

Antarctic Automatic Weather Station Data for the calendar year 2002

by
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1. INTRODUCTION

Automatic weather station (AWS) units are deployed to collect Antarctic surface weather observations in support of specific meteorological research projects as well as operational activities in Antarctica. The 2002 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, East Antarctic, 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 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 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, 4, and 5 show the locations of the AWS units in the Antarctic for 2002.

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.

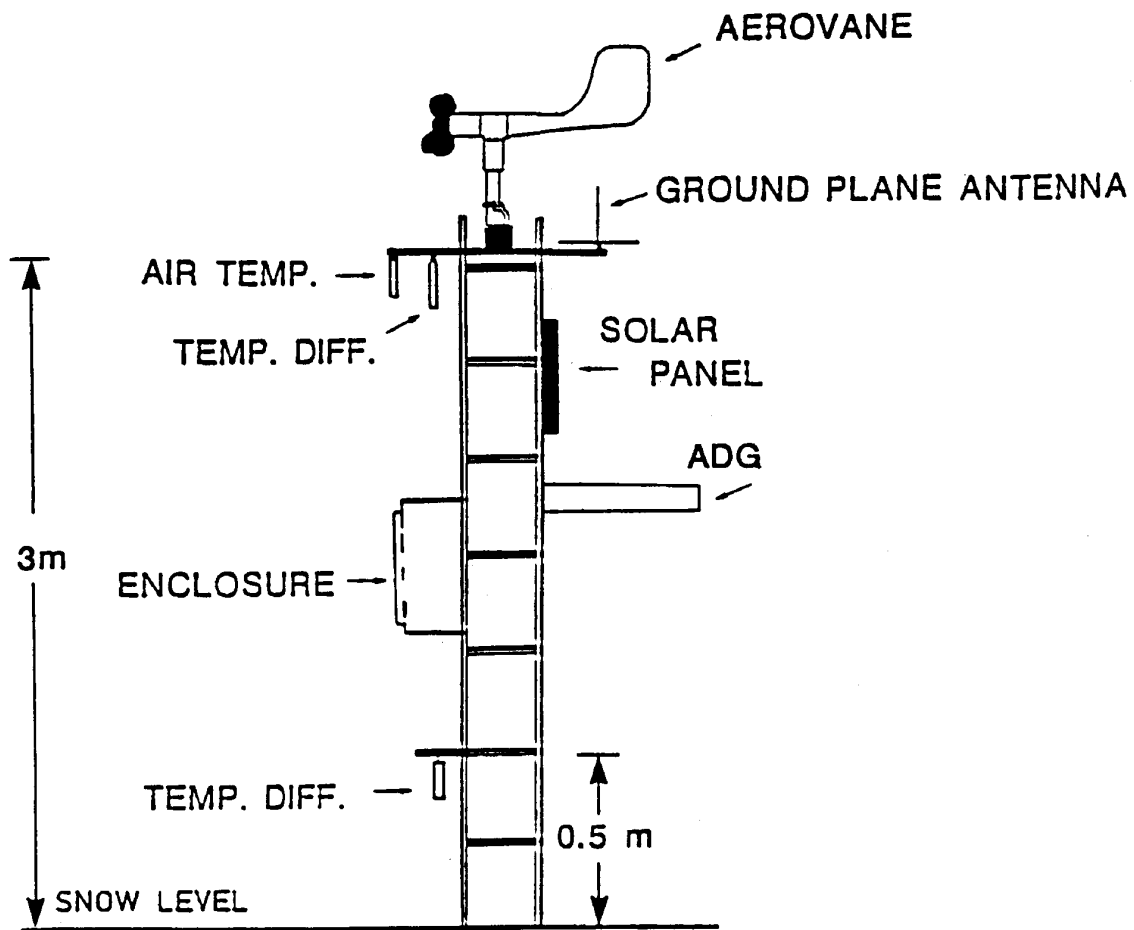


Figure 1. Layout of the AWS unit used in the Antarctic. The installed AWS unit has a 3-meter tower with a horizontal boom supporting the antenna, aerovane for measuring wind speed and direction, air temperature resistance thermometer, upper thermopile for measuring vertical air temperature difference, 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 2002.

Site Name	ARGOS ID	Lat. (deg)	Long. (deg)	Elev. (m)	Site Start Date	WMO No.
Adelie Land						
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
West Antarctica						
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
Elizabeth	21361	82.607°S	137.078°W	519	30 Nov 94	89332
Brianna	#8931	83.889°S	134.154°W	525	30 Nov 94	
Harry	8900	83.003S	121.393W	945	29 Nov 94	
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	21355	81.201°S	126.177°W	959	18 Jan 97	
Ross Island Region						
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	#8695	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	
Ocean Islands						
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
Ross Ice Shelf						
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.
Antarctic Peninsula						
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
Limbirt	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	74.792°S	71.488°W	1556	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	
High Polar Plateau						
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	89.000°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	04 Feb 97	89734
Mizuho	21359	70.70°S	44.29°E	2260	07 Oct 00	

* New sites started during 2002
New ARGOS ID for 2002 at the site

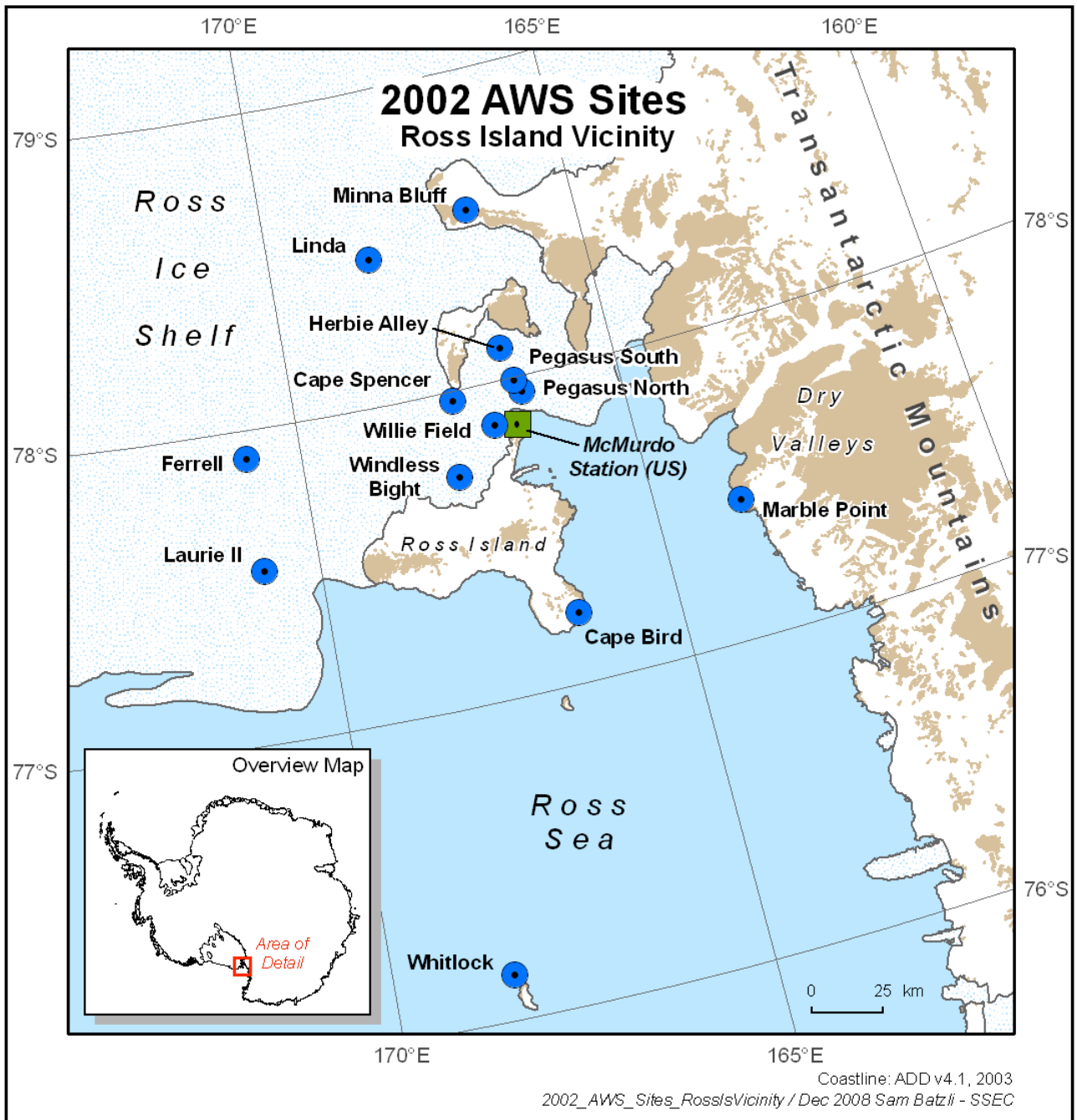


Figure 3. Location of Antarctic automatic weather stations in the vicinity of Ross Island, Antarctica during 2002.

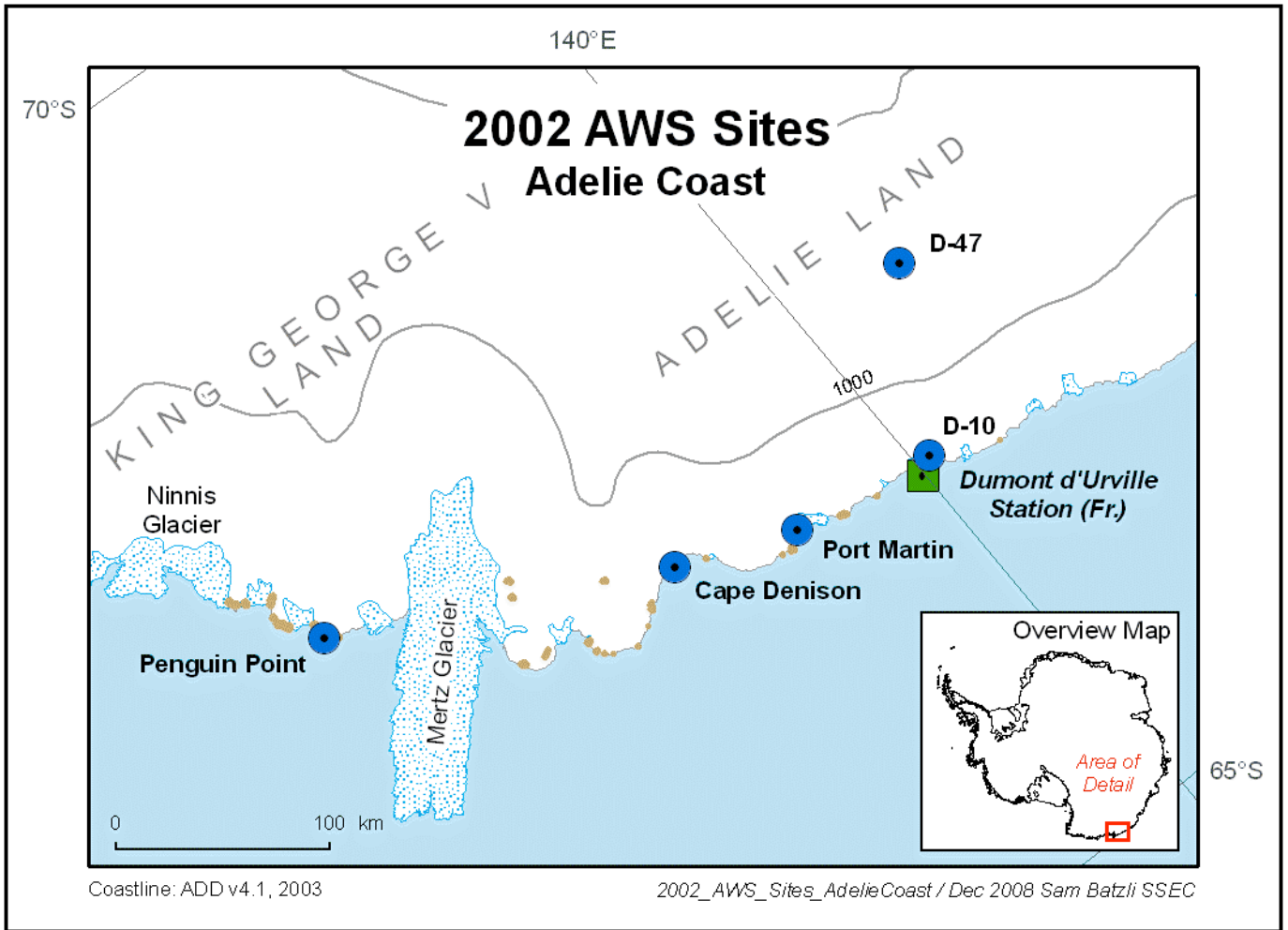


Figure 4. Location of Antarctic automatic weather stations along the Adelie Coast during 2002.

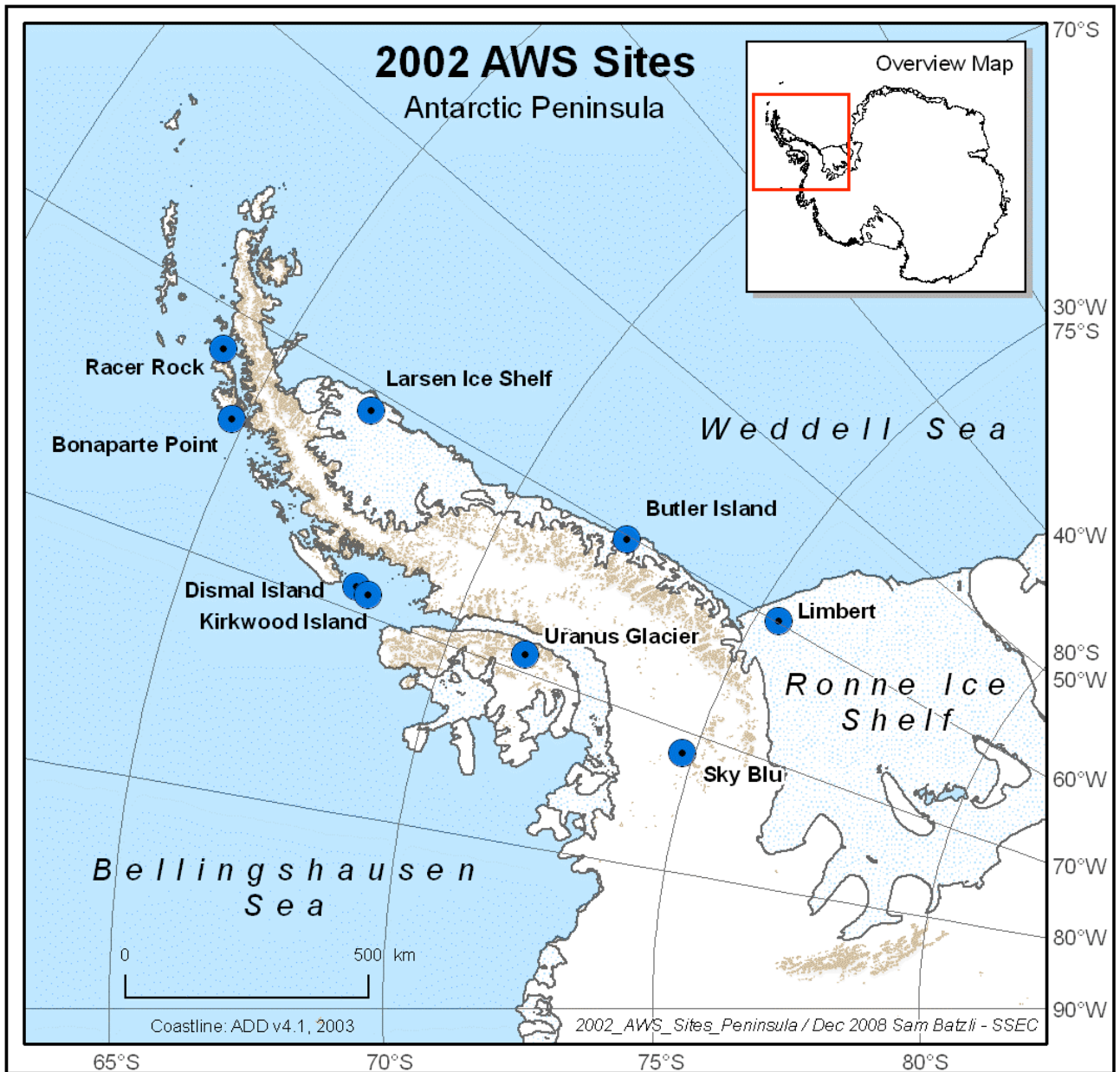


Figure 5. Location of Antarctic automatic weather stations along the Antarctic Peninsula during 2002.

Table 3.2

2002 Antarctic AWS site name, ARGOS identification number (ID), site start date, ID start date, and ID stop date if occurring in 2002.

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	
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	15 Jan 02
	8931		15 Jan 02	
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	
Swithinbank	21356	18 Jan 97	18 Jan 97	13 Jan 02
	21355		13 Jan 02	
Marble Point	8906	05 Feb 80	05 Feb 80	
Ferrell	8929	10 Dec 80	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	21364	25 Jan 92	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	29 Jan 02
	8695		29 Jan 02	
Cape Bird	8901	28 Jan 99	28 Jan 99	
Laurie II	21360	01 Feb 00	16 Jan 01	
Whitlock	8907	01 Jan 82	07 Feb 01	
Possession Island	8984	29 Dec 92	29 Dec 92	
Marilyn	8934	16 Jan 84	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	
Limbirt	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 2002 Antarctic AWS data for publication should acknowledge the support of NSF-OPP Grant 9726040 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.	Maximum value for the month.
Minimum air temperature, °C.	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.	Resultant speed and direction for the month.
Constancy.	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.	Maximum value for the month.
Minimum air pressure, mb.	Minimum value for the month.
Potential temperature, K	Mean value for the month.

	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)
D-10 (08914)			66.710S				139.830E					243 M				
Jan	-2.9	06	8.4	-13.4	5.9	06	140	4.7	0.78	139	26	956.9	06	985.7	937.5	273.7
Feb	-7.0	11	0.4	-13.5	9.5	11	145	8.6	0.91	129	32	947.7	13	963.1	928.0	270.3
Mar	-10.6	13	-3.1	-23.8	11.5	30	161	11.0	0.92	153	32	955.8	14	972.3	934.3	265.9
Apr	-16.1	13	-2.4	-27.6								952.2	12	974.2	935.6	260.7
May	-16.5	05	-6.0	-26.2	5.6	04	154	5.0	0.90	174	28	961.2	05	988.2	938.0	259.6
Jun	-14.6	04	-4.6	-32.1	13.7	10	153	12.9	0.95	153	34	957.1	04	983.6	920.8	261.8
Jul	-17.3	58	-10.1	-31.4	9.8	66	157	9.2	0.94	075	42	958.1	58	972.3	947.4	259.0
Aug	-19.0	13	-8.9	-30.8								950.5	13	974.4	926.9	257.8
Sep	-17.1	02	-8.2	-26.9								948.2	01	961.8	927.1	260.0
Oct	-15.2	01	-5.2	-26.2								956.4	01	981.6	932.2	261.2
Nov	-9.1	10	-0.1	-15.9								952.6	10	969.8	936.4	267.8
Dec	-3.7	09	6.2	-17.4								948.7	09	965.8	934.2	273.6
MEAN	-12.4											953.8				
D-47 (08986)			67.397S				138.726E					1560 M				
Jan					7.4	00	240	4.1	0.55	219	20	813.8	00	839.9	798.1	
Feb					10.0	04	275	9.3	0.93	253	25	805.3	04	818.7	791.3	
Mar					13.0	66	265	12.5	0.95	264	24	808.6	66	816.9	795.4	
Apr					12.1	35	287	11.1	0.92	314	20	804.5	35	826.7	791.3	
May					12.0	25	294	11.6	0.97	312	20	811.3	25	837.3	792.6	
Jun					13.8	55	247	13.2	0.96	218	26	806.9	56	821.0	785.5	
Jul					12.3	61	241	11.8	0.95	231	24	805.2	61	824.1	786.7	
Aug					10.4	32	251	9.7	0.94	211	22	802.0	27	822.0	781.3	
Sep					12.4	59	238	12.2	0.98	239	23	801.3	57	812.3	786.9	
Oct												811.0	59	831.7	792.7	
Nov					8.1	55	236	7.7	0.94	221	22	803.2	55	812.2	794.1	
Dec					7.7	00	226	7.2	0.93	226	19	805.9	00	820.8	794.3	
MEAN												806.6				
Dome C II (08989)			75.121S				123.374E					3250 M				
Jan	-25.4	01	-7.2	-45.1	3.4	00	157	1.2	0.36	073	12	655.6	00	678.4	641.1	279.6
Feb	-41.9	00	-26.1	-59.4	2.9	00	172	0.6	0.19	098	10	647.2	00	660.4	638.5	261.9
Mar	-51.2	00	-32.9	-64.6	4.3	00	241	1.7	0.40	198	13	654.7	00	669.6	645.2	250.5
Apr	-60.6	00	-39.8	-73.0	2.9	00	221	1.8	0.60	195	7	648.4	00	673.6	631.6	240.6
May	-59.6	00	-40.1	-70.1	3.3	00	200	2.3	0.69	183	10	659.2	00	677.3	642.8	240.6
Jun	-60.5	00	-42.2	-72.1	2.2	00	242	0.8	0.36	323	7	654.7	00	667.2	641.5	240.0
Jul	-62.3	00	-35.9	-75.4	2.4	00	220	1.1	0.47	186	9	653.4	00	670.1	631.0	238.1
Aug	-66.4	00	-43.6	-78.8	2.3	00	239	1.2	0.52	298	8	643.2	00	658.3	631.6	234.6
Sep	-61.1	01	-43.4	-76.0	2.4	00	171	1.9	0.78	181	9	651.4	00	661.6	640.3	239.8
Oct	-54.2	00	-36.5	-74.4	3.6	00	208	2.2	0.62	100	15	652.6	00	666.1	640.3	247.3
Nov	-39.5	00	-21.0	-53.5	2.8	00	249	2.1	0.75	262	9	651.0	00	666.7	636.4	264.2
Dec	-29.3	00	-15.4	-45.0	2.9	00	203	1.1	0.38	235	13	650.7	00	659.8	642.6	275.8
MEAN	-51.0				3.0		212	1.3	0.51			651.8				

	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)
Port Martin (08909)			66.820S		141.390E					39 M						
Jan	-0.6	00	9.2	-10.8								989.0	00	1019.0	971.5	273.4
Feb	-5.6	00	2.2	-13.1								979.9	00	996.8	960.7	269.1
Mar	-9.8	01	1.0	-21.6								988.9	00	1005.0	964.3	264.2
Apr	-15.4	00	-2.5	-25.8								984.8	00	1009.0	967.4	258.9
May	-16	00	-4.8	-23.1								995.2	00	1025.2	968.4	258.0
Jun	-14.2	01	-3.1	-30.8								990.9	01	1017.9	956.8	259.7
Jul	-15.7	00	-4.8	-28.9								991.1	00	1015.6	963.3	258.1
Aug	-18.0	00	-7.8	-27.5								984.5	00	1010.1	959.7	256.3
Sep	-16.1	00	-7.0	-24.5								981.8	01	996.2	961.6	258.4
Oct	-14.4	00	-1.2	-24.9								989.8	00	1014.5	967.4	259.5
Nov	-7.5	02	3.6	-14.8								984.8	02	1003.1	968.3	266.9
Dec	-2.0	02	5.5	-13.9								980.2	02	997.6	964.6	272.8
MEAN	-11.2											986.7				
Cape Denison (0898667.009S)					142.664E					31 M						
Jan	0.1	01	9.6	-10.2	9.0	01	153	8.1	0.90	114	37	988.6	02	1019.3	970.8	274.2
Feb	-5.0	00	2.5	-13.8	21.3	00	159	20.7	0.97	166	45	979.5	00	997.7	961.6	269.7
Mar	-10.4	40	1.1	-21.6	28.9	40	165	28.4	0.99	172	51	990.4	40	1006.3	973.0	263.5
Apr	-18.1	58	-8.9	-26.9	30.6	58	170	30.0	0.98	174	51	989.4	59	1006.6	968.3	255.8
May																
Jun	-17.2	68	-9.8	-26.0	11.7	68	163	11.5	0.98	167	40	975.8	69	995.3	962.0	257.6
Jul	-14.0	61	-3.2	-23.1	11.4	61	165	11.0	0.97	153	47	988.2	63	1014.3	964.0	259.9
Aug	-19.0	57	-9.6	-27.6	25.9	27	165	25.2	0.97	163	52	981.5	57	1002.3	961.1	255.5
Sep																
Oct																
Nov																
Dec	-1.1	02	5.4	-11.9	11.2	02	155	10.3	0.92	138	39	979.2	02	995.8	963.7	273.7
Penguin Point (0891067.617S)					146.180E					30 M						
Jan	-0.7	03	5.9	-11.8	5.1	01	173	4.4	0.86	188	28	981.7	01	1014.3	967.1	273.9
Feb	-5.5	02	1.9	-14.5	8.3	01	172	7.7	0.93	181	29	972.6	01	990.1	954.4	269.8
Mar	-10.7	00	0.6	-22.8	13.7	06	174	12.9	0.94	186	36	981.1	00	996.6	957.8	263.9
Apr	-17.9	00	-1.8	-32.1	16.4	08	183	15.9	0.97	174	44	977.2	00	1000.9	958.4	257.0
May	-19.0	00	-3.9	-28.8	12.5	00	180	12.0	0.96	177	40	987.6	00	1011.6	960.0	255.1
Jun	-15.9	01	-2.9	-30.2	14.4	01	170	13.6	0.94	190	45	985.4	03	1009.2	961.1	258.4

	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			Con	Wind	Press	Data	Press	Press	Temp
Mon	(C)	Abs	(C)	(C)	(m/s)	Abs	(dir	vv)	Con	(dir	vv)	(mb)	Abs	(mb)	(mb)	(K)
Byrd (08903)			80.007S		119.404W						1530 M					
Jan	-12.3	00	-2.1	-23.6	3.9	00	021	3.6	0.93	026	12	814.3	00	824.6	806.4	276.6
Feb	-19.3	00	-6.9	-36.2	5.7	00	015	5.0	0.88	050	17	806.5	00	818.5	789.0	269.9
Mar	-19.1	00	-6.2	-34.8	5.1	03	353	3.9	0.77	299	18	818.8	00	831.1	807.6	269.0
Apr	-31.4	13	-15.6	-49.0	6.4	13	041	5.4	0.84	177	22	805.2	13	820.0	790.1	257.2
May																
Jun																
Jul																
Aug																
Sep																
Oct																
Nov	-13.2	75	-6.8	-19.9								810.8	75	819.1	802.2	276.1
Dec	-13.1	00	-3.4	-24.4	4.1	07	008	3.4	0.84	036	14	811.0	00	821.0	798.1	276.1
Mt. Siple (08981)			73.198S		127.052W						230 M					
Jan	-1.6	01	3.6	-6.8								955.8	42	975.2	942.6	275.3
Feb	-4.7	00	1.6	-11.2								946.6	14	969.6	925.9	272.3
Mar	-5.1	00	1.4	-10.6								967.8	12	984.8	951.5	270.1
Apr	-11.4	00	-3.4	-19.1								947.1	00	963.7	895.0	265.9
May	-9.1	00	-1.0	-19.9								973.4	01	996.3	950.8	266.0
Jun	-13.8	00	-2.9	-31.1								971.2	00	993.6	942.9	261.6
Jul	-20.6	00	-2.2	-39.9								954.9	00	985.4	923.8	255.9
Aug	-19.0	01	-1.4	-33.2								957.1	01	985.0	922.3	257.4
Sep	-7.9	00	-1.1	-18.5								956.2	00	973.5	935.5	268.7
Oct	-11.4	00	-1.6	-21.4								968.8	00	984.9	949.1	264.1
Nov	-4.4	01	1.9	-11.4								960.6	15	980.7	937.5	271.6
Dec	-1.9	02	4.2	-5.2								953.7	35	971.2	939.8	274.8
MEAN	-9.2											959.4				
Theresa (21358)			84.599S		115.811W						1463 M					
Jan	-10.7	01	-1.8	-17.4	6.5	00	082	6.1	0.94	076	15	820.8	00	833.5	809.1	277.0
Feb	-18.2	00	-7.6	-26.1	9.8	00	088	9.5	0.97	041	22	814.4	00	825.0	803.2	270.4
Mar	-22.9	00	-11.1	-37.9	8.8	01	091	8.4	0.95	103	21	822.3	00	832.2	804.1	264.7
Apr	-26.0	00	-17.5	-39.5	11.7	00	086	11.0	0.95	096	29	813.0	00	826.2	796.2	262.2
May	-26.2	00	-7.1	-47.0	9.6	07	086	9.1	0.95	055	23	824.0	00	843.1	803.0	261.0
Jun	-32.4	00	-11.4	-49.4	8.2	10	083	7.8	0.94	087	23	818.6	00	832.8	799.5	254.9
Jul	-31.3	61	-21.4	-48.8	10.9	61	077	9.3	0.85	105	23	811.6	61	824.3	794.9	256.8
Elizabeth (21361)			82.607S		137.078W						519 M					
Jan	-9.1	00	-2.9	-17.1	3.8	00	060	2.5	0.65	075	14	922.2	00	934.9	911.2	270.2
Feb	-16.2	00	-3.6	-29.6	5.4	00	055	4.5	0.84	077	15	914.2	00	925.9	894.9	263.7
Mar	-20.8	00	-3.9	-36.9	5.1	00	030	3.7	0.72	008	15	928.1	00	943.3	909.9	257.9
Apr	-30.8	12	-9.5	-42.4	4.2	12	050	3.7	0.87	080	23	915.9	12	929.4	897.1	248.6

	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)
Brianna (08931)			83.889S				134.154W					525 M				
Jan	-9.2	46	-2.4	-14.8	4.9	46	064	4.5	0.92	063	12	919.5	46	933.7	911.0	270.3
Feb	-14.7	00	-5.0	-24.2	8.2	00	069	7.9	0.96	094	23	915.7	00	927.0	898.3	265.1
Mar	-21.3	00	-4.0	-37.0	6.0	00	058	5.1	0.85	073	17	928.2	00	943.8	908.9	257.3
Apr	-26.8	00	-14.9	-37.8	9.4	00	068	9.1	0.97	083	29	917.1	00	929.4	897.2	252.5
May	-23.5	00	-2.4	-46.2	9.5	41	068	9.2	0.96	083	19	929.8	00	955.9	897.3	254.9
Jun	-32.7	00	-6.1	-49.0								928.1	00	951.4	907.9	245.7
Jul	-33.1	00	-16.1	-51.6								921.3	00	941.0	890.1	245.8
Aug	-33.4	00	-11.5	-49.5								913.1	00	937.1	883.7	246.1
Sep	-21.2	00	-7.4	-40.0								923.6	00	940.2	897.9	257.8
Oct	-22.0	00	-8.0	-34.6								929.1	00	944.3	905.6	256.5
Nov	-13.9	00	-3.1	-22.6	4.4	23	039	3.2	0.72	075	14	924.0	00	945.0	901.3	265.2
Dec	-9.4	00	-1.8	-16.5	4.7	00	057	4.4	0.94	070	15	919.4	02	929.5	904.5	270.2
MEAN	-21.8											922.4				
Harry (08900)			83.003S				121.393W					945 M				
Jan	-10.9	00	-4.0	-16.9	5.8	00	034	5.4	0.93	041	17	874.0	00	884.9	862.6	272.6
Feb	-17.0	00	-6.4	-25.6	8.4	00	036	8.1	0.97	048	20	866.9	00	878.0	851.6	266.9
Mar	-21.5	00	-6.6	-33.8	7.1	39	027	6.0	0.84	041	18	877.7	00	891.0	860.1	261.3
Apr	-27.9	00	-16.1	-42.1	9.1	09	041	8.9	0.97	059	25	866.8	00	879.9	847.9	255.5
May	-25.5	00	-5.6	-50.4								879.8	00	900.1	851.2	256.9
Jun	-32.7	00	-8.4	-51.1								876.3	00	894.8	855.1	249.7
Jul	-33.3	00	-17.6	-52.0	10.8	59	031	10.4	0.96	004	27	869.7	00	887.0	844.0	249.6
Aug	-33.4	00	-13.6	-47.2								862.3	00	884.6	838.4	250.2
Sep	-21.5	00	-9.0	-44.2								874.8	00	887.8	854.2	261.5
Oct	-23.7	00	-9.5	-35.9								878.9	00	895.8	857.9	258.8
Nov	-14.7	00	-5.2	-23.5	5.8	51	006	4.9	0.84	021	15	874.2	00	895.7	854.3	268.6
Dec	-11.8	00	-5.2	-20.1	5.3	00	029	4.8	0.91	028	14	870.3	00	879.7	856.9	271.9
MEAN	-22.8											872.6				
Erin (21363)			84.904S				128.828W					990 M				
Jan	-9.4	00	-2.4	-14.5	8.5	00	080	8.1	0.96	089	23	877.4	00	888.9	864.2	273.8
Feb	-16.2	00	-6.4	-24.1	13.4	00	088	13.1	0.97	100	30	871.4	00	882.5	859.2	267.3
Mar	-21.9	00	-10.6	-35.1	10.9	00	089	9.9	0.91	083	23	880.8	00	893.5	863.0	260.6
Apr	-24.9	00	-13.5	-39.5	13.6	00	087	13.2	0.97	094	32	871.3	00	884.4	852.6	258.3
May	-25.0	00	-5.4	-46.6	12.6	03	089	12.1	0.96	089	30	883.2	00	904.8	856.7	257.2
Jun	-31.9	00	-10.5	-48.1	10.3	06	085	9.8	0.95	082	27	879.1	00	897.6	860.4	250.4
Jul	-28.4	00	-16.6	-45.9	13.9	14	088	13.4	0.97	096	33	874.2	00	892.3	850.4	254.4
Aug	-31.8	48	-17.1	-42.9	13.5	57	081	13.1	0.97	089	28	863.0	48	886.5	842.3	251.7

	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)
Siple Dome (08938)			81.656S		148.773W						668 M					
Jan	-10.3	00	1.9	-23.8	2.9	00	053	1.0	0.35	224	09	888.1	00	900.3	877.1	272.0
Feb	-16.2	02	-2.9	-26.8	3.7	00	059	1.1	0.29	004	14	879.2	00	891.7	861.4	266.6
Mar	-18.7	02	-4.9	-31.2	4.2	05	037	2.0	0.49	042	18	893.1	00	909.2	871.5	262.8
Apr	-27.2	03	-9.2	-40.5	1.2	06	084	1.0	0.84	104	17	879.4	00	896.5	863.6	255.2
May	-21.6	05	-4.8	-42.0								893.1	00	919.9	862.5	259.8
Jun	-29.8	03	-5.4	-51.1								892.7	00	914.2	870.4	251.4
Jul	-35.6	03	-23.1	-52.1								883.4	00	904.7	849.8	246.1
Aug	-35.8	06	-11.9	-49.5								876.5	00	898.8	846.1	246.5
Sep	-22.3	08	-8.4	-35.9								887.2	00	904.4	855.8	259.6
Oct	-20.5	07	-5.4	-39.0								892.9	00	909.2	870.2	260.9
Nov	-13.3	08	-0.1	-23.4								889.9	00	912.7	871.1	268.6
Dec	-9.4	05	4.1	-19.0	1.6	31	029	0.1	0.09	271	08	885.4	00	896.0	871.1	273.1
MEAN	-21.7											886.7				
Swithinbank (21355)			81.201S		126.177W						959 M					
Jan	-10.4	40	-2.2	-17.4	5.7	40	004	5.4	0.95	359	11	869.7	55	883.6	861.9	273.1
Feb	-15.7	00	-4.2	-28.8	8.2	00	005	7.6	0.93	360	19	864.5	05	876.6	843.3	267.9
Mar	-20.4	42	-10.0	-29.4	6.4	42	342	5.4	0.84	360	17	876.1	42	890.7	862.3	262.6
Marble Point (08906)			77.439S		163.754E						108 M					
Jan	-2.0	00	9.1	-9.5	3.7	00	102	1.2	0.32	159	22	975.5	00	988.8	964.5	273.1
Feb	-7.5	00	1.1	-16.6	3.8	00	141	2.8	0.73	187	15	971.0	00	983.0	959.5	268.0
Mar	-15.1	00	-5.4	-26.0	4.5	00	152	3.5	0.77	141	16	983.6	00	997.2	969.0	259.3
Apr	-20.8	00	-7.0	-30.4	3.6	00	163	2.7	0.76	166	24	974.7	00	989.9	958.3	254.2
May	-19.2	00	-4.2	-33.2	4.3	00	158	3.2	0.75	165	19	985.6	00	1016.0	962.1	255.0
Jun	-27.9	00	-8.4	-41.5	3.8	00	153	2.7	0.70	138	23	987.6	00	1011.8	964.6	246.2
Jul	-29.2	00	-13.5	-39.0	2.7	00	173	1.5	0.58	179	18	982.3	00	1008.5	953.9	245.2
Aug	-30.5	00	-12.6	-41.9	3.4	00	152	2.4	0.69	112	21	972.1	00	992.3	953.6	244.7
Sep	-22.0	00	-6.2	-35.6	3.3	00	150	2.4	0.72	138	15	980.0	00	999.0	947.4	252.6
Oct	-17.5	00	-6.8	-27.5	3.1	00	155	2.1	0.66	152	18	983.1	00	1001.9	954.5	257.0
Nov	-10.5	00	-2.4	-16.6	3.7	00	142	2.4	0.65	132	17	976.3	00	1000.6	959.2	264.5
Dec	-4.9	00	1.9	-13.1	3.2	00	127	1.2	0.39	131	21	971.4	00	981.4	958.3	270.5
MEAN	-17.3				3.6		150	2.3	0.64			978.6				

	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)
Ferrell (08929)			77.910S				170.820E				45 M					
Jan	-5.6	00	2.5	-18.0	3.2	00	191	2.0	0.63	193	17	983.2	00	996.3	972.3	268.9
Feb	-14.3	00	-2.0	-30.5	4.7	00	206	3.9	0.83	204	17	977.8	00	990.3	963.9	260.6
Mar	-20.4	00	-6.4	-36.8	7.0	00	196	5.2	0.73	202	25	990.4	00	1003.6	976.7	253.5
Apr	-28.0	00	-11.4	-41.9	5.4	00	201	4.7	0.87	187	23	981.1	00	996.0	964.9	246.5
May	-26.8	00	-10.5	-45.8	7.7	03	196	6.9	0.90	197	26	992.2	00	1023.2	969.4	247.0
Jun	-35.7	00	-13.1	-52.2	4.6	10	189	3.9	0.86	200	25	995.0	00	1019.4	971.0	237.8
Jul	-38.8	00	-19.6	-50.4	2.1	04	212	1.5	0.70	197	20	989.4	00	1016.2	961.0	235.1
Aug	-38.0	00	-13.6	-50.8	3.2	16	200	3.1	0.96	204	29	979.2	00	1000.0	961.4	236.7
Sep	-27.5	00	-9.1	-45.6	7.3	28	194	6.7	0.92	191	21	986.6	00	1006.3	952.4	246.7
Oct	-21.7	00	-9.6	-35.1	6.2	10	198	5.0	0.80	215	21	989.8	00	1008.2	962.2	252.2
Nov	-13.3	00	-3.8	-23.6	4.9	00	194	3.6	0.73	198	19	983.4	00	1006.9	967.1	261.2
Dec	-7.0	00	2.5	-17.8	4.1	00	197	3.2	0.77	190	18	978.6	00	988.6	964.2	267.8
MEAN	-23.1				5.0		197	4.1	0.81			985.6				
Pegasus N (21357)			77.952S				166.500E				8 M					
Jan	-3.9	01	4.9	-14.5	3.5	00	072	1.6	0.46	167	21	988.5	00	1001.3	977.5	270.1
Feb	-11.5	00	1.0	-26.2	2.9	00	074	1.5	0.50	163	18	983.4	00	996.1	971.0	262.9
Mar	-18.6	00	-6.4	-34.4	4.3	00	104	1.9	0.44	169	25	996.3	00	1009.7	981.7	254.8
Apr	-25.1	00	-6.5	-39.8	3.5	00	106	1.4	0.40	181	30	987.2	00	1002.3	970.7	249.0
May	-23.5	00	-4.0	-43.5	5.3	00	129	2.7	0.50	170	28	998.4	00	1029.9	974.8	249.8
Jun	-33.7	00	-8.1	-52.9	2.6	00	048	1.7	0.66	173	23	1000.8	00	1025.9	977.5	239.4
Jul	-36.5	00	-14.1	-48.5	1.6	00	094	0.6	0.38	180	25	995.3	00	1021.9	965.9	237.0
Aug	-35.1	00	-10.2	-50.4	3.1	00	131	1.4	0.47	170	33	985.0	00	1006.0	966.4	239.1
Sep	-25.9	00	-5.8	-41.8	3.4	00	085	1.4	0.42	163	26	992.7	00	1012.4	958.7	247.8
Oct	-20.0	00	-5.2	-32.6	3.9	00	105	1.1	0.28	176	25	995.7	00	1015.0	966.0	253.5
Nov	-11.8	00	-2.9	-20.4	3.8	00	085	1.4	0.37	181	24	989.0	00	1013.9	971.5	262.2
Dec	-5.7	00	2.9	-15.4	4.3	00	089	1.6	0.38	163	25	984.1	00	994.5	970.0	268.7
MEAN	-20.9				3.5		095	1.4	0.44			991.4				
Pegasus S (08937)			77.990S				166.580E				5 M					
Jan	-3.9	01	6.5	-15.5	3.5	00	088	1.4	0.39	172	21	989.7	00	1002.0	979.2	270.0
Feb	-11.7	00	0.6	-26.5	3.0	00	101	1.2	0.41	181	21	985.7	00	998.7	971.9	262.6
Mar	-19.0	00	-7.4	-34.2	4.2	00	129	1.8	0.43	197	26	999.2	00	1012.8	984.5	254.3
Apr	-25.7	01	-7.2	-40.4	2.1	00	105	0.9	0.44	187	25	990.3	00	1005.1	973.8	248.2
May	-24.3	00	-4.8	-44.5	10.7	61	170	8.0	0.75	180	32	1001.6	00	1033.3	978.1	248.8
Jun	-34.9	00	-8.2	-53.1								1004.2	00	1029.4	980.9	238.0
Jul	-37.5	00	-14.1	-49.2								998.7	00	1025.3	969.4	235.8
Aug	-36.1	00	-10.5	-50.9								988.5	00	1009.3	970.0	237.9
Sep	-26.5	00	-5.8	-41.9								996.1	00	1015.9	962.0	247.0
Oct	-20.1	00	-4.8	-33.2								999.0	00	1018.6	969.2	253.1
Nov	-10.0	00	-1.8	-18.4	4.2	05	123	1.5	0.35	202	25	991.9	00	1017.0	974.3	263.7
Dec	-3.5	01	5.2	-12.9	4.3	00	108	1.3	0.31	184	24	986.3	00	996.3	973.3	270.8
MEAN	-21.1											994.3				

	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)	
Minna Bluff (08935)			78.550S			166.690E					895 M						
Jan	-9.7	71	-3.5	-13.4	4.9	71	188	4.2	0.85	210	20	873.3	71	879.6	866.6	273.9	
Feb	-14.9	00	-7.0	-22.1	5.4	22	189	4.4	0.82	214	38	873.2	00	884.5	858.5	268.5	
Mar	-21.2	00	-10.6	-33.0	9.6	15	191	7.3	0.76	193	34	884.5	00	897.2	869.5	261.0	
Apr	-25.3	00	-15.1	-36.0	10.8	20	190	9.4	0.87	208	54	875.0	00	889.8	858.8	257.5	
May	-24.0	00	-11.8	-36.5	7.7	05	208	5.2	0.68	194	28	885.8	00	913.3	863.5	258.0	
Jun	-30.3	00	-17.5	-43.2	6.2	34	188	4.0	0.64	181	25	886.8	00	907.7	867.2	251.4	
Jul	-29.2	00	-17.6	-42.9	7.1	00	192	5.8	0.82	214	50	881.2	00	904.8	857.6	253.0	
Aug	-32.4	00	-19.9	-46.0	8.2	11	194	6.2	0.75	187	39	872.2	00	889.0	855.9	250.4	
Sep	-24.5	00	-14.5	-34.4	4.9	38	201	4.3	0.88	198	22	880.2	00	896.7	850.7	258.0	
Oct	-22.5	00	-12.1	-30.6	10.4	33	193	9.7	0.93	201	41	883.1	00	899.7	856.9	260.0	
Nov	-17.1	00	-10.1	-26.8	4.8	08	208	3.5	0.72	204	25	877.7	00	902.1	861.4	265.8	
Dec	-10.7	00	-3.0	-21.6	4.0	18	209	2.5	0.61	200	30	873.8	00	883.7	859.0	272.8	
MEAN	-21.8				7.0		195	5.5	0.78			878.9					
Linda (08919)			78.460S			168.380E					47 M						
Jan	-6.0	00	3.6	-18.9	4.2	00	197	2.3	0.56	195	18	965.6	00	978.5	954.8	269.8	
Feb	-14.2	00	-3.6	-28.1	6.1	00	199	5.4	0.88	198	20	960.0	00	972.7	946.4	262.0	
Mar	-21.6	00	-8.4	-37.0	8.3	02	198	7.4	0.88	198	33	972.6	00	985.7	958.1	253.6	
Apr	-27.9	00	-13.2	-42.1	7.1	00	199	6.6	0.92	198	26	963.0	00	977.8	946.6	247.9	
May	-26.8	00	-11.1	-47.2	11.4	30	199	10.8	0.95	200	30	974.4	00	1005.5	949.9	248.2	
Jun	-36.3	00	-13.5	-54.0	8.0	30	197	7.5	0.94	200	30	976.6	00	1001.3	951.5	238.5	
Jul	-38.8	00	-19.0	-51.6	7.5	49	200	7.3	0.97	197	26	970.6	00	997.3	941.8	236.9	
Aug	-36.8	01	-14.8	-51.2	12.1	52	204	11.6	0.96	200	39	960.4	01	979.8	941.2	239.1	
Sep	-28.3	00	-10.6	-45.1	12.7	59	199	12.7	1.00	201	27	968.5	00	988.4	933.7	247.1	
Oct	-22.8	27	-11.0	-36.1	13.0	67	199	13.0	1.00	205	26	972.4	27	990.2	942.6	252.4	
Willie Field (21364)			77.870S			167.020E					14 M						
Jan	-5.5	00	5.9	-17.1	3.1	00	079	1.6	0.50	170	20	988.1	00	1000.8	976.8	268.6	
Feb	-12.6	00	0.5	-27.4	3.1	00	062	1.7	0.54	181	16	982.9	00	995.4	970.8	261.8	
Mar	-19.8	00	-8.2	-35.5	4.4	00	091	2.3	0.52	187	17	995.8	00	1009.1	981.0	253.6	
Apr	-26.2	00	-9.2	-40.5	3.3	00	073	1.6	0.50	176	21	986.8	00	1002.0	969.9	247.9	
May	-24.7	00	-6.6	-45.9	4.6	00	103	2.1	0.46	195	20	998.2	00	1029.3	973.5	248.6	
Jun	-34.6	00	-11.2	-56.0	3.2	00	067	2.2	0.68	173	18	1000.4	00	1025.8	977.2	238.6	
Jul	-38.0	00	-16.9	-50.4	1.3	00	090	0.5	0.36	146	19	994.9	00	1021.5	964.7	235.6	
Aug	-36.6	00	-13.0	-54.6	2.7	00	111	1.1	0.41	193	23	984.9	00	1005.1	965.6	237.6	
Sep	-26.9	00	-7.4	-44.5	3.9	04	087	2.3	0.59	166	24	992.2	00	1011.7	959.1	246.8	
Oct	-21.4	00	-7.4	-33.8	4.1	00	092	1.6	0.39	208	19	995.2	00	1014.0	965.2	252.2	
Nov	-13.2	00	-3.9	-23.1	3.8	00	090	1.8	0.46	187	16	988.5	00	1013.6	970.9	260.8	
Dec	-6.9	00	2.2	-17.1	3.5	00	097	1.8	0.50	169	18	983.7	00	994.0	969.6	267.5	
MEAN	-22.2				3.4		086	1.7	0.49			991.0					

	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)
Windless Bt (08927) 77.728S																
167.703E																
60 M																
Jan	-6.2	50	2.8	-17.6	1.6	48	065	0.9	0.55	120	07	983.8	49	991.4	976.7	268.2
Feb	-10.9	00	1.8	-28.4	2.3	00	037	1.1	0.47	343	11	983.5	00	996.5	971.1	263.5
Mar	-19.1	00	-4.6	-39.1	2.8	00	056	1.1	0.38	191	17	997.0	00	1011.1	982.2	254.3
Apr	-24.7	00	-6.8	-42.8	2.3	00	015	1.0	0.41	198	11	988.1	00	1003.3	971.1	249.3
May	-23.5	00	-4.5	-47.1	3.0	00	047	1.4	0.47	236	11	999.7	00	1031.0	975.0	249.7
Jun	-34.4	00	-9.1	-55.5	2.1	00	059	1.3	0.62	087	11	1001.6	00	1026.2	979.0	238.6
Jul	-36.6	00	-12.2	-49.8	1.5	00	357	0.6	0.39	259	10	996.0	00	1022.7	965.8	236.9
Aug	-35.4	00	-11.4	-56.1	2.0	00	020	0.4	0.23	179	16	986.2	00	1006.8	967.0	238.7
Sep	-25.3	00	-5.2	-47.4	2.7	02	049	1.5	0.57	110	15	993.6	00	1013.1	960.8	248.3
Oct	-20.0	00	-5.6	-36.5	2.6	02	039	0.8	0.31	219	17	996.6	00	1015.5	966.2	253.4
Nov	-11.6	00	-3.5	-22.9	2.1	00	048	0.7	0.33	001	13	989.2	00	1014.9	971.0	262.3
Dec	-5.0	00	4.0	-16.8	2.1	00	084	0.5	0.24	187	13	983.3	00	994.5	970.5	269.4
MEAN	-21.1				2.3		045	0.9	0.41			991.6				
Herbie Alley (08697) 78.100S																
166.670E																
30 M																
Jan	-4.0	00	5.4	-16.1	3.8	00	126	1.0	0.26	193	24	988.7	02	1001.6	977.7	270.0
Feb	-11.8	01	1.8	-27.0	3.5	00	157	1.1	0.31	210	24	983.7	00	996.6	970.3	262.6
Mar	-19.0	00	-6.8	-33.9	5.0	00	165	2.2	0.44	211	28	996.4	00	1010.0	981.8	254.5
Apr	-25.5	00	-7.0	-40.9	4.1	00	172	1.6	0.39	181	31	987.3	00	1001.6	971.0	248.5
May	-24.6	00	-4.4	-46.0	5.2	00	185	2.7	0.51	181	39	998.6	00	1030.3	972.0	248.7
Jun	-34.9	00	-8.8	-54.6	2.7	00	155	0.5	0.17	191	25	999.8	06	1026.2	975.8	239.2
Jul	-37.1	00	-14.8	-50.0	2.2	00	167	0.8	0.38	176	31	995.6	00	1022.4	966.5	236.4
Aug	-35.5	00	-10.8	-50.6	4.2	00	182	1.9	0.44	197	38	985.5	02	1006.0	966.9	238.7
Sep	-26.4	00	-5.6	-42.4	3.8	00	179	1.6	0.42	202	30	992.9	00	1013.0	958.3	247.2
Oct	-19.9	00	-5.4	-35.8	5.3	00	182	2.0	0.37	233	30	996.1	09	1015.5	966.7	253.2
Nov	-11.7	00	-3.6	-19.6	4.9	00	159	2.0	0.40	208	25	988.8	10	1014.0	971.9	262.1
Dec	-5.5	00	2.8	-14.4	4.9	00	165	1.9	0.39	186	24	984.3	03	994.6	970.1	268.8
MEAN	-21.3				4.1		170	1.6	0.37			991.5				
Cape Spencer (0869:77.970S																
167.550E																
30 M																
Jan																
Feb	-12.8	00	0.8	-29.2	3.4	00	139	0.9	0.28	211	19	983.8	00	996.9	970.9	261.6
Mar	-20.1	00	-8.2	-36.5	4.7	00	145	1.4	0.29	195	28	997.1	00	1010.4	982.3	253.3
Apr	-26.3	00	-8.2	-42.1	3.8	00	167	0.9	0.25	186	22	988.1	00	1003.2	971.4	247.7
May	-25.2	00	-5.4	-47.2	4.8	00	185	1.5	0.32	186	27	999.5	00	1030.8	975.3	248.1
Jun	-35.8	00	-8.1	-55.8	3.2	00	092	0.8	0.26	208	23	1001.7	00	1026.6	978.0	237.2
Jul	-37.7	00	-15.9	-51.5	1.9	00	203	0.5	0.27	211	22	996.1	00	1022.8	966.6	235.8
Aug	-35.6	00	-10.9	-51.0	4.1	00	193	1.9	0.46	202	32	986.0	00	1006.4	966.6	238.5
Sep	-26.7	00	-5.8	-44.2	4.1	00	143	1.0	0.25	183	24	993.6	00	1013.3	959.9	246.9
Oct	-21.2	00	-7.1	-36.0	4.6	00	176	1.2	0.26	188	25	996.6	00	1015.5	966.7	252.2
Nov	-12.9	00	-3.0	-23.2	3.9	00	128	1.7	0.42	184	22	989.7	00	1014.9	972.3	261.0
Dec	-6.3	00	1.9	-17.6	3.8	00	142	1.7	0.44	194	20	984.6	00	994.3	971.0	268.0

	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 Bird (08901)			77.224S		166.440E					42 M						
Jan	-1.2	00	6.9	-6.8	4.2	00	314	0.8	0.20	209	31	985.4	42	997.9	973.1	272.6
Feb	-5.3	00	4.0	-10.8	4.5	00	024	0.4	0.08	186	24	978.9	28	990.9	963.5	270.7
Mar	-11.0	00	-2.5	-19.9	4.8	00	063	1.7	0.35	236	25	995.3	52	1003.1	989.0	261.1
Apr	-18.1	00	-3.4	-27.8	4.9	00	145	1.5	0.31	181	37	983.0	30	997.8	958.3	256.1
May	-16.8	00	-0.6	-28.8	3.8	00	068	1.5	0.38	210	25	993.3	00	1023.7	963.6	256.9
Jun	-25.0	00	-8.0	-35.6	3.1	00	057	1.6	0.52	015	16	996.5	00	1020.7	973.9	248.4
Jul	-27.5	00	-7.6	-34.5	3.6	00	069	0.9	0.26	219	39	991.3	00	1018.8	964.0	246.2
Aug	-29.3	00	-9.1	-40.6	3.3	00	046	1.9	0.57	209	27	981.0	00	1002.6	964.0	245.3
Sep	-21.2	01	-4.0	-33.4	3.0	00	046	1.0	0.33	206	27	988.6	00	1008.3	952.8	252.8
Oct	-16.9	00	-5.0	-25.9	3.6	00	034	1.1	0.31	205	28	991.6	00	1012.7	963.8	256.9
Nov	-9.0	01	-0.2	-18.6	2.8	00	022	1.3	0.45	184	17	985.0	00	1007.5	968.8	265.3
Dec	-4.2	00	1.9	-12.8	3.7	00	006	1.7	0.47	184	30	980.1	00	990.9	963.5	270.5
MEAN	-15.5				3.8		048	1.0	0.35			987.5				
Laurie II (21360)			77.550S		170.820E					30 M						
Jan	-6.8	00	2.1	-20.8	3.7	00	184	2.4	0.65	188	19	984.2	00	997.5	973.1	267.6
Feb	-15.2	00	-3.6	-29.5	4.8	00	195	4.0	0.84	202	17	978.9	00	991.9	965.3	259.5
Mar	-21.2	00	-7.8	-35.9	6.8	05	195	5.0	0.73	219	23	991.6	00	1005.0	978.0	252.5
Apr	-28.8	00	-11.7	-42.9	5.6	00	190	4.9	0.88	187	27	982.2	00	996.6	966.6	245.6
May	-27.3	00	-11.4	-47.2	8.2	09	193	7.5	0.92	195	28	993.2	00	1024.1	969.6	246.4
Jun	-35.8	00	-13.8	-53.5	5.2	09	189	4.4	0.84	187	23	996.0	00	1020.1	972.3	237.7
Jul	-38.7	00	-20.2	-50.6	4.5	30	193	3.9	0.88	198	22	990.6	00	1017.5	962.1	235.1
Aug	-38.5	00	-15.0	-52.8	5.9	32	194	5.2	0.88	211	31	980.3	00	1001.7	962.9	254.0
Sep	-27.8	00	-8.9	-46.6	4.4	30	192	4.1	0.94	201	21	987.6	00	1007.4	952.9	246.2
Oct	-22.8	00	-11.1	-37.1	6.6	12	193	5.4	0.82	212	26	990.8	00	1009.8	963.4	251.1
Nov	-14.4	00	-5.4	-24.0	5.5	10	191	4.3	0.79	195	19	984.4	00	1007.3	968.1	259.9
Dec	-8.2	01	1.5	-19.1	4.7	00	191	3.8	0.80	207	19	979.6	00	989.9	965.1	266.5
MEAN	-23.8				5.5		192	4.6	0.83			986.6				
Whitlock (08907)			76.144S		168.392E					206 M						
Jan	-3.2	02	5.4	-9.8	2.8	00	175	0.6	0.22	190	20	956.1	00	969.8	942.3	273.5
Feb	-7.8	01	0.2	-13.2	3.9	00	144	0.9	0.23	176	15	950.6	00	962.5	938.5	269.3
Mar	-14.6	00	-7.2	-23.8	5.6	00	275	0.6	0.11	280	22	961.9	00	975.8	949.0	261.4
Apr	-21.8	00	-9.4	-30.6	2.5	10	273	0.8	0.31	224	18	952.6	00	968.7	938.1	254.9
May	-20.7	00	-4.9	-30.5	5.5	05	216	2.3	0.41	197	41	963.1	00	991.3	932.7	255.3
Jun	-26.7	00	-11.4	-38.6	2.6	01	181	0.5	0.18	235	16	964.8	00	986.0	944.2	249.1
Jul	-28.8	00	-16.2	-38.8	4.4	00	312	1.7	0.38	350	16	960.1	00	987.0	934.7	247.2
Aug	-30.2	00	-16.5	-41.2	2.5	01	309	0.9	0.37	297	10	949.8	00	970.0	934.7	246.6
Sep	-22.1	00	-8.4	-30.6	5.3	13	231	1.1	0.21	170	21	957.8	00	976.4	925.8	254.2
Oct	-18.7	00	-10.9	-23.9	5.3	00	260	1.3	0.24	184	20	961.2	00	981.7	934.9	257.4
Nov	-11.2	00	-1.6	-17.9	4.5	00	174	1.3	0.30	197	21	955.4	00	977.7	939.6	265.4
Dec	-5.7	00	1.9	-14.5	3.6	00	187	0.8	0.23	177	23	951.4	00	961.9	936.1	271.3
MEAN	-17.6				4.0		232	0.7	0.27			957.1				

	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)	
Possession Is (0898471.891S			171.210E					30 M									
Jan	1.6	01	12.0	-3.1								976.8	00	994.5	963.7	276.6	
Feb	-1.4	01	5.2	-5.6								971.5	00	984.8	957.6	274.0	
Mar	-7.0	00	-0.5	-14.5								982.2	00	998.5	969.0	267.5	
Apr	-15.1	00	-3.2	-25.9								973.9	00	995.0	959.1	260.1	
May	-14.6	00	-3.8	-24.1								982.4	00	1006.0	942.8	259.9	
Jun	-17.8	00	-8.0	-25.5								984.7	00	1005.3	965.0	256.5	
Jul	-22.5	00	-12.8	-28.6								983.3	00	1014.6	957.2	251.9	
Aug	-25.5	00	-15.6	-33.6								973.1	00	991.6	960.9	249.6	
Sep	-16.3	00	-7.6	-23.6								978.1	00	994.3	949.2	258.5	
Oct	-12.8	00	-3.6	-17.2								982.2	00	1003.8	956.6	261.7	
Nov	-6.2	00	2.6	-13.2								975.7	00	993.2	959.4	268.9	
Dec	-0.9	01	6.6	-9.6								972.1	00	984.2	955.8	974.4	
MEAN	-11.5											978.0					
Manuela (08905)			74.946S					163.687E					78 M				
Jan	-2.4	01	4.6	-10.9								979.8	00	994.7	967.8	272.3	
Feb	-11.2	00	-1.2	-21.5								974.5	00	988.6	962.1	264.0	
Mar	-18.4	00	-7.9	-28.0								986.9	00	1002.8	968.0	255.7	
Apr	-25.2	00	-12.0	-35.6								977.9	00	995.1	959.2	249.5	
May	-22.8	01	-7.0	-33.4								989.1	00	1019.9	964.8	251.2	
Jun	-25.5	00	-12.4	-35.6								990.0	00	1014.8	968.5	248.4	
Jul	-28.3	00	-16.8	-36.5								984.8	00	1012.4	955.9	245.9	
Aug	-31.6	00	-19.0	-41.2								975.0	00	995.6	957.7	243.3	
Sep	-23.5	00	-15.5	-35.9								983.3	00	1003.4	947.9	250.9	
Oct	-19.3	00	-11.4	-27.9								987.0	00	1007.3	956.0	254.8	
Nov	-11.4	00	-3.5	-18.5	8.6	18	278	7.8	0.91	282	32	980.1	00	1005.8	962.5	263.3	
Dec	-4.8	00	3.0	-13.5	5.5	00	267	3.9	0.71	238	30	975.4	00	986.1	961.5	270.3	
MEAN	-18.7											982.0					
Marilyn (08934)			79.954S					165.130E					75 M				
Jan	-5.4	02	3.9	-15.5	3.3	00	227	1.5	0.46	176	14	981.0	00	993.7	970.1	269.2	
Feb	-14.7	00	-1.9	-29.9	4.3	00	244	3.2	0.75	245	15	975.9	00	989.3	963.9	260.3	
Mar	-21.7	00	-6.9	-37.4	7.6	00	255	6.5	0.86	258	27	988.8	00	1005.2	972.8	252.2	
Apr	-27.1	00	-10.0	-42.9	6.6	00	249	5.6	0.85	189	22	979.5	00	995.5	961.9	247.5	
May	-26.7	00	-11.9	-48.8	7.3	00	247	6.0	0.81	268	21	991.3	00	1023.7	961.8	247.1	
Jun	-36.1	00	-12.8	-55.9	7.2	00	262	6.1	0.86	261	28	992.2	00	1016.8	968.7	237.6	
Jul	-36.1	00	-20.4	-52.1	6.1	00	265	5.0	0.83	278	21	986.5	00	1013.4	955.8	238.1	
Aug	-35.3	00	-14.4	-49.2	7.4	00	254	5.9	0.81	258	20	976.8	00	996.9	954.8	239.4	
Sep	-27.1	00	-11.5	-42.8	7.5	03	260	6.6	0.88	265	24	984.5	00	1002.8	952.7	247.1	
Oct	-22.6	00	-10.2	-40.9	6.4	10	237	5.3	0.83	209	19	987.9	00	1005.8	955.2	251.4	
Nov	-14.7	00	-6.9	-25.1	4.8	00	237	3.4	0.71	268	18	981.4	00	1008.1	961.8	259.8	
Dec	-8.0	00	-0.2	-17.6	3.4	00	220	2.4	0.71	179	12	977.1	00	987.0	962.7	266.9	
MEAN	-23.0						250	4.7	0.78			983.6					

	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)	
Schwerdtfeger (089°79.900S			169.970E					54 M									
Jan	-8.1	00	0.5	-21.9	2.8	00	142	0.5	0.20	176	15	979.8	00	992.4	969.5	266.6	
Feb	-16.6	00	-4.0	-30.9	4.4	00	050	3.3	0.77	013	17	974.0	00	986.5	960.2	258.6	
Mar	-24.8	00	-9.4	-40.6	5.6	00	056	4.6	0.80	092	18	986.6	00	1001.7	968.9	249.3	
Apr	-32.5	00	-11.1	-46.9	5.0	00	050	4.0	0.80	016	21	977.1	00	993.2	959.9	242.3	
May	-31.1	00	-11.5	-51.4	5.9	01	050	4.3	0.72	359	17	988.8	00	1021.7	960.6	242.9	
Jun	-42.1	00	-16.1	-60.1	4.0	00	086	2.9	0.72	072	14	990.9	00	1016.8	964.8	231.7	
Jul	-43.2	00	-21.5	-57.0	4.6	00	071	3.2	0.70	033	16	984.6	00	1012.4	953.8	231.0	
Aug	-40.3	00	-18.5	-55.5	5.5	02	063	4.2	0.77	006	18	974.4	00	993.0	954.1	234.6	
Sep	-31.9	00	-11.1	-48.9	5.2	00	061	4.2	0.79	010	16	982.4	00	1000.3	947.7	242.5	
Oct	-26.5	00	-11.5	-43.4	4.4	01	046	3.0	0.68	014	18	985.4	00	1004.1	950.7	247.7	
Nov	-16.9	00	-8.6	-27.2	3.8	00	048	1.9	0.50	092	12	979.3	00	1004.9	962.0	257.8	
Dec	-9.3	00	2.2	-21.6	3.5	00	023	2.3	0.67	003	11	975.0	00	984.1	960.6	265.7	
MEAN	-26.9				4.6		057	3.1	0.68			981.5					
Gill (08911)			79.985S					178.611W					55 M				
Jan	-8.8	00	-1.6	-18.0	3.7	00	223	2.4	0.64	206	11	982.2	00	996.3	970.4	265.7	
Feb	-17.4	00	-5.1	-34.0	4.2	00	226	2.9	0.68	278	14	974.7	00	990.3	958.0	257.7	
Mar	-23.7	00	-7.2	-42.8	4.8	28	218	2.2	0.47	197	18	987.5	00	1001.8	966.8	250.3	
Apr	-36.1	00	-16.1	-51.1	3.0	27	241	2.4	0.78	207	18	977.9	00	991.7	961.3	238.6	
May	-31.5	00	-11.5	-49.9								989.2	00	1021.3	959.9	242.5	
Jun	-41.0	00	-10.2	-58.5	3.6	67	275	2.0	0.55	216	16	992.7	00	1020.8	965.6	232.7	
Jul	-46.2	00	-20.5	-61.9								985.8	00	1013.8	947.4	227.9	
Aug	-43.9	00	-12.0	-58.6								975.4	00	995.9	957.3	230.9	
Sep	-31.1	00	-14.2	-47.1								983.6	00	1002.5	945.9	243.3	
Oct	-25.2	00	-3.9	-44.4								987.9	00	1006.7	950.9	248.8	
Nov	-15.9	00	-3.4	-26.0								982.4	00	1004.8	965.4	258.6	
Dec	-9.1	00	0.5	-21.5	3.2	05	192	1.7	0.54	190	10	977.6	00	986.1	964.2	265.8	
MEAN	-27.5											983.1					
Lettau (08908)			82.518S					174.452W					55 M				
Jan	-5.1	54	1.6	-18.2	5.1	70	302	2.1	0.41	333	16	985.2	54	995.1	972.3	269.2	
Feb	-16.0	20	-5.2	-26.8	6.5	63	133	1.3	0.19	250	20	976.2	20	987.8	961.1	259.0	
Mar	-21.8	00	-6.4	-42.4	4.8	37	045	1.1	0.23	292	16	989.9	00	1006.7	966.5	252.1	
Apr	-33.7	00	-12.6	-49.4	4.2	40	049	0.8	0.20	177	23	979.8	00	993.9	963.2	240.9	
May	-27.5	00	-7.6	-48.9	5.5	35	120	1.5	0.26	194	18	991.9	00	1024.8	958.1	246.3	
Jun	-42.1	00	-9.2	-58.9	3.3	41	148	1.3	0.39	326	13	993.7	00	1020.0	969.9	231.5	
Jul	-42.9	00	-14.8	-59.0	3.0	21	115	0.9	0.29	165	17	986.8	00	1014.1	951.4	231.2	
Aug	-40.9	00	-16.0	-54.1	0.5	40	338	0.2	0.35	052	12	977.4	00	999.4	953.8	233.8	
Sep	-30.9	00	-11.1	-46.4	3.7	49	184	1.4	0.38	146	17	985.7	00	1004.3	949.3	243.3	
Oct	-25.1	00	-6.8	-41.2	1.5	25	080	0.4	0.25	111	20	990.0	00	1008.2	954.0	248.8	
Nov	-14.1	72	-8.0	-20.2								980.7	72	1008.9	965.3	260.6	

	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)
Elaine (08915)			83.134S				174.169E					60 M				
Jan	-6.1	02	2.8	-15.4	2.2	00	115	1.0	0.47	114	13	987.2	00	1000.1	975.5	268.0
Feb	-13.1	00	-1.1	-26.2	2.9	00	135	2.1	0.72	111	15	981.8	00	994.0	969.5	261.4
Mar	-22.3	00	-6.1	-42.4	4.2	00	133	3.1	0.74	115	21	994.8	00	1012.4	975.3	251.3
Apr	-28.5	00	-8.6	-48.0	2.5	00	133	2.0	0.79	111	18	985.4	00	999.4	967.1	245.6
May	-27.4	00	-5.0	-53.6	4.2	00	140	3.1	0.73	111	17	997.5	00	1030.0	967.5	246.0
Jun	-40.0	00	-12.4	-57.6	2.6	00	144	1.5	0.57	184	14	997.8	00	1025.4	974.7	233.3
Jul	-39.0	00	-14.2	-56.2	3.0	00	135	1.6	0.52	114	17	991.8	00	1017.8	962.1	234.8
Aug	-37.4	00	-18.8	-50.1	0.4	02	122	0.3	0.71	125	13	982.6	00	1005.5	956.9	237.0
Sep	-28.9	00	-16.9	-43.6	0.1	13	350	0.1	0.97	117	12	990.4	00	1008.2	959.8	245.0
Oct	-25.7	00	-16.0	-35.1	0.2	03	088	0.2	0.73	111	14	994.9	00	1012.1	956.7	247.9
Nov	-16.1	00	-11.5	-20.1	2.8	04	121	1.8	0.64	114	15	988.4	00	1013.2	967.1	257.9
Dec	-9.7	00	-6.1	-17.1	1.7	00	123	1.2	0.74	115	10	984.0	00	994.1	970.3	264.7
MEAN	-24.5				2.2		132	1.5	0.69			989.7				
Larsen Ice (08926)			66.949S				60.897W					17 M				
Jan	-0.2	02	5.8	-8.4	3.8	02	131	0.6	0.16	198	14	981.9	00	1000.2	963.0	274.4
Feb	-1.8	01	5.6	-13.8	3.6	00	014	1.6	0.43	046	13	976.5	00	1000.2	962.0	273.2
Mar	-11.4	00	1.2	-24.6	4.9	00	254	3.0	0.62	297	19	989.5	00	1017.4	963.5	262.5
Apr	-18.1	00	-5.0	-30.9	5.3	58	249	3.8	0.72	245	22	986.0	00	1000.4	960.1	256.1
May	-23.7	00	-11.1	-41.0								993.4	00	1015.3	971.0	249.9
Jun	-26.9	00	0.5	-45.2								988.7	00	1007.5	961.8	247.0
Jul	-25.3	01	-4.0	-37.4	4.9	22	278	1.8	0.37	269	17	989.7	01	1012.0	952.5	248.7
Aug	-20.1	00	-1.9	-40.6	4.3	25	319	2.4	0.55	260	24	988.5	00	1011.5	957.0	253.9
Sep	-15.8	00	-2.2	-35.0	3.5	02	270	1.9	0.55	248	12	997.4	00	1010.5	975.9	257.5
Oct	-17.8	00	4.2	-36.1	4.5	00	288	1.1	0.24	038	17	987.3	00	1002.6	968.5	256.3
Nov	-7.4	02	3.6	-21.2	2.3	01	011	0.2	0.08	246	12	985.8	01	1001.8	971.2	266.9
Dec	-1.5	02	7.9	-12.8	1.9	00	045	0.6	0.29	240	19	982.9	00	1000.2	959.5	273.1
MEAN	-14.2											987.3				
Butler Is (08902)			72.207S				60.160W					91 M				
Jan	-1.4	04	10.2	8.5	3.1	02	199	0.6	0.21	008	11	972.0	02	988.9	964.1	274.0
Feb	-8.2	07	1.6	-16.6	3.6	08	194	1.6	0.44	186	16	965.7	08	986.2	950.9	267.7
Mar	-17.1	06	-2.5	-28.6	4.8	09	191	3.3	0.69	181	21	980.8	07	1001.8	963.3	257.5
Apr	-21.0	00	-4.0	-30.0	5.4	74	184	5.3	0.99	187	16	976.6	01	987.6	962.7	253.9
May	-23.7	00	-9.4	-33.9	9.8	74	193	9.5	0.97	179	22	984.0	00	1003.3	961.5	250.6
Jun	-26.3	00	-4.4	-38.5								977.8	00	996.0	953.3	248.4
Jul	-24.8	00	0.4	-35.1								978.4	00	1001.3	942.7	249.9
Aug	-17.6	00	3.9	-35.1	4.1	29	238	1.7	0.41	181	16	972.6	01	994.7	943.2	257.5
Sep	-16.2	00	4.8	-28.2	3.0	04	199	1.8	0.59	190	10	985.5	00	997.6	966.5	258.0
Oct	-19.4	00	0.4	-30.5	5.2	44	190	4.8	0.91	181	15	976.8	00	991.7	960.8	255.4
Nov	-10.9	03	4.2	-19.1	2.5	25	187	1.8	0.73	191	17	975.9	03	986.9	964.6	264.2
Dec	-3.1	02	8.8	-14.4	2.4	00	350	0.7	0.30	190	11	971.6	01	984.2	949.5	272.3
MEAN	-15.8											976.5				

	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)
Uranus GI (08920)			71.430S				68.930W					780 M				
Jan	-2.0	22	7.2	-12.9	3.1	20	030	2.3	0.74	053	19	902.5	21	917.1	887.6	279.2
Feb	-4.3	27	4.9	-14.5	5.9	25	030	4.8	0.82	046	22	894.2	26	915.4	874.2	277.6
Mar	-10.2	00	2.9	-24.2	4.0	00	008	3.1	0.78	048	22	906.5	00	929.5	881.6	270.4
Apr	-8.2	00	-0.5	-22.8	5.7	00	045	4.9	0.86	052	22	898.9	00	914.0	879.8	273.2
May	-16.1	00	-1.1	-30.4	3.8	00	357	3.1	0.82	353	18	909.4	00	925.7	890.2	264.1
Jun	-22.7	00	-3.6	-35.5	3.5	00	359	3.0	0.84	357	20	902.8	00	922.6	871.9	257.9
Jul	-15.6	00	-2.1	-34.6	5.7	00	018	4.6	0.81	353	22	902.8	00	925.1	864.2	265.2
Aug	-15.8	00	-2.1	-37.5	8.1	00	004	7.4	0.91	352	30	905.3	00	926.4	870.6	264.8
Sep	-8.7	00	2.5	-23.6	4.2	00	006	3.6	0.85	353	20	914.4	00	931.0	893.5	271.4
Oct	-16.5	17	-3.4	-30.4	3.0	17	017	2.0	0.66	055	17	901.5	17	912.5	882.8	264.5
Nov	-6.3	59	2.8	-13.8	2.4	58	359	1.4	0.59	055	15	904.7	58	914.0	894.9	274.6
Dec	-1.9	13	9.2	-12.8	3.8	11	041	2.7	0.72	053	17	900.7	11	915.6	880.8	279.5
MEAN	-10.7				4.4		017	3.4	0.78			903.6				
Limbert (08925)			75.422S				59.851W					40 M				
Jan	-3.3	00	5.2	-15.9	4.0	09	146	0.8	0.20	215	14	983.9	00	999.6	973.2	271.1
Feb	-12.1	00	0.0	-24.0	5.5	00	210	3.5	0.64	204	26	978.5	00	998.7	964.2	262.7
Mar	-23.5	00	-2.6	-35.6	5.8	10	210	4.9	0.85	210	28	994.2	00	1012.8	976.1	250.1
Apr	-25.7	00	-10.4	-44.4								990.0	00	1001.1	974.7	248.2
May	-31.9	00	-17.9	-47.4								998.1	00	1015.6	983.1	241.4
Jun	-35.5	00	-12.1	-52.8								990.7	00	1009.7	966.8	238.3
Jul	-30.1	00	-4.8	-49.6								992.2	00	1013.9	969.4	243.6
Aug	-27.3	00	-4.2	-42.8								984.2	00	1006.1	958.4	247.0
Sep	-26.5	00	-4.9	-40.4								997.7	00	1011.5	978.4	246.8
Oct	-25.7	00	-1.2	-42.4								990.1	00	1004.3	971.4	248.2
Nov	-16.1	00	-2.4	-29.0	1.7	02	205	0.9	0.51	360	12	988.4	00	998.7	976.1	257.9
Dec	-5.5	11	1.8	-20.6	3.0	11	343	0.6	0.18	055	12	982.4	11	994.5	968.2	269.0
MEAN	-21.9											989.2				
Racer Rock (08947)			64.067S				61.613W					17 M				
Jan																
Feb																
Mar																
Apr																
May																
Jun																
Jul																
Aug																
Sep																
Oct	-4.7	01	3.1	-12.0								986.4	01	1001.0	971.8	269.5
Nov	-1.1	03	5.1	-5.2								987.5	02	1006.5	972.4	273.1
Dec	0.2	03	7.6	-5.5								987.1	00	1007.8	962.7	274.4

	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)
Bonaparte Pt (08923)			64.778S			64.067W						8 M				
Jan	1.9	00	6.2	-2.9												
Feb	1.6	00	6.6	-1.5												
Mar	-0.3	00	5.8	-5.5												
Apr	0.2	00	4.2	-6.0												
May	-4.4	01	3.6	-12.4												
Jun	-8.3	01	2.2	-17.2	5.7	04	077	4.2	0.75	121	22					
Jul	-7.6	01	1.5	-21.2	6.0	33	084	4.3	0.73	245	25					
Aug	-6.7	00	2.8	-19.9	4.8	10	083	3.1	0.64	214	24					
Sep	-2.9	01	4.6	-10.1	2.6	04	082	0.9	0.34	228	21					
Oct	-4.6	01	3.0	-13.5	5.5	00	119	2.9	0.53	175	26					
Nov	-1.4	02	4.2	-8.8	2.5	05	081	1.7	0.66	263	13					
Dec	1.3	02	6.1	-3.9	3.2	01	107	1.9	0.59	138	22					
MEAN	-2.6															
Sky-Blu (08917)			74.792S			71.488W						1556 M				
Jan	-9.9	01	0.5	-22.6	7.4	00	024	5.3	0.71	339	26	805.2	00	818.7	796.3	280.1
Feb	-12.9	00	-0.1	-29.2	8.4	00	024	6.7	0.80	021	24	797.4	00	818.7	784.1	277.7
Mar	-21.2	00	-6.8	-37.8	6.6	00	032	4.2	0.63	267	27	808.7	00	828.0	789.2	267.8
Apr	-18.0	00	-8.1	-42.9	9.7	00	032	8.6	0.89	015	30	801.9	00	811.2	783.9	271.8
May	-27.6	00	-10.6	-43.4	6.0	00	030	3.1	0.52	008	32	809.6	00	821.5	793.7	260.8
Jun	-31.7	00	-13.2	-50.5	4.7	00	026	2.6	0.55	030	30	801.7	00	819.8	778.7	257.2
Jul	-24.9	00	-12.4	-45.8	13.6	00	033	11.2	0.82	356	46	801.5	00	822.0	772.9	264.5
Aug	-22.8	46	-11.9	-44.2	16.6	50	007	15.0	0.92	015	42	799.9	47	818.6	776.3	266.9
Sep	-17.0	35	-9.1	-30.8	9.1	40	003	7.0	0.76	285	32	812.0	35	825.9	798.2	271.9
Oct	-25.8	00	-8.9	-40.9	6.4	09	069	3.5	0.55	111	26	802.6	00	817.6	785.4	263.4
Nov	-17.3	00	-0.9	-35.9	5.6	00	025	3.3	0.59	035	20	804.6	00	817.6	797.8	272.3
Dec	-9.3	00	1.9	-21.9	7.7	00	022	6.4	0.83	022	28	804.1	00	817.2	788.6	280.9
MEAN	-19.9				8.5		24	6.2	0.71			804.1				
Kirkwood Is (08930)			68.340S			69.007W						30 M				
Jan	-0.4	00	3.9	-4.8	4.7	00	075	2.4	0.52	054	14	981.2	02	997.7	960.4	274.2
Feb	-0.5	00	3.5	-7.6	8.1	00	007	4.8	0.59	050	23	974.8	00	995.6	950.8	274.7
Mar	-5.2	00	1.1	-15.7	5.6	00	127	1.3	0.23	078	27	987.5	01	1014.2	961.8	268.9
Apr	-2.2	06	0.9	-8.9	9.1	07	064	6.1	0.68	090	29	979.0	09	998.4	954.2	272.6
May	-11.5	00	-0.1	-22.6	4.2	00	146	1.1	0.26	245	15	992.4	03	1012.2	970.1	262.3
Jun	-19.0	00	0.1	-31.0	5.3	07	163	0.5	0.10	006	24	987.9	02	1006.6	954.9	255.0
Jul	-14.0	00	1.1	-35.8	5.7	01	038	1.5	0.26	043	25	987.8	02	1008.0	946.7	260.1
Aug	-14.2	00	1.0	-38.8	6.3	00	342	2.3	0.36	261	31	991.9	03	1014.9	959.8	259.4
Sep	-8.4	00	1.5	-25.6	5.0	00	048	0.9	0.19	066	19	996.8	03	1014.2	972.2	265.0
Oct	-11.7	00	0.2	-27.4	7.3	00	092	3.1	0.42	031	27	982.7	02	997.0	960.4	262.8
Nov	-3.7	00	2.4	-13.1	4.7	00	055	1.1	0.24	020	19	984.5	02	1000.4	969.4	270.7
Dec	-0.2	00	5.0	-4.8	6.0	00	058	3.4	0.57	037	20	980.9	03	998.4	955.6	274.5
MEAN	-7.6				6.0		056	1.8	0.37			985.6				

	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)
Dismal Is (08932)			68.087S		68.825W					10 M						
Jan	0.6	01	4.1	-4.9	4.6	00	049	2.6	0.57	053	18	983.3	02	1000.4	962.5	275.1
Feb	0.5	00	4.2	-4.4	9.0	00	012	7.0	0.78	005	22	977.2	02	998.4	953.5	275.5
Mar	-3.2	00	2.0	-12.3	5.9	00	062	1.4	0.23	064	25	989.9	02	1017.0	964.6	270.7
Apr	-1.2	03	2.3	-7.1	8.4	03	040	6.2	0.74	067	27	981.6	06	1001.8	957.0	273.4
May	-10.6	00	1.1	-21.1	4.5	01	041	0.8	0.19	351	20	994.7	03	1014.2	972.2	262.9
Jun	-18.4	00	0.7	-30.8	5.6	00	020	2.3	0.41	001	24	990.3	03	1009.4	957.0	255.5
Jul	-13.5	00	1.7	-34.8	6.2	15	021	4.2	0.67	004	27	990.3	01	1010.8	950.1	260.3
Aug	-12.8	00	1.0	-34.0	7.7	15	360	6.7	0.87	340	31	994.9	02	1017.7	963.9	260.7
Sep	-8.1	00	2.8	-28.0	4.8	00	015	2.3	0.48	358	20	999.4	03	1017.0	974.2	265.1
Oct	-10.2	00	1.6	-26.9	6.7	00	066	2.9	0.44	029	29	985.1	02	999.7	963.2	264.1
Nov	-2.7	00	4.7	-12.5	4.2	00	025	1.8	0.42	355	18	987.0	03	1002.5	972.9	271.4
Dec	0.5	00	4.7	-3.3	5.4	00	043	3.6	0.66	031	21	983.2	02	1001.1	957.7	275.0
MEAN	-6.6				6.1		027	3.3	0.54			988.1				
Clean Air (08987)			90.000S							2835 M						
Jan	-25.4	00	-14.9	-38.0	4.5	00	002	3.8	0.85	295	14	687.1	00	697.7	674.7	275.8
Feb	-40.6	00	-28.4	-51.6	4.4	00	023	3.6	0.82	356	12	681.7	25	695.3	669.7	261.9
Mar	-50.8	00	-31.0	-66.6	4.8	00	021	3.7	0.76	311	12					
Apr	-53.6	00	-35.6	-67.8	4.5	00	009	3.7	0.82	010	13					
May	-57.1	00	-34.8	-68.2	4.5	00	032	3.7	0.84	008	14					
Jun	-62.9	00	-48.0	-71.8	4.0	00	043	3.1	0.78	006	12					
Jul	-54.4	00	-41.1	-73.5	5.9	00	003	5.1	0.86	360	15					
Aug	-58.6	00	-37.6	-75.4	5.1	00	010	4.2	0.82	359	14					
Sep	-57.5	00	-33.4	-70.0	3.1	00	057	1.8	0.58	013	10					
Oct	-47.8	00	-25.6	-60.9	4.1	00	020	2.9	0.70	354	15					
Nov	-38.1	00	-23.1	-46.5	3.3	00	018	2.0	0.61	077	09					
Dec	-29.1	00	-16.6	-38.5	2.6	00	025	1.9	0.73	292	07	681.5	00	691.3	671.4	272.3
MEAN	-48.0				4.2		019	3.2	0.76							
Henry (08985)			89.001S		1.025W					2755 M						
Jan	-23.3	00	-12.6	-34.6	4.9	00	028	4.2	0.85	027	14	696.3	00	707.0	683.6	277.1
Feb	-38.2	00	-26.9	-49.4	5.1	00	049	4.5	0.88	010	11	690.7	00	704.8	678.5	261.2
Mar	-47.7	00	-28.4	-64.0	4.8	00	043	4.3	0.89	034	10	694.8	00	707.7	680.8	250.2
Apr	-52.2	00	-32.2	-63.5	4.3	00	035	3.9	0.90	022	11	689.6	00	705.8	677.6	245.7
May	-54.1	00	-32.4	-65.6	5.5	00	050	5.0	0.91	037	13	696.6	00	715.3	680.1	242.9
Jun	-58.9	00	-45.0	-67.1	5.1	00	055	4.6	0.90	035	11	687.6	00	703.6	668.9	238.5
Jul	-52.9	00	-38.6	-67.6	6.7	00	034	6.0	0.90	037	14	690.8	00	708.0	677.3	244.8
Aug	-55.6	00	-35.6	-71.2	6.2	00	032	5.3	0.86	031	13	679.6	00	699.8	664.8	242.9
Sep	-56.3	25	-40.4	-67.5	5.6	28	075	4.3	0.77	048	12	689.9	25	700.5	680.0	241.2
Oct	-44.2	50	-22.8	-52.4	5.6	50	045	4.6	0.82	008	15	695.7	50	715.9	684.6	254.0
Nov	-36.4	00	-25.9	-43.9	3.3	00	047	2.8	0.83	052	11	688.6	00	712.3	677.2	263.4
Dec	-26.8	00	-16.1	-36.4	1.6	00	058	1.2	0.74	059	06	690.6	00	700.7	679.9	273.9
MEAN	-45.6				4.9		045	4.1	0.85			690.9				

	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)
Nico (08924)			89.000S				89.669E					2935 M				
Jan	-24.7	01	-14.8	-36.1	4.1	00	279	3.4	0.81	259	12	677.5	00	688.0	664.6	277.7
Feb	-39.6	00	-29.0	-50.5	4.4	00	312	3.5	0.81	240	12	671.1	00	685.9	658.9	261.8
Mar	-50.6	00	-32.2	-68.0	4.2	00	303	3.1	0.74	238	12	674.8	00	686.7	662.2	249.1
Apr	-53.5	00	-37.5	-68.0	2.7	00	279	2.1	0.77	267	11	669.0	00	685.2	657.3	246.4
May	-55.2	41	-33.0	-68.2	5.0	41	324	4.0	0.80	269	12	679.2	41	695.8	659.8	242.9
Jun	-60.6	19	-45.6	-71.5	3.6	21	312	3.0	0.84	274	11	667.7	19	682.6	649.6	238.7
Relay Station (08918)			74.017S				43.062E					3353 M				
Jan	-28.8	00	-17.9	-42.5	7.0	00	104	6.6	0.95	125	18	645.4	00	656.7	635.3	277.0
Feb	-40.6	00	-29.1	-50.8	7.4	00	114	7.0	0.95	083	17	637.5	00	648.3	628.0	264.5
Mar	-50.0	00	-39.2	-59.5	7.2	00	131	6.9	0.96	159	16	643.3	00	655.9	634.7	253.1
Apr	-54.0	00	-36.5	-65.5	6.8	00	135	6.3	0.92	143	17	639.2	00	651.6	623.6	249.0
May	-50.8	00	-38.1	-64.9	7.8	00	117	7.4	0.95	114	16	646.8	00	666.4	634.6	251.9
Jun	-55.0	00	-39.5	-70.1	7.6	00	126	7.3	0.96	118	15	638.2	00	652.7	620.8	248.0
Jul	-55.9	00	-40.9	-64.6	8.2	00	123	8.0	0.97	148	19	638.8	00	652.1	625.3	247.0
Aug	-60.3	00	-46.9	-69.5	8.2	00	135	8.0	0.97	143	20	629.4	00	641.1	623.3	243.0
Sep	-57.8	00	-44.6	-74.1	7.1	00	123	6.7	0.93	077	17	633.1	00	644.2	624.2	245.5
Oct	-49.9	00	-39.4	-62.1	7.6	00	131	7.4	0.97	128	17	642.6	00	651.9	630.3	253.4
Nov	-40.2	00	-27.0	-51.4	5.5	00	118	5.2	0.94	069	15	637.1	00	646.5	624.2	265.0
Dec	-29.8	00	-14.8	-43.9	5.5	00	110	4.9	0.89	125	13	641.0	00	650.2	630.1	276.3
MEAN	-47.8				7.2		123	6.7	0.95			639.4				
Dome Fuji (08904)			77.310S				39.700E					3810 M				
Jan	-31.7	00	-19.5	-48.0	3.3	00	281	2.4	0.72	271	12	605.7	00	618.1	594.5	278.7
Feb	-45.2	00	-32.9	-59.0	2.6	00	278	1.2	0.44	236	07	597.0	00	607.1	588.8	264.2
Mar	-54.9	00	-40.0	-66.1	1.9	00	009	0.9	0.49	359	08	601.9	00	613.9	593.3	252.3
Apr	-59.4	00	-39.9	-71.4	0.5	00	134	0.2	0.45	118	08	596.8	00	607.2	581.4	247.8
May	-56.3	00	-40.1	-68.9	0.7	00	228	0.5	0.75	224	09	604.8	00	627.0	592.1	250.4
Jun	-60.5	00	-35.6	-76.5	0.1	00	000	0.0	0.00	031	04	596.5	00	610.4	579.0	246.5
Jul	-61.5	00	-46.9	-72.6	0.1	00	000	0.0	0.00	329	02	597.5	00	609.8	583.9	245.2
Aug	-66.1	00	-48.1	-77.2	0.6	00	028	0.5	0.81	041	11	588.4	00	599.2	580.8	241.0
Sep	-62.8	00	-34.0	-79.6	0.9	00	251	0.5	0.57	246	11	590.5	00	602.2	579.8	244.6
Oct	-51.2	48	-29.2	-68.5	1.9	48	327	0.9	0.51	304	09	602.6	48	613.0	590.1	256.6
Nov	-42.2	08	-28.5	-56.4	1.7	08	065	0.2	0.12	301	07	594.8	08	604.1	585.1	267.7
Dec	-29.5	32	-14.8	-46.5	2.2	32	026	0.7	0.31	039	08	602.8	32	608.8	591.9	281.7
MEAN	-51.8				1.4		306	0.4	0.43			598.3				

	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)
Mizuho (21359)			70.700S				44.290E					2260 M				
Jan	-12.3	00	-0.9	-27.2	8.2	00	089	8.0	0.97	098	15	743.2	00	754.2	733.0	283.9
Feb	-20.5	00	-5.6	-39.4	10.1	00	088	9.9	0.98	089	24	736.1	00	750.3	724.6	275.8
Mar	-28.1	00	-14.8	-47.2	11.4	00	097	11.1	0.97	110	21	743.3	00	758.1	731.9	266.7
Apr	-32.4	04	-4.6	-53.5	10.9	04	102	10.2	0.94	127	23	740.1	04	754.7	724.7	262.5
May	-33.8	00	-13.5	-50.2	12.6	00	102	12.4	0.98	073	25	746.3	00	763.2	729.5	260.2
Jun	-38.9	07	-16.9	-51.0	12.7	07	105	12.5	0.99	101	22	738.5	07	753.3	722.6	255.5
Jul	-38.5	02	-13.1	-50.5	13.4	02	104	13.2	0.99	134	22	738.0	02	750.8	720.8	256.0
Aug	-39.9	01	-26.6	-49.4	11.8	03	105	11.4	0.97	131	26	728.9	01	745.8	719.7	255.4
Sep	-36.4	03	-8.8	-49.5	10.9	03	099	10.6	0.97	072	25	734.0	03	745.9	723.9	258.7
Oct	-30.7	00	-16.1	-49.2	12.1	00	103	11.9	0.98	111	23	742.3	00	752.5	728.5	264.1
Nov	-21.4	00	-9.4	-40.4	7.2	00	092	7.0	0.97	111	15	738.0	00	748.2	723.6	274.7
Dec	-13.9	00	-2.5	-26.9	7.8	00	094	7.5	0.96	069	21	739.4	00	747.9	725.7	282.7
MEAN	-28.9				10.8		099	10.4	0.97			739.0				

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 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 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°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

The atmospheric pressure transducer is a Parascientific model 215A Digiquartz® pressure gauge. The transducer frequency changes from a nominal 40 kHz at zero pressure to a nominal 36 kHz at 1000 hPa. The pressure resolution is about 0.05 hPa.

Paulin aneroid barometers calibrated against a mercury barometer of 10 mm bore are used to check the pressure gauge calibration. Comparisons are made between AWS units, a Parascientific Model 760-16B accurate to $\pm 0.1 \text{ hPa}$, and with the mercury barometers at Scott Base, 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° . 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° end of the boom may point in

a direction other than south. At Manuela site, the 180° 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° 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 2000. 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 2002

6.1. AWS Performance

Forty-seven AWS units were installed at the start of 2002 and 51 were installed by the end of 2002. Based on the installation months the AWS units delivered 85% of the temperature data, 82% of the pressure data and 72% of the wind data during 2002. Complete data sets were received from 12 AWS units and 38 AWS units operated for the installed period. Eleven 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	OK.
Port Martin	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	Station transmitted from 3 to 8 October only.
Mount Siple	Site has a "dog house" AWS without wind speed and direction. Pressure sensor not functioning correctly January and February.
Theresa	Delta-T sensor buried.
Doug	Aerovane not functioning in July. Relative humidity sensor not functioning. Station transmitted erratically in September and stopped transmitting on 8 October.
Elizabeth	Aerovane "frozen" the last part of September.
Brianna	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	The aerovane was "frozen" occasionally from May through July.
Siple Dome	Aerovane "frozen" occasionally from April through November. Delta-T sensor not installed.
Swithinbank	Station stopped transmitting 8 October. Delta-T sensor not functioning.
Marble Point	OK.
Ferrell	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	Aerovane occasionally "frozen" April through October.
Willie Field	Station replaced 29 January.
Windless Bight	Station stopped transmitting 12 December due to low battery voltage.
Herbie Alley	Pressure functioned erratically August, October, and November.
Cape Spencer	Station stopped transmitting 25 December.
Cape Bird	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	Site has a "dog house" AWS without wind speed and direction.
Manuela	Aerovane broken.

Marilyn	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 October.	Relative humidity sensor not functioning. Aerovane "frozen" occasionally in
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.
Limbart	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

On 1 February, Ferrell site was visited by Jason Vandervest. A completely new station was installed (AWS 21355) with help from the Twin Otter crew. Later on 1 February, a new station site was established near Cape Crozier (AWS 21364). This site will be called Laurie II.

On 3 February, Pegasus North and Pegasus South (AWS 8937) sites were visited by Dr. John Cassano and Jason Vandervest. AWS 8928 at Pegasus North was removed and a new station (AWS 21357) was installed. At Pegasus South the aerovane was replaced.

West Antarctica

Dr. John Cassano, Dr. Chris Shuman, and Jason Vandervest flew to Siple Dome on 15 January to conduct AWS field work in West Antarctica. GPS coordinates were recorded for Siple Dome (8938) site, and it was noted that the boom was not aligned with north. On 18 January, the team went to Brianna (21361) site. Two battery boxes and 1 battery cable were replaced, and GPS coordinates were recorded. The team moved on

to Elizabeth (21361) site where two new battery boxes and cables were installed, and GPS coordinates were recorded. On 19 January, the team went to JC (21357) site. The site was anchored loosely, and the antenna was broken. They were unable to replace the antenna, so the entire site was removed. On to Erin (21363) site, the team recorded GPS coordinates. They installed 2 new battery boxes and cables, raised the lower delta T boom because the probe was covered with snow, and replaced the Bendix/Belfort aerovane. Finally, the team installed a new AWS (8936) at Noel/ITASE site. GPS coordinates were recorded.

Polar Plateau

Dr. John Cassano reinstalled the Clean Air AWS (8987) at the new site at South Pole station on 26 January.

Mizuho AWS unit (21359) was installed at Mizuho Station on 7 October by members of JARE.

Adelie Coast

Rob Flint met the USGS Polar Sea in Hobart for the trip along the Adelie Coast. On 18 December Rob Flint and Blake Moore went to Port Martin (8909). The solar panel had been smashed by an impact. Some of the connectors and the junction box were so corroded by salt that it was impossible to do any work. A return visit with better tools and equipment was made on 20 December. New batteries, solar panel and junction box were installed. Also on 18 December, Gerd Wendler and Drew Egressey went to Sutton (8939). The station was removed and returned to the ship.

On 19 December, Rob Flint and Rachel Smith went to Penguin Point. They replaced the batteries and tightened the guys. A visual inspection showed the station to be in good condition with no evidence of salt corrosion. On 20 December, Rob Flint and LCDR Jackson went to Cape Denison. The batteries were replaced, and no evidence of salt deposition was found on the station. Installation of Cape Webb was scrapped due to transportation problems.

Antarctic Peninsula

The British Antarctic Survey serviced several of the units on the Antarctic Peninsula. Limbert (8925) site had stopped transmitting. The batteries were charged, so the unit was moved to Rothera on 14 January for further testing. A fault was found on the CPU board, and the unit was replaced on 10 February. A new tower section was added, and the boom was replaced. Uranus Glacier (8920) was visited on 7 January. The tower was raised, three new guys and deadmen were placed, and two new batteries and the junction box were replaced. The unit was removed to Rothera on 19 January because the transmissions were garbled. The 50 MHz oscillator was retuned, and the unit replaced on 24 January.

AWS unit 8917 (Sky-Blu) was revisited on 8 and 9 February. The tower was raised by two sections. Larsen Ice (8926) site was also visited on 9 February. Two new batteries were added and the guys were tightened. On 11 February, Butler Island (8902) site was visited. The tower was raised and new battery boxes added. The wind propeller was loose, and there is evidence of salt corrosion at the site.

7. GLOBAL TELECOMMUNICATIONS SYSTEM

The data from 31 Antarctic AWS units were entered into the Global Telecommunications System (GTS) during 2000. The data are collected by Service ARGOS. As soon as the data are received, 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 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.

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) 262-0436 or fax at (608)

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9. ACKNOWLEDGMENTS

This work is supported by the National Science Foundation, Office of Polar Programs, Grant 9726040 under the management of Dr. Bernhard Lettau. Assistance from the following countries is gratefully acknowledged. Expeditions Polaires Francaises installs and maintains the AWS units from the Adelie Coast to Dome C II. The British Antarctic Survey maintains the AWS units on the east side of the Antarctic Peninsula and south of Adelaide Island. The Japanese Antarctic Research Expedition (JARE) installs and maintains the AWS units at Relay Station, Mizuho, and Dome Fuji.

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