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**Glaciological Data Collected by the 44th Japanese  
Antarctic Research Expedition during 2003-2004**

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**CONTENTS**

1. Outline of field observations during 2003-2004	2
2. Measurement of net snow accumulation by the stake method	5
3. Positions of ARP1 and Summit routes	26
4. Surface snow density at Dome Fuji	32
5. Snow temperature at Dome Fuji	33
6. Horizontal line survey around Dome Fuji	44
7. Snow crystals, ice crystals and blowing snow at Dome Fuji	46
8. Snow surface features from S16 to Dome Fuji	65
9. Surface meteorological data during oversnow traverses	86

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T. Kameda *et al.*

## 1. Outline of field observations during 2003-2004

A five-year glaciological program, the deep ice coring project II at Dome Fuji ( $77^{\circ}19'01''S$ ,  $39^{\circ}42'11''E$ ; 3810 m a.s.l.), East Antarctic ice sheet, was started in 2001. Shallow ice coring 112 m deep was carried out at Dome Fuji from November to December 2001 by the 42nd Japanese Antarctic Research Expeditions (JARE-42; Motoyama *et al.*, 2002). The coring site was about 42 m north from the first 2503 m deep ice coring hole during 1995-96 seasons by JARE-36 and -37. JARE-43 constructed a new ice coring shelter at Dome Fuji from November 2002 to January 2003 (Saito *et al.*, 2005, 2007).

In January 2003, the JARE-44 team started overwintering for preparation of deep ice coring and Glaciology, Meteorology and Upper Atmosphere Physics observations at Dome Fuji (Kameda *et al.*, 2005; Obinata, 2005). During 2003-04 five oversnow traverses were carried out by JARE-44 as shown in Table 1-1. Table 1-2 shows glaciological and meteorological observations conducted during the traverses. The participants for the traverses and their assignments in the JARE-44 program are listed in Table 1-3. Table 1-4 summarizes glaciological observations at Dome Fuji in the 2003-04 season. This report summarizes some of the results of glaciological observations carried out at Dome Fuji and also during the traverses.

We would like to express our sincere thanks to Dr. I. Obinata, Messrs. K. Takahashi, K. Taniguchi, T. Kurisaki and K. Nakano for their logistics support during our observations at Dome Fuji and during inland traverses. We also thank all other JARE-44 members who extended generous support. The final traverse was supported by JARE-45, led by Dr. H. Motoyama of the National Institute of Polar Research, Japan. Any use of trade, product or firm names in the report is for descriptive purposes only and does not imply endorsement by the authors.

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Table 1-1. Oversnow traverses carried out by JARE-44 from December 2002 to February 2004.

Traverse No.	from	Period to	Traverse route from to	Distance (km)	Number of participants	Type of oversnow vehicle and numbers
1	30 Dec. 2002	19 Jan. 2003	S16 Dome Fuji	1000	8	SM100(6)
2 - a	26 Sep. 2003	1 Oct.	Syowa Mizuho	255	7	SM100(3)
- b	2 Oct.	6 Oct.	Mizuho Syowa	255	7	SM100(3)
3 - a	21 Oct.	22 Oct.	Syowa H100	63	8	SM100(3)
- b	22 Oct.	24 Oct.	H100 Syowa	63	8	SM100(3)
4 - a	24 Nov.	28 Nov.	Dome Fuji ARP 1*	410	3	SM100(2)
- b**	1 Dec.	5 Dec.	ARP 1 Dome Fuji	410	8	SM100(2)
5***	23 Jan. 2004	6 Feb. 2004	Dome Fuji S16	1000	13	SM100(3)

\* ARP1: abbreviation of Air Relay Point 1 (73°44'06"S, 35°00'18"E, 3030 m).

\*\* Five members of JARE-45 were joined in the traverse No. 4-b.

\*\*\* Four members of JARE-45 were joined in the traverse No. 5.

Table 1-2. Glaciological and meteorological observations during oversnow traverses.

Item	Interval or site name	Traverse No.	Observers
Snow stakes along routes	2km, 5km**	1, 2, 4-a, 5	K. Fujita, G. Hashida, K. Torii and I. Ohinata
Stake farm	S16, H68, H180, S122 Z40, Mizuho, MD180 MD364 and MD560	1, 5***	K. Fujita and T. Kameda
Surface snow sampling	10km	1, 4-a, 5	T. Kameda, K. Fujita and K. Nakano
Photograph of surface snow	10km	1, 4-a, 5	T. Kameda and I. Ohinata
Set-up and maintenance of AWS*	S16, Mizuho, MD180, MD364 and MD550	1, 5	T. Kameda
Continuous GPS measurements	30 seconds (s)	5	T. Kameda
Meteorological observations	three times per day	1, 2-a, 2-b, 3-a, 3-b, 4, 5	O. Sugita, K. Torii, T. Takahashi and K. Nakano

\* AWS: abbreviation of Automatic Weather Station

\*\* ARP1 route

\*\*\* Stake farms at H68, H180, S122, Z40 were not measured.

Table 1-3. Participants in the oversnow traverses and their assignments in the JARE-44 program.

Name	Assignments	Traverse No.
Ichio Obinata*	Deputy leader, Medical doctor	1, 4-a, 4-b, 5
Takao Kameda*	Glaciology	1, 5
Koji Fujita*	Glaciology	1, 5
Kei Nakano*	Space and Atmospheric Sciences	1, 4-a, 4-b, 5
Akira Kadokura	Space and Atmospheric Sciences	3-a, 3-b
Kaoru Sato	Space and Atmospheric Sciences	3-a, 3-b
Gen Hashida	Atmospheric Science	2-a, 2-b
Okimasa Sugita*	Meteorology and Radio communication	1, 5
Katsuhiko Torii	Meteorology	2-a, 2-b
Takeshi Takahashi	Meteorology	3-a, 3-b
Kenji Taniguchi*	Mechanic	1, 5
Takashi Kurisaki*	Mechanic	1, 4-a, 4-b, 5
Kohichi Yamazaki	Mechanic	2-a, 2-b
Hiroyuki Kaneko	Mechanic	2-a, 2-b
Yasunori Utsumi	Mechanic	3-a, 3-b
Mitsuru Suzuki	Mechanic	3-a, 3-b
Kazuhsia Oshita	Radio communication	2-a, 2-b
Masato Sibasaki	Radio communication	3-a, 3-b
Kyo Takahashi*	Cook	1, 5
Yuki Furuhata	Cook	3-a, 3-b
Yukio Oda	Logistics	3-a, 3-b
Gen Sasaki	Broadcasting staff (NHK)	2-a, 2-b
Junji Matsuoka	Broadcasting staff (NHK)	2-a, 2-b

\* Overwintering members at Dome Fuji Station during 2003-04 seasons.

Table 1-4. Glaciological observations carried out at Dome Fuji from January 2003 to January 2004.

Item	Interval	Observers
Snow accumulation measurements (36-stake farm)	15 days	T. Kameda
Surface snow density	15 days	T. Kameda
Surface snow sampling	15 days	T. Kameda
Surface snow sampling for isotope measurements	daily	K. Fujita
Pit observation of deposited snow	3 times	T. Kameda and K. Fujita
Grain size of deposited snow	3 months	K. Fujita
Sublimation from snow surface	daily	T. Kameda
Densification rate for shallow snow layer	10 min	T. Kameda
Concentration and number of blowing snow by snow particle counter (SPC)	1 min	T. Kameda
Microscopic observation of snow and ice crystals	several days	T. Kameda and K. Fujita
Cloud condition by cielometer	15 s	K. Fujita
Snow temperature	10 min	T. Kameda and K. Fujita
Observation of yukimarimo	sometimes	T. Kameda
Friction of surface snow	several times	T. Kameda
Dew point temperature	10 min	T. Kameda and K. Fujita
Air temperature at Dome Fuji Station by naturally and solar battery ventilating shelters	10 min	T. Kameda
GPS measurements at Dome Fuji	monthly, continuous 2 to 3 days at 30 s interval	T. Kameda
Continuous GPS measurements from Dome Fuji to Summit (Summit route), and Summit to DF80 (DF route), and around Dome Fuji Station	one time, 30 s	T. Kameda
Horizontal line survey at Dome Fuji	one time	T. Kameda

## 2. Measurement of net snow accumulation by the stake method

Observers: Koji Fujita, Takao Kameda, Gen Hashida, Katsuhiko Torii and Ichio Obinata

Net accumulation of snow was measured by the stake method along the oversnow traverse routes in the 2003-04 season (Fig. 1).

### 2.1. Route Tottuki

Stake heights along the route from Syowa Station to Tottuki Point were measured in May and October 2003. Stake heights from Tottuki Point to S16 were measured on November 2002 by members of JARE-43 in February and October 2003. The height differences, which approximate the net balance of snow during the interval, are tabulated in Tables 2-1 and 2-2, respectively. The average value and its standard deviation (s.d.) for all measurements are shown as the last abscissa in Tables 2-1 and 2-2. The locations of these sites are also shown in Tables 2-1 and 2-2. Minimum readings of the stakes were 1 cm.

### 2.2. Route S-H-Z (Mizuho route)

Stake heights along the route were measured in January and October 2003, and January 2004. The height differences, which approximate the net snow balance during the intervals, are tabulated in Table 2-3. Minimum readings were 1 cm.

### 2.3. Route MD (Dome Fuji route)

Stake heights along the route from IM0 to MD732 were measured on January 2003 and January 2004. All data along the route are shown in Table 2-4. Minimum readings were 1 cm.

### 2.4. MD734 to DF80

Stake heights from MD734 to DF80 were measured on 1 March and on 16 December 2004. All data along the route are shown in Table 2-5. Minimum readings were 0.5 cm. Please refer to Kamiyama *et al.* (1994) for the positions of these sites.

### 2.5. DF72 to DF80 (Route DF, JARE-26 route)

Stake heights along the route from DF72 to DF79 were measured on 22 December 2003. Since the last measurements were done from 22 to 27 November 1997 by JARE-38 (Motoyama *et al.*, 1999), the data set gives the net accumulation for nearly six years. All data along the route are shown in Table 2-6. Average values for the annual net snow accumulation are also shown. Minimum readings were 0.5 cm. Please refer to Ageta *et al.* (1987) for the positions of these sites.

### 2.6. 36-stake farms, 50-stake row and 101-stake row along the route

Stake height of the 36-stake farms (100 m x 100 m in area, shown in Fig. 2) at S16, H68, H180, S122 and Z40 along the Mizuho route were measured on December 2002 (S16) and December 2003

(other sites) on the way to Dome Fuji Station. Stake farm at S16 was also measured on February 2004 during the traverse 5. The results of S16 are shown in Table 2-7. Due to strong wind condition at S16, some of the bamboo stakes were broken. Thus, missing data exist in Table 2-7. The last column of the table gives approximately the annual net accumulation of snow, and the last row gives averages and standard deviations of net accumulation of snow for each period. The other four site data including H68, H180, S122 and Z40 will be published in the next JARE Data Reports in Glaciology.

A 101-stake row located at Mizuho Station was measured on January 2003 and on January 2004. The results of the measurements are given in Table 2-8. The stake numbers are shown in Fig. 3. Some of the stakes were short, so we set up new stakes near the old ones.

50-stake rows were measured at MD180, MD364 and MD560 on January 2003 and on January 2004. 50-stake rows at DF80 were measured on 1 March and 16 December 2003. These 50-stake rows are perpendicular to the prevailing wind direction, and the distance between stakes is 2 m as shown in Fig. 4. The results are shown in Tables 2-9, -10, -11 and -12. Minimum readings of S16 and DF80 were 0.5 cm, and others were 1 cm.

## 2.7. 36-stake farm at Dome Fuji

A 36-stake farm at Dome Fuji was measured twice a month from 30 January 2003 to 15 January 2004. The stake farm is located 300 m northeast Dome Fuji Station buildings (Fig. 5). The snow stake configuration is the same as shown in Fig. 2. The results including the measurements on 13 January by JARE-43 are shown in Table 2-13. The last column of the table gives approximately the annual net accumulation of snow and its standard deviation, and the last row gives averages and standard deviations of the net accumulation of snow for each period. The data at the last lower corner (2.0) in Table 2-13 shows the standard deviation of all measurements from 13 January 2003 to 15 January 2004. The data above the corner (0.6) shows standard deviation of each stake height difference between 13 January 2003 and 15 January 2004. The data on the left side of the corner (5.1) shows standard deviation of the mean stake heights measured twice a month during the period. Minimum readings were 0.5 cm.

The results from 25 January 1995 to 15 January 1996 published in Azuma *et al.* (1997) mistook the number system of snow stakes (rows and lines were upside down), thus corrected data during the interval are reproduced in this report as shown in Table 2-14. The surface mass balance data at the 36-stake farm at Dome Fuji since 1995 is summarized in Kameda *et al.* (2007).

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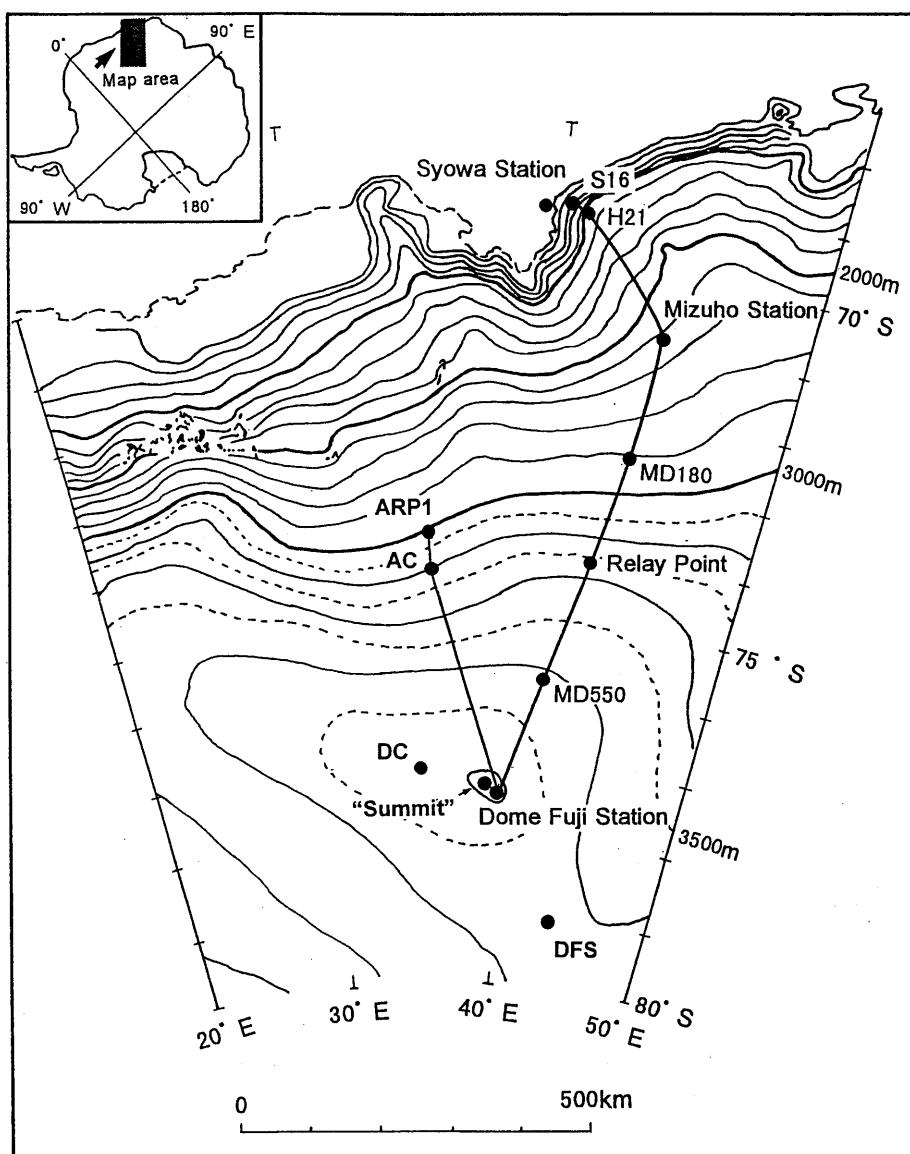


Fig. 1. Map showing the oversnow traverse routes traced by JARE-44.

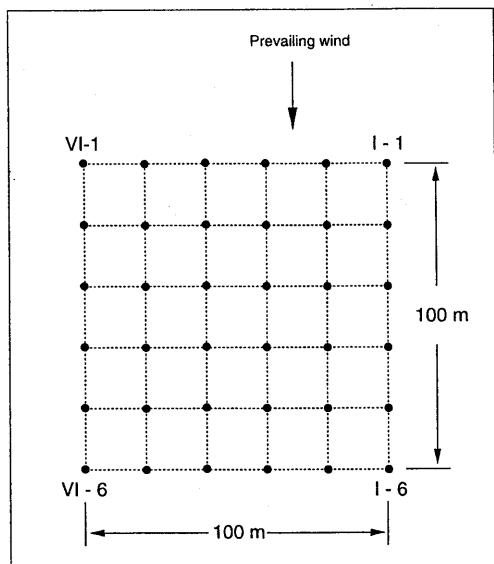


Fig. 2. 36-stake farm at S16, H68, H180, S122, Z40 and Dome Fuji.

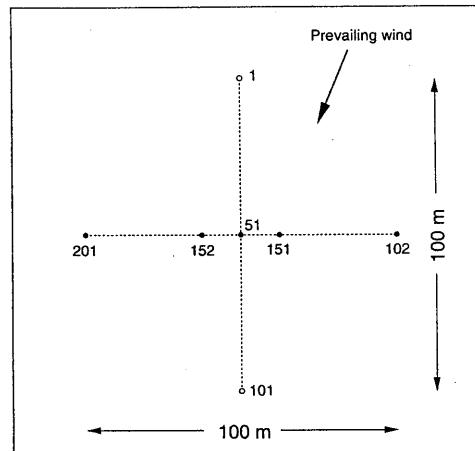


Fig. 3. 101-stake row at Mizuho Station.

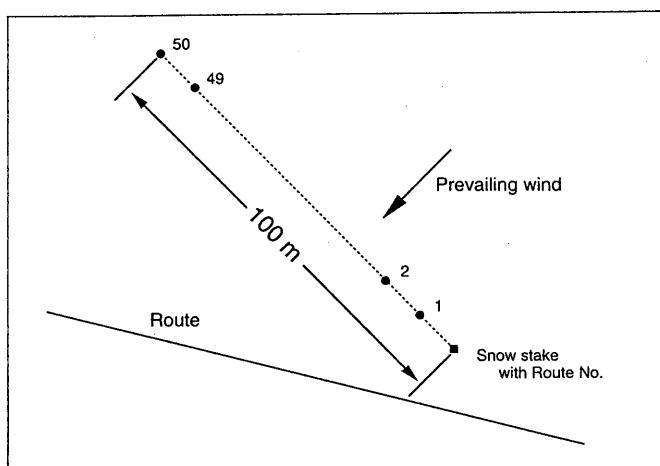


Fig. 4. 50-stake row at MD180, MD364, MD560 and DF80.

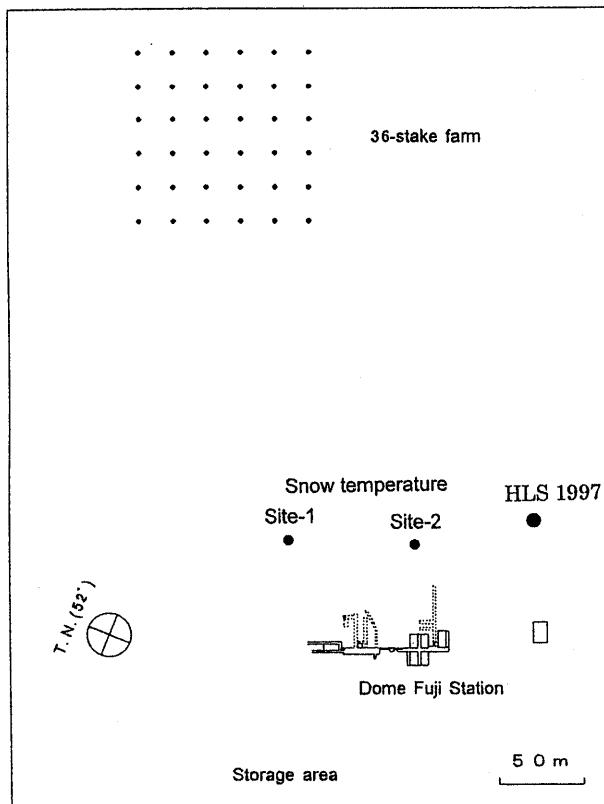


Fig. 5. Schematic diagram around Dome Fuji Station.

Table 2-1. Net snow accumulation from Syowa to Tottuki in 2003.

Station No.	Latitude (S) degree (°) minutes (')		Longitude (E) degree (°) minutes (')		(cm in depth) 26 May 2003 27 Oct. 2003 (154 days)
	68	58.376	39	40.068	
TT16	68	58.122	39	40.558	142
TT17	68	57.884	39	40.990	117
TT18	68	57.635	39	41.338	40
TT19	68	57.376	39	41.790	7
TT20	68	57.098	39	42.243	5
TT21	68	56.841	39	42.662	21
TT22	68	56.578	39	43.088	-1
TT23	68	56.325	39	43.490	6
TT24	68	55.995	39	43.778	75
TT25	68	55.797	39	44.393	23
TT26	68	55.643	39	45.049	20
TT27	68	55.499	39	45.814	16
TT28	68	55.355	39	46.557	4
TT29	68	55.153	39	47.106	59
TT30	68	54.982	39	47.656	23
TT31	68	54.914	39	48.415	-19
TT32	68	54.840	39	49.145	-4
				average	37.8
				s.d.	50.3

Table 2-2. Net snow accumulation from Tottuki to S16 in 2003.

Station No.	Latitude (S)		Longitude (E)		Elevation (m)	19 - 20 Nov. 2002	11 Feb. 2003	(cm in depth)
	degree (°)	minutes (')	degree (°)	minutes (')		11 Feb. 2003 (83 to 84 days)	27 Oct. 2003 (258 days)	
								27 Oct. 2003 (341 to 342 days)
N0	68	54.814	39	49.872	16	-	-	-
N1	68	54.904	39	49.902	32	-	18	-
N2	68	55.004	39	49.853	45	-	-	-
N3	68	55.100	39	49.843	57	-	17	-
N4	68	55.193	39	50.226	85	-	-5	-
N5	68	55.247	39	50.397	107	-	14	-
N6	68	55.333	39	50.723	133	-	-5	-
N7	68	55.377	39	50.901	135	-	-9	-
N8	68	55.586	39	51.467	166	-	59	-
N9	68	55.708	39	52.001	204	-	4	-
N10	68	55.719	39	52.571	216	-	53	-
N11	68	55.711	39	52.831	220	-	-1	-
N12	68	55.706	39	53.161	226	-	-38	-
N13	68	55.706	39	53.354	231	-22	20	-2
N14	68	55.842	39	53.657	247	-	30	-
N15	68	55.947	39	54.038	254	-	26	-
N16	68	56.038	39	54.311	270	2	15	17
P14	68	56.164	39	54.471	267	-	-	-
P15	68	56.380	39	54.732	281	-7	28	21
P16	68	56.557	39	54.735	291	-	11	-
P17	68	56.809	39	54.768	299	-	38	-
P18	68	57.100	39	54.782	307	-	-	-
P19	68	57.242	39	54.766	317	-	-	-
P20	68	57.432	39	54.740	320	-14	55	41
P21	68	57.594	39	54.736	320	-7	53	46
P22	68	57.766	39	54.717	318	-	36	-
P23	68	57.988	39	54.724	323	-	7	-
P24	68	58.058	39	55.011	333	-	-	-
P25	68	58.158	39	55.405	322	-12	32	20
P26	68	58.240	39	55.836	341	-19	53	34
P27	68	58.319	39	56.243	339	-	-	-
P28	68	58.416	39	56.659	372	-	-	-
P29	68	58.497	39	57.091	387	-	-	-
P30	68	58.580	39	57.507	404	-5	75	70
P31	68	58.671	39	57.920	411	-10	79	69
P32	68	58.779	39	58.471	424	-	-	-
P33	68	58.867	39	58.911	435	-	-	-
P34	68	58.960	39	59.313	439	-	-	-
P35	68	59.109	39	59.470	456	-9	81	72
P36	68	59.268	39	59.645	474	-10	65	55
P37	68	59.446	39	59.698	489	-	-	-
P38	68	59.630	39	59.819	496	-	-	-
P39	68	59.778	39	59.793	493	-	-	-
P40	68	59.960	39	59.857	492	-5	97	92
P41	69	0.184	39	59.945	503	1	68	69
P42	69	0.389	40	0.025	516	-	-	-
P43	69	0.539	40	0.335	513	-	-	-
P44	69	0.674	40	0.574	531	-	-	-
P45	69	0.796	40	0.717	530	-1	34	33
P46	69	0.960	40	1.020	527	7	69	76
P47	69	1.142	40	1.387	529	-	-	-
P48	69	1.346	40	1.746	554	-	-	-
P49	69	1.489	40	2.088	549	-	-	-
P50	69	1.624	40	2.418	560	0	102	102
S16	69	1.770	40	3.110	567	-	-	-
average						-6.9	35.8	50.9
s.d.						7.7	33.1	29.4

Table 2-3. Net snow accumulation along Route S-H-Z (Mizuho route) in 2003-04.

Stake No.	30 Dec. 2002 - 04 Jan. 2003 (265 to 275 days)	26 Sep. 2003 - 01 Oct. 2003 (125 to 135 days)	03 Feb. 2004 - 06 Feb. 2004 (395 to 403 days)	(cm in depth) 30 Dec. 2002 - 4 Jan. 2003 to 03 - 06 Feb. 2004 (395 to 403 days)
S16				
S17				
S18				
S19				
S20	71	-3		68
S21	66	-7		59
S22	80	-9		71
S23	92	-19		73
S24	91	-20		71
S25	91	-2		89
S26	55	-2		57
S27	74	-8		66
S28	65	-11		54
S29	69	-17		52
S30	102	-19		83
H3	103	-15		88
H9	63	-11		52
H15	73	5		78
H21	49	-11		38
H27	39	-10		29
H35	92	-16		76
H42	33	-10		23
H48	79	-9		70
H54	80	-12		68
H60	71	-14		57
H64	68	-9		59
H68	55	-14		41
H72	76	-6		70
H76	54	-11		43
H80	3	-5		-2
H84	49	-17		32
H88	52	-16		36
H92	47	-5		42
H96	57	-10		47
H100	71	-18		53
H104	31	-4		27
H108	37	-5		32
H112	49	-7		42
H116	52	-3		49
H120	25	-13		12
H124	38	-11		27
H128	50	-2		48
H132	47	-12		35
H136	48	-6		42
H140	48	-6		42
H144	53	-10		43
H148	32	-8		24
H152	52	-6		46
H156	18	-20		-2
H160	63	-5		58
H164	54	3		57
H168	39	2		41
H172	43	-13		30
H176	53	-10		43
H180	42	-2		40
H184	52	-4		48
H188	29	-10		19
H192	59	-7		52
H196	45	-7		38
H200	36	-9		27
H204	31	-12		19
H208	52	-13		39
H212	43	-5		38
H216	36	-9		27
H220	45	-15		30

Table 2-3 (continued).

Stake No.	30 Dec. 2002 - 04 Jan. 2003 (265 to 275 days)	26 Sep. 2003 - 01 Oct. 2003 (125 to 135 days)	03 Feb. 2004 - 06 Feb. 2004 (395 to 403 days)	30 Dec. 2002 - 4 Jan. 2003 to 03 - 06 Feb. 2004 (395 to 403 days)
H224	33	2		35
H228	40	-1		39
H232	33	-1		32
H236	33	-9		24
H240	17	-9		8
H244	46	-3		43
H248	35	-9		26
H252	42	-12		30
H256	71	-12		59
H260	39	6		45
H264	28	-6		22
H268	31	-5		26
H272	62	-9		53
H276	32	-3		29
H280	63	0		63
H284	49	-8		41
H288	13	-12		1
H293	22	1		23
H297	10	0		10
H301	22	-4		18
S122	15	-6		9
Z2	23	-6		17
Z4	28	-14		14
Z6	18	-24		-6
Z8	34	-6		28
Z10	-1	0		-1
Z12	36	-16		20
Z14	50	-16		34
Z16	10	-9		1
Z18	0	-5		-5
Z20	14	-10		4
Z22	41	2		43
Z24	34	-13		21
Z26	25	-12		13
Z28	9	4		13
Z30	-1	-5		-6
Z32	15	4		19
Z34	21	2		23
Z36	26	-11		15
Z38	-1	-5		-6
Z40	6	-6		0
Z42	13	-10		3
Z46	-4	-1		-5
Z50	41	-2		39
Z54	61	-18		43
Z58	14	-4		10
Z62	-2	4		2
Z66	46	-18		28
Z70	39	-10		29
Z72	7	-10		-3
Z74	-1	-5		-6
Z76	7	-9		-2
Z78	43	-3		40
Z80	27	-1		26
Z82	55	-9		46
Z84	15	-12		3
Z86	26	-15		11
Z88	37	-4		33
Z90	22	-7		15
Z92	52	-29		23
Z94	-2	0		-2
Z96	52	-8		44
Z98	3	-7		-4
Z100	39	-16		23
Z102	33	3		36

Table 2-4. Net snow accumulation along Route MD (Dome Fuji route) in 2003-04.

Stake No.	(cm in depth)		
	04 - 19 Jan. 2003	23 Jan. 2004	- 03 Feb. 2004
	369 to 395 days		
IM0			
IM1	18		
IM2	·6		
MD0	·6		
MD2	·6		
MD4	·6		
MD6	·6		
MD8	·4		
MD10	8		
MD12	16		
MD14	·8		
MD16	18		
MD18	73		
MD20	61		
MD22	18		
MD24	80		
MD26	45		
MD28	6		
MD30	8		
MD32	3		
MD34	9		
MD36	28		
MD38	32		
MD40	·6		
MD42	·5		
MD44	31		
MD46	22		
MD48	32		
MD50	33		
MD52	45		
MD54	·6		
MD56	·3		
MD58	·8		
MD60	46		
MD62	14		
MD64	4		
MD66	54		
MD68	11		
MD70	76		
MD72	52		
MD74	17		
MD76	26		
MD78	27		
MD80	10		
MD82	23		
MD84	17		
MD86	47		
MD88	24		
MD90	27		
MD92	·2		
MD94	·4		
MD96	·3		
MD98	34		
MD100	4		
MD102	31		
MD104	23		
MD106			
MD108	·6		
MD110	8		
MD112	21		
MD114	50		
MD116	31		
MD118	·3		
MD120	12		
MD122	17		
MD124		26	
MD126		83	
MD128		34	
MD130		22	
MD132		35	
MD134		16	
MD136		·3	
MD138		25	
MD140		9	
MD142		34	
MD144		30	
MD146		16	
MD148		67	
MD150		38	
MD152		46	
MD154		·4	
MD156		3	
MD158		6	
MD160		59	
MD162		28	
MD164		21	
MD166		·4	
MD168		51	
MD170		36	
MD172		29	
MD174		39	
MD176		86	
MD178		·3	
MD180		8	
MD182		·4	
MD184		·5	
MD186		12	
MD188		52	
MD190		61	
MD192		74	
MD194		·3	
MD196		·7	
MD198		·2	
MD200		·4	
MD202		4	
MD204		·2	
MD206		·3	
MD208		4	
MD210		·3	
MD212		·1	
MD214		10	
MD216		33	
MD218		·6	
MD220		·3	
MD222		30	
MD224		·4	
MD226		1	
MD228		46	
MD230		42	
MD232		6	
MD234		11	
MD236		·4	
MD238		29	
MD240		·2	
MD242		0	
MD244		·6	
MD246		2	
MD248		0	
MD250		28	
MD252		1	

Table 2-4 (continued).

Stake No.	(cm in depth)		
	04 - 19 Jan. 2003	23 Jan. 2004	- 03 Feb. 2004
	369 to 395 days		
MD254	1		
MD256	33		
MD258	-2		
MD260	29		
MD262	14		
MD264	28		
MD266	27		
MD268	51		
MD270	37		
MD272	43		
MD274	7		
MD276	-1		
MD278	8		
MD280	12		
MD282	9		
MD284	-1		
MD286	17		
MD288	-4		
MD290	17		
MD292	12		
MD294	4		
MD296	-2		
MD298	-2		
MD300	9		
MD302	56		
MD304	30		
MD306	18		
MD308	19		
MD310	34		
MD312	8		
MD314	52		
MD316	19		
MD318	23		
MD320	3		
MD322	8		
MD324	9		
MD326	18		
MD328	5		
MD330	2		
MD332	-2		
MD334	-1		
MD336	-2		
MD338	4		
MD340	15		
MD342	19		
MD344	-7		
MD346	47		
MD348	51		
MD350	15		
MD352	14		
MD354	-2		
MD356	31		
MD358	2		
MD360	20		
MD362	-1		
MD364	2		
MD366	16		
MD368	5		
MD370	16		
MD372	8		
MD374	28		
MD376	21		
MD378	29		
MD380	15		
MD382	38		
MD384	9		
MD386	0		
MD388	-3		
MD390	7		
MD392	2		
MD394	-2		
MD396	35		
MD398	3		
MD400	23		
MD402	16		
MD404	30		
MD406	15		
MD408	0		
MD410	-2		
MD412	22		
MD414	16		
MD416	21		
MD418	-2		
MD420	13		
MD422	11		
MD424	-2		
MD426	15		
MD428	33		
MD430	30		
MD432	48		
MD434	15		
MD436	5		
MD438	7		
MD440	15		
MD442	6		
MD444	-4		
MD446	35		
MD448	7		
MD450	2		
MD452	24		
MD454	-1		
MD456	-3		
MD458	11		
MD460	8		
MD462	4		
MD464	-3		
MD466	24		
MD468	14		
MD470	34		
MD472	12		
MD474	2		
MD476	7		
MD478	18		
MD480	12		
MD482	3		
MD484	28		
MD486	15		
MD488	4		
MD490	11		
MD492	7		
MD494	26		
MD496	6		
MD498	14		
MD500	16		
MD502	10		
MD504	-1		
MD506	8		
MD508	25		
MD510	12		
MD512	12		

Table 2-4 (continued).

Stake No.	(cm in depth)			(cm in depth)	
	04 - 19 Jan. 2003	23 Jan. 2004		04 - 19 Jan. 2003	23 Jan. 2004
	- 03 Feb. 2004	369 to 395 days		- 03 Feb. 2004	369 to 395 days
MD514	17		MD644	1	
MD516	1		MD646	9	
MD518	0		MD648	19	
MD520	2		MD650	26	
MD522	-1		MD652	9	
MD524	17		MD654	7	
MD526	1		MD656	6	
MD528	20		MD658	5	
MD530	12		MD660	3	
MD532	30		MD662	4	
MD534	14		MD664	1	
MD536	4		MD666	22	
MD538	9		MD668	-1	
MD540	18		MD670	2	
MD542	5		MD672	5	
MD544	16		MD674	6	
MD546	16		MD676	17	
MD548	8		MD678	12	
MD550	9		MD680	-2	
MD552	14		MD682	-2	
MD554	-2		MD684	11	
MD556	0		MD686	-1	
MD558	18		MD688	6	
MD560	17		MD690	9	
MD562	6		MD692	6	
MD564	33		MD694	14	
MD566	8		MD696	4	
MD568	4		MD698	5	
MD570	1		MD700	16	
MD572	14		MD702	8	
MD574	7		MD704	1	
MD576	-2		MD706	3	
MD578	12		MD708	2	
MD580	12		MD710	5	
MD582	16		MD712	-2	
MD584	12		MD714	7	
MD586	9		MD716	10	
MD588	5		MD718	11	
MD590	-1		MD720	9	
MD592	13		MD722	6	
MD594	18		MD724	2	
MD596	6		MD726	6	
MD598	9		MD728	1	
MD600	14		MD730	14	
MD602	19		MD732	5	
MD604	23				
MD606	16				
MD608	13				
MD610	7				
MD612	20				
MD614	19				
MD616	2				
MD618	2				
MD620	11				
MD622	23				
MD624	4				
MD626	18				
MD628	10				
MD630	-2				
MD632	0				
MD634	6				
MD636	2				
MD638	5				
MD640	12				
MD642	9				

Table 2-5. Net snow accumulation  
from MD734 to DF80 in 2003.

Stake No.	(cm in depth)	
	01 Mar. 2003	16 Dec. 2003
	290 days	
MD734	5.0	
MD736	8.5	
MD738	10.5	
DF80	9.0	

Table 2-6. Net snow accumulation along Route DF in 1997-2003.

Stake No.	22 - 27 Nov. 1997		22 Dec. 2003		(cm in depth)		Latitude (S) degree (°) minutes (')	Longitude (E) degree (°) minutes (')
	2216 to 2221 days (2218.5 days in average)	57.0	Convert to 365 days	9.4	77	15.485	39	13.038
72								
73	40.0	6.6		7.7	77	16.358	39	15.952
74	47.0	7.7		7.7	77	17.234	39	18.873
75	45.5	7.5		7.5	77	18.101	39	21.777
76	52.0	8.6		7.7	77	18.942	39	24.883
77	48.0	7.9		7.7	77	19.797	39	27.986
78	51.0	8.4		7.7	77	20.647	39	31.017
79	61.5	10.1		7.7	77	21.501	39	31.017
average	50.3	8.3						
s.d.	6.8	1.1						

Table 2-7. Net snow accumulation in the 36-stake farm at S16 in 2002-04.

Stake No.	(cm in depth)			
	12 Oct. 2002 29 Dec. 2002 (78 days)	29 Dec. 2002 06 Feb. 2004 (404 days)	12 Oct. 2002 06 Feb. 2004 (482 days)	
I - 1	-12.0	14.0	2.0	
I - 2	-3.5	-	-	
I - 3	-2.0	17.0	15.0	
I - 4	-6.5	19.5	13.0	
I - 5	-4.0	10.0	6.0	
I - 6	-5.0	-	-	
II - 1	0.0	16.0	16.0	
II - 2	-3.0	5.0	2.0	
II - 3	-4.0	24.0	20.0	
II - 4	-4.5	9.5	5.0	
II - 5	0.0	14.0	14.0	
II - 6	7.0	8.5	15.5	
III - 1	-2.5	14.5	12.0	
III - 2	-7.5	17.5	10.0	
III - 3	-7.5	21.0	13.5	
III - 4	-5.0	15.0	10.0	
III - 5	0.5	19.5	20.0	
III - 6	-2.0	3.0	1.0	
IV - 1	1.5	23.5	25.0	
IV - 2	2.0	19.0	21.0	
IV - 3	-5.5	31.5	26.0	
IV - 4	-4.5	18.5	14.0	
IV - 5	-7.5	-	-	
IV - 6	-4.5	28.5	24.0	
V - 1	-6.0	38.0	32.0	
V - 2	0.5	-	-	
V - 3	-12.0	25.0	13.0	
V - 4	-9.0	27.0	18.0	
V - 5	0.0	33.0	33.0	
V - 6	0.0	27.0	27.0	
IV - 1	-7.0	-	-	
IV - 2	-3.5	31.5	28.0	
IV - 3	-9.0	28.0	19.0	
IV - 4	-3.0	18.0	15.0	
IV - 5	-4.0	26.0	22.0	
IV - 6	-5.5	28.0	22.5	
average	-3.8	20.3	16.6	
s.d.	3.9	8.5	8.5	

Table 2-8. Net snow accumulation in the 101-stake farm at Mizuho Station in 2003-04.

Stake No.	(cm in depth)		
	04 Jan. 2003 03 Feb. 2004 (395 days)	04 Jan. 2003 03 Feb. 2004 (395 days)	
102	-7	152	-4
103	-5	153	-10
104	-8	154	-3
105	-4	155	-2
106	-4	156	0
107	-5	157	5
108	-4	158	10
109	-6	159	8
110	-3	160	8
111	-3	161	13
112	-4	162	19
113	-4	163	16
114	-9	164	24
115	-6	165	33
116	-5	166	31
117	-6	167	30
118	-6	168	32
119	-7	169	38
120	-4	170	45
121	-3	171	39
122	2	172	42
123	1	173	31
124	-1	174	25
125	-8	175	23
126	-3	176	21
127	-9	177	15
128	-16	178	5
129	-9	179	3
130	-9	180	-2
131	21	181	1
132	-4	182	3
133	-3	183	4
134	-6	184	4
135	13	185	-3
136	20	186	1
137	31	187	-1
138	27	188	-4
139	30	189	-7
140	30	190	-6
141	-2	191	-5
142	-8	192	-6
143	-11	193	-5
144	-8	194	-6
145	-6	195	-7
146	-6	196	-5
147	3	197	-5
148	8	198	-7
149	9	199	-5
150	2	200	-5
151	-2	201	-3
51	-4		
average		4.0	
s.d.		14.3	

Table 2-9. Net snow accumulation  
in the 50-stake row  
at MD180 in 2003-04.

(cm in depth)	
Stake No.	08 Jan. 2003 01 Feb. 2004 (389 days)
1	6
2	2
3	7
4	5
5	8
6	0
7	-4
8	10
9	-1
10	-7
11	4
12	-1
13	9
14	15
15	0
16	-4
17	-1
18	7
19	11
20	7
21	8
22	5
23	3
24	-1
25	-4
26	-3
27	-3
28	-3
29	-3
30	-3
31	-2
32	-4
33	-3
34	-4
35	-7
36	-4
37	-4
38	3
39	-5
40	-4
41	-4
42	-4
43	-4
44	5
45	2
46	-4
47	-1
48	0
49	-2
50	0
average	0.5
s.d.	5.2

Table 2-10. Net snow accumulation  
in the 50-stake row  
at MD364 in 2003-04.

(cm in depth)	
Stake No.	13 Jan. 2003 27 Jan. 2004 (379 days)
1	-1
2	-4
3	-2
4	-5
5	-5
6	-4
7	3
8	-2
9	2
10	-2
11	1
12	0
13	-2
14	-3
15	-2
16	6
17	5
18	8
19	-2
20	3
21	5
22	2
23	-1
24	4
25	15
26	26
27	30
28	15
29	18
30	11
31	4
32	0
33	2
34	11
35	18
36	19
37	16
38	14
39	-3
40	-2
41	1
42	12
43	-3
44	1
45	-4
46	-2
47	-3
48	5
49	1
50	2
average	4.2
s.d.	8.4

Table 2-11. Net snow accumulation  
in the 50-stake row  
at MD560 in 2003-04.

(cm in depth)	
Stake No.	16 Jan. 2003 24 Jan. 2004 (373 days)
1	15
2	17
3	12
4	24
5	15
6	16
7	3
8	-3
9	1
10	-2
11	-4
12	-2
13	5
14	7
15	-1
16	2
17	-7
18	-3
19	-3
20	-1
21	-3
22	0
23	-1
24	2
25	8
26	5
27	9
28	10
29	13
30	1
31	6
32	16
33	15
34	23
35	17
36	18
37	14
38	12
39	0
40	-2
41	2
42	-3
43	-2
44	-5
45	-2
46	0
47	-1
48	-1
49	10
50	20
average	5.4
s.d.	8.4

Table 2-12. Net snow accumulation in the 50-stake row at DF80 in 2001-03.

Stake No.					(cm in depth)
	19 Dec. 2001 01 Mar. 2003 (437 days)	01 Mar. 2003 16 Dec. 2003 (290 days)	19 Dec. 2001 16 Dec. 2003 (727 days)	Convert to 365 days value	
1	7.0	2.0	9.0	4.5	
2	6.5	6.5	13.0	6.5	
3	13.5	9.0	22.5	11.3	
4	13.0	4.5	17.5	8.8	
5	14.5	0.0	14.5	7.3	
6	14.0	-1.5	12.5	6.3	
7	11.0	3.5	14.5	7.3	
8	6.5	2.0	8.5	4.3	
9	10.0	3.0	13.0	6.5	
10	18.0	-2.0	16.0	8.0	
11	12.5	-2.0	10.5	5.3	
12	17.5	0.0	17.5	8.8	
13	16.5	-0.5	16.0	8.0	
14	15.5	0.5	16.0	8.0	
15	13.5	-2.0	11.5	5.8	
16	9.5	1.5	11.0	5.5	
17	13.0	-1.5	11.5	5.8	
18	13.0	-1.5	11.5	5.8	
19	11.5	3.5	15.0	7.5	
20	11.5	7.0	18.5	9.3	
21	8.5	11.5	20.0	10.0	
22	11.5	5.5	17.0	8.5	
23	12.0	10.0	22.0	11.0	
24	10.5	7.0	17.5	8.8	
25	14.5	4.5	19.0	9.5	
26	16.0	0.0	16.0	8.0	
27	13.5	0.5	14.0	7.0	
28	15.0	0.0	15.0	7.5	
29	13.0	4.5	17.5	8.8	
30	7.0	3.5	10.5	5.3	
31	11.0	-17.5	-6.5	-3.3	
32	12.5	7.0	19.5	9.8	
33	11.0	-1.0	10.0	5.0	
34	10.5	0.5	11.0	5.5	
35	8.5	3.0	11.5	5.8	
36	18.0	-10.5	7.5	3.8	
37	11.0	1.0	12.0	6.0	
38	8.0	12.0	20.0	10.0	
39	17.0	1.0	18.0	9.0	
40	7.0	12.0	19.0	9.5	
41	7.0	1.5	8.5	4.3	
42	5.5	2.5	8.0	4.0	
43	8.0	1.0	9.0	4.5	
44	8.0	3.0	11.0	5.5	
45	11.0	6.0	17.0	8.5	
46	13.0	1.0	14.0	7.0	
47	10.5	9.5	20.0	10.0	
48	12.0	4.0	16.0	8.0	
49	11.5	1.5	13.0	6.5	
50	17.0	-2.0	15.0	7.5	
average	11.8	2.3	14.0	7.0	
s.d.	3.3	5.1	4.9	2.4	

Table 2-13. Net snow accumulation in the 36-stake farm at Dome Fuji in 2003-04.

Stake No.		(cm in depth)									
		13 Jan. 30 Jan. 30 Jan. 15 Feb. 01 Mar. 15 Mar. 31 Mar. 15 Apr. 30 Apr. 15 May. 30 May.									
I - 1		0.5	1.5	-0.5	-1.0	1.0	2.0	0.5	-3.5	0.5	
I - 2		-2.0	1.5	0.5	0.0	-2.5	0.5	1.0	-2.0	1.0	
I - 3		0.0	1.0	2.0	0.0	0.0	-0.5	0.5	0.0	0.0	
I - 4		2.0	0.0	1.0	0.5	-0.5	0.5	0.5	-1.0	0.0	
I - 5		0.5	0.5	1.5	0.5	-1.0	1.5	-0.5	2.5	-3.5	
I - 6		-0.5	1.0	1.5	-1.0	-1.0	1.0	0.0	-1.0	3.5	
II - 1		1.0	1.5	0.0	-1.0	0.0	0.5	0.0	-1.5	1.0	
II - 2		1.0	1.0	-0.5	-1.5	1.0	2.0	0.0	-1.0	1.0	
II - 3		1.0	1.0	1.0	1.0	-1.5	2.0	-0.5	-1.5	-0.5	
II - 4		0.5	0.5	0.5	1.5	-1.5	0.5	-1.0	-0.5	0.0	
II - 5		0.0	1.5	0.5	1.0	-1.0	2.0	-1.0	10.5	0.0	
II - 6		1.5	7.5	0.5	-0.5	-0.5	0.5	0.0	1.0	-1.5	
III - 1		1.0	2.5	1.5	0.5	-2.0	0.5	0.5	0.0	-1.0	
III - 2		1.5	1.5	1.5	-0.5	1.0	3.5	-0.5	-4.0	6.5	
III - 3		1.5	1.0	1.0	0.0	-1.0	1.5	0.5	5.0	-1.0	
III - 4		1.0	-0.5	2.5	0.0	0.5	-1.0	0.5	-0.5	-0.5	
III - 5		-0.5	1.0	0.0	0.0	-1.0	-0.5	0.5	0.5	-0.5	
III - 6		3.5	2.0	1.0	-0.5	0.0	2.5	0.5	-3.5	4.0	
IV - 1		-1.0	0.0	0.0	-0.5	0.0	-0.5	0.0	-0.5	1.0	
IV - 2		2.5	0.0	1.5	0.0	0.5	0.0	0.5	2.0	-3.0	
IV - 3		0.5	1.0	0.5	-1.5	-0.5	0.5	0.5	0.0	0.0	
IV - 4		1.0	1.0	3.5	0.5	-2.0	2.0	0.0	-1.5	-0.5	
IV - 5		0.0	1.5	1.5	0.0	-1.0	0.5	0.0	-1.5	1.5	
IV - 6		3.0	2.5	0.0	1.0	-1.5	0.0	1.0	3.0	-2.5	
V - 1		0.0	0.5	0.0	-0.5	0.0	0.0	-0.5	0.5	0.0	
V - 2		0.0	2.0	1.0	0.5	-0.5	1.0	0.5	-1.0	-1.0	
V - 3		0.5	2.0	3.5	-1.5	-0.5	0.5	-0.5	1.5	1.0	
V - 4		0.0	0.5	1.0	1.0	-2.0	2.5	-1.5	-0.5	-1.5	
V - 5		1.0	5.5	0.0	-0.5	-0.5	0.0	0.0	12.5	-1.0	
V - 6		0.0	1.5	0.5	0.5	-2.5	1.0	2.5	-2.0	-1.0	
VI - 1		0.5	0.0	0.5	0.0	-0.5	0.0	0.5	-1.0	0.5	
VI - 2		0.0	0.5	0.5	-0.5	0.5	0.5	1.0	-2.5	1.0	
VI - 3		3.5	-0.5	1.5	-0.5	0.0	0.0	0.0	-0.5	-0.5	
VI - 4		0.5	0.0	2.5	-0.5	0.0	0.0	0.5	-1.0	0.5	
VI - 5		0.0	1.5	0.5	1.0	-1.0	0.0	1.0	-1.0	2.0	
VI - 6		0.0	3.0	1.5	0.5	-0.5	-0.5	0.5	0.5	-2.0	
average		0.7	1.3	1.0	-0.1	-0.6	0.7	0.2	0.2	0.1	
s.d.		1.2	1.5	1.0	0.8	0.9	1.0	0.7	3.3	1.9	

Table 2-13 (continued).

Stake No.	(cm in depth)												
	30 May. 14 Jun.	14 Jun. 30 Jun.	30 Jun. 15 Jul.	15 Jul. 30 Jul.	30 Jul. 15 Aug.	15 Aug. 30 Aug.	30 Aug. 15 Sep.	15 Sep. 30 Sep.	30 Sep. 15 Oct.	15 Oct. 30 Oct.			
I - 1	0.0	0.0	5.5	-1.5	0.0	1.5	0.0	-1.0	-0.5	0.0			
I - 2	1.5	-1.0	-1.5	3.0	-1.5	-1.5	0.0	2.5	0.0	-0.5			
I - 3	0.0	6.5	3.0	0.0	1.5	0.5	0.0	-1.0	6.5	0.5			
I - 4	0.0	0.0	0.0	1.5	-0.5	0.0	0.0	2.0	-2.0	0.5			
I - 5	1.0	-1.5	2.5	0.0	4.5	-0.5	0.5	0.5	0.0	0.0			
I - 6	0.0	-1.5	0.5	0.5	-1.5	4.0	0.5	1.0	-2.0	-0.5			
II - 1	-0.5	-0.5	5.0	-2.0	1.0	1.0	-0.5	-0.5	-0.5	0.5			
II - 2	0.0	0.0	-1.0	1.0	-1.5	0.0	0.0	0.0	3.0	0.5			
II - 3	-0.5	2.0	0.0	0.5	-1.0	-0.5	0.5	0.0	0.0	0.0			
II - 4	3.5	0.5	4.0	0.0	-3.5	1.5	0.0	1.0	-1.0	0.0			
II - 5	-0.5	0.0	-5.5	0.5	-2.0	0.5	0.0	-0.5	0.5	0.5	1.0		
II - 6	0.5	-0.5	0.0	0.0	0.0	0.5	-0.5	0.5	-0.5	0.5	0.5		
III - 1	0.5	-0.5	5.0	0.0	3.0	-0.5	0.0	0.5	-0.5	0.0			
III - 2	-1.0	0.5	4.5	0.0	3.0	-2.0	2.0	-1.5	0.5	0.0			
III - 3	0.0	-0.5	-3.5	0.5	-1.5	0.0	0.0	0.5	0.5	0.0			
III - 4	0.5	-0.5	15.5	0.5	-4.0	0.0	0.0	-0.5	1.0	0.5			
III - 5	0.0	0.0	1.5	2.5	-3.5	-0.5	0.0	0.5	-1.5	1.0			
III - 6	3.0	1.0	-5.5	0.0	-0.5	3.5	0.0	0.0	-0.5	0.0			
IV - 1	0.0	1.5	-1.5	0.0	0.0	-0.5	0.0	0.5	0.0	1.0			
IV - 2	1.5	-0.5	9.5	-0.5	7.0	0.5	0.0	-1.0	0.0	0.0			
IV - 3	0.5	-1.0	0.0	0.5	0.0	-1.0	0.0	1.0	0.5	-0.5			
IV - 4	1.0	-0.5	12.0	-0.5	-1.0	0.5	-0.5	0.5	-1.0	0.5			
IV - 5	-0.5	7.5	-6.0	-1.0	-0.5	1.5	0.5	-1.0	1.0	1.5			
IV - 6	-0.5	-1.0	6.5	1.0	-2.5	0.0	0.5	0.0	-0.5	0.5			
V - 1	0.5	-0.5	9.5	0.5	-6.5	0.0	0.0	0.0	1.0	0.5			
V - 2	0.0	0.0	2.0	-0.5	4.5	0.5	0.0	8.5	-3.0	0.0			
V - 3	0.0	-2.0	-0.5	0.5	1.5	1.0	0.5	0.0	0.0	0.0			
V - 4	1.5	1.0	2.5	0.5	-1.5	0.0	0.0	0.0	0.0	0.0			
V - 5	-0.5	-2.5	-1.5	0.0	0.0	-1.0	-0.5	1.5	0.0	-0.5			
V - 6	0.5	0.0	0.5	-1.0	0.5	-1.5	0.0	6.0	-2.5	-7.5			
VI - 1	0.5	-0.5	-0.5	1.5	-1.0	6.5	0.5	-1.0	0.0	0.0			
VI - 2	-7.5	9.0	5.0	0.5	0.0	1.5	0.5	1.0	0.0	0.0			
VI - 3	1.0	0.0	-0.5	1.0	-0.5	-1.0	0.0	0.0	1.0	0.0			
VI - 4	0.0	3.0	-2.5	-0.5	2.0	2.5	0.0	4.0	-2.0	0.0			
VI - 5	-1.0	-0.5	13.5	0.5	-3.5	0.0	0.0	0.5	0.0	0.0			
VI - 6	8.5	0.0	0.0	-0.5	0.0	2.0	1.5	-1.5	1.0	0.0			
average	0.4	0.5	2.2	0.3	-0.3	0.5	0.2	0.6	0.0	0.0			
s.d.	2.1	2.4	5.1	1.0	2.6	1.7	0.5	2.0	1.6	1.4			

Table 2-13 (continued).

Stake No.		30 Oct. 14 Nov. 30 Nov. 15 Dec. 30 Dec. 13 Jan. 2003						(cm in depth)
		14 Nov.	30 Nov.	15 Dec.	30 Dec.	15 Jan. 2004	15 Jan. 2004	
I - 1		1.0	-1.0	0.5	1.0	0.0	6.5	1.6
I - 2		0.5	0.0	1.5	-0.5	0.0	0.5	1.4
I - 3		-1.0	0.5	-0.5	0.0	0.0	19.5	2.0
I - 4		3.0	0.0	-0.5	1.0	0.0	8.0	1.0
I - 5		0.0	0.0	0.0	1.0	0.5	10.5	1.5
I - 6		1.0	1.0	0.0	0.5	0.5	7.5	1.4
II - 1		6.0	0.0	-0.5	0.0	0.0	10.0	1.8
II - 2		2.0	0.0	-0.5	0.5	0.0	7.0	1.1
II - 3		0.5	2.5	-2.5	1.0	0.5	5.0	1.2
II - 4		3.0	0.0	-0.5	0.0	0.0	9.0	1.6
II - 5		-1.5	1.0	-1.0	0.5	0.0	6.5	2.6
II - 6		0.5	-0.5	0.0	0.0	-0.5	8.5	1.6
III - 1		0.5	0.0	-0.5	0.0	0.0	11.0	1.4
III - 2		0.5	0.5	-1.5	0.0	0.0	16.0	2.2
III - 3		0.5	0.0	-0.5	0.0	0.0	4.5	1.5
III - 4		-1.0	2.0	-1.0	0.0	0.0	15.0	3.4
III - 5		1.0	1.5	-1.5	1.0	0.0	1.5	1.2
III - 6		0.5	1.0	-1.0	0.5	0.0	11.5	2.1
IV - 1		-1.0	0.5	3.5	0.0	-0.5	2.0	1.0
IV - 2		0.5	-0.5	-1.0	-0.5	-0.5	18.5	2.6
IV - 3		0.5	0.0	-0.5	2.5	1.5	5.0	0.8
IV - 4		-0.5	0.5	-1.0	0.0	0.0	14.0	2.7
IV - 5		0.5	-0.5	15.5	-0.5	0.5	21.0	3.8
IV - 6		2.5	0.0	5.0	0.0	-0.5	17.5	2.1
V - 1		0.5	0.0	2.5	0.5	0.5	9.0	2.5
V - 2		-1.0	0.5	-0.5	0.0	-0.5	13.0	2.2
V - 3		0.0	1.0	-1.0	1.5	1.0	10.0	1.2
V - 4		2.5	3.0	-0.5	0.0	0.0	8.5	1.3
V - 5		0.5	-0.5	1.5	-0.5	0.0	13.0	2.9
V - 6		13.0	0.5	-1.0	0.0	0.0	8.0	3.6
VI - 1		0.0	0.0	-0.5	4.0	0.0	10.0	1.6
VI - 2		0.5	0.0	1.0	0.5	0.0	13.0	2.7
VI - 3		0.0	0.0	0.0	1.0	0.0	5.0	0.9
VI - 4		0.0	0.5	1.5	2.5	0.5	14.0	1.5
VI - 5		-0.5	0.5	-0.5	0.0	1.0	14.0	3.0
VI - 6		0.0	0.0	1.5	-0.5	1.0	16.0	2.0
average		1.0	0.4	0.4	0.5	0.1	10.3	0.6
s.d.		2.5	0.8	3.0	0.9	0.5	5.1	2.0

Table 2-14. Net snow accumulation in the 36-stake farm at Dome Fuji in 1995-96.

Stake No.	Stake No.	(cm in depth)									
		25 Jan. 1995 15 Feb.	15 Feb. 28 Feb.	28 Feb. 15 Mar.	15 Mar. 30 Mar.	30 Mar. 15 Apr.	15 Apr. 30 Apr.	30 Apr. 15 May.	15 May. 30 May.		
I - 1	I - 1	1.0	-0.5	-0.5	0.5	0.5	-1.0	0.0	0.0	0.5	
I - 2	I - 2	0.5	2.0	0.0	-0.5	0.0	5.0	-1.0	-1.0	-3.0	
I - 3	I - 3	0.0	0.5	-0.5	0.0	0.5	1.5	0.5	0.5	0.0	
I - 4	I - 4	0.5	0.0	0.0	0.0	0.0	5.5	-1.0	-1.0	-2.0	
I - 5	I - 5	1.0	-1.0	0.5	0.0	0.5	0.5	-1.0	-1.0	-0.5	
I - 6	I - 6	-0.5	-0.5	-0.5	0.0	0.5	8.5	-1.5	-1.5	0.5	
II - 1	II - 1	1.5	0.0	0.0	-0.5	0.0	1.0	-0.5	-0.5	0.0	
II - 2	II - 2	1.0	-0.5	0.0	0.5	1.0	3.0	-2.0	-2.0	-0.5	
II - 3	II - 3	0.5	-0.5	1.0	1.0	0.5	0.0	-1.0	-1.0	12.5	
II - 4	II - 4	0.0	0.0	0.0	0.0	0.0	3.0	-2.0	-2.0	4.5	
II - 5	II - 5	2.0	-1.0	0.0	0.0	1.0	0.5	-1.0	-1.0	-0.5	
II - 6	II - 6	0.0	0.0	0.0	0.0	0.0	0.5	-0.5	-0.5	3.5	
III - 1	III - 1	0.5	0.0	3.0	-0.5	0.5	0.0	0.0	0.0	2.0	
III - 2	III - 2	1.0	-0.5	0.0	0.0	0.0	0.5	0.0	0.0	0.0	
III - 3	III - 3	1.0	-1.0	0.5	0.0	9.5	-1.0	-1.0	-1.0	-1.5	
III - 4	III - 4	1.5	-0.5	-0.5	0.5	0.0	0.0	0.0	0.0	0.0	
III - 5	III - 5	1.0	-0.5	1.5	-0.5	1.0	4.5	-1.0	-1.0	-2.0	
III - 6	III - 6	-0.5	0.0	0.5	0.0	0.0	0.0	-0.5	-0.5	-0.5	
IV - 1	IV - 1	0.5	-0.5	0.0	0.0	4.0	-1.5	-1.5	-2.5	0.0	
IV - 2	IV - 2	4.0	-0.5	0.0	0.0	0.5	0.5	-0.5	-0.5	-0.5	
IV - 3	IV - 3	-0.5	0.0	-0.5	0.0	0.5	0.0	-0.5	-0.5	9.0	
IV - 4	IV - 4	-0.5	3.0	0.0	-0.5	7.5	-6.5	-6.5	-6.5	0.0	
IV - 5	IV - 5	1.5	2.5	0.0	-0.5	1.5	2.5	-1.0	-1.0	-2.5	
IV - 6	IV - 6	1.0	0.5	-0.5	0.5	-0.5	0.0	0.0	0.0	6.0	
V - 1	V - 1	1.5	-0.5	3.5	-0.5	0.0	7.0	-2.5	-2.5	-1.0	
V - 2	V - 2	0.5	0.5	-0.5	0.0	2.0	-1.5	-1.5	-1.5	0.0	
V - 3	V - 3	1.5	-0.5	0.0	0.0	0.0	5.5	-1.0	-1.0	-1.0	
V - 4	V - 4	0.5	0.0	-0.5	0.0	0.0	1.0	-1.0	-1.0	3.5	
V - 5	V - 5	1.0	-0.5	0.0	0.5	0.5	1.0	-0.5	-0.5	1.5	
V - 6	V - 6	0.0	-0.5	0.0	0.0	0.5	1.0	-0.5	-0.5	-7.0	
VI - 1	VI - 1	1.5	0.0	1.0	-0.5	0.0	2.0	-2.0	-2.0	2.0	
VI - 2	VI - 2	1.0	7.0	1.5	0.0	-0.5	0.5	-0.5	-0.5	-0.5	
VI - 3	VI - 3	1.5	0.0	0.0	-0.5	0.5	-0.5	0.0	0.0	0.0	
VI - 4	VI - 4	0.0	3.5	1.0	0.5	-0.5	1.5	-1.0	-1.0	-0.5	
VI - 5	VI - 5	1.0	0.5	0.5	-0.5	4.0	-1.5	-1.5	-1.5	-1.0	
VI - 6	VI - 6	0.5	1.0	5.5	0.0	7.0	-5.5	-5.5	-5.5	-2.0	
average	average	0.8	0.3	0.4	0.0	1.2	1.0	-0.8	-0.8	0.5	
s.d.	s.d.	0.9	1.6	1.3	0.4	2.3	3.0	0.7	0.7	3.4	

Table 2-14 (continued).

Stake No.	(cm in depth)											
	30 May. 15 Jun.	15 Jun. 30 Jun.	30 Jun. 15 Jul.	15 Jul. 30 Jul.	30 Jul. 15 Aug.	15 Aug. 30 Aug.	30 Aug. 15 Sep.	15 Sep. 30 Sep.	30 Sep. 15 Oct.			
I - 1	14.0	-1.5	-9.5	4.0	-1.0	-0.5	0.5	0.5	0.5	-0.5		
I - 2	-1.5	0.0	8.0	-1.5	1.0	0.0	1.0	1.0	1.0	0.5		
I - 3	12.5	1.0	-8.0	-2.0	0.0	0.0	1.5	1.5	0.0			
I - 4	2.0	0.0	7.0	-5.5	0.0	-0.5	0.5	0.0	0.0	-0.5		
I - 5	0.0	0.0	0.0	3.5	0.0	1.0	-1.0	2.5	0.0	-1.5		
I - 6	-6.0	0.5	2.5	-4.0	1.0	0.5	0.5	0.0	0.0	1.5		
II - 1	-1.0	0.5	0.0	4.5	0.0	0.0	0.0	0.5	0.5	-0.5		
II - 2	7.0	0.0	-9.0	6.0	0.0	1.0	0.5	5.0	5.0	-4.0		
II - 3	-10.0	12.0	-12.5	-0.5	0.0	0.5	0.0	0.5	0.5	4.0		
II - 4	3.0	0.5	-2.0	-3.5	0.5	0.0	1.5	1.5	1.5	-2.0		
II - 5	0.0	0.0	3.0	0.5	0.5	0.5	0.0	0.5	0.5	0.0		
II - 6	-2.0	0.0	-0.5	1.0	-0.5	0.5	0.0	0.5	0.5	6.0		
III - 1	-3.0	0.5	5.0	-3.5	0.0	-0.5	0.5	2.5	2.5	9.0		
III - 2	-1.0	0.5	0.0	0.0	0.0	0.0	0.5	0.0	0.0	-0.5		
III - 3	-5.5	1.0	13.5	-6.0	-0.5	0.0	1.0	1.0	1.0	-1.5		
III - 4	1.0	0.0	-0.5	0.0	-0.5	0.0	0.0	0.0	0.0	0.5		
III - 5	-2.5	0.5	5.0	7.5	0.0	0.0	0.5	0.0	0.0	0.0		
III - 6	2.0	0.5	-2.5	1.5	-0.5	2.0	-1.0	0.0	0.0	1.0		
IV - 1	19.0	0.0	-17.5	-0.5	1.5	1.5	0.5	1.5	4.0			
IV - 2	-0.5	0.5	0.0	4.5	0.0	-0.5	0.5	0.0	0.0	0.0		
IV - 3	-9.0	2.5	-1.5	7.0	3.0	-2.5	0.0	0.0	0.0	0.5		
IV - 4	0.0	0.0	4.5	9.5	0.0	-0.5	0.5	0.0	0.0	0.5		
IV - 5	-1.0	-0.5	4.0	-3.5	4.5	-2.0	1.5	0.5	0.5	-1.5		
IV - 6	-6.5	0.0	0.5	5.5	0.0	0.0	0.0	0.0	0.0	0.5		
V - 1	-1.5	0.5	-1.0	9.5	0.5	0.5	-0.5	1.5	1.5	-1.5		
V - 2	-0.5	0.0	2.5	-2.5	0.5	0.0	0.5	3.0	3.0	4.0		
V - 3	-2.0	4.5	3.5	-5.5	1.5	-1.5	0.0	1.0	1.0	-1.0		
V - 4	15.0	-0.5	-12.0	-5.5	4.5	-0.5	1.5	-0.5	-0.5	-3.0		
V - 5	-3.5	0.0	0.5	0.0	1.0	0.0	3.5	1.0	7.0			
V - 6	7.5	-1.0	3.5	-3.5	0.5	0.5	-0.5	0.5	0.5	0.0		
VI - 1	3.5	-0.5	2.0	-5.0	6.5	-1.0	0.0	1.0	1.0	5.0		
VI - 2	3.5	5.5	-8.5	-1.0	0.0	0.0	2.0	1.0	1.0	-2.0		
VI - 3	0.0	0.5	-0.5	5.0	0.0	0.0	0.5	1.0	0.5	0.5		
VI - 4	-0.5	0.0	4.0	-4.0	0.5	0.0	0.0	0.5	0.5	-0.5		
VI - 5	23.5	0.0	-11.5	-2.0	6.0	-2.0	-0.5	0.5	0.5	-2.5		
VI - 6	-4.5	0.5	4.0	-2.0	0.5	0.0	1.0	0.5	1.5			
average	1.4	0.8	-0.8	0.3	0.9	-0.1	0.5	0.8	0.6			
s.d.	7.4	2.3	6.5	4.5	1.8	0.9	0.9	1.1	2.8			

Table 2-14 (continued).

Stake No.	(cm in depth)									
	15 Oct. 30 Oct.	30 Oct. 15 Nov.	15 Nov. 30 Nov.	30 Nov. 15 Dec.	15 Dec. 30 Dec.	30 Dec. 15 Jan. 96	25 Jan. 1995 15 Jan. 1996			s.d.
I - 1	0.5	0.0	0.0	-0.5	0.0	0.0	6.5	3.7		
I - 2	2.5	-0.5	0.0	-0.5	0.5	-1.0	12.5	2.3		
I - 3	1.0	0.0	0.0	-0.5	4.0	-0.5	13.0	3.3		
I - 4	0.0	0.0	0.5	0.0	1.0	-1.5	6.0	2.3		
I - 5	0.0	0.0	3.5	-1.0	2.5	0.0	9.5	1.4		
I - 6	7.5	-0.5	-1.0	0.0	0.0	-1.5	7.5	3.0		
II - 1	0.0	0.0	0.0	0.0	0.0	-1.5	4.0	1.1		
II - 2	0.5	0.5	0.5	-0.5	0.5	-1.5	9.0	3.2		
II - 3	1.0	0.0	0.0	-0.5	0.5	-1.0	8.0	5.1		
II - 4	0.5	0.0	-0.5	0.0	2.0	0.0	7.0	1.8		
II - 5	0.0	0.0	0.0	0.0	1.0	0.0	6.5	0.9		
II - 6	0.5	0.0	-0.5	0.0	0.0	1.5	10.0	1.6		
III - 1	0.5	0.0	0.5	0.0	0.0	-1.5	15.5	2.5		
III - 2	0.0	0.0	0.0	0.0	1.5	-1.5	0.5	0.6		
III - 3	0.0	0.0	0.0	-0.5	1.5	0.5	11.0	4.0		
III - 4	0.0	-0.5	0.0	0.0	0.0	-0.5	0.5	0.5		
III - 5	-0.5	0.5	0.0	-0.5	0.0	-1.0	13.5	2.3		
III - 6	1.0	-0.5	0.0	0.0	-0.5	0.0	2.0	1.0		
IV - 1	0.5	0.0	-1.0	-0.5	1.0	-0.5	9.5	5.7		
IV - 2	0.0	0.0	0.0	-0.5	0.5	-0.5	7.5	1.3		
IV - 3	0.0	0.0	1.0	0.0	0.5	-2.0	7.5	3.3		
IV - 4	-0.5	0.0	0.0	0.0	-1.0	-1.5	14.0	3.1		
IV - 5	-1.0	0.0	-1.0	0.0	1.0	-0.5	4.5	2.0		
IV - 6	0.0	-0.5	1.0	-0.5	1.0	-1.0	7.0	2.3		
V - 1	0.5	0.0	0.0	-0.5	0.0	-0.5	15.0	2.7		
V - 2	-0.5	0.0	-0.5	-0.5	0.0	-1.5	5.0	1.5		
V - 3	1.0	0.0	0.0	0.5	3.5	1.5	11.5	2.3		
V - 4	3.0	0.0	-0.5	0.0	1.0	-0.5	5.5	4.5		
V - 5	0.0	-0.5	0.5	-1.5	-0.5	0.5	11.5	1.9		
V - 6	1.0	0.0	0.0	0.5	0.5	1.5	4.5	2.5		
VI - 1	0.0	0.0	-0.5	-0.5	0.0	-1.5	13.0	2.4		
VI - 2	1.0	0.0	0.0	1.0	-0.5	-0.5	10.0	2.8		
VI - 3	-0.5	-0.5	0.5	-0.5	1.5	-1.0	7.5	1.2		
VI - 4	0.0	0.0	0.0	0.0	1.0	-1.0	4.5	1.5		
VI - 5	-0.5	0.0	0.5	0.0	1.0	0.5	14.5	5.8		
VI - 6	0.0	0.0	0.0	-0.5	3.5	0.0	11.5	2.7		
average	0.5	-0.1	0.1	-0.2	0.8	-0.5	8.5	0.6		
s.d.	1.4	0.2	0.8	0.4	1.1	0.9	4.0	2.8		

### 3. Positions of ARP1 and Summit routes

Observers: Ichio Obinata, Takashi Kurisaki, Kei Nakano and Takao Kameda

Tables 3-1 and 3-2 show the positions of ARP1 and Summit routes. These routes were newly established by JARE-44. The ARP1 route connects Dome Fuji and Air Relay Point 1 (ARP1,  $73^{\circ}44'06"S$ ,  $35^{\circ}00'18"E$ , 3030 m). Three members of JARE-44 (Dr. I. Obinata and Messrs. T. Kurisaki and K. Nakano) established the route and constructed a snow runway at ARP1 in the 2003 season. Snow stakes and empty fuel drums were set along the route at 5 km and 10 km intervals, respectively. Special versions of Dornier DO 228-101 type aircraft (POLAR2 and POLAR4, Alfred-Wegener Institute for Polar and Marine Research, Federal Republic of Germany) landed at ARP1 on 30 November 2003, and five JARE-45 members (leader: Dr. H. Motoyama) arrived.

The Summit route connects between Dome Fuji and "Summit" ( $77^{\circ}14'57.83"S$ ,  $39^{\circ}14'00.49"E$ , ca. 3811 m a.s.l.). "Summit" is a tentative name, this site seems to be the highest point around Dome Fuji area as observed by satellite (personal communication with Dr. Shuji Fujita, NIPR) and GPS measurements by JARE-44. The distance between Dome Fuji and Summit along the route is 13.1 km. Snow stakes were installed along the route at each 2 km interval.

Table 3-1. Positions along the ARP1 route.

Station	Latitude (S) degree (°) minutes (')	Longitude (E) degree (°) minutes (')	Distance (km) from D/F	Remarks
1	77 18.540	39 41.760	1	MD732
3	77 17.542	39 39.944	3	
5	77 16.543	39 38.132	5	
7	77 16.044	39 37.227	7	stake
9	77 15.544	39 36.324	9	
11	77 14.545	39 34.522	11	
13	77 13.546	39 32.724	13	drum and stake
15	77 12.547	39 30.930	15	
17	77 11.547	39 29.142	17	
19	77 11.047	39 28.249	19	stake
21	77 10.547	39 27.357	21	
23	77 9.547	39 25.578	23	
25	77 8.547	39 23.803	25	drum and stake
27	77 7.547	39 22.032	27	
29	77 6.546	39 20.266	29	
31	77 6.046	39 19.385	31	stake
33	77 5.545	39 18.504	33	
35	77 4.544	39 16.747	35	
37	77 3.543	39 14.994	37	drum and stake
39	77 2.542	39 13.246	39	
41	77 1.540	39 11.502	41	
43	77 1.039	39 10.632	43	stake
45	77 0.539	39 9.763	45	
47	76 59.537	39 8.028	47	
49	76 58.534	39 6.297	49	drum and stake
51	76 57.532	39 4.571	51	
53	76 56.530	39 2.849	53	
55	76 56.028	39 1.990	55	stake
57	76 55.527	39 1.131	57	
59	76 54.524	38 59.418	59	
61	76 53.521	38 57.709	61	drum and stake
63	76 52.517	38 56.004	63	
65	76 51.514	38 54.304	65	
67	76 51.012	38 53.455	67	stake
69	76 50.510	38 52.607	69	
71	76 49.506	38 50.915	71	
73	76 48.502	38 49.228	73	drum and stake
75	76 47.498	38 47.544	75	
77	76 46.494	38 45.865	77	
79	76 45.991	38 45.026	79	stake
81	76 45.489	38 44.189	81	
83	76 44.484	38 42.518	83	
85	76 43.479	38 40.851	85	drum and stake
87	76 42.474	38 39.188	87	
89	76 41.469	38 37.530	89	
91	76 40.966	38 36.702	91	stake
93	76 40.463	38 35.875	93	
95	76 39.458	38 34.224	95	
97	76 38.452	38 32.578	97	drum and stake
99	76 37.446	38 30.935	99	
101	76 36.440	38 29.297	101	
103	76 35.936	38 28.479	103	stake
105	76 35.433	38 27.663	105	
107	76 34.427	38 26.032	107	
109	76 33.420	38 24.406	109	drum and stake
111	76 32.413	38 22.783	111	
113	76 31.406	38 21.165	113	
115	76 30.902	38 20.357	115	stake

Table 3-1 (continued).

Station	Latitude (S) degree (°) minutes (')	Longitude (E) degree (°) minutes (')	Distance (km) from D/F	Remarks
117	76 30.399	38 19.550	117	
119	76 29.391	38 17.940	119	
121	76 28.383	38 16.333	121	drum and stake
123	76 27.376	38 14.730	123	
125	76 26.368	38 13.131	125	
127	76 25.864	38 12.333	127	stake
129	76 25.360	38 11.536	129	
131	76 24.351	38 9.945	131	
133	76 23.343	38 8.358	133	drum and stake
135	76 22.334	38 6.775	135	
137	76 21.325	38 5.195	137	
139	76 20.821	38 4.407	139	stake
141	76 20.316	38 3.619	141	
143	76 19.307	38 2.047	143	
145	76 18.298	38 0.479	145	drum and stake
147	76 17.289	37 58.914	147	
149	76 16.279	37 57.354	149	
151	76 15.774	37 56.575	151	stake
153	76 15.269	37 55.797	153	
155	76 14.259	37 54.244	155	
157	76 13.249	37 52.694	157	drum and stake
159	76 12.239	37 51.148	159	
161	76 11.228	37 49.606	161	
163	76 10.723	37 48.836	163	stake
165	76 10.218	37 48.068	165	
167	76 9.207	37 46.533	167	
169	76 8.196	37 45.002	169	drum and stake
171	76 7.185	37 43.474	171	
173	76 6.174	37 41.950	173	
175	76 5.668	37 41.190	175	stake
177	76 5.162	37 40.430	177	
179	76 4.151	37 38.913	179	
181	76 3.139	37 37.400	181	drum and stake
183	76 2.127	37 35.891	183	
185	76 1.115	37 34.385	185	
187	76 0.609	37 33.633	187	stake
189	76 0.103	37 32.883	189	
191	75 59.091	37 31.384	191	
193	75 58.078	37 29.888	193	drum and stake
195	75 57.066	37 28.397	195	
197	75 56.053	37 26.908	197	
199	75 55.546	37 26.165	199	stake
201	75 55.040	37 25.423	201	
203	75 54.027	37 23.942	203	
205	75 53.014	37 22.464	205	drum and stake
207	75 52.000	37 20.990	207	
209	75 50.987	37 19.519	209	
211	75 50.480	37 18.785	211	stake
213	75 49.973	37 18.051	213	
215	75 48.959	37 16.587	215	
217	75 47.945	37 15.126	217	drum and stake
219	75 46.931	37 13.669	219	
221	75 45.917	37 12.215	221	
223	75 45.410	37 11.489	223	stake
225	75 44.902	37 10.764	225	
227	75 43.888	37 9.317	227	
229	75 42.873	37 7.873	229	drum and stake
231	75 41.858	37 6.433	231	

Table 3-1 (continued).

Station	Latitude (S) degree (°) minutes (')	Longitude (E) degree (°) minutes (')	Distance (km) from D/F	Remarks
233	75 40.843	37 4.995	233	
235	75 40.336	37 4.278	235	stake
237	75 39.828	37 3.561	237	
239	75 38.813	37 2.131	239	
241	75 37.797	37 0.703	241	drum and stake
243	75 36.782	36 59.279	243	
245	75 35.766	36 57.859	245	
247	75 35.258	36 57.149	247	stake
249	75 34.750	36 56.441	249	
251	75 33.734	36 55.027	251	
253	75 32.718	36 53.616	253	drum and stake
255	75 31.702	36 52.208	255	
257	75 30.686	36 50.803	257	
259	75 30.177	36 50.102	259	stake
261	75 29.669	36 49.402	261	
263	75 28.652	36 48.003	263	
265	75 27.635	36 46.608	265	drum and stake
267	75 26.619	36 45.217	267	
269	75 25.601	36 43.828	269	
271	75 25.093	36 43.135	271	stake
273	75 24.584	36 42.442	273	
275	75 23.567	36 41.060	275	
277	75 22.549	36 39.680	277	drum and stake
279	75 21.532	36 38.304	279	
281	75 20.514	36 36.931	281	
283	75 20.005	36 36.246	283	stake
285	75 19.496	36 35.561	285	
287	75 18.478	36 34.194	287	
289	75 17.460	36 32.830	289	drum and stake
291	75 16.442	36 31.469	291	
293	75 15.423	36 30.112	293	
295	75 14.914	36 29.434	295	stake
297	75 14.405	36 28.757	297	
299	75 13.386	36 27.405	299	
301	75 12.367	36 26.056	301	drum and stake
303	75 11.348	36 24.711	303	
305	75 10.329	36 23.368	305	
307	75 9.819	36 22.698	307	stake
309	75 9.310	36 22.029	309	
311	75 8.290	36 20.692	311	
313	75 7.271	36 19.358	313	drum and stake
315	75 6.251	36 18.027	315	
317	75 5.232	36 16.700	317	
319	75 4.722	36 15.037	319	stake
321	75 4.212	36 15.375	321	
323	75 3.192	36 14.053	323	
325	75 2.172	36 12.734	325	drum and stake
327	75 1.152	36 11.418	327	
329	75 0.131	36 10.104	329	
331	74 59.621	36 9.449	331	stake
333	74 59.111	36 8.794	333	
335	74 58.090	36 7.487	335	
337	74 57.069	36 6.182	337	drum and stake
339	74 56.049	36 4.880	339	
341	74 55.028	36 3.582	341	
343	74 54.517	36 2.933	343	stake
345	74 54.007	36 2.286	345	
347	74 52.985	36 0.993	347	

Table 3-1 (continued).

Station	Latitude (S) degree (°) minutes (')	Longitude (E) degree (°) minutes (')	Distance (km) from D/F	Remarks
349	74 51.971	35 59.636	349	drum and stake
351	74 50.977	35 58.062	351	
353	74 49.983	35 56.491	353	
355	74 49.486	35 55.707	355	stake
357	74 48.989	35 54.924	357	
359	74 47.995	35 53.359	359	
361	74 47.000	35 51.799	361	drum and stake
363	74 46.006	35 50.241	363	
365	74 45.011	35 48.687	365	
367	74 44.514	35 47.911	367	stake
369	74 44.016	35 47.136	369	
371	74 43.021	35 45.589	371	
373	74 42.026	35 44.045	373	drum and stake
375	74 41.030	35 42.504	375	
377	74 40.035	35 40.966	377	
379	74 39.537	35 40.198	379	stake
381	74 39.039	35 39.432	381	
383	74 38.043	35 37.900	383	
385	74 37.047	35 36.372	385	drum and stake
387	74 36.050	35 34.848	387	
389	74 35.054	35 33.326	389	
391	74 34.555	35 32.567	391	stake
393	74 34.057	35 31.808	393	
395	74 33.060	35 30.293	395	
397	74 32.063	35 28.781	397	drum and stake
399	74 31.066	35 27.272	399	
401	74 30.068	35 25.767	401	
403	74 29.570	35 25.015	403	stake
405	74 29.071	35 24.264	405	
407	74 28.073	35 22.765	407	
409	74 27.075	35 21.269	409	drum and stake
411	74 26.077	35 19.776	411	
413	74 25.079	35 18.286	413	
415	74 24.579	35 17.542	415	stake
417	74 24.080	35 16.799	417	
419	74 23.082	35 15.316	419	
421	74 22.083	35 13.835	421	drum and stake
423	74 21.084	35 12.357	423	
425	74 20.085	35 10.883	425	
427	74 19.585	35 10.147	427	stake
429	74 19.085	35 9.412	429	
431	74 18.086	35 7.943	431	
433	74 17.086	35 6.478	433	drum and stake
435	74 16.086	35 5.016	435	
437	74 15.086	35 3.557	437	
439	74 14.586	35 2.828	439	stake
441	74 14.086	35 2.100	441	
443	74 13.086	35 0.647	443	
445	74 12.086	34 59.197	445	drum and stake
AC	74 12.033	34 59.133	447	JARE26
449	74 11.012	34 59.188	449	
451	74 9.936	34 59.217	451	
453	74 9.399	34 59.232	453	stake
455	74 8.861	34 59.246	455	
457	74 7.785	34 59.275	457	
459	74 6.710	34 59.303	459	drum and stake
461	74 5.634	34 59.332	461	
463	74 4.559	34 59.361	463	

Table 3-1 (continued).

Station	Latitude (S) degree (°) minutes (')		Longitude (E) degree (°) minutes (')		Distance (km) from D/F	Remarks
465	74	4.021	34	59.375	465	stake
467	74	3.483	34	59.389	467	
469	74	2.408	34	59.418	469	
471	74	1.332	34	59.446	471	drum and stake
473	74	0.257	34	59.475	473	
475	73	59.181	34	59.503	475	
477	73	58.643	34	59.517	477	stake
479	73	58.106	34	59.531	479	
481	73	57.030	34	59.560	481	
483	73	55.954	34	59.588	483	drum and stake
485	73	54.879	34	59.616	485	
487	73	53.803	34	59.644	487	
489	73	53.266	34	59.658	489	stake
491	73	52.728	34	59.672	491	
493	73	51.652	34	59.700	493	
495	73	50.577	34	59.728	495	drum and stake
497	73	49.501	34	59.756	497	
499	73	48.426	34	59.784	499	
501	73	47.888	34	59.798	501	stake
503	73	47.350	34	59.812	503	
505	73	46.274	34	59.840	505	
507	73	45.199	34	59.867	507	drum and stake
ARP1	73	44.100	35	0.300	509	

Table 3-2. Positions along the Summit route.

Station	Latitude (S) degree (°) minutes (')		Longitude (E) degree (°) minutes (')		Distance (km) from D/F	Remarks
0	77	18.540	39	41.787	0	MD732
2	77	17.995	39	37.543	2	
4	77	17.449	39	33.332	4	
6	77	16.902	39	29.127	6	
8	77	16.354	39	24.928	8	
10	77	15.805	39	20.734	10	
12	77	15.255	39	16.547	12	
"Summit"	77	14.940	39	14.160	13.1	

#### 4. Surface snow density at Dome Fuji

Observer: Takao Kameda

Surface snow densities at Dome Fuji were measured twice a month from 30 January 2003 to 15 January 2004. Two types of snow sampler (rectangular and cylindrical shapes) were used. The rectangular type snow sampler (55.0 x 60.0 x 30.0 mm) was used from the surface to 3 cm depth, and cylindrical types (diameter 65 mm) were used from the surface to 10 cm and 20 cm depths. The weight of snow in the sampler was measured using an electronic balance (A&D Co. Ltd., Japan, Type GX-4000, minimum reading 0.01 g) using polyethylene vinyl. Errors of volume measurements are on the order of  $\pm 0.5 \text{ cm}^3$ , and that of weight is  $\pm 0.01 \text{ g}$ . Total error of the snow density measurements is thus  $\pm 0.002 \text{ g/cm}^3$ .

Table 4 shows results. All data are averages of two measurements. Snow densities were measured near the 36-stake farm.

Table 4. Surface snow density at Dome Fuji in 2003-04.

Date	Snow density ( $\text{g/cm}^3$ ) 0-3cm in depth	Snow density ( $\text{g/cm}^3$ ) 0-10cm in depth	Snow density ( $\text{g/cm}^3$ ) 0-20cm in depth
05 Feb. 2003	0.310	0.281	
15 Feb.	0.348	0.304	
01 Mar.	0.331	0.282	
15 Mar.	0.342	0.297	
31 Mar.	0.311	0.291	
16 Apr.	0.243	0.295	
30 Apr.	0.257	0.252	
16 May.	0.279	0.262	
30 May.	0.272	0.264	
14 Jun.	0.291	0.267	
30 Jun.	0.287	0.297	
15 Jul.	0.288	0.247	
30 Jul.	0.285	0.271	0.283
15 Aug.	0.248	0.230	0.262
30 Aug.	0.291	0.282	0.275
15 Sep.	0.279	0.266	0.287
30 Sep.	0.287	0.285	0.284
15 Oct.	0.278	0.263	0.271
30 Oct.	0.285	0.257	0.260
14 Nov.	0.299	0.275	0.273
30 Nov.	0.289	0.269	0.281
15 Dec.	0.367	0.348	0.307
30 Dec.	0.333	0.300	0.314
15 Jan. 2004	0.303	0.326	0.327
Average	0.296	0.280	0.285

## 5. Snow temperature at Dome Fuji

Observers: Takao Kameda and Koji Fujita

Snow temperatures at Dome Fuji were measured at depths of 0, 0.05, 0.1, 0.2, 0.4, 0.8, 1.2, 1.5, 2, 3, 6 and 11 m depths using platinum 100 ohm resistance sensors (3 wire type) with data logger (KADEC US6, Kona System Co. Ltd., Sapporo, Japan). The depths were measured on 5 February 2003. These measurements were carried out at the two sites (Site-1 and Site-2) shown in Fig. 5. The snow temperatures at six shallower depths were measured at Site-1 and snow temperatures at deeper six depths were measured at Site-2. The shallower six sensors were installed on 31 January 2003. The deeper six sensors were installed on 20 February 1995 by JARE-36 (Azuma *et al.*, 1997).

Table 5-1 shows snow temperature data at Dome Fuji at 12 hour intervals. Snow sometimes accumulated on sensors, thus sensor depths were changed. The snow heights on the sensors are summarized in Table 5-2. The accumulated snow on the sensors at the surface was only removed as fast as we can. The minimum resolution of snow temperatures was 0.01°C. The data logger was located in a room of Dome Fuji Station where air temperature ranges from about 15 to 25°C.

### Reference

Azuma, N., Kameda, T., Nakayama, Y., Tanaka, Y., Yoshimi, H., Furukawa, T. and Ageta, Y. (1997): Glaciological data collected by the 36th Japanese Antarctic Research Expedition during 1995-1996. JARE Data Rep., 223 (Glaciology 26), 83 p.

Table 5-1. Snow temperature at Dome Fuji from 7 February 2003 to 17 January 2004.

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/2/7	0:00							-43.87	-46.19	-48.08	-52.54	-57.18	-57.15
2003/2/7	12:00							-43.89	-46.19	-48.06	-52.52	-57.17	-57.15
2003/2/8	0:00							-43.91	-46.18	-48.04	-52.48	-57.15	-57.15
2003/2/8	12:00							-43.93	-46.18	-48.02	-52.45	-57.14	-57.15
2003/2/9	0:00	-46.85	-41.64	-40.14	-39.78	-40.74	-42.46	-43.97	-46.19	-48.02	-52.43	-57.14	-57.16
2003/2/9	12:00	-35.18	-40.75	-41.48	-41.25	-40.90	-42.54	-44.00	-46.19	-48.00	-52.40	-57.12	-57.17
2003/2/10	0:00	-48.42	-42.70	-41.46	-40.85	-41.22	-42.62	-44.02	-46.19	-47.99	-52.37	-57.12	-57.17
2003/2/10	12:00	-36.78	-42.67	-43.17	-42.49	-41.51	-42.68	-44.04	-46.19	-47.98	-52.33	-57.10	-57.17
2003/2/11	0:00	-51.00	-44.45	-42.85	-41.96	-41.92	-42.80	-44.07	-46.19	-47.96	-52.29	-57.08	-57.16
2003/2/11	12:00	-37.22	-43.67	-44.35	-43.57	-42.22	-42.90	-44.10	-46.19	-47.95	-52.26	-57.07	-57.16
2003/2/12	0:00	-50.65	-44.74	-43.30	-42.64	-42.61	-43.05	-44.15	-46.20	-47.94	-52.24	-57.06	
2003/2/12	12:00	-37.57	-43.96	-44.68	-44.04	-42.81	-43.20	-44.21	-46.21	-47.93	-52.19	-57.04	-57.16
2003/2/13	0:00	-51.44	-45.74	-44.15	-43.24	-43.12	-43.36	-44.26	-46.22	-47.91	-52.16	-57.03	-57.17
2003/2/13	12:00	-37.97	-44.29	-45.02	-44.49	-43.32	-43.50	-44.34	-46.24	-47.91	-52.14	-57.00	-57.16
2003/2/14	0:00	-52.36	-46.36	-44.72	-43.76	-43.57	-43.67	-44.40	-46.26	-47.90	-52.10	-56.98	-57.15
2003/2/14	12:00	-40.03	-45.70	-46.20		-43.82	-43.82	-44.49	-46.28	-47.89	-52.06	-56.96	-57.15
2003/2/15	0:00	-53.67	-47.46	-45.76	-44.31	-44.15	-43.99	-44.57	-46.30	-47.89	-52.03	-56.95	-57.16
2003/2/15	12:00	-40.46	-46.14	-46.71	-45.84	-44.40	-44.13	-44.65	-46.33	-47.90	-52.02	-56.94	-57.16
2003/2/16	0:00	-52.55	-47.50	-46.07	-45.07	-44.71	-44.31	-44.75	-46.37	-47.90	-51.99	-56.98	-57.16
2003/2/16	12:00	-42.11	-46.87	-47.25	-46.30	-44.90	-44.47	-44.83	-46.42	-47.89	-51.96	-56.91	-57.15
2003/2/17	0:00	-55.01	-48.73	-46.97	-45.66	-45.20	-44.64	-44.94	-46.46	-47.90	-51.94	-56.90	-57.15
2003/2/17	12:00	-42.31	-48.13	-48.53	-47.28	-45.47	-44.79	-45.03	-46.50	-47.90	-51.91	-56.88	-57.14
2003/2/18	0:00	-54.76	-48.87	-47.33	-46.23	-45.80	-44.98	-45.14	-46.54	-47.92	-51.89	-56.86	-57.15
2003/2/18	12:00	-40.52	-47.47	-48.31	-47.58	-45.98	-45.14	-45.25	-46.58	-47.93	-51.86	-56.84	-57.14
2003/2/19	0:00	-40.08	-41.95	-43.44	-45.27	-46.05	-45.32	-45.36	-46.65	-47.94	-51.84	-56.83	-57.15
2003/2/19	12:00	-34.01	-40.79	-42.65	-44.20	-45.42	-45.49	-45.48	-46.69	-47.96	-51.82	-56.82	-57.14
2003/2/20	0:00	-43.15	-42.15	-42.20	-43.16	-44.94	-45.58	-45.59	-46.75	-47.97	-51.79	-56.80	-57.15
2003/2/20	12:00	-31.55	-39.54	-41.70	-43.36	-44.54	-45.58	-45.70	-46.80	-48.00	-51.77	-56.79	-57.15
2003/2/21	0:00	-44.93	-42.38	-41.60	-42.09	-44.15	-45.56	-45.77	-46.86	-48.02	-51.76	-56.78	-57.15
2003/2/21	12:00	-38.34	-42.91	-43.68	-43.54	-43.96	-45.48	-45.83	-46.93	-48.06	-51.73	-56.76	-57.15
2003/2/22	0:00	-52.83	-45.95	-44.19	-43.88	-44.14	-45.42	-45.87	-46.97	-48.08	-51.72	-56.75	-57.15
2003/2/22	12:00	-43.56	-47.56	-47.50	-45.75	-44.47	-45.36	-45.90	-47.03	-48.10	-51.71	-56.72	-57.15
2003/2/23	0:00	-57.04	-50.54	-48.16	-45.81	-45.09	-45.37	-45.91	-47.06	-48.13	-51.68	-56.71	-57.15
2003/2/23	12:00	-42.93	-48.31	-48.95	-47.56	-45.70	-45.45	-45.92	-47.10	-48.15	-51.67	-56.70	-57.15
2003/2/24	0:00	-52.31	-48.68	-47.52	-46.47	-46.10	-45.58	-45.94	-47.13	-48.17	-51.65	-56.68	-57.15
2003/2/24	12:00	-40.29	-46.10	-47.22	-46.83	-46.21	-45.73	-45.98	-47.16	-48.19	-51.64	-56.67	-57.15
2003/2/25	0:00	-46.87	-45.49	-45.51	-45.47	-46.23	-45.89	-46.04	-47.18	-48.21	-51.63	-56.65	-57.15
2003/2/25	12:00	-33.88	-41.73	-44.09	-45.27	-46.00	-46.10	-47.20	-48.23	-51.61	-56.64	-57.15	
2003/2/26	0:00	-46.82	-43.24	-42.71	-43.27	-45.59	-46.11	-46.19	-47.23	-48.24	-51.60	-56.63	-57.15
2003/2/26	12:00	-39.43	-43.53	-44.86	-44.28	-45.22	-46.13	-46.26	-47.27	-48.26	-51.59	-56.61	-57.15
2003/2/27	0:00	-48.07	-44.65	-44.13	-43.90	-45.24	-46.13	-46.32	-47.31	-48.28	-51.57	-56.59	-57.15
2003/2/27	12:00	-40.18	-44.72	-45.41	-44.86	-45.24	-46.10	-46.39	-47.36	-48.33	-51.57	-56.59	-57.15
2003/2/28	0:00	-47.96	-45.12	-44.63	-44.20	-45.36	-46.09	-46.42	-47.40	-48.34	-51.55	-56.57	-57.15
2003/2/28	12:00	-40.63	-45.26	-45.83	-45.11	-45.37	-46.09	-46.45	-47.43	-48.36	-51.54	-56.56	-57.15
2003/3/1	0:00	-45.96	-43.13	-43.14	-44.20	-45.48	-46.12	-46.47	-47.46	-48.38	-51.53	-56.54	-57.15
2003/3/1	12:00	-38.07	-43.04	-44.08	-44.65	-45.21	-46.14	-46.50	-47.49	-48.41	-51.51	-56.54	-57.15
2003/3/2	0:00	-49.87	-45.17	-44.14	-44.15	-45.12	-46.15	-46.52	-47.52	-48.43	-51.50	-56.52	-57.15
2003/3/2	12:00	-44.58	-47.34	-47.08	-45.92	-45.22	-46.13	-46.55	-47.54	-48.44	-51.50	-56.50	-57.15
2003/3/3	0:00	-56.67	-50.46	-48.21	-46.34	-45.68	-46.13	-46.56	-47.58	-48.47	-51.49	-56.50	-57.16
2003/3/3	12:00	-47.30	-51.06	-50.67	-48.52	-46.24	-46.17	-46.58	-47.60	-48.49	-51.48	-56.48	-57.16
2003/3/4	0:00	-56.63	-51.45	-49.81	-48.24	-46.91	-46.29	-46.59	-47.62	-48.50	-51.48	-56.45	-57.15
2003/3/4	12:00	-47.24	-50.81	-50.78	-49.38	-47.32	-46.43	-46.63	-47.64	-48.52	-51.48	-56.44	-57.14
2003/3/5	0:00	-54.05	-50.84	-49.81	-48.78	-47.71	-46.63	-46.69	-47.66	-48.53	-51.47	-56.42	-57.15
2003/3/5	12:00	-45.85	-49.80	-50.11	-49.38	-47.89	-46.81	-46.76	-47.70	-48.56	-51.47	-56.41	-57.15
2003/3/6	0:00	-56.16	-51.38	-49.86	-48.74	-48.04	-47.00	-46.85	-47.72	-48.57	-51.46	-56.40	-57.15
2003/3/6	12:00	-47.33	-50.96	-51.04	-49.91	-48.23	-47.16	-46.94	-47.76	-48.59	-51.45	-56.39	-57.15
2003/3/7	0:00	-55.44	-51.98	-50.67	-49.46	-48.51	-47.33	-47.03	-47.80	-48.61	-51.45	-56.38	-57.16
2003/3/7	12:00	-48.55	-51.54	-51.54	-50.42	-48.72	-47.48	-47.12	-47.85	-48.63	-51.44	-56.36	-57.15
2003/3/8	0:00	-56.87	-53.83	-51.96	-50.14	-48.98	-47.64	-47.23	-47.90	-48.65	-51.44	-56.35	-57.15
2003/3/8	12:00	-48.68	-53.35	-53.32	-51.58	-49.29	-47.79	-47.34	-47.95	-48.68	-51.44	-56.34	-57.16
2003/3/9	0:00	-61.88	-56.28	-53.90	-51.41	-49.68	-47.97	-47.43	-48.00	-48.69	-51.43	-56.32	-57.15
2003/3/9	12:00	-48.88	-54.09	-54.33	-52.76	-50.14	-48.15	-47.53	-48.07	-48.72	-51.43	-56.31	-57.14
2003/3/10	0:00	-59.73	-55.99	-54.25	-52.28	-50.49	-48.37	-47.65	-48.12	-48.76	-51.43	-56.30	-57.16
2003/3/10	12:00	-48.42	-53.90	-54.35	-53.13	-50.81	-48.56	-47.78	-48.19	-48.80	-51.44	-56.30	-57.15
2003/3/11	0:00	-58.80	-54.98	-53.64	-52.27	-50.97	-48.79	-47.90	-48.25	-48.83	-51.43	-56.27	-57.15
2003/3/11	12:00	-49.27	-54.09	-54.35	-53.12	-51.12	-48.98	-48.04	-48.34	-48.88	-51.43	-56.27	-57.16
2003/3/12	0:00	-60.03	-56.11	-54.38	-52.64	-51.28	-49.18	-48.16	-48.41	-48.90	-51.43	-56.25	-57.15
2003/3/12	12:00	-50.57	-55.92	-55.89	-54.03	-51.55	-49.35	-48.30	-48.48	-48.94	-51.42	-56.24	-57.16
2003/3/13	0:00	-60.06	-57.01	-55.46	-53.62	-51.87	-49.53	-48.42	-48.56	-48.99	-51.42	-56.22	-57.15
2003/3/13	12:00	-50.89	-55.68	-55.81	-54.42	-52.13	-49.71	-48.56	-48.64	-49.04	-51.42	-56.21	-57.15
2003/3/14	0:00	-60.11	-57.07	-55.61		-52.33	-49.90	-48.69	-48.72	-49.08	-51.42	-56.19	
2003/3/14	12:00	-51.87	-56.70	-56.61		-52.57	-50.10	-48.83	-48.81	-49.13	-51.43	-56.16	-57.15
2003/3/15	0:00	-64.35	-59.61	-57.42		-52.83	-50.28	-48.97	-48.89	-49.18	-51.43	-56.16	-57.15
2003/3/15	12:00	-53.74	-57.84	-57.87		-53.28	-50.46	-49.09	-48.98	-49.23	-51.43	-56.15	-57.15
2003/3/16	0:00	-54.14	-55.70	-55.55		-53.54	-50.67	-49.22	-49.08	-49.29	-51.43	-56.13	-57.15
2003/3/16	12:00	-46.60	-52.10	-53.51		-53.35	-50.87	-49.87	-49.16	-49.34	-51.44	-56.12	-57.15
2003/3/17	0:00	-51.91	-52.59	-52.44		-52.95	-51.04	-49.48	-49.25	-49.39	-51.44	-56.10	-57.14

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/3/17	12:00	-44.40	-49.09	-50.46		-52.47	-51.12	-49.63	-49.35	-49.44	-51.45	-56.09	-57.15
2003/3/18	0:00	-55.80	-52.73	-51.64		-51.90	-51.16	-49.76	-49.43	-49.49	-51.45	-56.08	-57.14
2003/3/18	12:00	-53.92	-54.49	-53.90		-51.87	-51.12	-49.86	-49.53	-49.66	-51.46	-56.07	-57.15
2003/3/19	0:00	-59.01	-56.05	-54.65		-52.14	-51.09	-49.94	-49.62	-49.63	-51.47	-56.06	-57.14
2003/3/19	12:00	-53.98	-55.81	-55.52		-52.47	-51.09	-50.02	-49.70	-49.68	-51.48	-56.05	-57.15
2003/3/20	0:00	-60.22	-57.58	-56.11		-52.77	-51.15	-50.07	-49.79	-49.74	-51.48	-56.04	-57.14
2003/3/20	12:00	-54.49	-56.51	-56.34		-53.12	-51.25	-50.13	-49.85	-49.81	-51.50	-56.02	-57.14
2003/3/21	0:00	-57.42	-56.26	-55.55		-53.33	-51.37	-50.19	-49.91	-49.86	-51.50	-56.01	-57.14
2003/3/21	12:00	-56.38	-56.74	-56.19		-53.41	-51.50	-50.28	-49.98	-49.92	-51.53	-56.00	-57.14
2003/3/22	0:00	-61.16	-58.49	-57.01		-53.64	-51.62	-50.36	-50.05	-49.97	-51.54	-55.99	-57.13
2003/3/22	12:00	-59.66	-59.45	-58.47		-53.99	-51.74	-50.43	-50.11	-50.03	-51.55	-55.98	-57.13
2003/3/23	0:00	-65.26	-60.88	-59.07		-54.46	-51.91	-50.53	-50.18	-50.08	-51.58	-55.96	-57.13
2003/3/23	12:00	-61.14	-61.34	-60.28		-54.96	-52.07	-50.63	-50.25	-50.14	-51.59	-55.95	-57.14
2003/3/24	0:00	-63.69	-61.48	-60.18		-55.45	-52.27	-50.73	-50.32	-50.19	-51.60	-55.94	-57.13
2003/3/24	12:00	-59.73	-61.28	-60.51		-55.78	-52.50	-50.88	-50.39	-50.25	-51.62	-55.93	-57.13
2003/3/25	0:00	-66.12	-62.15	-60.56		-56.07	-52.75	-50.97	-50.48	-50.30	-51.63	-55.92	-57.13
2003/3/25	12:00	-55.89	-59.35	-59.75		-56.35	-52.95	-51.12	-50.55	-50.36	-51.65	-55.90	-57.13
2003/3/26	0:00	-57.75	-58.05	-57.96		-56.34	-53.18	-51.26	-50.63	-50.41	-51.66	-55.88	-57.13
2003/3/26	12:00	-58.39	-58.75	-58.22		-56.10	-53.36	-51.40	-50.72	-50.48	-51.68	-55.88	-57.14
2003/3/27	0:00	-65.88	-61.70	-59.92		-56.11	-53.52	-51.54	-50.81	-50.54	-51.70	-55.87	-57.13
2003/3/27	12:00	-61.39	-62.31	-61.35		-56.46	-53.62	-51.68	-50.90	-50.60	-51.72	-55.86	-57.13
2003/3/28	0:00	-67.96	-63.82	-61.98		-56.90	-53.76	-51.81	-51.01	-50.65	-51.73	-55.85	-57.13
2003/3/28	12:00	-62.88	-63.70	-62.73		-57.38	-53.92	-51.93	-51.09	-50.73	-51.74	-55.84	-57.13
2003/3/29	0:00	-69.37	-65.08	-63.19		-57.78	-54.12	-52.05	-51.19	-50.79	-51.77	-55.83	-57.13
2003/3/29	12:00	-63.61	-64.42	-63.58		-58.20	-54.34	-52.19	-51.29	-50.85	-51.79	-55.82	-57.13
2003/3/30	0:00	-66.80	-64.84	-63.82		-58.63	-54.87	-52.33	-51.37	-50.92	-51.81	-55.81	-57.13
2003/3/30	12:00	-66.21	-65.89	-64.50		-58.82	-54.81	-52.47	-51.47	-51.00	-51.83	-55.79	-57.12
2003/3/31	0:00	-71.99	-67.94	-65.66		-59.21	-55.04	-52.63	-51.58	-51.06	-51.85	-55.79	-57.13
2003/3/31	12:00	-65.81	-66.38	-65.40		-59.74	-55.29	-52.78	-51.68	-51.14	-51.88	-55.78	-57.13
2003/4/1	0:00	-68.45	-65.78	-64.58		-59.96	-55.54	-52.95	-51.78	-51.20	-51.89	-55.76	-57.12
2003/4/1	12:00	-64.30	-64.99	-64.41		-60.11	-55.78	-53.12	-51.88	-51.28	-51.92	-55.76	-57.12
2003/4/2	0:00	-67.81	-65.56	-64.42		-60.17	-56.03	-53.28	-51.99	-51.35	-51.94	-55.75	-57.12
2003/4/2	12:00	-65.56	-66.01	-65.04		-60.31	-56.23	-53.46	-52.11	-51.42	-51.96	-55.73	-57.12
2003/4/3	0:00	-69.08	-66.41	-65.03		-60.50	-56.41	-53.62	-52.23	-51.50	-51.98	-55.73	-57.12
2003/4/3	12:00	-67.15	-67.14	-65.97		-60.74	-56.62	-53.79	-52.34	-51.60	-52.01	-55.72	-57.12
2003/4/4	0:00	-66.83	-66.13	-65.34		-61.01	-56.78	-53.93	-52.46	-51.67	-52.03	-55.71	-57.12
2003/4/4	12:00	-62.68	-64.23	-64.03		-61.05	-56.97	-54.08	-52.57	-51.75	-52.06	-55.70	-57.12
2003/4/5	0:00	-66.86	-64.65	-63.80		-60.90	-57.16	-54.24	-52.69	-51.84	-52.09	-55.69	-57.11
2003/4/5	12:00	-60.13	-62.79	-62.89		-60.83	-57.29	-54.40	-52.80	-51.93	-52.12	-55.68	-57.11
2003/4/6	0:00	-62.46	-61.50	-61.34		-60.52	-57.37	-54.52	-52.93	-52.00	-52.15	-55.67	-57.11
2003/4/6	12:00	-61.33	-61.85	-61.59		-60.21	-57.45	-54.65	-53.04	-52.10	-52.17	-55.66	-57.11
2003/4/7	0:00	-63.58	-62.91	-62.32		-60.05	-57.45	-54.76	-53.15	-52.17	-52.20	-55.66	-57.12
2003/4/7	12:00	-58.10	-60.63	-61.26		-60.05	-57.47	-54.86	-53.26	-52.28	-52.24	-55.65	-57.11
2003/4/8	0:00	-57.87	-60.02	-60.33		-59.84	-57.48	-54.95	-53.35	-52.36	-52.27	-55.63	-57.11
2003/4/8	12:00	-58.79	-59.17	-59.25		-59.49	-57.49	-55.03	-53.46	-52.44	-52.30	-55.62	-57.11
2003/4/9	0:00	-61.39	-60.16	-59.73		-59.13	-57.46	-55.08	-53.55	-52.53	-52.33	-55.62	-57.11
2003/4/9	12:00	-62.46	-61.64	-60.94		-59.08	-57.39	-55.14	-53.63	-52.60	-52.37	-55.60	-57.10
2003/4/10	0:00	-65.27	-62.94	-61.91		-59.23	-57.36	-55.18	-53.71	-52.68	-52.40	-55.60	-57.10
2003/4/10	12:00	-68.21	-65.03	-63.53		-59.53	-57.35	-55.20	-53.79	-52.76	-52.44	-55.59	-57.10
2003/4/11	0:00	-68.45	-65.73	-64.40		-60.02	-57.37	-55.22	-53.84	-52.83	-52.47	-55.59	-57.10
2003/4/11	12:00	-69.11	-66.35	-64.95		-60.46	-57.48	-55.26	-53.91	-52.92	-52.50	-55.58	-57.10
2003/4/12	0:00	-69.01	-66.77	-65.53		-60.90	-57.59	-55.30	-53.97	-52.98	-52.54	-55.57	-57.10
2003/4/12	12:00	-65.53	-66.01	-65.42		-61.26	-57.78	-55.37	-54.03	-53.04	-52.57	-55.56	-57.09
2003/4/13	0:00	-62.06	-62.77	-62.97		-61.39	-57.95	-55.44	-54.09	-53.10	-52.60	-55.55	-57.09
2003/4/13	12:00	-64.04	-63.40	-62.89		-61.10	-58.13	-55.54	-54.16	-53.16	-52.65	-55.54	-57.09
2003/4/14	0:00	-68.61	-65.92	-64.49		-61.02	-58.24	-55.63	-54.23	-53.23	-52.68	-55.54	-57.09
2003/4/14	12:00	-63.85	-65.35	-64.86		-61.30	-58.32	-55.73	-54.30	-53.29	-52.71	-55.52	-57.09
2003/4/15	0:00	-65.61	-64.43	-63.91		-61.41	-58.38	-55.82	-54.37	-53.35	-52.74	-55.52	-57.09
2003/4/15	12:00	-69.92	-66.65	-65.14		-61.45	-58.50	-55.90	-54.44	-53.41	-52.77	-55.51	-57.08
2003/4/16	0:00	-69.33	-67.31	-66.18		-61.72	-58.58	-55.98	-54.51	-53.49	-52.81	-55.51	-57.09
2003/4/16	12:00	-69.08	-67.40	-66.31		-62.06	-58.69	-56.06	-54.59	-53.55	-52.84	-55.50	-57.08
2003/4/17	0:00	-67.22	-66.74	-66.07		-62.30	-58.81	-56.14	-54.66	-53.61	-52.87	-55.49	-57.08
2003/4/17	12:00	-68.25	-66.39	-65.42		-62.37	-58.97	-56.24	-54.73	-53.67	-52.93	-55.49	-57.08
2003/4/18	0:00	-67.03	-65.48	-64.79		-62.37	-59.09	-56.33	-54.80	-53.74	-52.97	-55.49	-57.08
2003/4/18	12:00	-67.73	-66.00	-65.06		-62.30	-59.20	-56.42	-54.89	-53.81	-53.00	-55.48	-57.09
2003/4/19	0:00	-63.82	-64.20	-64.11		-62.29	-59.29	-56.52	-54.96	-53.86	-53.03	-55.47	-57.08
2003/4/19	12:00	-64.27	-64.36	-63.94		-62.12	-59.35	-56.60	-55.04	-53.92	-53.07	-55.46	-57.08
2003/4/20	0:00	-66.29	-64.80	-64.14		-62.03	-59.43	-56.68	-55.12	-53.98	-53.10	-55.46	-57.07
2003/4/20	12:00	-68.35	-65.87	-64.90		-62.05	-59.46	-56.76	-55.20	-54.05	-53.14	-55.45	-57.07
2003/4/21	0:00	-70.12	-67.28	-66.02		-62.26	-59.49	-56.83	-55.26	-54.11	-53.18	-55.45	-57.07
2003/4/21	12:00	-71.14	-68.25	-66.98		-62.61	-59.55	-56.90	-55.33	-54.18	-53.22	-55.45	-57.07
2003/4/22	0:00	-70.63	-68.43	-67.20		-62.97	-59.65	-56.95	-55.40	-54.24	-53.24	-55.43	-57.06
2003/4/22	12:00	-72.03	-69.18	-67.87		-63.28	-59.77	-57.03	-55.47	-54.31	-53.28	-55.42	-57.06
2003/4/23	0:00	-74.57	-71.44	-69.42		-63.66	-59.93	-57.09	-55.54	-54.38	-53.31	-55.43	-57.06
2003/4/23	12:00	-72.46	-71.30	-70.02		-64.19	-60.11	-57.17	-55.61	-54.43	-53.35	-55.42	-57.06
2003/4/24	0:00	-62.62	-68.24	-68.52		-64.54	-60.30	-57.27	-55.68	-54.49	-53.39	-55.41	-57.05
2003/4/24	12:00	-70.48	-67.10	-66.25		-64.34	-60.51	-57.37	-55.75	-54.55	-53.42	-55.42	-57.06

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/4/25	0:00	-72.39	-69.42	-68.05	-64.19	-60.69	-57.49	-55.81	-54.61	-53.47	-55.41	-57.05	
2003/4/25	12:00	-73.07	-70.54	-69.09	-64.42	-60.78	-57.62	-55.89	-54.67	-53.51	-55.40	-57.06	
2003/4/26	0:00	-72.54	-70.29	-69.15	-64.74	-60.89	-57.73	-55.98	-54.73	-53.53	-55.40	-57.06	
2003/4/26	12:00	-72.92	-70.26	-69.19	-64.99	-61.03	-57.85	-56.06	-54.79	-53.59	-55.40	-57.05	
2003/4/27	0:00	-72.76	-71.14	-69.95	-65.20	-61.22	-57.96	-56.14	-54.88	-53.62	-55.39	-57.05	
2003/4/27	12:00	-70.87	-69.88	-69.26	-65.45	-61.34	-58.07	-56.25	-54.94	-53.65	-55.39	-57.04	
2003/4/28	0:00	-67.43	-68.13	-67.90	-65.44	-61.52	-58.19	-56.33	-55.01	-53.69	-55.39	-57.05	
2003/4/28	12:00	-71.93	-69.51	-68.42	-65.27	-61.63	-58.32	-56.41	-55.08	-53.74	-55.38	-57.05	
2003/4/29	0:00	-70.90	-69.62	-68.83	-65.35	-61.73	-58.45	-56.51	-55.16	-53.77	-55.38	-57.04	
2003/4/29	12:00	-71.56	-69.70	-68.89	-65.46	-61.80	-58.56	-56.59	-55.22	-53.81	-55.38	-57.04	
2003/4/30	0:00	-73.52	-70.78	-69.64	-65.59	-61.93	-58.67	-56.68	-55.29	-53.84	-55.37	-57.03	
2003/4/30	12:00	-75.32	-71.85	-70.40	-65.80	-62.01	-58.78	-56.77	-55.37	-53.88	-55.38	-57.04	
2003/5/1	0:00	-73.52	-71.86	-70.89	-66.16	-62.12	-58.88	-56.86	-55.44	-53.92	-55.37	-57.04	
2003/5/1	12:00	-68.12	-68.83	-68.90	-66.32	-62.28	-59.01	-56.96	-55.51	-53.95	-55.37	-57.03	
2003/5/2	0:00	-68.29	-68.40	-68.06	-66.07	-62.42	-59.12	-57.06	-55.59	-54.00	-55.35	-57.03	
2003/5/2	12:00	-68.36	-67.43	-67.17	-65.78	-62.54	-59.23	-57.15	-55.68	-54.03	-55.35	-57.03	
2003/5/3	0:00	-69.38	-67.52	-67.04	-65.54	-62.58	-59.33	-57.24	-55.74	-54.08	-55.35	-57.02	
2003/5/3	12:00	-68.47	-67.91	-67.46	-65.40	-62.57	-59.41	-57.33	-55.81	-54.11	-55.35	-57.03	
2003/5/4	0:00	-69.25	-67.93	-67.26	-65.32	-62.57	-59.49	-57.41	-55.89	-54.15	-55.35	-57.02	
2003/5/4	12:00	-67.63	-67.66	-67.29	-65.29	-62.57	-59.41	-57.33	-55.81	-54.06	-55.34	-57.02	
2003/5/5	0:00	-70.67	-68.65	-67.62	-65.19	-62.58	-59.60	-57.58	-56.04	-54.24	-55.34	-57.02	
2003/5/5	12:00	-68.06	-68.53	-67.92	-65.26	-62.54	-59.63	-57.64	-56.10	-54.29	-55.34	-57.03	
2003/5/6	0:00	-65.38	-66.27	-66.41	-65.23	-62.56	-59.66	-57.71	-56.16	-54.32	-55.34	-57.02	
2003/5/6	12:00	-71.38	-67.87	-66.61	-64.97	-62.57	-59.69	-57.78	-56.26	-54.37	-55.34	-57.02	
2003/5/7	0:00	-71.93	-70.39	-69.08	-65.02	-62.57	-59.72	-57.84	-56.32	-54.41	-55.33	-57.00	
2003/5/7	12:00	-66.06	-67.91	-67.96	-65.35	-62.54	-59.76	-57.89	-56.39	-54.44	-55.34	-57.00	
2003/5/8	0:00	-55.27	-61.49	-63.39	-65.17	-62.60	-59.79	-57.94	-56.45	-54.49	-55.34	-57.00	
2003/5/8	12:00	-53.02	-56.93	-58.97	-64.08	-62.61	-59.81	-57.99	-56.51	-54.52	-55.33	-57.00	
2003/5/9	0:00	-54.15	-66.47	-57.85	-62.85	-62.53	-59.84	-56.04	-56.56	-54.58	-55.34	-56.99	
2003/5/9	12:00	-58.11	-58.39	-58.81	-61.95	-62.28	-59.86	-58.08	-56.61	-54.61	-55.34	-56.99	
2003/5/10	0:00	-62.40	-61.14	-60.76	-61.58	-61.98	-59.83	-58.13	-56.66	-54.65	-55.34	-56.99	
2003/5/10	12:00	-65.00	-63.41	-62.63	-61.67	-61.69	-59.79	-58.16	-56.72	-54.69	-55.34	-56.98	
2003/5/11	0:00	-66.73	-64.63	-63.76	-61.97	-61.49	-59.71	-58.19	-56.78	-54.73	-55.34	-56.99	
2003/5/11	12:00	-69.68	-66.89	-65.55	-62.35	-61.37	-59.64	-58.20	-56.82	-54.77	-55.34	-56.98	
2003/5/12	0:00	-71.60	-68.38	-66.87	-62.90	-61.35	-59.60	-58.21	-56.85	-54.82	-55.34	-56.99	
2003/5/12	12:00	-72.56	-69.88	-68.35	-63.52	-61.36	-59.55	-58.21	-56.90	-54.86	-55.34	-56.98	
2003/5/13	0:00	-73.37	-70.53	-69.05	-64.16	-61.46	-59.56	-58.21	-56.93	-54.91	-55.34	-56.98	
2003/5/13	12:00	-69.56	-69.59	-68.90	-64.69	-61.63	-59.60	-58.23	-56.96	-54.95	-55.34	-56.98	
2003/5/14	0:00	-66.88	-67.34	-67.19	-64.89	-61.86	-59.66	-58.25	-57.00	-54.98	-55.34	-56.98	
2003/5/14	12:00	-65.71	-66.08	-66.01	-64.73	-62.02	-59.76	-58.28	-57.03	-55.02	-55.34	-56.97	
2003/5/15	0:00	-66.94	-66.17	-65.93	-64.52	-62.15	-59.85	-58.31	-57.06	-55.05	-55.34	-56.97	
2003/5/15	12:00	-72.19	-69.06	-67.67	-64.48	-62.21	-59.95	-58.36	-57.09	-55.10	-55.35	-56.97	
2003/5/16	0:00	-74.53	-70.98	-69.31	-64.87	-62.26	-60.03	-58.42	-57.13	-55.14	-55.34	-56.96	
2003/5/16	12:00	-74.99	-71.59	-70.17	-65.39	-62.32	-60.09	-58.48	-57.16	-55.17	-55.34	-56.97	
2003/5/17	0:00	-73.55	-72.10	-70.88	-65.88	-62.48	-60.14	-58.53	-57.20	-55.20	-55.34	-56.96	
2003/5/17	12:00	-70.59	-69.82	-69.39	-66.23	-62.64	-60.20	-58.57	-57.24	-55.24	-55.34	-56.96	
2003/5/18	0:00	-72.43	-69.87	-69.03	-66.18	-62.81	-60.26	-58.62	-57.29	-55.27	-55.35	-56.95	
2003/5/18	12:00	-75.71	-72.89	-71.15	-66.28	-62.97	-60.36	-58.69	-57.34	-55.30	-55.37	-56.96	
2003/5/19	0:00	-70.29	-71.45	-70.74	-66.66	-63.09	-60.44	-58.74	-57.38	-55.35	-55.35	-56.96	
2003/5/19	12:00	-69.68	-69.97	-69.49	-66.75	-63.25	-60.52	-58.80	-57.42	-55.38	-55.34	-56.95	
2003/5/20	0:00	-71.48	-69.79	-69.16	-66.67	-63.37	-60.61	-58.85	-57.47	-55.41	-55.35	-56.95	
2003/5/20	12:00	-70.52	-69.54	-68.97	-66.61	-63.15	-60.68	-58.92	-57.52	-55.45	-55.35	-56.95	
2003/5/21	0:00	-66.11	-68.64	-68.63	-66.56	-63.51	-60.77	-59.00	-57.59	-55.49	-55.39	-56.97	
2003/5/21	12:00	-68.73	-66.94	-66.78	-66.30	-63.63	-60.85	-59.06	-57.62	-55.52	-55.37	-56.95	
2003/5/22	0:00	-73.33	-70.29	-68.88	-66.06	-63.64	-60.91	-59.11	-57.68	-55.55	-55.38	-56.95	
2003/5/22	12:00	-71.90	-70.68	-69.67	-66.25	-63.66	-60.97	-59.17	-57.73	-55.59	-55.37	-56.94	
2003/5/23	0:00	-71.25	-69.65	-68.99	-66.44	-63.67	-61.02	-59.23	-57.78	-55.61	-55.37	-56.95	
2003/5/23	12:00	-70.75	-69.89	-69.29	-66.51	-63.74	-61.07	-59.29	-57.84	-55.66	-55.38	-56.93	
2003/5/24	0:00	-65.95	-67.82	-67.98	-65.55	-63.78	-61.11	-59.34	-57.89	-55.70	-55.38	-56.92	
2003/5/24	12:00	-68.23	-68.04	-67.89	-66.13	-63.80	-61.33	-59.63	-58.18	-55.89	-55.40	-56.91	
2003/5/25	0:00	-71.00	-69.35	-68.44	-66.09	-63.81	-61.35	-59.68	-58.23	-55.94	-55.40	-56.93	
2003/5/25	12:00	-70.37	-69.49	-68.65	-66.19	-63.85	-61.37	-59.71	-58.27	-55.97	-55.40	-56.92	
2003/5/26	0:00	-72.09	-69.81	-68.81	-66.27	-63.87	-61.40	-59.76	-58.31	-56.00	-55.41	-56.91	
2003/5/26	12:00	-69.58	-68.84	-68.20	-65.99	-63.79	-61.28	-59.54	-58.08	-55.83	-55.39	-56.92	
2003/5/26	0:00	-69.50	-69.64	-68.78	-66.06	-63.79	-61.31	-59.60	-58.13	-55.86	-55.39	-56.93	
2003/5/27	0:00	-68.23	-68.04	-67.89	-66.92	-64.03	-61.49	-59.86	-58.43	-56.10	-55.42	-56.91	
2003/5/27	12:00	-71.00	-69.35	-68.44	-66.09	-63.81	-61.35	-59.68	-58.23	-55.94	-55.40	-56.93	
2003/5/28	0:00	-70.37	-69.49	-68.65	-66.19	-63.85	-61.37	-59.71	-58.27	-55.97	-55.40	-56.92	
2003/5/28	12:00	-72.09	-69.81	-68.81	-66.27	-63.87	-61.40	-59.76	-58.31	-56.00	-55.41	-56.91	
2003/5/29	0:00	-72.62	-71.57	-70.23	-66.43	-63.89	-61.43	-59.79	-58.35	-56.03	-55.41	-56.91	
2003/5/29	12:00	-71.39	-70.88	-70.07	-66.72	-63.97	-61.47	-59.83	-58.39	-56.07	-55.42	-56.92	
2003/5/30	0:00	-71.12	-70.26	-69.78	-66.92	-64.03	-61.49	-59.86	-58.43	-56.10	-55.42	-56.91	
2003/5/30	12:00	-69.28	-69.30	-69.05	-66.99	-64.14	-61.53	-59.90	-58.47	-56.14	-55.42	-56.91	
2003/5/31	0:00	-74.19	-71.66	-70.32	-66.95	-64.24	-61.57	-59.93	-58.51	-56.17	-55.43	-56.91	
2003/5/31	12:00	-65.80	-68.94	-69.33	-67.20	-64.31	-61.62	-59.97	-58.55	-56.22	-55.44	-56.90	
2003/6/1	0:00	-62.59	-64.72	-65.68	-66.89	-64.37	-61.68	-60.03	-58.58	-56.26	-55.43	-56.90	
2003/6/1	12:00	-64.61	-64.50	-64.79	-66.13	-64.40	-61.73	-60.06	-58.62	-56.29	-55.43	-56.90	
2003/6/2	0:00	-64.88	-65.16	-65.32	-65.66	-64.37	-61.80	-60.10	-58.66	-56.31	-55.44	-56.89	

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/6/2	12:00	-65.93	-65.87	-65.73	-65.43	-64.24	-61.82	-60.14	-58.71	-56.35	-55.45	-56.89	
2003/6/3	0:00	-67.73	-66.61	-66.21	-65.34	-64.13	-61.83	-60.19	-58.74	-56.40	-55.46	-56.91	
2003/6/3	12:00	-67.23	-67.06	-66.71	-65.37	-64.04	-61.83	-60.22	-58.78	-56.41	-55.46	-56.89	
2003/6/4	0:00	-67.96	-67.30	-66.85	-65.43	-63.96	-61.83	-60.25	-58.83	-56.45	-55.46	-56.90	
2003/6/4	12:00	-67.30	-67.52	-67.19	-65.50	-63.91	-61.81	-60.28	-58.86	-56.49	-55.46	-56.89	
2003/6/5	0:00	-65.86	-66.58	-66.52	-65.55	-63.90	-61.79	-60.31	-58.92	-56.52	-55.47	-56.89	
2003/6/5	12:00	-69.81	-67.91	-66.93	-65.43	-63.87	-61.79	-60.34	-58.95	-56.55	-55.47	-56.88	
2003/6/6	0:00	-76.14	-71.61	-69.68	-65.62	-63.87	-61.78	-60.34	-58.97	-56.58	-55.48	-56.88	
2003/6/6	12:00	-76.56	-73.55	-71.75	-66.27	-63.87	-61.78	-60.35	-59.00	-56.61	-55.48	-56.86	
2003/6/7	0:00	-76.00	-74.08	-72.53	-66.99	-63.95	-61.78	-60.37	-59.03	-56.64	-55.50	-56.88	
2003/6/7	12:00	-76.89	-74.27	-72.78	-67.56	-64.13	-61.79	-60.38	-59.06	-56.67	-55.49	-56.88	
2003/6/8	0:00	-76.59	-74.19	-72.97	-68.00	-64.31	-61.83	-60.41	-59.07	-56.70	-55.51	-56.86	
2003/6/8	12:00	-75.73	-73.76	-72.64	-68.33	-64.53	-61.89	-60.43	-59.11	-56.74	-55.49	-56.88	
2003/6/9	0:00	-75.28	-73.64	-72.65	-68.53	-64.76	-61.97	-60.45	-59.12	-56.77	-55.54	-56.86	
2003/6/9	12:00	-77.32	-74.74	-73.34	-68.71	-64.96	-62.07	-60.49	-59.15	-56.79	-55.51	-56.86	
2003/6/10	0:00	-78.15	-75.57	-74.17	-69.05	-65.12	-62.17	-60.54	-59.17	-56.82	-55.55	-56.85	
2003/6/10	12:00	-72.24	-73.47	-73.27	-69.41	-65.31	-62.27	-60.59	-59.23	-56.86	-55.56	-56.85	
2003/6/11	0:00	-72.86	-72.24	-71.81	-69.37	-65.49	-62.40	-60.64	-59.26	-56.89	-55.55	-56.85	
2003/6/11	12:00	-63.73	-67.55	-68.85	-69.09	-65.64	-62.51	-60.70	-59.29	-56.91	-55.56	-56.84	
2003/6/12	0:00	-64.51	-65.89	-66.60	-68.31	-65.76	-62.60	-60.76	-59.32	-56.95	-55.56	-56.86	
2003/6/12	12:00	-67.05	-66.80	-66.94	-67.55	-65.72	-62.69	-60.82	-59.36	-56.97	-55.56	-56.85	
2003/6/13	0:00	-70.76	-68.78	-68.04	-67.22	-65.64	-62.76	-60.90	-59.40	-57.00	-55.57	-56.85	
2003/6/13	12:00	-73.58	-71.12	-69.95	-67.26	-65.53	-62.80	-60.95	-59.45	-57.03	-55.57	-56.84	
2003/6/14	0:00	-75.02	-72.96	-71.62	-67.63	-65.42	-62.82	-61.02	-59.50	-57.05	-55.59	-56.84	
2003/6/14	12:00	-73.52	-72.50	-71.66	-68.07	-65.42	-62.83	-61.06	-59.55	-57.08	-55.58	-56.83	
2003/6/15	0:00	-70.48	-71.39	-71.05	-68.27	-65.46	-62.84	-61.10	-59.60	-57.12	-55.58	-56.84	
2003/6/15	12:00	-60.35	-65.20	-66.87	-68.11	-65.55	-62.85	-61.15	-59.65	-57.14	-55.60	-56.83	
2003/6/16	0:00	-59.11	-61.65	-63.26	-67.20	-65.59	-62.86	-61.17	-59.69	-57.16	-55.60	-56.83	
2003/6/16	12:00	-66.13	-64.10	-63.84	-66.17	-65.50	-62.89	-61.20	-59.72	-57.19	-55.61	-56.83	
2003/6/17	0:00	-67.28	-66.61	-66.20	-65.81	-65.33	-62.89	-61.23	-59.77	-57.22	-55.62	-56.83	
2003/6/17	12:00	-64.96	-65.46	-65.70	-65.86	-65.12	-62.87	-61.26	-59.80	-57.25	-55.63	-56.82	
2003/6/18	0:00	-68.67	-66.52	-65.99	-65.71	-64.99	-62.83	-61.28	-59.84	-57.29	-55.66	-56.84	
2003/6/18	12:00	-71.79	-69.26	-68.14	-65.80	-64.86	-62.78	-61.29	-59.89	-57.32	-55.66	-56.81	
2003/6/19	0:00	-69.27	-68.65	-68.21	-66.16	-64.80	-62.73	-61.30	-59.91	-57.35	-55.66	-56.84	
2003/6/19	12:00	-71.03	-69.58	-68.78	-66.34	-64.75	-62.69	-61.31	-59.93	-57.38	-55.66	-56.82	
2003/6/20	0:00	-71.23	-69.94	-69.08	-66.56	-64.78	-62.64	-61.30	-59.96	-57.41	-55.68	-56.83	
2003/6/20	12:00	-70.54	-69.99	-69.35	-66.75	-64.78	-62.62	-61.30	-59.98	-57.43	-55.68	-56.81	
2003/6/21	0:00	-71.98	-70.47	-69.59	-66.90	-64.83	-62.61	-61.30	-59.99	-57.45	-55.67	-56.82	
2003/6/21	12:00	-71.90	-70.58	-69.86	-67.12	-64.90	-62.61	-61.29	-60.01	-57.48	-55.70	-56.80	
2003/6/22	0:00	-69.47	-69.67	-69.32	-67.24	-64.96	-62.61	-61.31	-60.03	-57.51	-55.68	-56.80	
2003/6/22	12:00	-69.40	-69.01	-68.73	-67.23	-65.01	-62.64	-61.31	-60.06	-57.57	-55.70	-56.80	
2003/6/23	0:00	-64.48	-67.98	-68.32	-67.15	-65.06	-62.67	-61.32	-60.06	-57.58	-55.71	-56.80	
2003/6/23	12:00	-53.86	-59.80	-62.56	-66.72	-65.09	-62.71	-61.34	-60.07	-57.61	-55.72	-56.80	
2003/6/24	0:00	-64.87	-62.39	-62.28	-65.53	-65.08	-62.74	-61.36	-60.10	-57.64	-55.72	-56.81	
2003/6/24	12:00	-69.28	-67.41	-66.46	-65.13	-64.93	-62.76	-61.38	-60.12	-57.66	-55.73	-56.81	
2003/6/25	0:00	-73.16	-69.75	-68.35	-65.49	-64.74	-62.75	-61.40	-60.14	-57.69	-55.74	-56.81	
2003/6/25	12:00	-70.65	-70.24	-69.37	-66.02	-64.64	-62.73	-61.42	-60.15	-57.72	-55.75	-56.80	
2003/6/26	0:00	-70.78	-69.85	-69.13	-66.40	-64.64	-62.69	-61.42	-60.17	-57.74	-55.76	-56.80	
2003/6/26	12:00	-73.65	-71.24	-69.97	-66.66	-64.69	-62.66	-61.43	-60.20	-57.76	-55.76	-56.78	
2003/6/27	0:00	-70.92	-72.37	-71.29	-67.04	-64.74	-62.66	-61.46	-60.20	-57.78	-55.77	-56.81	
2003/6/27	12:00	-71.34	-69.98	-69.42	-67.29	-64.84	-62.64	-61.43	-60.21	-57.81	-55.76	-56.78	
2003/6/28	0:00	-70.49	-69.09	-68.63	-67.24	-64.96	-62.67	-61.47	-60.24	-57.84	-55.80	-56.78	
2003/6/28	12:00	-72.24	-70.60	-69.66	-67.17	-65.05	-62.71	-61.45	-60.25	-57.86	-55.78	-56.81	
2003/6/29	0:00	-73.00	-71.41	-70.49	-67.35	-65.10	-62.75	-61.47	-60.29	-57.88	-55.81	-56.80	
2003/6/29	12:00	-72.67	-71.41	-70.60	-67.61	-65.16	-62.78	-61.51	-60.29	-57.91	-55.81	-56.79	
2003/6/30	0:00	-73.10	-71.81	-70.93	-67.80	-65.26	-62.81	-61.50	-60.32	-57.93	-55.81	-56.80	
2003/6/30	12:00	-75.75	-73.32	-72.04	-68.04	-65.34	-62.86	-61.53	-60.32	-57.96	-55.82	-56.77	
2003/7/1	0:00	-78.08	-74.89	-73.24	-68.43	-65.44	-62.91	-61.57	-60.34	-57.98	-55.82	-56.78	
2003/7/1	12:00	-79.87	-76.13	-74.35	-68.93	-65.58	-62.99	-61.59	-60.37	-58.00	-55.84	-56.78	
2003/7/2	0:00	-77.56	-77.16	-75.62	-69.52	-65.75	-63.06	-61.62	-60.39	-58.01	-55.85	-56.78	
2003/7/2	12:00	-72.81	-73.14	-72.90	-69.88	-65.97	-63.13	-61.64	-60.40	-58.04	-55.86	-56.79	
2003/7/3	0:00	-71.16	-71.98	-71.94	-69.74	-66.19	-63.22	-61.70	-60.45	-58.06	-55.87	-56.79	
2003/7/3	12:00	-74.36	-72.29	-71.67	-69.56	-66.36	-63.33	-61.75	-60.46	-58.07	-55.88	-56.78	
2003/7/4	0:00	-76.01	-74.16	-72.99	-69.52	-66.46	-63.43	-61.80	-60.49	-58.11	-55.88	-56.77	
2003/7/4	12:00	-72.40	-73.20	-72.76	-69.70	-66.54	-63.51	-61.85	-60.50	-58.12	-55.87	-56.78	
2003/7/5	0:00	-73.21	-72.50	-71.95	-69.68	-66.61	-63.58	-61.91	-60.54	-58.15	-55.89	-56.77	
2003/7/5	12:00	-76.38	-74.09	-72.98	-69.66	-66.70	-63.67	-61.97	-60.60	-58.18	-55.92	-56.77	
2003/7/6	0:00	-74.11	-73.79	-73.10	-69.87	-66.78	-63.75	-62.03	-60.63	-58.19	-55.92	-56.77	
2003/7/6	12:00	-54.63	-64.06	-67.63	-69.85	-66.85	-62.86	-61.93	-60.34	-57.98	-55.82	-56.78	
2003/7/7	0:00	-51.68	-59.11	-61.93	-68.54	-66.92	-62.92	-61.57	-60.37	-58.00	-55.84	-56.78	
2003/7/7	12:00	-57.36	-58.28	-59.83	-66.82	-66.85	-63.94	-62.18	-60.74	-58.26	-55.94	-56.75	
2003/7/8	0:00	-65.62	-61.48	-61.32	-65.65	-66.55	-63.98	-62.24	-60.78	-58.28	-55.94	-56.76	
2003/7/8	12:00	-71.60	-67.67	-66.16	-65.35	-66.18	-63.98	-62.28	-60.82	-58.30	-55.95	-56.77	
2003/7/9	0:00	-71.10	-69.26	-68.23	-65.86	-65.85	-63.93	-62.32	-60.87	-58.33	-55.96	-56.76	
2003/7/9	12:00	-59.88	-65.87	-67.12	-66.36	-65.64	-63.84	-62.35	-60.91	-58.35	-55.97	-56.75	
2003/7/10	0:00	-65.45	-63.94	-64.28	-66.13	-65.55	-63.75	-62.36	-60.94	-58.39	-55.98	-56.76	
2003/7/10	12:00	-73.92	-69.40	-67.74	-65.86	-65.47	-63.67	-62.35	-60.98	-58.41	-55.99	-56.75	

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/7/11	0:00	-70.00	-70.09	-69.50	-66.33	-65.38	-63.58	-62.33	-61.01	-58.43	-56.00	-56.76	
2003/7/11	12:00	-70.68	-70.34	-69.58	-66.81	-65.33	-63.52	-62.32	-61.03	-58.45	-56.01	-56.75	
2003/7/12	0:00	-72.98	-70.88	-69.51	-67.00	-65.37	-63.48	-62.30	-61.04	-58.48	-56.01	-56.76	
2003/7/12	12:00	-64.46	-68.49	-68.74	-68.40	-67.22	-65.43	-63.44	-62.29	-61.06	-58.50	-56.02	-56.75
2003/7/13	0:00	-55.87	-61.99	-64.11	-66.29	-66.95	-65.48	-63.43	-62.28	-61.06	-58.53	-56.03	-56.75
2003/7/13	12:00	-58.24	-61.01	-62.23	-64.24	-66.00	-65.51	-63.42	-62.27	-61.07	-58.55	-56.04	-56.75
2003/7/14	0:00	-61.45	-62.77	-63.03	-63.83	-65.22	-65.41	-63.41	-62.27	-61.08	-58.57	-56.05	-56.74
2003/7/14	12:00	-69.38	-66.82	-65.32	-64.57	-64.95	-65.22	-63.40	-62.26	-61.09	-58.59	-56.06	-56.75
2003/7/15	0:00	-72.20	-69.83	-68.50	-66.64	-65.32	-65.02	-63.37	-62.26	-61.09	-58.61	-56.06	-56.75
2003/7/15	12:00	-68.78	-68.74	-68.36	-67.38	-65.92	-64.93	-63.31	-62.26	-61.10	-58.63	-56.07	-56.74
2003/7/16	0:00	-70.42	-68.75	-68.08	-67.22	-66.20	-64.93	-63.26	-62.24	-61.11	-58.67	-56.08	-56.74
2003/7/16	12:00	-69.90	-69.44	-68.79	-67.68	-66.38	-64.96	-63.21	-62.23	-61.11	-58.69	-56.09	-56.74
2003/7/17	0:00	-74.00	-71.05	-69.73	-68.13	-66.63	-65.00	-63.19	-62.21	-61.12	-58.71	-56.10	-56.74
2003/7/17	12:00	-71.66	-71.18	-70.25	-68.75	-67.00	-65.07	-63.18	-62.20	-61.12	-58.73	-56.11	-56.74
2003/7/18	0:00	-69.17	-69.08	-69.00	-68.51	-67.24	-65.16	-63.18	-62.19	-61.12	-58.75	-56.12	-56.74
2003/7/18	12:00	-75.82	-72.08	-70.48	-68.70	-67.27	-65.28	-63.19	-62.19	-61.12	-58.77	-56.12	-56.74
2003/7/19	0:00	-72.42	-71.31	-70.75	-69.61	-67.64	-65.37	-63.22	-62.19	-61.12	-58.79	-56.13	-56.74
2003/7/19	12:00	-73.97	-71.90	-70.92	-69.56	-67.87	-65.44	-63.25	-62.19	-61.13	-58.80	-56.14	-56.72
2003/7/20	0:00	-75.96	-73.65	-72.25	-70.27	-68.12	-65.59	-63.28	-62.21	-61.13	-58.82	-56.15	-56.72
2003/7/20	12:00	-77.40	-74.59	-73.22	-71.11	-68.57	-65.70	-63.35	-62.21	-61.15	-58.83	-56.16	-56.72
2003/7/21	0:00	-78.72	-75.85	-74.27	-71.87	-69.08	-65.86	-63.40	-62.23	-61.15	-58.85	-56.17	-56.74
2003/7/21	12:00	-77.70	-75.72	-74.51	-72.39	-69.58	-66.05	-63.45	-62.26	-61.16	-58.87	-56.19	-56.72
2003/7/22	0:00	-76.79	-76.87	-75.39	-72.84	-69.97	-66.26	-63.53	-62.28	-61.17	-58.88	-56.21	-56.71
2003/7/22	12:00	-73.03	-73.15	-73.06	-72.37	-70.28	-66.50	-63.63	-62.31	-61.19	-58.91	-56.22	-56.71
2003/7/23	0:00	-73.25	-72.56	-72.16	-71.57	-70.13	-66.69	-63.73	-62.35	-61.20	-58.92	-56.22	-56.71
2003/7/23	12:00	-77.47	-74.84	-73.56	-71.86	-70.01	-66.84	-63.84	-62.42	-61.21	-58.94	-56.24	-56.72
2003/7/24	0:00	-78.35	-76.07	-74.64	-72.58	-70.24	-66.96	-63.96	-62.46	-61.24	-58.97	-56.24	-56.71
2003/7/24	12:00	-78.72	-76.39	-75.03	-73.06	-70.60	-67.08	-64.05	-62.51	-61.26	-58.98	-56.25	-56.70
2003/7/25	0:00	-69.68	-72.29	-72.82	-72.66	-70.86	-67.22	-64.15	-62.57	-61.31	-59.00	-56.26	-56.71
2003/7/25	12:00	-66.03	-68.15	-69.25	-70.54	-70.42	-67.38	-64.26	-62.63	-61.33	-59.01	-56.27	-56.72
2003/7/26	0:00	-73.31	-72.54	-71.45	-70.31	-69.73	-67.47	-64.35	-62.69	-61.36	-59.02	-56.28	-56.71
2003/7/26	12:00	-74.66	-73.21	-72.29	-71.00	-69.72	-67.43	-64.46	-62.75	-61.40	-59.04	-56.28	-56.72
2003/7/27	0:00	-72.87	-71.34	-71.00	-70.69	-69.77	-67.42	-64.53	-62.81	-61.45	-59.05	-56.29	-56.71
2003/7/27	12:00	-74.39	-72.75	-71.96	-70.85	-69.65	-67.41	-64.58	-62.87	-61.48	-59.07	-56.31	-56.71
2003/7/28	0:00	-75.26	-73.12	-72.30	-71.11	-69.74	-67.39	-64.62	-62.92	-61.52	-59.09	-56.31	-56.71
2003/7/28	12:00	-75.99	-74.46	-73.21	-71.58	-69.87	-67.40	-64.65	-62.97	-61.56	-59.10	-56.32	-56.71
2003/7/29	0:00	-75.77	-74.47	-73.44	-71.87	-70.06	-67.43	-64.68	-63.02	-61.60	-59.12	-56.33	-56.71
2003/7/29	12:00	-76.99	-74.56	-73.59	-72.10	-70.26	-67.49	-64.71	-63.07	-61.64	-59.14	-56.34	-56.71
2003/7/30	0:00	-78.34	-75.85	-74.54	-72.60	-70.46	-67.54	-64.75	-63.11	-61.68	-59.16	-56.35	-56.71
2003/7/30	12:00	-72.05	-74.55	-74.35	-73.03	-70.79	-67.62	-64.79	-63.15	-61.72	-59.19	-56.36	-56.72
2003/7/31	0:00	-75.30	-74.02	-73.39	-72.38	-70.81	-67.74	-64.84	-63.18	-61.75	-59.22	-56.37	-56.70
2003/7/31	12:00	-76.39	-74.31	-73.54	-72.39	-70.80	-67.84	-64.89	-63.23	-61.80	-59.23	-56.37	-56.71
2003/8/1	0:00	-60.46	-69.80	-71.60	-72.13	-70.84	-67.91	-64.94	-63.26	-61.83	-59.25	-56.38	-56.70
2003/8/1	12:00	-54.61	-61.03	-64.02	-67.91	-69.98	-67.96	-65.01	-63.31	-61.86	-59.27	-56.39	-56.71
2003/8/2	0:00	-59.68	-62.38	-63.60	-65.93	-68.45	-67.94	-65.05	-63.36	-61.90	-59.30	-56.39	-56.69
2003/8/2	12:00	-54.29	-58.76	-61.11	-64.48	-67.36	-67.74	-65.09	-63.40	-61.94	-59.32	-56.41	-56.70
2003/8/3	0:00	-62.23	-61.30	-61.70	-63.48	-66.21	-67.42	-65.10	-63.44	-61.97	-59.34	-56.41	-56.70
2003/8/3	12:00	-63.27	-63.77	-63.90	-64.44	-65.75	-67.02	-65.06	-63.47	-62.01	-59.36	-56.43	-56.70
2003/8/4	0:00	-63.09	-62.83	-63.28	-64.34	-65.60	-66.64	-64.97	-63.49	-62.04	-59.39	-56.44	-56.69
2003/8/4	12:00	-69.65	-66.82	-65.85	-65.13	-65.46	-66.32	-64.87	-63.50	-62.08	-59.40	-56.44	-56.69
2003/8/5	0:00	-72.10	-68.96	-67.70	-66.36	-65.75	-66.09	-64.73	-63.48	-62.11	-59.43	-56.47	-56.70
2003/8/5	12:00	-71.16	-69.32	-68.56	-67.49	-66.29	-65.93	-64.61	-63.47	-62.13	-59.45	-56.48	-56.71
2003/8/6	0:00	-69.88	-69.95	-69.28	-68.08	-66.74	-65.89	-64.49	-63.43	-62.14	-59.48	-56.49	-56.71
2003/8/6	12:00	-69.50	-68.16	-67.95	-67.79	-66.99	-65.87	-64.38	-63.41	-62.15	-59.50	-56.49	-56.70
2003/8/7	0:00	-70.50	-69.43	-68.70	-67.91	-67.08	-65.93	-64.31	-63.36	-62.16	-59.52	-56.50	-56.69
2003/8/7	12:00	-70.14	-69.46	-68.96	-68.20	-67.21	-65.94	-64.26	-63.33	-62.16	-59.55	-56.52	-56.70
2003/8/8	0:00	-70.02	-69.29	-68.79	-68.18	-67.34	-65.99	-64.22	-63.30	-62.16	-59.57	-56.53	-56.68
2003/8/8	12:00	-72.33	-70.34	-69.51	-68.47	-67.42	-66.03	-64.17	-63.26	-62.15	-59.60	-56.53	-56.69
2003/8/9	0:00	-69.70	-69.39	-69.18	-68.62	-67.61	-66.06	-64.15	-63.24	-62.14	-59.62	-56.52	-56.70
2003/8/9	12:00	-75.07	-72.05	-70.63	-69.03	-67.68	-66.12	-64.13	-63.22	-62.14	-59.65	-56.54	-56.69
2003/8/10	0:00	-73.47	-71.91	-70.90	-69.49	-67.98	-66.17	-64.13	-63.21	-62.13	-59.66	-56.55	-56.70
2003/8/10	12:00	-74.48	-72.63	-71.58	-70.04	-68.27	-66.22	-64.13	-63.19	-62.14	-59.67	-56.55	-56.69
2003/8/11	0:00	-73.79	-72.48	-71.66	-70.36	-68.59	-66.32	-64.13	-63.18	-62.13	-59.69	-56.56	-56.70
2003/8/11	12:00	-74.64	-73.10	-72.05	-70.59	-68.82	-66.43	-64.14	-63.18	-62.15	-59.70	-56.57	-56.69
2003/8/12	0:00	-76.37	-73.93	-72.71	-71.00	-69.07	-66.55	-64.17	-63.17	-62.13	-59.73	-56.58	-56.69
2003/8/12	12:00	-79.10	-75.50	-73.89	-71.72	-69.39	-66.67	-64.20	-63.18	-62.13	-59.74	-56.60	-56.68
2003/8/13	0:00	-79.95	-76.63	-75.00	-72.60	-69.87	-66.83	-64.25	-63.18	-62.12	-59.77	-56.61	-56.70
2003/8/13	12:00	-77.15	-76.41	-75.47	-73.35	-70.40	-66.99	-64.30	-63.19	-62.13	-59.78	-56.61	-56.70
2003/8/14	0:00	-65.58	-70.69	-71.90	-72.32	-70.69	-67.18	-64.36	-63.21	-62.13	-59.79	-56.62	-56.69
2003/8/14	12:00	-60.74	-64.98	-66.79	-69.11	-69.97	-67.40	-64.45	-63.23	-62.14	-59.80	-56.63	-56.70
2003/8/15	0:00	-67.67	-67.75	-67.55	-67.94	-68.87	-67.47	-64.53	-63.26	-62.15	-59.82	-56.64	-56.69
2003/8/15	12:00	-71.81	-69.61	-68.73	-68.25	-68.40	-67.40	-64.60	-63.30	-62.16	-59.83	-56.65	-56.68
2003/8/16	0:00	-74.50	-72.43	-71.16	-69.55	-68.46	-67.25	-64.65	-63.34	-62.18	-59.84	-56.66	-56.69
2003/8/16	12:00	-71.27	-71.17	-70.85	-70.10	-68.84	-67.17	-64.68	-63.37	-62.19	-59.86	-56.66	-56.68
2003/8/17	0:00	-63.19	-67.88	-68.91	-69.51	-68.93	-67.14	-64.68	-63.41	-62.21	-59.88	-56.67	-56.69
2003/8/17	12:00	-57.78	-62.74	-64.66	-67.12	-68.35	-67.17	-64.69	-63.43	-62.24	-59.88	-56.68	-56.68
2003/8/18	0:00	-64.12	-64.41	-64.69	-65.79	-67.38	-67.12	-64.70	-63.44	-62.26	-59.90	-56.69	-56.68

Table 5-1 (continued).

Date	Time	0 m (" C)	0.05 m (" C)	0.1 m (" C)	0.2 m (" C)	0.4 m (" C)	0.8 m (" C)	1.2 m (" C)	1.5 m (" C)	2 m (" C)	3 m (" C)	6 m (" C)	11 m (" C)
2003/8/18	12:00	-64.57	-64.57	-64.97	-65.78	-66.84	-66.93	-64.70	-63.46	-62.27	-59.91	-56.70	-56.69
2003/8/19	0:00	-70.82	-68.15	-67.21	-66.51	-66.64	-66.73	-64.68	-63.48	-62.29	-59.93	-56.71	-56.68
2003/8/19	12:00	-71.43	-70.18	-69.13	-67.79	-66.88	-66.56	-64.65	-63.48	-62.31	-59.94	-56.72	-56.70
2003/8/20	0:00	-73.93	-71.44	-70.16	-68.63	-67.29	-66.40	-64.61	-63.49	-62.33	-59.95	-56.74	-56.70
2003/8/20	12:00	-62.96	-66.96	-67.94	-68.46	-67.66	-66.38	-64.56	-63.49	-62.35	-59.97	-56.74	-56.69
2003/8/21	0:00	-69.02	-67.83	-67.47	-67.41	-67.41	-66.39	-64.51	-63.49	-62.36	-59.98	-56.76	-56.68
2003/8/21	12:00	-67.28	-66.96	-67.14	-67.38	-67.26	-66.37	-64.48	-63.47	-62.38	-60.00	-56.76	-56.69
2003/8/22	0:00	-60.86	-64.97	-66.09	-66.96	-67.12	-66.35	-64.46	-63.47	-62.39	-60.01	-56.78	-56.68
2003/8/22	12:00	-69.27	-66.80	-66.46	-66.53	-66.81	-66.30	-64.43	-63.46	-62.39	-60.04	-56.78	-56.68
2003/8/23	0:00	-68.73	-68.06	-67.68	-67.20	-66.80	-66.24	-64.41	-63.46	-62.40	-60.05	-56.79	-56.68
2003/8/23	12:00	-68.31	-68.38	-68.05	-67.47	-66.90	-66.16	-64.39	-63.45	-62.40	-60.06	-56.80	-56.68
2003/8/24	0:00	-69.14	-69.10	-68.50	-67.66	-66.99	-66.13	-64.37	-63.44	-62.41	-60.08	-56.81	-56.69
2003/8/24	12:00	-64.55	-68.14	-68.46	-68.04	-67.13	-66.10	-64.35	-63.44	-62.41	-60.09	-56.82	-56.68
2003/8/25	0:00	-69.42	-68.57	-68.02	-67.54	-67.14	-66.09	-64.34	-63.43	-62.41	-60.11	-56.83	-56.70
2003/8/25	12:00	-69.74	-69.23	-68.72	-67.92	-67.17	-66.12	-64.33	-63.42	-62.41	-60.12	-56.84	-56.68
2003/8/26	0:00	-70.38	-69.54	-68.90	-68.11	-67.29	-66.10	-64.33	-63.42	-62.42	-60.13	-56.85	-56.69
2003/8/26	12:00	-72.34	-70.73	-69.87	-68.65	-67.45	-66.11	-64.33	-63.41	-62.42	-60.14	-56.85	-56.69
2003/8/27	0:00	-72.68	-70.73	-70.00	-68.94	-67.68	-66.15	-64.32	-63.41	-62.42	-60.16	-56.88	-56.68
2003/8/27	12:00	-73.03	-71.76	-70.86	-69.42	-67.88	-66.19	-64.34	-63.41	-62.43	-60.17	-56.88	-56.68
2003/8/28	0:00	-74.95	-72.72	-71.61	-69.98	-68.21	-66.27	-64.35	-63.41	-62.42	-60.18	-56.89	-56.69
2003/8/28	12:00	-70.25	-71.33	-71.13	-70.23	-68.50	-66.35	-64.37	-63.41	-62.42	-60.20	-56.90	-56.68
2003/8/29	0:00	-63.17	-68.21	-69.07	-69.32	-68.55	-66.50	-64.40	-63.42	-62.43	-60.21	-56.91	-56.68
2003/8/29	12:00	-59.05	-62.88	-64.55	-66.90	-68.03	-66.58	-64.45	-63.44	-62.44	-60.22	-56.92	-56.68
2003/8/30	0:00	-61.77	-62.37	-63.48	-65.42	-67.12	-66.59	-64.49	-63.44	-62.45	-60.23	-56.93	-56.69
2003/8/30	12:00	-64.99	-64.70	-64.78	-65.40	-66.48	-66.52	-64.54	-63.46	-62.45	-60.25	-56.94	-56.68
2003/8/31	0:00	-68.85	-65.97	-65.30	-65.38	-66.18	-66.33	-64.56	-63.47	-62.46	-60.25	-56.94	-56.69
2003/8/31	12:00	-69.20	-68.69	-67.94	-66.84	-66.24	-66.16	-64.55	-63.50	-62.47	-60.28	-56.96	-56.69
2003/9/1	0:00	-68.37	-68.59	-68.11	-67.33	-66.58	-66.02	-64.51	-63.50	-62.47	-60.28	-56.96	-56.69
2003/9/1	12:00	-69.82	-68.55	-67.75	-67.10	-66.66	-65.97	-64.46	-63.51	-62.48	-60.31	-56.97	-56.69
2003/9/2	0:00	-73.10	-70.52	-69.17	-67.78	-66.81	-65.95	-64.42	-63.50	-62.50	-60.31	-56.99	-56.69
2003/9/2	12:00	-71.58	-71.67	-70.78	-69.02	-67.22	-65.94	-64.39	-63.50	-62.51	-60.32	-56.99	-56.70
2003/9/3	0:00	-75.41	-72.77	-71.51	-69.62	-67.68	-65.98	-64.35	-63.49	-62.51	-60.34	-57.00	-56.70
2003/9/3	12:00	-70.32	-71.79	-71.39	-70.12	-68.13	-66.07	-64.34	-63.48	-62.51	-60.35	-57.02	-56.68
2003/9/4	0:00	-64.97	-68.31	-69.05	-69.28	-68.29	-66.21	-64.33	-63.48	-62.52	-60.35	-57.02	-56.69
2003/9/4	12:00	-65.48	-65.96	-66.49	-67.48	-67.86	-66.30	-64.36	-63.47	-62.52	-60.37	-57.03	-56.68
2003/9/5	0:00	-71.19	-69.07	-68.26	-67.62	-67.44	-66.34	-64.37	-63.47	-62.52	-60.38	-57.05	-56.69
2003/9/5	12:00	-69.05	-69.83	-69.39	-68.46	-67.51	-66.35	-64.40	-63.48	-62.52	-60.39	-57.05	-56.70
2003/9/6	0:00	-67.98	-68.36	-68.42	-68.27	-67.64	-66.32	-64.42	-63.49	-62.52	-60.40	-57.06	-56.68
2003/9/6	12:00	-67.81	-68.36	-68.29	-68.08	-67.55	-66.33	-64.43	-63.49	-62.53	-60.41	-57.06	-56.68
2003/9/7	0:00	-70.59	-69.39	-68.80	-68.12	-67.51	-66.31	-64.46	-63.50	-62.53	-60.42	-57.07	-56.70
2003/9/7	12:00	-73.58	-71.48	-70.28	-68.75	-67.60	-66.31	-64.46	-63.51	-62.53	-60.44	-57.08	-56.69
2003/9/8	0:00	-80.14	-75.11	-72.95	-70.24	-68.03	-66.32	-64.48	-63.51	-62.55	-60.43	-57.10	-56.68
2003/9/8	12:00	-77.30	-76.33	-74.82	-71.98	-68.81	-66.38	-64.49	-63.53	-62.56	-60.44	-57.10	-56.69
2003/9/9	0:00	-78.72	-75.98	-74.50	-72.24	-69.48	-66.52	-64.50	-63.53	-62.56	-60.45	-57.11	-56.69
2003/9/9	12:00	-73.85	-74.76	-74.26	-72.64	-69.97	-66.72	-64.54	-63.54	-62.57	-60.46	-57.11	-56.68
2003/9/10	0:00	-73.74	-73.13	-72.71	-71.87	-70.13	-66.94	-64.58	-63.54	-62.58	-60.47	-57.12	-56.69
2003/9/10	12:00	-70.80	-71.88	-71.79	-71.27	-70.02	-67.14	-64.64	-63.57	-62.59	-60.49	-57.14	-56.69
2003/9/11	0:00	-75.80	-73.57	-72.46	-71.15	-69.86	-67.28	-64.70	-63.58	-62.59	-60.50	-57.15	-56.69
2003/9/11	12:00	-75.95	-75.25	-74.07	-72.05	-70.00	-67.38	-64.77	-63.63	-62.61	-60.50	-57.15	-56.70
2003/9/12	0:00	-70.17	-71.27	-71.65	-71.61	-70.27	-67.47	-64.85	-63.66	-62.61	-60.52	-57.17	-56.69
2003/9/12	12:00	-70.54	-71.13	-71.06	-70.81	-70.00	-67.56	-64.92	-63.69	-62.63	-60.52	-57.17	-56.69
2003/9/13	0:00	-71.65	-71.69	-71.31	-70.66	-69.79	-67.62	-64.97	-63.72	-62.65	-60.53	-57.17	-56.71
2003/9/13	12:00	-68.41	-70.34	-70.54	-70.43	-69.69	-67.66	-65.03	-63.77	-62.67	-60.54	-57.18	-56.70
2003/9/14	0:00	-69.38	-69.44	-69.51	-69.64	-69.44	-67.66	-65.08	-63.80	-62.70	-60.55	-57.20	-56.71
2003/9/14	12:00	-70.69	-70.75	-70.41	-69.80	-69.19	-67.64	-65.12	-63.84	-62.72	-60.55	-57.20	-56.69
2003/9/15	0:00	-76.40	-73.16	-71.87	-70.36	-69.23	-67.61	-65.18	-63.87	-62.74	-60.58	-57.22	-56.69
2003/9/15	12:00	-73.21	-73.92	-73.23	-71.58	-69.59	-67.57	-65.20	-63.92	-62.77	-60.58	-57.23	-56.70
2003/9/16	0:00	-71.92	-72.54	-72.33	-71.45	-69.90	-67.60	-65.24	-63.95	-62.79	-60.60	-57.22	-56.68
2003/9/16	12:00	-58.98	-65.74	-68.10	-69.95	-69.79	-67.68	-65.26	-63.97	-62.81	-60.61	-57.24	-56.70
2003/9/17	0:00	-60.72	-63.49	-64.88	-67.21	-68.90	-67.74	-65.30	-64.01	-62.83	-60.62	-57.25	-56.71
2003/9/17	12:00	-59.58	-62.91	-64.25	-66.19	-67.92	-67.67	-65.34	-64.04	-62.85	-60.64	-57.27	-56.70
2003/9/18	0:00	-64.05	-63.76	-64.15	-65.47	-67.22	-67.49	-65.37	-64.06	-62.87	-60.65	-57.27	-56.70
2003/9/18	12:00	-63.04	-64.35	-64.95	-65.86	-66.80	-67.24	-65.37	-64.09	-62.89	-60.65	-57.27	-56.70
2003/9/19	0:00	-63.83	-64.37	-64.70	-65.54	-66.56	-67.00	-65.35	-64.11	-62.91	-60.67	-57.29	-56.71
2003/9/19	12:00	-63.39	-64.68	-64.99	-65.55	-66.31	-66.83	-65.31	-64.13	-62.94	-60.68	-57.30	-56.70
2003/9/20	0:00	-64.11	-64.45	-64.64	-65.24	-66.11	-66.62	-65.25	-64.14	-62.96	-60.70	-57.31	-56.69
2003/9/20	12:00	-61.94	-63.65	-64.30	-65.17	-65.94	-66.44	-65.20	-64.14	-62.99	-60.71	-57.32	-56.71
2003/9/21	0:00	-62.40	-63.07	-63.49	-64.55	-65.69	-66.30	-65.10	-64.13	-63.00	-60.72	-57.33	-56.71
2003/9/21	12:00	-62.90	-63.73	-63.95	-64.52	-65.40	-66.11	-65.03	-64.12	-63.01	-60.74	-57.33	-56.71
2003/9/22	0:00	-62.59	-63.19	-63.57	-64.36	-65.28	-65.96	-64.95	-64.10	-63.02	-60.75	-57.34	-56.71
2003/9/22	12:00	-63.21	-63.90	-64.03	-64.41	-65.09	-65.80	-64.86	-64.08	-63.03	-60.76	-57.36	-56.71
2003/9/23	0:00	-62.79	-63.47	-63.78	-64.36	-65.00	-65.66	-64.78	-64.05	-63.03	-60.77	-57.36	-56.70
2003/9/23	12:00	-64.76	-64.32	-64.17	-64.37	-64.90	-65.55	-64.69	-64.02	-63.05	-60.79	-57.36	-56.72
2003/9/24	0:00	-66.80	-65.26	-64.84	-64.72	-64.94	-65.42	-64.61	-63.99	-63.02	-60.80	-57.37	-56.71
2003/9/24	12:00	-68.65	-66.98	-66.20	-65.43	-65.09	-65.33	-64.51	-63.95	-63.02	-60.82	-57.39	-56.71
2003/9/25	0:00	-67.98	-67.00	-66.55	-65.98	-65.39	-65.24	-64.42	-63.90	-63.01	-60.83	-57.38	-56.71
2003/9/25	12:00	-67.80	-67.52	-67.04	-66.32	-65.63	-65.24	-64.36	-63.86	-63.00	-60.85	-57.39	-56.70

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)	
2003/9/26	0:00	-67.34	-66.74	-66.56	-66.31	-65.81	-65.26	-64.32	-63.82	-62.97	-60.86	-57.41	-56.70	
2003/9/26	12:00	-69.17	-67.90	-67.23	-66.51	-65.89	-65.29	-64.28	-63.79	-62.97	-60.88	-57.41	-56.71	
2003/9/27	0:00	-67.26	-67.29	-67.11	-66.71	-66.06	-65.31	-64.26	-63.76	-62.95	-60.89	-57.42	-56.72	
2003/9/27	12:00	-67.55	-67.24	-66.96	-66.61	-66.10	-65.36	-64.25	-63.73	-62.93	-60.89	-57.43	-56.72	
2003/9/28	0:00	-66.60	-66.65	-66.61	-66.51	-66.15	-65.89	-64.24	-63.70	-62.91	-60.90	-57.43	-56.70	
2003/9/28	12:00	-67.54	-67.09	-66.74	-66.43	-66.10	-65.40							
2003/9/29	0:00	-67.58	-66.91	-66.67	-66.47	-66.12	-65.42	-64.25	-63.67	-62.90	-60.92	-57.45	-56.70	
2003/9/29	12:00	-68.50	-67.77	-67.24	-66.65	-66.11	-65.42	-64.25	-63.66	-62.88	-60.93	-57.46	-56.72	
2003/9/30	0:00	-67.60	-67.22	-67.03	-66.73	-66.24	-65.44	-64.25	-63.65	-62.87	-60.94	-57.47	-56.74	
2003/9/30	12:00	-67.15	-67.34	-67.10	-66.73	-66.24	-65.45	-64.24	-63.65	-62.86	-60.94	-57.48	-56.71	
2003/10/1	0:00	-65.38	-66.07	-66.28	-66.47	-66.24	-65.45	-64.25	-63.63	-62.85	-60.95	-57.48	-56.72	
2003/10/1	12:00	-64.17	-65.76	-65.96	-66.11	-66.08	-65.44	-64.25	-63.63	-62.84	-60.97	-57.49	-56.72	
2003/10/2	0:00	-63.86	-64.39	-64.83	-65.51	-65.89	-65.44	-64.25	-63.63	-62.84	-60.98	-57.50	-56.72	
2003/10/2	12:00	-62.32	-64.40	-64.81	-65.27	-65.61	-65.39	-64.26	-63.63	-62.83	-60.97	-57.50	-56.71	
2003/10/3	0:00	-63.38	-63.52	-63.89	-64.68	-65.38	-65.35	-64.25	-63.62	-62.83	-60.98	-57.51	-56.72	
2003/10/3	12:00	-63.83	-64.52	-64.49	-64.71	-65.09	-65.26	-64.22	-63.62	-62.82	-60.99	-57.52	-56.74	
2003/10/4	0:00	-65.05	-64.32	-64.30	-64.61	-65.01	-65.16	-64.18	-63.61	-62.82	-60.99	-57.53	-56.74	
2003/10/4	12:00	-66.47	-66.05	-65.53	-65.05	-64.95	-65.04	-64.14	-63.59	-62.82	-61.00	-57.54	-56.74	
2003/10/5	0:00	-66.98	-65.86	-65.47	-65.28	-65.08	-65.00	-64.09	-63.57	-62.82	-61.00	-57.57	-56.72	
2003/10/5	12:00	-66.95	-67.20	-66.62	-65.81	-65.22	-64.95	-64.04	-63.56	-62.81	-61.01	-57.57	-56.72	
2003/10/6	0:00	-67.33	-66.32	-66.03	-65.79	-65.41	-64.93	-64.01	-63.53	-62.80	-61.01	-57.58	-56.72	
2003/10/6	12:00	-65.96	-66.69	-66.47	-66.00	-65.45	-64.89	-63.97	-63.51	-62.79	-61.01	-57.59	-56.75	
2003/10/7	0:00	-67.28	-66.24	-65.95	-65.78	-65.55	-64.94	-63.96	-63.49	-62.78	-61.02	-57.60	-56.72	
2003/10/7	12:00	-65.97	-66.64	-66.44	-66.04	-65.53	-64.96	-63.94	-63.47	-62.78	-61.03	-57.60	-56.75	
2003/10/8	0:00	-67.14	-66.08	-65.88	-65.79	-65.60	-64.98	-63.94	-63.46	-62.78	-61.02	-57.62	-56.72	
2003/10/8	12:00	-66.78	-67.12	-66.71	-66.10	-65.58	-64.95	-63.95	-63.44	-62.76	-61.03	-57.62	-56.72	
2003/10/9	0:00	-67.81	-66.51	-66.21	-66.03	-65.67	-64.98	-63.95	-63.44	-62.75	-61.03	-57.63	-56.75	
2003/10/9	12:00	-67.90	-68.03	-67.41	-66.50	-65.71	-64.99	-63.95	-63.43	-62.75	-61.03	-57.63	-56.74	
2003/10/10	0:00	-69.01	-67.28	-66.84	-66.48	-65.90	-65.01	-63.95	-63.42	-62.74	-61.04	-57.65	-56.76	
2003/10/10	12:00	-68.36	-68.68	-68.07	-67.02	-66.01	-65.03	-63.96	-63.42	-62.73	-61.04	-57.66	-56.74	
2003/10/11	0:00	-70.23	-68.00	-67.43	-66.93	-66.21	-65.08	-63.98	-63.42	-62.72	-61.05	-57.66	-56.76	
2003/10/11	12:00	-68.69	-69.43	-68.81	-67.60	-66.34	-65.13	-64.00	-63.41	-62.72	-61.05	-57.67	-56.75	
2003/10/12	0:00	-65.79	-66.50	-66.82	-67.04	-66.52	-65.19	-64.03	-63.42	-62.71	-61.05	-57.67	-56.77	
2003/10/12	12:00	-66.37	-67.10	-66.94	-66.68	-66.31	-65.28	-64.06	-63.42	-62.71	-61.05	-57.69	-56.75	
2003/10/13	0:00	-66.23	-66.06	-66.15	-66.34	-66.23	-65.30	-64.09	-63.42	-62.70	-61.06	-57.68	-56.75	
2003/10/13	12:00	-66.53	-67.02	-66.77	-66.38	-66.06	-65.31	-64.13	-63.44	-62.71	-61.07	-57.71	-56.75	
2003/10/14	0:00	-65.73	-65.79	-65.92	-66.16	-66.05	-65.30	-64.16	-63.45	-62.71	-61.06	-57.72	-56.76	
2003/10/14	12:00	-63.84	-65.76	-66.00	-66.04	-65.93	-65.29	-64.18	-63.47	-62.71	-61.06	-57.72	-56.75	
2003/10/15	0:00	-64.18	-64.18	-64.55	-65.31	-65.73	-65.28	-64.18	-63.48	-62.72	-61.06	-57.72	-56.76	
2003/10/15	12:00	-62.94	-64.79	-65.02	-65.26	-65.46	-65.22	-64.20	-63.50	-62.73	-61.07	-57.73	-56.75	
2003/10/16	0:00	-63.64	-63.76	-64.07	-64.76	-65.32	-65.16	-64.18	-63.50	-62.74	-61.07	-57.73	-56.77	
2003/10/16	12:00	-60.76	-63.38	-63.96	-64.61	-65.07	-65.06	-64.17	-63.51	-62.74	-61.08	-57.74	-56.76	
2003/10/17	0:00	-62.57	-62.28	-62.74	-63.83	-64.78	-65.00	-64.14	-63.50	-62.75	-61.08	-57.75	-56.75	
2003/10/17	12:00	-60.89	-63.13	-63.48	-63.91	-64.48	-64.88	-64.12	-63.50	-62.75	-61.08	-57.76	-56.77	
2003/10/18	0:00	-61.58	-61.53	-62.10	-63.27	-64.30	-64.77	-64.07	-63.50	-62.75	-61.08	-57.76	-56.76	
2003/10/18	12:00	-62.15	-63.20	-63.25	-63.46	-64.03	-64.66	-64.03	-63.49	-62.75	-61.09	-57.77	-56.76	
2003/10/19	0:00	-62.65	-62.43	-62.65	-63.27	-63.97	-64.52	-63.97	-63.47	-62.76	-61.08	-57.78	-56.77	
2003/10/19	12:00	-62.11	-63.11	-63.21	-63.43	-63.84	-64.42	-63.90	-63.45	-62.76	-61.09	-57.79	-56.77	
2003/10/20	0:00	-62.99	-62.45	-62.62	-63.22	-63.80	-64.33	-63.83	-63.43	-62.74	-61.09	-57.79	-56.77	
2003/10/20	12:00	-60.76	-62.72	-63.02	-63.33	-63.69	-64.20	-63.76	-63.40	-62.73	-61.10	-57.80	-56.76	
2003/10/21	0:00	-60.26	-61.19	-61.78	-62.78	-63.60	-64.15	-63.68	-63.37	-62.73	-61.10	-57.81	-56.77	
2003/10/21	12:00	-60.77	-61.91	-62.14	-62.61	-63.34	-64.05	-63.62	-63.34	-62.72	-61.10	-57.81	-56.77	
2003/10/22	0:00	-61.13	-61.01	-61.45	-62.31	-63.21	-63.94	-63.54	-63.31	-62.70	-61.11	-57.82	-56.77	
2003/10/22	12:00	-62.60	-62.88	-62.68	-62.62	-63.05	-63.84	-64.47	-63.26	-62.69	-61.11	-57.84	-56.79	
2003/10/23	0:00	-63.40	-62.36	-62.36	-62.69	-63.10	-63.74	-64.40	-63.22	-62.66	-61.12	-57.85	-56.78	
2003/10/23	12:00	-63.17	-63.84	-63.57	-63.21	-63.14	-63.66	-63.33	-63.18	-62.65	-61.12	-57.85	-56.77	
2003/10/24	0:00	-62.36	-62.34	-62.58	-63.05	-63.27	-63.59	-63.25	-63.14	-62.63	-61.12	-57.87	-56.77	
2003/10/24	12:00	-60.72	-62.55	-62.80	-63.02	-63.20	-63.55	-63.19	-63.10	-62.60	-61.12	-57.87	-56.78	
2003/10/25	0:00	-60.05	-60.69	-61.32	-62.36	-63.12	-63.54	-63.13	-63.06	-62.58	-61.13	-57.88	-56.78	
2003/10/25	12:00	-60.61	-61.71	-61.90	-62.25	-62.86	-63.47							
2003/10/26	0:00	-61.73	-61.10	-61.35	-62.02	-62.76	-63.42	-63.02	-62.96	-62.54	-61.12	-57.89	-56.79	
2003/10/26	12:00	-60.60	-62.21	-62.28	-62.35	-62.65	-63.32	-62.96	-62.93	-62.51	-61.13	-57.90	-56.77	
2003/10/27	0:00	-60.15	-60.71	-61.22	-62.02	-62.64	-63.27	-62.91	-62.89	-62.49	-61.12	-57.91	-56.78	
2003/10/27	12:00	-59.65	-61.55	-61.77	-62.05	-62.50	-63.19	-62.86	-62.85	-62.47	-61.12	-57.91	-56.78	
2003/10/28	0:00	-59.27	-59.80	-60.43	-61.53	-62.41	-63.12	-62.80	-62.81	-62.45	-61.13	-57.91	-56.79	
2003/10/28	12:00	-58.75	-60.74	-61.03	-61.50	-62.18	-63.03	-62.75	-62.78	-62.42	-61.12	-57.92	-56.80	
2003/10/29	0:00	-58.62	-59.20	-59.87	-61.02	-62.05	-62.98	-62.69	-62.74	-62.39	-61.12	-57.92	-56.79	
2003/10/29	12:00	-58.79	-60.27	-60.54	-61.04	-61.81	-62.88	-62.64	-62.70	-62.36	-61.12	-57.93	-56.80	
2003/10/30	0:00	-60.28	-59.65	-59.95	-60.80	-61.71	-62.79	-62.57	-62.66	-62.33	-61.10	-57.94	-56.80	
2003/10/30	12:00	-58.98	-60.79	-60.94	-61.13	-61.61	-62.68	-62.50	-62.61	-62.29	-61.11	-57.94	-56.80	
2003/10/31	0:00	-58.59	-59.03	-59.64	-60.71	-61.63	-62.58	-62.44	-62.57	-62.27	-61.10	-57.96	-56.78	
2003/10/31	12:00	-54.00	-57.99	-59.10	-60.33	-61.39	-62.42	-62.36	-62.54	-62.25	-61.11	-57.95	-56.79	
2003/11/1	0:00	-50.00	-54.53	-56.46	-58.98	-61.02	-62.42	-62.28	-62.48	-62.21	-61.10	-57.96	-56.81	
2003/11/1	12:00	-46.76	-52.36	-54.53	-57.52	-60.28	-62.27	-62.21	-62.44	-62.18	-61.09	-57.96	-56.79	
2003/11/2	0:00	-46.59	-50.14	-52.32	-55.92	-59.46	-62.10	-62.13	-62.39	-62.15	-61.09	-57.98	-56.79	
2003/11/2	12:00	-43.46	-49.52	-51.75	-55.04	-58.66	-61.84	-62.03	-62.32	-62.12	-61.09	-57.98	-56.80	
2003/11/3	0:00	-42.77	-47.39	-49.83	-53.72	-57.78	-61.54	-61.91	-62.26	-62.09	-61.07	-57.99	-56.80	

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)
2003/11/3	12:00	-41.94	-46.94	-49.19	-52.75	-56.88	-61.18	-61.77	-62.21	-62.05	-61.07	-57.99	-56.81
2003/11/4	0:00	-43.90	-46.33	-48.28	-51.91	-56.14	-60.80	-61.60	-62.14	-62.02	-61.07	-58.00	-56.81
2003/11/4	12:00	-43.28	-47.38	-48.97	-51.76	-55.54	-60.39	-61.40	-62.05	-61.97	-61.06	-58.00	-56.80
2003/11/5	0:00	-43.56	-46.41	-48.20	-51.34	-55.12	-59.98	-61.21	-61.97	-61.93	-61.05	-58.01	-56.80
2003/11/5	12:00	-44.54	-47.68	-48.97	-51.28	-54.63	-59.61	-60.99	-61.86	-61.89	-61.05	-58.02	-56.81
2003/11/6	0:00	-44.49	-46.85	-48.39	-51.10	-54.43	-59.24	-60.74	-61.74	-61.83	-61.03	-58.03	-56.81
2003/11/6	12:00	-44.73	-47.64	-48.83	-50.98	-54.10	-58.91	-60.50	-61.62	-61.78	-61.03	-58.04	-56.80
2003/11/7	0:00	-45.25	-46.93	-48.28	-50.81	-53.88	-58.60	-60.28	-61.49	-61.71	-61.01	-58.04	-56.82
2003/11/7	12:00	-46.18	-48.52	-49.32	-51.00	-53.65	-58.33	-60.04	-61.35	-61.63	-61.01	-58.05	-56.81
2003/11/8	0:00	-47.67	-48.26	-49.15	-51.06	-53.63	-58.06	-59.83	-61.22	-61.57	-61.00	-58.06	-56.83
2003/11/8	12:00	-48.51	-50.09	-50.50	-51.54	-53.56	-57.82	-59.62	-61.09	-61.49	-60.99	-58.06	-56.82
2003/11/9	0:00	-49.75	-49.66	-50.29	-51.69	-53.67	-57.64	-59.40	-60.93	-61.40	-60.98	-58.06	-56.81
2003/11/9	12:00	-50.33	-51.65	-51.80	-52.31	-53.75	-57.45	-59.23	-60.80	-61.32	-60.95	-58.06	-56.82
2003/11/10	0:00	-50.49	-50.68	-51.25	-52.45	-53.95	-57.35	-59.04	-60.66	-61.23	-60.94	-58.08	-56.83
2003/11/10	12:00	-49.97	-51.87	-52.21	-52.80	-53.99	-57.23	-58.87	-60.53	-61.15	-60.93	-58.07	-56.83
2003/11/11	0:00	-49.28	-50.29	-51.18	-52.60	-54.14	-57.15	-58.73	-60.39	-61.06	-60.90	-58.11	-56.82
2003/11/11	12:00	-49.70	-51.59	-51.99	-52.73	-54.06	-57.11	-58.60	-60.26	-60.95	-60.88	-58.09	-56.83
2003/11/12	0:00	-50.48	-50.61	-51.25	-52.59	-54.15	-57.03	-58.48	-60.14	-60.86	-60.87	-58.12	-56.83
2003/11/12	12:00	-50.43	-52.14	-52.37	-52.91	-54.08	-56.96	-58.37	-60.04	-60.77	-60.83	-58.12	-56.84
2003/11/13	0:00	-49.62	-50.41	-51.29	-52.73	-54.18	-56.91	-58.28	-59.92	-60.68	-60.81	-58.13	-56.82
2003/11/13	12:00	-49.89	-51.59	-52.00	-52.78	-54.09	-56.86	-58.18	-59.83	-60.60	-60.78	-58.12	-56.84
2003/11/14	0:00	-49.83	-50.50	-51.21	-52.58	-54.10	-56.78	-58.08	-59.73	-60.50	-60.76	-58.13	-56.84
2003/11/14	12:00	-49.94	-51.73	-52.10	-52.80	-54.05	-56.72	-58.01	-59.63	-60.42	-60.74	-58.13	-56.84
2003/11/15	0:00	-49.84	-50.48	-51.21	-52.58	-54.05	-56.68	-57.93	-59.53	-60.35	-60.71	-58.14	-56.85
2003/11/15	12:00	-49.84	-51.69	-52.07	-52.76	-53.97	-56.60	-57.85	-59.44	-60.26	-60.68	-58.15	-56.85
2003/11/16	0:00	-49.47	-50.21	-51.06	-52.51	-54.00	-56.55	-57.77	-59.36	-60.18	-60.65	-58.15	-56.84
2003/11/16	12:00	-49.20	-51.32	-51.76	-52.57	-53.86	-56.49	-57.70	-59.29	-60.11	-60.61	-58.15	-56.84
2003/11/17	0:00	-49.78	-50.14	-50.86	-52.32	-53.89	-56.45	-57.63	-59.21	-60.04	-60.60	-58.16	-56.84
2003/11/17	12:00	-50.09	-51.84	-52.07	-52.61	-53.75	-56.37	-57.54	-59.13	-59.95	-60.56	-58.17	-56.84
2003/11/18	0:00	-48.97	-50.09	-50.93	-52.40	-53.85	-56.30	-57.48	-59.05	-59.89	-60.53	-58.16	-56.84
2003/11/18	12:00	-48.17	-50.68	-51.31	-52.31	-53.70	-56.23	-57.41	-58.98	-59.82	-60.50	-58.18	-56.84
2003/11/19	0:00	-47.59	-48.96	-50.01	-51.87	-53.62	-56.18	-57.35	-58.89	-59.74	-60.46	-58.18	-56.84
2003/11/19	12:00	-47.34	-49.90	-50.63	-51.75	-53.36	-56.12	-57.29	-58.83	-59.68	-60.44	-58.19	-56.86
2003/11/20	0:00	-46.95	-48.31	-49.42	-51.33	-53.27	-56.04	-57.21	-58.75	-59.62	-60.39	-58.19	-56.84
2003/11/20	12:00	-46.98	-49.38	-50.11	-51.27	-53.02	-55.96	-57.15	-58.70	-59.55	-60.37	-58.19	-56.84
2003/11/21	0:00	-46.79	-48.00	-49.04	-50.94	-52.91	-55.85	-57.08	-58.62	-59.48	-60.34	-58.20	-56.85
2003/11/21	12:00	-46.49	-49.05	-49.75	-50.94	-52.71	-55.75	-57.00	-58.55	-59.41	-60.29	-58.20	-56.84
2003/11/22	0:00	-46.58	-47.64	-48.71	-50.57	-52.63	-55.64	-56.93	-58.49	-59.35	-60.25	-58.21	-56.85
2003/11/22	12:00	-46.69	-49.17	-49.70	-50.70	-52.36	-55.50	-56.84	-58.43	-59.29	-60.22	-58.21	-56.85
2003/11/23	0:00	-46.48	-47.53	-48.59	-50.44	-52.38	-55.39	-56.75	-58.34	-59.24	-60.19	-58.23	-56.86
2003/11/23	12:00	-46.27	-48.84	-49.46	-50.53	-52.19	-55.30	-56.66	-58.28	-59.16	-60.15	-58.23	-56.88
2003/11/24	0:00	-46.07	-47.20	-48.33	-50.18	-52.14	-55.20	-56.57	-58.20	-59.11	-60.13	-58.23	-56.85
2003/11/24	12:00	-45.92	-48.51	-49.17	-50.26	-51.97	-55.08	-56.49	-58.13	-59.05	-60.09	-58.24	-56.88
2003/11/25	0:00	-45.29	-46.77	-47.94	-49.89	-51.93	-55.00	-56.38	-58.05	-58.99	-60.06	-58.23	-56.89
2003/11/25	12:00	-45.19	-47.87	-48.57	-49.84	-51.69	-54.88	-56.29	-57.98	-58.94	-60.03	-58.25	-56.88
2003/11/26	0:00	-44.51	-46.19	-47.42	-49.45	-51.62	-54.80	-56.21	-57.90	-58.86	-59.98	-58.26	-56.89
2003/11/26	12:00	-44.63	-47.18	-47.96	-49.37	-51.36	-54.69	-56.10	-57.82	-58.79	-59.95	-58.26	-56.88
2003/11/27	0:00	-43.16	-45.28	-46.69	-48.94	-51.21	-54.54	-56.00	-57.75	-58.73	-59.90	-58.27	-56.88
2003/11/27	12:00	-43.34	-46.12	-47.10	-48.68	-50.92	-54.42	-55.92	-57.67	-58.67	-59.88	-58.26	-56.90
2003/11/28	0:00	-43.12	-44.73	-46.07	-48.31	-50.77	-54.30	-55.81	-57.58	-58.59	-59.85	-58.26	-56.88
2003/11/28	12:00	-43.64	-46.06	-48.85	-48.26	-50.44	-54.17	-55.72	-57.51	-58.54	-59.82	-58.27	-56.89
2003/11/29	0:00	-43.13	-44.72	-45.94	-48.04	-50.36	-54.00	-55.61	-57.42	-58.47	-59.78	-58.28	-56.89
2003/11/29	12:00	-43.46	-45.90	-46.70	-48.03	-50.15	-53.86	-55.50	-57.35	-58.42	-59.74	-58.28	-56.90
2003/11/30	0:00	-42.79	-44.37	-45.63	-47.78	-50.06	-53.73	-55.40	-57.26	-58.35	-59.70	-58.27	-56.89
2003/11/30	12:00	-42.95	-45.68	-46.38	-47.76	-49.84	-53.60	-55.28	-57.18	-58.29	-59.67	-58.27	-56.90
2003/12/1	0:00	-41.76	-43.79	-45.17	-47.44	-49.80	-53.48	-55.18	-57.10	-58.21	-59.64	-58.27	-56.90
2003/12/1	12:00	-42.01	-44.79	-45.69	-47.27	-49.52	-53.32	-55.07	-57.02	-58.14	-59.60	-58.28	-56.89
2003/12/2	0:00	-41.12	-44.17	-44.57	-46.90	-49.42	-53.21	-54.97	-56.93	-58.06	-59.55	-58.28	-56.90
2003/12/2	12:00	-41.89	-44.17	-45.09	-46.77	-49.11	-53.06	-54.86	-56.83	-58.01	-59.53	-58.29	-56.91
2003/12/3	0:00	-39.86	-42.43	-43.92	-46.39	-49.01	-52.95	-54.74	-56.76	-57.94	-59.49	-58.30	-56.92
2003/12/3	12:00	-40.18	-43.03	-44.05	-46.03	-48.66	-52.82	-54.64	-56.66	-57.88	-59.45	-58.30	-56.92
2003/12/4	0:00	-40.89	-42.44	-43.66	-45.82	-48.49	-52.63	-54.52	-56.57	-57.79	-59.41	-58.29	-56.91
2003/12/4	12:00	-41.67	-43.77	-44.50	-45.96	-48.27	-52.51	-54.41	-56.50	-57.74	-59.38	-58.30	-56.92
2003/12/5	0:00	-40.57	-42.36	-43.63	-45.81	-48.22	-52.33	-54.30	-56.40	-57.67	-59.35	-58.28	-56.93
2003/12/5	12:00	-41.46	-43.69	-44.38	-45.77	-48.02	-52.19	-54.16	-56.31	-57.59	-59.30	-58.30	-56.92
2003/12/6	0:00	-40.17	-42.06	-43.41	-45.57	-47.98	-52.07	-54.04	-56.22	-57.50	-59.26	-58.29	-56.92
2003/12/6	12:00	-40.67	-43.09	-43.94	-45.49	-47.78	-51.91	-53.92	-56.12	-57.43	-59.23	-58.30	-56.92
2003/12/7	0:00	-38.91	-41.35	-42.77	-45.12	-47.71	-51.79	-53.80	-56.02	-57.36	-59.18	-58.30	-56.93
2003/12/7	12:00	-38.90	-41.71	-42.84	-44.78	-47.39	-51.63	-53.68	-55.94	-57.29	-59.14	-58.30	-56.92
2003/12/8	0:00	-38.09	-40.28	-41.76	-44.35	-47.22	-51.52	-53.57	-55.84	-57.21	-59.11	-58.30	-56.93
2003/12/8	12:00	-38.95	-41.49	-42.40	-44.22	-46.85	-51.37	-53.45	-55.76	-57.13	-59.07	-58.30	-56.92
2003/12/9	0:00	-38.14	-40.09	-41.47	-43.93	-46.72	-51.19	-53.33	-55.66	-57.06	-59.03	-58.30	-56.93
2003/12/9	12:00	-38.69	-41.38	-42.23	-43.92	-46.48	-51.03	-53.22	-55.57	-56.99	-59.00	-58.30	-56.93
2003/12/10	0:00	-37.52	-39.58	-41.11	-43.61	-46.36	-50.90	-53.08	-55.46	-56.91	-58.95	-58.30	-56.94
2003/12/10	12:00	-38.26	-40.93	-41.86	-43.55	-46.13	-50.70	-52.97	-55.37	-56.83	-58.91	-58.30	-56.93
2003/12/11	0:00	-37.54	-39.35	-40.77	-43.27	-46.02	-50.55	-52.83	-55.26	-56.75	-58.86	-58.31	-56.93
2003/12/11	12:00	-38.54	-40.96	-41.69	-43.29	-45.81	-50.40	-52.72	-55.17	-56.67	-58.82	-58.30	-56.94

Table 5-1 (continued).

Date	Time	0 m (° C)	0.05 m (° C)	0.1 m (° C)	0.2 m (° C)	0.4 m (° C)	0.8 m (° C)	1.2 m (° C)	1.5 m (° C)	2 m (° C)	3 m (° C)	6 m (° C)	11 m (° C)	
2003/12/12	0:00	-36.80	-39.16	-40.62	-43.09	-45.76	-50.26	-52.59	-55.06	-56.59	-58.78	-58.30	-56.95	
2003/12/12	12:00	-35.50	-39.22	-40.55	-42.74	-45.50	-50.10	-52.48	-54.97	-56.52	-58.74	-58.30	-56.95	
2003/12/13	0:00	-34.12	-37.15	-39.01	-42.05	-45.24	-49.97	-52.36	-54.86	-56.42	-58.69	-58.29	-56.95	
2003/12/13	12:00	-34.28	-37.54	-38.96	-41.53	-44.83	-49.81	-52.23	-54.76	-56.36	-58.66	-58.30	-56.94	
2003/12/14	0:00	-34.20	-36.75	-38.29	-41.12	-44.53	-49.64	-52.10	-54.66	-56.27	-58.61	-58.30	-56.95	
2003/12/14	12:00	-35.06	-37.47	-38.65	-40.96	-44.15	-49.43	-51.98	-54.56	-56.19	-58.56	-58.29	-56.96	
2003/12/15	0:00	-33.95	-36.53	-38.06	-40.74	-43.99	-49.22	-51.85	-54.46	-56.10	-58.53	-58.30	-56.95	
2003/12/15	12:00	-35.56	-37.47	-38.47	-40.58	-43.68	-48.99	-51.71	-54.36	-56.03	-58.49	-58.30	-56.95	
2003/12/16	0:00	-34.51	-36.91	-38.26	-40.58	-43.57	-48.87	-51.57	-54.26	-55.95	-58.45	-58.30	-56.97	
2003/12/16	12:00	-36.85	-37.89	-38.65	-40.52	-43.43	-48.65	-51.42	-54.15	-55.86	-58.40	-58.30	-56.96	
2003/12/17	0:00	-35.70	-37.84	-38.93	-40.80	-43.41	-48.49	-51.28	-54.05	-55.78	-58.36	-58.29	-56.97	
2003/12/17	12:00	-36.79	-38.22	-39.00	-40.79	-43.35	-48.37	-51.13	-53.93	-55.70	-58.31	-58.29	-56.97	
2003/12/18	0:00	-35.22	-37.64	-38.80	-40.86	-43.34	-48.23							
2003/12/18	12:00	-36.79	-38.11	-38.94	-40.69	-43.28	-48.08	-50.82	-53.70	-55.50	-58.20	-58.27	-56.96	
2003/12/19	0:00	-35.64	-37.80	-38.90	-40.78	-43.24	-48.00	-50.68	-53.59	-55.42	-58.16	-58.27	-56.97	
2003/12/19	12:00	-37.44	-38.58	-39.23	-40.78	-43.12	-47.87	-50.56	-53.48	-55.33	-58.12	-58.27	-56.97	
2003/12/20	0:00	-35.76	-37.98	-39.10	-40.92	-43.16	-47.79							
2003/12/20	12:00	-37.41	-38.58	-39.26	-40.79	-43.13	-47.65	-50.30	-53.26	-55.17	-58.02	-58.27	-56.98	
2003/12/21	0:00	-35.78	-37.97	-39.10	-40.87	-43.13	-47.59	-50.15	-53.13	-55.06	-57.98	-58.26	-56.97	
2003/12/21	12:00	-36.74	-38.20	-39.04	-40.71	-42.98	-47.49	-50.04	-53.03	-54.99	-57.94	-58.27	-56.98	
2003/12/22	0:00	-35.27	-37.67	-38.77	-40.69	-42.98	-47.43	-49.91	-52.92	-54.90	-57.88	-58.25	-56.97	
2003/12/22	12:00	-36.54	-38.04	-38.79	-40.48	-42.84	-47.33	-49.79	-52.80	-54.79	-57.84	-58.25	-56.98	
2003/12/23	0:00	-34.75	-37.17	-38.40	-40.44	-42.83	-47.26	-49.67	-52.70	-54.70	-57.78	-58.24	-56.98	
2003/12/23	12:00	-35.84	-37.58	-38.45	-40.14	-42.65	-47.11	-49.56	-52.60	-54.62	-57.74	-58.25	-56.98	
2003/12/24	0:00	-34.61	-36.94	-38.10	-40.10	-42.60	-47.06	-49.44	-52.50	-54.53	-57.69	-58.25	-56.99	
2003/12/24	12:00	-34.95	-36.88	-37.87	-39.85	-42.40	-46.97	-49.34	-52.40	-54.44	-57.65	-58.25	-56.99	
2003/12/25	0:00	-33.99	-36.30	-37.55	-39.65	-42.30	-46.85	-49.22	-52.29	-54.36	-57.60	-58.25	-57.00	
2003/12/25	12:00	-35.33	-36.87	-37.69	-39.52	-42.07	-46.77	-49.10	-52.18	-54.26	-57.53	-58.25	-56.99	
2003/12/26	0:00	-34.24	-36.37	-37.57	-39.59	-42.08	-46.67	-48.97	-52.08	-54.16	-57.47	-58.24	-56.99	
2003/12/26	12:00	-35.85	-37.16	-37.89	-39.50	-41.96	-46.55	-48.84	-51.97	-54.08	-57.43	-58.24	-57.00	
2003/12/27	0:00	-34.58	-36.70	-37.75	-39.61	-41.94	-46.48	-48.72	-51.88	-53.98	-57.38	-58.24	-57.00	
2003/12/27	12:00	-35.79	-37.16	-37.83	-39.44	-41.77	-46.37	-48.61	-51.78	-53.91	-57.33	-58.23	-57.02	
2003/12/28	0:00	-34.13	-36.43	-37.52	-39.44	-41.76	-46.24	-48.50	-51.69	-53.83	-57.27	-58.23	-57.02	
2003/12/28	12:00	-35.27	-36.82	-37.59	-39.25	-41.68	-46.19	-48.39	-51.59	-53.74	-57.22	-58.21	-57.02	
2003/12/29	0:00	-33.69	-36.08	-37.26	-39.23	-41.65	-46.10	-48.28	-51.47	-53.64	-57.17	-58.20	-57.02	
2003/12/29	12:00	-35.09	-36.52	-37.29	-39.00	-41.45	-45.95	-48.18	-51.38	-53.56	-57.12	-58.20	-57.02	
2003/12/30	0:00	-33.38	-35.63	-36.89	-38.92	-41.39	-45.88	-48.08	-51.29	-53.47	-57.07	-58.20	-57.03	
2003/12/30	12:00	-34.83	-36.32	-37.03	-38.74	-41.19	-45.81	-47.97	-51.19	-53.38	-57.03	-58.18	-57.02	
2003/12/31	0:00	-32.84	-35.32	-36.55	-38.69	-41.17	-45.69	-47.88	-51.10	-53.30	-56.97	-58.19	-57.02	
2003/12/31	12:00	-33.81	-35.66	-36.53	-38.41	-40.96	-45.58	-47.78	-51.01	-53.22	-56.92	-58.18	-57.03	
2004/1/1	0:00	-32.47	-34.82	-36.11	-38.28	-40.89	-45.51	-47.69	-50.90	-53.13	-56.86	-58.18	-57.02	
2004/1/1	12:00	-33.12	-35.05	-36.02	-37.99	-40.68	-45.38	-47.59	-50.82	-53.06	-56.81	-58.18	-57.03	
2004/1/2	0:00	-31.79	-34.16	-35.47	-37.77	-40.53	-45.25	-47.48	-50.73	-52.97	-56.75	-58.16	-57.03	
2004/1/2	12:00	-33.26	-34.92	-35.75	-37.60	-40.26	-45.11	-47.39	-50.63	-52.87	-56.70	-58.16	-57.03	
2004/1/3	0:00	-31.84	-34.10	-35.35	-37.55	-40.23	-45.00							
2004/1/3	12:00	-33.85	-35.11	-35.76	-37.43	-40.03	-44.89							
2004/1/4	0:00	-32.01	-34.32	-35.49	-37.54	-40.01	-44.78	-47.11	-50.37	-52.63	-56.53	-58.14	-57.03	
2004/1/4	12:00	-32.42	-34.52	-35.45	-37.34	-39.88	-44.65	-47.00	-50.28	-52.55	-56.49	-58.14	-57.04	
2004/1/5	0:00	-31.43	-33.63	-34.87	-37.14	-39.82	-44.57	-46.91	-50.17	-52.47	-56.42	-58.14	-57.04	
2004/1/5	12:00	-33.01	-34.45	-35.17	-36.95	-39.61	-44.43	-46.80	-50.10	-52.40	-56.37	-58.13	-57.04	
2004/1/6	0:00	-31.59	-33.67	-34.87	-37.00	-39.58	-44.34	-46.72	-50.02	-52.31	-56.32	-58.13	-57.05	
2004/1/6	12:00	-33.46	-34.67	-35.31	-36.92	-39.39	-44.25	-46.63	-49.92	-52.24	-56.27	-58.12	-57.04	
2004/1/7	0:00	-31.98	-34.01	-35.05	-37.01	-39.39	-44.14	-46.53	-49.84	-52.15	-56.22	-58.11	-57.05	
2004/1/7	12:00	-33.89	-34.88	-35.41	-36.95	-39.29	-44.04	-46.45	-49.76	-52.06	-56.15	-58.09	-57.05	
2004/1/8	0:00	-32.63	-34.39	-35.35	-37.10	-39.32	-43.91	-46.34	-49.67	-51.99	-56.10	-58.09	-57.05	
2004/1/8	12:00	-34.63	-35.37	-35.81	-37.12	-39.24	-43.83	-46.26	-49.58	-51.91	-56.05	-58.09	-57.05	
2004/1/9	0:00	-33.01	-34.77	-35.67	-37.30	-39.36	-43.77	-46.18	-49.48	-51.84	-56.00	-58.07	-57.05	
2004/1/9	12:00	-33.46	-34.98	-35.68	-37.21	-39.32	-43.71	-46.09	-49.40	-51.75	-55.94	-58.06	-57.06	
2004/1/10	0:00	-32.74	-34.41	-35.36	-37.14	-39.32	-43.66	-46.02	-49.32	-51.68	-55.88	-58.06	-57.06	
2004/1/10	12:00	-34.87	-35.49	-35.90	-37.14	-39.24	-43.55	-45.96	-49.24	-51.61	-55.83	-58.06	-57.07	
2004/1/11	0:00	-34.04	-35.25	-35.96	-37.40	-39.30	-43.54	-45.89	-49.16	-51.51	-55.77	-58.04	-57.06	
2004/1/11	12:00	-36.29	-36.56	-36.76	-37.56	-39.31	-43.45	-45.82	-49.10	-51.44	-55.74	-58.04	-57.06	
2004/1/12	0:00	-34.61	-35.98	-36.65	-37.88	-39.49	-43.43	-45.75	-49.01	-51.37	-55.67	-58.02	-57.06	
2004/1/12	12:00	-36.61	-36.97	-37.17	-37.98	-39.51	-43.38	-45.68	-48.93	-51.30	-55.62	-58.02	-57.06	
2004/1/13	0:00	-34.58	-36.14	-36.90	-38.15	-39.69	-43.34	-45.62	-48.87	-51.22	-55.56	-58.01	-57.07	
2004/1/13	12:00	-36.49	-37.10	-37.32	-38.13	-39.65	-43.32	-45.58	-48.80	-51.15	-55.50	-58.00	-57.07	
2004/1/14	0:00	-34.77	-36.23	-37.02	-38.28	-39.79	-43.32	-45.54	-48.73	-51.09	-55.45	-58.00	-57.07	
2004/1/14	12:00	-36.73	-37.26	-37.47	-38.28	-39.80	-43.36	-45.50	-48.67	-51.02	-55.41	-57.99	-57.07	
2004/1/15	0:00	-34.81	-36.36	-37.16	-38.45	-39.92	-43.35							
2004/1/15	12:00	-36.63	-37.27	-37.52	-38.34	-39.88	-43.32	-45.44	-48.55	-50.88	-55.29	-57.96	-57.08	
2004/1/16	0:00							-45.41	-48.49	-50.80	-55.23	-57.94	-57.07	
2004/1/16	12:00							-45.37	-48.44	-50.75	-55.19	-57.94	-57.07	
2004/1/17	0:00							-45.35	-48.39	-50.68	-55.13	-57.93	-57.07	
2004/1/17	12:00							-45.33	-48.36	-50.63	-55.08	-57.92	-57.08	

Table 5-2. Snow height on the sensors.

		(cm in height)
	shallow five sensors (0.05, 0.1, 0.2, 0.4 and 0.8m in depths)	deep six sensors (1.2, 1.5, 2, 3, 6 and 11m in depth)
2003/2/5	-	0.0
2003/3/31	-	2.0
2003/4/30	-	3.0
2003/5/16	-	5.0
2003/5/30	-	4.0
2003/6/14	-	4.3
2003/6/30	-	4.0
2003/7/15	-	5.8
2003/7/30	-	5.5
2003/8/15	-	8.0
2003/8/30	-	13.0
2003/9/15	-	13.0
2003/9/30	-	13.0
2003/10/15	-	13.0
2003/10/30	-	13.0
2003/11/14	-	12.8
2003/11/30	-	12.0
2003/12/15	-	12.3
2003/12/30	-	14.0
2004/1/15	21.3	13.8

## 6. Horizontal line survey around Dome Fuji

Observer: Hideaki Motoyama

The vertical angle of a horizontal line at Dome Fuji was surveyed using a Wild T-2 transit on 8 January 1997. The measuring site (HLS 1997, northwest of the station buildings) is shown in Fig. 5. Figure 6-1 shows the result. The horizontal line at Dome Camp ( $77^{\circ}00'01"S$ ,  $39^{\circ}35'00"E$ ; 3760 m a.s.l.) and DFS ice coring site ( $79^{\circ}00'02"S$ ,  $42^{\circ}29'49"E$ ; 3699 m a.s.l., Kameda *et al.* 2002) were also surveyed at 25 November and 15 December in 1997. Figures 6-2 and 6-3 show the results. The positions of Dome Camp (DC) and the DFS ice coring site (DFS) are shown in Fig. 1. The line  $0^{\circ}$  in Fig. 6-1 is true north. These results show height variations of the snow surface at about 4 to 8 km from the survey points. Since the results of JARE-44 around Dome Fuji (Dome Fuji and DF75) seem to be not precise enough, the data are not shown here.

### Reference

Kameda, T., Motoyama, H. and Nishio, F. (2002): Analyses of Antarctic shallow ice cores, purposes and recent results. *Seppyo* (J. Jpn. Soc. Snow and Ice), **64**, 397-404 (in Japanese).

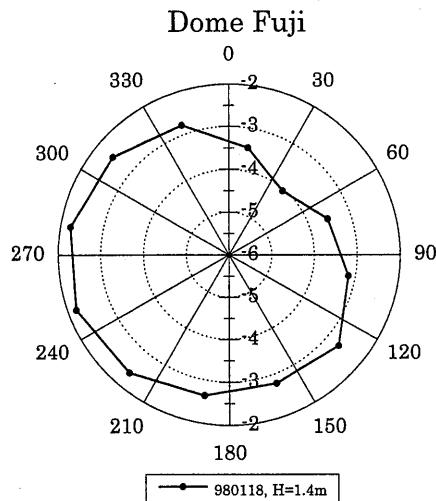


Fig. 6-1. Horizontal line survey at Dome Fuji by JARE-38.

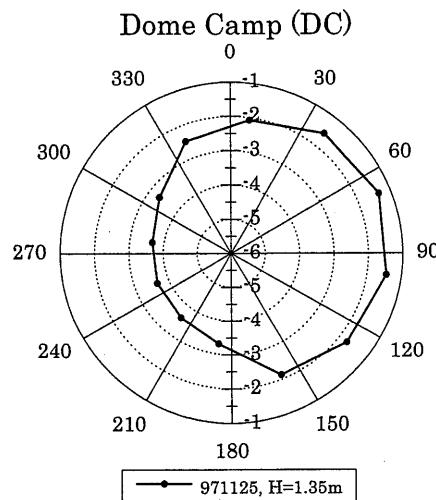


Fig. 6-2. Horizontal line survey at Dome Camp by JARE-38.

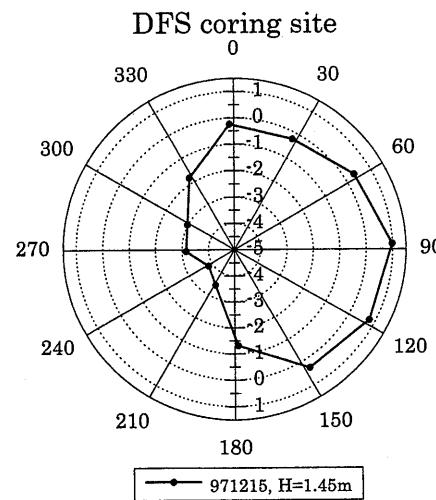


Fig. 6-3. Horizontal line survey at DFS site by JARE-38.

## 7. Snow crystals, ice crystals and blowing snow at Dome Fuji

Observer: Takao Kameda

Snow crystals, ice crystals and blowing snow were photographed about once per week from 20 February 2003 to 15 January 2004 using a microscope with a camera (Nikon new FM-2 with SUPERIALA ISO100 film by Fujifilm Cooperation, Japan). A glass shale of 10 cm diameter was set on the snow surface 20 m from the Dome Fuji Station buildings during over nights, and the snow on the glass was photographed using the above photography system. Table 7 summarizes the observation date and time interval for collecting snow samples. Plates 1 to 16 show snow crystals, ice crystals and blowing snows on the glass shale. These plates were prepared by Mr. Kazunori Furuya as a graduate thesis of the Department of Civil Engineering, Kitami Institute of Technology, in 2004.

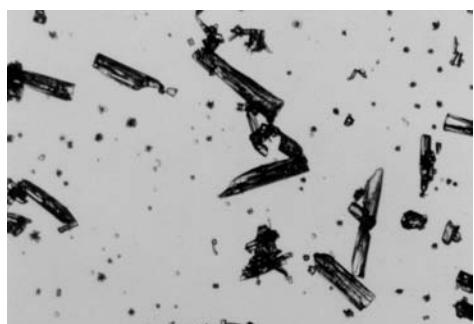
Table 7. Date and time for collecting snow samples and taking pictures in 2003-04.

No.	Period for collecting snow crystals		Time interval for collecting samples	Date and time for taking pictures
	Start	End		
1	2/15 18:00	2/16 13:30	19:30	2003/2/16 14:00
2	3/9 9:20	3/9 17:00	7:40	3/9 17:30
3	3/9 9:20	3/9 17:00	7:40	3/9 17:30
4	3/14 9:20	3/14 17:30	8:10	3/14 18:00
5	3/21 9:20	3/21 17:30	8:10	3/21 18:00
6	3/21 9:20	3/21 17:30	8:10	3/21 18:00
7	3/22 17:30	3/23 9:30	16:00	3/23 10:00
8	3/22 17:30	3/23 9:30	16:00	3/23 10:00
9	3/27 17:50	3/28 9:20	15:30	3/28 09:50
10	3/27 17:50	3/28 9:20	15:30	3/28 09:50
11	3/29 17:30	3/30 9:40	16:10	3/30 10:10
12	3/29 17:30	3/30 9:40	16:10	3/30 10:10
13	4/3 9:30	4/3 17:30	8:00	4/3 18:00
14	4/6 10:30	4/6 11:30	1:00	4/6 12:00
15	4/6 10:30	4/6 11:30	1:00	4/6 12:00
16	4/19 18:00	4/20 9:40	15:40	4/20 10:10
17	4/19 18:00	4/20 9:40	15:40	4/20 10:10
18	4/26 17:30	4/27 10:30	17:00	4/27 11:00
19	4/26 17:30	4/27 10:30	17:00	4/27 11:00
20	4/28 18:30	4/29 10:20	15:50	4/29 10:50
21	4/28 18:30	4/29 10:20	15:50	4/29 10:50
22	5/4 9:30	5/4 11:00	1:30	5/4 11:30
23	5/4 9:30	5/4 11:00	1:30	5/4 11:30
24	5/10 9:20	5/10 17:30	8:10	5/10 18:00
25	5/10 9:20	5/10 17:30	8:10	5/10 18:00
26	5/30 17:30	5/31 9:30	16:00	5/31 10:00
27	5/30 17:30	5/31 9:30	16:00	5/31 10:00
28	6/7 17:40	6/8 9:50	16:10	6/8 10:20
29	6/7 17:40	6/8 9:50	16:10	6/8 10:20
30	6/13 17:30	6/14 9:10	15:40	6/14 09:40
31	6/13 17:30	6/14 9:10	15:40	6/14 09:40
32	6/20 17:30	6/21 9:30	16:00	6/21 10:00
33	6/20 17:30	6/21 9:30	16:00	6/21 10:00
34	6/28 17:30	6/29 9:30	16:00	6/29 10:00
35	6/28 17:30	6/29 9:30	16:00	6/29 10:00
36	7/4 17:20	7/5 10:00	16:40	7/5 10:30
37	7/4 17:20	7/5 10:00	16:40	7/5 10:30
38	7/13 10:00	7/13 17:00	7:00	7/13 17:30
39	7/19 9:20	7/19 16:20	7:00	7/19 16:50
40	7/19 9:20	7/19 16:20	7:00	7/19 16:50
41	7/19 16:20	7/20 9:00	16:40	7/20 09:30
42	7/19 16:20	7/20 9:00	16:40	7/20 09:30
43	7/23 17:30	7/23 18:08	0:38	7/23 18:38
44	7/23 17:30	7/23 18:08	0:38	7/23 18:38
45	7/26 17:20	7/27 9:40	16:20	7/27 10:10
46	7/26 17:20	7/27 9:40	16:20	7/27 10:10
47	8/2 17:20	8/3 9:30	16:10	8/3 10:00
48	8/2 17:20	8/3 9:30	16:10	8/3 10:00
49	8/9 9:30	8/9 17:20	7:50	8/9 17:50

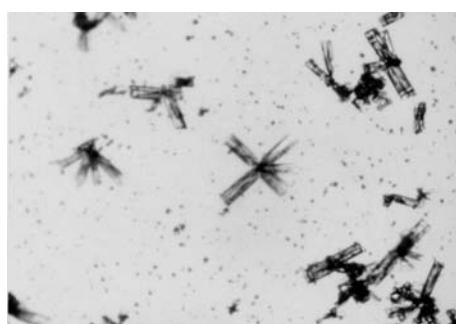
Table 7 (continued).

No.	Period for collecting snow crystals		Time interval for collecting samples	Date and time for taking pictures
	Start	End		
50	2003/8/9 9:30	2003/8/9 17:20	7:50	2003/8/9 17:50
51	8/9 17:20	8/10 9:30	16:10	8/10 10:00
52	8/9 17:20	8/10 9:30	16:10	8/10 10:00
53	8/16 9:20	8/16 17:25	8:05	8/16 17:55
54	8/30 17:40	8/31 9:30	15:50	8/31 10:00
55	8/30 17:40	8/31 9:30	15:50	8/31 10:00
56	9/6 9:00	9/6 17:30	8:30	9/6 18:00
57	9/6 9:00	9/6 17:30	8:30	9/6 18:00
58	9/13 9:30	9/13 17:40	8:10	9/13 18:10
59	9/13 17:40	9/14 9:30	15:50	9/14 10:00
60	9/13 17:40	9/14 9:30	15:50	9/14 10:00
61	9/24 9:30	9/24 17:00	7:30	9/24 17:30
62	9/24 9:30	9/24 17:00	7:30	9/24 17:30
63	9/27 17:30	9/28 9:30	16:00	9/28 10:00
64	9/27 17:30	9/28 9:30	16:00	9/28 10:00
65	10/4 9:10	10/4 17:20	8:10	10/4 17:50
66	10/4 9:10	10/4 17:20	8:10	10/4 17:50
67	10/4 17:30	10/5 9:48	16:18	10/5 10:18
68	10/4 17:30	10/5 9:48	16:18	10/5 10:18
69	10/6 18:00	10/7 9:30	15:30	10/7 10:00
70	10/6 18:00	10/7 9:30	15:30	10/7 10:00
71	10/11 17:50	10/12 9:20	15:30	10/12 09:50
72	10/11 17:50	10/12 9:20	15:30	10/12 09:50
73	10/18 17:50	10/19 9:30	15:40	10/19 10:00
74	10/18 17:50	10/19 9:30	15:40	10/19 10:00
75	10/25 9:30	10/25 17:20	7:50	10/25 17:50
76	10/25 17:30	10/26 9:00	15:30	10/26 09:30
77	10/25 17:30	10/26 9:00	15:30	10/26 09:30
78	11/8 17:40	11/9 9:00	15:20	11/9 09:30
79	11/13 9:30	11/13 17:40	8:10	11/13 18:10
80	11/13 9:30	11/13 17:40	8:10	11/13 18:10
81	11/15 17:10	11/16 9:00	15:50	11/16 09:30
82	11/15 17:10	11/16 9:00	15:50	11/16 09:30
83	11/18 18:00	11/19 9:00	15:00	11/19 09:30
84	11/18 18:00	11/19 9:00	15:00	11/19 09:30
85	11/22 17:00	11/23 9:00	16:00	11/23 09:30
86	11/29 17:30	11/30 10:00	16:30	11/30 10:30
87	12/30 9:20	12/30 17:30	8:10	12/30 18:00
88	12/30 9:20	12/30 17:30	8:10	12/30 18:00
89	2004/1/4 17:40	2004/1/5 9:50	16:10	2004/1/5 10:20
90	1/4 17:40	1/5 9:50	16:10	1/5 10:20
91	1/15 18:20	1/16 9:30	15:10	1/16 10:00
92	1/15 18:20	1/16 9:30	15:10	1/16 10:00

PLATE 1



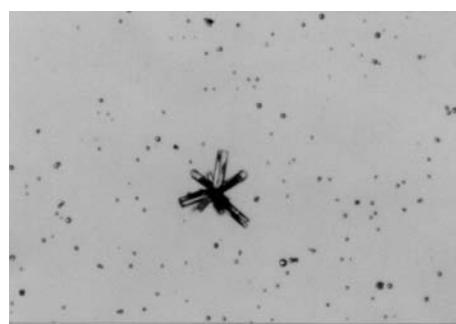
No. 1      1mm



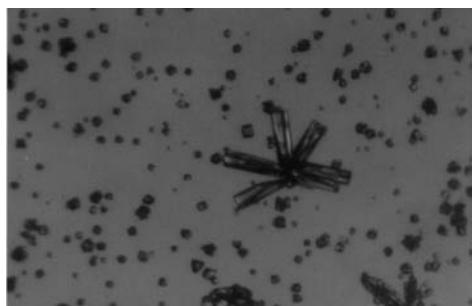
No. 4



No. 2      1mm



No. 5



No. 3      1mm



No. 6

SCALE

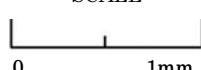
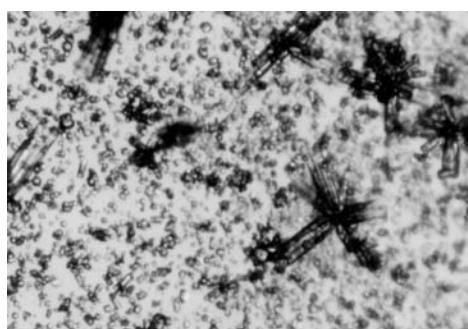


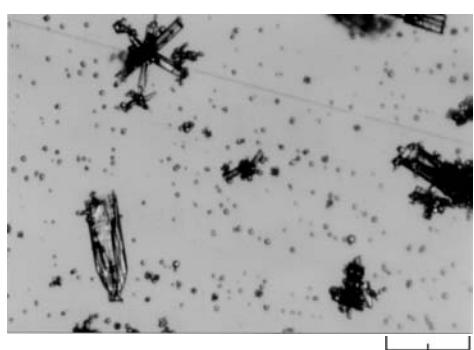
PLATE 2



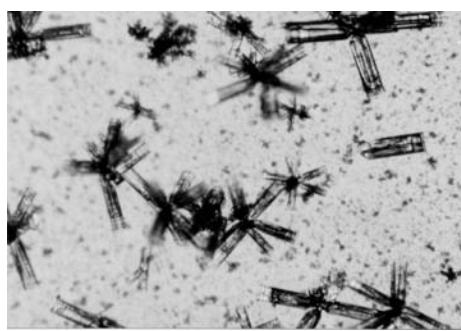
No. 7



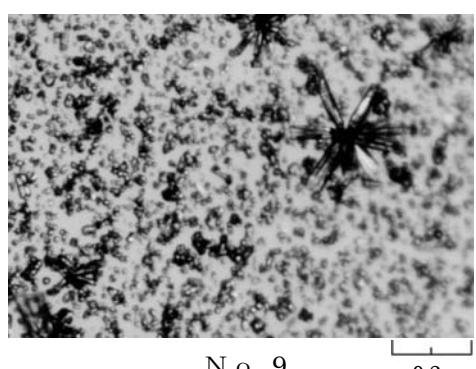
No. 10



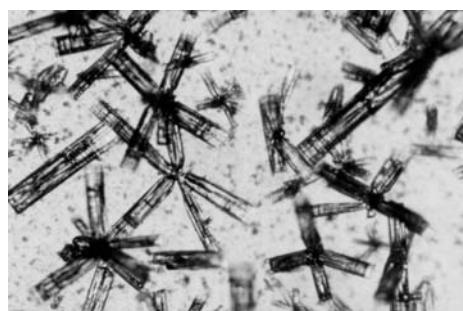
No. 8



No. 11



No. 9



No. 12

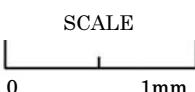
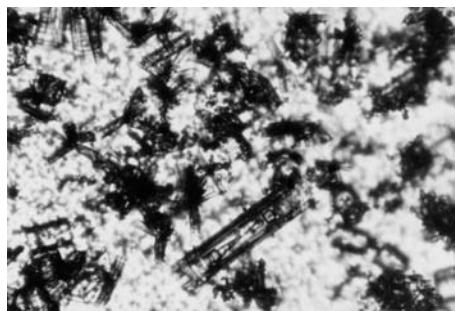
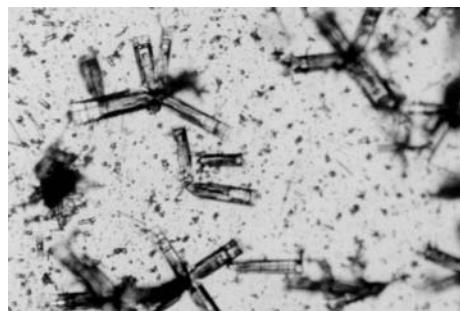


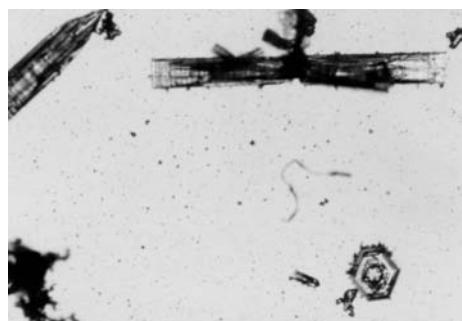
PLATE 3



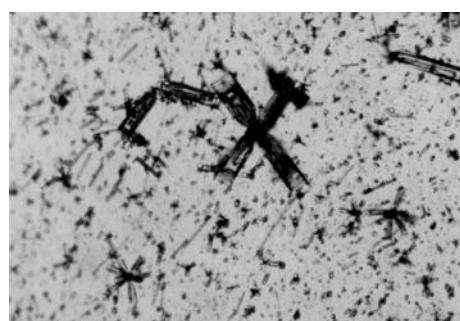
No. 13



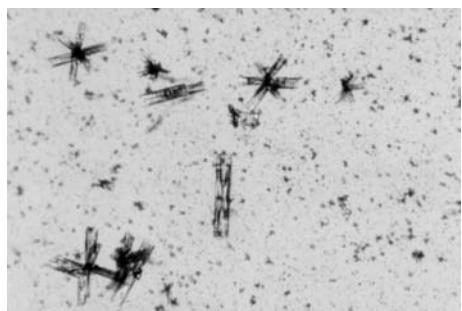
No. 16



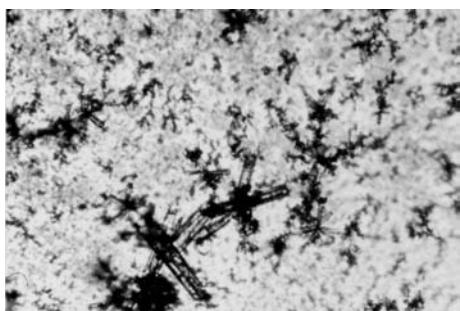
No. 14



No. 17



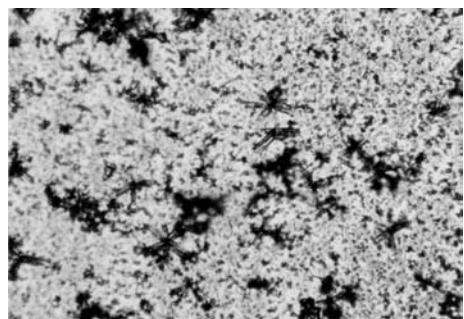
No. 15



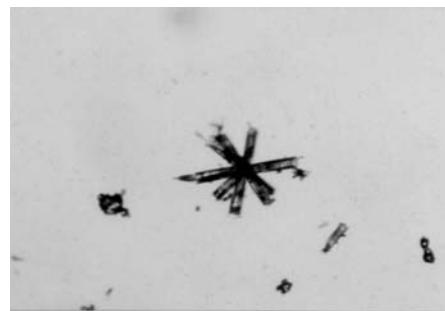
No. 18

SCALE  
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PLATE 4



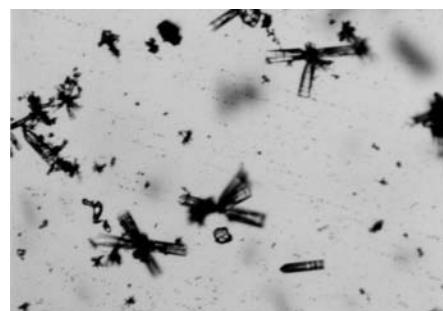
No. 19



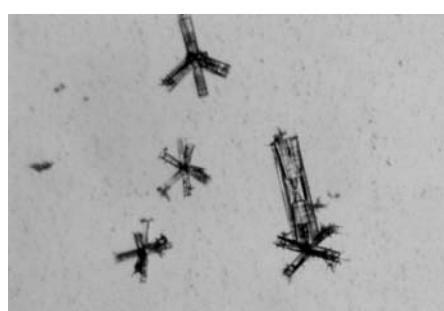
No. 22



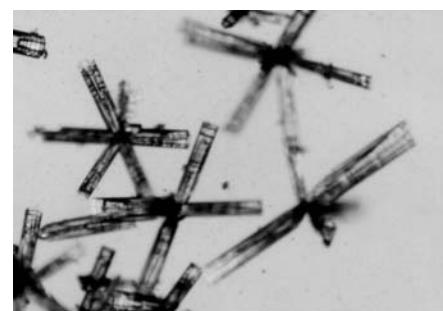
No. 20



No. 23



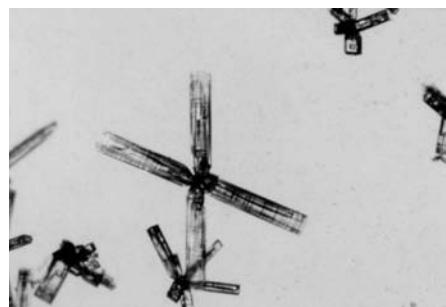
No. 21



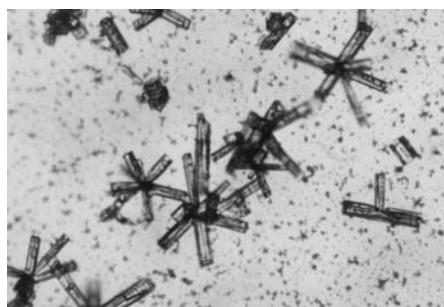
No. 24

SCALE  
0 1mm

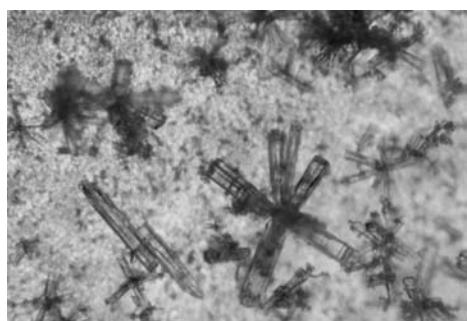
PLATE 5



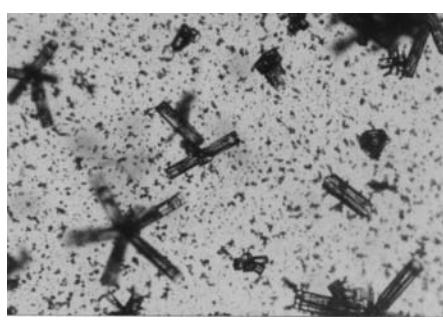
No. 25



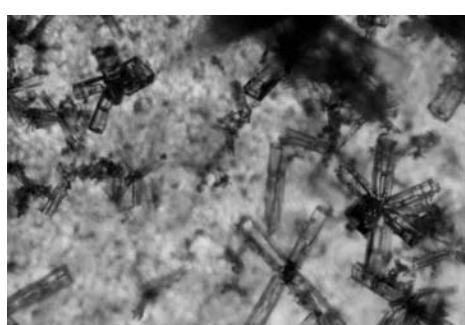
No. 28



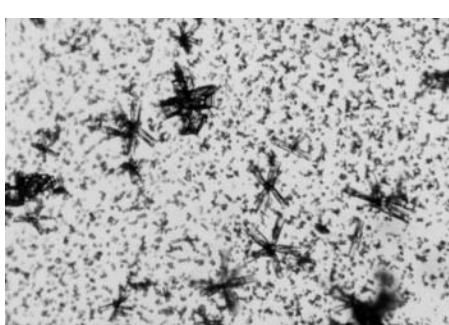
No. 26



No. 29



No. 27

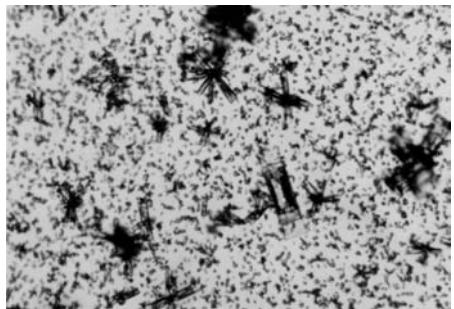


No. 30

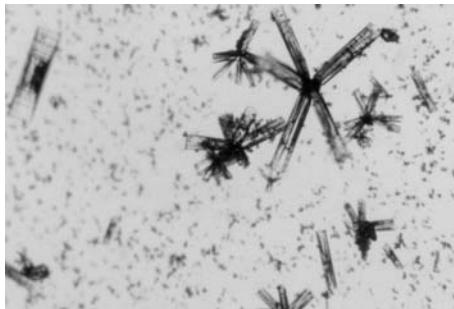
SCALE



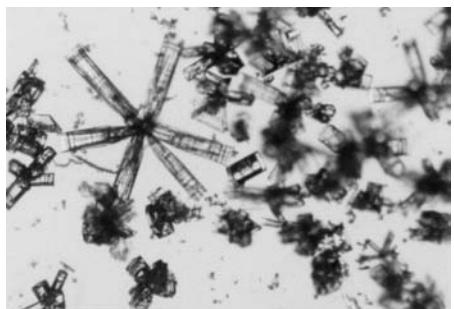
PLATE 6



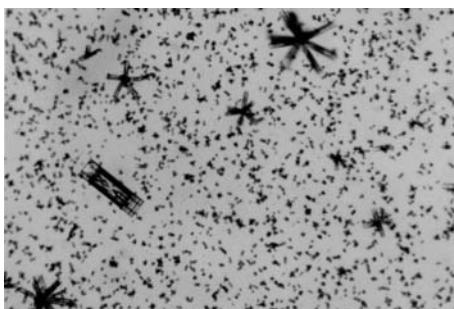
No. 31



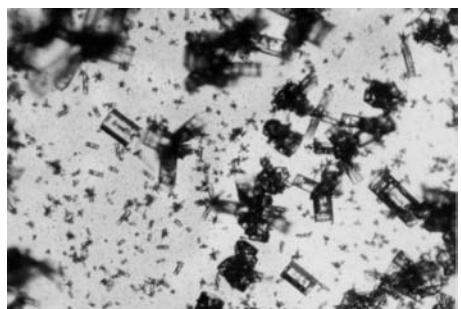
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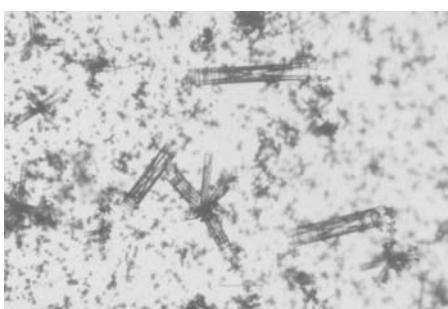
No. 32



No. 35



No. 33



No. 36

SCALE

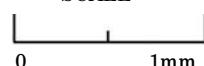
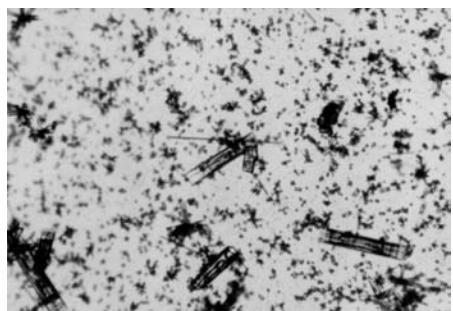
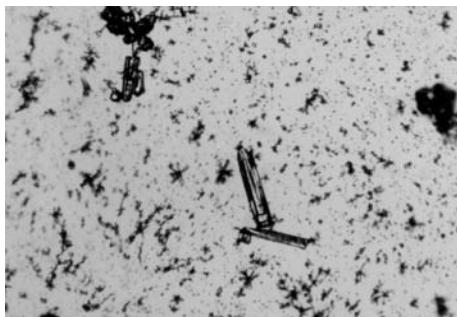


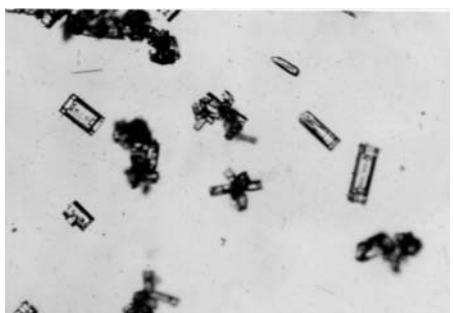
PLATE 7



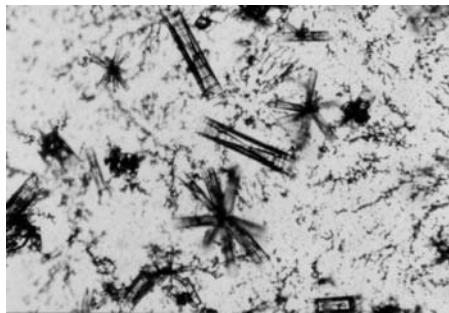
No. 37



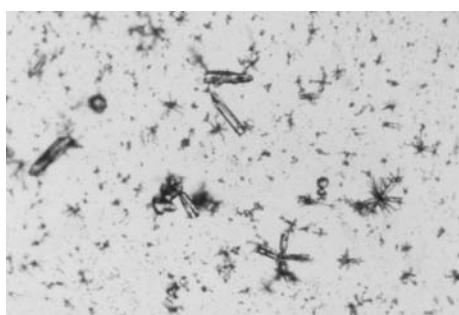
No. 40



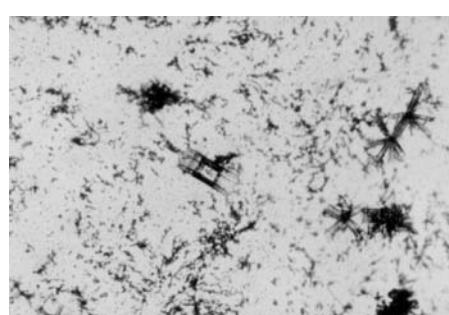
No. 38



No. 41



No. 39



No. 42

SCALE

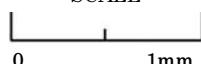
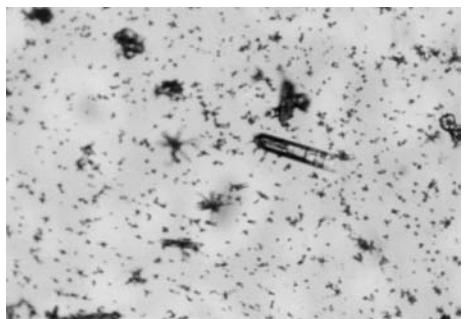
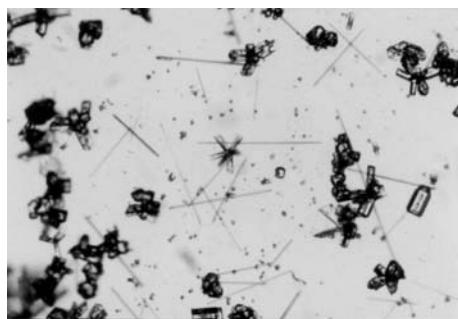


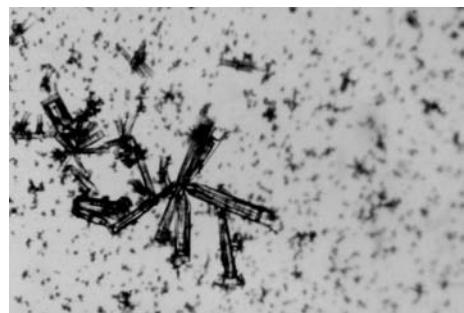
PLATE 8



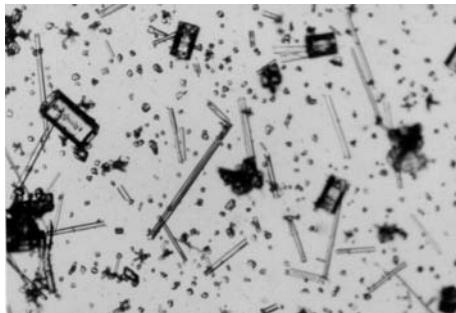
No. 43



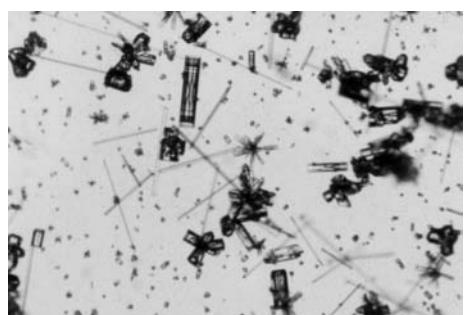
No. 46



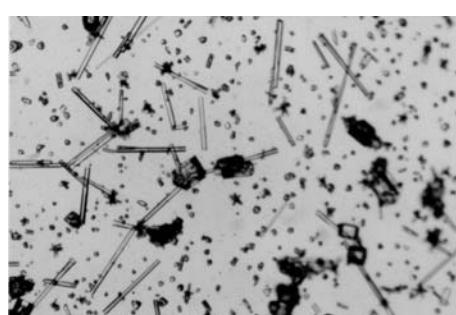
No. 44



No. 47



No. 45



No. 48

SCALE

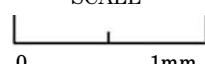
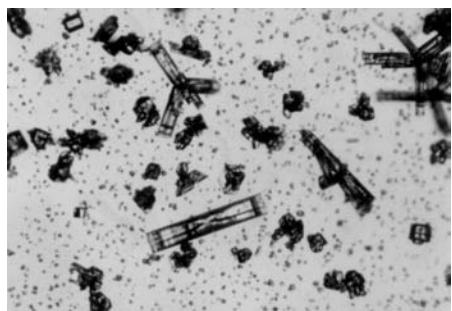
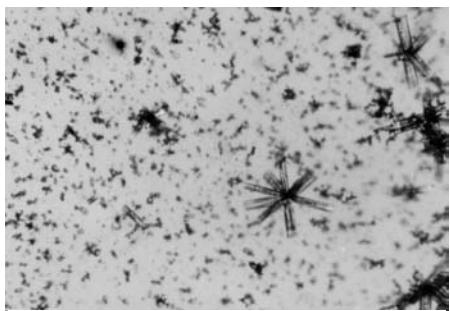


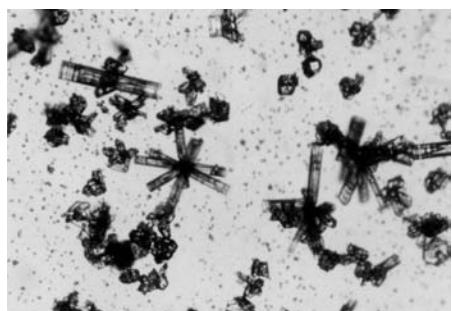
PLATE 9



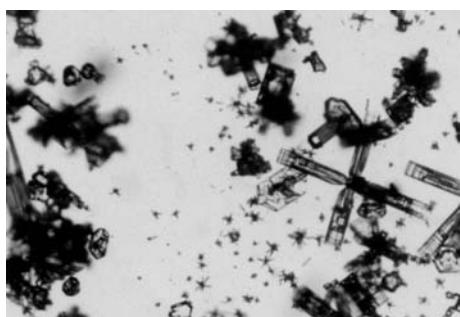
No. 49



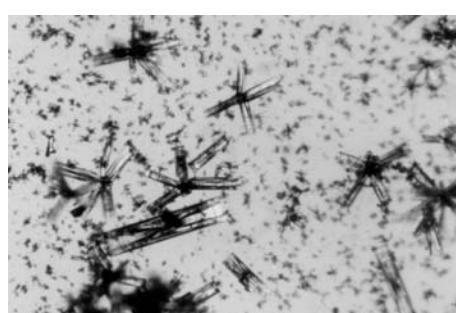
No. 52



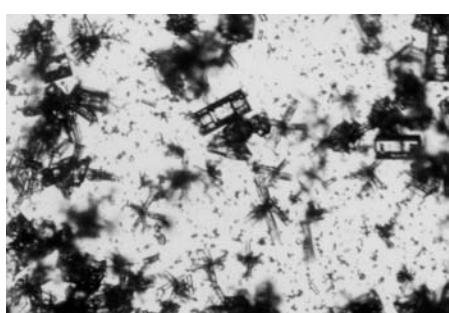
No. 50



No. 53



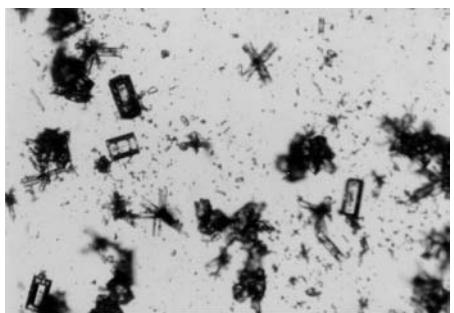
No. 51



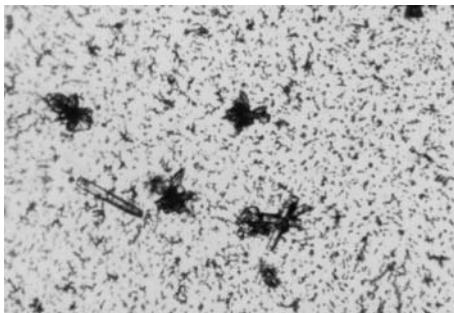
No. 54

SCALE  
0 1mm

PLATE 10



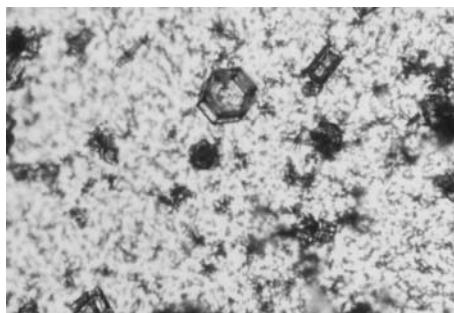
No. 55



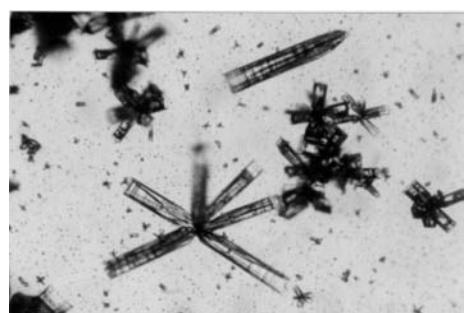
No. 58



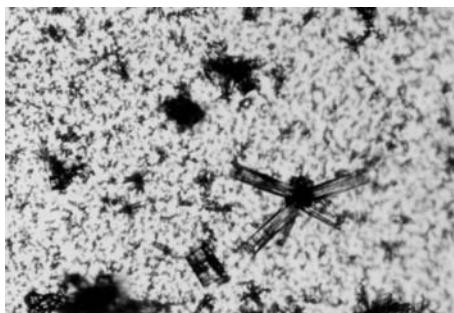
No. 56



No. 59



No. 57



No. 60

SCALE

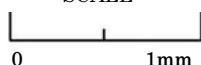
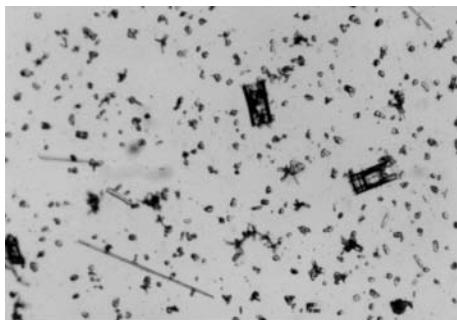


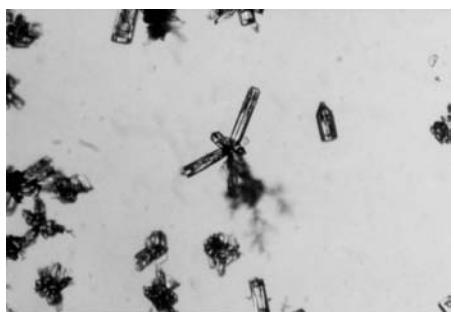
PLATE 11



No. 61



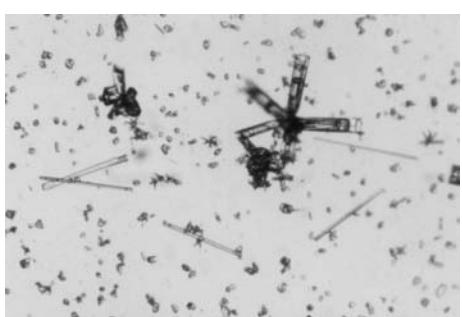
No. 64



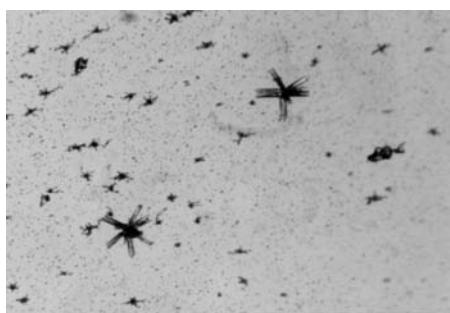
No. 62



No. 65



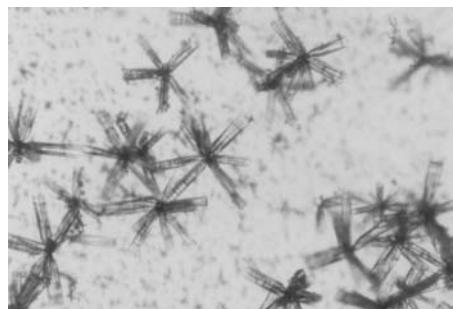
No. 63



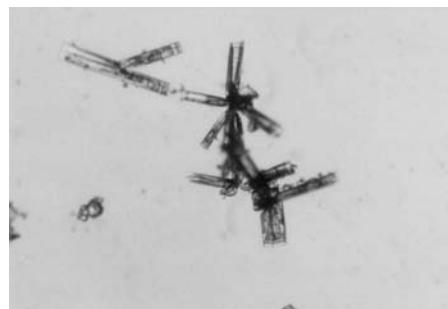
No. 66

SCALE  
0 1mm

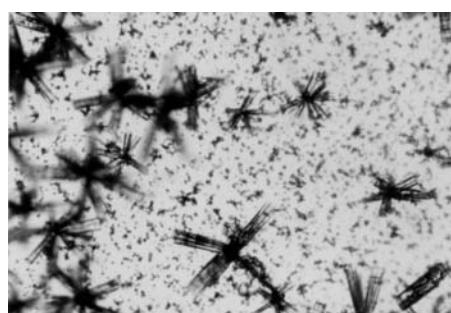
PLATE 12



No. 67



No. 70



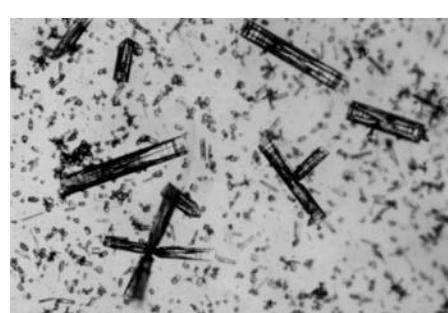
No. 68



No. 71



No. 69



No. 72

SCALE

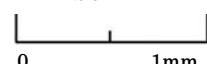
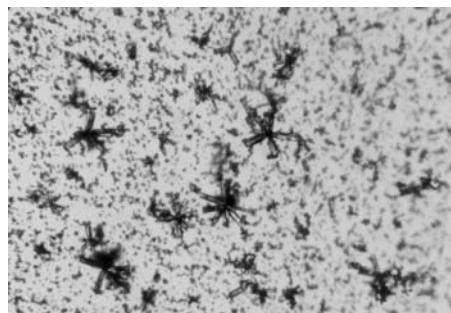


PLATE 13



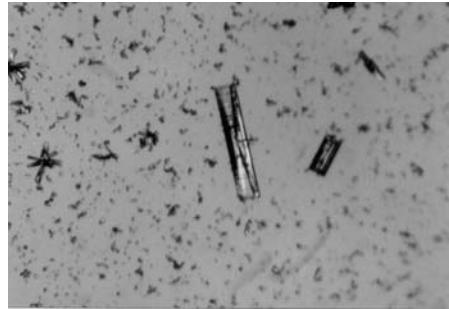
No. 73



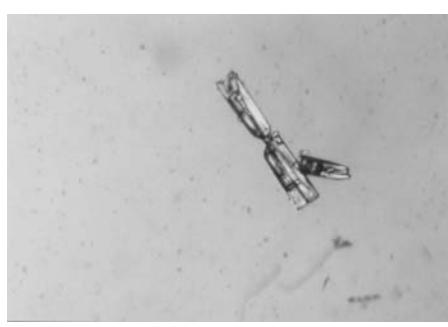
No. 76



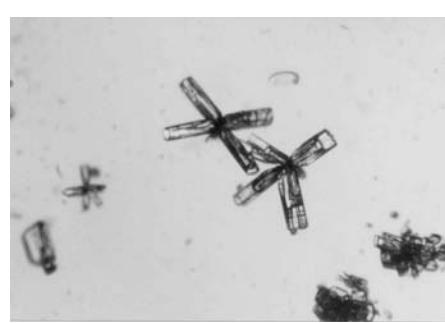
No. 74



No. 77



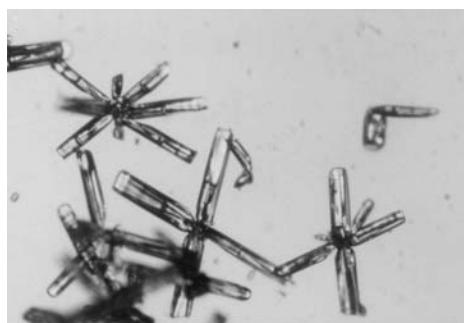
No. 75



No. 78

SCALE  
0 1mm

PLATE 14



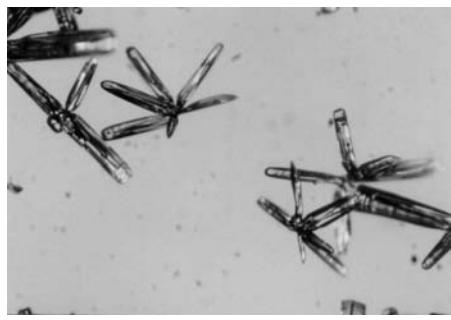
No. 79



No. 82



No. 80



No. 83



No. 81



No. 84

SCALE

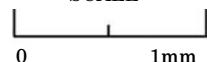


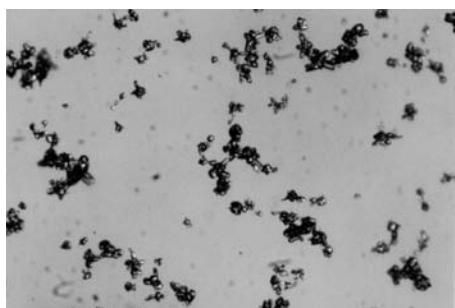
PLATE 15



No. 85



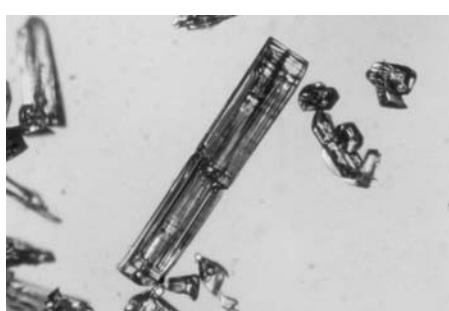
No. 88



No. 86



No. 89



No. 87



No. 90

SCALE

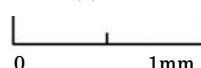


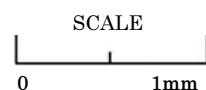
PLATE 16



No. 91



No. 92



## 8. Snow surface features from S16 to Dome Fuji

Observer: Takao Kameda

The snow surface was photographed using a camera (Nikon FM-2 with PROVIA 100F film by Fujifilm Corporation, Japan) at every 2 km during traverses 1 and 5 as shown in Table 1-2. Plates 17 to 24 show the snow surface features from 31 December 2002 to 19 January 2004 (Traverse 1) and Plates 25 to 36 show them from 23 January 2003 to 6 February 2004 (Traverse 5). The site name and the photograph date are shown at the upper left of each photograph. The positions of each site were summarized in Kamiyama *et al.* (1994).

Snow surface roughness (N) at every 2 km was recorded at 5 levels of the occurrence of sastrugi according to Motoyama (unpublished). The definition of the N is summarized in Table 8. Glazed surface (G) and thermal cracks (TC) on the snow surface were also recorded. This information is also shown at the upper right of each photograph. These plates were prepared by Mr. Seichiro Chiba as a graduate thesis of the Department of Civil Engineering, Kitami Institute of Technology, in 2004.

### Reference

Kamiyama, K., Furukawa, T., Maeno, H., Kishi, T. and Kanao, M. (1994): Glaciological data collected by the 33rd Japanese Antarctic Research Expedition in 1992. JARE Data Rep., **194** (Glaciology 21), 67 p.

Table 8. Classification of snow surface features.

Level	Surface snow conditions
1	Flat region where sastrugi rarely observed.
2	Intermediate between 1 and 3
3	Flat and sastrugi regions equally observed.
4	Intermediate between 3 and 5
5	Sastrugi region where flat surface rarely observed.

PLATE 17

1. H68 (31 Dec. 2002): N 1



5. Z14 (3 Jan. 2003): N 1



2. H72 (31 Dec. 2002): N 1



6. Z33 (3 Jan. 2003): N 1



3. H180 (1 Jan. 2002): N 1



7. Z38 (3 Jan. 2003): N 1



4. S122 (2 Jan. 2003): N 1



8. Z40 (3 Jan. 2003): N 4



PLATE 18

9. Z84 (4 Jan. 2003): N 2-3



13. Z160 (8 Jan. 2003): N 3



10. MD48 (6 Jan. 2003): N 3



14. MD190 (9 Jan. 2003): N 2



11. MD52 (6 Jan. 2003): 4 TC



15. MD192 (9 Jan. 2003): N 3



12. MD76 (7 Jan. 2003): N 3



16. MD228 (9 Jan. 2003): N 1



PLATE 19

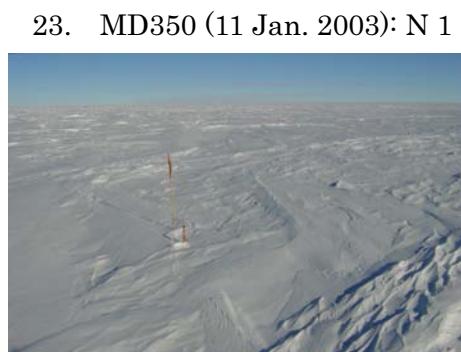
17. MD244 (10 Jan. 2003): N 1, G, TC    21. MD334 (11 Jan. 2003): N 1, G, TC



18. MD246 (10 Jan. 2003): N 1, G, TC



19. MD306 (11 Jan. 2003): N 1



20. MD320 (11 Jan. 2003): N 1

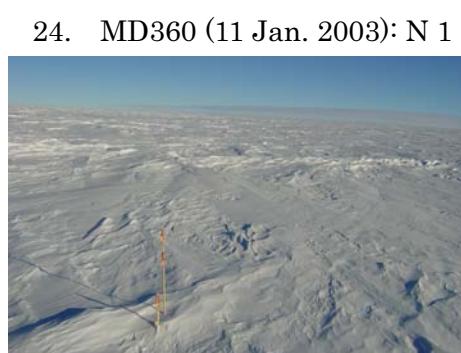


PLATE 20

25. MD364 (12 Jan. 2003): N 2, TC



29. MD410 (13 Jan. 2003): N 1



26. MD370 (13 Jan. 2003): N 1



30. MD420 (14 Jan. 2003): N 1



27. MD380 (13 Jan. 2003): N 1



31. MD426 (14 Jan. 2003): N 1



28. MD392 (13 Jan. 2003): N 1, G



32. MD430 (14 Jan. 2003): N 1



PLATE 21

33. MD440 (14 Jan. 2003): N 1



37. MD474 (14 Jan. 2003): N 1



34. MD450 (14 Jan. 2003): N 1



38. MD490 (15 Jan. 2003): N 1



35. MD460 (14 Jan. 2003): N 1



39. MD500 (15 Jan. 2003): N 1



36. MD470 (14 Jan. 2003): N 2

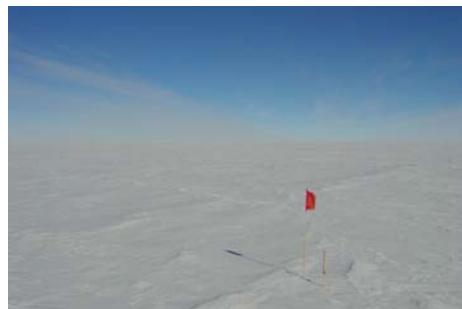


40. MD510 (15 Jan. 2003): N 1



PLATE 22

41. MD520 (15 Jan. 2003): N 1



45. MD560 (16 Jan. 2003): N 1



42. MD530 (15 Jan. 2003): N 1



46. MD570 (16 Jan. 2003): N 1



43. MD540 (15 Jan. 2003): N 1



47. MD580 (16 Jan. 2003): N 1



44. MD550 (15 Jan. 2003): N 1



48. MD590 (16 Jan. 2003): N 1



PLATE 23

49. MD600 (16 Jan. 2003): N 1



53. MD640 (17 Jan. 2003): N 1



50. MD610 (17 Jan. 2003): N 1



54. MD650 (17 Jan. 2003): N 1



51. MD620 (17 Jan. 2003): N 1



55. MD660 (17 Jan. 2003): N 1



52. MD630 (17 Jan. 2003): N 1



56. MD670 (18 Jan. 2003): N 1



PLATE 24

57. MD680 (18 Jan. 2003): N 1



61. MD720 (18 Jan. 2003): N 1



58. MD690 (18 Jan. 2003): N 1



62. MD730 (19 Jan. 2003): N 1



59. MD700 (18 Jan. 2003): N 1



60. MD710 (18 Jan. 2003): N 1



PLATE 25

1. S22 (6 Feb. 2004): N 1



5. H72 (5 Feb. 2004): N 1



2. S27 (6 Feb. 2004): N 1



6. H92 (5 Feb. 2004): N 1



3. H9 (6 Feb. 2004): N 1



7. H112 (5 Feb. 2004): N 1



4. H48 (6 Feb. 2004): N 1



8. H132 (5 Feb. 2004): N 1



PLATE 26

9. H152 (5 Feb. 2004): N 1



13. H232 (4 Feb. 2004): N 1



10. H172 (5 Feb. 2004): N 1



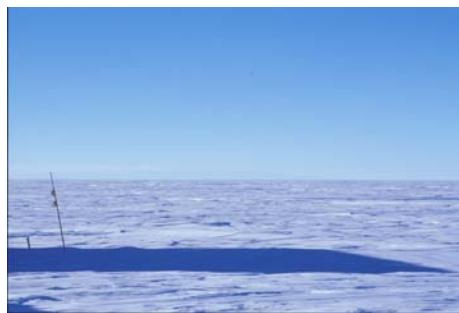
14. H252 (4 Feb. 2004): N 1



11. H192 (5 Feb. 2004): N 1



15. H272 (4 Feb. 2004): N 1, G



12. H212 (4 Feb. 2004): N 1



16. H293 (4 Feb. 2004): N 1



PLATE 27

17. Z80 (4 Feb. 2004): N 1



21. MD20 (3 Feb. 2004): N 4



18. Z90 (4 Feb. 2004): N 3, G



22. MD30 (3 Feb. 2004): N 3



19. MD0 (3 Feb. 2004): N 2, G, TC



23. MD40 (3 Feb. 2004): N 3



20. MD10 (3 Feb. 2004): N 3



24. MD50 (3 Feb. 2004): N 2, G



PLATE 28

25. MD60 (2 Feb. 2004): N 3



29. MD100 (2 Feb. 2004): N 4



26. MD70 (2 Feb. 2004): N 4



30. MD110 (2 Feb. 2004): N 4, TC



27. MD80 (2 Feb. 2004): N 5



31. MD120 (2 Feb. 2004): N 5



28. MD90 (2 Feb. 2004): N 3



32. MD130 (2 Feb. 2004): N 4



PLATE 29

33. MD140 (1 Feb. 2004): N 4



37. MD180 (1 Feb. 2004): N 1, G, TC



34. MD150 (1 Feb. 2004): N 5



38. MD190 (1 Feb. 2004): N 5



35. MD160 (1 Feb. 2004): N 4



39. MD200 (31 Jan. 2004): N 1, G, TC



36. MD170 (1 Feb. 2004): N 5



40. MD210 (31 Jan. 2004): N 4, G, TC



PLATE 30

41. MD220 (31 Jan. 2004): N 2, G



45. MD260 (28 Jan. 2004): N 3



42. MD230 (31 Jan. 2004): N 5



46. MD270 (28 Jan. 2004): N 4



43. MD240 (31 Jan. 2004): N 4



47. MD280 (28 Jan. 2004): N 4



44. MD250 (28 Jan. 2004): N 2



48. MD290 (28 Jan. 2004): N 3



PLATE 31

49. MD300 (28 Jan. 2004): N 3



53. MD340 (27 Jan. 2004): N 2



50. MD310 (28 Jan. 2004): N 3



54. MD350 (27 Jan. 2004): N 3



51. MD320 (27 Jan. 2004): N 4, G



55. MD360 (27 Jan. 2004): N 2



52. MD330 (27 Jan. 2004): N 1,G, TC



56. MD370 (26 Jan. 2004): N 2, G



PLATE 32

57. MD380 (26 Jan. 2004): N 1, G



61. MD420 (26 Jan. 2004): N 2



58. MD390 (26 Jan. 2004): N 1, G



62. MD430 (26 Jan. 2004): N 2



59. MD400 (26 Jan. 2004): N



63. MD440 (26 Jan. 2004): N 2



60. MD410 (26 Jan. 2004): N 1



64. MD450 (26 Jan. 2004): N 2



PLATE 33

65. MD460 (26 Jan. 2004): N 2



69. MD500 (26 Jan. 2004): N



66. MD470 (26 Jan. 2004): N 2



70. MD510 (26 Jan. 2004): N 1



67. MD480 (26 Jan. 2004): N 1



71. MD520 (26 Jan. 2004): N 1



68. MD490 (26 Jan. 2004): N 2



72. MD530 (25 Jan. 2004): N 1



PLATE 34

73. MD540 (25 Jan. 2004): N 2



77. MD580 (25 Jan. 2004): N 1



74. MD550 (25 Jan. 2004): N 2



78. MD590 (25 Jan. 2004): N 1



75. MD560 (25 Jan. 2004): N 1



79. MD600 (25 Jan. 2004): N



76. MD570 (25 Jan. 2004): N 1



80. MD610 (25 Jan. 2004): N 1



PLATE 35

81. MD620 (25 Jan. 2004): N 1



85. MD660 (24 Jan. 2004): N 1



82. MD630 (24 Jan. 2004): N 1



86. MD670 (24 Jan. 2004): N 1



83. MD640 (24 Jan. 2004): N 1



87. MD680 (24 Jan. 2004): N



84. MD650 (24 Jan. 2004): N 1



88. MD690 (23 Jan. 2004): N 1



## PLATE 36

89. MD700 (23 Jan. 2004): N 1



90. MD710 (23 Jan. 2004): N 1



91. MD720 (23 Jan. 2004): N 1



92. MD730 (23 Jan. 2004): N 1



## 9. Surface meteorological data during oversnow traverses

Observers: Traverses 1 and 5: Okimasa Sugita  
 Traverse 2: Katsuhiko Torii  
 Traverse 3: Takeshi Takahashi  
 Traverse 4: Kei Nakano

Meteorological observations were carried out during oversnow traverses three times per day. Atmospheric pressure (P), air temperature (Ta), wind direction (WD), wind speed (WS), visibility (V), weather (W), cloud amount in tenths (N) and individual cloud amount and genus (CL) were observed. The instruments and accuracy of these measurements are given in Table 9-1. The notations used in this section are shown in Table 9-2.

Tables 9-3, 9-4, 9-5, 9-6 and 9-7 show meteorological data during traverses 1, 2, 3, 4 and 5, respectively.

Table 9-1. Instruments and accuracy of meteorological observations.

Components	Instruments (type, products company)	Accuracy	Traverse No.
Atmospheric pressure	Altimeter (Tx-22, Thommen)	± 1hPa	1, 2-a, 2-b, 3-a, 3-b
	Electronic barometer (PTA427, Vaisala K.K.)	± 0.5hPa	1
	Electronic barometer (Field Syscom, Empex Instruments Inc.)	± 0.5hPa	4-a, 4-b
	Electronic barometer (F4711, Yokogawa Electric Co.)	± 0.1hPa	5
Air temperature	Sling type glass thermometer (SY-HM, Yoshino)	± 0.5°C	All traverses
Wind direction	Magnetic compass (HB-65G2, Saura Co. Ltd.)	± 5°	"
Wind speed	Portable 3-cup anemometer (W41, Yoshino Co. Ltd.)	± 0.5 m/s	"
Visibility	Visual observation		
Cloud amount	Visual observation		
Weather	Visual observation		
Individual cloud amount and genus	Visual observation		

Table 9-2. Notation used in tables in this section.

Notation	Explanation
LT	Local time at Syowa Station (UTC + 3 hours)
P	Atmospheric pressure (hPa)
Ta	Air temperature ( °C)
WD	Wind direction in 16 directions
WS	Wind speed (m/s)
V	Visibility (km)
W	Weather
	■ Clear, ▨ Fine, ▨ Cloudy (upper clouds are predominant), ▨ Cloudy
	■ Snow, ▨ Drifting snow, ▨ Blowing snow, ▨ Snow storm
	■ Diamond dust, SH (Solar halo)
N	Cloud amount in tenth
CL	Individual cloud amount and genus

Table 9-3. Meteorological data observed during traverse 1.

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL	
2002/12/21	20:30	S16	915	-5.0	ESE	10.0	25	○	1	1Ci	
2002/12/22	5:30	S16	910	-7.9	SE	22.0	0.1	○	1	1Ac;0+Ci	+
2002/12/22	21:00	S16	924	-8.1	SSE	13.0	30	○	0	-	
2002/12/23	5:30	S16	926	-8.2	SSE	8.0	30	○	0	-	
2002/12/23	12:05	S16	923	0.0	SSE	1.0	30	○	0	-	
2002/12/23	20:20	S16	916	-4.5	SE	7.0	30	⊕	10-	-	
2002/12/24	5:30	S16	915	-8.5	SE	12.0	30	⊕	10-	-	+
2002/12/24	13:25	S16	909	-0.5	E	6.0	30	○	0+	0+Ci	
2002/12/25	5:30	S16	918	-8.9	ESE	12.0	30	⊕	2	1Ac;1Ci	+
2002/12/25	13:10	S16	923	-0.4	E	2.0	30	⊕	2	1Sc;1Ac	
2002/12/25	20:50	S16	923	-4.5	S	4.0	20	◎	9	9Ac	
2002/12/26	9:00	S16	927	-2.9	SE	11.0	30	⊕	4	2Sc;2Ac	
2002/12/26	14:10	S16	929	-2.1	E	10.0	10	◎	10-	1Sc;10-Ac	
2002/12/26	20:50	S16	929	-4.5	ESE	6.0	20	◎	10-	1Sc;10-Ac	
2002/12/27	5:30	S16	929	-6.0	SE	8.0	10	◎	10-	0+Sc;10-Ac	
2002/12/27	12:30	S16	927	-1.9	E	6.0	0.5	✗	10	10As	+
2002/12/27	20:50	S16	929	-3.5	ENE	3.0	15	✗	9	0+Sc;6Ac;5As	
2002/12/28	5:30	S16	928	-4.9	E	5.0	2.0	✗	10	10As	+
2002/12/28	13:00	S16	929	-1.4	ENE	6.0	15	◎	10-	9Sc;10-Ac	
2002/12/28	20:50	S16	927	-5.7	SSW	1.0	20	◎	10-	1Sc;10-Ac	
2002/12/29	5:30	S16	927	-7.5	-	0.0	15	◎	10-	10-St,Sc	
2002/12/29	20:50	S16	931	-9.3	S	5.0	30	○	1	1Ac	
2002/12/30	5:30	S16	934	-12.5	SSE	6.0	30	○	0+	0+Ac	
2002/12/30	20:50	S16	925	-1.8	E	6.0	30	○	0+	0+Ac	
2002/12/31	8:00	S27	897	-9.0	SE	10.0	30	⊕	4	4Ci	
2002/12/31	20:30	H100	846	-12.9	SE	6.0	30	○	0+	0+Ac	
2003/01/01	7:00	H100	845	-14.9	SE	10.0	30	○	0+	0+Ac	
2003/01/01	16:50	H184	820	-7.0	E	7.0	30	○	0	-	
2003/01/01	20:50	H214	806	-16.0	ESE	3.0	30	○	0+	0+Ac	
2003/01/02	6:20	H214	812	-17.0	SE	10.0	25	○	0+	0+Ci	+
2003/01/02	13:50	H259	795	-11.5	SE	9.0	30	○	0+	0+Ac;0+Ci	
2003/01/02	20:50	Z5	772	-18.0	SE	4.0	30	○	0	-	
2003/01/03	6:40	Z5	778	-20.5	ESE	9.0	25	○	0+	0+Ac	
2003/01/03	13:20	Z22	776	-12.5	SE	8.0	30	○	0+	0+ac	
2003/01/03	20:50	Z56	763	-19.1	ESE	5.0	30	○	0+	0+Ac	
2003/01/04	6:30	Z56	766	-19.0	SE	9.0	15	⊕	9	9Ci	+
2003/01/04	13:10	Z85	761	-15.5	E	6.0	30	○	0+	0+Ac;0+Ci	
2003/01/04	20:20	Mizuho	750	-18.2	SE	3.0	20	○	0+	0+Ac	
2003/01/05	9:50	Mizuho	755	-15.0	SSE	8.0	20	⊕	4	4Ci	
2003/01/05	20:40	MD10	750	-14.1	SE	6.0	10	✗	10	10Ac	
2003/01/06	6:30	MD10	755	-14.5	SE	8.0	20	⊕	10-	4Ac;10-Ci	
2003/01/06	13:00	MD27	749	-10.5	SE	9.0	20	⊕	2	0+Ac;4Ci;7Cc;2Cs	
2003/01/06	20:40	MD64	736	-17.5	SSE	4.0	30	○	1	1Ac;1Ci	
2003/01/07	6:40	MD64	741	-21.0	SSE	10.0	20	○	1	1Ac;0+Ci	
2003/01/07	13:20	MD76	736	-15.5	SSE	8.0	20	○	1	1Ac	
2003/01/07	20:50	MD116	730	-19.0	SSE	6.0	20	○	1	1Ac	
2003/01/08	6:20	MD116	708	-19.0	SSE	10.0	10	◎	10-	10-Ac	+
2003/01/08	13:00	MD140	701	-18.0	SSE	10.0	15	○	0+	0+Ac;0+Ci	+
2003/01/09	7:40	MD179	690	-24.6	S	11.0	15	○	0	-	+

Table 9-3 (continued).

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL	
2003/01/09	13:30	MD196	686	-19.8	SE	12.0	20	○	0	-	+
2003/01/09	20:30	MD234	676	-24.6	SSE	7.0	30	○	0	-	+
2003/01/10	6:20	MD234	676	-28.1	S	10.0	20	○	0	-	+
2003/01/10	13:40	MD260	667	-19.5	SSE	7.0	25	○	0	-	+
2003/01/10	20:50	MD290	660	-26.4	S	4.0	30	○	0	-	
2003/01/11	6:30	MD290	661	-29.9	S	7.0	20	○	0+	0+Ac	
2003/01/11	13:50	MD322	654	-25.3	SSE	10.0	5	+	1	1Ac	+
2003/01/11	20:40	MD364	650	-29.0	SSE	6.0	20	○	2	1Ac:1Ci	
2003/01/12	7:20	MD364	646	-28.4	SSE	7.0	10	○	9	7Ac:3Ci	
2003/01/12	15:40	MD364	646	-24.5	SSE	9.0	8	○	7	7Ci	
2003/01/12	20:50	MD364	645	-28.2	SSE	6.0	20	○	10	4Ac:10-Ci	
2003/01/13	7:20	MD364	642	-29.8	S	6.0	10	○	10	0+Ac:10-Ci	
2003/01/13	13:40	MD376	639	-24.0	SSE	10.0	0.5	+	10	0+Ac:10-Ci	+
2003/01/13	20:40	MD410	629	-28.8	SSE	4.0	10	×	10	0+Ac:10-Ci	×
2003/01/14	7:00	MD410	629	-27.5	SE0	7.0	1.5	○	10	10-Ac	+
2003/01/14	13:10	MD432	628	-23.4	SE	8.0	2	○	10	10-Ci	+
2003/01/14	20:40	MD474	623	-27.5	SE	5.0	1.5	×	10	4As:2Cs:8Ci	×
2003/01/15	6:30	MD474	627	-31.1	SE	4.0	10	×	10	0+Ac:10-Ci	×
2003/01/15	13:00	MD502	626	-24.0	ESE	4.0	15	○	10	10-Ci	
2003/01/15	20:30	MD540	622	-29.0	SE	3.0	20	○	10	10-Ci	→
2003/01/16	6:20	MD540	625	-27.0	SE	3.0	3	○	10	10As	
2003/01/16	13:50	MD560	622	-24.6	SE	7.0	15	○	3	3Ci	
2003/01/16	20:40	MD600	615	-31.1	SSE	3.0	20	○	1	0+Ac:1Ci	
2003/01/17	7:10	MD600	616	-32.0	SE	4.0	20	○	10	10-Ci	
2003/01/17	13:40	MD626	614	-27.1	SE	6.0	5	○	3	0+Ac:3Ci	
2003/01/17	19:40	MD660	611	-31.0	ESE	3.0	30	○	0+	0+Ac:0+Ci	
2003/01/18	7:00	MD660	613	-36.1	SSE	3.0	20	○	2	2Ci	
2003/01/18	13:40	MD686	611	-29.1	ESE	5.0	20	○	1	1Ci	→
2003/01/18	20:30	MD724	609	-32.5	E	3.0	20	○	3	0+Ac:3Ci	
2003/01/19	7:30	MD724	611	-35.0	NNW	3.0	5	○	0+	0+Ci	
2003/01/19	20:30	DF	611	-30.4	-	0.0	20	○	1	1CI	

Table 9-4. Meteorological data observed during traverses 2-a and 2-b.

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL
2004/9/26	19:00	S23	890	-28.4	E	3.0	30	⊕	10-	0+Sc;2Ac;10-Ci
2004/9/27	10:00	S26	876	-27.7	E	3.0	30	⊕	4	0+Ac;4Ci
2004/9/27	15:00	H3	862	-26.0	ENE	5.0	30	○	0+	0+Ac;0+Ci
2004/9/27	19:00	H54	846	-32.9	ENE	4.0	30	○	0+	0+Ac
2004/9/28	12:00	H102	826	-28.0	E	10.0	1	○	0+	0+Sc;0+Ac
2004/9/28	20:00	H181	800	-35.7	E	6.0	2	○	0+	0+Sc
2004/9/29	11:00	H214	786	-24.2	E	14.0	10	⊕	10-	0+Sc;0+Ac;0+Ci
2004/9/29	18:00	H280	770	-26.2	E	15.0	0.8	⊕	10-	3Ac;7Ci
2004/9/30	15:00	Z20	759	-30.6	E	8.0	0.5	⊕	5	0+Ac;5Ci
2004/9/30	20:20	Z65	745	-37.2	ESE	10.0	3	⊕	4	0+Ac;4Ci
2004/10/1	17:10	Mizuho	738	-38.2	E	12.0	0.5	○	0	-
2004/10/1	19:00	Mizuho	738	-40.2	E	12.0	1	○	0	-
2004/10/2	6:30	Mizuho	738	-40.7	E	10.0	1	○	0	-
2004/10/2	13:00	Z88	748	-34.3	E	10.0	3	○	0	-
2004/10/2	16:00	Z76'	747	-34.4	E	7.0	10	○	0+	0+Ci
2004/10/2	20:30	Z37'	752	-37.3	E	11.0	10	○	0+	0+Ac;0+Ci
2004/10/3	12:30	Z16'	761	-32.7	E	10.0	2	○	0	-
2004/10/3	19:30	H259	788	-37.2	E	12.0	5	○	1	1Ci
2004/10/4	10:00	H244	793	-33.2	E	3.0	30	⊕	2	0+Sc;0+Ac;2Ci
2004/10/4	19:50	H124	824	-28.2	ENE	10.0	0.5	⊕	7	3Ac;7Ci
2004/10/5	6:40	H124	820	-28.2	ENE	7.0	1	⊕	10-	0+Sc;4Ac;8Ci
2004/10/5	12:30	H66	844	-22.0	ENE	11.0	1	⊕	10-	1Sc;3Ac;4Cs;5C
2004/10/5	19:00	S21	897	-19.4	ENE	12.0	0.5	⊕	10-	2Sc;4Ac;5Ci
2004/10/6	6:10	S21	901	-22.5	ENE	7.0	5	⊕	10-	1Sc;2Ac;10-Ci

Table 9-5. Meteorological data observed during traverses 3-a and 3-b.

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL
2003/10/21	19:00	H15	848	-21.5	145	1.0	30	⊕	10-	0+Sc,0+Ac,8Cs,2Ci
2003/10/22	7:20	H15	854	-21.0	95	4.0	10	*	10-	10-Sc
2003/10/22	12:00	H100	826	-22.0	75	2.0	10	*	10	10Sc
2003/10/22	19:00	S29	867	-18.5	100	6.0	0.7	†	10	10Sc
2003/10/23	7:00	S29	867	-18.4	120	8.0	0.1	†	10	10SS,XAc
2003/10/23	12:00	S29	864	-16.6	130	11.0	0.05	†	10	10SS
2003/10/23	18:00	S29	865	-16.8	120	8.0	0.5	†	10	10-Sc,XAc
2003/10/24	7:00	S29	863	-23.8	155	5.0	30	○	0+	0+Sc,0+Ci
2003/10/24	13:00	P50	913	-9.8	100	2.0	30	⊕	10-	10-Sc

Table 9-6. Meteorological data observed during traverses 4-a and 4-b.

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL	
2003/11/24	13:40	31	595	-29.5	SSW	6.0	20	○	0	-	↔
2003/11/24	20:45	85	593	-40.0	SSW	3.0	20	○	0	-	↔
2003/11/25	7:50	85	590	-39.5	SSE	3.0	5	○	0	-	↔
2003/11/25	13:10	133	601	-32.5	SSE	6.0	10	⊕	3	Ac,Ci	↔
2003/11/25	20:30	205	609	-34.5	SE	5.0	20	⊕	6	Ci	↔
2003/11/26	7:30	205	609	-38.0	SE	4.0	20	○	1	Ci	
2003/11/26	14:10	241	619	-29.0	SE	6.0	10	⊕	8	Cs,Ci	↔
2003/11/26	20:50	301	628	-30.5	SE	5.0	20	○	1	Ci	
2003/11/27	6:00	301	621	-36.0	SE	6.0	10	○	0	-	
2003/11/27	14:10	361	641	-24.0	SE	9.0	0.2	†	4	Ci	
2003/11/27	20:50	415	647	-28.0	SSE	10.0	10	⊕	2	Ci	
2003/11/28	11:28	445	632	-26.5	SE	9.0	10	○	0+	Ci	
2003/11/28	20:40	508.5	651	-25.5	SSE	8.0	20	○	1	Ac	
2003/11/29	10:45	508.5	653	-24.5	SSE	12.0	3	†	7	Ci	
2003/11/29	14:00	ARP1	654	-24.0	SSE	11.0	3	†	8	Ci	
2003/11/29	20:12	ARP1	655	-26.5	SSE	7.0	20	⊕	5	Ac,Ci	
2003/11/30	9:00	ARP1	645	-26.0	SSE	10.0	1	†	4	Ci	
2003/11/30	10:00	ARP1	642	-25.5	SSE	10.0	1.0	†	3	Ci	
2003/11/30	11:00	ARP1	650	-23.5	SSE	11.0	1	†	5	Ci	
2003/11/30	12:00	ARP1	645	-22.5	SSE	11.0	1	†	7	Ci	
2003/11/30	13:00	ARP1	649	-22.0	SSE	10.0	1	†	3	Ci	
2003/11/30	14:00	ARP1	653	-21.5	SSE	10.0	1	†	5	Ci	
2003/11/30	15:00	ARP1	653	-21.5	SSE	11.0	1	†	4	Ci	
2003/11/30	18:00	ARP1	651	-21.5	SSE	11.0	1	†	5	Ac,Ci	
2003/12/1	10:30	ARP1	646	-23.0	SSE	11.0	5	†	0+	Ci	
2003/12/1	20:15	439	645	-25.0	SSE	9.0	1	†	0+	Ci	
2003/12/2	7:45	439	639	-30.5	SSE	11.0	0.5	†	4	Ci	
2003/12/2	13:11	391	635	-26.5	S	14.0	0.2	†	X	X	
2003/12/2	20:30	319	626	-30.0	SSE	7.0	20	○	0+	Ci	
2003/12/3	7:30	319	620	-34.0	SSE	9.0	1	†	0+	Ci	
2003/12/3	13:00	271	610	-29.5	SSE	10.0	0.5	†	10	Cs,Ci	
2003/12/3	20:30	193	606	-34.5	SSE	6.0	20	⊕	10	Ci	
2003/12/4	7:40	193	602	-35.5	SSE	6.0	3	†	10	Ci	
2003/12/4	12:30	145	604	-31.5	ESE	7.0	3	†	10	Ac,Ci,C	
2003/12/4	20:15	67	601	-35.0	SE	1.0	20	⊕	3	Ci	
2003/12/5	6:55	67	599	-39.0	SE	4.0	20	○	0+	Ac	
2003/12/5	13:16	19	604	-30.5	ESE	5.0	20	○	0+	Ci	

Table 9-7. Meteorological data observed during traverse 5.

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL	
2004/1/22	9:00	DF	X	-31.0	155	8.0	2	+	9	6Cs;3Ci	HL
2004/1/22	12:00	DF	X	-27.0	135	10.0	0.2	+	10	10As	
2004/1/22	15:00	DF	X	-25.5	145	10.0	0.2	+	10	10As	
2004/1/22	18:00	DF	X	-26.0	160	7.0	2	+	10	10Ci	
2004/1/22	21:00	DF	X	-30.6	145	6.0	8	+	10	10-Ci	
2004/1/22	24:00	DF	X	-33.0	140	6.0	1.5	+	10	10As	
2004/1/23	6:00	DF	X	-33.5	170	6.0	10	◎	10	10-Ac	
2004/1/23	12:40	MD715	608	-28.8	120	4.0	8	⊕	9	9Ci	
2004/1/23	21:00	MD655	611	-33.0	145	3.0	10	*	10	10-Ci	
2004/1/24	6:30	MD655	610	-39.0	225	3.0	10	⊕	4	4Ci	
2004/1/24	14:05	MD609	613	-29.0	165	7.0	8	⊕	4	4Ci	
2004/1/24	21:15	MD560	617	-31.0	170	6.0	15	⊕	3	0+Ac;3Ci	--
2004/1/25	6:20	MD560	617	-29.8	185	3.0	15	⊕	2	0+Ac;2Ci	--
2004/1/25	14:10	MD514	X	-33.6	180	8.0	8	⊕	4	4Ci	
2004/1/25	20:45	MD466	626	-30.0	150	4.0	10	◎	9	6Ac;4Ci;1Cc	
2004/1/26	6:20	MD466	627	-29.5	190	4.0	10	*	10	9Ac;10As	
2004/1/26	14:10	MD414	634	-24.5	170	6.0	15	◎	10	9Ac;1Ci	
2004/1/26	20:30	MD366	643	-28.5	150	3.0	15	○	1	0+Ac;1Ci	
2004/1/27	6:10	MD366	644	-33.0	175	5.0	10	⊕	10	1Ac;9Ci	
2004/1/27	14:15	MD330	653	-24.5	175	8.0	10	○	0	0+Ac;0+Ci	
2004/1/27	20:40	MD292	652	-27.4	185	5.0	20	◎	9	9Ac	
2004/1/28	6:20	MD292	662	-27.8	175	7.0	0.8	+	10	10-Ci	
2004/1/28	14:00	MD256	671	-21.2	160	9.0	0.6	+	10	6Ac;10-Ci	
2004/1/28	20:05	MD246	672	-24.3	140	5.0	15	◎	10	8Ac;1Ci	
2004/1/29	6:00	MD246	671	-26.0	150	7.0	0.2	+	10	10-Ac	
2004/1/29	9:00	MD246	671	-24.0	125	8.0	0.5	+	10	2Ac;10-Ci	
2004/1/29	12:00	MD246	671	-21.6	125	8.0	0.8	+	7	0+Ac;7Ci	
2004/1/29	15:00	MD246	670	-22.0	135	8.0	15	⊕	5	5Ac	
2004/1/29	18:00	MD246	670	-22.0	140	5.0	10	◎	9	9Ac	
2004/1/29	21:00	MD246	671	-23.5	135	7.0	10	◎	10	10-Ac	
2004/1/30	6:00	MD246	672	-25.0	140	7.0	3	+	10	10As	
2004/1/30	9:00	MD246	673	-24.2	140	7.0	1	+	10	10-Ac	
2004/1/30	12:00	MD246	673	-24.4	150	9.0	2	+	10	10-Ci	
2004/1/30	15:00	MD246	675	-24.5	150	8.0	15	⊕	7	7Ci	
2004/1/30	18:00	MD246	676	-24.0	140	6.0	20	⊕	2	0+Ac;2Ci	
2004/1/30	21:00	MD246	677	-23.2	150	5.0	20	⊕	4	4Ci	
2004/1/31	6:00	MD246	680	-29.5	140	5.0	10	◎	10	10-Ac	
2004/1/31	9:00	MD246	680	-29.7	140	8.0	1	+	10	10-Ac	
2004/1/31	14:25	MD230	690	-19.0	150	7.0	20	⊕	4	4Ci	
2004/1/31	21:20	MD184	702	-26.0	160	7.0	20	○	1	1Ci	
2004/2/1	6:15	MD184	699	-29.9	165	9.0	20	○	0	0+Ci	
2004/2/1	14:30	MD150	708	-18.8	155	8.0	20	⊕	4	4Ac	
2004/2/1	21:05	MD120	714	-25.0	155	7.0	20	○	0	0+Ac	
2004/2/2	6:15	MD120	712	-30.0	170	11.0	2	+	4	4Ci	
2004/2/2	14:30	MD84	721	-17.8	155	11.0	1	+	1	1Ci	
2004/2/2	21:15	MD50	726	-13.2	155	10.0	0.3	+	10	10As	
2004/2/3	6:20	MD50	730	-15.5	120	11.0	0.5	+	10	10Ac	
2004/2/3	14:30	MD10	742	-13.0	140	11.0	15	⊕	6	1Ac;5Ci	
2004/2/3	21:00	Z80	754	-15.1	150	10.0	20	◎	10	10-Ac	

Table 9-7 (continued).

Date	LT	Station	P	Ta	WD	WS	V	W	N	CL
2004/2/4	6:20	Z80	757	-19.0	150	8.0	15	⊕	10-	10-Ci
2004/2/4	14:30	Z14	774	-11.5	130	4.0	20	○	0+	0+Ac
2004/2/4	21:40	H212	812	-17.5	155	3.0	20	○	0+	0+Ac;0+Ci
2004/2/5	6:10	H212	811	-20.0	155	4.0	15	○	0+	0+Ac
2004/2/5	14:10	H112	843	-6.3	120	4.0	20	⊕	8	8Ci
2004/2/5	22:00	S20	920	-11.2	150	4.0	20	⊕	4	3Ac;1Ci
2004/2/6	6:20	S20	917	-12.2	170	6.0	20	⊕	4	4Ci