GLACIOLOGICAL RESEARCH PROGRAM
IN EAST QUEEN MAUD LAND, EAST ANTARCTICA
PART 2, 1983

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CONTENTS

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I. Introduction

The 24th Japanese Antarctic Research Expedition 1982-1984 (JARE-24) extended the field work of the East Queen Maud Land Glaciological Project (abbreviated to EQGP). The details of the project were described by Higashi (1981) and Associate Committee on Glaciological Research Program in East Queen Maud Land (1982), which was initiated by JARE-23 (Nishio, 1984). The major activities in 1983 involved a drilling of an intermediate depth at Mizuho Station, and an oversnow traverse beyond Yamato Mountains up to Sør Rondane Mountains.

The traverse was one of the biggest operations of JARE-24. Several other trips were also made in 1983, inclusive of the ones commissioned to support and supply Mizuho Station. Oversnow traverses by JARE-24 are shown in Fig. A, and listed in Table I-1, where the traverse to and from Sør Rondane Mountains is conventionally divided into several sections. Among the data obtained during these traverses, the following data are compiled in this paper: Position, elevation and ice thickness of stations; net accumulation of snow measured by the stake method; surface meteorological data during the oversonw traverses. The other data such as surface flow velocity, surface strain rate and surface slope of the ice sheet, will be presented in different papers.

The drilling attained a depth of 411 m at Mizuho Station, and in situ observations were made intensively on the core samples. Those activities will be reported separately, hence not included here. Surface meteorological data at Mizuho Station will also be published elsewhere. This paper reports the net accumulation of snow and the temperature profiles in a surface snow layer at the station.

The authors would like to thank Professor A. Higashi of Hokkaido University, the supervisor of the Glaciological Research Program in East Queen Maud Land, East Antarctica, for reviewing the manuscript.

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Table I-1. Oversnow traverses carried out by JARE-24, 1983-1984.

Period	Traverse route	Distance (km)	Number of personnel	Position, elevation and ice thickness	Surface mete-orological data	Net accumulation
10 Jan. -13 Jan. 1983	S16-Mizuho St.	260	7	—	Table III-1	—
26 Jan. -7 Feb. 1983	Mizuho St.-S16 -Mizuho St.	520	7 or 4	—	Table III-2	Table IV-1 (Route S-H-Z)
23 Mar. -3 Apr. 1983	Mizuho St.-SZ40 -Mizuho St.	180	3	Table II-1* (Route SZ)	Table III-3	—
11 Apr. -24 Apr. 1983	Syowa St. -Mizuho St.-Syowa St.	600	8	—	Table III-4	—
1 Oct. -28 Oct. 1983	Syowa St.-Mizuho St. -YM102-SSO-YM102 -Yamato Mts.	780	8	—	Table III-5	Table IV-2 (Route YM) Table IV-3 (Route SS)
28 Oct. -21 Dec. 1983	Yamato Mts. Sør Rondane Mts.-K32	690	8 or 7	Table II-2 (Route RY) Table II-3 (Route KR)	Table III-5	—
21 Dec. 1983 -10 Jan. 1984	K32-MinamiYamato -Yamato Mts. -Mizuho St.	510	7	—	Table III-5	Table IV-4 (Route K)
14 Jan. -27 Jan. 1984	Mizuho St.-NY100 -Mizuho St.-S16	430	6 or 9	Table II-4** (Route NY)	Table III-5	Table IV-5 (Route NY)

* No data on ice thickness.

** No data on elevation and ice thickness.

II. Position, Elevation and Ice Thickness of Stations

1. Position along new routes

Observers: Masayoshi NAKAWO, Tamio ISOBE

Three routes were newly established in 1983 by JARE-24 (see Fig. A). Route SZ runs along a flow line in the downstream area of Mizuho Station. Route RY connects Sør Rondane Mountains with Yamato Mountains via Belgica Mountains, and Route KR extends from RY 135 (between Belgica and Sør Rondane Mountains) towards the southern end of a triangulation network called Route K.

In Route SZ and Route RY, the marker stakes were installed every 1 km, as the short distance between stakes will be helpful for the next visit scheduled in 1986. Every other marker stake was numbered from the beginning to the end of the routes. These numbered stakes were to be used for snow accumulation measurements. The stakes between the numbered stakes were called with prime, for example, a stake between SZ 10 and SZ 11 was called SZ 10'. For Route KR, the maker stakes were placed every 2 km since there was no plan to retrace the route in the future. The place of an individual stake is to be called station.

Navigational data, the distance and the azimuth between neighbouring stations, were obtained with a magnetic hand compass and an odometer of a vehicle, respectively. By operating a doppler satellite positioning system (JMR 4A), the positions of stations were determined from place to place along the routes. The JMR data, which were calculated on the WGS-72 earth ellipsoid with broadcasted ephemerides, were interpolated by the help of the navigational data using a standard spherical trigonometry. The positions of the stations were thus obtained on the new routes as shown in Tables II-1 for Route SZ, II-2 for Route RY and II-3 for Route KR. For positioning with JMR, the number of pass was 10 to 50 at most stations, and the error would be 10 to 30 m (Shibuya <u>et al.,</u> 1982), which approximately corresponds to ±1" in latitude and ± 3" in longitude. The overall error for the position of a station is considered to be at most ±10" (±30") in latitude (longitude) for Routes SZ and RY when the errors in the navigational data were taken into account. For Route KR, the error would be ±20" in latitude and ± 1' in longitude.

2. Elevation along new routes

Observers: Masayoshi NAKAWO, Tamio ISOBE, Kenji ISHIZAWA

The measurements with barometric altimeters (American Paulin Altimeter MM1) were made every 2 km along the new routes (SZ, RY and KR. See Table 1-1). On Routes SZ and RY, the measurements were made twice but only once on Route KR. The elevation readings were corrected for errors caused by the temperature variation. The errors caused by pressure variation and/or gradient were also corrected for stations of Route SZ, by interpolating the pressure data at Mizuho Station and Syowa Station. The pressure corrections were not made for Routes RY and KR, since the routes were too far from the stations where the continuous pressure data were available.

The observations with JMR also gave the data on elevation. These data are much more precise than those by barometric altimeter, and are considered as basic data for elevation. They were obtained, however, only sporadically along the routes, and hence the JMR data were interpolated by the use of barometric data for stations between the JMR stations. The final results on elevation are tabulated in Table II-1 for Route SZ, II-2 for Route RY and II-3 for Route KR. The errors in determining elevations by JMR would be about ±10 m for the pass number of 10 to 50 (Shibuya et al., 1982). Considerations on the additional errors in barometric altimetry indicated that the overall errors would be about ±20 m for stations on Route SZ, ±30 m on Route RY, and ±50 m on Route KR.

3. Ice thickness along new routes

Observer: Hideki NARITA

The ice thickness was measured using a radio echo sounder equipped on an oversnow vehicle. The instrument was a NIPR type consisting of a 60 MHz transmitter and a receiver with an oscilloscope as an indicator. Their specifications were given by Nishio et al. (1984). A pair of 3-element Yagi antennas (8 dB) was used, each for transmitting and for receiving, in observations mainly on Route RY. On Route KR, on the other hand, the aerials were replaced by a pair of 5-element Yagi antennas (10 dB), to deal with the thicker ice sheet. The antennas were set up on a sledge facing each other at a distance of about 2 m. The metal runners of the sledge were removed in advance, since it was revealed that they reduced the antenna gain by about 1.5 dB.

The measurements were not made on the running vehicle but made intermittently at most stations on Routes RY and KR. A reflective wave displayed on an oscilloscope, showing a time-intensity curve (A scope), was photographed at each station. The echo time was measured on the photographs, and converted into ice thickness using the wave velocity of 169 m/μs (Robin et al., 1969). The results are shown in Tables II-2 and II-3. Although the measurements were made at almost every station, it was at only one-fourth of the stations where the good echo was obtained (horizontal bars in the tables indicate the stations where no echo was obtained. A blank shows, on the other hand, no measurements were made at the station). At some stations the echo was not noticeable on the photograph, but could be visually observed on the oscilloscope, and hence the ice thickness was deduced. When the multiple echo was observed (about 33 % of the total data), the longest echo time was used for the ice thickness calculations.

4. Position along a route previously established

Along a route established by JARE-18 and -20, no data are available on the positions of the stations. It is necessary to present a list of the locations of the stations, since JARE-24 traced along the route on which several observations were carried out. The name and the reference number of the stations, however, are very much confusing along the route, since various stations had pre-existed at positions along a similar route to the route in question. It is proposed here to call Route NY by differentiating its stations from those pre-existed.

One of the pre-existed routes was called Route Y, which was opened by JARE-11 in 1970 from Mizuho Station to Sandercock Nunataks. The marker stakes were installed every 1 km on the route. Positions of the stations were presented by Shimizu et al. (1972). When JARE-15 tried to trace the route from Mizuho Station to Y 200, however, no marker stakes were found on the route, and a new set of marker stakes was installed every 1 km along a similar route to the previous Route Y. The newly established route was called Route Y' (Watanabe et al., 1977). The position of a station of Route Y' was different from that of the station which had the same number on Route Y. For example, Y' 200 was located at a distance of 10 km from Y 200. Watanabe et al. (1977) tabulated the locations of the stations of Route Y'.

A traverse party of JARE-18 later tried to trace the route, and found again that no marker stakes were left at all. They installed another set of marker stakes along a similar route to the previous one, but every about 0.33 km instead of 1 km. Every other stake was numbered and called station, and hence the distance between the neighbouring stations was 0.65 km. Forty-three stations were established, when they reached a station which was considered to be just before Y' 28. Although the details on the route were not published, it appears that they called the 43 stations with Y": the last station was Y" 43 (see Fujii's (1979) figure, which provided a clue to the name of the route). These stations, however, were called differently by the members of JARE-20. A numerical figure of a station number was accompanied by a letter Y (probably to indicate that the route was close to Route Y) and a numerical figure 18 (to indicate that the route was established by JARE-18). The 28th station, for example, was called Y 1828 (Wada et al., 1981).

A party of JARE-20 extended the route further, trying to have the route close to the previous Route Y'. They installed the first marker stake, after Y 1843 (or Y" 43), at a position where they thought to be close to Y' 28. The new station was called Y 28, although it was not indentical with Y 28 established by JARE-11. The following stations, established every 1 km as those by JARE-11 or JARE-15, were called Y 29, Y 30 and so on.

The maker stakes installed by JARE-18 and JARE-20 had survived and could be followed by JARE-24. It was decided to rename the existing stations, with serial numbers, and to call the route NY to avoid the complexity mentioned above. The position of the stations was obtained by interpolating JMR data at Mizuho Station and at NY 100 with navigational data of the route. The final results are presented in Table II-4 with conversions from the old station numbers to the new ones. The errors of the figures are considered similar to those for Routes SZ and RY, i.e., ±10" in latitude and ±30" in longitude.

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TableII-1. Position and elevation of stations along Route SZ.

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)
SZ 1	70°36'37"	44°08'05"	2180
SZ 2*	70 36 43	44 04 19	2189
SZ 3	70 36 20	44 01 13	2186
SZ 4	70 36 00	43 58 05	2183
SZ 5	70 35 39	43 54 58	2171
SZ 6	70 35 19	43 51 50	2164
SZ 7	70 34 59	43 48 42	2154
SZ 8	70 34 38	43 45 35	2148
SZ 9	70 34 18	43 42 26	2148
SZ 10	70 33 58	43 39 19	2135
SZ 11	70 33 39	43 36 10	2129
SZ 12	70 33 21	43 33 00	2128
SZ 13	70 33 01	43 29 52	2124
SZ 14	70 32 41	43 26 44	2104
SZ 15	70 32 22	43 23 36	2077
SZ 16*	70 32 01	43 20 29	2072
SZ 17	70 31 43	43 17 20	2055
SZ 18	70 31 20	43 14 17	2052
SZ 19	70 30 58	43 11 12	2036
SZ 20*	70 30 33	43 08 11	2036
SZ 21	70 30 12	43 05 05	2008
SZ 22	70 29 52	43 01 58	1991
SZ 23	70 29 29	42 58 54	1983
SZ 24	70 29 08	42 55 47	1978
SZ 25	70 28 46	42 52 42	1980
SZ 26	70 28 26	42 49 36	1972
SZ 27	70 28 05	42 46 29	1962
SZ 28	70 27 44	42 43 23	1954
SZ 29	70 27 23	42 40 17	1942
SZ 30	70 27 01	42 37 13	1936

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)
SZ 31*	70°26'40"	42°34'07"	1916
SZ 32	70 26 18	42 30 45	1909
SZ 33	70 25 53	42 28 29	1904
SZ 34	70 25 48	42 26 24	1892
SZ 35	70 25 23	42 23 07	1838
SZ 36	70 25 10	42 19 39	1802
SZ 37	70 24 46	42 16 22	1812
SZ 38	70 24 23	42 13 03	1814
SZ 39	70 23 58	42 09 46	1822
SZ 40*	70 23 34	42 06 28	1811

Table II-2. Position, elevation and ice thickness along Route RY.

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
YM179(RY0)*	71°44'15"	35°54'21'	2157	
RY 1	71 44 27	35 50 36	2051	
RY 1'				
RY 2	71 44 38	35 47 0	2020	
RY 2'				
RY 3	71 44 50	35 43 36	1969	
RY 3'				
RY 4 *	71 45 6	35 40 14	1945	
RY 4'				
RY 5	71 45 21	35 36 52	1955	
RY 5'				
RY 6	71 45 32	35 33 27	1964	
RY 6'				
RY 7	71 45 43	35 30 2	1948	
RY 7'				
RY 8	71 45 53	35 26 37	1934	
RY 8'				
RY 9	71 46 3	35 23 11	1936	
RY 9'				
RY 10	71 46 14	35 19 46	1922	
RY 10'				
RY 11	71 46 36	35 16 20	1910	
RY 11'				
RY 12 *	71 47 00	35 13 8	1909	
RY 12'				
RY 13	71 47 19	35 9 50	1908	
RY 13'				
RY 14	71 47 46	35 6 43	1913	
RY 14'				
RY 15	71 47 54	35 3 18	1923	
RY 15'				561

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 16	71°48'58"	35° 2'48"	1932	——
RY 16'				633
RY 17	71 49 59	35 1 51	1948	588
RY 17'				511
RY 18	71 50 43	34 59 20	1949	559
RY 18'				535
RY 19	71 51 17	34 56 23	1954	465
RY 19'				559
RY 20	71 51 57	34 53 43	1958	535
RY 20'				535
RY 21	71 52 38	34 51 3	1954	535
RY 21'				516
RY 22	71 53 11	34 48 5	1950	535
RY 22'				748
RY 23	71 53 32	34 44 48	1953	759
RY 23'				745
RY 24	71 53 58	34 41 39	1959	620
RY 24'				708
RY 25 *	71 54 24	34 38 29	1954	815
RY 25'				——
RY 26	71 54 54	34 35 26	1958	——
RY 26'				1201
RY 27	71 55 28	34 32 30	1972	927
RY 27'				983
RY 28	71 55 58	34 29 27	1984	967
RY 28'				921
RY 29	71 56 22	34 26 14	1978	882
RY 29'				876
RY 30	71 56 51	34 23 8	1988	823
RY 30'				879

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 31	71°57'18"	34°20' 0"	2002	961
RY 31'				1071
RY 32	71 58 5	34 17 39	2006	——
RY 32'				1244
RY 33	71 58 26	34 14 21	2011	——
RY 33'				——
RY 34	71 58 57	34 11 20	2022	——
RY 34'				1225
RY 35	71 59 32	34 8 26	2030	——
RY 35'				——
RY 36	72 0 3	34 5 23	2040	——
RY 36'				——
RY 37	72 0 11	34 1 55	2028	——
RY 37'				——
RY 38	72 0 27	33 58 32	2016	——
RY 38'				——
RY 39	72 0 42	33 55 8	2008	——
RY 39'				——
RY 40	72 0 53	33 51 41	2004	——
RY 40'				——
RY 41	72 1 20	33 48 32	1990	1168
RY 41'				——
RY 42	72 2 9	33 46 17	1998	——
RY 42'				——
RY 43	72 3 2	33 44 26	2014	——
RY 43'				——
RY 44	72 3 56	33 42 32	2035	1211
RY 44'				——
RY 45	72 4 43	33 40 15	2032	——
RY 45'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 46	72° 5' 6"	33°43'30"	2028	——
RY 46'				933
RY 47	72 5 20	33 46 54	2040	1010
RY 47'				812
RY 48	72 5 44	33 50 7	2064	873
RY 48'				——
RY 49	72 6 13	33 53 13	2075	——
RY 49'				1092
RY 50	72 6 41	33 56 20	2088	——
RY 50'				1092
RY 51	72 6 59	33 59 40	2092	——
RY 51'				——
RY 52	72 7 49	34 1 50	2104	——
RY 52'				972
RY 53	72 8 37	33 59 33	2119	946
RY 53'				1009
RY 54	72 9 28	33 57 31	2142	1237
RY 54'				——
RY 55 *	72 10 23	33 55 44	2146	——
RY 55'				——
RY 56	72 10 56	33 52 46	2150	——
RY 56'				1189
RY 57 *	72 11 31	33 49 53	2160	——
RY 57'				——
RY 58	72 11 60	33 46 47	2173	——
RY 58'				——
RY 59	72 12 19	33 43 29	2173	——
RY 59'				1180
RY 60	72 12 33	33 40 5	2170	1106
RY 60'				1033

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 61	72°12'41"	33°36'26"	2162	1110
RY 61'				999
RY 62	72 12 51	33 32 60	2146	1056
RY 62'				1090
RY 63	72 13 12	33 29 42	2123	1045
RY 63'				1038
RY 64 *	72 13 6	33 26 13	2115	1151
RY 64'				1180
RY 65	72 13 34	33 23 1	2134	——
RY 65'				——
RY 66	72 14 1	33 19 47	2136	——
RY 66'				——
RY 67	72 14 31	33 16 37	2138	——
RY 67'				——
RY 68	72 15 6	33 13 36	2130	——
RY 68'				——
RY 69	72 15 36	33 10 26	2135	——
RY 69'				——
RY 70	72 16 14	33 7 33	2154	——
RY 70'				——
RY 71	72 16 42	33 4 20	2155	——
RY 71'				——
RY 72	72 17 14	33 1 13	2150	——
RY 72'				——
RY 73	72 17 47	32 58 8	2167	——
RY 73'				——
RY 74	72 18 22	32 55 8	2178	——
RY 74'				——
RY 75	72 18 58	32 52 9	2168	1223
RY 75'				1156

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 76	72°19'34"	32°49' 9"	2192	1129
RY 76'				1244
RY 77	72 19 59	32 45 52	2166	1349
RY 77'				——
RY 78	72 20 19	32 42 27	2158	——
RY 78'				——
RY 79	72 20 51	32 39 20	2164	——
RY 79'				——
RY 80	72 21 21	32 36 9	2166	——
RY 80'				——
RY 81	72 21 49	32 32 56	2168	——
RY 81'				——
RY 82	72 22 18	32 29 43	2167	——
RY 82'				——
RY 83	72 22 49	32 26 34	2168	——
RY 83'				1397
RY 84	72 23 20	32 23 25	2175	——
RY 84'				1457
RY 85 *	72 23 40	32 20 0	2178	——
RY 85'				——
RY 86	72 23 50	32 16 11	2188	——
RY 86'				——
RY 87	72 24 11	32 12 57	2188	——
RY 87'				——
RY 88	72 24 33	32 9 45	2194	——
RY 88'				——
RY 89	72 24 57	32 6 36	2177	——
RY 89'				——
RY 90	72 25 21	32 3 25	2174	——
RY 90'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY 91	72°25'45"	32° 0'16"	2158	——
RY 91'				——
RY 92	72 26 12	31 57 12	2160	——
RY 92'				——
RY 93	72 26 23	31 53 46	2154	——
RY 93'*	72 26 14	31 52 0	2146	——
RY 94	72 26 13	31 50 14	2136	——
RY 94'				——
RY 95	72 26 12	31 46 41	2114	——
RY 95'				——
RY 96	72 26 10	31 43 7	2107	——
RY 96'				——
RY 97	72 26 10	31 39 34	2102	——
RY 97'				——
RY 98	72 26 5	31 36 1	2099	——
RY 98'				——
RY 99	72 25 57	31 32 29	2088	——
RY 99'				——
RY100	72 25 49	31 28 57	2090	——
RY100'				——
RY101	72 25 38	31 25 27	2076	——
RY101'				——
RY102	72 25 24	31 21 47	2044	——
RY102'				——
RY103	72 25 11	31 18 18	2025	——
RY103'				——
RY104	72 25 3	31 14 46	2031	——
RY104'				——
RY105	72 24 48	31 11 18	2020	——
RY105'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY106	72°24'36"	31° 7'38"	2001	——
RY106'				——
RY107	72 24 28	31 4 6	1986	——
RY107'				——
RY108	72 24 28	31 0 33	1980	——
RY108'				——
RY109	72 24 29	30 57 0	1970	——
RY109'				——
RY110 *	72 24 30	30 53 27	1967	——
RY110'				——
RY111	72 24 13	30 50 2	1958	——
RY111'				——
RY112	72 23 59	30 46 35	1956	——
RY112'				——
RY113	72 23 50	30 43 4	1954	——
RY113'				——
RY114	72 23 42	30 39 34	1948	——
RY114'				——
RY115	72 23 46	30 36 2	1948	——
RY115'				——
RY116	72 23 47	30 32 29	1948	——
RY116'				——
RY117	72 23 45	30 28 57	1953	——
RY117'				——
RY118	72 23 47	30 25 25	1955	——
RY118'				——
RY119	72 23 48	30 21 52	1958	——
RY119'				——
RY120	72 23 42	30 18 21	1952	——
RY120'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY121	72° 23' 40"	30° 14' 48"	1950	——
RY121'				——
RY122	72 23 47	30 11 6	1966	——
RY122'				——
RY123 *	72 24 29	30 8 24	1975	——
RY123'				——
RY124	72 25 26	30 6 57	2008	——
RY124'				——
RY125	72 25 59	30 3 59	2050	——
RY125'				——
RY126	72 26 31	30 1 0	2076	——
RY126'				——
RY127	72 27 6	29 58 9	2076	——
RY127'				——
RY128	72 27 43	29 55 8	2076	——
RY128'				——
RY129	72 28 19	29 52 18	2104	——
RY129'				——
RY130	72 28 57	29 49 31	2120	——
RY130'				——
RY131	72 29 25	29 46 13	2131	——
RY131'				——
RY132	72 29 52	29 43 6	2141	——
RY132'				——
RY133	72 30 19	29 39 58	2156	——
RY133'				——
RY134	72 30 32	29 36 34	2176	——
RY134'				——
RY135 *	72 30 20	29 33 8	2176	——
RY135'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY136	72°30'11"	29°29'10"	2182	——
RY136'				——
RY137	72 29 59	29 25 13	2185	——
RY137'				——
RY138	72 29 37	29 21 22	2176	——
RY138'				——
RY139	72 29 4	29 17 45	2159	——
RY139'				——
RY140	72 28 27	29 14 14	2132	1288
RY140'				——
RY141	72 27 52	29 10 41	2112	——
RY141'				1369
RY142	72 27 8	29 7 12	2095	1383
RY142'				——
RY143	72 26 21	29 4 5	2093	——
RY143'				1327
RY144	72 25 34	29 0 56	2074	1258
RY144'				1313
RY145	72 24 40	28 58 15	2030	1224
RY145'				1239
RY146	72 23 44	28 55 37	1984	1428
RY146'				1327
RY147	72 24 17	28 58 9	1954	1537
RY147'				1558
RY148	72 23 45	28 54 31	1938	1516
RY148'*	72 23 28	28 52 28	1938	——
RY149	72 23 12	28 50 36	1933	——
RY149'				——
RY150	72 22 54	28 46 55	1939	——
RY150'				——

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY151	72°22'34"	28°43'16"	1954	——
RY151'				——
RY152	72 22 9	28 39 41	1958	——
RY152'				——
RY153	72 21 44	28 36 6	1960	——
RY153'				——
RY154	72 21 21	28 32 29	1962	1439
RY154'				——
RY155	72 20 57	28 28 53	1963	1417
RY155'				——
RY156	72 20 31	28 25 19	1954	——
RY156'				——
RY157	72 20 5	28 21 45	1937	1231
RY157'				1313
RY158	72 19 37	28 18 14	1934	1439
RY158'				——
RY159	72 19 10	28 14 42	1946	1239
RY159'				——
RY160	72 18 44	28 11 9	1954	1039
RY160'				884
RY161	72 18 16	28 7 37	1944	764
RY161'				661
RY162	72 17 53	28 4 1	1937	632
RY162'				461
RY163	72 17 3	26 1 12	1912	434
RY163'				500
RY164	72 16 20	27 58 5	1903	566
RY164'				619
RY165	72 15 40	27 54 53	1908	553
RY165'				532

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY166	72°16'27"	27°56'44"	1872	582
RY166'*	72 15 49	27 56 13	1869	
RY167	72 15 25	27 56 38	1859	
RY167'				
RY168	72 14 26	27 56 25	1789	
RY168'				
RY169	72 13 12	27 56 32	1752	
RY169'				
RY170	72 11 57	27 56 12	1692	
RY170'				
RY171	72 10 46	27 55 2	1682	
RY171'				
RY172	72 9 34	27 53 58	1652	
RY172'				
RY173	72 8 22	27 52 29	1642	
RY173'				
RY174	72 7 10	27 51 26	1628	
RY174'				
RY175 *	72 7 44	27 51 58	1615	
RY175'				
RY176	72 6 25	27 50 32	1556	
RY176'				
RY177	72 5 16	27 47 50	1534	
RY177'				
RY178	72 3 57	27 46 55	1525	
RY178'				
RY179	72 2 38	27 46 52	1493	
RY179'				
RY180	72 1 15	27 45 37	1452	
RY180'				

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY181	72° 0' 0"	27°44' 5"	1425	
RY181'				
RY182	72 0 38	27 45 4	1366	
RY182'				
RY183	71 59 24	27 45 47	1270	
RY183'				
RY184	71 58 5	27 44 34	1250	
RY184'				
RY185	71 57 26	27 46 54	1248	
RY185'				
RY186	71 57 45	27 43 12	1217	
RY186'				
RY187	71 57 30	27 38 58	1219	
RY187'				
RY188	71 58 10	27 40 4	1255	
RY188'				
RY189	71 56 51	27 38 38	1258	
RY189'				
RY190	71 55 32	27 37 29	1267	
RY190'				
RY191	71 54 15	27 37 0	1290	
RY191'*	71 53 28	27 36 33	1302	

Table II-3. Position, elevation and ice thickness along Route KR.

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
RY135(KR0) *			2076	——
KR 1	72°31'21"	29°32' 2"	2092	——
KR 1'				——
KR 2	72 32 25	29 32 7	2100	——
KR 2'				——
KR 3	72 33 30	29 32 12	2095	——
KR 3'				——
KR 4	72 34 35	29 32 17	2110	——
KR 4'				——
KR 5	72 35 39	29 32 22	2129	——
KR 5'				——
KR 6	72 36 43	29 32 27	2145	——
KR 6'				——
KR 7	72 37 48	29 32 32	2152	——
KR 7'				——
KR 8	72 38 52	29 32 37	2144	——
KR 8'				——
KR 9	72 39 58	29 32 35	2143	——
KR 9'				——
KR 10	72 41 5	29 32 32	2199	——
KR 10'				——
KR 11	72 42 9	29 32 37	2234	——
KR 11'				——
KR 12	72 43 13	29 33 1	2239	——
KR 12'				——
KR 13	72 44 17	29 33 6	2255	——
KR 13'				——
KR 14	72 45 22	29 33 11	2272	——
KR 14'				——
KR 15	72 46 26	29 33 16	2269	——
KR 15'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 16	72°47'31"	29°33'21"	2267	——
KR 16'				——
KR 17	72 48 35	29 33 30	2276	——
KR 17'				——
KR 18	72 49 39	29 33 35	2285	——
KR 18'				——
KR 19 *	72 50 44	29 33 40	2286	——
KR 19'				——
KR 20	72 51 49	29 33 34	2297	——
KR 20'				——
KR 21	72 52 54	29 33 40	2296	——
KR 21'				——
KR 22	72 53 57	29 32 45	2298	——
KR 22'				——
KR 23	72 55 2	29 33 2	2308	1899
KR 23'				——
KR 24	72 56 6	29 33 8	2328	——
KR 24'				——
KR 25	72 57 11	29 33 3	2339	1634
KR 25'				1561
KR 26	72 58 16	29 33 1	2374	——
KR 26'				1449
KR 27	72 59 21	29 32 56	2393	1410
KR 27'				1416
KR 28	73 0 26	29 32 50	2397	1402
KR 28'				1440
KR 29	73 1 32	29 32 45	2411	1469
KR 29'				1446
KR 30	73 2 37	29 32 39	2432	1422
KR 30'				1490

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 31	73° 3'42"	29°32'33"	2450	——
KR 31'				——
KR 32	73 4 47	29 32 28	2465	——
KR 32'				——
KR 33	73 5 52	29 32 38	2487	——
KR 33'				——
KR 34	73 6 57	29 32 32	2516	1506
KR 34'				——
KR 35	73 8 2	29 32 27	2535	——
KR 35'				——
KR 36	73 9 7	29 32 21	2544	——
KR 36'				——
KR 37 *	73 10 12	29 32 16	2557	——
KR 37'				——
KR 38	73 10 35	29 35 47	2543	1457
KR 38'				1275
KR 39	73 10 57	29 39 19	2544	1430
KR 39'				1436
KR 40	73 11 19	29 42 51	2521	——
KR 40'				1472
KR 41	73 11 37	29 46 27	2523	1439
KR 41'				1433
KR 42	73 11 59	29 50 0	2529	1512
KR 42'				1591
KR 43	73 12 19	29 53 34	2520	1421
KR 43'				——
KR 44	73 12 41	29 57 6	2555	1494
KR 44'				——
KR 45	73 12 53	30 0 48	2578	——
KR 45'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 46	73°13'15"	30° 4'20"	2577	——
KR 46'				——
KR 47	73 13 38	30 7 52	2571	——
KR 47'				——
KR 48	73 14 0	30 11 24	2566	——
KR 48'				——
KR 49	73 14 27	30 14 51	2571	——
KR 49'				——
KR 50	73 14 49	30 18 23	2578	——
KR 50'				——
KR 51	73 15 14	30 21 53	2585	——
KR 51'				——
KR 52	73 15 36	30 25 25	2609	——
KR 52'				——
KR 53	73 15 53	30 29 4	2625	——
KR 53'				——
KR 54	73 16 11	30 32 41	2628	——
KR 54'				——
KR 55	73 16 29	30 36 18	2628	——
KR 55'				——
KR 56	73 16 51	30 39 52	2629	——
KR 56'				——
KR 57 *	73 17 13	30 43 25	2625	——
KR 57'				——
KR 58	73 17 27	30 47 7	2618	——
KR 58'				——
KR 59	73 17 46	30 50 44	2635	——
KR 59'				——
KR 60	73 17 59	30 54 26	2632	——
KR 60'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 61	73°18'17"	30°58' 4"	2635	——
KR 61'				——
KR 62	73 18 35	31 1 42	2653	——
KR 62'				——
KR 63	73 18 51	31 5 22	2676	——
KR 63'				——
KR 64	73 19 22	31 8 43	2684	——
KR 64'				——
KR 65	73 19 47	31 12 12	2708	——
KR 65'				——
KR 66	73 20 6	31 15 49	2711	——
KR 66'				——
KR 67	73 20 26	31 19 26	2722	——
KR 67'				——
KR 68	73 20 44	31 23 4	2729	——
KR 68'				——
KR 69	73 21 4	31 26 42	2740	——
KR 69'				——
KR 70	73 21 24	31 30 18	2740	——
KR 70'				——
KR 71	73 21 44	31 33 55	2743	——
KR 71'				——
KR 72	73 22 4	31 37 31	2749	——
KR 72'				——
KR 73	73 22 29	31 41 3	2749	——
KR 73'				——
KR 74	73 22 49	31 44 39	2748	——
KR 74'				——
KR 75 *	73 23 9	31 48 16	2750	——
KR 75'				——

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 76	73°22'43"	31°51'44"	2745	——
KR 76'				——
KR 77	73 22 16	31 55 11	2743	——
KR 77'				——
KR 78	73 21 48	31 58 36	2747	——
KR 78'				——
KR 79	73 21 22	32 2 4	2751	——
KR 79'				——
KR 80	73 21 1	32 5 38	2755	——
KR 80'				——
KR 81	73 20 35	32 9 6	2756	——
KR 81'				——
KR 82	73 20 7	32 12 31	2756	——
KR 82'				——
KR 83	73 19 43	32 16 1	2760	——
KR 83'				——
KR 84	73 19 19	32 19 32	2754	——
KR 84'				——
KR 85	73 18 54	32 23 1	2752	——
KR 85'				——
KR 86	73 18 27	32 26 28	2747	——
KR 86'				——
KR 87	73 18 4	32 30 0	2745	——
KR 87'				——
KR 88	73 17 38	32 33 27	2737	——
KR 88'				——
KR 89	73 17 12	32 36 54	2736	——
KR 89'				——
KR 90	73 16 40	32 40 11	2739	——
KR 90'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR 91	73°16'18"	32°43'44"	2741	——
KR 91'				——
KR 92	73 15 50	32 47 7	2736	——
KR 92'				——
KR 93	73 15 18	32 50 24	2732	——
KR 93'				——
KR 94	73 14 50	32 53 47	2728	——
KR 94'				——
KR 95	73 14 27	32 57 18	2735	——
KR 95'				——
KR 96	73 14 3	33 0 48	2736	——
KR 96'				——
KR 97	73 13 36	33 4 14	2745	——
KR 97'				——
KR 98	73 13 8	33 7 37	2747	——
KR 98'				——
KR 99	73 12 42	33 11 4	2755	——
KR 99'				——
KR100 *	73 12 16	33 14 30	2748	——
KR100'				——
KR101	73 11 34	33 17 23	2742	——
KR101'				——
KR102	73 10 54	33 20 20	2734	——
KR102'				——
KR103	73 10 23	33 23 36	2731	——
KR103'				——
KR104	73 9 46	33 26 40	2731	——
KR104'				——
KR105	73 9 8	33 29 44	2734	——
KR105'				——

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR106	73° 8'31"	33°32'47"	2734	——
KR106'				——
KR107	73 7 51	33 35 44	2725	——
KR107'				——
KR108	73 7 14	33 38 47	2722	——
KR108'				——
KR109	73 6 37	33 41 51	2724	——
KR109'				——
KR110	73 5 58	33 44 52	2727	——
KR110'				——
KR111	73 5 21	33 47 55	2724	——
KR111'				——
KR112	73 4 44	33 50 58	2710	——
KR112'				——
KR113	73 4 9	33 54 5	2697	——
KR113'				1462
KR114	73 3 31	33 57 8	2690	——
KR114'				——
KR115	73 2 51	34 0 4	2687	——
KR115'				——
KR116	73 2 14	34 3 6	2690	——
KR116'				——
KR117	73 1 37	34 6 9	2692	——
KR117'				——
KR118	73 1 1	34 9 15	2691	——
KR118'				——
KR119	73 0 26	34 12 22	2694	——
KR119'				——
KR120 *	72 59 49	34 15 24	2699	——
KR120'				——

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR121	72°58'53"	34°17' 7"	2696	——
KR121'				——
KR122	72 57 57	34 18 51	2683	——
KR122'				1251
KR123	72 57 1	34 20 34	2662	1372
KR123'				1204
KR124	72 56 5	34 22 17	2649	1330
KR124'				——
KR125	72 55 9	34 23 60	2656	——
KR125'				——
KR126	72 54 13	34 25 43	2650	——
KR126'				——
KR127	72 53 17	34 27 26	2639	——
KR127'				——
KR128	72 52 21	34 29 8	2632	——
KR128'				——
KR129	72 51 25	34 30 51	2621	——
KR129'				——
KR130	72 50 29	34 32 33	2617	——
KR130'				——
KR131	72 49 33	34 34 16	2605	——
KR131'				——
KR132	72 48 38	34 36 5	2594	——
KR132'				——
KR133	72 47 43	34 37 47	2589	1288
KR133'				1212
KR134	72 46 50	34 39 48	2584	1176
KR134'				1002
KR135	72 46 16	34 43 1	2594	907
KR135'				1036

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickenss (m)
KR136	72°45' 1"	34°43'47"	2589	1036
KR136'				1042
KR137	72 43 60	34 44 54	2584	1120
KR137'				1201
KR138 *	72 43 4	34 46 36	2583	1154
KR138'				1106
KR139	72 42 4	34 48 4	2582	1148
KR139'				1182
KR140	72 41 11	34 50 7	2575	1302
KR140'				—
KR141	72 40 14	34 51 53	2572	—
KR141'				—
KR142	72 39 15	34 53 30	2569	1344
KR142'				—
KR143	72 38 15	34 54 54	2565	1260
KR143'				—
KR144	72 37 18	34 56 39	2559	—
KR144'				—
KR145	72 36 19	34 58 11	2548	—
KR145'				—
KR146	72 35 21	34 59 49	2540	1358
KR146'				—
KR147	72 34 22	35 1 20	2532	—
KR147'				—
KR148	72 33 23	35 2 51	2516	—
KR148'				—
KR149	72 32 27	35 4 42	2499	—
KR149'				—
KR150	72 31 29	35 6 22	2498	—
KR150'				—

* JMR stations

Station	Latitude (S)	Longitude (E)	Elevation (m)	Ice thickness (m)
KR151	72°30'33"	35° 8'13"	2490	——
KR151'				——
KR152	72 29 35	35 9 50	2479	1072
KR152'				910
KR153	72 28 32	35 10 45	2449	1008
KR153'				784
K32(KR154) *	72 28 34	35 13 1	2472	

Table II-4. Position of stations along Route NY.

Station	Old station	Latitude (S)	Longitude (E)
NY 1	Y1801	70°42' 17"	44° 18' 12"
NY 2	Y1802	70 42 25	44 19 4
NY 3	Y1803	70 42 34	44 19 54
NY 4	Y1804	70 42 44	44 20 52
NY 5	Y1805	70 42 54	44 21 40
NY 6	Y1806	70 43 7	44 22 35
NY 7	Y1807	70 43 17	44 23 22
NY 8	Y1808	70 43 27	44 24 9
NY 9	Y1809	70 43 39	44 25 5
NY 10	Y1810	70 43 49	44 25 53
NY 11	Y1811	70 44 0	44 26 40
NY 12	Y1812	70 44 13	44 27 32
NY 13	Y1813	70 44 25	44 28 15
NY 14	Y1814	70 44 40	44 29 7
NY 15	Y1815	70 44 52	44 29 50
NY 16	Y1816	70 45 4	44 30 32
NY 17	Y1817	70 45 17	44 31 15
NY 18	Y1818	70 45 32	44 32 4
NY 19	Y1819	70 45 46	44 32 53
NY 20	Y1820	70 45 59	44 33 35
NY 21	Y1821	70 46 12	44 34 17
NY 22	Y1822	70 46 27	44 35 6
NY 23	Y1823	70 46 43	44 35 51
NY 24	Y1824	70 46 56	44 36 33
NY 25	Y1825	70 47 8	44 37 17
NY 26	Y1826	70 47 22	44 38 8
NY 27	Y1827	70 47 34	44 38 52
NY 28	Y1828	70 47 46	44 39 35
NY 29	Y1829	70 48 0	44 40 25
NY 30	Y1830	70 48 13	44 41 8

Station	Old station	Latitude (S)	Longitude (E)
NY 31	Y1831	70°48'25"	44°41'52"
NY 32	Y1832	70 48 40	44 42 42
NY 33	Y1834	70 48 54	44 43 33
NY 34	Y1834	70 49 8	44 44 24
NY 35	Y1835	70 49 22	44 45 14
NY 36	Y1836	70 49 35	44 45 57
NY 37	Y1837	70 49 49	44 46 48
NY 38	Y1838	70 50 3	44 47 41
NY 39	Y1839	70 50 15	44 48 24
NY 40	Y1840	70 50 27	44 49 8
NY 41	Y1841	70 50 41	44 49 59
NY 42	Y1842	70 50 53	44 50 43
NY 43	Y1843	70 51 7	44 51 34
NY 44	Y28	70 51 22	44 52 25
NY 45	Y29	70 51 43	44 53 35
NY 46	Y30	70 52 5	44 54 46
NY 47	Y31	70 52 27	44 55 56
NY 48	Y32	70 52 49	44 57 7
NY 49	Y33	70 53 10	44 58 17
NY 50	Y34	70 53 32	44 59 28
NY 51	Y35	70 53 54	45 0 38
NY 52	Y36	70 54 16	45 1 49
NY 53	Y37	70 54 37	45 3 0
NY 54	Y38	70 54 59	45 4 10
NY 55	Y39	70 55 21	45 5 21
NY 56	Y40	70 55 43	45 6 32
NY 57	Y41	70 56 5	45 7 42
NY 58	Y42	70 56 26	45 8 53
NY 59	Y43	70 56 48	45 10 4
NY 60	Y44	70 57 10	45 11 15

Station	Old station	Latitude (S)	Longitude (E)
NY 61	Y45	70°57'32"	45°12'25"
NY 62	Y46	70 57 53	45 13 36
NY 63	Y47	70 58 15	45 14 47
NY 64	Y48	70 58 37	45 15 58
NY 65	Y49	70 58 59	45 17 9
NY 66	Y50	70 59 20	45 18 20
NY 67	Y51	70 59 42	45 19 31
NY 68	Y52	71 0 4	45 20 42
NY 69	Y53	71 0 26	45 21 53
NY 70	Y54	71 0 48	45 23 4
NY 71	Y55	71 1 9	45 24 15
NY 72	Y56	71 1 31	45 25 26
NY 73	Y57	71 1 53	45 26 37
NY 74	Y58	71 2 15	45 27 48
NY 75	Y59	71 2 36	45 28 59
NY 76	Y60	71 2 58	45 30 10
NY 77	Y61	71 3 20	45 31 22
NY 78	Y62	71 3 42	45 32 33
NY 79	Y63	71 4 3	45 33 44
NY 80	Y64	71 4 25	45 34 55
NY 81	Y65	71 4 47	45 36 6
NY 82	Y66	71 5 8	45 37 18
NY 83	Y67	71 5 30	45 38 29
NY 84	Y68	71 5 52	45 39 41
NY 85	Y69	71 6 14	45 40 52
NY 86	Y70	71 6 35	45 42 3
NY 87	Y71	71 6 57	45 43 15
NY 88	Y72	71 7 19	45 44 26
NY 89	Y73	71 7 41	45 45 37
NY 90	Y74	71 8 2	45 46 49

Station	Old station	Latitude (S)	Longitude (E)
NY 91	Y75	71° 8'24"	45°48' 0"
NY 92	Y76	71 8 46	45 49 12
NY 93	Y77	71 9 8	45 50 23
NY 94	Y78	71 9 30	45 51 35
NY 95	Y79	71 9 51	45 52 47
NY 96	Y80	71 10 13	45 53 58
NY 97	Y81	71 10 35	45 55 10
NY 98	Y82	71 10 56	45 56 22
NY 99	Y83	71 11 18	45 57 33
NY100	Y84	71 11 40	45 58 45

III. Surface Meteorological Data During Oversnow Traverses

Observers: Masayoshi NAKAWO, Hideki NARITA, Koji KONDO

The observations were made during the oversnow traverses listed in Table I-1. The item, instrument, and accuracy of the observations are given below.

Item	Instrument	Accuracy
Air temperature	Alcohol thermometer	±0.2°C
	or Assmann's aspiration psychrometer	±0.5°C
Wind speed	Portable 3-cup anemometer	±1.0 m/s
	or Vane anemometer	±0.5 m/s
Wind direction	Magnetic compass	±5°
Visibility	Visual observation	———
Amount of cloud	Visual observation	———
Weather	Visual observation	———

The meteorological data are shown in Tables III-1, III-2, III-3, III-4 and III-5, corresponding to each traverse. Notations in the tables are as follows:

LT: Local standard time at Syowa Station (69°00'S, 39°35'E: GMT+3h)
T: Air temperature (°C)
WS: Wind speed (m/s)
WD: Wind direction
V: Visibility (km)
N: Amount of cloud (in tenth)
W: Present weather
○ Clear
⦶ Fine
◎ Cloudy
⦷ Cloudy (upper cloud are predominant)
✱ Snow
Snowstorm
Blowing snow
Drifting snow

Position and elevation of stations are given in Tables II-1, II-2, II-3 and II-4 for Routes SZ, RY, KR and NY, respectively. For Rout S-H-Z, refer to Naruse and Yokoyama (1975), and for Routes YM and SS, to a forthcoming Data Reports.

Reference

Naruse, R. and Yokoyama, K. (1975): Position, elevation and ice thickness of stations. JARE Data Rep., 28 (Glaciol. 3), 7-47.

Table III-1. Surface meteorological data along Route S-H-Z during 10 - 13 January 1983.

Date	LT	Station	T	WS	WD	V	N	W
1983								
January								
10	1150	S 16	-1.8	8.5	NE	—	8	◎
10	1510	S 28	-3.2	7.5	ENE	—	10	◎
10	2100	H 42	-7.2	5.5	ENE	—	9	◎
11	0715	H 42	-9.0	6.0	ENE	—	9	⤈→◎
11	1200	H 68	-6.8	7.5	ENE	—	1	○
11	1500	H 119	-6.6	6.5	NE	—	0	○
11	1800	H 163	-9.6	5.0	ENE	—	0	○
11	2100	H 170	-13.2	3.5	—	—	0	○
12	0915	H 170	-7.2	7.0	ENE	—	5	⌽
12	1200	H 211	-5.6	9.0	ENE	—	6	⌽
12	1500	H 252	-5.2	7.0	ENE	—	3	⌽
13	0900	Z 6	-13.2	10.5	ENE	—	8	⤈→◎
13	1220	Z 24	-11.3	12.0	ENE	—	3	⤉→⌽
13	1500	Z 48	-10.6	11.0	ENE	—	6	⤈→⌽
13	1800	Z 83	-12.2	7.5	ENE	—	0	○

Table III-2. Surface meteorological data along Route S-H-Z during 26 January - 7 February 1983.

Date	LT	Station	T	WS	WD	V	N	W
1983								
Jan.								
26	2100	Z 74	-15.8	4	ENE	5	10	✳
27	0930	Z 74	-21.8	8	E	1.5	5	
27	2100	H 255	-19.1	<3	E	20	2	⦶
28	0900	H 255	-14.1	4	E	20	5	⦶
28	1500	H 180	-10.4	4	E	—	8	⦶
28	2100	H 68	-12.6	5	E	—	2	⦶
29	0900	H 68	-11.4	12	E	4	0+	+→ ○
29	1500	S 16	-2.6	8	E	20	—	⦶
29	2100	S 16	-4.4	13	—	20	—	◎
30	0900	S 16	-2.0	15	—	20	—	◎
30	1500	S 16	-1.6	15	—	20	—	⦶
30	2100	S 16	-3.9	15	—	10	—	◎
31	0900	S 16	—	13	—	—	—	◎
Feb. 1	2100	S 16	—	<3	—	20	—	○
2	0700	S 16	-6.5	—	E	20	0+	○
3	0900	S 16	—	14	—	20	0	○
3	1300	S 16	-3.9	12	E	20	1	○
5	1500	H 67	-10.4	10	E	10	9	+→
5	2100	H 139	-12.4	9	E	10	1	+→
6	1000	H 160	-14.2	6	ENE	1	10	✳
6	1500	H 217	-11.8	6	ENE	10	10	
6	2100	H 271	-15.2	<3	ENE	15	10	✳
7	0900	Z 2	-13.2	<3	E	20	9	◎
7	1500	Z 40	-11.2	<3	?	20	1	○
7	2100	Z 86	-26.0	<3	E	20	0+	

Table III-3. Surface meteorological data along Route SZ during 23 March - 3 April 1983.

Date	LT	Station	T	WS	WD	V	N	W
1983								
Mar.								
23	2100	SZ 2	-23.9	<1	——	?	?	✳
24	0930	SZ 2	-26.7	<3	E	1	10	◎
24	1518	SZ 9	-34.0	5.5	E	30	0	○
24	2100	SZ 16	-39.0	8.0	SE	?	1	↑→
25	0900	SZ 16	-29.5	5.0	ESE	5	10	◎
25	1500	SZ 23	-32.7	8.5	ESE	0.8	0	↓→○
25	2100	SZ 31	-39.0	12.5	E	?	0	↑→
26	0900	SZ 31	-38.5	26.0	ESE	0.02	0	↑→
26	1500	SZ 31	-34.5	21.0	SE	0.03	0	↑→
26	2100	SZ 31	-40.0	16.0	SE	?	0	↑→
27	0900	SZ 31	-39.2	18.0	ESE	0.05	0	↑→
27	1500	SZ 33	-33.6	7.5	E	2	10	↓→
27	2100	SZ 40	-29.7	10.0	ESE	?	10	↑→
28	0900	SZ 40	-29.3	12.0	ESE	0.5	8	↑→
28	1500	SZ 40	-22.5	6.0	WNW	1	10	↓→
28	2100	SZ 40	-22.9	6.5	ENE	?	9	✳
29	0900	SZ 40	-20.5	3.5	WSW	0.5	10	◎
29	1500	SZ 40	-26.0	4.0	SW	30	4	○
29	2100	SZ 40	-25.9	6.0	ESE	?	10	◎
30	0900	SZ 40	-27.2	5.0	ESE	30	9	◎
30	2100	SZ 40	-25.3	21.0	ENE	?	0	↑→
31	0900	SZ 40	-20.8	16.0	ENE	0.03	10	↑→
31	1500	SZ 40	-17.3	12.0	ENE	0.05	10	↑→
31	2100	SZ 40	-18.7	11.5	ENE	?	6	↑→
Apr. 1	0900	SZ 40	-23.5	11.0	E	1	10	↑→
1	1500	SZ 40	-25.2	11.5	SE	1	9	↑→
1	2100	SZ 40	-29.5	12.5	ESE	?	0	↑→
2	0900	SZ 40	-33.3	14.0	ESE	0.5	0	↑→
2	1500	SZ 40	-30.2	8.5	ESE	5	0	↓→○
2	2100	SZ 20	-34.9	9.0	ENE	?	0	↓→
3	0900	SZ 20	-33.7	10.0	E	1	0	↓→○
3	1500	SZ 2	-37.4	6.5	E	30	9	◎

Table III-4. Surface meteorological data along Route S-H-Z during 11 - 24 April 1983.

Date	LT	Station	T	WS	WD	V	N	W
1983								
Apr.								
11	2100	H 21	-22.0	14	E	0.3	0	⇸
12	0600	H 21	-26.5	9	E	5	0	○
12	0900	H 49	-26.1	10	E	5	0	○
12	1200	H 110	-25.4	9	E	5	0	○
12	1500	H 148	-28.2	11	E	4	0	○
12	1800	H 190	-31.4	9	E	5	0	○
12	2100	H 190	-33.0	7	E	10	0	○
13	0600	H 190	-34.6	6	E	10	0	○
13	0900	H 192	-33.0	12	E	0.5	0	⇸
13	1200	H 228	-33.4	14	E	0.3	0	⇸
13	1500	H 262	-35.0	15	E	0.3	0	⇸
13	1800	H 299	-39.6	15	E	0.2	0	⇸
13	2100	H 299	-41.3	15	E	0.2	0	⇸
14	0600	H 299	-41.3	15	E	0.2	0	⇸
14	0900	S 122	-41.0	16	E	0.2	—	⇸
14	1200	Z 26	-40.6	14	E	0.3	—	⇸
14	1500	Z 48	-41.9	11	E	0.5	0	⇸
14	1800	Z 75	-42.9	11	E	0.5	0	⇸
14	2100	Z 75	-43.8	10	E	0.5	0	⇸
15	0600	Z 75	-43.6	7	E	1.5	0	○
15	0900	Z 80	-42.6	9	E	2	0	○

Date	LT	Station	T	WS	WD	V	N	W
1983								
Apr.								
21	1200	Z 88	-39.1	14	E	0.5	0	⇸
21	1500	Z 70	-40.1	10	E	0.5	0	⇸
21	1800	Z 28	-39.6	11	E	1	0	⇸
21	2100	Z 28	-40.3	10	E	3	1	○
22	0600	Z 28	-38.6	5	E	5	3	⦶
22	0900	Z 28	-40.0	7	E	5	4	⦶
22	1200	H 291	-34.5	7	E	5	8	⦶
22	1500	H 250	-34.0	5	E	10	5	⦶
22	1800	H 182	-33.4	7	E	10	5	⦶
22	2100	H 182	-32.6	7	E	10	5	⦶
23	0700	H 182	-31.8	3	E	10	6	⦶
23	0900	H 183	-31.2	2	—	30	9	⦷
23	1200	H 128	-23.6	5	E	0.6	10	⚹
23	1500	H 88	-25.0	7	E	1	7	⦶
23	1800	H 27	-21.0	4	E	5	10	⚹
23	2100	H 27	-23.4	5	E	10	10	◎
24	0900	H 27	-18.8	6	E	10	10	◎

Table III-5. Surface meteorological data during the traverse to and from the Sør Rondane Mountains, including a trip along Route NY, 1 October 1983 - 27 January 1984.

Date	LT	Station	T	WS	WD	V	N	W
1983								
Oct.								
1	1505	S 22-2	-12.6	7.5	ENE	10	9	⦷
1	2100	H 64	-24.8	7	E	?	0	○
2	0900	H 84	-23.4	5.5	ENE	5	0+	○
2	1500	H 168	-24.0	4	E	30	2	○
2	2100	H 241	-33.2	4.5	E	?	1	○
3	0900	H 255	-19.4	10	NE	0.1	10	⋇
3	1500	Z 10	-21.5	9	ENE	0.3	10	◎
3	2100	Z 43	-27.8	7.5	E	?	8	◎
4	0600	Z 43	-31.6	4	ENE	5	6	⦶
4	0900	Z 62	-26.6	6	ENE	2	10	↓→◎
6	1500	YM 12	-36.5	14.5	ESE	0.05	1	↑→○
7	0900	YM 22	-42.3	13.5	E	0.15	0+	↑→○
7	1500	YM 32	-36.0	14	ESE	0.1	0	↑→○
8	0900	YM 39'	-41.3	12	ESE	2	0	↑→○
8	1500	YM 49'	-34.4	9	ESE	0.5	0	↑→○
9	1510	YM 78	-38.5	11	ESE	0.05	0	↑→○
10	0900	YM 82	-42.6	11	E	—	—	
10	1500	YM 98	-39.2	5	E	2	2	○
11	0900	SS 25	-38.2	<3	E	3	5	⦶
12	1500	SS 25	-33.2	8	E	0.1	10	↑→◎
12	2100	SS 25	-37.6	5	ESE	1	0+	↓→○
13	0900	SS 25	-34.8	9	E	0.2	10	↑→⦷
13	1500	SS 25	-31.4	9	E	0.2	10	↑→⦷
13	2100	SS 25	-36.4	8	E	0.1	0	↑→○
14	0900	SS 25	-37.6	10.5	ESE	0.05	0	↑→○
14	1500	SS 25	-30.4	10.5	E	0.2	5	↑→⦶
14	2100	SS 25	-36.2	8	E	0.1	0	↑→○
15	0900	SS 25	-28.8	13.5	SE	0.05	0	↑→○
15	1500	SS 25	-26.4	13.5	SE	0.1	1	↑→○
15	2100	SS 25	-34.0	7.5	ESE	0.3	0	↑→○

Date	LT	Station	T	WS	WD	V	N	W
Oct.16	1500	YM 106'	-29.2	12	ESE	0.6	5	↓→⌽
16	2100	YM 125	-34.8	8	ESE	2	0	↓→○
17	0900	YM 125	-33.7	5.5	SE	2	0	○
17	1500	YM 139'	-29.3	6.5	SE	30	0	○
17	2100	YM 155	-36.0	6	ESE	30	0	○
18	0900	YM 155	-34.2	4	ESE	30	10	⦶
18	1520	YM 179	-24.3	9	E	1	10	↓→◎
18	2100	YM 179	-35.4	11	ESE	0.3	10	↑→◎
19	0915	YM 179	-24.4	9	E	0.1	10	↑→◎
19	1500	YM 179	-22.2	11	E	0.5	10	↓→◎
19	2100	YM 179	-23.5	8.5	E	0.3	10	↑→◎
20	0900	YM 179	-24.0	7	E	1	8	↓→⦶
20	1445	YM 179	-23.2	11	E	1	3	↓→⌽
20	2100	YM 179	-25.1	17	E	0.1	10	↑→◎
21	0915	YM 179	-19.2	17	E	0.02	10	↑→◎
21	1500	YM 179	-16.9	12.5	ESE	0.05	—	↑→
21	2100	YM 179	-19.0	10	ENE	0.1	—	↑→
22	0930	YM 179	-18.7	11	ESE	0.05	10	↑→◎
22	1500	YM 179	-18.0	10.5	E	0.05	10	↑→◎
22	2100	YM 179	-24.1	10.5	ESE	0.5	10	↑→◎
23	0900	YM 179	-26.6	11.5	ESE	0.5	1	↓→○
23	1600	YM 179	-26.9	8.5	E	5	4	↓→⌽
23	2100	YM 179	-28.5	10	E	5	0^+	↓→○
24	0900	YM 179	-28.0	13.5	E	0.2	5	↑→⌽
24	1500	YM 179	-23.5	14	E	0.05	0	↑→○
24	2100	YM 179	-28.1	21.5	E	0.01	—	↑→
25	0900	YM 179	-29.6	24	E	0.01	—	↑→
25	1445	YM 179	-27.1	21.5	E	0.01	—	↑→
25	2100	YM 179	-30.7	16.5	—	0.01	—	↑→
26	0800	YM 179	-33.0	17.5	—	0.01	0	↑→○
26	0900	YM 179	-31.7	21.5	E	0.01	0	↑→○
26	1500	YM 179	-27.4	13	E	0.05	0	↑→○

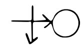
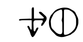
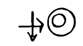
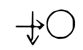
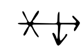
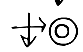
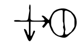
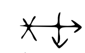
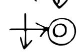
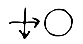
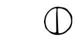
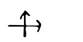
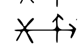
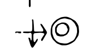
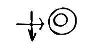
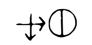
Date	LT	Station	T	WS	WD	V	N	W
Oct.26	2100	YM 179	-29.9	10	E	1	0+	↓→○
27	0900	YM 179	-26.7	10	E	0.1	8	↑→⦷
27	1500	YM 179	-23.1	12.5	E	0.1	10	↑→◎
27	2100	YM 179	-25.0	9.5	E	0.2	10	↑→◎
28	0800	YM 179	-23.5	11	—	0.1	10	↑→⦷
28	0900	YM 179	-22.9	11	E	0.1	10	↑→⦷
28	1450	YM 179	-20.6	11	E	0.5	10	↑→◎
29	0900	RY 12	-21.6	12.5	E	0.5	10	↓→◎
30	1500	RY 17	-22.6	10	ENE	5	1	○
30	2100	RY 25	-31.0	<3	—	30	4	⦶
31	1500	RY 25	-26.0	<3	—	30	0	○
Nov.1	1500	RY 25	-23.8	6.5	E	5	1	↓→○
1	2100	RY 25	-29.2	6.5	E	1	3	↓→⦶
2	0900	RY 25	-26.8	8.5	E	0.2	10	↑→⦷
2	1500	RY 34'	-24.0	10	E	1	4	↓→⦶
2	2100	RY 45	-28.0	10.5	E	1	10	↓→⦷
3	1500	RY 45	-21.8	11	E	0.1	10	↑→⦷
3	2100	RY 45	-26.8	9	E	0.5	10	↑→◎
4	1500	RY 45	-21.8	7.5	E	1	10	↓→⦷
5	1500	RY 57	—	—	—	30	6	⦶
6	1500	RY 57	-25.9	6	ESE	30	1	○
7	0900	RY 64	-32.8	10	E	0.3	10	↑→⦷
7	1500	RY 64	-27.5	9.5	E	0.5	4	↑→⦶
7	2100	RY 64	-31.5	7	ESE	1	10	↓→⦷
8	0900	RY 64	-31.0	11.5	ESE	0.2	3	↑→⦶
8	1500	RY 64	-27.5	10.5	ESE	0.3	2	↑→○
8	2100	RY 64	-31.8	9.5	E	0.1	1	↑→○
9	1000	RY 64	-29.6	9	—	0.1	10	↑→⦷
9	2100	RY 64	-25.6	7.5	ESE	0.2	10	✳↑→
10	1500	RY 64	-21.8	10.5	E	0.05	10	✳↓→
11	0900	RY 64	-26.9	8	E	0.5	10	↓→⦷
11	1500	RY 65	-23.9	6.5	E	10	3	⦶

Date	LT	Station	T	WS	WD	V	N	W
Nov.11	2130	RY 85	-29.6	4	ESE	—	2	○
12	0900	RY 85	-28.9	7.5	—	1	0	○
13	1500	RY 94	-22.1	9.5	ESE	5	1	↓→○
13	2100	RY 110	-25.3	9	ESE	5	0	↓→○
14	1500	RY 110	-18.2	6.5	ESE	30	4	⦶
14	2100	RY 110	-24.0	5.5	ESE	30	2	○
15	0900	RY 110	-25.0	9.5	SE	2	0	↓→○
15	1500	RY 110	-18.8	9.5	ESE	3	0	↓→○
16	1500	RY 110	-17.4	10.5	ESE	0.2	10	↑→◎
16	2100	RY 110	-19.4	9	ESE	0.2	10	↑→◎
17	0900	RY 110	-17.8	13.5	E	0.05	10	↑→◎
17	1500	RY 110	-15.9	11	E	0.05	10	↑→◎
17	2100	RY 110	-17.7	6	ESE	0.1	—	✳↑→
18	1500	RY 118'	-17.8	7	ESE	30	1	○
18	2100	RY 133	-24.6	5	SE	30	1	○
19	1500	RY 135	-19.5	3.5	E	30	10	⦷
19	2100	RY 148'	-23.8	4.5	S	30	9	⦷
20	1500	RY 157'	-20.4	4	SSE	30	2	○
20	2100	RY 166'	-22.5	5	S	30	0^+	○
21	1500	RY 170	-19.0	6	SE	30	0^+	○
24	0800	RY 175	-24.8	10.5	SE	1	2	○
24	1500	RY 175	-17.2	8.5	ESE	2	10	✳◎
24	2100	RY 175	-18.0	5	SE	30	10	◎
25	0800	RY 175	-24.8	14.5	SSE	0.5	5	↑→⦶
26	0800	RY 175	-15.4	11	E	0.1	—	↑→
26	2100	RY 175	-15.2	7.5	ESE	5	10	◎
27	0800	RY 175	-15.2	9	ESE	1	10	✳◎
27	1500	RY 175	-12.4	5	E	2	10	✳◎
28	0900	RY 175	-20.8	8	SE	5	0	↓→○
29	0800	RY 175	-23.5	13	SE	0.1	0	↑→○
29	1300	RY 175	-17.5	8	SE	2	0	↓→○
29	1500	RY 175	-17.4	6	SE	5	0^+	↓→○

Date	LT	Station	T	WS	WD	V	N	W
Nov.30	0800	RY 175	—	10.5	—	3	7	⦶
Dec.4	1500	RY 175	-15.0	14.5	SE	2	7	↓→⦶
4	2100	RY 175	-17.6	13	SE	1	10	↑→◎
6	0900	RY 175	-14.2	11	ESE	0.05	10	✳↑→
6	1500	RY 175	-15.5	12.5	ESE	0.2	9	↑→◎
7	0900	RY 175	-12.0	11	E	0.3	10	↑→◎
7	1500	RY 175	-9.0	6.5	NNE	0.1	10	✳↑→
8	1500	RY 175	-11.5	13	SE	5	5	↑→⦶
9	1500	RY 175	-10.6	12	SE	2	1	↑→○
11	1500	KR 15	-15.2	4	E	30	2	○
11	2100	KR 19	-20.8	2	SE	30	1	○
12	1500	KR 25	-20.5	6	SE	10	—	↓→
12	2100	KR 37	-26.6	3	SE	30	—	—
13	1500	KR 49	-20.4	5.5	E	30	7	⦶
13	2100	KR 55	-21.8	2	ESE	30	4	⦶
14	0900	KR 57	-22.8	5.5	ESE	30	1	↓→○
14	1500	KR 65	-17.8	7.5	E	5	0^{+}	↓→○
14	2100	KR 75	-22.6	<3	?	30	0^{+}	○
15	1500	KR 87	-19.2	5	E	30	2	↓→○
15	2100	KR 100	-25.6	2.5	ESE	30	1	○
16	1500	KR 108	-22.0	5.5	E	30	0^{+}	○
17	1500	KR 125	-20.6	8	E	30	0^{+}	↓→○
18	1500	KR 144	-18.2	11	E	2	4	↓→○
20	1500	K 32	-17.8	14	ENE	0.3	9	↑→⦷
20	2100	K 32	-19.7	11	E	5	9	⦷
22	1500	K(3,5,6)	-12.4	10.5	E	30	0^{+}	○
22	2100	K(3,5,6)	-17.2	12.5	E	30	0	○
23	1500	K(3,5,6)	-12.4	12.5	E	30	0^{+}	○
24	1530	K(3,5,6)	-9.6	5.5	E	30	0^{+}	○
24	2100	K(3,5,6)	-12.7	7	E	30	1	○
25	1500	K(3,5,6)	-12.2	18.5	E	30	1	○

Date	LT	Station	T	WS	WD	V	N	W
Dec.25	2100	K(3,5,6)	-13.7	10	E	30	0^{+}	○
26	1510	K(3,5,6)	-12.4	7	E	30	2	○
26	2100	K(3,5,6)	-14.2	7.5	E	30	0	○
27	1500	K(3,5,6)	-14.6	10.5	E	30	0^{+}	○
27	2110	K(3,5,6)	-16.4	7	E	30	0	○
28	1500	K(3,5,6)	-14.4	10.5	E	5	10	◎
28	2100	K(3,5,6)	-16.5	4.5	E	30	0^{+}	○
29	1510	K(3,5,6)	-13.6	6.5	E	30	3	⌽
29	2110	K(3,5,6)	-14.3	6.5	E	30	6	⌽
30	1500	K(3,5,6)	—	10	E	30	0	○
31	1500	RY 10	-12.8	9	E	30	0^{+}	○
31	2100	YM 179	-16.4	8.5	E	30	2	○
1984								
Jan.1	2100	YM 179	-17.0	8	E	5	1	⇸○
2	1500	YM 179	-15.9	9	E	5	7	⇸⌽
2	2100	YM 179	-16.9	6	E	30	10	◎
3	1500	YM 169	-15.2	13	E	0.5	10	⇸◎
3	2100	YM 156	-18.6	6.5	E	0.7	10	✳⇸
4	1500	YM 149'	-15.0	3.5	E	2	10	✳◎
4	2100	YM 149	-17.5	3	E	1	10	✳◎
5	1500	YM 135	-19.5	8.5	E	2	0^{+}	⇸○
6	2100	YM 102	-17.4	4	E	30	9	✳◎
7	0900	YM 102	-17.4	8	E	0.5	10	◎
7	1500	YM 102	-13.7	8	ENE	0.3	10	✳◎
7	2100	YM 102	-17.3	7	E	5	10	◎
8	0900	YM 102	-19.2	11	ESE	0.3	3	⌽
8	1500	YM 79	-16.2	11	E	0.5	7	⇸⌽
8	2100	YM 54'	-19.5	7	E	30	10	◎
9	0900	YM 54'	-15.6	8.5	E	0.5	10	✳◎
9	1500	YM 37	-12.3	8.5	E	1	10	✳◎
9	2100	YM 17'	-14.5	5	E	2	10	✳◎
10	0900	YM 17'	-15.8	6.5	ENE	2	10	◎

Date	LT	Station	T	WS	WD	V	N	W
Jan.14	2100	NY 53	-16.2	8	E	30	0^+	+↓→ ○
15	0900	NY 53	-16.6	12.5	E	30	2	○
15	2100	NY 100	-12.6	5	E	30	10	◎
16	0900	NY 100	-15.9	7.5	E	5	6	+↓→ ⦶
16	1500	NY 100	—	9	E	2	0^+	○
17	0900	NY 100	-21.6	6.5	E	5	0	+↓→ ○
17	1500	NY 100	-16.8	6.5	E	30	0	+↓→ ○
17	2100	NY 100	-22.3	3	E	30	0	○
18	0900	NY 100	-22.6	8	ENE	5	0^+	+↓→ ○
18	1500	NY 100	-17.4	8	E	30	2	○
18	2100	NY 100	-23.5	3	E	30	0^+	○
19	0900	NY 100	-23.4	8.5	E	30	0	○
19	1600	NY 100	-17.0	10.5	E	0.5	0	+↑→ ○
19	2100	NY 100	-23.4	6	E	5	0	+↓→ ○
20	0900	NY 100	-22.6	9.5	E	0.5	0	+↑→ ○
20	1500	NY 100	-17.2	9.5	ENE	1	1	+↓→ ○
20	2100	NY 100	-23.6	6.5	E	5	1	+↓→ ○
21	0900	NY 100	-22.9	6.5	E	1	0	+↓→ ○
21	1515	NY 100	—	10.5	E	0.5	0^+	+↑→ ○
21	2100	NY 100	-21.4	5	ENE	2	1	+↓→ ○
22	0930	NY 100	-16.2	7	ENE	2	8	+↓→ ⦷
22	1500	NY 100	-12.0	9.5	E	0.1	10	✕ +↑→
22	2100	NY 100	-19.6	7.5	E	5	0^+	+↓→ ○
23	1500	NY 77	-15.9	11	E	0.5	0	+↓→ ○
25	1500	Z 94	-8.6	8.5	ESE	30	10	⦷
25	2100	Z 14	-14.8	7.5	E	30	2	○
26	0300	H 232	-15.0	7	E	30	9	◎
26	0900	H 99	-9.0	8	E	30	2	○
27	0600	S 16	-9.0	7.5	E	30	0	○
....								
1983								
Oct.16	1500	SS 17	-28.3	1.5	ESE	0.5	1	+↓→ ○

Date	LT	Station	T	WS	WD	V	N	W
Oct.17	0900	SS 1'	-28.2	5.5	ESE	30	0	
17	1500	SS 0	-24.2	4	ESE	30	0	
18	0950	SS 0	-27.5	9	ESE	2	4	
18	1500	SS 0	-23.7	9	ESE	5	9	
18	2100	SS 0	-27.5	12.5	ESE	1	2	
19	0930	SS 0	-20.4	9	E	0.2	10	
19	1500	SS 0	-17.0	4.5	E	0.5	10	
20	0900	SS 0	-21.4	4.5	ESE	30	8	
20	1500	SS 13	-21.4	5.5	ESE	30	4	
20	2100	SS 25	-28.8	10	E	0.5	7	
21	0900	SS 25	-19.1	11	ENE	0.01	10	
21	1500	SS 25	-16.8	11.5	NE	0.02	10	
21	2100	SS 25	-19.2	9	NE	0.05	10	
22	0900	SS 25	-20.6	7	ENE	0.1	10	
22	1500	YM 103	-20.5	6.5	E	2	8	
22	2230	YM 116'	-30.8	10.5	ESE	30	6	
23	0900	YM 116'	-30.3	8.5	SE	2	2	
23	1500	YM 132	-26.8	7.5	ESE	30	3	
24	1500	YM 154'	-20.0	15	ESE	0.05	0	
25	1500	YM 154'	-21.3	22	ESE	0.01	—	
26	0900	YM 154'	-34.2	14.5	ESE	0.01	—	
26	1500	YM 154'	-29.0	15	ESE	0.01	—	
26	2100	YM 154'	-32.2	12	ESE	0.5	4	
27	0900	YM 154'	-30.3	12.5	ESE	0.01	10	
27	1500	YM 154'	-28.3	13	—	0.01	10	
27	2100	YM 154'	-25.2	11	ESE	0.01	10	
28	0900	YM 158'	-25.4	10	—	0.05	—	
28	1500	YM 170	-21.7	9.5	E	0.1	10	
28	2100	YM 179	-25.6	10	—	0.5	10	
29	0900	YM 179	-24.6	11	E	0.4	7	
29	2100	YM 179	-27.6	10	—	30	4	
30	0900	YM 179	-28.8	15	E	0.1	4	

Date	LT	Station	T	WS	WD	V	N	W
Oct.30	1530	YM 179	-25.8	10.5	E	2	4	↓→⦶
30	2100	YM 179	-31.2	6.5	E	30	4	↓→⦶
31	0800	YM 179	-30.8	5.5	E	30	0^+	↓→○
31	1500	YM 179	-25.6	7	E	30	0^+	↓→○
31	2100	YM 179	-32.6	6.5	E	30	0^+	↓→○
Nov.1	0800	YM 179	-31.2	11	ESE	0.4	0	↓→○
1	1500	YM 179	-25.2	8	E	30	0	↓→○
1	2100	YM 179	-31.5	5	ESE	30	0	↓→○
2	0800	YM 179	-30.8	14.5	ESE	0.1	1	↑→○
2	1500	YM 179	-25.2	9	E	30	4	↓→○
3	0900	RY 4	-23.8	19	ESE	0.5	9	↑→⦶
4	0900	RY 10	-23.6	14.5	E	2	9	↑→○
4	1530	RY 18	-20.6	9	E	30	10	↓→◎
4	2100	RY 28'	-25.1	3.5	E	30	4	⦶
5	1500	RY 55	-25.9	6	ESE	30	1	○
12	1500	RY 85	-24.6	11.5	SE	0.2	0	↑→○
12	2130	RY 85	-31.1	12.5	ESE	0.5	0	↑→○
13	0900	RY 85	-28.6	11	ESE	1	0	↑→○
13	1500	RY 85	-22.7	10	ESE	2.5	0^+	↓→○
14	1000	RY 85	-23.6	8.5	ESE	4	7	↓→⦶
14	1500	RY 85	-20.8	7.5	ESE	30	5	↓→⦶
14	2100	RY 93'	-24.5	8.5	ESE	30	1	↓→○
18	1500	RY 110	-17.2	4.6	ESE	30	2	○
18	2100	RY 123	-22.7	2.5	SE	30	3	⦶
19	0900	RY 123	-22.4	2	SE	30	3	⦶
20	1500	RY 135	-21.1	2	SE	30	4	⦶
20	2100	RY 135	-30.2	2	ESE	30	2	○
21	1500	RY 135	-20.4	1	ESE	30	1	○
22	0900	RY 149	-24.6	6	SSE	30	0	↓→○
22	1500	RY 163	-19.5	9.5	SSE	30	0	↓→○
30	2100	RY 175	-19.8	6	SE	30	4	↓→⦶
Dec.1	0800	RY 175	-21.8	12.5	SSE	5	1	↓→○
1	1500	RY 175	-16.6	6.5	SE	30	2	↓→○
3	1500	RY 175	-16.1	15	SE	1	2	↑→○

IV. Net Accumulation of Snow Along Traverse Routes in Mizuho Plateau

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Isao OGASAWARA

Net accumulation of snow was measured by the stake method along several traverse routes as listed in Table I-1, and shown in Fig. A.

1. Route S-H-Z

The stake height of the routes was measured in January 1982 with a help of JARE-23, and in December 1983 also with a help of JARE-25. The height differences gave approximately the annual net accumulation along the routes, and the results are tabulated in Table IV-1. The positions of the stations were given by Naruse and Yokoyama (1975).

2. Routes YM and SS

Route YM and Route SS were established by JARE-23 in 1982, and used by JARE-24 again in 1983 for approaching Yamato Mountains from Mizuho Station, and for getting access to strain grid stations respectively. Net accumulation was thus obtained along the routes, as shown in Tables IV-2 and IV-3, by the traverses in the different years. The positions and elevation of the stations will be published in another data report of JARE-23.

3. Route K

Route K was established by JARE-23, as a triangulation network southward from Minami-Yamato Nunataks. When the route was used just for approaching to a particular position, as was done by JARE-24, all the stations were not necessary to be revisited. Only one side of the triangulation chain was passed through by a JARE-24 party, and hence the accumulation data were obtained at stations along the trail alone. The results which, of course, are the difference in stake height between JARE-23 and JARE-24, are shown in Table IV-4. The route was set up in the bare ice area and most stakes of the stations were installed on the ice surface. The positions of the stations are to be published in a forthcoming data report of JARE-23. One has to be careful to realize that Route K is completely different from Route K established by JARE-20 from Mizuho Station to Route A (Members of the Yamato-Belgica Traverse Party, 1981).

4. Route NY

The latest traverse was carried out by JARE-22 in 1981 before a traverse by JARE-24 in 1984. The net accumulation during the period was obtained and is given in Table IV-5. The positions of the stations are given in Table II-4.

References

Members of the Yamato-Belgica traverse party (1981): Report of the Yamato-Belgica traverse by the 20th Japanese Antarctic Research Expedition in 1979-1980 field season. Nankyoku Shiryô (Antarct. Rec.), 73, 210-245.

Naruse, R. and Yokoyama, K. (1975): Position, elevation and ice thickness of stations. JARE Data Rep., 28 (Glaciol. 3), 7-47.

Table IV-1. Net accumulation along Route S-H-Z.

(cm in depth)

Station No.	Jan. 1983 -Dec. 1983	Period (days)	Station No.	Jan. 1983 -Dec. 1983	Period (days)
S 16	30.5	330	H 84	24.2	335
17	50.3	332	88	51.5	335
18	61.1	332	92	38.4	335
19	39.8	332	96	31.2	335
20	141.3	332	100	18.3	335
21	48.8	333	104	18.4	335
22	——	333	108	35.1	335
23	80.3	333	112	21.0	335
24	85.6	333	116	37.7	336
25	66.2	333	120	7.3	336
26	62.9	333	124	22.2	336
27	59.9	333	128	32.8	336
28	54.1	333	132	45.7	336
29	55.6	333	136	26.2	336
30	77.7	333	140	34.2	336
H 3	66.8	334	144	20.4	336
9	59.2	334	148	42.6	336
15	74.3	334	152	17.2	336
21	56.7	334	156	15.4	336
27	34.3	334	160	16.2	336
35	54.0	334	164	25.0	336
42	32.1	334	168	40.7	336
48	55.9	334	172	22.0	336
54	49.4	334	176	12.5	336
60	55.0	334	180	17.0	336
64	53.8	334	184	32.8	336
68	22.1	335	188	33.8	336
72	75.2	335	192	34.2	336
76	54.8	335	196	50.5	336
80	47.9	335	200	-2.4	337

(cm in depth)

Station No.	Jan. 1983 -Dec. 1983 (Jan. 1984)	Period (days)	Station No.	Jan. 1983 -Jan. 1984.	Period (days)
H 204	26.2	337	Z 10	14.2	339
208	27.0	337	12	13.6	339
212	62.6	337	14	50.7	339
216	26.5	337	16	39.4	339
220	30.7	337	18	6.8	339
224	19.0	337	20	28.8	339
228	32.7	337	22	34.7	339
232	40.2	337	24	28.6	339
236	15.6	337	26	4.0	339
240	35.3	337	28	-3.8	339
244	20.3	337	30	8.5	339
248	21.7	337	32	6.9	339
252	43.5	337	34	42.0	339
256	33.8	338	36	0.1	339
260	59.6	338	38	10.2	339
264	33.9	338	40	6.5	339
268	23.9	338	42	-4.6	340
272	11.9	338	46	0.4	340
276	19.5	338	50	31.5	340
280	18.2	338	54	12.0	340
284	11.1	338	58	8.2	340
288	26.4	338	62	-5.3	340
293	12.7	338	66	9.3	340
297	29.0	338	70	18.4	340
301	35.5	338	72	41.6	340
S 122	-2.8	338	74	-5.7	340
Z 2	0.0	339	76	-15.1	341
4	-0.7	339	78	8.0	341
6	3.7	339	80	9.9	341
8	19.3	339	82	23.0	341

(cm in depth)

Station No.	Jan. 1983 -Jan. 1984	Period (days)	Station No.	Jan. 1983 -Jan. 1984	Period (days)
Z 84	42.4	341	Z 94	0.5	341
86	38.8	341	96	1.5	341
88	20.0	341	98	5.4	341
90	1.0	341	100	19.7	341
92	-4.7	341	102	-2.3	341

Table IV-2. Net accumulation along Route YM.

(cm in depth)

Station No.	Oct. 1982 /Jan. 1983 to -Oct. 1983 /Jan. 1984	Period (days)	Station No.	Oct. 1982 /Jan. 1983 to -Oct. 1983 /Jan. 1984	Period (days)
YM 0	-0.3	254	YM 31	0.6	256
1	-0.5	254	32	1.0	256
2	-0.7	254	33	6.1	256
3	3.2	254	34	-0.4	256
4	1.6	254	35	-1.6	256
5	29.1	455	36	-0.8	256
6	-1.1	359	37	7.0	256
7	-1.0	254	38	10.7	256
8	-0.4	254	39	133.9	350
9	13.2	350	40	35.9	350
10	-5.3	254	41	15.0	257
11	-0.8	254	42	5.5	257
12	-2.5	254	43	0.8	257
13	17.6	254	44	-0.3	257
14	18.5	350	45	3.5	257
15	0.5	254	46	1.8	257
16	-1.2	254	47	-4.5	257
17	0.5	254	48	-0.2	257
18	18.6	254	49	26.4	257
19	0.0	254	50	42.2	350
20	5.0	254	51	-1.9	257
21	-7.2	254	52	54.7	257
22	80.7	255	53	13.5	257
23	67.5	349	54	70.4	257
24	41.0	349	55	93.1	257
25	36.5	255	56	65.1	257
26	68.9	349	57	35.7	257
27	3.5	255	58	-2.2	257
28	-1.0	255	59	-1.5	257
29	0.6	255	60	3.4	257
30	-21.1	256	61	7.9	257

(cm in depth)

Station No.	Jan. 1983 /Apr. 1982 to -Oct. 1983 /Jan. 1984	Period (days)	Station No.	Jan. 1983 /Dec. 1982 to -Oct. 1983	Period (days)
YM 62	5.8	257	YM 92	——	——
63	0.9	257	93	46.5	260
64	32.1	257	94	51.2	*358
65	39.8	257	95	0.6	260
66	76.9	258	96	55.4	260
67	75.3	349	97	39.0	260
68	24.0	258	98	93.9	260
69	48.2	349	99	87.0	260
70	47.5	258	100	19.0	260
71	45.0	258	101	5.0	260
72	9.0	259	102	95.5	260
73	45.0	259	103	-15.5	301
74	77.5	259	104	11.8	301
75	26.5	259	105	26.9	301
76	35.0	259	106	-2.3	301
77	44.0	186	107	-1.9	301
78	-38.0	259	108	6.7	301
79	53.0	259	109	22.0	301
80	20.0	259	110	3.5	301
81	27.5	259	111	32.0	301
82	3.0	259	112	17.7	301
83	——	——	113	0.5	301
84	9.0	260	114	26.0	301
85	6.2	260	115	37.0	301
86	9.8	260	116	-4.0	301
87	24.5	260	117	16.3	302
88	42.1	260	118	38.0	302
89	44.8	260	119	24.0	302
90	84.2	260	120	27.5	302
91	40.5	350	121	46.0	302

* from Oct. 1982

(cm in depth)

Station No.	Dec. 1982 -Oct. 1983	Period (days)	Station No.	Dec. 1982 -Oct. 1983	Period (days)
YM122	23.0	302	YM151	0.0	302
123	14.5	302	152	-1.5	302
124	22.5	302	153	4.0	302
125	24.0	302	154	6.0	302
126	31.5	302	155	19.5	302
127	14.0	302	156	20.5	302
128	29.5	302	157	2.0	302
129	9.5	302	158	45.0	302
130	7.0	302	159	-1.0	306
131	39.0	301	160	-1.0	306
132	99.1	301	161	-4.5	306
133	100.3	301	162	30.6	306
134	56.7	301	163	54.0	305
135	106.4	301	164	16.5	305
136	12.0	301	165	-0.5	305
137	-1.5	301	166	3.0	305
138	9.5	301	167	7.5	305
139	33.0	301	168	0.0	305
140	-4.0	301	169	-4.0	305
141	52.5	301	170	-5.0	305
142	2.0	301	171	0.0	305
143	74.0	301	172	-1.0	305
144	63.0	302	173	-1.5	305
145	48.1	302	174	-5.0	305
146	24.0	302	175	-1.5	305
147	18.5	302	176	-6.0	305
148	22.5	302	177	-4.5	305
149	21.5	302	178	-7.2	305
150	1.5	302	179	-4.0	305

Table IV-3. Net accumulation along Route SS.

(cm in depth)

Station No.	Oct. 1982 -Oct. 1983	Period (days)	Station No.	Oct. 1982 -Oct. 1983	Period (days)
SS 0	14.5	360	SS 16	-6.8	361
1	-7.0	360	17	36.8	361
2	14.7	360	18	13.2	361
3	43.0	360	19	-24.0	361
4	67.5	360	20	41.5	361
5	77.1	360	21	2.1	361
6	31.2	360	22	-9.5	361
7	89.2	360	23	26.0	361
8	74.6	360	24	55.1	361
9	75.5	360	25	-27.2	355
10	2.4	360	26	-15.6	355
11	-14.3	360	27	39.1	355
12	-11.0	360	28	51.5	355
13	12.0	360	29	-5.2	355
14	20.3	360	30	-7.0	355
15	10.5	361			

Table IV-4 Net accumulation along Route K

(cm in depth)

Station No.	Jan. 1983 -Dec. 1983	Period (days)	Station No.	Jan. 1983 -Dec. 1983	Period (days)
K 5	-5.0	351	K 19	-4.0	348
7	-6.0	351	22	-3.0	346
9	-6.5	349	24	-3.0	346
10	-23.5	349	26	-5.5	346
12	-5.5	349	28	-2.5	345
14	-3.0	348	30	-5.0	345
16	-2.2	348	32	-7.0	343

Table IV-5. Net accumulation along Route NY.

(cm in depth)

Station No.	Sep. 1981 -Jan. 1984	Period (days)	Station No.	Sep. 1981 -Jan. 1984	Period (days)
NY 2	21.4	839	NY 52	32.4	838
4	21.6	839	54	-5.1	839
6	31.3	839	56	9.2	839
8	100.6	839	58	48.6	839
10	47.8	839	60	26.9	838
12	32.3	839	62	41.9	838
14	-12.6	839	64	63.5	838
16	57.2	839	66	66.5	838
18	36.5	839	68	79.6	838
20	42.7	839	70	70.6	838
22	70.2	839	72	89.0	838
24	70.4	839	74	84.8	838
26	6.6	839	76	44.0	838
28	38.3	839	78	51.0	838
30	34.3	839	80	60.8	838
32	67.8	839	82	31.2	838
34	76.4	838	84	38.5	838
36	79.0	838	86	41.5	838
38	68.8	838	88	42.5	838
40	96.5	838	90	-3.5	838
42	26.4	838	92	5.0	838
44	25.3	838	94	29.0	838
46	33.4	838	96	71.5	838
48	-30.6	838	98	52.0	838
50	27.2	838	100	52.8	838

V. Net Accumulation of snow at Mizuho Station

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The measurements were made using a 36-stake farm and a 101-stake row. The former farm was installed in 1972, in which 36 bamboo stakes in a square of 100 m sides were arranged in a rectangular lattice with spacings of 20 m. The farm has been used long, owing to a small accumulation rate at Mizuho Station, and was adopted for the accumulation measurements in 1983 as well. The results of the measurements are given in Table V-1, in which the stake number is the same as in the previous reports (Yamada et al., 1975; Takahashi, 1984).

Another stake farm of 201 stakes with 1 m spacing was prepared in 1973, which basically consisted of two rows of stakes, one perpendicular and the other parallel to the direction of the prevailing wind. They crossed each other, forming an X shape. This stake farm also had been adopted for the accumulation measurements at Mizuho Station.

It was brought to an attention, however, that the stakes aligned parallel to the wind direction could generate a vigorous turbulence, since the spacing of the stakes was as short as 1 m. Therefore, it was determined to discontinue the measurements on the stakes of the parallel row to the wind direction, and the row of 101 stakes, which was aligned perpendicular to the wind direction, was left for further measurements of snow accumulation. The results of the measurements are given in Table V-2.

One has to be careful with the stake number given in Table V-2, since the numbering system was rather complicated. When installed, the stakes were numbered from the windward to the leeward of the parallel row (1 to 101), and then, from right to left (102 to 202), facing the prevailing wind, of the row perpendicular to the wind direction. The stake at the centre of the farm was numbered twice (No. 51 and No. 152 for the respective rows), and hence the last number of the stakes was 202, although the real number of stakes was 201. This caution should be applied to the tables of the data on this stake farm (Yamada et al., 1975; Yokoyama, 1975; Satow, 1977; Nishio, 1978; Fujii, 1979). (Notice that erroneous numbers are printed in a figure of the stake configulation given by Yamada et al., (1975).

Satow (1977) gave proper numbers.) This double numbering for the centre stake caused an inconvenience in tabulating the accumulation data. Yamada et al. (1975), Satow (1977) and Fujii (1979) gave completely the same accumulation data for both stake Nos. 51 and 152 as it should be. Nishio (1978) also tabulated the data for the two but the numerical figures for the accumulation at the stake were not always identical, presumably due to errors in double measurement. Yokoyama (1975) gave the data for Stake No. 152 and skipped the data for Stake No. 51 to avoid printing the same data at two palces in his table.

Wada et al. (1981) decided that the centre stake of the farm be numbered only once since their data report for JARE-20: the centre stake was designated as No. 51 of the parallel row, but not No. 152 of the orthogonal row to the wind direction. Numbering the latter row, they passed over the centre stake. The number of each stake after No. 151, as a result, became smaller by 1 than its previous number. Accordingly, the last stake became No. 201, the same numeral as the total number of the stakes. Kobayashi et al. (1982), Satow et al. (1983) and Takahashi (1984) followed this numbering system. It was also employed in Table V-2 of this report, where Stake No. 51 is inserted between Nos. 151 and 152, having the stakes in real order, i.e. from right to left of the stake row, facing toward the prevailing wind.

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Table V-1. Net accumulation with a 36-stake farm at Mizuho Station in 1983.

36-Stake Farm (Jan.-Aug.) (cm in depth)

Period No.	1 Jan.31- Mar. 1 (29 days)	2 Mar. 1- Apr. 1 (31)	3 Apr. 1- Apr.30 (29)	4 Apr.30- June 2 (32)	5 June 2- June30 (28)	6 June30- Aug.18 (49)	7 Aug.18- Aug.31 (13)
I-1	+1.0	-0.3	-0.2	+0.3	-0.2	+0.4	+0.3
2	-0.8	0.0	-0.5	+0.5	+1.1	+0.3	0.1
3	-0.8	-0.1	-0.1	+0.3	0.0	+0.6	-0.6
4	+3.9	-5.2	0.0	+0.2	-0.1	+0.2	+0.1
5	-4.3	-0.1	0.0	+0.1	-0.1	+0.5	0.0
6	-1.4	0.0	-0.3	+0.4	+0.1	+0.6	-0.5
II-1	-0.4	-0.2	0.0	+0.3	-0.3	+0.2	+0.4
2	-1.5	0.0	-0.1	+0.1	+0.1	+0.1	+0.2
3	-1.5	+0.1	-0.2	+0.3	-0.4	+0.6	-0.1
4	-0.3	0.0	-0.1	+0.2	-5.1	+5.0	+0.8
5	-3.4	+3.4	-3.5	0.0	+4.0	-3.0	+0.7
6	-0.5	0.0	-0.1	+0.1	0.0	+0.1	+0.1
III-1	-1.0	+17.1	-17.3	+0.5	-0.1	+0.1	+0.4
2	-1.0	-0.3	-0.1	+0.3	-0.9	+0.9	+0.1
3	-1.8	+3.6	-3.9	+0.4	0.0	+0.3	0.0
4	-0.3	+0.1	-0.4	0.0	+0.4	-0.2	-0.1
5	-5.0	+1.2	-1.6	+0.5	0.0	0.0	+0.1
6	-3.1	0.0	-0.5	+0.6	+1.6	-1.5	-1.7
IV-1	-2.6	-0.2	-0.3	+0.5	-0.4	+0.8	-0.2
2	-3.2	-2.9	-0.3	+0.2	-0.1	+0.3	0.0
3	-7.9	+0.1	-0.3	+0.2	-0.3	-0.6	+0.2
4	-3.2	+10.7	-10.7	0.0	+0.1	+0.1	0.0
5	4.4	+6.1	-6.5	-4.8	+5.0	+0.5	-0.2
6	-0.7	-0.1	-0.4	+0.5	-0.4	+0.6	+0.1
V-1	-2.2	-0.1	-0.1	+0.3	-0.2	+0.3	+0.1
2	-0.6	+0.2	-0.1	-0.6	+0.6	-0.1	+0.2
3	+1.7	+5.2	-5.4	+0.4	-0.1	+0.4	0.0
4	-0.7	-0.1	-0.2	+0.2	0.0	+0.1	+0.4
5	-0.4	+0.1	-0.4	+0.5	-0.1	+5.1	+0.1
6	-0.6	-0.3	+1.3	+0.4	-0.4	+0.4	-0.1
VI-1	-4.3	-0.2	-0.1	+0.5	-0.4	+0.5	+0.1
2	-1.1	-0.1	0.0	+0.1	-0.1	+0.2	+0.3
3	-1.0	-0.1	-0.3	+0.1	+0.1	+0.4	+0.2
4	-0.5	0.0	-1.1	+1.4	-0.2	+0.4	+0.2
5	-0.1	+1.6	-2.5	+0.4	+0.3	+0.3	-0.2
6	-0.7	+2.5	-2.5	+0.1	+9.9	-10.1	+0.5
mean	-1.3	+1.2	-1.6	+0.2	+0.4	+0.1	+0.1

36-Stake Farm (Aug.-Dec.) (cm in depth)

Period No.	8 Aug.31- Sep.30 (30 days)	9 Sep.30- Oct.30 (30)	10 Oct.30- Nov.30 (31)	11 Nov.30- Dec.30 (30)	Total Jan.31- Dec.30 (333)
I-1	+0.1	+11.6	+11.6	-6.2	+18.4
2	+6.0	0.0	-0.9	-4.8	+1.0
3	+0.7	-0.7	-0.3	-1.7	-2.7
4	+9.0	-9.2	-0.6	+0.3	-1.4
5	+0.3	0.0	+10.8	-1.4	+5.8
6	+5.5	+16.1	-1.5	-1.9	+17.1
II-1	+4.0	+5.7	-4.9	-3.4	+1.4
2	+0.1	+8.7	-2.5	-2.4	+2.8
3	-0.1	+0.2	-0.3	-1.2	-2.6
4	+1.1	-0.2	+3.8	+1.5	+6.7
5	+2.7	-0.4	+5.1	-0.5	+5.1
6	-0.1	0.0	+7.3	-1.0	+5.9
III-1	-0.5	+21.3	-0.9	+6.1	+25.7
2	-0.2	+0.2	+3.7	-3.8	-1.1
3	+0.8	-0.1	+9.5	-9.4	-0.6
4	+0.2	0.0	+9.4	-9.4	-0.3
5	+0.7	-0.4	+28.6	-28.0	-3.9
6	+1.4	-0.7	+28.2	-30.2	-5.9
IV-1	+3.1	-2.9	+2.5	-1.4	-1.1
2	+0.6	-0.6	+9.5	-11.1	-7.6
3	+0.5	-0.6	+7.6	+1.8	+0.7
4	+0.1	0.0	+12.3	-13.6	-4.2
5	+0.1	+0.1	-0.2	-1.7	+2.8
6	-0.1	0.0	+4.2	-6.0	-2.3
V-1	+0.3	-0.4	-0.4	-2.5	-4.9
2	+0.7	-0.6	-0.6	-0.9	-1.8
3	+0.8	+2.1	-1.0	-2.1	+2.0
4	+0.1	-0.5	-0.7	-0.8	-2.2
5	-0.2	-0.3	-0.2	-1.0	+3.2
6	+0.3	+10.6	-1.5	+0.6	+10.7
VI-1	+0.6	+4.7	+5.5	-0.1	+6.8
2	+0.3	-0.4	-0.6	-2.0	-3.4
3	+0.2	+0.4	-0.8	-1.9	-2.7
4	+3.0	+4.7	-1.0	-1.2	+5.7
5	0.0	+1.2	+2.7	+9.3	+13.0
6	-0.1	-0.3	+3.6	+1.1	+4.0
mean	+1.2	+1.9	+4.1	-3.6	+2.5

Table V-2. Net accumulation with a 101-stake row at Mizuho Station in 1983.

101-Stake Row (Jan.-Aug.) (cm in depth)

Period No.	1 Jan.31- Mar. 1 (29 days)	2 Mar. 1- Apr. 1 (31)	3 Apr. 1- Apr.30 (29)	4 Apr.30- June 2 (32)	5 June 2- June30 (28)	6 June30- Aug.18 (49)
102	-0.6	-1.6	-0.3	+0.5	0.0	+0.4
103	-1.7	+0.1	-0.2	-0.1	0.0	+0.4
104	-1.0	+5.9	-6.1	+0.1	+1.0	+1.0
105	-0.8	+3.0	-3.3	+0.2	0.0	0.0
106	-1.4	+0.3	-0.4	+0.5	-0.2	-0.2
107	-6.7	+8.2	-8.5	+0.5	+1.6	+0.2
108	-0.4	+9.9	-10.4	-0.1	0.0	+0.5
109	-2.2	+13.5	-13.6	+0.3	-0.4	+0.1
110	-2.5	+6.7	-7.2	+0.3	-0.1	+1.3
111	-1.3	0.0	-0.2	0.0	+0.1	+1.0
112	-0.6	+1.9	-2.2	-0.5	0.0	+0.4
113	-2.0	+6.3	-6.7	+0.1	-1.2	+1.4
114	-1.1	+11.2	-11.5	+0.2	-1.0	+0.8
115	-1.7	+14.3	-14.5	-0.2	0.0	+0.7
116	-1.4	+12.8	-12.8	-0.3	+0.2	-0.1
117	-1.1	-0.3	+0.2	-0.6	0.0	+0.2
118	-1.1	+0.1	-0.4	+0.2	0.0	+0.8
119	-2.8	-0.1	-0.1	+0.1	+0.3	+2.4
120	-0.9	0.0	-5.0	+4.0	-0.1	+0.6
121	+0.1	-0.2	+1.0	-2.3	0.0	+1.2
122	-1.1	-0.3	-0.1	0.0	+0.4	+4.2
123	-0.6	-0.4	0.0	-0.1	0.0	+0.3
124	-2.7	0.0	-0.2	-1.0	0.0	+0.4
125	-0.6	-0.2	-0.1	+0.1	+0.3	0.0
126	-1.2	-0.1	-0.3	+0.2	-0.2	+0.9

101-Stake Row (Jan.-Aug.) (cm in depth)

Period No.	1 Jan.31- Mar. 1 (29 days)	2 Mar. 1- Apr. 1 (31)	3 Apr. 1- Apr.30 (29)	4 Apr.30- June 2 (32)	5 June 2- June30 (28)	6 June30- Aug.18 (49)
127	-0.6	0.0	-0.2	-0.3	+0.1	+0.3
128	+4.3	+0.1	-0.2	-0.5	-0.1	+2.6
129	-0.7	+0.2	-0.1	-0.4	-0.2	+0.8
130	-0.8	0.0	-0.2	-0.1	+0.2	+0.1
131	-0.4	+0.2	-0.1	-1.6	+0.3	+1.5
132	-0.3	0.0	-0.3	-1.3	+0.1	+2.2
133	-7.5	-0.3	-0.1	-0.3	0.0	+0.8
134	-4.6	-0.3	-0.2	0.0	-0.1	+0.4
135	-0.1	0.0	0.0	-1.4	+0.1	+1.5
136	-0.7	-0.3	0.0	-0.4	-0.1	+0.6
137	-0.5	0.0	-0.1	-0.9	0.0	+0.6
138	-3.6	-0.1	-0.1	+0.1	-0.1	+1.7
139	-0.9	0.0	-0.3	+0.2	-0.2	+0.2
140	-1.8	+0.2	-0.3	-0.2	-0.1	+0.9
141	-4.5	0.0	-0.3	-0.4	-0.2	-0.2
142	-6.5	-0.8	0.0	+0.1	-0.7	+1.2
143	-0.8	+0.2	-0.2	+0.1	-0.3	+1.3
144	-3.5	-1.3	-1.6	+0.1	+2.8	0.0
145	-1.2	-0.1	+0.5	-0.2	+0.2	+0.5
146	-0.7	-0.2	0.0	-0.2	+0.3	+0.4
147	+3.6	-1.1	+0.1	-0.3	0.0	+0.5
148	+6.2	0.0	-0.3	+0.1	+0.1	+0.8
149	+11.0	-0.9	-0.3	+0.1	+0.6	-0.2
150	+2.6	11.3	-11.5	+0.2	+0.1	+0.3
151	+4.4	+8.3	-8.4	0.0	+0.1	+0.2

101-Stake Row (Jan.-Aug.) (cm in depth)

Period No.	1 Jan.31- Mar. 1 (29 days)	2 Mar. 1- Apr. 1 (31)	3 Apr. 1- Apr.30 (29)	4 Apr.30- June 2 (32)	5 June 2- June30 (28)	6 June30- Aug.18 (49)
51	-1.0	+5.0	-4.7	-0.4	+0.1	+0.8
152	-0.7	-0.1	0.0	+0.1	0.0	+0.2
153	-0.5	0.0	-0.2	-0.5	+0.2	+0.7
154	-0.7	-0.2	-0.1	-0.3	0.0	+1.0
155	-1.2	+0.3	-10.0	+0.8	0.0	+6.9
156	+1.0	-4.7	-0.8	+4.5	-0.2	+2.1
157	-1.6	0.0	+0.2	+0.1	+0.2	+0.4
158	+2.2	+0.3	-0.2	+0.1	-0.1	+0.6
159	-0.5	-5.1	+5.6	+0.2	-0.2	+0.6
160	-3.6	-0.2	0.0	+0.4	+0.1	+5.9
161	-0.5	-0.2	-0.6	0.0	+0.2	+0.5
162	-3.0	-0.2	-0.1	0.0	+0.3	+1.5
163	-1.0	+0.2	-0.1	-0.2	+0.5	+0.4
164	-0.7	-0.1	+3.8	+0.3	-0.1	+0.5
165	-1.4	+0.1	+0.5	0.0	+0.1	+0.9
166	-1.2	-0.1	-0.1	-0.2	+0.2	+0.6
167	-1.6	-0.1	+5.0	+0.4	0.0	+0.2
168	-0.5	0.0	-0.1	-0.6	+0.5	+0.5
169	-0.8	0.0	+1.2	-0.1	0.0	+0.4
170	-1.0	0.0	+2.1	+0.3	-0.2	+0.7
171	-1.5	0.0	+0.9	+0.1	-0.5	+0.5
172	0.0	-0.3	-0.6	+0.2	+0.1	+0.3
173	-0.1	-0.2	-0.2	+0.1	+0.2	+0.2
174	-0.5	-0.1	-0.3	+0.2	0.0	+0.6
175	-0.7	+0.5	-0.5	+0.2	-0.5	+2.3

101-Stake Row (Jan.-Aug.) (cm in depth)

Period No.	1 Jan.31- Mar. 1 (29 days)	2 Mar. 1- Apr. 1 (31)	3 Apr. 1- Apr.30 (29)	4 Apr.30- June 2 (32)	5 June 2- June30 (18)	6 June30- Aug.18 (49)
176	-0.8	0.0	-0.2	0.0	+0.7	+0.5
177	-0.3	-0.2	-0.1	-0.4	-0.1	+1.0
178	-0.3	+0.1	-0.2	-1.3	+0.1	+1.6
179	-0.3	-0.2	-0.3	-0.5	-0.2	+1.3
180	-0.7	-0.5	+0.1	-0.3	0.0	-3.7
181	-0.4	-0.3	+0.3	-0.3	-0.3	+0.2
182	-0.2	0.0	+0.1	+0.1	0.0	0.0
183	-0.2	0.0	-0.1	0.0	0.0	-0.7
184	+0.1	-0.4	-0.1	-0.8	+0.1	+0.7
185	-1.1	-0.3	0.0	-1.0	0.0	+1.2
186	-0.4	-0.4	+4.9	-5.3	0.0	+0.7
187	-0.5	-0.2	0.0	-0.2	0.0	+0.5
188	-0.4	-0.1	-0.3	-0.5	0.0	+1.0
189	-0.7	-0.2	-0.1	-0.4	0.0	+1.1
190	-0.8	+9.9	-10.1	-0.1	-0.1	+1.1
191	-0.4	+17.4	-12.7	-5.7	-0.1	+1.4
192	-2.0	+17.5	-13.0	-5.3	0.0	+0.9
193	+0.1	+8.9	-9.3	-0.4	+0.1	+1.1
194	-1.0	+2.0	-2.3	+0.3	-0.3	+1.1
195	-0.7	+7.3	-2.6	-4.7	-0.3	+1.3
196	-0.8	+5.3	-5.5	+0.2	+0.2	+0.3
197	-1.0	+8.5	-8.5	-0.1	+2.0	+0.3
198	-2.6	+14.3	-14.6	+0.1	+1.6	+0.6
199	+2.5	-0.2	-0.1	+0.2	+2.0	+0.3
200	+2.2	-0.8	-0.1	+0.2	+1.0	+0.8
201	+4.7	+4.2	-4.5	+1.5	-0.4	+0.9
mean	-0.7	+1.9	-2.0	-0.2	+0.1	+0.8

101-Stake Row (Aug.-Dec.) (cm in depth)

Period No.	7 Aug.18- Aug.31 (13 days)	8 Aug.31- Sep.30 (30)	9 Sep.30- Oct.30 (30)	10 Oct.30- Nov.30 (31)	11 Nov.30- Dec.30 (30)	Total Jan.31- Dec.30 (333)
102	+0.8	+0.4	-0.5	+3.9	-5.6	-2.6
103	+0.3	+0.5	-0.4	+0.4	- 1.8	-2.5
104	+0.2	+0.1	-0.5	+1.2	+0.2	+2.1
105	+0.2	+0.5	-0.3	-0.5	+0.8	-0.2
106	+0.3	+0.3	+0.2	+0.5	+5.4	+5.3
107	+0.8	+0.5	+9.3	+0.3	+12.2	+18.4
108	+0.1	+0.4	+4.3	+3.6	+3.8	+11.7
109	+0.5	+0.2	+6.6	+4.4	+4.7	+14.1
110	-0.9	+20.2	+3.0	+10.7	-7.8	+23.7
111	+0.3	+1.2	+3.6	+7.7	-2.1	+10.3
112	+0.3	+3.0	+9.5	+4.0	-1.9	+13.9
113	+0.1	+7.7	+7.0	+1.8	-3.4	+11.1
114	0.0	+10.3	+17.4	-1.1	-1.7	+23.5
115	0.6	+9.9	+18.0	-1.3	-2.4	+23.4
116	+0.8	+12.9	+10.0	-1.2	-1.6	+19.3
117	+0.7	+6.1	+13.8	-1.6	+7.2	+24.6
118	+0.1	+0.9	+22.6	-0.8	+0.6	+23.0
119	+0.9	+5.1	+24.6	-2.5	-2.1	+25.8
120	+0.1	+0.5	+19.5	+6.3	-10.8	+14.2
121	+1.9	+0.6	+31.8	+2.1	-5.4	+30.8
122	+2.8	-2.9	+28.9	-0.8	-3.1	+28.0
123	+0.8	-0.1	+20.4	+3.2	-6.7	+16.8
124	+0.2	+0.1	+22.3	+15.3	-14.4	+20.0
125	0.2	+0.5	+22.7	+13.4	-15.9	+20.4
126	0.0	+1.9	+18.8	+11.8	-16.0	+15.8

101-Stake Row (Aug.-Dec.) (cm in depth)

Period No.	7 Aug.18- Aug.31 (13 days)	8 Aug.31- Sep.30 (30)	9 Sep.30- Oct.30 (30)	10 Oct.30- Nov.30 (31)	11 Nov.30- Dec.30 (30)	Total Jan.31- Dec.30 (333)
127	+0.3	+0.7	+14.4	+8.2	-8.0	+14.9
128	-1.9	+0.1	+19.5	-1.0	-1.9	+21.0
129	+0.2	+0.4	+15.1	-0.1	-1.0	+14.2
130	+0.4	+0.2	+17.7	+6.5	-9.3	+14.7
131	+0.1	+0.2	+13.4	+7.8	-8.8	+12.6
132	+0.1	+0.1	+13.6	+1.7	-7.8	+8.1
133	+0.2	+1.0	+14.5	-1.3	-3.9	+3.1
134	+0.4	+0.7	+9.8	-1.1	-2.3	+2.7
135	+0.2	0.0	+0.8	+2.3	-0.3	+3.1
136	+0.5	+0.1	-0.6	-0.2	-0.2	-1.3
137	+0.4	+0.1	-0.9	+2.9	-4.8	-3.2
138	-1.0	+0.2	+0.1	+7.7	-7.8	-2.9
139	-0.2	+0.1	+1.5	+5.0	-6.4	-1.0
140	+0.4	+1.1	+7.6	+9.3	-12.6	+4.5
141	+1.2	+10.4	+7.2	+2.2	-7.2	+8.2
142	-0.1	+2.8	+10.2	+3.5	-5.1	+4.6
143	+0.2	+1.4	+1.1	+8.8	-10.6	+1.2
144	+0.4	+5.6	-2.9	+16.1	-3.2	+12.5
145	+1.0	+2.3	-1.7	+18.2	-5.7	+13.8
146	+0.2	+0.3	+2.4	+16.8	-6.0	+13.3
147	+0.8	+0.2	-0.9	+13.7	-3.9	+12.7
148	+0.6	+12.8	+7.4	-0.7	-3.8	+23.2
149	0.0	+7.3	+0.2	+2.9	-6.9	+13.8
150	+0.2	+8.3	-0.3	+2.0	-0.8	+12.4
151	+0.4	+7.4	-1.0	+4.0	-3.5	+11.9

101-Stake Row (Aug.-Dec.) (cm in depth)

Period No.	7 Aug.18- Aug.31 (13 days)	8 Aug.31- Sep.30 (30)	9 Sep.30- Oct.30 (30)	10 Oct.30- Nov.30 (31)	11 Nov.30- Dec.30 (30)	Total Jan.31- Dec.30 (333)
51	+0.2	+5.0	+8.4	-0.5	-1.2	+11.7
152	+0.4	+1.5	+13.9	-0.5	-1.2	+13.6
153	0.0	+0.6	+10.3	-0.3	-0.2	+10.1
154	0.0	+0.1	+20.7	-1.7	-1.5	+17.3
155	-1.9	+4.5	+20.1	-0.9	-2.0	+16.6
156	-0.2	+2.5	+20.4	-0.7	-2.1	+21.8
157	-0.1	+5.3	+21.8	-0.9	-1.6	+23.8
158	-0.1	+6.2	+21.0	-0.9	-1.6	+27.5
159	+0.1	+3.4	+13.6	-0.6	-1.8	+15.3
160	-5.1	+2.8	+25.8	-1.6	-2.2	+22.3
161	+0.1	+0.1	+29.4	-1.3	-2.5	+25.2
162	-0.8	+0.2	+35.6	-11.1	-0.7	+21.7
163	-0.2	+0.6	+25.6	-1.1	-2.1	+22.6
164	-0.1	+0.3	+24.8	-2.2	-2.3	+24.2
165	+0.6	+1.1	+23.9	-0.8	-1.5	+23.5
166	-0.1	+0.9	+16.4	-1.9	-1.9	+12.6
167	-0.2	-0.2	+25.4	-1.1	-2.7	+25.1
168	-0.1	+0.1	+20.8	-3.9	-2.4	+14.3
169	0.0	+0.8	+14.6	-1.5	-2.0	+12.6
170	0.0	+0.5	+17.4	-1.7	-2.6	+15.5
171	+0.4	+0.3	+12.8	-0.9	+4.4	+16.5
172	+0.1	+0.3	+1.6	+8.6	+1.9	+12.2
173	0.0	+0.5	+9.9	+12.5	-4.5	+18.4
174	-0.1	+0.2	+12.9	+11.7	-5.4	+19.2
175	0.0	+0.5	+0.4	+24.1	-7.9	+18.4

101-Stake Row (Aug.-Dec.) (cm in depth)

Period / No.	7 Aug.18- Aug.31 (13 days)	8 Aug.31- Sep.30 (30)	9 Sep.30- Oct.30 (30)	10 Oct.30- Nov.30 (31)	11 Nov.30- Dec.30 (30)	Total Jan.31- Dec.30 (333)
176	+0.4	+1.6	-0.1	+15.8	-2.6	+15.3
177	0.0	+0.1	-0.3	+6.5	+9.3	+15.5
178	-0.2	+1.1	-1.7	+0.3	-1.4	-1.9
179	-0.1	+0.2	-0.6	-0.5	-0.9	-2.1
180	+4.9	+0.3	-1.0	-0.3	+3.6	+2.4
181	-0.1	+0.4	+4.6	-2.8	+4.0	+5.3
182	-0.1	+1.3	-1.0	+0.7	-1.1	-0.2
183	+0.1	+4.5	+1.3	-3.6	-1.9	-0.6
184	0.0	+0.2	+8.3	-4.4	-3.9	-0.2
185	+0.4	+0.3	+4.0	+0.5	-3.6	+0.4
186	+0.3	+0.2	+1.5	+3.6	-6.5	-1.4
187	0.0	+0.1	+10.8	-6.4	-1.9	+2.2
188	-0.1	+0.1	+12.0	-5.8	-1.6	+4.3
189	0.0	+0.2	+11.6	-2.8	-1.8	+6.9
190	+0.1	-0.1	+13.1	+1.7	-2.3	+12.4
191	-0.1	+0.2	+9.9	+9.2	-3.8	+15.3
192	-0.1	+1.9	+13.3	+11.9	-2.7	+22.4
193	+0.1	+1.9	+12.8	+7.2	-3.5	+19.0
194	-0.2	+0.5	+3.9	+13.1	-6.5	+10.6
195	-0.1	+10.3	+7.5	+3.2	-4.1	+17.1
196	-0.1	+2.1	+14.9	+7.3	-10.2	+13.7
197	-0.1	+1.3	+5.6	+11.8	-12.0	+7.8
198	0.0	0.0	+14.4	+0.6	-2.7	+11.7
199	-0.3	+10.6	+0.9	+19.7	-16.0	+19.6
200	-0.5	+0.9	+7.3	+9.3	-7.2	+13.1
201	+0.2	0.0	+13.0	-5.7	+0.8	+14.7
mean	+0.1	+2.2	+10.6	+3.2	-3.2	+12.8

VI. Temperature Profiles in Surface Snow Layer at Mizuho Station

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Kenji ISHIZAWA, Gooki IWASHITA, Hiroaki BABA

The measurements were made using platinum resistance thermometers placed in metal pipes, which were installed in 1979 by Wada *et al.*(1981) at several depths in a surface snow layer. A spot reading of the resistance for each thermometer was made twice a month with a standard digital voltmeter. The resistance was converted into temperature using a normal formula. The results are tabulated in Table VI-1.

Ohata *et al.* (1983) provided the latest data on the levels of the thermometers, which were determined on January 13, 1981. After that time, approximately 5 cm of snow accumulated on the surface in the following two years (Satow *et al.*, 1983; Takahashi, 1983), resulting in lowering of the thermometer levels by the same amount. The depths of the thermometers in January 1983, given in Table VI-1, were thus obtained by adding 5 cm to the depths in 1981. The change in the levels of the thermometers was monitored during the observation period in 1983 by measuring the accumulation/ablation of snow at the place below which the thermometers were located. The variation of the surface levels, however, was as small as ±2 cm throughout the year. It is considered, hence, that the change in depths of the thermometers was negligible for the year of 1983.

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Wada, M., Yamanouchi, T., Mae, S., Kawaguchi, S. and Kusunoki, K. (1981): POLEX-South data, Part 2, Micrometeorological data at Mizuho Station, Antarctica in 1979. JARE Data Rep., 62 (Meteorol. 9), 321p.

Table VI-1. Temperature profile at Mizuho Station.

(°C)

Depth in m	0.9	1.4	3.4	5.4	10.4
16 Feb.	-24.2	-25.2	-29.4	-33.2	-33.9
1 Mar.	-27.0	-26.7	-29.4	-32.7	-33.7
17 Mar.	-29.7	-29.2	-29.0	-32.2	-33.7
6 Apr.	-31.7	-31.2	-30.2	-31.9	-33.4
19 Apr.	-33.4	-32.2	-30.4	-31.9	-33.4
30 Apr.	-34.7	-33.4	-30.9	-31.9	-33.2
15 May	-35.2	-34.3	-31.4	-32.1	-33.3
2 June	-36.8	-35.9	-32.6	-32.4	-33.0
15 June	-38.1	-37.0	-33.3	-32.6	-33.2
30 June	-37.1	-36.9	-33.6	-32.9	-32.8
15 July	-36.9	-36.5	-34.6	-33.2	-33.1
3 Aug.	-38.8	-37.4	-34.6	-33.5	-32.8
18 Aug.	-40.5	-39.3	-35.2	-33.7	-33.0
31 Aug.	-38.4	-38.1	-35.7	-34.2	-33.0
21 Sep.	-37.2	-36.7	-35.4	-34.4	-33.2
30 Sep.	-37.9	-37.2	-35.2	-34.5	-33.4
15 Oct.	-36.7	-36.2	-34.8	-34.0	-32.9
30 Oct.	-33.8	-34.4	-33.2	-34.4	-32.9
15 Nov.	-33.8	-34.2	-33.0	-34.8	-33.8
30 Nov.	-30.8	-32.1	-32.9	-34.7	-33.8
15 Dec.	-29.2	-30.7	-33.8	-34.0	-33.9
30 Dec.	-27.1	-28.3	-32.3	-33.8	-33.8

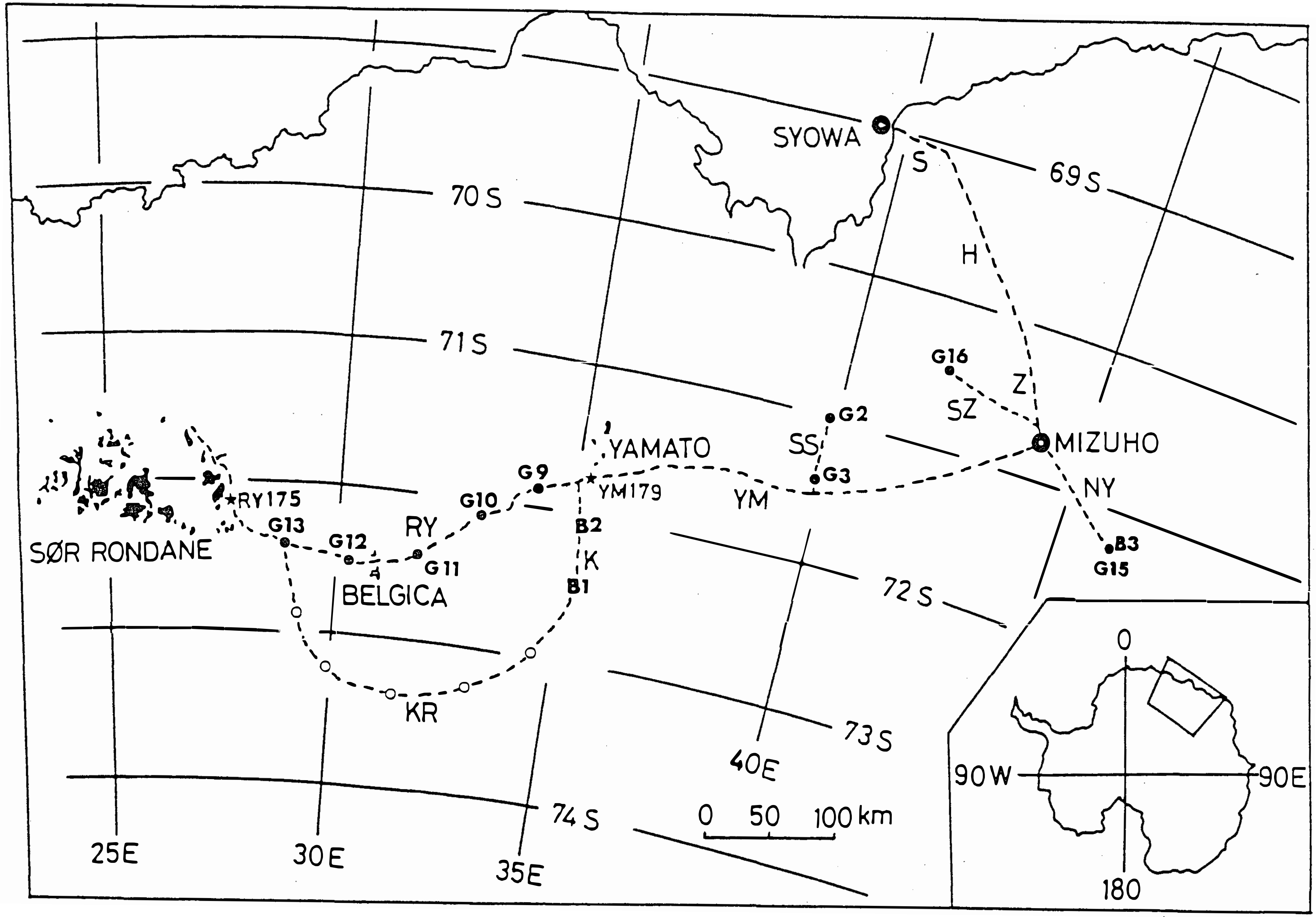

Fig. A. A map of the routes of the oversnow traverses in the Mizuho Plateau - East Queen Maud Land area by JARE-24 in 1983-1984.