

## Antarctic Automatic Weather Station Data for the calendar year 2001

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## **1. INTRODUCTION**

A network of automatic weather station (AWS) units is deployed to collect Antarctic surface weather observations in support of specific meteorological research projects as well as operational activities in Antarctica. The 2001 network consisted of 52 installed AWS units providing observations on the Ross Ice Shelf, east of the Transantarctic Mountains and north of McMurdo to the Adelie Coast, along the Antarctic Peninsula, West Antarctica, and climatological locations such as the South Pole. Each unit measures air temperature, wind speed, and wind direction at the top of the unit's tower at a nominal height of three meters and air pressure at the electronics enclosure (Figure 1). Some AWS units also measure the relative humidity at three meters and vertical air temperature difference between 0.5 and 3 meters. Measurement heights relative to the actual surface at the site are nominal due to snow accumulation around the AWS unit.

## **2. DATA TRANSMISSION**

The transmitted AWS data are received and stored by the Data Collection System on the NOAA series of polar orbiting satellites. The data are retransmitted by the satellite for use in the High Resolution Picture Transmission (HRPT) broadcast at McMurdo, Antarctica. The data are also received with the Global Area Coverage (GAC) data collected at the Space Science and Engineering Center, University of Wisconsin-Madison. The data are processed into scientific units and are available for local use. The complete data set is received at the University of Wisconsin-Madison from CLS America (Service ARGOS), Largo, Maryland, for processing and distribution to the users.

## **3. AWS IDENTIFICATION AND LOCATION**

Site location is defined by the latitude and longitude which is determined by various methods: sun shots, angles to geographical features, aircraft data, ice breaker data, the platform location system of CLS America (Service ARGOS), and the Global Positioning System. AWS elevation is obtained by barometry and UNAVCO Global Positioning System (GPS) and should be correct to within +/- 5 meters. Site names were introduced for convenience. Table 3.1 lists the site name, ARGOS identification number, latitude, longitude, elevation, start date for the site, and the World Meteorological Organization (WMO) number for the site. Figures 2, 3, and 4 show the locations of the AWS units in the Antarctic for 2001.

The ARGOS identification number (ID) is used to identify the data sets distributed to the users. AWS units are sometimes moved from one location to another, and as a result, the ID at a given site may change from year to year. The site name does not change. Table 3.2 lists the site name with the ARGOS ID, the site start date, and the ID start and stop dates.

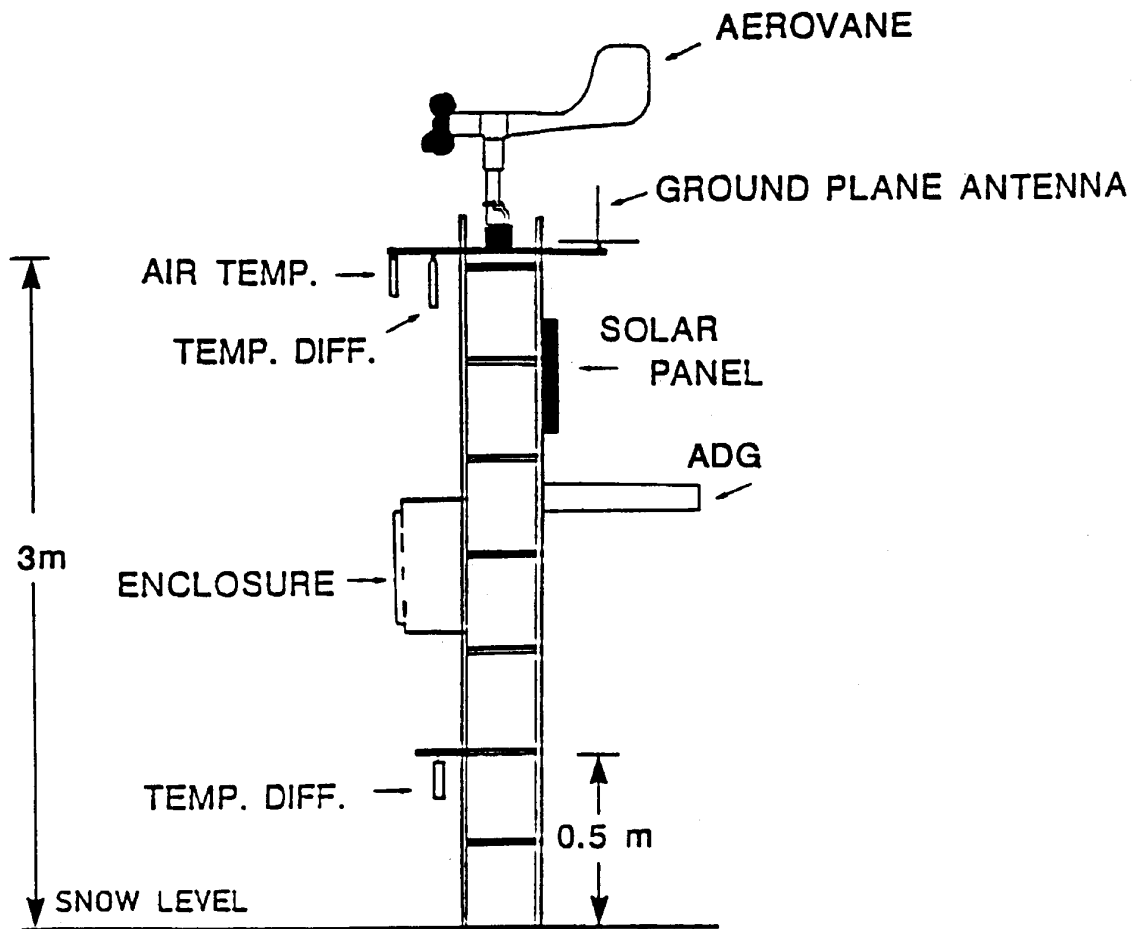


Figure 1. Layout of the AWS unit used in the Antarctic. The installed AWS unit has a 3-meter tower with a horizontal boom supporting the antenna, aerovane for measuring wind speed and direction, air temperature resistance thermometer, upper thermopile for measuring vertical air temperature difference, and the relative humidity sensor. The electronics enclosure is mounted at the midpoint of the tower. The gel cell batteries are placed at the tower base. The solar panel, located near the tower top, faces north. The Acoustic Depth Gauge (ADG) is installed on some of the AWS units to measure snow depth for precipitation studies.

**Table 3.1**

AWS site name, geographic location and elevation, site start date, and WMO number for 2001.

Site Name	ARGOS ID	Lat. (deg )	Long. (deg)	Elev. (m)	Site Start Date	WMO No.
<b>Adelie Land</b>						
D-10	8914	66.71°S	139.83°E	243	08 Jan 80	89832
D-47	8986	67.397°S	138.726°E	1560	24 Jan 83	89834
Dome C II	8989	75.121°S	123.374°E	3250	12 Dec 95	89828
Port Martin	8909	66.82°S	141.39°E	39	19 Jan 90	
Cape Denison	8988	67.009°S	142.664°E	31	20 Jan 90	
Penguin Point	8910	67.617°S	146.180°E	30	24 Dec 92	89847
<b>West Antarctica</b>						
Byrd Station	8903	80.007°S	119.404°W	1530	05 Feb 80	89324
Mount Siple	8981	73.198°S	127.052°W	230	20 Feb 92	89327
Theresa	21358	84.599°S	115.811°W	1463	29 Nov 94	89314
Doug	8922	82.315°S	113.240°W	1433	29 Nov 94	
Elizabeth	21361	82.607°S	137.078°W	519	30 Nov 94	89332
Brianna	21362	83.889°S	134.154°W	526	30 Nov 94	
Harry	8900	83.003S	121.393W	945	29 Nov 94	89329
Erin	21363	84.904°S	128.828°W	990	29 Nov 94	
Siple Dome	8938	81.656°S	148.773°W	668	21 Jan 97	89345
Swithinbank	21356	81.20°S	126.174°W	945	18 Jan 97	
<b>Ross Island Region</b>						
Marble Point	8906	77.439°S	163.754°E	108	05 Feb 80	89866
Ferrell	#8929	77.910°S	170.817°E	45	10 Dec 80	89872
Pegasus North	21357	77.952°S	166.500°E	8	23 Jan 90	89667
Pegasus South	8937	77.99°S	166.576°E	10	14 Jan 91	
Minna Bluff	8935	78.554°S	166.691°E	895	22 Jan 91	89768
Linda	8919	78.464°S	168.382°E	47	21 Jan 91	89769
Willie Field	#21364	77.865°S	167.017°E	40	25 Jan 92	
Windless Bight	8927	77.728°S	167.703°E	61	09 Dec 98	
Herbie Alley	8697	78.10°S	166.67°E	30	11 Jan 99	
Cape Spencer	8722	77.97°S	167.55°E	30	11 Jan 99	
Cape Bird	8901	77.224°S	166.440°E	42	28 Jan 99	
Laurie II*	#21360	77.549°S	170.817°E	30	01 Feb 00	
<b>Ocean Islands</b>						
Whitlock	#8907	76.144°S	168.392°E	274	01 Jan 82	89865
Possession Is.	8984	71.891°S	171.210°E	30	29 Dec 92	89879
Manuela	8905	74.946°S	163.687°E	78	06 Feb 84	89864
<b>Ross Ice Shelf</b>						
Marilyn	#8934	79.954°S	165.130°E	75	16 Jan 84	89869
Schwerdtfeger	8913	79.904°S	169.973°E	60	24 Jan 85	89868
Gill	8911	79.985°S	178.611°W	55	24 Jan 85	89376
Lettau	8908	82.518°S	174.452°W	55	29 Jan 86	89377
Elaine	8915	83.134°S	174.169°E	60	28 Jan 86	89873

Site Name	ARGOS ID	Lat. (deg)	Long. (deg)	Elev. (m)	Site Start Date	WMO No.
<b>Antarctic Peninsula</b>						
Larsen Ice	8926	66.949°S	60.897°W	17	07 Feb 83	89262
Butler Island	8902	72.207°S	60.160°W	91	01 Mar 86	89266
Uranus Glacier	8920	71.43°S	68.93°W	780	06 Mar 86	89264
Limbert	8925	75.422°S	59.851°W	40	30 Nov 95	89257
Racer Rock	8947	64.067°S	61.613°W	17	15 Oct 89	89261
Bonaparte Pt.	8923	64.778°S	64.067°W	8	05 Jan 92	89269
Sky-Blu	8917	74.972°S	71.488°W	1510	07 Feb 99	89272
Kirkwood Island*	#8930	68.340°S	69.007°W	30	26 May 01	
Dismal Island*	#8932	68.087°S	68.825°W	10	27 May 01	
<b>High Polar Plateau</b>						
Clean Air	8987	90.00°S		2835	29 Jan 86	89208
Henry	8985	89.011°S	1.025°W	2755	26 Jan 93	89108
Nico	8924	89.00°S	89.669°E	2935	26 Jan 93	89799
Relay Station	8918	74.017°S	43.062°E	3353	01 Feb 95	89744
Dome Fuji	#8904	77.31°S	39.70°E	3810	08 Feb 95	89734
Mizuho	21359	70.70°S	44.29°E	2260	07 Oct 00	

\* New sites started during 2001

# New ARGOS ID for 2001 at the site



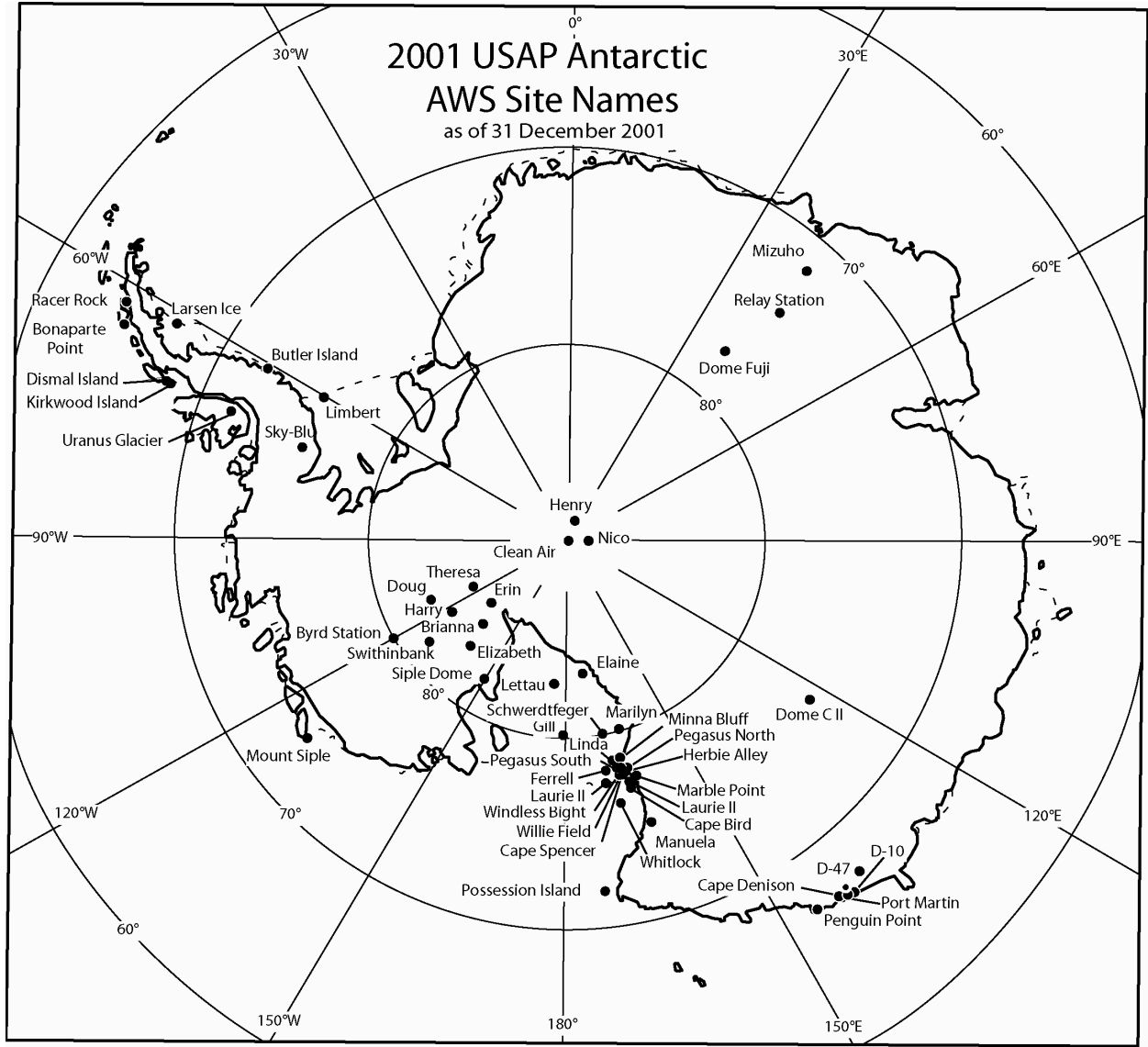


Figure 2. Antarctic automatic weather station locations during 2001 identified by the site name. Area around Ross Island is shown in Figure 3. Adelie Coast area is shown in Figure 4.

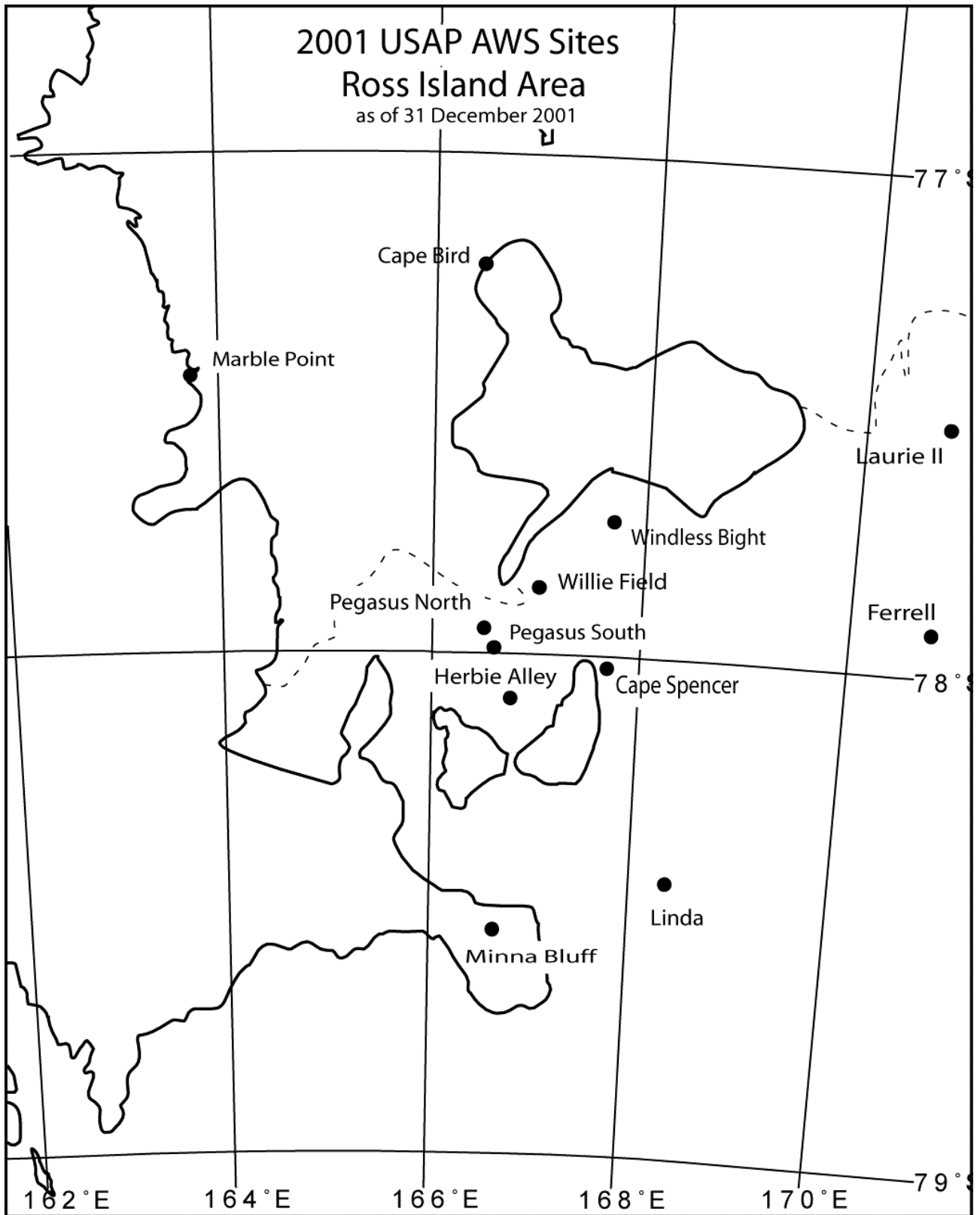


Figure 3. Location of Antarctic automatic weather stations in the vicinity of Ross Island, Antarctica during 2001.

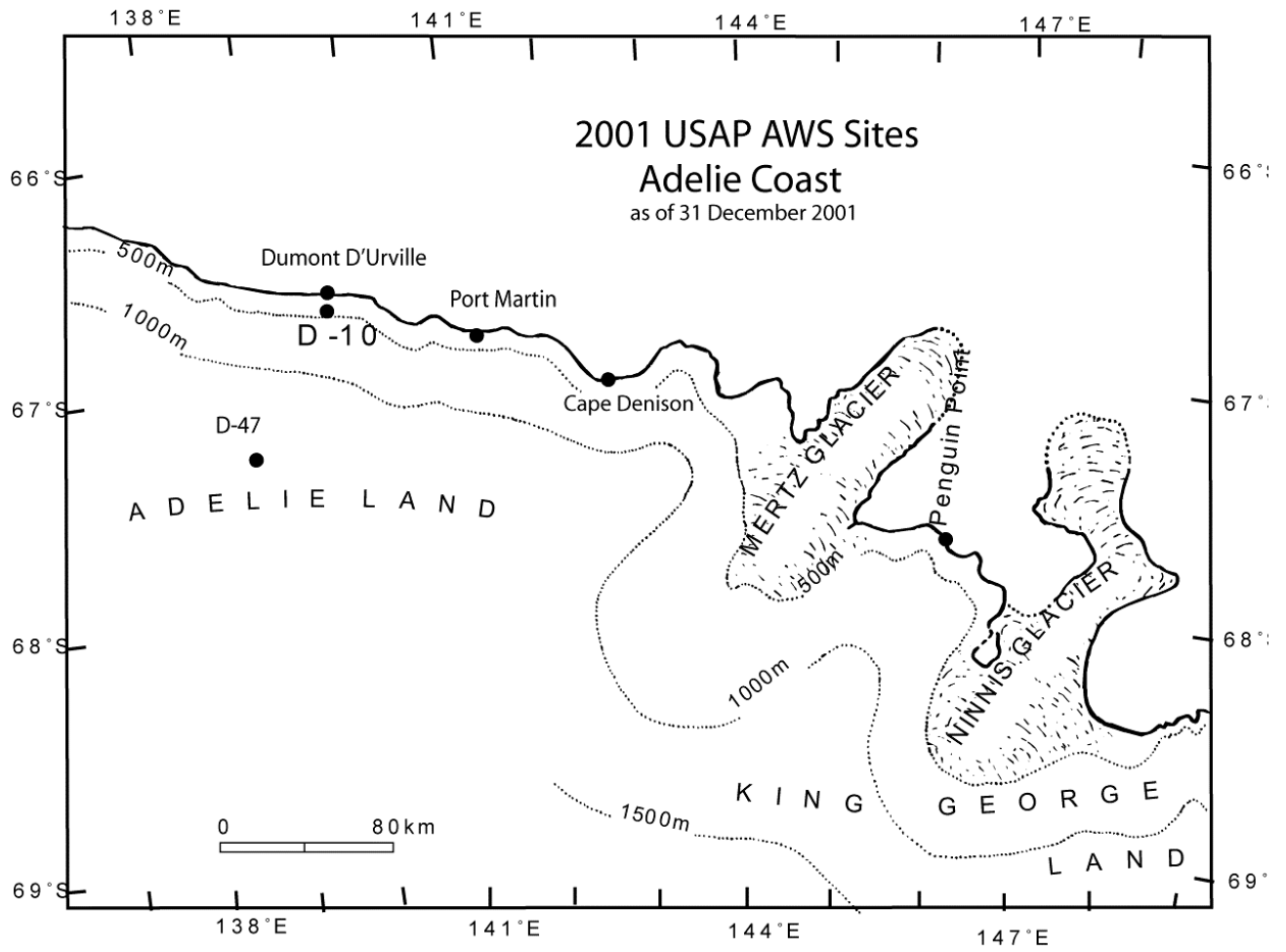


Figure 4. Location of Antarctic automatic weather stations along the Adelie Coast during 2001.

**Table 3.2**

2001 Antarctic AWS site name, ARGOS identification number (ID), site start date, ID start date, and ID stop date if occurring in 2001.

Site	ARGOS ID	Site Start Date	ID Start Date	ID Stop Date
D-10	8914	08 Jan 80	28 Jan 98	
D-47	8986	24 Nov 83	11 Feb 96	
Dome C II	8989	12 Dec 95	12 Dec 95	
Port Martin	8909	19 Jan 90	18 Dec 99	18 Dec 00
Cape Denison	8988	20 Jan 90	17 Dec 99	
Penguin Point	8910	24 Dec 92	21 Dec 98	
Byrd Station	8903	05 Feb 80	05 Feb 80	
Mount Siple	8981	20 Feb 92	20 Feb 92	
Theresa	21358	29 Nov 94	29 Nov 94	
Doug	8922	29 Nov 94	20 Jan 97	
Brianna	21362	30 Nov 94	30 Nov 94	
Harry	8900	29 Nov 94	26 Jan 99	
Elizabeth	21361	30 Nov 94	17 Jan 96	
Erin	21363	29 Nov 94	18 Jan 96	
Siple Dome	8938	21 Jan 97	24 Jan 99	
Swthinbank	21356	18 Jan 97	18 Jan 97	
Marble Point	8906	05 Feb 80	05 Feb 80	
Ferrell	21355	10 Dec 80	01 Feb 00	09 Jan 01
	8929		09 Jan 01	
Pegasus North	21357	23 Jan 90	03 Feb 00	
Pegasus South	8937	14 Jan 91	14 Jan 91	
Minna Bluff	8935	22 Jan 91	25 Jan 99	
Linda	8919	21 Jan 91	15 Jan 98	
Willie Field	8929	25 Jan 92	16 Jan 99	29 Jan 01
	21364		29 Jan 01	
Windless Bight	8927	09 Dec 98	25 Jan 99	
Herbie Alley	8697	11 Jan 99	11 Jan 99	
Cape Spencer	8722	11 Jan 99	11 Jan 99	
Cape Bird	8901	28 Jan 99	28 Jan 99	
Laurie II	21364	01 Feb 00	01 Feb 00	16 Jan 01
	21360		16 Jan 01	
Whitlock	8907	01 Jan 82	07 Feb 01	
Possession Island	8984	29 Dec 92	29 Dec 92	
Marilyn	8931	16 Jan 84	18 Jan 91	30 Jan 01
	8934		30 Jan 01	
Schwerdtfeger	8913	24 Jan 85	22 Jan 93	
Gill	8911	24 Jan 85	25 Jan 91	
Elaine	8915	28 Jan 86	02 Jan 97	
Lettau	8908	29 Jan 86	29 Jan 86	
Manuela	8905	06 Feb 84	15 Feb 87	
Larsen Ice Shelf	8926	07 Feb 83	01 Jan 86	
Butler Island	8902	01 Mar 86	01 Mar 86	
Uranus Glacier	8920	06 Mar 86	06 Mar 86	
Limbert	8925	30 Nov 95	30 Nov 95	
Racer Rock	8947	15 Oct 89	08 Dec 91	
Bonaparte Point	8923	05 Jan 92	23 Dec 96	
Sky-Blu	8917	07 Feb 99	07 Feb 99	
Kirkwood Is.	8930	26 May 01	26 May 01	
Dismal Is.	8932	27 May 01	27 May 01	
Clean Air	8987	29 Jan 86	25 Jan 94	
Henry	8985	26 Jan 93	26 Jan 93	
Nico	8924	26 Jan 93	26 Jan 93	
Relay Station	8918	01 Feb 95	01 Feb 95	
Dome Fuji	8904	08 Feb 95	04 Feb 97	
Mizuho	21359	07 Oct 00	07 Oct 00	

## 4. AWS DATA SUMMARIES

The data received by the University of Wisconsin, Space Science and Engineering Center, contain all the information received by the ARGOS system including duplicate and erroneous transmissions. Invalid data are eliminated during a quality check, and the valid data are converted to scientific units producing the complete data set. Data selected at three hourly intervals, plus or minus forty minutes, produce a three hourly data set for each AWS unit month. Section 6.1, AWS Performance, provides some explanations for missing and invalid data.

Use of the 2001 Antarctic AWS data for publication should acknowledge the support of NSF-OPP Grants `0088058 and 0338147 or reference this publication.

### 4.1. Monthly Data Summaries

The monthly summaries consist of the monthly means, from the three hourly data set, and the extremes, from the complete data set. For monthly values to be included, 25% of the three hourly observations must be available. Months with 50-75% of data missing occur most often when a station is started or stopped in the middle of the month. This can cause a bias in the monthly mean, especially during seasons when parameters such as temperature change rapidly. Annual means are calculated only when twelve months of data are available. The data are presented in the same order as the sites listed in Table 3.1. Definitions of the monthly data summary headings are listed below.

Heading	Definition
Mean air temperature, °C.	Mean value for the month.
Percent of monthly data missing.	Ratio of the number of missing observations to the number of possible observations X 100.
Maximum air temperature, °C. Minimum air temperature, °C.	Maximum value for the month. Minimum value for the month.
Mean wind speed, m/s.	Mean value for the month.
Percent of monthly data missing.	Ratio of the number of missing observations to the number of possible observations X 100.
Resultant wind speed, dir/vv. Constancy.	Resultant speed and direction for the month. Ratio of the monthly resultant to the monthly mean wind speed.
Maximum wind speed, dir/vv.	Maximum wind speed and direction for the month.
Mean air pressure, mb.	Mean value for the month.
Percent of monthly data missing.	Ratio of the number of missing observations to the number of possible observations X 100.
Maximum air pressure, mb. Minimum air pressure, mb.	Maximum value for the month. Minimum value for the month.
Potential temperature, K	Mean value for the month.

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
D-10 (8914)			66.71S				139.83E					243 M				
Jan	-2.8	09	5.2	-11.2	10.1	08	140	9.5	0.94	132	27	954.3	08	966.7	936.7	274.0
Feb	-7.9	10	1.4	-14.2	11.4	10	151	10.9	0.96	152	35	953.3	10	962.6	929.7	268.9
Mar	-10.9	10	1.1	-23.2	9.8	10	151	9.1	0.93	174	40	955.3	11	978.1	935.9	265.7
Apr	-16.6	01	-8.5	-28.1	9.2	01	159	8.5	0.92	174	33	950.6	01	973.9	931.2	260.3
May	-16.3	00	-3.4	-29.2	9.8	00	156	9.0	0.92	179	32	959.9	00	985.5	938.6	259.9
Jun	-17.8	03	-8.8	-27.9	11.2	02	158	10.5	0.94	146	33	950.4	02	967.5	927.3	259.1
Jul	-17.5	58	-10.2	-30.2	6.9	58	158	6.0	0.87	174	27	961.4	58	985.9	947.6	258.6
Aug	-20.3	36	-12.9	-32.4	9.3	36	162	8.7	0.93	156	30	953.8	37	976.7	932.4	256.3
Sep	-15.0	51	-9.0	-25.2	5.2	55	151	4.8	0.92	141	30	951.9	51	975.0	931.8	261.8
Oct	-13.8	08	-5.9	-23.4	5.8	12	152	5.4	0.94	155	27	945.1	08	968.9	928.1	263.6
Nov	-10.3	14	0.8	-20.4	7.8	13	163	7.2	0.93	155	30	949.8	14	969.2	933.2	266.8
Dec	-4.0	11	5.5	-13.8	7.2	9	156	6.4	0.88	180	27	950.2	10	980.4	930.0	273.1
MEAN	-12.8				8.6		155	8.0	0.9			953.0				
D-47 (8986)			67.397S				138.26E					1560 M				
Jan																
Feb																
Mar					11.4	10	070	10.6	0.93	049	24	809.4	10	832.8	792.1	
Apr					11.7	73	080	11.3	0.97	086	23	803.3	73	815.0	788.1	
May																
Jun					12.8	30	080	12.3	0.96	058	21	801.4	30	818.8	780.6	
Jul					11.5	34	084	10.9	0.95	060	24	814.1	34	834.3	798.8	
Aug					11.9	11	080	11.5	0.96	065	23	802.4	11	825.4	778.9	
Sep					12.5	36	077	11.8	0.95	041	25	797.9	36	823.3	780.0	
Oct					11.6	10	077	11.2	0.97	086	23	798.1	02	816.7	784.6	
Nov					9.5	00	072	9.1	0.96	055	18	804.1	00	823.6	792.1	
Dec					9.3	00	064	8.4	0.90	034	22	807.4	00	837.4	789.0	
Dome C II (8989)			75.121S				123.374E					3250 M				
Jan	-27.2	00	-14.5	-40.5	2.6	00	235	0.8	0.31	248	9	656.5	00	664.3	650.8	277.4
Feb	-40.8	07	-23.2	-59.6	3.5	07	203	2.1	0.59	066	13	654.0	07	661.9	645.3	262.3
Mar	-50.9	10	-30.6	-66.4	3.1	10	248	1.1	0.37	035	8	650.8	10	675.2	637.3	251.3
Apr	-59.2	00	-40.1	-74.2	3.6	00	206	2.2	0.60	182	13	646.2	00	661.4	633.6	242.4
May	-60.1	00	-28.4	-74.8	2.4	00	233	1.0	0.43	360	9	652.9	00	673.9	639.9	240.7
Jun	-64.2	00	-47.8	-75.6	2.7	00	181	1.6	0.59	103	8	650.0	00	662.3	637.1	236.3
Jul	-61.7	00	-25.1	-74.8	3.0	00	231	1.2	0.40	177	13	654.2	00	668.3	640.9	238.8
Aug	-65.4	00	-26.6	-78.9	2.0	00	228	0.7	0.37	030	11	643.4	00	661.7	625.9	235.7
Sep	-60.3	00	-41.5	-75.5	2.8	00	185	1.5	0.53	197	11	646.7	00	662.3	630.1	241.2
Oct	-52.5	00	-34.2	-71.4	3.4	00	200	2.5	0.74	222	11	645.5	00	662.4	634.8	250.1
Nov	-39.1	00	-25.1	-58.8	3.8	00	193	3.1	0.82	210	12	649.6	00	662.6	635.4	264.8
Dec	-27.0	00	-12.4	-42.4	4.4	00	189	2.1	0.47	201	12	654.6	00	678.1	639.1	277.9
MEAN	-50.7				3.1		204	1.6	0.52			650.4				

	Mean	% of			Mean	% of						Mean	% of				
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential	
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp	
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)	
Port Martin (8909)			66.82S			141.39E			39 M								
Jan	-1.4	11	5.8	-9.4								986.2	10	998.9	968.6	272.9	
Feb	-6.1	10	3.0	-14.2								986.1	10	995.6	960.9	268.1	
Mar	-10.1	10	1.8	-22.1								988.5	10	1013.3	967.8	264.0	
Apr	-15.9	01	-6.4	-24.9								984.3	01	1007.8	965.6	258.4	
May	-15.7	00	-2.9	-25.6								993.7	00	1017.3	973.2	257.9	
Jun	-17.2	01	-8.9	-26.1								984.3	01	1003.2	959.6	257.1	
Jul	-16.3	00	-4.8	-28.2								995.1	00	1020.8	977.8	257.3	
Aug	-17.9	00	-5.0	-29.6								983.9	00	1011.9	956.4	256.4	
Sep	-15.8	00	-6.1	-26.0								980.9	00	1009.8	960.1	258.8	
Oct	-13.5	00	-5.2	-21.9								977.8	00	1001.5	960.5	261.4	
Nov	-8.5	01	2.8	-19.5								982.3	00	1001.5	965.6	266.0	
Dec	-2.0	01	7.0	-10.0								981.6	00	1012.4	960.0	272.6	
MEAN	-11.7											985.4					
Cape Denison (8988)			67.009S			142.664E			31 M								
Jan	-0.2	10	6.0	-8.1	16.5	09	149	15.5	0.94	129	39	985.5	09	998.6	967.2	274.1	
Feb	-5.9	10	3.4	-13.5	21.0	10	159	20.4	0.97	155	49	985.6	10	995.4	959.8	268.4	
Mar	-10.1	11	3.0	-22.8	21.2	10	160	20.5	0.97	174	47	987.8	11	1008.2	966.7	264.0	
Apr	-15.2	55	-7.4	-23.9	23.0	55	162	22.1	0.96	173	47	988.4	56	1007.7	968.5	258.9	
May	-15.9	21	-3.6	-27.4	26.7	21	163	26.0	0.98	159	50	994.1	21	1017.0	974.0	257.7	
Jun	-17.7	06	-8.5	-27.2	27.3	06	165	26.6	0.97	179	55	982.8	07	1000.6	956.9	256.7	
Jul	-16.9	00	-4.2	-29.1	24.4	00	164	23.6	0.97	170	50	994.2	00	1019.1	975.4	256.7	
Aug	-18.2	01	-4.1	-30.0	24.9	01	164	24.3	0.98	155	51	983.2	01	1011.0	956.6	256.2	
Sep	-16.8	35	-5.4	-25.1	23.3	35	159	22.6	0.97	120	54	976.2	36	1005.2	957.8	258.2	
Oct	-13.9	01	-5.6	-22.1	21.2	01	164	20.8	0.98	184	53	977.1	01	999.8	959.7	261.0	
Nov	-8.2	00	3.2	-18.0	14.6	00	161	13.9	0.95	159	37	981.5	00	999.7	964.9	266.4	
Dec	-1.3	02	7.2	-9.8	11.5	00	153	10.4	0.91	173	37	980.7	01	1011.6	959.7	273.4	
MEAN	-11.7				21.3		161	20.5	0.96			984.8					
Penguin Point (8910)			67.617S			146.180E			30 M								
Jan	-1.2	07	4.9	-8.5	11.3	04	157	10.6	0.94	173	28	980.2	04	991.0	966.3	273.5	
Feb	-5.5	09	3.5	-15.4	12.1	09	166	11.4	0.94	169	30	979.5	09	989.0	957.1	269.3	
Mar	-12.3	11	0.8	-26.4	13.8	10	175	13.1	0.95	190	39	981.0	10	1002.2	960.4	262.3	
Apr	-18.0	00	-9.0	-28.1	13.3	00	184	12.6	0.95	186	36	976.6	00	1003.1	954.1	256.9	
May	-19.5	52	-7.2	-33.4	13.0	52	181	12.4	0.96	193	33	987.3	52	1008.0	969.9	254.6	
Jun	-17.5	68	-10.6	-29.6	14.1	68	168	13.1	0.93	158	37	967.9	68	988.0	950.0	258.0	
Jul	-19.7	00	-7.6	-31.5	15.3	00	180	14.6	0.95	193	40	988.0	00	1012.1	973.0	254.4	
Aug	-20.2	00	-6.0	-35.6	14.9	00	179	14.1	0.94	176	40	977.1	00	1003.4	948.4	254.6	
Sep	-18.9	00	-8.0	-30.8	14.1	01	169	13.2	0.93	156	34	975.0	00	1006.7	952.1	256.1	
Oct	-15.7	01	-8.0	-28.1	10.4	01	176	9.8	0.94	172	46	970.2	01	991.8	953.2	259.7	
Nov	-9.2	00	1.8	-17.9	7.0	00	179	6.4	0.91	191	30	974.2	00	989.9	959.6	265.9	
Dec	-2.3	04	6.6	-10.0	8.1	00	171	7.4	0.92	169	34	974.2	01	1005.2	952.9	272.8	
MEAN	-13.3				12.3		174	11.5	0.94			977.6					

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Mount Siple (8981)		73.198S					127.052W					230 M				
Jan	-2.5	02	1.2	-6.4												
Feb	-5.3	07	-1.6	-10.0												
Mar	-7.1	09	-1.0	-14.8								955.1	10	971.3	935.0	269.6
Apr	-9.6	00	-1.6	-19.0								952.0	00	971.4	923.4	267.3
May	-9.8	00	-0.9	-24.4								950.4	00	983.4	923.2	267.2
Jun	-12.2	00	-1.2	-23.5								951.8	00	981.2	921.1	264.7
Jul	-13.8	00	-2.5	-30.2								962.2	00	985.9	938.6	262.2
Aug	-23.9	00	-1.9	-40.9								947.9	00	978.5	918.0	253.1
Sep	-17.3	00	-7.4	-28.1								939.5	00	967.6	904.3	260.4
Oct	-13.1	00	-2.5	-21.2								938.8	00	960.1	902.1	264.8
Nov	-7.1	00	1.1	-17.8								945.3	05	963.6	920.1	270.2
Dec	-2.4	02	3.6	-7.6								951.3	27	978.2	926.8	274.7
MEAN	-10.3															
Theresa (21358)		84.599S					115.811W					1463 M				
Jan	-13.9	00	-4.9	-20.8	5.7	00	080	5.3	0.93	084	14	824.2	00	834.2	815.2	274.0
Feb	-14.5	07	-10.0	-21.6	8.3	07	085	8.2	0.98	080	16	824.9	07	836.2	818.5	273.3
Mar	-23.1	09	-11.4	-41.9	9.2	09	077	8.6	0.94	062	20	814.9	09	831.1	803.5	265.1
Apr	-25.0	00	-13.0	-43.0	9.0	00	081	8.6	0.95	045	21	813.7	00	825.4	797.4	263.2
May	-25.7	00	-15.6	-41.2	12.0	05	087	11.6	0.97	089	26	815.9	00	832.9	800.7	262.3
Jun	-26.5	00	-12.1	-42.5	10.2	00	081	9.3	0.91	062	20	816.6	00	830.5	797.7	261.4
Jul	-29.1	00	-15.9	-46.4	9.6	00	084	9.3	0.96	093	20	818.3	00	839.0	801.1	258.4
Aug	-33.1	00	-15.1	-46.0	10.3	00	093	9.9	0.96	091	26	805.1	00	830.4	790.6	255.4
Sep	-25.5	00	-14.5	-35.2	12.8	00	090	12.3	0.96	086	31	809.4	00	830.8	786.5	263.1
Oct	-25.7	00	-15.4	-43.8	11.9	00	090	11.4	0.96	091	35	805.7	00	817.1	786.6	263.2
Nov	-16.8	00	-7.1	-24.5	9.0	00	087	8.7	0.96	072	18	814.9	00	827.3	805.2	271.8
Dec	-12.0	00	-4.6	-20.4	7.4	00	086	7.2	0.97	097	14	816.3	00	833.3	805.4	276.8
MEAN	-22.6				9.6		086	9.2	0.95			815.0				
Doug (8922)		82.315S					113.240W					1433 M				
Jan	-15.3	00	-7.0	-25.0	4.0	00	066	3.0	0.75	066	12	819.4	00	828.6	810.6	272.9
Feb	-16.6	07	-11.8	-24.8	7.0	07	085	6.6	0.94	046	18	819.8	07	831.6	812.5	271.5
Mar	-24.3	09	-11.2	-40.5	7.8	09	066	6.7	0.86	044	19	810.5	09	825.0	799.2	264.3
Apr	-25.9	00	-11.4	-44.1	7.3	00	070	6.5	0.90	065	16	809.3	00	820.6	791.3	262.7
May	-28.7	00	-14.4	-42.9	9.6	00	079	7.4	0.77	359	22	809.9	00	828.0	795.2	259.7
Jun	-28.1	00	-13.0	-41.2	7.3	00	067	5.8	0.80	018	20	811.4	00	824.2	790.6	260.2
Jul	-30.5	00	-16.9	-44.6								813.7	00	835.9	794.3	257.4
Aug	-38.3	00	-21.2	-55.9	0.3	00	051	0.1	0.46	172	20	798.8	00	824.3	784.1	250.5
Sep	-33.9	50	-19.2	-42.5	0.8	50	109	0.5	0.64	152	21	802.6	50	817.2	778.4	254.8



	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Elizabeth (21361)			82.607S				137.078W					519 M				
Jan	-12.0	01	-3.4	-21.0	2.9	00	040	1.6	0.55	007	10	930.2	00	939.3	920.2	266.6
Feb	-15.3	07	-4.6	-27.0	4.0	07	050	3.5	0.85	046	11	926.5	07	939.1	911.8	263.6
Mar	-25.9	09	-6.6	-43.2	4.9	09	051	4.0	0.82	051	16	919.3	09	929.5	901.9	253.3
Apr	-25.0	00	-8.9	-39.9	5.6	00	046	4.8	0.86	062	14	916.4	00	933.2	895.4	254.4
May	-30.5	00	-8.2	-50.1	6.6	00	056	5.7	0.86	038	21	918.3	00	943.2	898.9	248.7
Jun	-25.7	00	-8.5	-43.0	7.5	00	055	6.6	0.88	069	16	918.2	00	943.9	897.1	253.6
Jul	-28.2	00	-11.2	-50.0	6.1	00	044	5.5	0.91	353	15	923.2	00	945.7	903.1	250.6
Aug	-44.0	00	-14.8	-56.1	5.4	07	054	4.2	0.77	342	18	913.7	00	945.5	892.4	235.2
Sep	-32.8	00	-13.6	-46.0	8.0	40	075	7.5	0.94	080	21	910.8	00	930.6	882.2	246.9
Oct	-27.2	00	-8.9	-42.9	7.0	08	062	6.2	0.88	062	28	907.2	00	925.2	881.6	252.9
Nov	-16.2	00	-4.2	-34.5	5.8	00	060	5.0	0.86	053	24	914.9	00	926.9	894.7	263.6
Dec	-9.4	00	0.5	-17.8	4.0	00	063	2.9	0.72	075	12	917.0	00	935.9	903.3	270.4
MEAN	-24.4				5.7		056	4.7	0.83			918.0				
Brianna (21362)			83.889S				134.154W					526 M				
Jan	-12.2	00	-3.8	-19.8	3.5	00	063	2.6	0.74	084	11	928.4	00	937.4	918.8	266.6
Feb	-13.4	07	-5.5	-24.4	6.7	07	072	6.3	0.94	079	15	925.9	07	936.9	912.9	265.6
Mar	-24.1	09	-8.0	-43.8	5.9	09	071	5.5	0.93	082	19	919.7	09	931.4	903.1	255.1
Apr	-23.5	00	-10.0	-36.5	7.8	00	051	7.4	0.95	055	18	916.9	00	931.9	895.8	255.9
May	-27.4	02	-10.9	-48.1	9.5	02	053	9.1	0.95	068	26	919.1	02	942.4	898.7	251.8
Jun	-24.5	05	-11.4	-40.4	9.6	05	056	9.0	0.94	056	19	920.1	05	944.5	900.4	254.7
Jul	-27.0	02	-14.4	-42.9	8.6	02	050	8.3	0.97	063	17	923.5	02	946.6	905.7	251.9
Aug	-37.8	00	-17.2	-50.8	7.8	00	058	7.0	0.91	060	20	914.4	00	945.8	891.2	241.5
Sep	-27.7	05	-14.9	-37.6	11.2	05	054	10.9	0.97	073	29	912.9	05	933.7	881.1	252.0
Oct	-27.4	22	-17.1	-39.4	9.0	22	043	8.6	0.96	062	21	909.2	22	924.0	881.4	252.6
Harry (8900)			83.003S				121.393W					945 M				
Jan	-13.8	00	-4.9	-23.1	4.3	00	032	3.2	0.73	032	12	879.3	00	887.6	870.0	269.1
Feb	-14.9	07	-8.2	-22.9	7.6	07	029	7.2	0.94	020	16	878.1	07	889.4	870.2	268.1
Mar	-24.7	09	-10.2	-42.1	7.3	09	029	6.8	0.94	015	21	869.6	09	883.8	857.4	258.6
Apr	-24.9	00	-10.2	-40.4	8.3	05	028	8.0	0.96	028	18	868.0	00	879.7	847.5	258.6
May	-27.6	00	-11.4	-45.0	10.4	07	038	10.1	0.97	046	22	869.2	00	889.1	851.1	255.6
Jun	-25.7	00	-10.2	-41.5	10.0	19	034	9.5	0.95	035	18	870.7	00	889.2	848.0	257.5
Jul	-29.1	00	-15.9	-46.4	9.4	37	031	9.2	0.97	018	17	873.7	00	896.7	854.2	253.6
Aug	-38.4	00	-18.9	-54.0	7.7	33	039	7.1	0.92	031	21	861.3	00	891.2	842.9	245.0
Sep	-29.9	00	-15.6	-40.6	11.4	08	044	11.2	0.98	055	26	863.0	00	884.2	836.1	253.8
Oct	-27.1	00	-13.5	-42.8	11.6	20	039	11.3	0.97	062	30	858.9	00	871.3	832.5	257.1
Nov	-17.6	00	-8.0	-33.1	10.9	39	031	10.6	0.97	008	28	867.6	00	877.5	856.7	266.1
Dec	-11.9	00	-4.8	-20.2	6.7	04	036	6.2	0.93	048	16	868.9	00	885.4	855.9	272.0
MEAN	-23.8				8.8		035	8.3	0.94			869.0				

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Erin (21363)		84.904S				128.828W					990 M					
Jan	-13.1	00	-5.8	-20.8	6.8	00	074	5.8	0.85	086	17	882.5	00	890.6	873.4	269.5
Feb	-13.7	07	-8.6	-22.9	11.2	07	079	10.8	0.96	090	22	881.7	07	892.3	873.1	269.0
Mar	-23.7	09	-10.0	-41.0	10.8	09	085	10.3	0.95	086	26	873.1	09	887.6	861.8	259.4
Apr	-23.9	00	-12.4	-39.5	11.9	00	082	11.6	0.97	100	29	871.2	00	883.3	853.3	259.3
May	-25.1	00	-13.0	-39.2	15.5	02	087	15.0	0.97	083	32	874.0	00	890.4	857.6	257.8
Jun	-25.1	00	-12.9	-39.8	13.6	08	088	13.0	0.96	083	28	874.7	00	892.0	856.5	257.8
Jul	-27.6	00	-16.8	-43.5	13.4	03	088	13.0	0.97	084	27	877.2	00	899.3	860.5	254.9
Aug	-33.3	00	-14.8	-47.9	12.2	00	092	11.6	0.95	096	34	865.8	00	892.8	847.2	249.9
Sep	-25.9	00	-13.0	-35.5	15.9	00	091	15.4	0.96	089	37	868.2	00	888.7	843.7	257.4
Oct	-24.7	00	-13.8	-40.4	15.3	00	089	14.7	0.96	082	36	863.8	00	875.1	840.9	259.1
Nov	-15.4	00	-6.2	-24.5	12.9	00	087	12.5	0.97	083	30	871.9	00	881.9	860.3	268.1
Dec	-10.2	00	-4.0	-19.0	9.5	00	084	9.2	0.97	087	18	873.1	00	889.2	863.4	273.3
MEAN	-21.8				12.4		086	11.9	0.95			873.1				
Siple Dome (8938)		81.656S				148.773W					668 M					
Jan	-12.8	00	-3.4	-20.9	2.6	00	039	0.9	0.35	347	10	896.1	00	903.8	884.9	268.7
Feb	-15.0	07	-6.8	-27.5	2.5	07	060	1.1	0.42	024	10	892.0	07	904.3	875.6	266.8
Mar	-24.8	09	-11.2	-40.4	1.8	09	041	1.2	0.66	356	9	884.0	09	896.4	869.0	257.3
Apr	-23.9	00	-7.6	-40.8	1.7	67	019	1.5	0.84	028	9	880.9	00	897.8	858.9	258.5
May	-29.3	00	-12.5	-47.9								882.4	00	907.5	863.6	252.8
Jun	-25.2	00	-8.6	-45.0								881.7	00	905.8	861.5	257.1
Jul	-25.0	00	-11.0	-46.9								887.4	00	909.9	866.2	256.8
Aug	-38.1	00	-15.5	-59.6								877.8	00	909.4	860.4	243.9
Sep	-31.6	01	-17.9	-45.4	4.8	59	077	4.1	0.86	089	15	873.6	01	893.0	842.0	251.1
Oct	-26.4	00	-12.2	-44.9	9.0	70	096	8.4	0.94	110	25	870.7	00	890.6	843.5	256.8
Nov	-16.2	00	-2.6	-31.4	4.2	15	068	2.0	0.48	066	17	879.6	00	893.2	856.2	266.6
Dec	-10.5	01	0.6	-21.6	3.2	00	066	1.6	0.52	014	13	882.7	00	905.0	866.1	272.2
MEAN	-23.2											882.4				
Swthinbank (21356)		81.20S				126.17W					945 M					
Jan	-10.5	00	-1.2	-24.5	3.8	00	343	2.7	0.70	360	12	878.8	00	886.2	869.4	272.5
Feb	-13.3	07	-6.6	-21.0	7.4	07	360	6.8	0.92	360	17	876.0	07	887.6	865.7	269.9
Mar	-21.1	09	-7.6	-36.8	7.9	09	354	7.4	0.93	008	20	868.3	09	879.2	854.3	262.5
Apr	-21.5	00	-6.2	-38.0	8.9	00	355	8.4	0.95	350	19	866.5	00	879.1	843.5	262.2
May	-25.0	00	-9.5	-40.9	9.1	00	004	8.5	0.94	003	22	866.7	00	890.5	848.9	258.6
Jun	-23.2	00	-7.0	-39.9	9.7	00	002	9.0	0.94	349	23	868.0	00	888.6	846.9	260.3
Jul	-26.4	00	-12.8	-44.1	8.7	00	356	8.4	0.96	354	27	872.4	00	894.6	852.3	256.6
Aug	-39.2	00	-12.8	-51.1	7.9	00	360	6.9	0.88	017	18	859.7	00	890.7	839.9	244.3
Sep	-30.7	00	-15.5	-41.2	10.4	00	013	10.1	0.97	025	25	858.9	00	878.6	832.0	253.2

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Marble Point (8906)			77.439S				163.754E				108 M					
Jan	-6.1	00	-0.5	-11.9	3.6	00	120	1.4	0.39	323	13	983.3	00	990.9	973.5	268.3
Feb	-7.9	07	-0.5	-18.4	2.8	07	146	1.6	0.58	160	12	981.1	07	992.9	968.6	266.7
Mar	-19.4	10	-4.8	-28.8	3.1	10	148	2.4	0.79	152	14	978.2	10	987.4	968.3	255.4
Apr	-21.9	00	-7.9	-34.2	3.4	00	163	2.5	0.72	138	15	972.9	00	987.4	948.1	253.3
May	-22.8	00	-5.2	-37.4	3.1	00	172	2.2	0.72	198	21	978.5	00	1001.5	959.3	251.9
Jun	-21.2	00	-6.2	-34.9	4.7	00	164	3.6	0.77	181	25	975.8	00	990.7	960.3	253.8
Jul	-22.6	00	-8.9	-39.0	3.4	00	163	2.5	0.74	114	21	980.7	00	1004.9	962.6	251.9
Aug	-32.0	00	-19.0	-42.8	2.7	00	150	1.8	0.65	169	13	976.2	00	999.9	958.9	242.8
Sep	-23.6	00	-10.1	-36.1	2.6	00	172	1.2	0.47	121	18	972.7	00	994.1	944.8	251.5
Oct	-17.9	00	-6.1	-31.4	3.3	00	157	2.2	0.68	173	17	966.2	00	983.0	938.9	257.8
Nov	-8.6	00	0.4	-20.6	3.8	00	143	2.2	0.58	117	19	969.2	00	983.8	941.3	266.9
Dec	-1.4	01	7.1	-9.9	4.2	00	119	1.6	0.38	131	29	969.0	00	990.9	946.5	274.3
MEAN	-17.1				3.4		154	2.0	0.62			975.3				
Ferrell (8929)			77.91S				170.82E				45 M					
Jan	-8.6	29	0.5	-18.0	3.0	29	169	1.1	0.35	194	11	991.1	29	998.5	981.1	265.2
Feb	-12.6	07	-2.0	-28.6	4.0	07	205	2.9	0.72	216	15	988.1	07	1000.0	976.5	261.5
Mar	-26.4	09	-9.4	-41.8	2.7	09	187	1.5	0.55	147	12	985.4	09	994.5	976.0	247.8
Apr	-27.6	00	-8.9	-45.9	3.5	00	195	3.0	0.87	206	19	979.5	00	995.2	953.0	247.0
May	-31.4	00	-8.9	-51.2	4.8	00	199	4.2	0.87	191	26	985.3	00	1009.1	965.3	242.8
Jun	-27.9	00	-12.4	-43.5	8.0	02	199	7.2	0.90	195	26	982.3	00	998.0	966.9	246.5
Jul	-28.4	00	-12.8	-47.1	7.4	07	198	6.9	0.94	212	26	987.3	00	1011.0	966.9	245.7
Aug	-42.0	00	-24.2	-55.4	3.0	04	194	1.8	0.60	194	23	983.7	00	1007.2	964.9	232.3
Sep	-31.8	00	-12.4	-47.6	4.6	00	211	4.1	0.89	191	20	979.2	00	1001.3	951.9	242.9
Oct	-24.7	00	-10.9	-42.1	6.4	02	200	6.0	0.93	205	27	972.6	00	990.9	942.8	250.5
Nov	-14.0	00	-4.0	-31.8	5.3	00	205	4.6	0.88	215	17	975.9	00	991.1	947.5	261.0
Dec	-5.4	02	3.5	-15.1	5.1	00	198	3.4	0.68	193	24	976.4	00	999.6	953.5	269.6
MEAN	-23.4				4.8		199	3.9	0.77			982.2				
Pegasus North (21357)			77.952S				166.500E				8 M					
Jan	-7.5	29	-0.5	-16.6	3.0	29	048	2.1	0.69	167	11	997.1	29	1003.7	986.3	265.9
Feb																
Mar																
Apr																
May																
Jun																
Jul																
Aug																
Sep																
Oct																
Nov	-9.9	18	-0.5	-21.4	4.5	17	105	1.5	0.34	173	25	981.2	17	990.9	953.2	264.7
Dec	-3.0	01	5.1	-13.2	4.8	00	136	2.1	0.44	163	27	982.1	00	1004.5	963.1	271.6

	Mean	% of			Mean	% of						Mean	% of				
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential	
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp	
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)	
Pegasus South (8937)			77.99S			166.58E			10 M								
Jan	-8.2	01	-0.2	-17.2	3.0	00	065	2.0	0.66	197	13	998.4	00	1005.6	987.8	265.1	
Feb	-10.7	07	-1.6	-27.1	3.3	07	085	1.5	0.45	180	16	996.3	07	1008.0	983.7	262.7	
Mar	-24.7	09	-3.5	-38.6	3.2	09	079	1.8	0.57	190	19	994.3	09	1003.1	984.7	248.9	
Apr	-26.7	00	-6.1	-46.1	0.9	09	191	0.1	0.15	202	20	988.8	00	1003.9	960.7	247.2	
May																	
Jun																	
Jul	-27.4	00	-8.0	-46.4								997.1	00	1020.9	978.5	246.0	
Aug	-40.9	00	-21.5	-53.8								993.3	00	1016.7	975.3	232.7	
Sep	-30.6	00	-8.0	-46.2								989.2	00	1011.3	961.0	243.4	
Oct	-23.2	00	-7.1	-44.2								982.5	00	999.7	952.8	251.2	
Nov	-11.3	00	-1.0	-29.4	5.6	31	147	2.7	0.49	198	26	984.7	00	999.8	956.5	263.0	
Dec	-3.2	02	5.1	-13.1	4.7	00	157	2.2	0.47	195	23	983.4	00	1003.3	966.2	271.3	
Minna Bluff (8935)			78.554S			166.691E			895 M								
Jan																	
Feb																	
Mar																	
Apr																	
May																	
Jun																	
Jul	-25.1	29	-14.1	-37.0	12.5	68	188	12.1	0.97	169	61	884.1	29	903.8	855.8	257.0	
Aug	-32.0	00	-19.5	-44.0	6.5	43	199	3.4	0.53	188	27	875.9	00	899.3	859.3	250.5	
Sep	-26.1	00	-15.8	-33.9	9.5	11	186	8.1	0.85	197	47	872.8	00	891.6	850.2	256.9	
Oct	-23.4	00	-14.5	-35.0	7.8	10	186	6.7	0.86	191	44	867.2	00	882.0	841.8	260.2	
Nov	-15.9	00	-8.1	-26.6	11.0	11	188	10.5	0.96	190	39	871.3	00	883.2	844.7	267.6	
Dec	-11.8	58	-4.4	-20.2	10.4	58	188	8.7	0.84	188	30	864.9	58	870.8	846.1	272.4	
Linda (8919)			78.46S			168.38E			47 M								
Jan	-9.6	02	0.0	-19.5	3.8	00	198	1.6	0.42	198	17	973.3	00	979.8	963.4	265.6	
Feb	-13.5	07	-2.4	-31.6	5.4	07	200	4.2	0.77	200	17	970.2	07	982.2	958.3	261.9	
Mar	-26.5	09	-7.0	-40.9	4.9	09	197	3.6	0.74	204	22	967.2	09	976.3	956.9	249.0	
Apr	-28.0	00	-9.4	-46.6	9.1	19	200	8.6	0.94	198	24	961.2	00	976.7	934.9	248.0	
May	-31.5	00	-10.2	-51.9	9.1	27	197	8.7	0.95	201	32	966.8	00	990.3	948.2	244.0	
Jun	-27.9	00	-11.8	-47.4	12.0	20	200	11.7	0.98	175	28	964.4	00	979.0	947.3	247.8	
Jul	-28.7	00	-12.6	-47.6	12.9	42	199	12.9	1.00	201	30	969.1	00	992.8	948.8	246.7	
Aug	-41.4	00	-22.4	-54.6								964.9	00	989.0	947.3	234.1	
Sep	-30.7	00	-11.8	-47.5	10.5	45	198	10.4	0.99	200	26	960.8	00	982.6	933.8	245.3	
Oct	-24.5	00	-11.0	-41.4	7.9	08	199	7.5	0.95	202	27	954.8	00	971.7	921.8	252.0	
Nov	-13.9	00	-3.2	-32.6	7.3	00	199	6.6	0.91	198	23	958.2	00	972.7	928.0	262.5	
Dec	-5.5	04	4.1	-14.2	5.9	00	201	4.6	0.77	195	26	959.1	00	981.8	940.2	270.9	
MEAN	-23.5											964.2					

	Mean	% of			Mean	% of						Mean	% of				
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential	
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp	
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)	
Willie Field (21364)			77.87S			167.02E			40 M								
Jan																	
Feb	-11.6	07	-0.5	-29.1	2.7	07	065	1.7	0.63	160	12	993.0	07	1004.8	980.7	262.1	
Mar	-24.9	09	-5.5	-40.9	3.2	09	056	2.2	0.69	177	12	990.2	09	999.0	980.4	249.0	
Apr	-26.9	00	-7.2	-49.2	3.6	00	087	1.7	0.48	170	17	984.9	00	999.8	958.5	247.3	
May	-29.3	00	-5.5	-50.6	3.1	00	080	1.7	0.56	170	16	990.7	00	1014.1	971.6	244.5	
Jun	-26.3	00	-10.0	-43.8	4.8	00	110	2.5	0.52	174	28	988.2	00	1003.8	972.4	247.7	
Jul	-27.5	00	-10.8	-48.1	3.8	00	091	1.9	0.49	179	21	993.0	00	1017.0	973.9	264.1	
Aug	-40.7	00	-23.6	-56.9	1.8	00	056	0.9	0.51	160	20	989.0	00	1012.2	970.7	233.2	
Sep	-30.8	00	-9.5	-46.6	3.0	02	077	1.2	0.38	174	21	984.9	00	1006.5	956.4	243.5	
Oct	-24.1	00	-8.4	-44.0	3.8	00	084	1.9	0.50	183	22	978.3	00	995.2	947.5	250.6	
Nov	-12.4	00	-1.6	-31.6	3.9	00	086	1.6	0.40	197	18	981.3	00	995.4	952.3	626.1	
Dec	-4.4	02	4.1	-16.5	3.9	00	139	1.4	0.36	183	20	981.8	00	1004.2	963.3	270.1	
Windless Bight (8927)			77.728S			167.703E			61 M								
Jan	-8.0	00	1.0	-21.1	1.4	00	079	0.8	0.59	093	7	997.0	00	1004.2	987.1	265.4	
Feb	-10.8	07	-1.0	-31.2	2.0	07	021	0.5	0.27	256	7	994.5	07	1006.0	982.4	262.8	
Mar	-25.9	09	-3.6	-44.2	1.7	09	062	0.9	0.52	118	9	991.8	09	1000.8	982.1	247.9	
Apr	-27.8	00	-6.2	-52.8	2.1	00	039	0.9	0.42	183	14	986.6	00	1000.9	962.1	246.3	
May	-30.2	00	-3.4	-54.1	1.7	00	035	0.6	0.37	193	11	992.4	00	1015.2	973.0	243.5	
Jun	-27.1	00	-7.9	-48.4	2.1	00	036	0.6	0.30	208	11	990.3	00	1005.9	973.6	246.8	
Jul	-28.8	00	-12.5	-53.1	2.1	00	040	0.5	0.22	221	11	994.8	00	1018.4	975.4	244.8	
Aug	-44.2	00	-22.5	-58.9	1.3	00	056	0.4	0.28	191	12	990.2	00	1013.6	972.2	229.6	
Sep	-33.2	00	-9.2	-51.2	1.9	00	001	0.6	0.33	349	9	986.7	00	1007.7	958.0	240.9	
Oct	-25.7	00	-10.1	-45.6	2.0	00	011	0.6	0.30	222	14	980.3	00	997.1	951.4	248.8	
Nov	-12.6	00	-0.4	-33.6	1.8	00	024	0.6	0.31	202	14	983.4	00	997.3	953.9	261.8	
Dec	-6.3	64	1.5	-19.0	1.5	63	017	0.3	0.22	360	7	977.0	63	982.2	972.0	268.6	
MEAN	-23.4				1.8		038	0.6	0.34			988.8					
Herbie Alley (8697)			78.10S			166.67E			30 M								
Jan	-7.8	00	0.5	-18.4	3.4	00	068	1.1	0.32	172	15	996.6	09	1004.1	986.8	265.4	
Feb	-10.7	07	-0.8	-26.6	3.7	07	141	1.3	0.33	166	17	993.7	11	1005.9	981.6	262.8	
Mar	-24.5	09	-3.6	-38.9	3.0	10	107	0.8	0.27	191	22	991.3	10	1000.3	981.1	249.1	
Apr	-26.6	00	-7.0	-45.9	4.4	00	174	1.9	0.43	208	23	985.3	04	1001.2	957.1	248.3	
May	-28.9	00	-4.6	-49.9	4.0	00	172	1.3	0.34	208	29	991.4	04	1015.5	971.8	245.5	
Jun	-25.6	00	-8.1	-43.0	6.8	00	174	4.7	0.69	205	35	988.5	00	1003.9	972.8	248.4	
Jul	-26.8	00	-5.5	-48.4	4.9	00	165	2.4	0.49	195	33	993.6	02	1017.7	974.6	247.1	
Aug	-40.6	00	-19.8	-56.4	1.8	00	089	0.3	0.17	177	22	990.5	50	1013.5	972.3	237.5	
Sep	-30.2	00	-8.2	-46.6	3.6	04	165	1.4	0.38	162	27	985.5	05	1007.7	957.7	244.0	
Oct	-22.6	00	-7.0	-44.2	4.7	00	165	2.5	0.52	174	33	978.3	29	996.2	946.4	251.1	
Nov	-10.9	00	-0.2	-29.9	5.4	01	174	1.8	0.34	204	26	981.7	27	996.5	953.7	263.3	
Dec	-3.0	00	7.1	-13.2	5.3	00	168	2.7	0.50	173	29	981.9	08	1004.8	962.7	271.3	
MEAN	-21.5				4.3		162	1.7	0.40			988.2					

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Cape Spencer (8722)			77.97S				167.55E				30 M					
Jan	-8.8	00	1.0	-19.5	3.6	00	131	1.2	0.33	211	17	991.5	00	999.0	981.3	265.0
Feb	-11.5	07	-2.4	-28.2	3.8	07	175	0.8	0.20	132	15	989.8	07	1000.6	977.4	262.4
Mar	-25.2	09	-3.2	-40.9	3.7	09	114	1.3	0.36	217	17	989.4	09	999.1	978.4	248.7
Apr	-27.4	00	-7.2	-49.2	4.3	00	201	0.9	0.22	211	24	984.5	00	1001.5	954.0	246.9
May	-30.1	00	-3.4	-48.4	3.7	00	195	0.8	0.23	233	28	990.6	00	1015.7	969.6	243.8
Jun	-26.6	00	-8.5	-46.6	5.2	00	182	2.2	0.42	215	32	987.8	00	1003.4	971.6	247.4
Jul	-28.0	00	-10.6	-48.4	3.9	00	172	0.5	0.12	205	27	992.7	00	1016.5	972.6	245.7
Aug	-40.7	00	-21.2	-57.1	2.1	00	212	0.5	0.22	207	30	990.4	00	1012.4	970.6	233.1
Sep	-30.6	00	-9.6	-47.5	3.9	00	226	1.3	0.34	167	24	984.9	00	1008.0	955.9	243.7
Oct	-24.2	00	-8.4	-44.5	4.2	00	186	0.9	0.21	210	28	977.2	00	995.6	946.5	250.6
Nov	-12.4	00	-2.2	-31.6	4.8	02	192	1.6	0.34	197	29	977.9	00	994.8	948.9	262.5
Dec	-5.4	24	1.9	-16.2	5.7	24	203	3.0	0.53	188	26	972.6	24	989.0	958.6	269.9
MEAN	-22.6				4.1		185	1.1	0.29			985.8				
Cape Bird (8901)			77.224S				166.440E				42 M					
Jan	-3.6	00	1.4	-8.0	3.2	00	013	1.7	0.54	013	12	993.2	00	1001.2	982.6	270.1
Feb	-5.3	07	1.0	-10.2	4.5	07	246	0.5	0.11	216	19	990.2	07	1003.1	976.6	268.6
Mar	-15.4	10	-5.8	-23.2	3.6	10	063	1.0	0.28	016	17	987.3	10	997.8	977.0	258.8
Apr	-18.9	00	-6.6	-27.0	4.0	00	060	1.5	0.38	219	20	981.5	00	997.1	954.3	255.6
May	-19.6	00	-1.9	-31.0	4.8	00	088	0.8	0.16	202	29	987.2	00	1011.8	968.8	254.5
Jun	-17.7	00	-6.6	-28.9	5.6	00	082	1.8	0.32	189	33	983.6	00	1000.5	964.9	256.6
Jul	-20.6	00	-7.6	-31.9	4.4	00	115	1.1	0.25	210	45	989.3	00	1014.1	967.5	253.4
Aug	-30.6	00	-17.2	-40.0	3.1	00	045	1.2	0.38	037	23	985.9	00	1009.9	965.1	243.5
Sep	-24.1	00	-5.8	-35.2	3.6	00	186	0.6	0.16	240	33	981.8	00	1003.7	955.1	250.4
Oct	-16.5	00	-3.1	-30.9	4.6	00	208	0.5	0.11	195	37	974.4	00	993.5	943.4	258.6
Nov	-7.7	00	1.8	-19.8	4.2	00	353	1.2	0.27	212	28	977.9	00	994.3	951.2	267.2
Dec	-1.0	00	7.6	-9.1	5.7	00	327	0.7	0.12	202	34	977.8	00	1002.1	945.6	273.9
MEAN	-15.1				4.3		055	0.6	0.26			984.2				
Laurie II (21360)			77.55S				170.82E				30 M					
Jan	-9.6	52	-0.5	-19.1	3.1	52	167	1.5	0.47	174	12	991.6	52	999.6	981.8	264.2
Feb	-13.8	07	-2.9	-26.1	4.3	07	191	3.0	0.69	204	14	989.2	07	1001.4	977.9	260.2
Mar	-27.1	09	-10.8	-40.5	3.8	09	182	2.3	0.62	181	14	986.5	09	996.1	976.9	247.0
Apr	-28.2	00	-9.6	-47.0	5.7	04	192	4.7	0.82	202	19	980.5	00	996.0	954.2	246.3
May	-32.4	00	-9.0	-53.1	4.9	00	195	4.1	0.83	194	26	986.4	00	1010.2	967.8	241.7
Jun	-28.4	00	-12.4	-44.1	8.1	00	192	7.3	0.90	202	30	983.1	00	999.1	967.7	245.9
Jul	-29.3	00	-14.2	-46.5	6.6	00	193	6.1	0.92	187	25	988.3	00	1012.5	967.7	244.7
Aug	-42.8	00	-27.0	-55.5	2.1	03	192	1.3	0.63	187	20	984.8	00	1008.3	968.3	231.3
Sep	-32.6	00	-12.8	-49.0	5.6	17	197	5.1	0.92	193	22	980.4	00	1002.6	953.2	241.9
Oct	-25.5	00	-12.4	-42.4	7.2	02	194	6.6	0.92	200	27	973.4	00	992.0	944.7	249.6
Nov	-15.0	00	-5.4	-32.1	6.1	00	192	5.3	0.86	191	18	976.9	00	992.4	948.7	259.9
Dec	-6.4	00	3.5	-16.6	5.7	00	196	3.7	0.65	187	23	977.3	00	1000.7	952.3	268.5
MEAN	-24.3				5.3		192	4.2	0.77			983.2				

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Whitlock (8907)		76.144S				168.392E					206 M					
Jan																
Feb	-8.9	28	-4.6	-17.1	3.8	28	271	0.9	0.24	269	16	959.7	28	969.1	950.1	267.4
Mar	-17.7	09	-8.2	-26.4	5.1	09	012	0.3	0.07	035	18	956.6	09	968.0	946.3	258.7
Apr	-22.3	00	-11.2	-31.1								950.9	00	966.7	927.6	254.5
May	-23.6	00	-9.4	-34.1								956.7	00	980.2	940.1	252.7
Jun	-21.9	00	-12.4	-32.0	2.1	40	215	0.9	0.41	191	10	953.4	00	968.0	939.3	254.7
Jul	-24.4	00	-12.4	-37.6	0.5	30	232	0.2	0.34	153	11	958.7	00	982.9	941.6	251.8
Aug	-30.7	00	-18.9	-40.9	0.6	00	213	0.2	0.38	190	7	953.7	00	977.3	937.4	245.7
Sep	-24.5	00	-12.4	-34.0	0.4	00	078	0.1	0.25	072	6	951.0	00	969.9	925.2	252.3
Oct	-18.6	00	-9.4	-30.9	3.7	00	279	0.5	0.13	255	21	944.5	00	962.4	920.4	258.7
Nov	-10.6	00	-2.4	-20.0	4.6	00	228	0.8	0.18	174	19	948.8	00	963.1	923.2	266.5
Dec	-3.6	01	4.2	-11.0	5.0	00	214	1.2	0.24	221	32	949.7	00	972.5	922.0	273.5
Possession Is (8984)		71.891S				171.210E					30 M					
Jan	-0.3	05	4.0	-3.4								983.8	02	995.0	973.4	274.1
Feb	-2.3	09	1.2	-6.0								981.6	08	990.2	970.6	272.3
Mar	-10.4	09	-1.6	-19.9								977.9	09	990.6	964.6	264.4
Apr	-16.5	00	-8.8	-24.0								971.8	00	995.8	949.8	258.8
May	-19.2	00	-6.8	-27.2								979.9	00	1002.4	965.1	255.4
Jun	-18.3	01	-7.2	-28.1								975.1	01	992.5	958.8	256.8
Jul	-19.8	00	-7.1	-32.8								981.0	00	1005.3	966.5	254.8
Aug	-24.1	00	-12.8	-33.9								976.6	00	997.6	955.4	250.8
Sep	-19.8	00	-4.4	-26.9								974.7	00	995.3	950.5	255.2
Oct	-13.4	00	-0.9	-26.6								966.2	00	983.6	946.4	262.3
Nov	-5.8	00	3.4	-14.9								970.3	00	983.7	945.2	269.6
Dec	0.7	02	8.2	-4.6								970.6	00	995.7	946.4	276.2
MEAN	-12.4											975.8				
Manuela (8905)		74.946S				163.687E					78 M					
Jan	-5.2	00	1.2	-12.6								987.1	00	995.4	974.3	269.0
Feb	-10.2	07	-0.5	-16.1								985.4	07	998.7	972.9	264.0
Mar	-19.3	09	-7.4	-29.8								981.0	09	992.3	968.6	255.3
Apr	-24.3	00	-12.0	-34.6								975.8	00	990.3	951.6	250.6
May	-25.5	00	-14.1	-33.6								981.7	00	1004.9	960.2	249.0
Jun	-24.5	00	-12.9	-34.5								979.4	00	994.9	961.1	250.1
Jul	-26.6	00	-15.5	-37.4								983.8	00	1009.7	964.1	247.7
Aug	-29.5	00	-4.4	-39.4								978.8	00	1004.3	956.4	245.2
Sep	-25.2	00	-15.5	-35.8								976.0	00	997.9	947.9	249.7
Oct	-20.7	00	-10.5	-32.0								969.8	00	987.7	942.5	254.7
Nov	-10.5	00	-1.2	-19.6								973.4	00	987.8	942.7	264.7
Dec	-3.0	00	5.5	-9.8								973.6	00	996.6	953.0	272.3
MEAN	-18.7											978.8				

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Marilyn (8934)		79.954S				165.130E					75 M					
Jan																
Feb	-12.8	07	-2.9	-26.1	4.9	07	243	3.6	0.73	258	14	985.9	07	997.4	973.4	261.4
Mar	-26.3	09	-8.8	-47.0	6.5	09	259	5.4	0.83	270	30	982.2	09	991.9	971.5	248.1
Apr	-27.5	00	-7.2	-45.1	7.8	00	250	6.4	0.82	268	24	977.5	00	990.6	953.9	247.3
May	-30.2	00	-10.1	-47.8	8.5	14	253	7.8	0.91	265	24	983.2	00	1003.5	964.3	244.1
Jun	-28.0	00	-10.5	-45.0	8.5	07	241	7.4	0.86	272	30	981.7	00	999.3	959.6	246.5
Jul	-28.9	00	-16.6	-48.2	9.7	28	253	9.0	0.93	259	27	985.7	00	1010.3	967.7	245.3
Aug	-38.9	00	-26.1	-55.8	7.8	59	262	7.4	0.96	255	22	980.4	00	1004.9	963.1	235.6
Sep	-27.9	00	-8.1	-41.1	8.9	19	248	7.6	0.85	259	21	977.2	00	996.9	949.7	246.9
Oct	-25.2	00	-9.6	-41.6	6.0	06	245	4.7	0.80	189	20	971.5	00	986.2	940.5	250.1
Nov	-14.3	00	-4.1	-31.8	4.3	03	218	3.3	0.75	147	20	974.8	00	988.0	943.5	260.8
Dec	-5.8	03	4.0	-15.0	4.1	00	208	2.7	0.67	183	18	975.3	00	995.6	959.1	269.3
Schwerdtfeger (8913)		79.90S				169.97E					54 M					
Jan	-11.9	00	-3.5	-24.0	2.8	00	205	0.4	0.13	184	12	987.9	00	994.5	978.5	262.2
Feb	-16.3	07	-6.1	-29.2	4.2	07	225	2.7	0.66	239	13	984.3	07	995.7	971.7	258.0
Mar	-31.6	09	-14.8	-51.6	4.5	09	251	3.1	0.71	277	24	980.9	09	990.3	969.5	242.9
Apr	-31.7	00	-10.6	-51.6	5.8	00	234	4.4	0.75	259	17	975.2	00	990.4	950.5	243.2
May	-35.5	00	-9.4	-57.2	5.3	00	235	4.2	0.78	201	20	981.3	00	1002.7	962.7	239.0
Jun	-33.4	00	-16.1	-51.2	6.6	02	220	5.2	0.78	169	20	979.0	00	994.5	958.5	241.3
Jul	-33.3	00	-18.2	-55.0	6.6	17	233	5.8	0.88	280	16	983.2	00	1005.8	962.4	241.0
Aug	-46.4	00	-29.9	-61.4	3.5	02	251	2.3	0.65	214	15	979.3	00	1003.4	962.9	228.2
Sep	-34.5	00	-12.0	-49.9	5.8	00	226	4.8	0.83	180	20	974.6	00	995.1	947.1	240.5
Oct	-29.3	00	-12.8	-45.9	5.2	00	216	4.0	0.77	217	22	968.9	00	985.8	935.6	246.1
Nov	-17.0	00	-6.0	-35.9	4.5	00	197	3.6	0.81	193	17	972.3	00	986.1	940.7	258.3
Dec	-7.9	00	1.9	-18.2	4.2	00	184	2.6	0.63	174	21	973.3	00	994.3	955.2	267.4
MEAN	-27.4				4.9		225	3.4	0.70			978.4				
Gill (8911)		79.985S				178.611W					55 M					
Jan	-11.9	00	-0.9	-21.9	3.5	00	208	1.1	0.33	176	10	991.0	00	997.9	981.0	261.9
Feb	-17.3	07	-4.9	-29.9	3.4	07	239	1.9	0.57	203	10	986.2	07	996.8	973.1	256.9
Mar	-32.1	09	-20.4	-51.4	3.7	09	265	2.7	0.72	278	15	982.8	09	993.7	973.1	242.3
Apr	-32.9	00	-11.6	-52.4	4.9	02	234	2.7	0.55	293	14	975.8	00	995.6	950.9	242.0
May	-38.7	00	-17.4	-57.2	3.4	00	234	2.5	0.74	211	14	982.0	00	1005.3	960.3	235.7
Jun	-37.0	00	-24.2	-50.0	4.2	00	219	2.4	0.57	147	23	978.8	00	992.2	958.4	237.7
Jul	-35.1	00	-18.9	-60.2	3.3	00	229	2.5	0.76	210	16	983.5	00	1005.3	959.5	239.2
Aug	-49.0	00	-27.0	-65.4	2.5	00	246	1.6	0.63	225	12	981.4	00	1009.3	967.2	225.4
Sep	-39.1	00	-20.4	-52.5	3.8	00	243	3.4	0.89	232	14	974.3	00	995.5	940.9	235.8
Oct	-29.4	00	-16.4	-44.6	7.2	49	216	6.8	0.95	220	21	969.0	00	991.6	933.1	246.0
Nov	-18.3	00	-6.8	-36.6	3.9	06	215	2.8	0.73	200	10	973.8	00	988.0	945.1	256.8
Dec	-8.3	00	1.6	-20.5	4.2	00	204	2.8	0.68	179	22	975.1	00	997.3	951.0	266.7
MEAN	-29.1				4.0		228	2.7	0.68			979.5				



	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Lettau (8908)		82.518S				174.452W					38 M					
Jan	-12.0	69	-7.0	-18.9								993.3	69	998.3	984.3	261.6
Feb	-16.0	13	-5.8	-28.1	2.5	13	183	0.1	0.03	080	10	987.6	13	997.9	969.7	258.0
Mar	-30.2	09	-14.0	-48.4	2.8	52	013	0.6	0.20	073	13	983.3	09	992.7	973.0	244.1
Apr	-30.3	00	-8.4	-47.8	4.7	48	243	1.8	0.39	066	14	978.1	00	997.1	956.9	244.5
May	-36.8	00	-9.5	-56.9	5.1	42	102	0.4	0.07	139	19	983.5	00	1005.1	963.1	237.6
Jun	-30.9	00	-13.6	-50.9	5.2	09	075	0.4	0.07	325	23	981.3	00	1006.4	962.2	243.6
Jul	-31.5	00	-12.5	-56.9	3.8	09	218	0.3	0.08	314	18	985.7	00	1007.9	961.4	242.7
Aug	-48.2	00	-19.5	-62.4	1.7	29	137	0.6	0.33	174	21	981.8	00	1009.2	962.9	226.1
Sep	-34.5	00	-11.0	-51.9	4.9	31	246	0.2	0.04	132	23	976.1	00	997.4	943.4	240.4
Oct	-26.7	00	-11.0	-43.6	4.6	43	194	0.6	0.12	284	21	971.2	00	989.2	936.5	248.5
Nov	-15.8	35	-7.2	-34.5	6.6	51	187	1.6	0.24	330	18	975.4	35	990.9	947.5	259.2
Dec	-4.3	62	2.8	-15.6								985.1	60	997.7	959.0	270.1
MEAN	-26.4											981.9				
Elaine (8915)		83.134S				174.169E					60 M					
Jan	-10.7	00	-2.4	-20.1	1.3	00	094	0.3	0.24	117	10	995.2	00	1003.3	985.5	262.8
Feb	-12.4	07	-2.9	-32.0	3.5	07	126	2.7	0.79	114	15	991.8	07	1001.9	976.9	261.3
Mar	-27.1	10	-8.1	-49.5	3.7	10	152	2.0	0.54	202	17	987.5	10	996.9	977.3	246.9
Apr	-26.1	00	-5.4	-48.0	5.4	00	132	3.9	0.72	110	23	983.5	00	999.9	964.0	248.2
May	-30.4	00	-5.0	-53.5	3.6	00	145	2.4	0.68	187	21	988.9	00	1009.2	971.6	243.5
Jun	-27.1	00	-7.0	-47.2	4.4	00	140	3.0	0.68	111	19	987.8	00	1012.5	966.6	247.0
Jul	-27.0	00	-10.9	-47.2	4.8	00	137	3.7	0.77	111	20	991.8	00	1015.2	973.0	246.7
Aug	-46.8	00	-24.8	-62.1	1.7	00	127	0.2	0.10	117	13	986.0	00	1012.9	965.5	227.2
Sep	-30.4	00	-8.1	-47.1	3.0	02	132	2.4	0.80	110	20	982.7	00	1003.3	955.3	244.0
Oct	-26.6	00	-8.2	-44.4	2.5	00	131	2.0	0.78	110	28	977.5	00	991.5	948.8	248.2
Nov	-12.5	00	-0.9	-31.8	4.0	00	120	3.1	0.76	111	25	981.8	00	994.1	955.6	262.0
Dec	-4.8	05	3.4	-15.6	2.5	00	125	1.8	0.73	114	15	982.3	00	1001.3	968.0	269.7
MEAN	-23.5				3.4		133	2.3	0.63			986.4				
Larsen Ice Shelf (8926)		66.949S				60.897W					17 M					
Jan	-1.7	07	5.5	-10.1	3.7	05	126	0.5	0.13	190	11	986.3	05	997.5	969.7	272.5
Feb	-4.8	10	2.1	-17.1	4.9	08	141	2.1	0.43	190	13	989.0	08	1000.9	966.1	269.2
Mar	-14.1	12	4.0	-28.5	3.7	12	177	2.4	0.66	162	13	986.9	12	1000.7	970.5	260.1
Apr	-23.9	00	-9.4	-39.5	3.1	00	172	1.4	0.45	173	13	985.0	00	1005.0	963.4	250.4
May	-17.5	01	5.2	-37.9	2.9	01	209	1.1	0.40	180	15	993.3	01	1015.9	964.2	256.2
Jun	-25.0	01	-7.0	-38.8	3.2	01	182	1.3	0.40	172	17	989.6	01	1015.2	958.9	249.0
Jul	-24.4	00	-0.5	-41.1	4.7	39	191	2.4	0.52	163	24	991.7	00	1009.6	971.2	249.3
Aug	-22.0	00	1.1	-38.2	1.6	00	265	0.8	0.48	291	16	970.6	00	996.0	944.5	253.4
Sep	-15.5	00	3.6	-36.1	3.3	06	272	1.3	0.40	283	17	980.2	00	1000.7	961.0	259.2
Oct	-9.5	00	3.9	-26.6	4.1	00	275	1.6	0.40	256	26	970.5	00	998.6	945.7	266.0
Nov	-6.9	00	2.2	-22.6	4.1	00	212	0.8	0.20	346	15	971.8	00	995.5	951.2	268.5
Dec	-1.1	02	6.6	-13.1	4.0	00	290	0.7	0.18	311	14	972.2	00	1000.9	957.3	274.3
MEAN	-13.9				3.6		200	0.9	0.39			982.3				

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Butler Island (8902)			72.207S				60.160W				91 M					
Jan	-3.4	07	6.6	-8.4	3.0	31	179	2.1	0.69	187	9	977.0	02	984.4	966.1	271.6
Feb	-8.5	07	-0.5	-17.9	4.3	09	192	3.2	0.76	187	14	981.1	07	995.9	964.6	266.1
Mar	-18.0	16	3.4	-25.9	4.1	16	191	3.4	0.83	184	15	979.0	16	992.7	965.0	256.7
Apr	-24.0	02	-6.6	-33.2	3.8	02	200	2.7	0.70	186	16	975.6	02	990.6	951.8	250.9
May	-20.0	00	4.6	-31.5	5.7	13	200	3.3	0.58	179	22	982.2	00	1007.7	957.9	254.4
Jun	-21.2	00	3.9	-31.0	7.4	43	194	6.0	0.82	186	21	979.3	00	1001.3	951.6	253.4
Jul	-25.2	00	-6.2	-33.5	7.2	48	189	7.1	0.99	176	24	981.8	00	1000.0	958.1	249.3
Aug	-24.0	00	-3.6	-35.6	8.2	53	195	6.5	0.79	190	28	959.1	00	977.6	931.6	252.1
Sep	-19.2	00	7.4	-31.1								967.4	00	983.6	943.2	256.4
Oct	-15.8	00	0.2	-23.8	6.9	28	197	5.5	0.80	201	23	959.0	00	984.4	938.2	260.4
Nov	-8.4	03	0.6	-17.5	5.9	44	189	5.4	0.92	194	21	962.7	02	983.5	947.5	267.7
Dec	-2.8	04	5.1	-9.1	4.3	02	201	2.4	0.55	188	21	960.7	00	989.2	943.7	273.5
MEAN	-15.9											972.1				
Uranus Glacier (8920)			71.43S				68.93W				780 M					
Jan	-2.7	25	6.1	-14.1	1.9	16	027	1.2	0.61	045	13	905.4	16	916.1	894.8	278.2
Feb	-4.1	13	3.4	-14.9	3.1	09	030	2.5	0.82	024	18	906.2	09	917.3	888.7	276.8
Mar	-7.6	53	0.8	-16.2	6.6	52	001	5.5	0.84	339	24	901.0	52	919.7	879.5	273.6
Apr	-12.7	00	-2.5	-27.9	4.9	00	359	4.0	0.83	360	23	899.2	00	917.4	874.8	268.5
May	-7.5	00	2.9	-25.0	6.6	00	014	5.6	0.86	343	20	905.4	00	928.9	879.5	273.4
Jun	-16.0	00	-6.5	-25.9	4.6	00	347	4.3	0.93	338	21	904.0	00	931.3	874.3	264.7
Jul	-17.5	00	-3.8	-37.5	5.6	00	346	5.2	0.92	336	24	906.9	00	927.9	876.9	263.0
Aug	-18.2	00	-2.9	-41.6	6.8	00	006	5.7	0.84	336	27	883.6	00	906.8	861.7	264.2
Sep	-13.7	00	1.4	-31.6	7.4	00	355	6.6	0.89	342	27	895.1	00	918.0	870.1	267.9
Oct	-11.3	00	-1.2	-24.2	7.5	00	008	6.3	0.84	339	32	885.5	00	917.3	861.0	271.1
Nov	-7.2	25	1.5	-19.0	5.0	25	019	4.0	0.81	031	17	892.4	25	912.6	873.7	274.8
Dec	-4.5	19	3.1	-11.4	4.8	17	023	3.6	0.74	136	19	891.4	17	914.6	871.6	277.7
MEAN	-10.3				5.4		005	4.4	0.83			898.0				
Limbert (8925)			75.422S				59.851W				40 M					
Jan	-5.0	01	2.8	-14.8								989.6	00	998.9	979.9	268.9
Feb	-14.0	07	0.6	-28.2								995.1	06	1011.2	978.9	259.5
Mar	-24.7	09	-7.6	-39.8								991.1	09	1004.5	981.9	249.1
Apr	-33.8	00	-22.5	-46.2								986.9	00	1001.1	959.8	240.3
May	-27.5	00	0.1	-45.0								994.3	00	1018.2	972.9	246.1
Jun	-30.3	00	-6.6	-43.9								991.0	00	1011.2	958.8	243.5
Jul	-35.2	36	-23.5	-46.5								996.2	37	1014.3	974.5	238.2
Aug																
Sep	-24.9	39	-3.4	-42.1								978.6	39	993.9	951.7	249.8
Oct	-21.7	00	-10.0	-37.8								972.5	00	995.0	954.8	253.5
Nov	-10.9	00	-2.0	-28.2								975.5	00	996.2	958.1	264.2
Dec	-4.8	00	2.6	-15.9								973.2	00	998.5	958.6	270.4

	Mean	% of			Mean	% of						Mean	% of				
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential	
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp	
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)	
Racer Rock (8947)			64.067S			61.613W					17 M						
Jan	1.0	16	5.4	-2.2	5.1	15	070	3.2	0.62	055	11	987.6	14	1000.6	970.3	275.1	
Feb	1.0	13	5.9	-1.2	6.4	12	112	3.0	0.47	056	26	987.6	12	1002.5	965.3	275.1	
Mar	0.2	12	4.2	-3.5	7.7	12	050	5.1	0.66	073	25	984.6	12	1006.0	961.6	274.5	
Apr	-2.5	01	2.2	-8.1	7.5	01	060	2.2	0.29	118	24	984.3	01	1003.5	964.5	271.9	
May	-1.7	23	2.1	-5.5	6.4	23	044	3.5	0.54	046	24	1001.3	23	1023.9	961.2	271.4	
Jun																	
Jul																	
Aug																	
Sep	-2.1	60	3.9	-9.6	8.3	60	224	3.7	0.44	314	28	993.5	60	1009.7	968.6	271.5	
Oct	-5.4	14	1.9	-29.8	10.7	12	311	5.1	0.48	304	37	976.2	13	1010.0	944.6	269.5	
Nov	-1.3	06	3.1	-4.9	7.9	05	354	2.0	0.26	210	27	976.4	06	997.9	952.4	273.7	
Bonaparte Point (8923)			64.778S			64.067W					8 M						
Jan	2.1	10	4.8	-2.5													
Feb	2.1	16	6.2	-2.2													
Mar	1.7	13	5.2	-1.8													
Apr	-1.2	00	4.0	-6.1													
May	0.0	01	6.2	-5.8													
Jun	-3.7	02	2.9	-10.4	1.4	02	105	0.3	0.25	255	11						
Jul	-6.0	01	1.6	-13.2													
Aug	-5.3	00	1.8	-17.1	1.9	00	113	0.9	0.45	165	29						
Sep	-4.9	01	4.2	-15.6	1.6	01	102	0.4	0.23	009	20						
Oct	-2.1	01	4.6	-16.5	1.1	53	188	0.5	0.43	249	20						
Nov	-1.0	01	2.5	-10.2													
Dec	0.7	01	5.4	-3.5													
MEAN	-1.5																
Sky-Blu (8917)			74.792S			71.488W					1510 M						
Jan	-10.2	03	-0.5	-21.4	6.0	03	022	5.2	0.86	360	18	808.6	03	816.8	799.7	279.5	
Feb	-13.0	07	-3.2	-26.8	6.3	07	040	5.4	0.86	025	19	810.6	07	820.8	797.2	276.3	
Mar	-19.4	09	-5.8	-37.6	6.6	09	045	5.1	0.77	018	23	804.3	09	815.8	790.5	270.0	
Apr	-25.6	00	-12.1	-41.5	5.8	00	022	3.8	0.66	022	27	800.8	00	815.0	778.6	263.8	
May	-17.5	00	-7.0	-36.5	11.5	00	016	10.1	0.88	007	45	805.5	00	827.1	785.0	272.0	
Jun	-27.5	00	-11.2	-42.5	5.3	02	007	2.4	0.45	031	25	804.5	00	825.7	781.1	261.4	
Jul	-29.1	00	-11.4	-48.1	3.3	00	029	2.7	0.82	042	27	804.9	00	824.8	781.6	259.7	
Aug	-28.7	00	-12.1	-48.2	11.6	00	033	9.2	0.79	051	31	783.8	00	798.0	760.9	262.1	
Sep	-23.5	00	-9.5	-39.1	12.4	08	019	11.0	0.89	197	46	793.4	00	813.1	771.6	266.8	
Oct	-21.1	00	-8.8	-37.0	9.9	00	035	7.3	0.74	018	38	788.0	00	811.9	767.2	269.9	
Nov	-15.2	01	-6.4	-28.9	7.3	00	057	5.3	0.73	021	25	794.7	00	814.0	777.6	275.5	
Dec	-12.2	01	-2.6	-23.9	8.0	00	046	5.6	0.71	060	34	795.4	00	818.0	782.2	278.6	
MEAN	-20.3				7.8		030	5.9	0.76			799.5					

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Kirkwood Is. (8930)		68.430S					69.007W				30 M					
Jan																
Feb																
Mar																
Apr																
May	-3.9	70	0.3	-8.0								975.0	71	992.2	958.4	271.2
Jun	-5.4	01	-0.6	-9.7	8.4	01	345	1.8	0.21	289	27	985.9	03	1014.2	954.2	268.9
Jul	-12.6	00	-0.1	-21.7	5.8	00	326	1.2	0.20	275	29	991.5	01	1011.5	960.4	261.2
Aug	-11.9	00	1.2	-28.4	9.2	00	005	3.8	0.41	065	31	967.6	02	994.9	937.0	263.7
Sep	-8.8	00	1.3	-24.0	8.7	00	346	4.2	0.49	002	26	979.8	01	1003.9	953.5	265.9
Oct	-6.3	00	1.0	-19.2	9.2	00	004	4.0	0.43	273	26	967.4	02	1004.6	939.1	269.5
Nov	-3.7	00	1.7	-16.0	7.5	00	058	4.4	0.59	054	23	969.3	00	994.9	944.6	271.9
Dec	-1.2	01	2.6	-9.3	6.6	00	015	3.3	0.50	053	20	970.9	01	995.6	950.8	274.2
Dismal Is. (8932)		68.087S					68.825W				10 M					
Jan																
Feb																
Mar																
Apr																
May																
Jun	-4.6	00	0.2	-9.7	8.2	01	337	2.2	0.27	359	31	988.9	02	1017.0	960.4	269.4
Jul	-12.2	00	1.1	-22.5	6.2	02	332	2.2	0.36	296	25	994.3	01	1014.2	963.2	261.4
Aug	-10.4	00	0.9	-27.4	9.8	02	343	4.9	0.49	088	25	970.1	01	997.7	937.7	265.0
Sep	-7.3	00	2.2	-23.1	10.0	00	335	7.2	0.71	345	31	982.5	01	1006.6	956.3	267.1
Oct	-5.3	00	2.0	-17.8	10.1	00	354	6.7	0.66	335	31	969.9	01	1006.6	941.1	270.2
Nov	-2.7	00	2.8	-15.8	6.3	00	036	4.1	0.64	032	21	971.5	00	997.7	947.3	272.8
Dec	-0.6	01	3.9	-5.3	6.8	00	016	5.1	0.75	005	23	973.4	01	997.7	954.2	274.7
Clean Air (8987)		90.00S									2835 M					
Jan	-27.9	00	-20.2	-36.8	2.9	00	016	2.1	0.74	011	10	688.0	00	695.9	681.4	272.9
Feb	-38.3	07	-23.0	-54.2	2.9	07	025	1.9	0.66	320	9	689.2	20	696.7	681.2	262.5
Mar	-55.8	09	-39.0	-65.6	4.6	09	022	3.7	0.81	001	14					
Apr	-60.4	00	-45.6	-72.0	3.9	00	035	3.1	0.80	359	11					
May	-58.9	00	-41.1	-72.4	4.4	00	019	3.5	0.80	359	15					
Jun	-58.3	00	-41.5	-71.0	4.7	00	025	3.7	0.79	015	14					
Jul	-61.5	00	-40.6	-75.6	4.2	00	034	3.4	0.80	360	15					
Aug	-64.7	00	-41.5	-77.5	4.9	00	025	3.9	0.81	342	15	665.3	64	681.4	655.6	226.1
Sep	-57.4	00	-34.4	-73.6	4.8	00	014	3.9	0.81	354	13					
Oct	-52.2	00	-31.0	-69.5	4.5	00	019	3.8	0.85	001	14					
Nov	-34.4	00	-22.5	-42.6	4.6	00	004	3.6	0.78	329	12	682.0	18	690.9	671.7	266.1
Dec	-25.6	00	-19.8	-34.0	4.3	00	009	3.9	0.89	359	10	683.9	00	698.1	671.1	276.0
MEAN	-49.6				4.2		020	3.3	0.80							

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Air	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Henry (8985)			89.011S				1.025 W					2755 M				
Jan	-25.5	00	-18.5	-32.4	3.2	00	044	2.5	0.78	002	7	697.2	00	705.2	690.7	274.6
Feb	-38.5	07	-27.9	-52.4	3.6	07	064	2.7	0.76	024	8	698.0	07	706.5	685.8	260.0
Mar	-53.8	09	-39.1	-61.4	4.4	09	047	4.0	0.90	048	12	688.6	09	702.6	679.4	244.0
Apr	-57.6	00	-44.1	-67.2	5.1	00	054	4.6	0.91	037	11	685.9	00	696.6	671.2	240.1
May	-56.9	00	-38.2	-71.0	6.2	00	047	5.5	0.90	025	14	691.0	00	708.6	677.0	240.3
Jun	-55.3	00	-38.2	-66.6	6.7	10	043	6.1	0.90	048	15	689.8	00	703.5	675.6	242.3
Jul	-58.2	00	-39.1	-70.4	6.4	23	048	6.0	0.94	035	14	689.6	00	704.7	670.7	239.1
Aug	-61.5	01	-39.8	-73.1	7.7	34	037	7.3	0.95	003	14	679.9	01	699.0	663.2	236.4
Sep	-58.6	63	-42.6	-68.8								688.5	62	711.3	675.2	238.7
Oct																
Nov	-32.1	00	-23.2	-39.8	4.4	00	031	3.6	0.81	032	12	691.3	00	700.2	680.1	267.9
Dec	-23.5	00	-16.8	-31.1	3.9	00	036	3.6	0.91	022	10	693.0	00	707.0	680.2	277.3
Nico (8924)			89.000S				89.669E					2935 M				
Jan	-26.4	00	-17.4	-33.2	2.8	00	300	2.3	0.80	260	9	677.8	00	685.1	671.6	275.8
Feb	-38.2	07	-27.6	-54.9	2.9	07	315	2.1	0.72	354	9	677.8	07	686.3	666.0	262.6
Mar	-55.2	09	-37.6	-65.4	3.9	09	313	3.1	0.81	007	11	668.2	09	682.0	658.8	244.6
Apr	-59.3	00	-41.1	-69.1	3.2	00	315	2.7	0.84	356	11	665.7	00	676.5	650.8	240.2
May	-57.6	00	-40.1	-72.4	3.3	00	295	2.8	0.83	248	14	670.4	00	686.5	658.0	241.7
Jun	-57.4	00	-42.2	-70.6	3.5	03	301	2.7	0.78	020	14	669.5	00	683.0	658.2	241.9
Jul	-60.1	00	-40.1	-72.5	3.7	02	318	3.1	0.85	008	11	669.3	00	685.6	652.2	239.0
Aug	-63.7	00	-43.4	-75.6	4.2	03	304	3.5	0.82	252	13	659.5	00	679.5	644.4	235.9
Sep	-57.2	00	-35.9	-71.8	4.1	16	296	3.1	0.76	257	13	667.4	00	687.8	651.3	242.4
Oct	-51.5	00	-31.4	-68.4	4.2	00	306	3.4	0.80	229	13	663.0	00	677.1	641.6	249.3
Nov	-33.4	00	-22.2	-40.5	3.9	00	283	2.8	0.71	243	12	671.7	00	679.8	662.4	268.7
Dec	-24.8	00	-19.1	-34.1	2.9	00	291	2.4	0.86	274	8	674.2	00	688.4	662.2	278.0
MEAN	-48.7				3.6		303	2.8	0.80			669.5				
Relay Station (8918)			74.017S				43.062E					3353 M				
Jan	-30.0	00	-19.8	-40.8	6.6	00	106	6.4	0.96	107	15	645.8	00	654.5	636.0	275.6
Feb	-40.5	07	-23.1	-57.5	5.5	07	118	5.2	0.96	107	14	643.9	07	654.9	628.9	263.9
Mar	-50.3	09	-34.6	-59.5	5.5	09	126	5.2	0.95	131	10	638.5	09	646.4	628.4	253.3
Apr	-58.1	00	-42.1	-67.6	7.5	00	131	7.1	0.95	122	13	632.3	00	647.1	621.6	245.2
May	-58.9	00	-47.4	-66.6	7.0	00	131	6.8	0.97	138	16	638.3	00	649.7	628.0	243.6
Jun	-56.7	00	-37.8	-69.8	7.4	00	136	6.9	0.94	122	15	638.7	00	655.8	620.3	246.0
Jul	-58.2	00	-41.9	-71.1	7.2	00	124	6.8	0.95	121	17	635.4	00	651.2	615.9	244.7
Aug	-62.5	00	-48.9	-75.0	7.3	00	126	7.1	0.97	134	15	627.6	00	639.7	609.2	240.7
Sep	-57.1	00	-44.0	-67.1	9.0	00	126	8.7	0.97	107	20	627.9	00	640.3	611.8	246.8
Oct	-51.6	00	-22.8	-68.2	6.3	00	127	5.6	0.90	118	13	630.9	00	655.4	613.0	252.8
Nov	-39.3	00	-24.9	-50.0	8.3	00	117	7.7	0.93	121	24	637.3	00	650.4	628.2	266.0
Dec	-30.6	00	-21.6	-42.2	7.5	00	107	6.7	0.89	121	20	641.5	00	657.1	627.9	275.4
MEAN	-49.5				7.1		123	6.6	0.95			636.5				

	Mean	% of			Mean	% of						Mean	% of			
	Air	Mon	Max Ai	Min Air	Wind	Mon	Result			Max		Air	Mon	Max Air	Min Air	Potential
	Temp	Data	Temp	Temp	Speed	Data	Wind			Wind		Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Dome Fuji (8904)			77.31S				39.70E					3810 M				
Dec	-31.9	71	-24.9	-41.5	3.1	69	292	1.9	0.62	217	11	607.1	69	614.8	599.9	278.3
Mizuho (21359)			70.70S				44.29E					2260 M				
Jan	-13.1	00	-4.6	-30.6	7.8	00	089	7.5	0.96	072	16	744.1	00	753.5	734.6	283.0
Feb	-18.9	07	-5.2	-40.5	8.8	07	091	8.5	0.97	103	21	744.5	07	756.6	733.1	276.7
Mar	-30.0	09	-11.2	-52.0	10.5	09	097	10.1	0.96	090	20	739.1	09	746.4	730.5	265.1
Apr	-38.7	09	-11.8	-50.9	12.1	09	098	11.8	0.97	093	23	732.7	10	750.3	720.2	256.4
May	-41.9	06	-14.8	-50.8	13.4	06	104	13.3	0.99	100	25	738.1	07	753.5	726.0	252.3
Jun	-42.0	12	-18.2	-51.2	12.2	11	106	11.9	0.98	124	25	740.1	12	758.7	720.6	252.0
Jul	-38.6	06	-15.4	-51.0	12.2	06	097	11.7	0.95	115	22	737.3	07	754.5	719.4	256.1
Aug	-42.4	19	-18.9	-51.5	12.5	18	099	12.1	0.97	083	23	729.7	21	741.4	703.3	252.6
Sep	-42.4	05	-17.1	-51.9	13.0	05	102	12.8	0.98	112	22	727.0	06	738.9	714.2	252.8
Oct	-34.3	00	-7.0	-51.9	10.2	02	095	10.0	0.97	097	16	732.3	00	759.8	714.0	261.1
Nov	-22.0	00	-5.9	-43.8	11.0	00	095	10.6	0.96	108	21	735.4	00	748.9	716.4	274.2
Dec	-13.6	01	-3.9	-27.5	9.2	00	092	8.8	0.95	087	20	738.4	00	756.5	721.5	283.1
MEAN	-31.5				11.1		098	10.7	0.97			736.6				

## 4.2. Three Hourly Data Summaries

After the data are received from Service ARGOS, ten minute interval data are created for each AWS unit. The data are calibrated for the individual station instruments, but no other corrections are made. This data set is created for those users who need fairly current information. These data are available by anonymous FTP (see Section 8).

The 10 minute data set for each AWS unit for the month is scanned to pick out the nearest observation within forty minutes of the UTC hours 00, 03, 06, 09, 12, 15, 18, and 21 to produce the three hourly data set. If valid data are not available within forty minutes of the three hourly time interval, then the entry is left blank to indicate missing data. The means, standard deviations, resultant wind speed and direction, the distribution of temperature, and wind speed with wind direction are determined from the three hourly observations and are presented as a monthly summary at the bottom of each page. A wind direction value of zero indicates a wind speed less than  $0.50 \text{ m s}^{-1}$ . North is indicated by a value of 360 degrees. The maximum and minimum values are taken from the complete 10 minute data set, not the three hourly data set. The appropriate monthly data from the three hourly data set are used for the monthly summaries presented in Section 4.1. In the presence of sunlight the air temperatures are questionable if the wind speed is less than  $1 \text{ m s}^{-1}$ . These summaries are available by anonymous FTP (see Section 8). If you are unable to access the Internet, we will send the information either on diskettes or paper. Please contact us for further information (the address is at end of Section 8).

## 5. AWS CALIBRATION

### 5.1. Temperature

The external and internal temperatures are calibrated using a 1000 ohm 0.05% resistor in place of the platinum resistance thermometers with 1000 ohms resistance at  $0^{\circ}\text{C}$ . Because the other resistances in the temperature circuit are known only to 1%, the temperature calibration will vary from one electronic unit to another. The correction factor determined from the calibration resistor is programmed into the read-only-memories for each unit. After the correction factors have been programmed into the AWS, a calibration box with 0.1% resistors is used to check the temperature calibration.

### 5.2. Pressure

In 2001 pressure calibration was performed by using a Paroscientific portable pressure standard model 760-16B. It has a 0.0001% resolution (<1 microbar resolution) with a  $\pm 0.08 \text{ hPa}$  or better accuracy and a 0.1 hPa/year or better stability over the pressure range of 500 hPa to 1100 hPa. There is ISO 9001:2000 compliance and is a NIST traceable standard.

Comparisons are made between AWS units and with the mercury barometers in the Crary Laboratory at McMurdo, Antarctica. The calibrations should be within  $\pm 0.2 \text{ hPa}$ .

The reference vacuum on the older pressure transducers can degrade with time with a maximum observed 4 hPa shift to lower pressure after fifteen years. Recalibration of each pressure transducer would be desirable when each unit is serviced.

### 5.3. Wind direction and Speed

The Belfort model 123 aerovane measures wind direction and speed. The aerovane rotates a potentiometer wiper, and the fraction of full scale of the potentiometer is measured. The wind direction is checked by positioning the aerovane to the cardinal directions relative to the boom supporting the aerovane. North or the potentiometer zero is towards the antenna on the boom and has a maximum dead zone of  $3^{\circ}$ . During the field installation, the boom is usually aligned along the north-south line as determined from the sun's azimuth, longitude, and Greenwich Mean Time. In some cases the  $180^{\circ}$  end of the boom may point in a direction other than south. At Manuela site, the  $180^{\circ}$  end of the boom points up the glacier and a correction is added to the data during processing. At Byrd site the wind is usually out of the north so the boom was rotated  $120^{\circ}$  and the correction added during the data processing. The wind speed is determined from the aerovane tachometer voltage output as 0.0472 volt per meter per

second. The aerovane tachometers are spun at 1800 rpm with a load of 1071.5 ohms, and the output should be 9.20 +/-0.05 vdc.

Additional wind sensors were used with AWS units for 2001. These were the R.M. Young wind monitor model 05103 and the Hydro-Tech WS-3 anemometer with the WP-3 aerovane. The Hydro-Tech system was used for measuring wind speed in the Adelie Coast area. The Hydro-Tech WS-3 is a disk rotor, 3 in. high and 12 in. overall diameter, with radial cups, and the threshold sensitivity is 3 mph. The anemometer utilizes a commercial dc tachometer generator. Output is 0 to +5 vdc (and 0 to 1 ma) over the desired full scale wind speed of 85 m/s. Accuracy is +/- 2%.

The R.M. Young monitor 05103 also used a 10,000 ohm potentiometer with a 3° dead zone so that the wind direction was recorded identically with the Belfort/Bendix aerovanes. The wind speed was from the range of 0 to 1.0 volt full scale corresponding to 50 m/s. Thus the calibration for wind speed was a nominal .195 m/s/bit for the R.M. Young with +/- 1% up to 50 m/s.

#### 5.4. Relative Humidity

The Vaisala HMP-35A/45A humidity sensor output voltage varies linearly with relative humidity (U). The sensor is calibrated by placing it over saturated salt solutions with known relative humidities at room temperature: sodium chloride (U=75%), and lithium chloride (U=12%) are used. In addition, a dry inert gas, forced past the sensor, gives a 0% U, and the sensor output can be zeroed. Then, the gain setting can be set directly using a salt solution with a high relative humidity, such as sodium chloride. The resolution of the humidity sensor is about 1% and the drift is 2 to 3% per year in the field. The relative humidity data are not included on the summary pages but are included in the 3 hourly data sets.

#### 5.5. Vertical Air Temperature Difference

Two junction thermocouples are used to measure the air temperature difference between 3 m and 0.5 m on the tower. The output is about 78 microvolts for 1°C temperature difference between the junctions at 0.0°C, dropping to 60 microvolts at -80°C. Zero output is adjusted to 0.4 volts, so that 0 to 1 volt corresponds to a -6°C to +9°C range of air temperature differences between 3 m and 0.5 m. The resolution is 0.05°C. Calibration of the individual systems is done by applying known voltages to the amplifier input. The vertical temperature difference data are not included on the summary pages but are included in the 3 hourly data sets.

## 6. AWS OPERATIONS SUMMARY FOR 2001

### 6.1. AWS Performance

Forty-eight AWS units were installed at the start of 2001 and 51 were installed by the end of 2001. Based on the installation months the AWS units delivered 91% of the temperature data, 88% of the pressure data and 82% of the wind data during 2001. Complete data sets were received from 5 AWS units and 40 AWS units operated for the installed period. Seven AWS units were not received for one month or more during the year or stopped during the year. Some of the stations were not received during the winter months due to low battery voltage.

The wind system has the poorest performance. If the wind speed is zero or the wind direction is constant for extended periods (days to months) then the data is considered invalid. The reason for this behavior is not known but is believed to be due to the build up of frost on the wind system. This usually occurs in the winter season and at several AWS sites. The wind speed is most frequently zero when the wind direction is constant.

Site	Performance
D-10	The station transmitted erratically from July through the beginning of October. The relative humidity sensor and delta-T sensor were not functioning.
D-47	Temperature sensor not functioning. Station stopped transmitting 4 January and



	began again 27 February. Station transmitted erratically from April through early August with another break the first half of September. No relative humidity or delta-T sensors.
Dome C II Port Martin	OK. The aerovane was not functioning. No delta-T or extra high wind speed sensor. Pressure corrected for high wind speed conditions.
Cape Denison	Station stopped transmitting 29 April and resumed 27 May. Several transmission gaps of a week or more in April, May, and September. Pressure corrected for high wind speed conditions.
Penguin Point	The station stopped transmitting from 15 May to 21 June. Pressure corrected for high wind speed conditions.
Byrd Mount Siple	Station transmitted from 3 to 8 October only. Site has a "dog house" AWS without wind speed and direction. Pressure sensor not functioning correctly January and February.
Theresa Doug	Delta-T sensor buried. Aerovane not functioning in July. Relative humidity sensor not functioning. Station transmitted erratically in September and stopped transmitting on 8 October.
Elizabeth Brianna	Aerovane "frozen" the last part of September. The relative humidity sensor functioned erratically after June. The station stopped transmitting 3 November.
Harry	The delta-T sensor is not functioning. The aerovane was "frozen" occasionally from June through November.
Erin Siple Dome	The aerovane was "frozen" occasionally from May through July. Aerovane "frozen" occasionally from April through November. Delta-T sensor not installed.
Swithinbank Marble Point Ferrell	Station stopped transmitting 8 October. Delta-T sensor not functioning. OK. New station installed 10 January.
Pegasus North	Station stopped transmitting on 25 January. Delta-T not functioning. Station resumed transmitting 4 November.
Pegasus South	Station stopped transmitting on 6 May and resumed on 24 June. Relative humidity sensor not functioning. Aerovane "frozen" from June through October. Delta-T erratic all year.
Minna Bluff	Station started transmitting 10 July. Delta-T sensor not functioning. Aerovane occasionally "frozen" July through November. Station stopped transmitting 13 December.
Linda Willie Field	Aerovane occasionally "frozen" April through October. Station replaced 29 January.
Windless Bight Herbie Alley	Station stopped transmitting 12 December due to low battery voltage. Pressure functioned erratically August, October, and November.
Cape Spencer Cape Bird	Station stopped transmitting 25 December. OK.
Laurie II	Station replaced 17 January. Delta-T sensor not functioning. Aerovane occasionally "frozen" in September.
Whitlock	Station replaced 7 February. Delta-T sensor not functioning. Aerovane "frozen" most of April and May and parts of June and July.
Possession Island Manuela Marilyn	Site has a "dog house" AWS without wind speed and direction. Aerovane broken. Station replaced 30 January. Aerovane occasionally "frozen" May through November.
Schwerdtfeger	Relative humidity sensor not functioning from mid February through November Aerovane "frozen" occasionally in July.
Gill	Relative humidity sensor not functioning. Aerovane "frozen" occasionally in October
Lettau	Transmitting with many gaps in January, November, and December. Aerovane

	“frozen” occasionally from March through December.
Elaine	OK.
Larsen Ice Shelf	Aerovane “frozen” occasionally in July.
Butler Island	Aerovane not functioning beginning of January and “frozen” occasionally from May through November. Pressure continues to need correction due to the failure of the precision time-based correction to the system clock.
Uranus Glacier	Large gaps in transmission in March, November, and some of December.
Limbirt	Delta-T sensor not functioning. Aerovane not functioning. Station stopped transmitting in July and resumed in September due to low battery voltage.
Racer Rock	Station transmitted erratically from the end of May to October due to low battery voltage. Station stopped transmitting 30 November.
Bonaparte Point	Relative humidity and delta-T sensor not functioning. Aerovane not functioning January through May, July, and October through December. Pressure is too low and has been removed.
Sky Blu	Aerovane “frozen” occasionally in September.
Kirkwood Island	New station installed 21 May. Aerovane not functioning properly in May.
Dismal Island	New station installed 22 May. Aerovane not functioning properly in May.
Clean Air	Occasional problems with relative humidity sensor. Pressure functioning erratically February through November.
Henry	Aerovane occasionally “frozen” June through September. Station stopped transmitting 20 September and resumed transmitting 30 October as the battery recharged in the austral spring.
Nico	Aerovane occasionally “frozen” in August and September.
Relay Station	OK.
Dome Fuji	Repaired station installed on 22 December.
Mizuho	No relative humidity or delta-T sensors. Occasional gaps in transmission during winter months.

## 6.2. AWS Antarctic Field Activities

### **McMurdo area**

Pegasus North (8927) was visited on 7 January by Jonathan Thom, Rob Flint, and Ernie Mastroianni. The station was operating nominally, but the RPSC airfield manager requested that the station be relocated. The old location was directly in the middle of the approach apron for the runway. The station was removed, and the following day another station (8927) was installed about 1 mile southeast of the old location. On 9 January, Ferrell (21355) site was visited by Jonathan Thom and Rob Flint. The station and boom were removed and replaced with 8929. On 16 January, Laurie II (21364) was visited by Jonathan Thom. The station was replaced with 21360. Willie Field (8929) site was visited by Jonathan Thom, Doug MacAyeal, and Andy Bliss on 29 January. The AWS had been removed earlier to provide a station for Ferrell site. AWS 21364 was installed and the station was raised. An R.M. Young wind monitor was also installed. On 30 January, Marilyn (8931) site was visited by Jonathan Thom, Andy Bliss, and Ben Kerman. The station was raised, a new AWS enclosure (8934) was installed, and 2 boxes of batteries were connected. The boom is 60 degrees off north in a counterclockwise direction.

On 7 February, Whitlock site was visited on Franklin Island by USCGC Polar Sea. MST3 David Otani oversaw the replacement of the AWS enclosure. The AWS unit is now 8907. The Polar Sea went on to Manuela (8905) site to fix the aerovane but were unable to spot the station. The helicopter had problems so another attempt was not made.

### **West Antarctica**

No operations for 2001 due to limited resources of time and AWS.

### **Polar Plateau**

Dome Fuji (8904) was reinstalled 22 December by members of JARE.

### **Adelie Coast**

No field work due to lack of resources.

### **Antarctic Peninsula**

The Southern Ocean GLOBEC group installed Kirkwood Island (8930) AWS unit on 26 May and Dismal Island AWS unit on 27 May. The Palmer Station Science Technician, John Booth, attempted to repair the Bonaparte Point AWS unit (8923) on 12 May.

## **7. GLOBAL TELECOMMUNICATIONS SYSTEM**

The data from 35 Antarctic AWS units were entered into the Global Telecommunications System (GTS) during 2001. The data are collected by CLS America (Service ARGOS). As soon as the data are received, CLS America (Service ARGOS) processes them and sends them on to the National Weather Service which distributes the data to the GTS. The data headers are:

```
SMAA14 KARS YYGGgg  
SIAA14 KARS YYGGgg  
SNAA14 KARS YYGGgg
```

where S indicates surface, M is main observations (at 00, 06, 12, and 18 UT), I is intermediate observations (at 03, 09, 15, and 21 UT), and N is any other time. AA14 is for Antarctica, and KARS stands for the Largo receiving center (backup is LFPW for the center in Toulouse, France). YY indicates the day in the month, GG is the hour, and gg is the minutes. Table 3.1 contains the WMO identification number used by the GTS grouped according to their purpose and proximity where possible.

The University of Wisconsin-Madison is responsible for obtaining WMO numbers for AWS sites and for providing CLS America (Service ARGOS) with calibration information for processing the data. The main reason for getting the AWS data into the GTS is to make sure that the data are available in near real time for all organizations operating in Antarctica and for numerical weather prediction models.

## **8. DATA AVAILABILITY**

The data from our Automatic Weather Stations are available by anonymous FTP. The IP address and domain name are 128.104.109.33 (ice.ssec.wisc.edu). The login is "anonymous" (do not use the quotation marks), and the password is your email address. Once you have logged in, change to the pub/aws subdirectory. A listing of our station locations, names, and ARGOS ID numbers is located in the file "biglist" in this subdirectory. It is meant to serve as a guide to our stations as their ID numbers sometimes change. A complete guide for navigating the site may be found in the file "readme.faq".

Our three-hourly interval data for Antarctica in ASCII text format are contained in the year subdirectories of pub/aws/antrdr. The data have been corrected, i.e. an effort has been made to remove the bad data points. These data take longer to process, so the data for recent months are not available in this format. Within each of the year subdirectories of pub/aws/antrdr, there are text files named "3hrlist??" (where ?? indicates the last two digits of the year). These files list what station's data are contained in which files. The files "readme.updates?" in pub/aws/antrdr contain information on updates and/or corrections to the data, and the file "readme.3format" contains file name construction information and format of the three-hourly data. The file "readme.mailinglist" contains information on joining a mailing list which distributes information on data updates and changes. To subscribe, send email to aws@ssec.wisc.edu requesting to be added to our mailing list.

The directory pub/aws/summary/monthly contains ASCII printable text files of the paper data summary sheets. The format of the files can be found in the file "readme.sum" while updates and corrections to the data are located in "readme.sumupdates". The data are located in year subdirectories of pub/summary/monthly.

For those users who need more current information, we have created 10 minute interval data in ASCII text format for each station. These data are located in year subdirectories of pub/aws/10min/rdr. The data have been calibrated for the individual station instruments, but no other corrections have been made. The data are generally available up to and including the last full month of this year. The year subdirectories also contain a text file named "namelist??" (where ?? indicates the last two digits of the year in question). These files list what station's data are contained in which files.

Several important readme files are located in pub/aws/10min/rdr. The file "readme.format" contains information on filename construction of the data, as well as well as file content and is a must for those unfamiliar with the data. The files "readme.updates?" contain important information on changes/additions to the data.

Our site is available 24 hours a day, 7 days a week. If you have questions or problems, send email to aws@ssec.wisc.edu. We can also be reached by phone at (608) 265-2209 or (608) 265-4816 or fax at (608) 262-5947.

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