0.01	0.07	0.11
			8.69	4.08	0.04	0.11	0.08
Apr. 92	70.986 S	58.462 W	997.00	-18.11	0.00	0.02	0.13
			9.26	6.46	0.09	0.14	0.10
May 92	70.256 S	58.699 W	1002.79	-24.84	-0.01	0.04	0.13
			6.47	3.76	0.03	0.14	0.08
June 92	69.414 S	59.095 W	1002.68	-23.16	0.00	0.03	0.14
			11.35	4.95	0.07	0.15	0.10
July 92	68.821 S	58.984 W	993.62	-24.54	0.00	0.02	0.11
			13.05	7.13	0.06	0.12	0.07
Aug. 92	68.340 S	58.697 W	989.95	-26.64	0.00	0.02	0.07
			8.28	7.63	0.05	0.07	0.05
Sep. 92	67.850 S	58.378 W	983.90	-15.03	0.00	0.03	0.11
			11.73	7.46	0.08	0.10	0.07
Oct. 92	67.226 S	58.332 W	989.04	-12.93	0.00	0.03	0.07
			11.58	5.82	0.04	0.07	0.05
Nov. 92	66.851 S	57.470 W	986.98	-3.49	0.03	0.00	0.10
			8.27	6.93	0.07	0.08	0.05
Dec. 92	67.038 S	55.801 W	992.65	0.79	0.02	-0.02	0.11
			6.97	3.05	0.09	0.09	0.07

buoy 9358

operating period: 12.04.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Apr. 92	69.519 S	10.376 W	983.80	-12.21	-0.14	0.05	0.23
			8.80	2.68	0.17	0.16	0.14
May 92	68.331 S	15.976 W	989.85	-11.96	-0.07	0.07	0.20
			8.67	4.79	0.12	0.15	0.10
June 92	66.770 S	18.620 W	993.02	-19.72	-0.01	0.06	0.18
			8.78	5.69	0.12	0.17	0.11
July 92	65.491 S	17.803 W	980.47	-20.74	0.04	0.04	0.18
			13.45	6.45	0.15	0.14	0.11
Aug. 92	64.362 S	14.214 W	984.00	-19.66	0.09	0.04	0.21
			13.76	7.61	0.16	0.17	0.14
Sep. 92	63.419 S	10.431 W	985.36	-12.54	0.05	0.03	0.24
			10.94	6.08	0.20	0.18	0.15
Oct. 92	62.473 S	4.393 W	991.48	-6.08	0.18	0.04	0.27
			11.62	5.18	0.16	0.18	0.14
Nov. 92	61.531 S	4.365 E	984.82	-1.38	0.17	0.04	0.25
			12.52	1.10	0.16	0.15	0.12
Dec. 92	60.518 S	12.021 E	979.93	-0.13	0.15	0.05	0.31
			11.71	0.70	0.24	0.23	0.19

buoy 9359

operating period: 25.01.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	75.137 S	55.301 W	991.02	-1.80	-0.01	-0.02	0.09
			3.81	1.65	0.05	0.10	0.06
Feb. 92	74.301 S	56.991 W	993.82	-7.35	-0.03	0.08	0.15
			7.06	5.15	0.09	0.14	0.10
Mar. 92	72.379 S	58.145 W	992.49	-19.46	0.01	0.08	0.14
			8.87	3.84	0.06	0.13	0.09
Apr. 92	71.145 S	57.531 W	996.97	-17.91	0.00	0.02	0.16
			9.31	6.76	0.10	0.17	0.12
May 92	70.468 S	57.702 W	1002.69	-24.80	-0.01	0.04	0.16
			6.66	3.95	0.06	0.17	0.09
June 92	69.752 S	58.073 W	1002.74	-22.16	0.00	0.02	0.19
			11.36	4.06	0.12	0.19	0.12
July 92	69.174 S	57.906 W	993.58	-24.50	0.01	0.03	0.14
			12.89	6.39	0.09	0.14	0.08
Aug. 92	68.624 S	57.584 W	989.96	-23.81	0.00	0.02	0.10
			8.55	6.32	0.07	0.09	0.05
Sep. 92	68.136 S	57.236 W	984.03	-13.23	0.01	0.03	0.13
			11.90	4.06	0.09	0.12	0.08
Oct. 92	67.499 S	57.221 W	989.14	-9.17	0.00	0.03	0.09
			11.75	2.40	0.06	0.08	0.06
Nov. 92	66.912 S	56.232 W	986.99	-2.28	0.04	0.02	0.14
			8.39	4.02	0.11	0.10	0.07
Dec. 92	66.579 S	54.001 W	993.57	2.39	0.03	0.01	0.12
			7.32	3.51	0.08	0.10	0.06

buoy 9362

operating period: 26.01.92 - 03.03.92

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	75.719 S	55.258 W	989.95	-2.93	15.38	0.00	-0.04	0.09
			4.44	0.97	0.18	0.06	0.08	0.05
Feb. 92	74.913 S	57.214 W	994.19	-8.69	15.54	-0.04	0.08	0.13
			7.07	4.78	0.70	0.08	0.12	0.10
Mar. 92	73.986 S	59.171 W	1001.23	-17.33	14.42	-0.01	0.02	0.07
			4.14	2.22	0.04	0.03	0.07	0.04

buoy 9363

operating period: 24.01.92 - 22.09.92

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 92	74.958 S	59.899 W	989.12	-3.82	3.50	-0.07	0.05	0.18
			2.90	1.55	0.83	0.13	0.14	0.10
Feb. 92	73.775 S	60.066 W	994.37	-8.64	13.10	0.01	0.10	0.13
			7.01	4.34	16.16	0.05	0.12	0.10
Mar. 92	71.995 S	59.963 W	993.81	-19.39	31.29	-0.01	0.06	0.11
			8.65	4.40	11.60	0.05	0.12	0.09
Apr. 92	71.087 S	60.306 W	998.24	-17.84	37.67	0.00	0.02	0.10
			8.83	6.96	19.03	0.04	0.12	0.08
May 92	70.290 S	60.491 W	1004.23	-24.62		-0.01	0.05	0.11
			6.24	3.90		0.03	0.12	0.08
June 92	69.577 S	60.671 W	1003.77	-21.97		0.00	0.01	0.11
			11.09	5.12		0.07	0.14	0.11
July 92	69.216 S	60.564 W	994.70	-24.27		0.01	0.02	0.11
			13.05	7.58		0.05	0.12	0.07
Aug. 92	68.762 S	60.296 W	991.04	-25.79		0.00	0.02	0.06
			8.25	6.67		0.05	0.07	0.06
Sep. 92	68.368 S	60.353 W	981.01	-14.96		-0.01	0.02	0.09
			10.66	6.98		0.08	0.08	0.07

buoy 9364

operating period: 11.07.92 - 14.12.92

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	68.186 S	25.340 W	982.99	-23.33	12.82	0.04	0.07	0.17
			13.46	5.82	8.07	0.11	0.14	0.10
Aug. 92	67.147 S	23.198 W	983.56	-22.18	31.90	0.04	0.04	0.18
			13.39	7.28	5.08	0.15	0.13	0.10
Sep. 92	66.569 S	20.905 W	984.12	-14.57	51.85	0.04	0.01	0.21
			11.63	6.92	7.26	0.18	0.18	0.15
Oct. 92	66.357 S	16.738 W	986.17	-9.68	62.68	0.10	0.01	0.24
			13.74	7.83	1.53	0.18	0.18	0.13
Nov. 92	65.840 S	11.920 W	981.12	-4.93		0.06	0.03	0.22
			15.66	3.06		0.18	0.14	0.10
Dec. 92	64.739 S	9.551 W	987.73	-2.22		0.05	0.14	0.22
			9.26	1.48		0.14	0.12	0.09

buoy 9365

operating period: 10.07.92 - 31.12.92

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	68.699 S	24.277 W	982.66	-23.13	14.48	0.04	0.06	0.16
			13.39	5.33	2.68	0.11	0.14	0.09
Aug. 92	67.755 S	22.734 W	983.14	-22.71	18.96	0.03	0.03	0.18
			13.29	7.00	0.98	0.15	0.13	0.10
Sep. 92	67.400 S	21.684 W	983.52	-14.84	27.48	0.01	-0.01	0.21
			11.63	6.57	5.95	0.18	0.18	0.14
Oct. 92	67.337 S	19.217 W	984.97	-10.15	31.53	0.07	0.01	0.23
			13.94	8.36	4.65	0.17	0.18	0.12
Nov. 92	66.829 S	15.717 W	980.78	-5.04	40.56	0.05	0.03	0.20
			15.52	3.15	4.78	0.17	0.14	0.09
Dec. 92	64.827 S	13.361 W	989.23	-1.81		0.04	0.13	0.19
			8.25	1.46		0.10	0.10	0.08

buoy 9366

operating period: 11.07.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	67.705 S	26.426 W	982.88	-23.84	0.06	0.07	0.17
			13.24	6.67	0.11	0.15	0.11
Aug. 92	66.624 S	23.972 W	983.78	-21.52	0.04	0.04	0.18
			13.47	7.66	0.15	0.14	0.11
Sep. 92	65.920 S	21.320 W	984.14	-13.57	0.05	0.01	0.22
			11.85	7.18	0.19	0.18	0.15
Oct. 92	65.646 S	16.851 W	986.69	-8.55	0.11	0.01	0.23
			14.27	7.56	0.16	0.17	0.12
Nov. 92	65.108 S	11.797 W	981.29	-3.63	0.07	0.04	0.23
			15.62	3.21	0.19	0.15	0.11
Dec. 92	62.812 S	7.885 W	988.30	-0.82	0.08	0.16	0.24
			7.54	1.55	0.17	0.11	0.10

buoy 9367

operating period: 11.07.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	67.725 S	23.876 W	981.95	-23.18	0.05	0.07	0.17
			13.38	6.24	0.11	0.15	0.10
Aug. 92	66.728 S	21.712 W	983.12	-22.06	0.04	0.04	0.18
			13.49	7.26	0.15	0.14	0.10
Sep. 92	66.159 S	19.555 W	983.92	-13.99	0.04	0.01	0.21
			11.55	6.77	0.19	0.17	0.14
Oct. 92	65.858 S	15.149 W	986.36	-8.69	0.11	0.02	0.24
			13.44	7.96	0.18	0.18	0.13
Nov. 92	65.309 S	9.911 W	980.99	-3.47	0.07	0.03	0.22
			15.09	2.71	0.18	0.15	0.11
Dec. 92	63.247 S	6.864 W	987.17	-1.09	0.05	0.14	0.22
			7.67	1.52	0.15	0.12	0.10

buoy 9368

operating period: 10.07.92 - 31.12.92

month	position degree		press. hPa	temp. C	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	69.117 S	25.500 W	982.78	-23.78	0.03	0.06	0.17
			13.24	5.17	0.11	0.13	0.09
Aug. 92	68.173 S	24.168 W	983.32	-23.61	0.02	0.03	0.17
			13.12	7.37	0.15	0.13	0.10
Sep. 92	67.663 S	23.518 W	983.44	-13.96	0.00	0.01	0.22
			11.84	6.18	0.18	0.18	0.14
Oct. 92	67.475 S	21.517 W	985.06	-9.03	0.06	0.01	0.22
			14.62	7.75	0.17	0.16	0.11
Nov. 92	67.009 S	18.172 W	981.09	-3.93	0.05	0.03	0.18
			15.48	3.41	0.15	0.13	0.09
Dec. 92	64.447 S	14.460 W	990.26	-1.00	0.09	0.18	0.27
			8.36	1.53	0.16	0.12	0.11

buoy 9369

operating period: 10.07.92 - 31.12.92

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 92	69.183 S	23.299 W	981.83	-22.97	0.02	0.06	0.16
			13.22	4.70	0.11	0.12	0.08
Aug. 92	68.356 S	22.400 W	982.57	-23.69	0.01	0.03	0.17
			13.30	6.96	0.15	0.13	0.10
Sep. 92	68.037 S	22.561 W	983.31	-14.87	-0.02	0.00	0.22
			11.58	6.05	0.18	0.18	0.13
Oct. 92	67.999 S	21.743 W	984.33	-9.46	0.05	0.01	0.21
			14.25	8.19	0.17	0.16	0.11
Nov. 92	67.542 S	19.213 W	980.57	-4.39	0.03	0.03	0.18
			15.01	3.69	0.15	0.12	0.09
Dec. 92	65.430 S	16.866 W	990.30	-0.86	0.04	0.14	0.21
			8.39	2.03	0.14	0.11	0.10

automatic weather station 3315

position: 77.087 S 50.214 W
heigth above msl: 40 meters
operating period: 01.01.92 - 31.12.92

month	press. hPa	temp. °C	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 92	992.77	-5.37	-0.92	2.42	4.91
	6.26	2.69	3.77	3.45	2.95
Feb. 92	995.70	-11.86	-2.36	3.63	6.79
	7.01	7.69	4.93	3.43	2.92
Mar. 92	988.01	-31.56	2.82	2.61	6.44
	9.22	7.23	5.16	3.24	3.20
Apr. 92	995.39	-27.99	-0.32	0.92	5.62
	7.38	8.71	6.41	3.12	4.47
May 92	1000.37	-36.33	0.48	0.23	0.75
	6.64	7.40	1.40	0.60	1.43
June 92	1002.20	-32.76	-0.04	0.00	0.05
	10.62	7.66	0.15	0.00	0.14
July 92	989.38	-37.27	0.00	0.01	0.01
	12.00	7.17	0.00	0.01	0.01
Aug. 92	988.48	-38.83	0.11	0.14	0.65
	10.20	6.79	1.96	1.09	2.15
Sep. 92	985.90	-31.57	-1.84	1.07	7.38
	9.00	10.59	7.89	3.58	4.98
Oct. 92	990.97	-23.97	-0.80	1.95	7.18
	9.32	9.06	6.88	4.43	4.43
Nov. 92	981.72	-15.63	-0.02	0.64	6.56
	6.51	6.65	6.21	4.12	3.58
Dec. 92	989.55	-6.21	-1.40	0.80	5.80
	8.12	3.71	5.59	3.36	3.38

automatic weather station 3317

position: 72.879 S 19.021 W
operating period: 02.02.92 - 31.12.92
heigth above msl: 35 meters

month	press. hPa	temp. °C	snow h. cm	u-wind m/s	v-wind m/s	spd-wind m/s
Feb. 92	986.44	-7.19	3.91	-3.14	-0.82	4.47
	6.17	3.11	1.48	2.70	2.53	2.07
Mar. 92	977.14	-14.30	7.59	-4.45	-0.97	7.00
	1.75	5.19	4.77	5.00	4.66	4.28
Apr. 92		-21.33	18.31	-2.40	0.32	4.72
		6.88	3.76	4.07	3.23	3.25
May 92		-21.99	19.76	-2.23	0.10	3.77
		5.24	1.16	3.33	3.35	3.60
June 92		-24.25	21.13	-2.46	-1.03	4.18
		6.13	4.22	3.73	3.65	4.11
July 92		-24.32	22.50	-2.91	-1.68	4.36
		7.62	2.46	4.50	3.59	5.05
Aug. 92		-33.26	24.21	-2.32	-0.93	4.25
		6.98	1.64	5.03	4.24	5.60
Sep. 92		-25.12	26.75	-3.88	-2.58	5.76
		6.05	0.91	3.45	3.54	3.60
Oct. 92	965.12	-17.85	26.49	-3.82	-2.39	6.37
	13.29	10.08	1.32	4.75	5.36	5.56
Nov. 92	976.49	-9.53	28.18	-2.00	-1.31	6.62
	5.45	4.68	1.68	6.13	4.95	4.88
Dec. 92	983.31	-3.66	34.33	0.37	0.72	4.66
	5.83	2.31	3.59	3.49	3.91	2.50

buoy 9357

operating period: 01.01.93 - 31.12.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	67.661 S	55.780 W	999.83	-2.30	-0.02	-0.03	0.16
			7.63	4.32	0.14	0.14	0.11
Feb. 93	68.499 S	56.356 W	993.56	-3.42	0.01	-0.04	0.19
			8.02	3.48	0.16	0.15	0.12
Mar. 93	68.718 S	56.785 W	986.58	-8.84	-0.02	0.02	0.19
			9.84	5.25	0.13	0.17	0.10
Apr. 93	67.721 S	58.041 W	988.93	-17.09	-0.02	0.07	0.14
			7.12	6.18	0.08	0.12	0.08
May 93	66.366 S	58.225 W	989.42	-20.60	0.01	0.05	0.09
			12.20	6.60	0.06	0.09	0.07
June 93	65.240 S	56.986 W	992.23	-20.24	0.03	0.05	0.11
			11.31	6.76	0.08	0.11	0.10
July 93	64.440 S	54.729 W	993.52	-16.62	0.05	0.02	0.19
			13.00	7.03	0.15	0.17	0.13
Aug. 93	63.507 S	51.402 W	986.66	-13.05	0.07	0.06	0.19
			11.80	7.18	0.13	0.18	0.14
Sep. 93	62.579 S	48.649 W	983.96		0.04	0.02	0.19
			15.60		0.14	0.15	0.09
Oct. 93	61.505 S	44.232 W	982.01		0.14	0.07	0.22
			11.96		0.13	0.13	0.10
Nov. 93	59.696 S	37.800 W	990.13		0.12	0.08	0.24
			16.59		0.14	0.18	0.12
Dec. 93	58.234 S	32.291 W	984.26		0.11	0.05	0.32
			12.07		0.22	0.26	0.17

buoy 9358

operating period: 01.01.93 - 24.08.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	60.194 S	15.132 E	990.68	0.90	-0.03	-0.03	0.38
			11.50	0.80	0.33	0.25	0.16
Feb. 93	62.068 S	19.280 E	982.14	1.23	0.20	-0.14	0.44
			7.24	0.83	0.29	0.29	0.19
Mar. 93	64.176 S	29.974 E	979.35	-0.03	0.22	-0.04	0.43
			10.45	1.01	0.28	0.30	0.17
Apr. 93	64.498 S	36.985 E	982.90	-1.95	0.03	0.02	0.40
			7.82	1.47	0.34	0.28	0.18
May 93	63.193 S	39.129 E	975.62	-2.77	0.05	0.09	0.41
			15.36	1.53	0.35	0.29	0.21
June 93	61.482 S	46.797 E	984.09	-2.50	0.26	0.05	0.46
			14.65	1.48	0.29	0.29	0.18
July 93	60.278 S	59.376 E	981.31	-3.31	0.25	0.05	0.43
			13.16	2.51	0.23	0.31	0.18
Aug. 93	58.176 S	71.792 E	987.29	-2.16	0.35	0.16	0.56
			11.06	0.79	0.33	0.32	0.21

buoy 9359

operating period: 01.01.93 - 18.05.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	66.742 S	53.911 W	999.78	0.39	-0.03	-0.02	0.13
			8.05	2.71	0.10	0.10	0.07
Feb. 93	66.936 S	54.842 W	993.97	-0.34	0.01	0.00	0.12
			9.07	3.00	0.10	0.09	0.07
Mar. 93	65.682 S	53.939 W	986.09	-2.66	0.02	0.10	0.20
			8.71	3.29	0.13	0.18	0.14
Apr. 93	63.082 S	51.128 W	988.68	-4.41	0.08	0.12	0.30
			8.34	3.47	0.19	0.25	0.17
May 93	61.221 S	47.362 W	992.52	-0.45	0.11	0.07	0.47
			10.91	2.10	0.37	0.36	0.25

buoy 9365

operating period: 01.01.93 - 28.01.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	63.063 S	12.318 W	994.54	-0.80	0.00	0.01	0.05
			7.53	0.65	0.04	0.04	0.03

buoy 9366

operating period: 01.01.93 - 31.12.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	59.221 S	6.871 W	992.49	0.35	-0.03	0.15	0.41
			9.68	0.71	0.33	0.23	0.13
Feb. 93	57.089 S	3.183 W	983.00	1.28	0.22	0.03	0.51
			12.47	0.71	0.33	0.38	0.21
Mar. 93	58.090 S	10.144 E	987.70	0.93	0.39	-0.11	0.56
			9.64	0.73	0.28	0.31	0.19
Apr. 93	59.460 S	23.147 E	986.46	0.05	0.19	0.00	0.48
			10.27	0.91	0.35	0.36	0.23
May 93	59.090 S	33.393 E	977.32	-1.23	0.25	0.04	0.51
			16.15	1.13	0.35	0.34	0.21
June 93	57.986 S	47.907 E	990.33	-1.00	0.40	0.05	0.56
			14.94	1.59	0.28	0.34	0.21
July 93	56.238 S	67.563 E	986.45		0.51	0.10	0.66
			13.68		0.23	0.40	0.21
Aug. 93	54.373 S	89.483 E	985.55		0.55	0.05	0.74
			11.77		0.40	0.42	0.30
Sep. 93	54.875 S	108.600 E			0.40	-0.10	0.66
					0.36	0.44	0.24
Oct. 93	56.571 S	127.358 E			0.49	-0.05	0.64
					0.35	0.31	0.23
Nov. 93	57.678 S	145.517 E			0.35	-0.04	0.50
					0.25	0.33	0.20
Dec. 93	60.239 S	166.130 E			0.52	-0.17	0.68
					0.30	0.34	0.22

buoy 9367

operating period: 01.01.93 - 26.01.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	59.944 S	8.055 W	985.66	0.15	-0.13	0.20	0.47
			7.26	0.71	0.41	0.17	0.16

buoy 9368

operating period: 01.01.93 - 31.12.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	60.352 S	14.769 W	995.74	0.45	-0.10	0.16	0.41
			9.11	1.07	0.31	0.23	0.14
Feb. 93	57.259 S	13.188 W	983.84	1.66	0.20	0.11	0.55
			11.77	0.79	0.33	0.42	0.19
Mar. 93	55.686 S	1.015 W	989.86	1.19	0.38	0.03	0.58
			8.88	0.91	0.31	0.38	0.20
Apr. 93	56.501 S	13.718 E	990.15	0.35	0.32	-0.10	0.56
			11.37	0.85	0.33	0.36	0.21
May 93	56.610 S	28.027 E	980.60	-0.99	0.34	0.09	0.57
			15.43	1.04	0.36	0.37	0.24
June 93	54.977 S	44.493 E	996.91	0.10	0.45	0.05	0.61
			15.08	1.56	0.26	0.39	0.21
July 93	53.624 S	64.285 E	994.58	0.70	0.55	0.07	0.70
			13.62	1.82	0.27	0.40	0.21
Aug. 93	51.743 S	86.471 E	991.74	1.60	0.59	0.09	0.77
			13.06	1.69	0.31	0.45	0.26
Sep. 93	52.021 S	106.055 E	988.28	1.80	0.43	-0.12	0.64
			13.63	1.83	0.33	0.40	0.25
Oct. 93	54.645 S	122.906 E	989.47	2.14	0.42	-0.11	0.56
			11.24	1.87	0.29	0.31	0.21
Nov. 93	56.069 S	139.448 E	990.15	2.29	0.38	-0.01	0.52
			11.97	1.31	0.23	0.32	0.17
Dec. 93	59.036 S	159.474 E	994.75	1.98	0.50	-0.24	0.66
			11.86	0.96	0.28	0.32	0.23

buoy 9369

operating period: 01.01.93 - 31.12.93

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 93	62.049 S	17.896 W	997.24	0.05	-0.08	0.14	0.38
			7.71	1.00	0.31	0.23	0.16
Feb. 93	59.228 S	18.590 W	985.24	1.02	0.07	0.11	0.46
			9.48	0.80	0.31	0.38	0.20
Mar. 93	57.043 S	10.719 W	988.59	1.00	0.29	0.08	0.53
			11.09	1.00	0.31	0.36	0.19
Apr. 93	56.715 S	2.176 E	988.75	-0.08	0.31	-0.05	0.58
			13.72	0.89	0.34	0.43	0.24
May 93	56.281 S	16.595 E	986.14	-1.49	0.35	0.09	0.58
			14.69	1.11	0.36	0.35	0.22
June 93	55.799 S	33.256 E	994.15	-0.50	0.42	-0.05	0.63
			13.83	1.58	0.36	0.38	0.25
July 93	56.335 S	52.946 E	989.66	-1.17	0.50	0.00	0.66
			11.91	1.91	0.26	0.39	0.20
Aug. 93	55.412 S	74.565 E	986.19	-1.27	0.51	0.07	0.67
			14.00	1.80	0.31	0.37	0.24
Sep. 93	53.897 S	95.144 E	984.03	0.60	0.49	0.06	0.70
			12.75	2.14	0.36	0.46	0.32
Oct. 93	53.887 S	113.968 E	989.55	1.48	0.45	-0.06	0.58
			10.94	1.93	0.32	0.34	0.27
Nov. 93	55.040 S	131.320 E	991.50	3.21	0.40	-0.04	0.55
			12.69	1.33	0.28	0.33	0.22
Dec. 93	57.716 S	146.660 E	985.85	2.27	0.31	-0.18	0.50
			11.24	1.08	0.30	0.29	0.23

automatic weather station 3315

position: 77.087 S 50.214 W
heigth above msl: 40 meters
operating period: 01.01.93 - 31.12.93

month	press. hPa	temp. °C	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 93	1002.80	-8.75	0.79	1.02	4.88
	5.81	4.21	4.45	2.96	2.52
Feb. 93	993.55	-14.85	2.32	1.14	4.67
	6.74	6.15	3.55	3.13	2.69
Mar. 93	987.92	-23.10	-1.21	1.53	7.06
	8.80	8.58	7.17	3.89	4.50
Apr. 93	990.73	-31.37	-1.74	2.04	6.04
	8.57	9.31	5.95	3.29	4.10
May 93	986.74	-34.91	0.35	1.91	5.45
	13.56	6.99	5.85	3.54	4.55
June 93	990.21	-36.22	2.12	1.68	5.91
	12.99	8.53	5.67	3.12	3.77
July 93	993.76	-30.02	-2.28	2.54	7.13
	9.66	6.09	7.86	4.18	6.21
Aug. 93	984.88	-32.14	0.78	1.57	4.82
	10.27	8.35	5.20	3.69	4.52
Sep. 93	987.07	-33.55	-2.69	1.37	5.51
	7.75	7.16	6.65	2.67	5.47
Oct. 93	979.25	-23.22	-1.76	2.38	7.59
	6.26	8.72	7.22	3.97	4.34
Nov. 93	986.08	-12.60	-2.84	1.16	6.18
	7.03	7.26	6.05	3.05	4.13
Dec. 93	987.10	-7.74	-0.13	0.95	5.68
	5.53	3.42	4.94	3.86	2.80

automatic weather station 3317

position: 72.879 S 19.021 W
operating period: 01.01.93 - 31.12.93
heigth above msl: 35 meters

month	press. hPa	temp. °C	snow h. cm	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 93	993.24	-5.40	38.91	-0.61	1.29	3.46
	6.28	3.54	1.11	2.59	2.67	1.97
Feb. 93	989.14	-10.50	41.27	-1.41	0.12	2.92
	5.96	5.38	2.44	2.33	2.30	2.04
Mar. 93	980.20	-12.57	52.60	-2.62	-1.66	4.35
	4.77	5.64	5.76	2.59	2.95	2.47
Apr. 93		-20.67	69.12	-3.22	-2.18	5.38
		7.90	1.28	4.29	4.90	5.34
May 93		-20.06	68.51	-3.13	-2.71	6.53
		8.68	2.95	4.49	4.77	4.18
June 93		-25.82	73.02	-1.64	-0.85	4.66
		8.97	4.45	3.56	5.38	4.82
July 93		-29.76	78.60	-1.76	0.48	3.74
		6.09	1.77	3.39	3.37	3.49
Aug. 93		-27.46	80.05	-1.57	-0.73	4.60
		7.74	1.52	3.62	4.65	4.05
Sep. 93		-26.20	84.59	-3.30	-0.56	5.00
		7.90	6.03	4.22	3.78	4.27
Oct. 93	919.99	-17.66	92.60	-3.97	-2.67	6.83
	0.14	5.61	0.72	5.21	5.05	5.36
Nov. 93	980.16	-8.79	93.33	-3.51	-2.69	6.45
	6.52	4.60	1.75	3.94	4.36	3.53
Dec. 93	981.48	-4.74	91.56	-0.46	1.09	4.00
	5.86	2.58	1.63	2.82	3.51	2.37

buoy 8056

operating period: 29.04.94 - 31.10.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Apr. 94	68.689 S	12.544 E	971.60	-14.54	-0.10	0.08	0.19
			2.53	2.14	0.18	0.03	0.12
May 94	68.831 S	5.480 E	984.00	-15.08	-0.20	-0.02	0.24
			9.31	4.46	0.20	0.09	0.17
June 94	69.248 S	7.050 W	995.99	-16.21	-0.17	-0.02	0.21
			12.03	3.62	0.19	0.09	0.17
July 94	69.250 S	15.301 W	984.40	-22.02	-0.08	0.02	0.19
			11.53	6.49	0.16	0.13	0.11
Aug. 94	68.248 S	17.112 W			0.03	0.06	0.24
					0.17	0.20	0.14
Sep. 94	68.187 S	15.986 W			0.38	-0.06	0.19
					5.74	0.14	0.11
Oct. 94	68.498 S	16.936 W			-0.04	0.04	0.14
					0.11	0.11	0.08

buoy 8057

operating period: 18.07.94 - 27.09.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	64.863 S	4.927 W	982.91	-14.68	0.01	0.06	0.28
			13.17	4.71	0.21	0.21	0.12
Aug. 94	64.356 S	0.835 W	980.65	-13.11	0.14	0.02	0.28
			12.56	5.57	0.19	0.22	0.15
Sep. 94	63.225 S	5.931 E	987.73	-9.22	0.13	0.09	0.33
			14.27	4.11	0.27	0.22	0.18

buoy 8058

operating period: 18.07.94 - 02.11.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	65.880 S	5.576 W	983.24	-15.84	-0.04	0.03	0.30
			11.91	4.92	0.25	0.21	0.14
Aug. 94	65.314 S	2.568 W	979.08	-14.38	-6.19	0.03	6.60
			12.45	6.07	70.11	0.23	70.07
Sep. 94	63.966 S	2.932 E	980.46	-12.68	0.08	0.08	0.35
			12.88	5.15	0.30	0.22	0.18
Oct. 94	62.659 S	6.730 E			0.07	0.03	0.28
					0.22	0.22	0.15

buoy 8059

operating period: 20.07.94 - 19.09.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	66.982 S	8.268 W	985.73	-18.16	-0.10	0.00	0.31
			10.37	4.52	0.28	0.18	0.15
Aug. 94	66.672 S	7.700 W	978.71	-16.24	0.05	0.03	0.25
			12.63	6.29	0.20	0.21	0.15
Sep. 94	66.107 S	4.916 W	984.58	-8.35	0.07	0.03	0.22
			13.21	9.84	0.16	0.17	0.10

buoy 8060

operating period: 20.07.94 - 31.12.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	67.725 S	6.152 W	985.37	-19.33	-0.10	0.03	0.31
			8.42	4.51	0.28	0.17	0.16
Aug. 94	67.165 S	6.873 W	978.13	-16.68	0.01	0.03	0.24
			12.43	5.98	0.19	0.20	0.14
Sep. 94	66.792 S	5.673 W	988.82	-12.05	0.03	-0.01	0.21
			13.84	6.36	0.16	0.16	0.10
Oct. 94	66.693 S	5.886 W	979.82	-12.21	-0.03	0.01	0.20
			8.59	3.72	0.18	0.13	0.11
Nov. 94	65.940 S	6.291 W	989.49	-4.91	0.02	0.05	0.19
			11.62	4.84	0.14	0.16	0.10
Dec. 94	64.858 S	5.441 W	983.62	-1.42	0.01	0.04	0.18
			9.90	1.51	0.14	0.14	0.10

buoy 8061

operating period: 19.07.94 - 05.09.94

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	66.685 S	3.361 W	984.03	-16.81	-0.05	0.05	0.33
			10.17	4.34	0.31	0.19	0.16
Aug. 94	66.102 S	1.314 W	978.33	-12.64	0.09	0.03	0.30
			12.52	6.15	0.23	0.24	0.17
Sep. 94	65.488 S	1.282 E	985.23	-8.12	0.00	0.14	0.33
			7.04	2.57	0.21	0.25	0.12

buoy 9357

operating period: 01.01.94 - 22.06.94

month	position degree		press. hPa	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 94	58.052 S	25.449 W	988.00	0.19	-0.04	0.42
			9.32	0.28	0.32	0.19
Feb. 94	57.472 S	14.568 W	985.76	0.33	0.09	0.54
			13.54	0.32	0.34	0.20
Mar. 94	57.363 S	0.527 E	986.51	0.38	-0.07	0.57
			16.16	0.31	0.36	0.20
Apr. 94	58.672 S	17.791 E	985.74	0.40	-0.04	0.55
			13.08	0.29	0.30	0.18
May 94	60.417 S	33.827 E	985.69	0.30	-0.11	0.52
			12.77	0.28	0.35	0.19
June 94	61.857 S	40.817 E	986.24	-0.02	-0.03	0.36
			6.70	0.30	0.24	0.15

buoy 9364

operating period: 30.07.94 - 16.09.94

month	position degree		press. hPa	temp. °C	snow h. cm	u-drift m/s	v-drift m/s	spd-drift m/s
July 94	66.947 S	6.787 W	987.53	-17.73	11.75	0.11	-0.12	0.23
			1.23	1.67	0.25	0.16	0.09	0.06
Aug. 94	66.813 S	4.879 W	978.37	-15.70	19.82	0.06	0.01	0.27
			12.35	6.10	6.81	0.21	0.22	0.15
Sep. 94	66.097 S	1.614 W	983.75	-13.87	18.97	0.11	0.08	0.26
			13.88	6.92	4.67	0.18	0.17	0.11

buoy 9366

operating period: 01.01.94 - 08.07.94

month	position degree	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 94	62.909 S 176.587 W	0.15	-0.05	0.42
		0.28	0.34	0.21
Feb. 94	62.062 S 164.935 W	0.34	0.12	0.55
		0.35	0.33	0.23
Mar. 94	62.409 S 149.479 W	0.30	-0.14	0.52
		0.31	0.30	0.18
Apr. 94	64.484 S 132.325 W	0.35	-0.02	0.53
		0.30	0.33	0.20
May 94	63.243 S 115.770 W	0.27	0.14	0.58
		0.26	0.45	0.18
June 94	59.984 S 104.658 W	0.17	0.14	0.53
		0.43	0.31	0.23
July 94	58.925 S 95.450 W	0.23	-0.05	0.28
		0.18	0.21	0.22

buoy 9368

operating period: 01.01.94 - 26.05.94

month	position degree	press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 94	63.048 S 174.609 E	983.83	1.77	0.10	-0.09	0.40
		10.57	0.88	0.31	0.30	0.20
Feb. 94	64.732 S 174.134 W	988.59	1.09	0.33	-0.05	0.49
		9.58	0.84	0.30	0.27	0.19
Mar. 94	67.309 S 157.832 W	980.91	-0.63	0.25	-0.16	0.50
		14.24	1.65	0.31	0.30	0.17
Apr. 94	68.642 S 146.008 W		-1.84	0.13	0.05	0.49
			1.22	0.40	0.33	0.22
May 94	68.639 S 135.371 W		-2.33	0.26	-0.07	0.44
			1.85	0.21	0.33	0.18

buoy 9369

operating period: 01.01.94 - 08.07.94

month	position degree	press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 94	59.889 S 161.597 E	975.53	3.47	0.34	0.00	0.54
		11.67	1.48	0.33	0.35	0.24
Feb. 94	59.681 S 179.983 W		5.06	0.48	0.02	0.62
			1.14	0.27	0.36	0.22
Mar. 94	61.324 S 160.082 W		2.80	0.38	-0.15	0.57
			1.99	0.30	0.31	0.16
Apr. 94	64.174 S 141.016 W			0.36	-0.09	0.59
				0.34	0.36	0.18
May 94	65.489 S 123.114 W			0.30	-0.02	0.55
				0.22	0.46	0.21
June 94	65.147 S 113.863 W			0.04	0.05	0.53
				0.44	0.34	0.19
July 94	65.132 S 106.411 W			0.23	-0.04	0.38
				0.27	0.27	0.24

automatic weather station 3315

position: 77.087 S 50.214 W
heigth above msl: 40 meters
operating period: 01.01.94 - 22.05.94

month	press. hPa	temp. °C	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 94	989.95	-5.64	-3.21	1.04	6.53
	4.94	3.02	4.68	4.71	3.56
Feb. 94	989.37	-18.33	0.01	1.34	5.49
	5.02	7.61	5.41	2.77	2.90
Mar. 94	990.30	-24.86	2.07	1.24	5.72
	9.55	7.61	5.85	2.75	3.86
Apr. 94	994.13	-33.44	1.94	1.32	5.18
	8.29	8.14	5.36	2.23	3.50
May 94	996.32	-32.22	1.12	1.42	4.97
	6.39	6.05	4.64	2.89	2.89

automatic weather station 3317

position: 72.879 S 19.021 W
operating period: 01.01.94 - 31.12.94
heigth above msl: 35 meters

month	press. hPa	temp. °C	snow h. cm	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 94	984.84	-4.34	92.76	-2.27	-1.15	4.74
	4.93	3.24	4.25	3.14	4.10	3.27
Feb. 94		-8.05	109.65	-2.39	-0.79	5.02
		4.81	6.54	4.05	3.73	3.37
Mar. 94		-17.04	118.53	-1.50	0.35	3.67
		6.58	2.92	2.77	3.10	2.48
Apr. 94		-20.07		-2.25	-0.47	3.97
		6.06		3.07	2.74	2.53
May 94		-24.97		-2.93	-1.56	5.88
		7.92		4.34	5.37	4.89
June 94		-23.74		-3.44	-1.68	5.21
		6.54		3.37	4.05	3.90
July 94		-29.84		-1.68	-0.38	3.06
		7.63		2.61	2.58	2.65
Aug. 94		-28.45		-2.81	-2.10	6.39
		8.14		4.65	5.59	4.91
Sep. 94		-20.76	126.77	-4.34	-4.59	7.61
		10.11	1.52	4.41	5.64	5.75
Oct. 94		-19.18		-2.71	-1.13	4.60
		5.51		3.30	3.27	3.01
Nov. 94	987.71	-9.49		-0.89	-0.86	4.33
	7.57	5.61		3.90	3.60	3.30
Dec. 94	978.82	-5.32		-0.71	-0.14	3.92
	8.88	3.39		2.54	3.60	2.13

buoy 3313

operating period: 16.02.95 - 06.03.95

month	position degree		press. hPa	temp. °C	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	74.113 S	60.470 W	992.90	-8.87	81.89	1.16	1.09	3.26	0.01	0.10	0.13
			13.49	5.21	6.49	1.69	2.86	1.69	0.06	0.12	0.11
Mar. 95	73.626 S	60.266 W	987.68	-7.83	87.87	0.88	0.20	3.74	0.00	0.00	0.05
			6.60	2.14	2.93	1.91	3.57	1.69	0.02	0.07	0.05

buoy 8060

operating period: 01.01.95 - 24.08.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 95	63.393 S	4.613 W	983.38	-0.10	0.02	0.08	0.23
			11.67	0.79	0.16	0.16	0.09
Feb. 95	62.619 S	2.095 W	983.69	0.06	0.08	-0.02	0.26
			11.39	0.71	0.20	0.19	0.12
Mar. 95	62.278 S	2.408 E	985.99	-0.26	0.10	0.04	0.29
			10.20	0.88	0.20	0.21	0.12
Apr. 95	60.990 S	7.988 E	985.51	-1.53	0.13	0.06	0.30
			10.32	1.20	0.19	0.22	0.11
May 95	60.051 S	16.339 E	984.28	-0.40	0.22	0.02	0.35
			11.07	3.22	0.21	0.23	0.14
June 95	58.347 S	26.198 E	987.62	7.61	0.20	0.13	0.41
			15.02	3.40	0.23	0.29	0.17
July 95	56.774 S	32.426 E	982.07	6.39	0.08	0.00	0.31
			12.37	2.34	0.24	0.23	0.15
Aug. 95	56.908 S	36.605 E	994.39	5.89	0.19	-0.03	0.34
			15.24	1.88	0.23	0.24	0.18

buoy 8064

operating period: 11.02.95 - 04.12.95

month	position degree		press. hPa	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	75.312 S	46.484 W	990.08	-0.01	0.04	0.13
			11.58	0.09	0.12	0.08
Mar. 95	74.474 S	48.126 W	986.37	-0.03	0.05	0.17
			11.92	0.13	0.13	0.10
Apr. 95	73.312 S	49.466 W	994.10	0.00	0.05	0.14
			11.39	0.11	0.12	0.09
May 95	72.080 S	49.048 W	989.17	0.01	0.06	0.12
			15.33	0.06	0.11	0.08
June 95	69.904 S	49.967 W	988.16	-0.04	0.13	0.18
			7.63	0.10	0.12	0.11
July 95	67.975 S	52.063 W	995.27	-0.02	0.04	0.07
			9.60	0.04	0.08	0.07
Aug. 95	66.905 S	52.232 W	990.75	0.02	0.05	0.10
			15.45	0.07	0.10	0.08
Sep. 95	65.973 S	50.851 W	986.28	0.03	0.03	0.14
			12.09	0.13	0.11	0.10
Oct. 95	65.189 S	49.187 W	988.34	0.03	0.04	0.19
			13.11	0.16	0.17	0.15
Nov. 95	63.692 S	46.202 W	979.48	0.08	0.09	0.26
			12.79	0.16	0.22	0.15
Dec. 95	62.711 S	44.020 W	975.69	0.02	-0.03	0.19
			5.88	0.11	0.18	0.10

buoy 14954

operating period: 11.02.95 - 15.06.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	74.825 S	50.969 W	991.02	-8.48	0.01	0.05	0.13
			12.00	4.14	0.08	0.12	0.07
Mar. 95	73.711 S	51.775 W	986.79	-13.33	-0.02	0.07	0.17
			11.61	6.00	0.11	0.15	0.10
Apr. 95	72.378 S	52.871 W	994.48	-22.62	0.00	0.05	0.13
			11.26	4.87	0.08	0.12	0.09
May 95	71.220 S	53.124 W	990.52	-24.63	0.00	0.05	0.09
			15.08	5.25	0.05	0.09	0.07
June 95	69.912 S	53.979 W	988.86	-17.81	2.48	87.26	12.17
			7.03	4.35	25.97	337.68	122.88

buoy 14955

operating period: 11.02.95 - 31.12.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	74.346 S	47.515 W	990.72	-8.67	0.01	0.06	0.12
			11.90	4.80	0.07	0.09	0.06
Mar. 95	73.454 S	47.877 W	985.82	-11.61	-0.02	0.04	0.15
			12.73	6.55	0.10	0.13	0.09
Apr. 95	72.336 S	49.184 W	993.91	-22.37	-0.02	0.05	0.12
			11.87	5.53	0.09	0.11	0.08
May 95	71.168 S	49.802 W	989.93	-22.34	0.00	0.05	0.09
			15.24	5.57	0.05	0.10	0.07
June 95	69.124 S	50.914 W	988.64	-19.98	-0.03	0.13	0.17
			7.70	6.48	0.09	0.12	0.11
July 95	67.186 S	52.604 W	994.55	-20.57	-0.02	0.04	0.07
			9.82	6.17	0.04	0.08	0.07
Aug. 95	66.076 S	52.545 W	991.30	-20.90	0.02	0.05	0.10
			15.18	7.20	0.07	0.10	0.09
Sep. 95	65.119 S	50.721 W	986.95	-13.27	0.04	0.03	0.15
			12.07	8.75	0.12	0.12	0.10
Oct. 95	64.434 S	47.596 W	989.17	-2.30	0.07	0.03	0.18
			14.71	2.83	0.15	0.14	0.12
Nov. 95	63.861 S	44.843 W	967.45	-2.13	0.09	0.05	0.12
			11.08	1.90	0.07	0.08	0.08
Dec. 95	61.610 S	36.771 W	990.39	-0.43	0.12	0.06	0.15
			6.82	1.04	0.10	0.10	0.12

buoy 14956

operating period: 11.02.95 - 31.12.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	75.563 S	49.129 W	990.84	-8.85	0.01	0.06	0.13
			11.83	3.97	0.08	0.12	0.07
Mar. 95	74.397 S	50.142 W	986.89	-13.94	-0.02	0.07	0.17
			11.65	6.49	0.12	0.14	0.10
Apr. 95	73.073 S	51.317 W	994.44	-23.59	0.00	0.05	0.13
			11.17	5.52	0.10	0.12	0.09
May 95	71.909 S	51.145 W	989.87	-23.41	0.00	0.05	0.12
			15.26	5.16	0.06	0.15	0.12
June 95	69.689 S	52.138 W	989.49	-21.50	-0.03	0.14	0.18
			7.24	5.77	0.09	0.13	0.12
July 95	67.604 S	53.821 W	995.07	-19.31	-0.01	0.04	0.07
			9.51	5.94	0.09	0.08	0.11
Aug. 95	66.518 S	53.645 W	991.30	-9.17	0.02	0.05	0.09
			15.35	1.72	0.06	0.09	0.09
Sep. 95	65.513 S	51.966 W	986.72	-7.33	0.04	0.03	0.14
			11.96	3.25	0.12	0.12	0.10
Oct. 95	64.534 S	49.515 W	988.76	-1.63	0.05	0.05	0.20
			13.44	1.94	0.16	0.17	0.15
Nov. 95	63.115 S	45.797 W	975.61	-0.90	0.09	0.07	0.23
			9.46	2.33	0.14	0.20	0.14
Dec. 95	61.593 S	41.132 W	985.81	0.31	0.09	0.06	0.24
			12.90	1.68	0.18	0.16	0.12

buoy 14957

operating period: 16.02.95 - 31.12.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	74.466 S	57.444 W	992.68	-9.16	-0.01	0.05	0.16
			13.59	4.44	0.07	0.18	0.11
Mar. 95	73.193 S	57.934 W	988.18	-14.34	-0.01	0.09	0.16
			10.75	4.98	0.05	0.18	0.13
Apr. 95	71.681 S	58.269 W	996.04	-24.32	0.00	0.04	0.12
			10.52	4.08	0.06	0.14	0.09
May 95	71.003 S	58.434 W	991.92	-24.25	0.00	0.02	0.15
			14.78	4.58	0.08	0.17	0.11
June 95	69.675 S	58.965 W	994.03	-21.89	-0.01	0.10	0.15
			7.19	4.82	0.05	0.17	0.14
July 95	68.187 S	59.377 W	997.58	-23.97	0.00	0.03	0.05
			8.98	4.40	0.02	0.08	0.07
Aug. 95	67.569 S	59.205 W	992.23	-23.71	0.01	0.02	0.07
			15.46	7.98	0.05	0.08	0.07
Sep. 95	67.236 S	58.761 W	986.54	-18.26	0.01	0.01	0.07
			11.62	8.92	0.05	0.07	0.06
Oct. 95	67.120 S	57.591 W	987.23	-4.87	0.03	0.00	0.15
			11.87	4.80	0.12	0.12	0.09
Nov. 95	66.490 S	57.182 W	981.30	-4.81	-0.02	0.05	0.12
			10.58	5.49	0.07	0.11	0.07
Dec. 95	65.643 S	57.216 W	982.92	1.31	0.02	0.02	0.11
			12.44	4.46	0.06	0.10	0.06

buoy 14958

operating period: 16.02.95 - 19.03.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	73.537 S	59.997 W	992.73	-7.51	0.00	0.07	0.12
			13.42	6.23	0.05	0.11	0.08
Mar. 95	73.077 S	59.870 W	985.66	-8.14	0.01	0.04	0.09
			6.38	2.22	0.03	0.11	0.08

buoy 14959

operating period: 16.02.95 - 19.03.95

month	position degree		press. hPa	temp. °C	u-drift m/s	v-drift m/s	spd-drift m/s
Feb. 95	73.688 S	57.292 W	992.56	-8.46	0.00	0.02	0.12
			13.57	5.12	0.05	0.13	0.07
Mar. 95	73.089 S	57.411 W	984.06	-12.54	-0.01	0.07	0.16
			7.79	4.58	0.05	0.18	0.11

automatic weather station 14953

position: 83.167 S 59.583 W
heigth above msl: 165 meters
operating period: 01.02.95 - 17.07.95

month	press. hPa	temp. °C	snow h. cm	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s
Feb. 95	970.12	-18.19	3.95	65.20	0.15	1.01	1.90
	7.93	5.81	3.15	7.53	0.89	1.88	1.32
Mar. 95	970.05	-29.89	6.82	60.03	0.21	2.04	2.73
	7.87	7.51	1.92	6.33	0.89	2.30	1.68
Apr. 95	973.68	-40.40	7.42	52.14	0.22	1.48	2.02
	11.22	8.57	2.07	8.66	0.92	2.05	1.79
May 95	967.74	-37.00	18.71	55.28	-0.53	0.44	3.13
	12.19	12.75	3.24	12.27	1.82	3.28	2.15
June 95	975.85	-35.71	37.82	57.54	0.50	2.00	2.76
	8.36	7.94	4.34	8.16	1.25	2.64	2.26
July 95	983.30	-43.32	33.93	49.31	0.02	1.86	2.71
	8.69	9.41	1.38	9.57	1.69	2.23	1.99

automatic weather station 3310

position: 72.870 S 19.048 W
heigth above msl: 34 meters
operating period: 18.01.95 - 31.12.95

month	press. hPa	temp. °C	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 95	986.76	-3.27	79.30	-0.80	-0.06	3.76
	7.39	1.97	11.83	3.49	2.70	2.43
Feb. 95	979.18	-7.15	81.26	-4.43	-0.20	5.95
	8.19	4.63	11.31	5.11	2.47	4.06
Mar. 95	980.84	-8.97	86.65	-4.55	-1.27	6.20
	10.24	4.66	10.04	4.30	3.32	3.65
Apr. 95	984.36	-24.11	76.66	-2.54	-0.21	4.53
	8.88	7.96	8.27	3.81	3.19	3.26
May 95	979.24	-26.19	76.48	-7.86	-4.57	9.37
	10.22	9.70	10.62	3.96	2.40	4.01
June 95	985.51	-18.24	84.15	-5.77	-1.83	6.27
	8.32	6.17	6.53	3.80	2.06	4.00
July 95	992.70	-26.62	75.36	-2.80	-0.74	3.32
	8.34	8.20	8.77	2.81	1.64	2.81
Aug. 95	982.26	-23.95	78.75	-3.26	-0.73	3.84
	12.20	7.23	7.70	3.71	2.21	3.88
Sep. 95	979.63	-26.28	72.85	-1.65	-0.85	2.97
	8.29	9.16	11.28	2.93	2.10	2.76
Oct. 95	982.95	-15.00	77.01	-2.29	-1.20	2.65
	11.41	4.90	13.04	2.36	1.34	2.65
Nov. 95	979.42	-10.86	74.08	-2.94	-0.28	3.55
	5.54	6.05	15.66	2.34	1.49	1.95
Dec. 95	977.41	-2.86	77.97	-1.50	-0.66	2.74
	6.00	2.64	15.46	2.22	1.85	1.87

automatic weather station 3312

position: 77.071 S 50.109 W
heigth above msl: 40 meters
operating period: 06.02.95 - 31.12.95

month	press. hPa	temp. °C	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s
Feb. 95	985.31	-15.19	73.24	-0.15	2.25	4.15
	10.22	5.70	13.67	3.53	2.10	2.18
Mar. 95	982.43	-20.08	78.52	-2.27	2.71	5.58
	10.85	10.22	12.85	5.08	2.68	3.79
Apr. 95	989.55	-34.28	66.88	0.28	1.80	4.10
	11.06	8.26	9.89	3.68	2.57	2.58
May 95	983.05	-33.92	67.74	0.70	2.58	4.96
	14.29	9.13	11.06	4.47	2.72	3.13
June 95	987.95	-29.24	73.71	-0.96	1.91	3.20
	8.28	7.53	9.21	3.37	2.15	3.21
July 95	997.19	-37.30	63.60	-0.59	0.72	0.93
	8.99	7.06	8.62	0.88	1.06	1.38
Aug. 95	985.15	-35.96	65.08	-2.19	0.98	2.52
	14.94	7.91	9.62	3.77	1.83	4.12
Sep. 95	980.21	-32.95	69.23	-2.69	0.79	3.29
	9.59	10.66	12.51	4.27	2.89	4.85
Oct. 95	982.56	-20.60	74.67	-1.25	1.03	4.97
	12.29	6.54	14.39	5.33	3.72	4.48
Nov. 95	981.77	-13.88	69.66	-3.16	1.20	4.55
	7.34	5.86	13.67	3.96	2.45	3.51
Dec. 95	979.07	-4.34	71.97	-1.61	1.18	4.20
	6.78	3.66	16.50	3.72	2.88	2.91

automatic weather station 3317

position: 72.879 S 19.021 W
operating period: 01.01.95 - 05.03.95
heigth above msl: 35 meters

month	press. hPa	temp. C	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 95	983.93	-3.48	-0.90	0.27	3.23
	6.28	2.25	2.59	2.76	2.17
Feb. 95	979.66	-7.17	-4.25	-1.42	6.20
	8.05	4.51	4.76	3.56	4.11
Mar. 95	982.16	-9.81	-3.28	-0.86	4.66
	4.33	4.23	2.86	3.02	2.61

buoy 14955

operation period: 01.01.96 - 11.01.96

month	position degree		press. hPa	temp. C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 96	61.113 S	34.199 W	993.07	-0.37	0.13	0.05	0.22
			3.99	1.67	0.14	0.13	0.11

buoy 14956

operation period: 01.01.96 - 31.07.96

month	position degree		press. hPa	temp. C	u-drift m/s	v-drift m/s	spd-drift m/s
Jan. 96	60.342 S	37.867 W	992.56	-0.10	0.03	0.05	0.26
			6.16	1.34	0.20	0.19	0.11
Feb. 96	59.701 S	33.722 W	999.88	1.08	0.15	0.01	0.25
			13.30	1.16	0.15	0.19	0.12
Mar. 96	59.889 S	27.311 W	989.71	0.01	0.13	-0.02	0.30
			12.39	0.94	0.18	0.23	0.12
Apr. 96	59.225 S	21.460 W	984.42	-1.49	0.12	0.08	0.39
			14.36	1.35	0.30	0.26	0.15
May 96	58.286 S	12.442 W	989.41	-1.06	0.27	0.00	0.40
			13.85	1.45	0.29	0.23	0.23
June 96	56.788 S	177.791 E	984.23	-2.25	0.18	0.12	0.39
			11.11	1.10	0.26	0.26	0.19
July 96	55.492 S	8.442 E	989.31		0.33	-0.01	0.41
			9.76		0.14	0.24	0.12

buoy 14957

operation period: 01.01.96 - 31.05.96

month	position degree		press. hPa	temp. C	u-drift m/s	v-drift m/s	spd-drift, m/s
Jan. 96	65.504 S	56.952 W	989.97	1.23	-0.01	-0.01	0.11
			11.34	4.22	0.07	0.11	0.06
Feb. 96	65.576 S	57.013 W	986.99	-1.45	0.00	0.00	0.13
			14.91	3.68	0.09	0.12	0.07
Mar. 96	65.079 S	56.317 W	985.58	-6.80	0.02	0.04	0.14
			7.22	6.06	0.09	0.14	0.09
Apr. 96	63.702 S	54.860 W	997.53	-9.39	0.03	0.08	0.16
			9.76	5.35	0.11	0.15	0.13
May 96	62.661 S	55.071 W	987.81	-5.94	-0.05	0.01	0.22
			11.65	4.49	0.19	0.15	0.12

automatic weather station 3310

position: 72.870 S 19.048 W
heigth above msl: 34 meters
operation period: 01.01.96 - 31.12.96

month	press. hPa	temp. C	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 96	985.74	-2.83	79.72	-1.61	-0.45	2.23
	8.22	3.17	15.86	1.75	1.16	1.49
Feb. 96	985.26	-3.94	87.20	-1.85	-0.58	2.86
	10.36	3.12	12.13	2.34	1.72	2.00
Mar. 96	978.34	-9.99	88.18	-2.06	-0.36	2.81
	7.04	4.63	8.64	2.29	1.47	1.96
Apr. 96	982.28	-21.93	79.99	-0.73	0.80	1.91
	8.12	7.01	7.18	1.54	1.29	1.25
May 96	980.92	-22.44	81.37	-2.22	-0.61	3.56
	9.50	8.28	8.77	3.46	1.87	2.84
June 96	987.47	-29.61	73.63	-0.81	-0.06	1.35
	9.75	6.29	6.66	1.69	1.12	1.71
July 96	977.86	-21.18	83.24	-1.22	-0.88	1.86
	9.24	7.50	7.88	2.41	1.71	2.75
Aug. 96	984.70	-20.99	81.15	-2.39	-0.61	3.56
	10.83	7.95	8.86	2.99	2.25	2.72
Sep. 96	989.34	-23.33	77.49	-0.81	0.72	2.38
	13.20	5.97	7.56	2.34	1.92	2.15
Oct. 96	975.42	-15.77	78.92	-2.75	-0.67	3.40
	10.60	4.88	13.15	2.92	1.83	2.87
Nov. 96	982.74	-7.48	81.08	-2.71	-1.26	3.45
	6.25	3.79	14.90	2.81	1.50	2.68
Dec. 96	985.42	-2.77	78.83	-1.26	-0.42	2.36
	5.86	2.62	14.10	1.77	1.76	1.55

autoamtic weather station 3312

position: 72.870 S 19.048 W
heigth above msl: 34 meters
operation period: 01.01.96 - 30.03.96

month	press. hPa	temp. C	humid. %	u-wind m/s	v-wind m/s	spd-wind m/s
Jan. 96	987.22	-5.35	74.63	-1.53	1.45	4.49
	8.20	2.59	14.45	4.06	2.71	2.83
Feb. 96	982.33	-7.18	84.16	-2.08	0.48	4.50
	14.01	3.70	13.28	4.40	2.39	3.05
Mar. 96	981.63	-20.33	77.88	-1.35	0.95	3.30
	7.13	8.16	11.42	3.64	1.70	2.81

Sensor Specification

as provided by the manufacturer

Buoys: 3311; 3312; 3313

Manufacturer: METOCEAN Data Systems Limited, Canada

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B-102
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1052.99 hPa
Data sampling:	Cycle: 100 s, Average 15 min. Interval: 1 h
Sensor location:	approx. sea surface

Air Temperature

Company:	Yellowsprings
Sensor:	44020
Accuracy:	+/-0.08°C
Resolution:	10 bit -> 0.06°C
Range:	-40°C - +21.38°C
Data sampling:	Cycle: 100 s, Average 15 min. Interval: 1 h
Sensor location:	approx. 1 m above ice surface

2.Air Temperature

Company:	Vaisala
Sensor:	PT 100
Accuracy:	+/-0.3°C
Resolution:	10 bit -> 0.06°C
Range:	-40°C - +21.38°C
Data sampling:	Cycle: 100 s, Average 15 min. Interval: 1 h
Sensor location:	approx. 1 m above ice surface in the radiation shield housing of the humidity sensor

Humidity

Company:	Vaisala
Sensor:	HMP35A
Accuracy:	2% rel. humidity in the range of 0 - 90% 3% rel. humidity in the range of 90 - 100%
Resolution:	8 bit -> 0.4%
Range:	0 - 102%
Data sampling:	Cycle: 100 s, Average 15 min. Interval: 1 h
Sensor location:	approx. 1 m above ice surface

Wind

Company:	R.M.Young
Sensor:	Wind Monitor-RE
Resolution:	Speed: 8 bit -> 0.16 m/s Direction: 8 bit -> 1.406°
Range:	Speed: 0 - 40.8 m/s Direction: 0 - 358.53°
Data sampling:	Cycle: 3.5 s, Average 15 min. Interval: 1 h
Sensor location:	approx. 2 m above ice surface

Snow Height (only for buoy 3313)

Company:	Campbell Scientific Corp.
Sensor:	Ultasonic Depth Gauge, UDG 01
Resolution:	10 bit -> 3 mm
Range:	0 - 3069 mm
Data sampling:	Cycle: 100 s, Average 15 min. Interval: 1 h
Sensor location:	approx. 2 m above ice surface

Buoys: 9363; 9364; 9365 (depolved 1992, 1994)

Manufacturer: METOCEAN Data Systems Limited, Canada

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216-B
Accuracy:	+/- 0.15 hPa
Resolution:	10 bit -> 0.1 hPa
Range:	920 - 1022.3 hPa
Data sampling:	Cycle: 90 s, Average 10.5 min. Interval: 10.5 min.
Sensor location:	approx. sea surface

Temperatures

Company:	Yellowsprings		
Sensor:	44006		
Data sampling:	Cycle: 90 s, Average 10.5 min. Interval: 10.5 min.		
	Air	Ice	Water
Accuracy:	+/-0.1°C	+/-0.1°C	+/-0.1°C
Resolution:	8 bit -> 0.2°C	8 bit -> 0.1°C	8 bit -> 0.05°C
Range:	-45 - +6°C	-45 - +6°C in two ranges	-2.5 - +10.25°C
Sensor location:	aprox. 2 m above icesurface	approx. 0.1 - 2.4 m 23 sensors at 0.1 m distances	approx. 0 - 250 m 30 sensors at 8.3 m distances

Snow Height

Company:	Campell Scientific Corp.
Sensor:	Ultrasonic Depth Gauge, UDG01
Accuracy:	1 cm or 4% of the measured value
Resolution:	10 bit -> 0.3 cm
Range:	0 - 306.9 cm
Data sampling:	Cycle: 7 times every 90 s one value, Average 10.5 min. Interval: 1 h
Sensor location:	approx. 2 m above ice surface

CTD

Company:	Sea-Bird Electronics, Inc.		
Sensor:	SEACAT SBE 16-03		
	Pressure	Temperature	Conductivity
Accuracy:	+/- 0.25%	+/- 0.01°C/6 month	+/- 0.001 S/m/month
Resolution:	10 bit -> 0.2 dbar	16 bit -> 0.0005°C	16 bit -> 0.0001 S/m
Range:	0 - 204.6 dbar 100 - 304.6 dbar	-5 - +27.7675°C	0-6.5535 S/m
Data sampling:	1 time per h		
Sensor location:	in 50 and 250 m depth		

Buoys: 8056; 8057; 8058 (deployed 1994)

Manufacturer: SimTronix A/S, Norway

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B-102
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1052.99 hPa
Data sampling:	Cycle: 10 s, Average 1 min.
	Interval: 10 min.
Sensor location:	approx. sea surface

Air Temperature

Company:	Fenwal
Sensor:	NTC Thermistor UUA32J3
Resolution:	10 bit -> 0.09°C
Range:	-60°C - +30°C
Data sampling:	Cycle: 10 s, Average 10 min.
	Interval: 10 min.
Sensor location:	approx. 1 m above ice surface

GPS-Receiver

Company:	Rockwell
Type:	Nav Core V GPS
Resolutuion:	1/10000° for lattitude and longitude
Data sampling:	Cycle: 1 s, Average 20 min.
	Interval: 1 h

Buoys: 8059; 8060; 8061;
8057; 8058; 9357; 9358; (deployed 1996)
14954; 14955; 14956; 14957; 14958; 14959

Manufacturer: METOCEAN Data Systems Limited, Canada

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B-102
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.15 hPa
Range:	920 - 1053.45 hPa
Data sampling:	Interval: 1 h, Average 20 s
Sensor location:	approx. sea surface

Air Temperature

Resolution:	10 it -> 0.06°C
Range:	-45°C - +16.38°C
Data sampling:	Interval: 1 h, Average 20 s
Sensor location:	approx. 1 m above ice surface

GPS-Receiver

Company:	Rockwell
Type:	Nav Core V GPS
Resolution:	1/10000° for lattitude and longitude
Data sampling:	Cycle: 5 s, Average 10 min.
	Interval: 1 h

Buoys: 9360; 9372

Manufacturer: Christian Michelsen Research, Norway

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216-B
Accuracy:	+/- 0.15 hPa
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1060 hPa
Data sampling:	Cycle: 1 min., Average 10 min.
Sensor location:	approx. sea surface

Air Temperature

Company:	Fenwal
Sensor:	UNI-curve UUA32J3
Accuracy:	+/- 0.2°C
Resolution:	10 bit -> 0.09°C
Range:	-60 - +30°C
Data sampling:	Cycle: 1 min., Average 10 min.
Sensor location:	approx. 0.9 m above ice surface

Buoys: 8067; 8068; (depolyed 1994)
9361; 9362; 9363; 9364 (depolyed 1995)
9365 (depolyed 1996)

Manufacturer: Christian Michelsen Research, Norway

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B-102
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.13hPa
Range:	920 - 1060 hPa
Data sampling:	Cycle: 10 s, Average 1 min. Interval: 10 min.
Sensor location:	approx. sea surface

Air Temperature

Company:	Fenwal
Sensor:	192-222-LET-A01
Resolution:	10 bit -> 0.01°C
Range:	-60°C - +30°C
Data sampling:	Cycle: 10 s, Average 1 min. Interval: 10 min.
Sensor location:	approx. 1 m above ice surface only for 9363, 9364: approx 1.5 m above ice surface in a radiation shield housing

GPS-Receiver

Company:	Rockwell
Type:	Nav Core V GPS
Resolution:	1/10000° for lattitude and longitude
Data sampling:	Cycle: 1 s, Average 20 min. Interval: 3 h

Buoys: 8055; 8064

Manufacturer: Defense Systems Inc., USA

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215-AT-073
Accuracy:	+/- 0.3 hPa
Resolution:	10 bit -> 0.1 hPa
Range:	920 - 1022.3 hPa
Sensor location:	approx. sea surface

Buoys: 9353; 9354; 9355; 9356; 9357; 9358; 9359; 9366; 9367; 9368; 9369

Manufacturer: SimTronix A/S, Norway

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215-A-102
Accuracy:	+/- 0.2 hPa
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1050 hPa
Data sampling:	Cycle: 1 min., Average 15 min. Interval: 15 min.
Sensor location:	approx. sea surface

Air Temperature

Company:	Fenwal
Sensor:	UNI-curve, UUA32J3
Accuracy:	+/- 0.2°C
Resolution:	10 bit -> 0.06°C
Range:	-40°C - +20°C
Data sampling:	Cycle: 1 min., Average 15 min. Interval: 15 min.
Sensor location:	approx. 0.9 m above ice surface

Buoys: 9353; 9354;(deployed 1996)

Manufacturer: Arctic and Antarctic Resaerch Instiute
St. Petersburg, Russia

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215-A-102
Accuracy:	+/- 0.2 hPa
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1050 hPa
Data sampling:	Cycle: 1 min., Average 15 min. Interval: 15 min.
Sensor location:	approx. sea surface

Air Temperature

Company:	Fenwal
Sensor:	UNI-curve, UUA32J3
Accuracy:	+/- 0.2°C
Resolution:	10 bit -> 0.06°C
Range:	-40°C - +20°C
Data sampling:	Cycle: 1 min., Average 15 min. Interval: 15 min.
Sensor location:	approx. 0.9 m above ice surface

Buoys: 9360; 9361; 9362 (deployed 1991, 1992)

Manufacturer: Defense Systems Inc., USA

Pressures

	Air	Water (depth)
Company:	Paroscientific, Inc.	Sensometrics
Sensor:	Digiquartz transducer 215-AT-073	Absolute pressure Sensor 601835
Accuracy:	+/- 0.3 hPa	2 m
Resolution:	10 bit -> 0.1 hPa	10 bit -> 0.2 m
Range:	920 - 1022.3 hPa	100 - 304,6 m
Data sampling:	Cycle: 4 s, Average 12 min. Interval: 12 min.	Cycle: 15 s Average 12 min. Interval: 12 min.
Sensor location:	approx. sea surface	at the end of the ocean thermistor chain (lenght 250 m)

Temperatures

	Air	Ice	Water
Company:	Yellowsprings	Yellowsprings	Yellowsprings
Sensor:	44020	44031	44031
Accuracy:	+/-0.08°C, calibrated	+/-0.1°C	+/-0.1°C
Resolution:	8 bit -> 0.2°C	8 bit -> 0.05°C	8 bit -> 0.05°C
Range:	-45°C - +6°C	-45.5°C - +5.5°C in two ranges	-2.5°C - +10.25°C
Data sampling:	Cycle: 4 s, Average 12 min. Interval: 12 min.	Cycle: 15 s, Average 12 min. Interval: 12 min.	Cycle: 15 s, Average 12 min. Interval: 12 min.
Sensor location:	approx. 3 m above ice surface	approx. 0 - 2,4 m 24 sensors at 0.1 m distances	approx. 0 - 250 m 30 sensors at 8.3 m distances

Snow Height

Company:	Campell Scientific Corp.
Sensor:	Ultrasonic Depth Gauge, UDG01
Accuracy:	1 cm or 4% of the measured value
Resolution:	16 bit -> 0.1 cm
Range:	0 - +/-3276,8 cm
Data sampling:	Cycle: 15 s, Average 12 min. Interval: 12 min.
Sensor location:	approx. 3 m above ice surface

CTD (only for buoy 9362)

Company:	Sea-Bird Electronics,Inc.		
Sensor:	SEACAT SBE 16-03		
	Pressure	Temperature	Conductivity
Accuracy:	+/- 0.25%	+/- 0.01°C/6 month	+/- 0.001 S/m/month
Resolution:	10 bit -> 0.2 dbar	16 bit -> 0.0005°C	16 bit -> 0.0001 S/m
Range:	0 - 204.6 dbar 100 - 304.6 dbar	-5 - +27.7675°C	0.4465 - 7.0 S/m
Data sampling:	per h 1 time		
Sensor location:	at 50 and 250 m of the ocean thermistor chain		

Automatic Weather Stations: 3310; 3312

Manufacturer: University of Wisconsin, USA

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215A-102
Accuracy:	+/- 0.2 hPa
Resolution:	16 bit -> 0.05 hPa
Data sampling:	Interval: 10 min.
Sensor location:	approx. ice surface

Air Temperature

Resolution:	12 bit -> 0.125°C
Range:	-100°C - +412°C
Data sampling:	Interval: 10 min.
Sensor location:	approx. 3 m above ice surface

Vertical Air Temperature Difference

Resolution:	8 bit -> 0.0625°C
Range:	-5.125°C - +10.8125°C
Data sampling:	Interval: 20 min.
Sensor location:	3 m and 1 m. above ice surface

Humidity

Company:	Vaisala
Sensor:	HMP35A
Accuracy:	2% rel. humidity in the range of 0 - 90%
	3% rel. humidity in the range of 90 - 100%
Resolution:	8 bit -> 0.4%
Range:	0 - 102%
Data sampling:	Interval: 20 min.
Sensor location:	approx. 3 m above ice surface

Wind

Company:	Belfort
Sensor:	Model 123 aerovane
Resolution:	Speed: 8 bit -> 0.25 m/s
	Direction: 8 bit -> 1.4_
Range:	Speed : 0 - 64 m/s
	Direction: 0 - 356°
Data sampling:	Interval: 10 min.
Sensor location:	approx. 3 m above ice surface

Automatic Weather Stations: 3314; 3316

Manufacturer: SimTronix A/S, Norway

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B-102
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.13 hPa
Range:	920 - 1050 hPa (for AWS 3314) 860 - 990 hPa (for AWS 3316)
Data sampling:	Interval: 1 h
Sensor location:	approx. ice surface

Air Temperature

Company:	Campbell Scientific Corp.
Sensor:	107F
Resolution:	10 bit -> 0.06°C
Range:	-45°C - +15°C
Data sampling:	Interval: 1 h
Sensor location:	approx. 3 m above ice surface

2.Air Temperature

Company:	Campbell Scientific Corp.
Sensor:	107F
Resolution:	10 bit -> 0.06°C
Range:	-45°C - +15°C
Data sampling:	Interval: 1 h
Sensor location:	approx. 1.5 m above ice surface in the radiation shield housing of the humidity sensor

Humidity

Company:	Vaisala
Sensor:	HMP30U
Accuracy:	2% rel. humidity in the range of 0 - 80% 3% rel. humidity in the range of 80 - 100%
Resolution:	8 bit -> 0.4%
Range:	0 - 102%
Data sampling:	Interval: 1 h
Sensor location:	approx. 1.5 m above ice surface

Wind

Company:	R.M.Young
Sensor:	Wind Monitor-RE
Resolution:	Speed: 8 bit -> 0.16 m/s Direction: 8 bit -> 1.406°
Range:	Speed : 0 - 40.8 m/s Direction: 0 - 358.53°
Data sampling:	Interval: 1 h
Sensor location:	approx. 3 m above ice surface

Distance Sensor

Company:	Campbell Scientific Corp.
Sensor:	Ultrasonic Depth Gauge, UDG01
Resolution:	12 Bit -> 3 mm
Range:	0 - 12285 mm
Data sampling:	Interval: 1 h

Automatic Weather Station: 3315

Manufacturer: Defense Systems Inc., USA, University Hannover, Germany

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215
Accuracy:	+/- 0.2 hPa
Resolution:	10 bit -> 0.15 hPa
Range:	900 - 1053.5
Sensor location:	approx. 3 m above ice surface

Air Temperature

Company:	Yellowsprings
Sensor:	44020
Accuracy:	+/- 0.2°C
Resolution:	8 bit -> 0.2°C
Range:	-45°C - +6°C
Sensor location:	1. Senors approx. 5 m above ice surface
	2. sensor approx. 1.5 m above ice surface

Wind

Company:	R.M.Young
Sensor:	Wind Monitor-RE
Accuracy:	Speed: +/- 2 kn
	Direction: +/- 5°
Resolution:	Speed: 8 bit -> 0.5 kn
	Direction: 8 bit -> 1.5°
Range:	Speed: 0 - 127.5 m/s
	Direction: 0 - 360°
Sensor location:	approx. 5 m above ice surface

Automatic Weather Station: 3317

Manufacturer: Defense Systems Inc., USA

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 215-AT-073
Accuracy:	+/- 0.5 hPa
Resolution:	10 bit -> 0.1 hPa
Range:	920 - 1022.3 hPa
Data sampling:	Cycle: 4 s, Average 12 min.
	Interval: 12 min.
Sensor location:	approx 1.5 m above ice surface

Air Temperature

Company:	Yellowsprings
Sensor:	44020
Accuracy:	+/- 0.2°C
Resolution:	12 bit -> 0.0156°C
Range:	-50°C - +14°C
Data sampling:	Cycle: 4 s, Average 12 min.
	Interval: 12 min.
Sensor location:	1. Senors approx. 6 m above ice surface
	2. sensor approx. 2 m above ice surface

Wind

Company:	R.M.Young
Sensor:	Wind Monitor-RE
Accuracy:	Speed: +/- 1 m/s
	Direction: +/- 5°
Resolution:	Speed: 8 bit -> 0.25 m/s
	Direction: 8 bit -> 1.406°
Range:	Speed: 0 - 63.75 m/s
	Direction: 0 - 360°
Data sampling:	Cycle: 4 s, Average 12 min.
	Interval: 12 min.
Sensor location:	approx. 6 m above ice surface

Snow Height

Company:	Campbell Scientific Corp.
Sensor:	Ultrasonic Depth Gauge, UDG 01
Accuracy:	+/- 1 cm
Resolution:	15 bit -> 0.125 cm
Range:	0 - 265 cm
Data sampling:	Cycle: 15 s, Average 12 min.
	Interval: 12 min.

Automatic Weather Station: 14953

Manufacturer: METOCEAN Data Systems Limited, Canada

Air Pressure

Company:	Paroscientific, Inc.
Sensor:	Digiquartz transducer 216B
Accuracy:	+/- 0.01%
Resolution:	10 bit -> 0.15 hPa
Range:	900 - 1053.45 hPa
Data sampling:	Cycle: 100 s, Average 10 min. Interval: 1 h
Sensor location:	approx. 1.5m above ice surface

Air Temperature

Company:	R.M. Young
Sensor:	41342
Accuracy:	+/-0.1°C
Resolution:	10 bit -> 0.1°C
Range:	-70°C - +32.3°C
Data sampling:	Cycle: 100 s, Average 10 min. Interval: 1 h
Sensor location:	approx. 1 m above ice surface

2.Air Temperature

Company:	Vaisala
Sensor:	PT 100
Accuracy:	+/-0.3°C
Resolution:	10 bit -> 0.1°C
Range:	-70°C - +32.3°C
Data sampling:	Cycle: 100 s, Average 10 min. Interval: 1 h
Sensor location:	approx. 3 m above ice surface in the radiation shield housing of the humidity sensor

Humidity

Company:	Vaisala
Sensor:	HMP35A
Accuracy:	2% rel. humidity in the range of 0 - 90% 3% rel. humidity in the range of 90 - 100%
Resolution:	8 bit -> 0.4%
Range:	0 - 102%
Data sampling:	Cycle: 100 s, Average 10 min. Interval: 1 h
Sensor location:	approx. 1 m above ice surface

Wind

Company:	R.M.Young
Sensor:	Wind Monitor Model 05103
Accuracy:	wind speed: +/- 0.3 m/s wind direc. +/- 3°
Resolution:	Speed: 8 bit -> 0.25 m/s Direction: 8 bit -> 1.407°
Range:	Speed: 0 - 63.75 m/s Direction: 0 - 358.8°
Data sampling:	Cycle: 45 samples at 1.5 s each, Average 10 min. Interval: 1 h
Sensor location:	approx. 3 m above ice surface

Snow Height

Company:	Campbell Scientific Corp.
Sensor:	Ultasonic Depth Gauge, UDG 01
Resolution:	10 bit -> 3 mm
Range:	0 - 3069 mm
Data sampling:	Cycle: 100 s, Average 10 min. Interval: 1 h
Sensor location:	approx. 3 m above ice surface