

Antarctic Automatic Weather Station Data

For The Calendar Year

1999

by

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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 at McMurdo, Antarctica. The 1999 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 ARGOS data collection system on the NOAA series of polar orbiting satellites. The data are retransmitted by the satellite for reception by a local user terminal (LUT) as at McMurdo, Antarctica. The data are processed into scientific units and are available for local use. The complete data set is received at Madison, Wisconsin, from 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 Service ARGOS, and the Global Positioning System. AWS elevation is obtained by barometry 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 1999.

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.

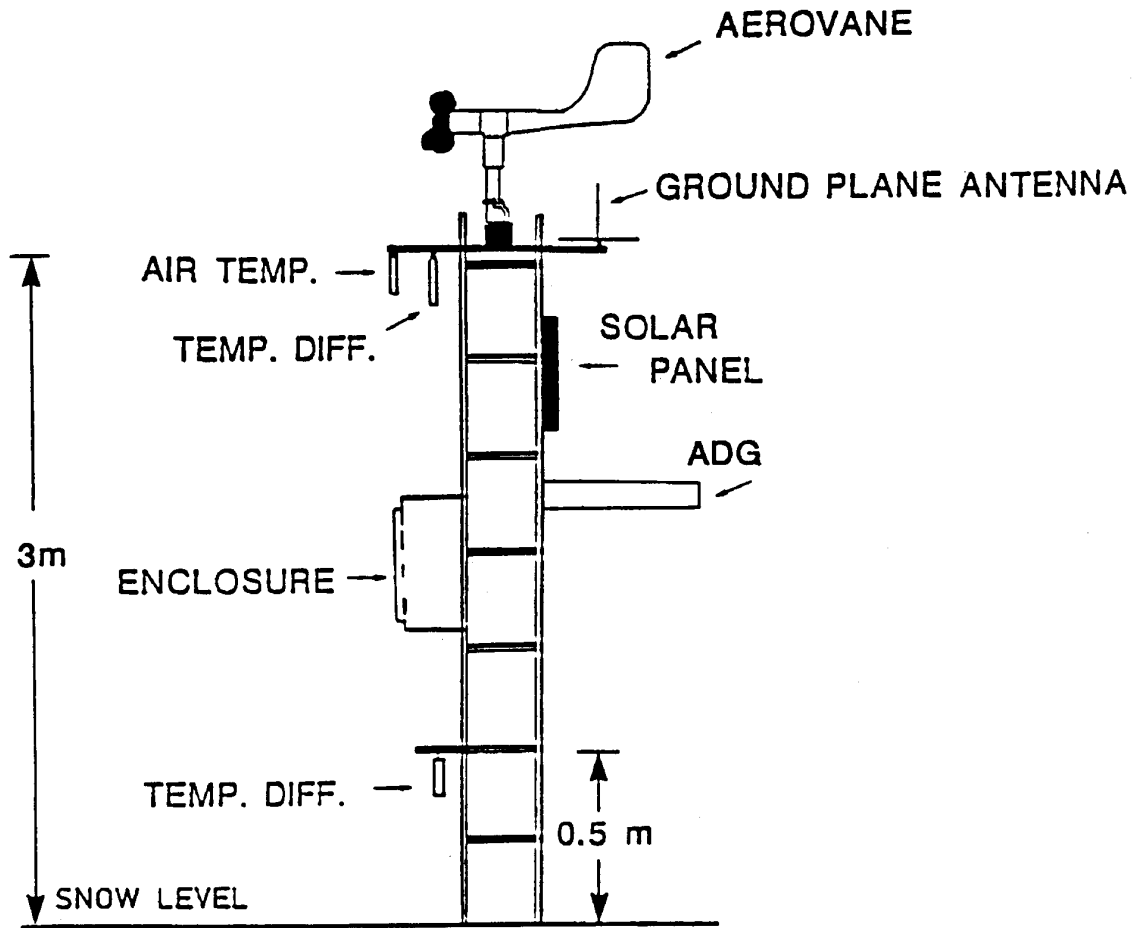


Figure 1. Layout of the AWS unit used in the Antarctic. The installed AWS unit has a 3-meter tower with a horizontal boom supporting the antenna, aerovane for measuring wind speed and direction, air temperature resistance thermometer, upper thermopile for measuring vertical air temperature difference,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

Table 3.1

AWS site name, geographic location and elevation, site start date, and WMO number for 1999.

Site Name	ARGOS ID	Lat. (deg)	Long. (deg)	Elev. (m)	Site Start Date	WMO No.
Adelie Land						
D-10	8914	66.71S	139.83E	243	08 Jan 80	89832
D-47	8986	67.397S	138.726E	1560	24 Nov 82	89834
D-57	#8912	68.20S	137.54E	2105	16 Jan 81	
Dome C II	8989	75.121°S	123.374°E	3250	12 Dec 95	89828
Port Martin	8930	66.82°S	141.40°E	39	19 Jan 90	
Cape Denison	#8988	67.009°S	142.664°E	31	20 Jan 90	
Penguin Point	8910	67.617°S	146.18°E	30	24 Dec 92	89847
Sutton	8939	67.08°S	141.37°E	871	26 Dec 94	
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
Doug	8922	82.315°S	113.24°W	1433	29 Nov 94	
Elizabeth	21361	82.607°S	137.078°W	519	30 Nov 94	89332
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	21356	81.20°S	126.174°W	945	18 Jan 97	
Ross Island Region						
Marble Point	8906	77.439°S	163.754°E	108	05 Feb 80	89866
Ferrell	8934	77.910°S	170.817°E	45	10 Dec 80	89872
Pegasus North	#8928	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	166.656°E	920	22 Jan 91	89768
Linda	8919	78.464°S	168.382°E	47	21 Jan 91	89769
Willie Field	#8929	77.865°S	167.017°E	40	25 Jan 92	
Windless Bight	#8927	77.728°S	167.703°E	61	09 Dec 98	
White Out	8697	77.87°S	168.16°E	30	01 Dec 98	
White Island	8722	78.09°S	168.01°E	30	01 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	
Ocean Islands						
Whitlock	8921	76.144°S	168.392°E	274	23 Jan 82	89865
Scott Island	8983	67.37°S	179.97°W	30	25 Dec 87	89371
Possession Is.	8984	71.891°S	171.21°E	30	29 Dec 92	89879
Manuela	8905	74.946°S	163.687°E	80	06 Feb 84	89864
Ross Ice Shelf						
Marilyn	8931	79.954°S	165.13°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	21 Oct 85	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	
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	71.489°W		07 Feb 99	
Santa Claus Is.	#8933	64.964°S	65.67°W	25	10 Dec 94	
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	89.00°S	89.669°E	2935	26 Jan 93	89799
Relay Station	8918	74.017°S	43.062°E	3353	01 Feb 95	89744
Dome F	8904	77.31	39.70°E	3810	08 Feb 95	89734

* New sites started during 1999

New ARGOS ID for 1999 at the site

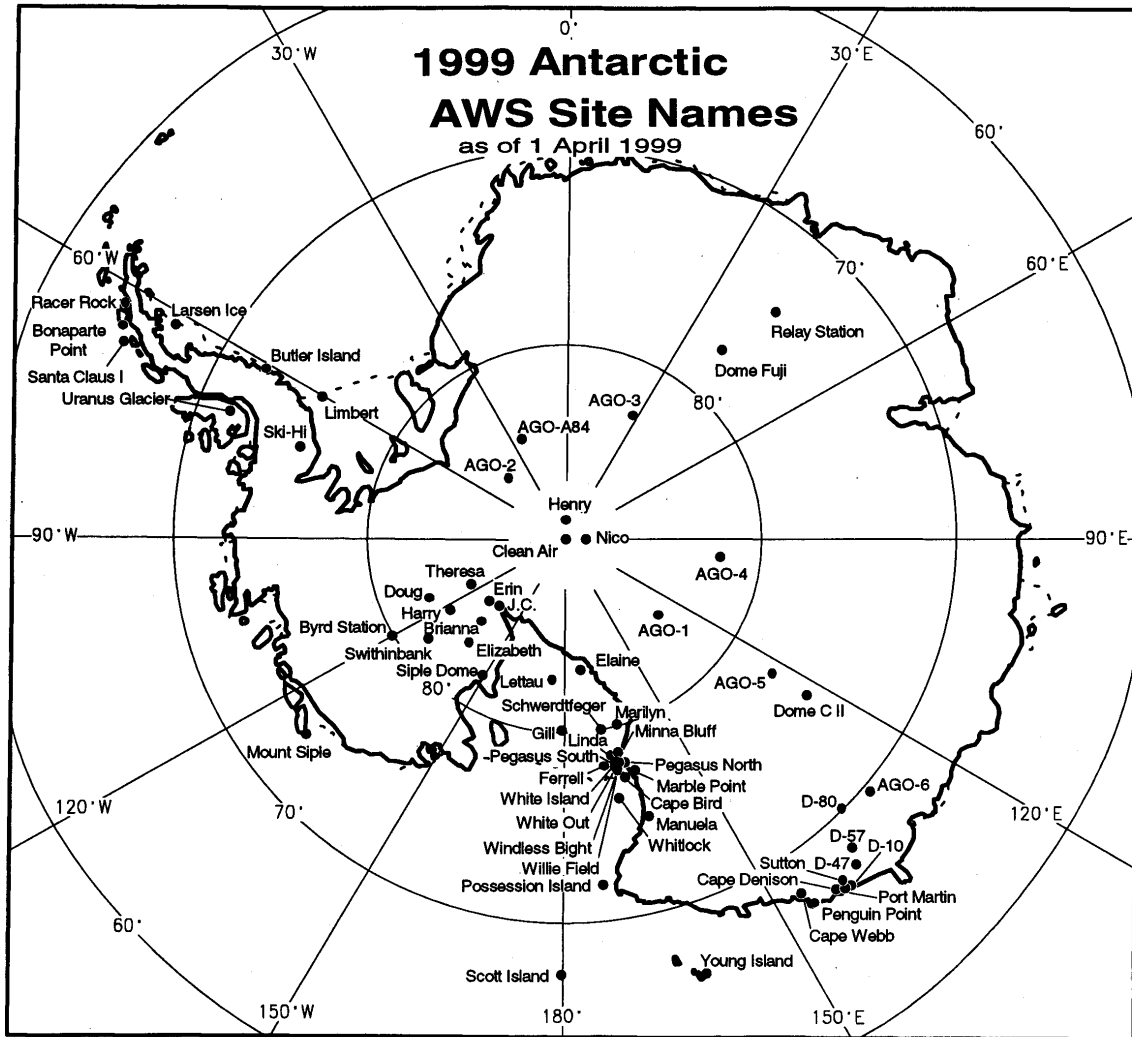


Figure 2. Antarctic automatic weather station locations during 1999 identified by the site name. Area around Ross Island is shown in Figure 3. Adelie Coast area is shown in Figure 4.

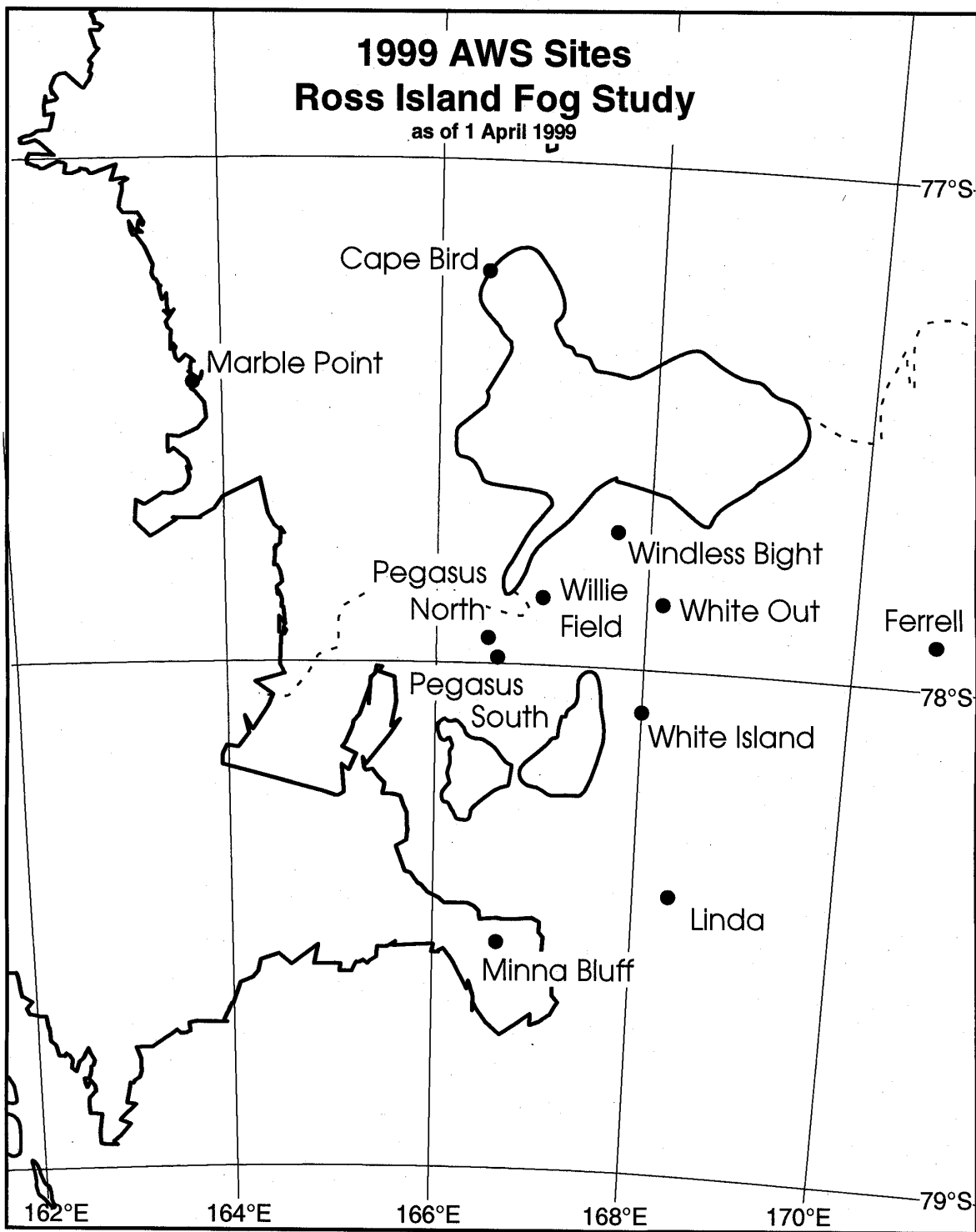


Figure 3. Location of Antarctic automatic weather stations in the vicinity of Ross Island, Antarctica during 1999.

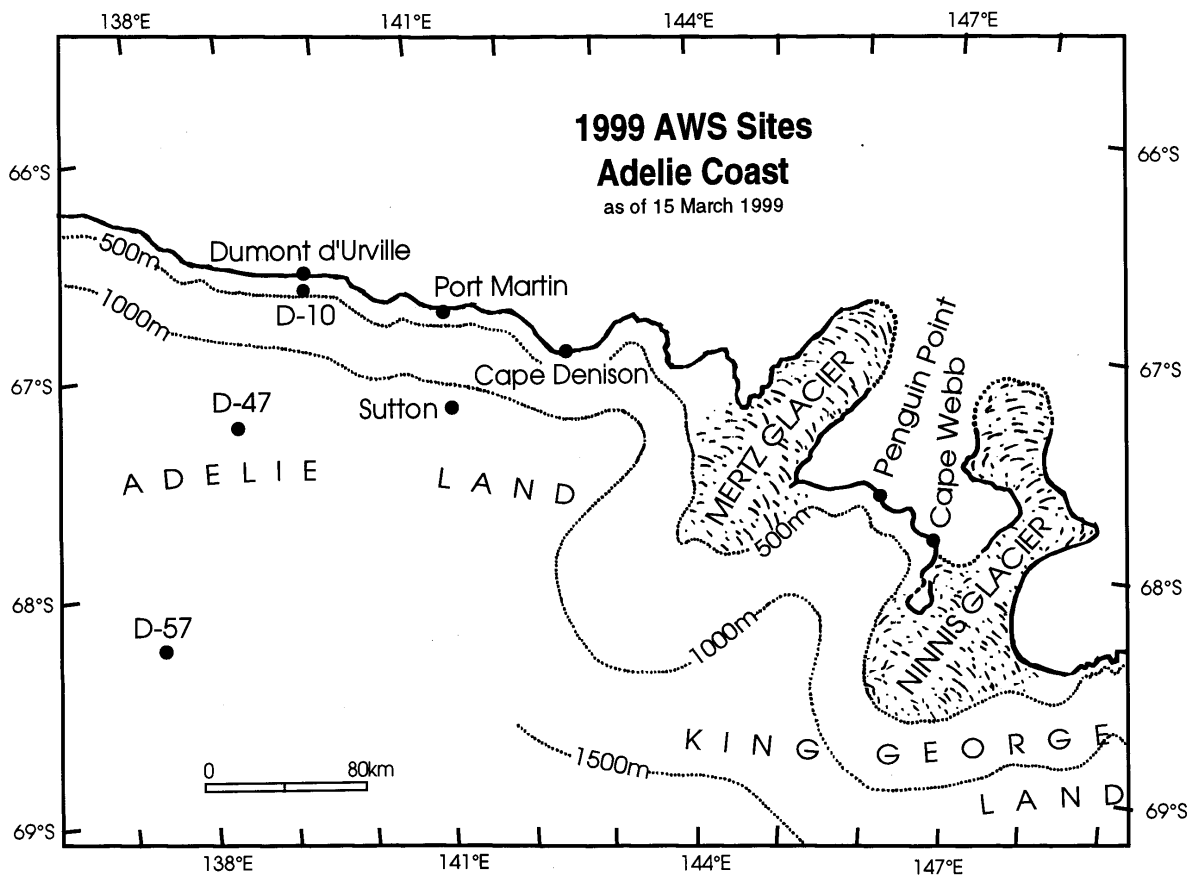


Figure 4. Location of Antarctic automatic weather stations along the Adelie Coast during 1999.

Table 3.2

1999 Antarctic AWS site name, ARGOS identification number (ID), site start date, ID start date, and ID stop date if occurring in 1999.

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 82	11 Feb 96	
D-57	8912	16 Jan 81	20 Jan 99	
Dome C II	8989	12 Dec 95	12 Dec 95	
Port Martin	8930	19 Jan 90	23 Dec 92	
Cape Denison	8907	20 Jan 90	27 Dec 94	17 Dec 99
	8988		17 Dec 99	
Penguin Point	8910	24 Dec 92	21 Dec 98	
Sutton	8939	26 Dec 94	26 Dec 94	
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	
Harry	21355	29 Nov 94	29 Nov 94	26 Jan 99
	8900		26 Jan 99	
Elizabeth	21361	30 Nov 94	17 Jan 96	
Erin	21363	29 Nov 94	18 Jan 96	
Siple Dome	8900	21 Jan 97	21 Jan 97	24 Jan 99
	8938		24 Jan 99	
Swithinbank	21356	18 Jan 97	18 Jan 97	
Marble Point	8906	05 Feb 80	05 Feb 80	
Ferrell	8934	10 Dec 80	13 Jan 93	
Pegasus North	8927	23 Jan 90	23 Jan 90	13 Jan 99
	8928		13 Jan 99	
Pegasus South	8937	14 Jan 91	14 Jan 91	
Minna Bluff	21360	22 Jan 91	26 Jan 98	25 Jan 99
	8935		25 Jan 99	
Linda	8919	21 Jan 91	15 Jan 98	
Willie Field	8901	25 Jan 92	25 Jan 92	04 Dec 98
	8929		16 Jan 99	
Windless Bight	8901	09 Dec 98	09 Dec 98	25 Jan 99
	8927		25 Jan 99	
White Out	8697	01 Dec 98	01 Dec 98	11 Jan 99
White Island	8722	01 Dec 98	01 Dec 98	11 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	
Whitlock	8921	23 Jan 82	23 Feb 94	
Scott Island	8983	25 Dec 87	27 Dec 92	
Young Island	8980	01 Jan 91	01 Jan 91	
Possession Island	8984	29 Dec 92	29 Dec 92	
Marilyn	8931	16 Jan 84	18 Jan 91	
Schwerdtfeger	8913	24 Jan 85	22 Jan 93	
Gill	8911	24 Jan 85	25 Jan 91	
Elaine	8915	23 Jan 93	02 Jan 97	
Lettau	8908	29 Jan 86	29 Jan 86	
Manuela	8905	06 Feb 84	15 Feb 87	
Larsen Ice Shelf	8926	21 Oct 85	01 Jan 86	
Butler Island	8902	01 Mar 86	01 Mar 86	
Uranus Glacier	8920	06 Mar 86	24 Jan 92	
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	
Ski-Hi	8917	21 Feb 94	21 Feb 94	07 Feb 99
Sky-Blu	8917	07 Feb 99	07 Feb 99	
Santa Claus Is.	21364	10 Dec 94	26 Dec 96	21 Jan 99
	8933		07 Dec 99	
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	

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 1999 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.

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
D-10 (8914)			66.71S			139.83E			243 M						
Jan	-5.6	01	3.5	-13.6	7.5	00	145	6.9	0.92	150	24	952.8	00	965.1	941.0
Feb	-8.3	00	3.0	-19.1	10.4	00	154	9.3	0.89	151	33	952.2	00	964.3	932.3
Mar	-14.1	01	-6.8	-23.5	9.5	01	164	8.9	0.94	158	26	952.8	01	970.5	935.9
Apr	-18.5	02	-10.8	-28.8	10.4	16	162	9.8	0.94	154	29	942.3	02	963.1	919.7
May	-20.6	02	-10.4	-35.0	11.3	37	157	10.7	0.95	154	35	945.8	02	959.1	919.9
Jun															
Jul															
Aug															
Sep	-19.1	02	-10.5	-30.2								950.8	02	966.2	930.6
Oct	-14.1	01	-4.4	-26.8	6.9	03	161	5.5	0.79	156	24	942.3	01	978.1	920.4
Nov	-9.0	01	1.2	-19.6	7.9	01	163	6.8	0.85	153	26	946.3	01	959.5	924.1
Dec	-6.0	03	2.4	-13.8	7.1	03	157	6.1	0.85	154	28	945.0	03	959.5	917.0
D-47 (8986)			67.40S			138.73E			1560 M						
Feb					11.4	18	053	10.0	0.88	001	27	808.8	18	817.4	794.3
Mar					10.9	09	068	10.5	0.96	073	21	805.0	09	815.4	791.9
Apr					12.4	73	067	11.8	0.95	046	22	793.0	73	806.8	781.7
May					11.2	67	070	10.6	0.94	036	23	801.8	67	807.8	795.1
Jun					13.6	45	073	12.9	0.95	068	22	810.0	45	823.0	790.9
Jul															
Aug					11.8	35	059	11.0	0.93	032	24	799.3	35	818.3	780.2
Sep															
Oct															
Nov															
Dec					8.7	36	061	7.7	0.88	021	18	805.9	36	813.0	797.8
D-57 (8912)			68.20S			137.54E			2105 M						
Jan	-20.2	62	-13.9	-30.5								753.0	62	760.2	747.3
Feb	-22.1	00	-10.0	-38.5	10.0	24	135	8.9	0.89	102	21	752.1	00	760.3	739.9
Mar	-32.2	01	-19.5	-47.1	10.8	01	157	9.9	0.91	172	22	748.4	01	762.9	731.1
Apr	-37.7	02	-26.2	-52.4	9.8	02	152	8.4	0.85	174	21	736.7	02	755.9	720.3
May	-39.2	36	-24.8	-55.5	11.4	37	148	10.0	0.87	175	44	739.7	36	750.6	720.8
Jun	-36.5	01	-24.6	-52.9	13.4	01	155	12.2	0.91	156	31	754.0	01	765.6	737.5
Jul	-41.0	36	-28.2	-54.0	11.9	36	165	11.0	0.93	153	29	741.8	36	756.0	728.0
Aug															
Sep	-38.7	35	-24.2	-49.6	10.7	40	160	9.8	0.91	133	18	743.2	35	759.8	731.0
Oct	-30.6	01	-14.4	-50.4	7.9	07	156	6.6	0.84	144	18	739.0	01	769.7	718.8
Nov	-24.7	01	-9.6	-40.4	8.7	12	157	7.9	0.91	187	19	745.2	01	758.0	725.1
Dec	-19.8	03	-10.5	-30.4	7.5	03	132	6.3	0.84	143	16	745.4	03	756.5	723.7

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir	vv	Con	Max Wind (dir	vv)	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Dome C II (8989)			75.12S				123.37E				3250 M				
Jan	-29.1	00	-18.0	-44.0	2.9	00	173	1.8	0.61	158	11	653.1	00	661.2	647.2
Feb	-41.4	00	-25.8	-58.2	3.6	00	222	1.4	0.37	084	11	651.2	00	660.7	642.4
Mar	-53.5	00	-37.5	-72.5	3.6	00	223	2.6	0.71	223	11	647.2	00	660.8	634.5
Apr	-64.5	00	-47.5	-77.2	3.8	00	169	2.2	0.59	053	12	638.8	00	653.5	626.4
May	-65.9	00	-46.5	-79.8	3.4	00	191	1.6	0.46	192	11	642.1	00	662.2	624.2
Jun	-60.0	00	-37.9	-73.6	4.0	00	179	2.7	0.68	118	15	661.1	00	677.4	641.5
Jul	-65.7	00	-47.2	-80.2	2.6	00	197	1.2	0.46	136	13	646.6	00	668.1	632.6
Aug	-63.5	02	-46.2	-75.5	2.4	02	181	1.6	0.68	202	9	647.4	02	659.0	630.0
Sep	-61.9	01	-40.8	-77.0	3.8	01	173	3.0	0.81	151	15	647.5	01	663.8	636.9
Oct	-51.7	00	-23.1	-71.6	3.1	00	193	1.2	0.40	357	15	640.3	00	657.7	625.8
Nov	-38.9	00	-21.4	-56.4	3.3	00	192	2.5	0.76	151	11	648.2	00	662.9	634.7
Dec	-31.3	00	-20.2	-44.9	3.0	00	233	1.0	0.33	039	10	645.5	00	655.4	634.4
MEAN	-52.3				3.3		191	1.8	0.57			647.4			
Port Martin (8909)			66.82S				141.40E				39 M				
Dec	-3.1	55	2.8	-10.1	14.2	55	166	13.3	0.93	186	30	980.6	55	990.8	969.5
Cape Denison (8988)			67.01S				142.67E				30 M				
Dec	-2.3	53	3.5	-10.2	15.0	53	155	14.4	0.96	165	33	979.9	53	990.6	969.5
Penguin Point (8910)			67.62S				146.18E				30 M				
Jan	-2.9	02	2.4	-9.0	8.1	02	155	7.7	0.95	150	24	978.3	02	989.3	968.3
Feb	-5.6	02	2.2	-19.1	12.8	01	172	11.7	0.91	187	33	977.6	01	990.5	957.2
Mar	-14.3	01	-3.5	-23.8	13.6	01	181	12.9	0.95	191	38	978.3	01	993.4	957.5
Apr	-17.8	01	-8.1	-31.5	12.1	01	173	10.9	0.90	188	34	966.7	01	986.8	942.8
May	-21.1	02	-10.1	-37.5	12.6	02	172	11.6	0.92	170	44	971.6	02	989.3	950.8
Jun															
Jul	-21.3	15	0.8	-38.1	5.6	15	177	4.8	0.86	188	34	975.3	15	996.6	953.1
Aug	-19.2	04	-1.9	-32.8	7.4	15	163	6.8	0.92	164	35	975.8	04	1000.5	952.3
Sep	-19.7	03	-9.4	-31.0	7.1	23	169	6.3	0.90	167	30	976.5	03	997.1	958.6
Oct	-15.0	02	-1.6	-26.6	6.2	02	179	5.6	0.89	184	28	966.9	02	1004.2	940.9
Nov	-8.6	02	-2.0	-18.0	7.8	02	177	7.1	0.90	194	30	970.3	02	986.2	944.8
Dec	-3.8	03	1.9	-11.8	8.1	02	165	7.6	0.94	150	31	968.3	02	984.8	937.0

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Sutton (8939)			67.08S				141.37E					871 M			
Aug	-27.7	61	-17.8	-35.5								875.9	61	897.5	861.5
Sep	-27.2	01	-17.9	-34.5								876.9	01	893.3	860.0
Oct	-21.3	00	-7.9	-33.8								870.5	00	906.2	845.8
Nov	-15.7	00	-3.4	-26.8								875.4	00	888.9	853.3
Dec	-11.7	01	-5.0	-21.4								875.0	01	888.1	848.0
Byrd (8903)			80.01S				119.40W					1530 M			
Jan	-13.2	00	-5.4	-20.2	4.5	00	027	4.0	0.90	039	16	814.7	00	822.9	804.4
Feb	-22.7	00	-12.6	-42.5	5.2	00	014	4.8	0.94	003	14	813.3	00	820.5	799.8
Mar	-27.0	00	-15.2	-47.8	8.0	00	014	7.8	0.98	008	25	808.7	00	821.9	794.5
Apr	-34.7	00	-19.0	-51.6	6.2	00	359	5.6	0.91	008	16	803.4	00	828.4	787.0
May	-33.8	08	-16.1	-57.1	8.0	08	019	7.6	0.95	010	25	799.1	08	809.2	784.1
Jun															
Jul															
Aug															
Sep															
Oct															
Nov															
Dec	-14.7	00	-5.9	-25.5								805.6	00	818.7	796.3
Mount Siple (8981)			73.20S				127.05W					230 M			
Jan	-2.3	00	2.6	-5.8								954.5	39	965.7	940.5
Feb	-5.1	00	0.8	-10.0								954.0	15	967.1	919.0
Mar	-7.1	00	-1.0	-16.6								950.6	01	965.9	934.4
Apr	-12.7	00	-3.4	-22.2								951.0	00	985.6	934.2
May	-15.7	00	-2.0	-31.5								941.4	00	960.9	919.4
Jun	-13.7	00	-1.5	-25.8								966.2	00	992.3	939.5
Jul	-13.8	00	-2.5	-31.1								954.2	00	986.9	928.9
Aug	-17.6	02	-1.8	-31.1								950.8	02	972.8	922.0
Sep	-11.9	00	-1.8	-27.1								956.5	00	986.2	927.4
Oct	-13.2	01	-1.6	-25.0								935.1	01	958.5	912.9
Nov	-6.5	01	-0.5	-12.4								941.1	10	960.7	912.8
Dec	-3.3	02	2.1	-8.4											
MEAN	-10.2														

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Theresa (21358)			84.60S			115.81W			1463 M						
Jan	-10.9	00	-5.2	-18.5	7.8	00	067	7.3	0.93	085	18	822.8	00	830.1	813.1
Feb	-17.9	00	-9.0	-27.4	8.8	00	070	8.1	0.92	095	18	820.8	00	830.0	806.6
Mar	-21.7	00	-15.2	-30.2	11.3	00	080	11.0	0.97	085	22	816.9	00	828.4	807.3
Apr	-31.0	00	-20.8	-44.1	10.5	00	073	9.7	0.93	087	23	808.9	00	829.5	790.7
May	-27.8	00	-17.9	-43.2	12.9	00	073	12.0	0.93	074	34	809.1	00	825.0	793.8
Jun	-26.6	00	-12.6	-37.4	10.7	00	090	10.4	0.97	066	26	825.9	00	849.9	811.6
Jul	-26.2	00	-12.5	-45.4	10.3	00	089	9.7	0.94	111	26	812.9	00	829.6	797.2
Aug	-30.1	01	-14.8	-45.9	9.4	01	091	8.8	0.95	080	23	810.4	01	826.6	792.5
Sep	-25.6	00	-13.5	-47.1	10.2	00	087	9.6	0.94	090	21	816.0	00	831.7	793.3
Oct	-20.8	00	-12.1	-28.4	12.5	00	091	12.1	0.96	099	28	802.4	00	813.9	790.4
Nov	-16.7	00	-10.1	-24.0	11.2	00	080	10.4	0.93	106	22	813.8	00	826.4	793.2
Dec	-14.0	00	-6.1	-19.2	8.7	00	076	8.0	0.92	105	21	812.4	00	823.8	799.5
MEAN	-22.4				10.4		081	9.7	0.94			814.4			
Doug (8922)			82.32 S			113.24W			1433 M						
Jan	-13.2	12	-6.0	-22.9	6.4	12	096	5.9	0.93	088	15	817.3	12	825.2	807.9
Feb	-21.0	01	-10.6	-37.1	7.9	01	092	7.3	0.92	118	16	815.6	01	823.1	801.6
Mar	-24.6	00	-15.9	-37.1	10.4	00	084	9.3	0.90	360	24	811.4	00	823.4	800.6
Apr	-33.0	00	-22.0	-44.2	8.5	00	079	7.7	0.90	063	19	804.3	00	827.3	786.5
May	-31.4	07	-17.8	-45.1	10.8	07	075	8.4	0.77	358	28	802.2	07	812.9	786.6
Jun															
Jul															
Aug															
Sep															
Oct	-23.3	51	-17.4	-33.8	10.0	51	080	8.8	0.88	104	24	798.5	51	806.7	788.8
Nov	-18.4	02	-11.2	-27.0	10.7	02	096	9.2	0.86	066	24	807.9	02	818.0	791.6
Dec	-14.8	14	-7.0	-23.2	6.1	14	098	4.9	0.81	091	19	806.6	14	818.3	796.1
Elizabeth (21361)			82.61S			137.08W			549 M						
Jan	-8.6	03	-1.1	-17.4	3.9	03	059	3.3	0.83	067	14	923.3	03	931.8	911.6
Feb	-19.2	00	-9.4	-37.6	4.4	00	047	3.6	0.82	057	11	923.6	00	933.0	905.8
Mar	-29.5	00	-14.1	-42.1	5.5	00	053	4.8	0.87	360	18	918.9	00	933.3	898.5
Apr	-34.1	00	-18.1	-47.5	5.9	00	044	4.9	0.84	354	16	914.2	00	945.0	893.3
May	-35.0	00	-13.9	-53.1	7.1	10	061	6.5	0.91	054	30	910.8	00	924.2	893.6
Jun	-34.4	00	-10.1	-50.4	6.0	00	053	5.4	0.90	036	18	932.5	00	958.1	917.7
Jul	-28.9	00	-8.2	-52.5	6.9	21	035	5.7	0.83	347	18	917.7	00	936.5	894.7
Aug	-36.0	73	-24.0	-48.8								913.9	73	926.2	895.9
Sep	-31.4	53	-15.6	-42.9	7.1	59	061	6.8	0.95	050	16	912.6	53	929.1	897.9
Oct	-24.2	00	-9.4	-37.1	6.3	08	063	5.2	0.82	067	15	901.7	00	916.8	880.8
Nov	-12.9	00	-5.6	-26.6	6.8	00	058	6.0	0.89	052	21	911.0	00	923.9	883.0
Dec	-9.8	00	-0.9	-18.5	3.6	00	033	2.2	0.61	030	12	913.9	00	928.3	895.5
MEAN	-25.3											916.2			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Harry (8900)			83.00S			121.39W			945 M						
Feb	-18.8	00	-8.8	-31.6	7.6	00	034	7.4	0.97	046	16	874.5	00	882.8	857.3
Mar	-23.9	00	-13.1	-36.5	9.7	00	032	9.5	0.98	014	23	869.7	00	881.5	857.4
Apr	-31.6	00	-19.0	-41.0	8.3	10	034	7.9	0.95	036	15	863.9	00	891.2	842.3
May	-29.8	00	-14.1	-47.5	10.8	14	037	10.5	0.97	053	26	862.2	00	877.7	845.3
Jun	-30.4	00	-12.8	-43.2	8.7	04	035	8.5	0.98	046	18	881.7	00	905.2	864.9
Jul	-28.0	00	-9.0	-47.6	9.3	29	025	8.5	0.91	012	19	868.1	00	886.4	849.2
Aug	-33.2	01	-17.1	-49.2	8.7	21	032	8.5	0.97	030	22	866.0	01	886.1	845.1
Sep	-25.5	01	-10.2	-39.8	10.8	31	037	10.5	0.97	019	20	870.6	01	886.4	848.0
Oct	-21.2	00	-11.4	-33.1	9.9	00	036	9.4	0.95	068	23	854.2	00	866.6	840.7
Nov	-15.0	00	-7.4	-26.9	9.9	00	035	9.6	0.97	015	26	865.3	00	878.3	843.9
Dec	-11.5	00	-3.9	-18.2	5.9	00	033	5.2	0.88	030	17	865.1	00	878.1	849.7
Erin (21363)			84.90S			128.81W			1006 M						
Jan	-9.3	00	-3.4	-17.4								879.6	00	887.4	870.3
Feb	-17.0	00	-5.8	-29.8								878.7	00	888.1	862.9
Mar	-21.1	00	-12.8	-31.2								874.2	00	886.3	860.9
Apr	-30.4	01	-20.8	-40.8								867.9	01	890.6	845.8
May	-27.1	00	-14.2	-43.4								866.9	00	882.5	850.8
Jun	-27.0	00	-11.9	-38.4								886.3	00	909.9	872.2
Jul	-24.8	17	-12.9	-41.8								871.5	17	888.4	851.0
Aug															
Sep															
Oct	-19.4	32	-14.0	-26.6								860.3	32	872.6	845.3
Nov	-14.5	00	-10.0	-25.4								869.9	00	884.2	846.3
Dec	-11.6	00	-4.2	-16.4								869.2	00	881.6	852.5
Siple Dome (8938)			81.66S			148.77W			620 M						
Jan	-10.5	00	-1.2	-19.5	3.3	00	045	0.7	0.21	355	12	900.3	00	913.1	882.2
Feb	-18.1	00	-6.6	-30.9	2.7	00	227	0.5	0.18	189	9	888.4	00	898.1	870.7
Mar	-25.1	00	-12.4	-40.5	2.6	00	284	0.9	0.35	192	9	883.3	00	897.8	865.9
Apr	-28.4	00	-13.5	-41.2	1.3	06	261	0.3	0.23	085	17	878.5	00	908.8	859.6
May	-32.5	00	-19.2	-47.1								874.2	00	887.8	860.9
Jun	-27.9	00	-9.6	-45.0								896.4	00	922.5	880.2
Jul	-24.9	00	-8.9	-43.0	6.4	52	033	4.2	0.65	338	20	881.7	00	888.2	866.8
Aug	-31.8	01	-18.4	-49.2								879.3	01	903.2	858.0
Sep	-25.2	01	-7.9	-45.5								881.7	00	900.4	859.3
Oct	-24.9	00	-12.0	-39.2								866.2	00	880.9	846.8
Nov	-15.5	00	-7.8	-26.1	4.6	74	063	4.4	0.95	059	17	875.1	00	887.0	846.9
Dec	-12.1	00	-3.5	-21.1	3.7	02	045	1.3	0.34	002	14	879.8	00	893.3	862.9
MEAN	-23.1											882.1			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir	vv	Con	Max Wind (dir	vv)	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Swithinbank (21356)			81.20S			126.17W			945 M						
Jan	-8.0	00	1.6	-14.1	5.8	00	009	5.2	0.90	023	15	873.0	00	881.4	861.6
Feb	-17.0	00	-6.1	-30.4	6.6	00	003	6.2	0.95	002	16	872.3	00	882.1	854.6
Mar	-23.3	00	-12.1	-38.5	9.2	00	003	9.0	0.98	360	27	867.2	00	880.0	853.0
Apr	-27.7	00	-15.5	-41.1	8.0	00	354	7.3	0.92	293	18	862.7	00	892.7	842.5
May	-28.9	00	-13.2	-47.0	10.3	00	009	9.9	0.96	022	24	858.8	00	872.6	842.9
Jun	-30.4	00	-10.4	-43.5	9.5	00	001	9.0	0.95	360	22	879.7	00	904.3	864.2
Jul	-25.9	00	-6.8	-51.0	9.3	00	352	8.5	0.91	360	21	867.1	00	885.2	846.5
Aug	-31.5	01	-13.6	-47.5	9.7	01	001	9.2	0.95	004	24	863.9	01	884.4	844.4
Sep	-23.1	01	-7.6	-35.6	10.0	01	355	9.1	0.91	001	21	868.1	01	887.2	846.2
Oct	-21.2	00	-9.4	-31.4	8.9	00	009	8.4	0.94	008	18	851.1	00	864.7	834.7
Nov	-12.4	00	-5.9	-23.1	9.3	00	010	8.8	0.95	004	25	861.4	00	873.1	838.3
Dec	-9.2	00	-0.8	-19.8	4.3	00	350	3.4	0.77	011	16	863.7	00	877.6	849.6
MEAN	-21.6				8.4		002	7.8	0.92			865.8			
Marble Point (8906)			77.44S			163.76E			120 M						
Jan	-2.1	33	3.5	-7.8	2.9	33	120	1.1	0.38	112	12	977.2	33	987.9	969.2
Feb	-8.5	00	1.1	-18.4	4.7	00	140	4.2	0.88	158	15	980.1	00	992.3	960.7
Mar	-17.3	00	-6.5	-25.0	3.6	00	154	3.1	0.84	147	13	977.9	00	993.7	963.7
Apr	-24.2	00	-9.9	-33.4	4.2	00	154	3.7	0.87	133	22	974.3	00	995.4	950.6
May	-25.9	00	-10.1	-38.5	2.8	00	166	1.9	0.67	111	22	972.3	00	984.4	957.8
Jun	-21.6	00	-7.1	-34.9	4.1	00	152	3.3	0.81	115	18	992.1	00	1014.0	963.5
Jul	-21.1	00	-8.1	-34.0	4.7	00	161	3.8	0.80	132	22	972.4	00	992.6	948.3
Aug	-27.8	01	-11.6	-41.1	2.4	01	175	1.5	0.63	142	16	977.2	01	1000.2	958.1
Sep	-20.6	01	-1.5	-35.8	3.6	01	158	2.7	0.74	149	21	975.6	01	995.3	957.8
Oct	-16.2	00	-4.0	-31.1	3.3	00	179	2.1	0.62	185	28	959.1	00	973.3	938.8
Nov	-7.4	00	1.1	-18.4	3.4	00	155	2.0	0.59	130	16	965.2	00	983.3	941.3
Dec	-3.3	00	1.6	-9.2	2.9	00	023	0.2	0.07	151	12	967.3	00	981.1	949.5
MEAN	-16.3				3.6		155	2.4	0.66			974.2			
Ferrell (8934)			77.93S			170.82E			45 M						
Jan	-6.7	64	-1.6	-12.6	5.8	64	215	5.2	0.89	198	14	983.1	64	989.5	976.4
Feb	-14.6	00	-4.6	-31.2	4.2	00	201	2.9	0.70	222	14	987.4	00	999.9	968.7
Mar	-21.3	56	-9.8	-34.4	5.4	56	197	3.8	0.71	220	16	981.9	56	1000.7	967.8

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Pegasus North (8928)			77.95S			166.51E			10 M						
Jan	-4.2	00	3.4	-13.2	5.1	00	117	2.4	0.47	192	22	988.7	62	997.4	977.2
Feb	-12.4	01	-0.8	-23.2	3.8	01	082	2.7	0.73	150	16				
Mar	-23.2	02	-8.5	-37.5	3.5	02	076	2.6	0.74	147	18				
Apr	-28.0	40	-9.6	-42.4	4.5	40	098	2.7	0.60	185	25				
May	-28.1	57	-9.0	-47.6	4.8	57	119	2.4	0.50	181	28				
Jun	-25.5	31	-9.0	-44.1	5.9	31	112	2.9	0.49	181	31				
Jul	-21.1	25	-8.8	-42.2	8.9	25	156	5.5	0.62	201	35				
Aug	-28.9	61	-13.8	-47.2	3.7	61	109	1.7	0.46	178	27				
Sep	-23.7	12	-8.1	-36.5	6.8	12	141	3.8	0.56	184	31				
Oct	-20.8	01	-9.4	-36.8	4.3	06	098	1.7	0.40	180	25				
Nov	-10.7	23	-2.0	-26.9	6.3	23	146	3.9	0.62	192	29				
Pegasus South (8937)			77.99S			166.58E			10 M						
Jan	-4.1	01	2.4	-11.8								989.9	01	1002.4	976.7
Feb	-12.0	01	-2.4	-23.6								995.5	01	1007.2	976.1
Mar	-22.9	02	-8.1	-36.5								993.6	02	1009.8	978.3
Apr	-30.0	01	-9.8	-43.5								990.5	01	1014.3	966.6
May	-33.1	01	-10.0	-49.9								988.3	01	1000.1	968.6
Jun	-28.5	01	-8.1	-43.2								1008.5	01	1032.7	979.4
Jul	-24.7	00	-8.1	-43.8								988.3	00	1009.3	961.1
Aug	-36.6	01	-13.5	-51.4								993.6	01	1017.8	974.6
Sep	-24.6	02	-7.8	-47.2								991.6	02	1010.2	973.6
Oct	-20.1	01	-8.1	-37.0								974.6	01	989.6	953.9
Nov	-9.4	00	-1.6	-26.1								980.4	00	998.8	957.0
Dec	-5.4	00	1.9	-14.1								981.8	00	996.3	963.3
MEAN	-21.0											989.7			
Minna Bluff (8935)			78.55S			166.66E			920 M						
Jan	-10.5	00	-2.4	-16.6								880.1	07	892.7	864.6
Feb	-15.8	00	-9.0	-24.4	3.2	07	196	2.6	0.82	198	22	881.9	00	892.2	865.1
Mar	-23.0	00	-14.5	-33.9	4.2	00	206	2.4	0.58	202	32	878.6	00	894.1	858.4
Apr	-29.0	00	-16.5	-37.5	5.5	03	202	3.8	0.68	209	22	875.3	00	897.7	855.0
May	-28.6	00	-16.1	-39.8	6.8	01	201	5.7	0.84	206	28	872.6	00	885.5	854.0
Jun	-25.3	00	-10.8	-35.9	6.7	27	201	5.7	0.86	192	27	891.5	00	916.0	863.4
Jul	-27.5	00	-16.2	-37.4	8.6	35	203	7.0	0.82	210	35	873.6	00	891.4	849.0
Aug	-29.0	01	-18.2	-41.5	6.7	46	200	6.0	0.89	205	26	876.9	01	896.8	858.2
Sep	-25.4	01	-14.8	-39.9	13.1	58	198	12.6	0.96	187	33	876.2	01	895.5	854.0
Oct	-21.3	00	-8.1	-33.0	6.9	02	200	6.0	0.87	206	27	861.2	00	875.9	838.8
Nov	-14.8	00	-7.6	-25.0	4.7	09	189	2.9	0.63	233	29	867.4	00	885.3	844.9
Dec	-9.4	00	-3.5	-16.2	3.0	13	240	1.1	0.38	212	25	870.0	00	882.4	853.9
MEAN	-21.6											875.4			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Linda (8919)			78.48S			168.38E			50 M						
Jan	-6.2	00	0.6	-13.4	6.7	00	194	5.8	0.86	206	19	964.6	00	976.6	951.6
Feb	-14.2	00	-6.0	-23.6	5.3	00	192	4.2	0.79	195	20	969.5	00	981.6	951.5
Mar	-25.7	00	-13.6	-38.8	5.9	00	192	4.7	0.79	199	21	966.7	00	982.6	949.9
Apr	-32.9	00	-14.9	-48.6	7.2	00	197	6.0	0.83	198	24	963.1	00	987.1	940.3
May	-33.5	00	-12.0	-51.8	7.5	00	202	6.2	0.82	198	28	960.3	00	973.7	943.4
Jun	-31.0	00	-13.1	-47.1	6.9	00	194	6.0	0.87	202	27	981.0	00	1006.0	951.4
Jul	-27.8	00	-12.9	-48.1	14.0	23	199	13.7	0.98	196	33	960.7	00	981.3	935.9
Aug	-37.4	01	-16.9	-54.1	8.5	55	196	8.2	0.97	199	24	965.4	01	989.5	946.9
Sep	-26.6	01	-10.6	-47.0	13.1	36	197	13.0	0.99	206	30	963.8	01	982.7	946.2
Oct															
Nov															
Dec	-6.7	00	1.5	-14.5	4.4	00	203	2.7	0.61	212	19	956.8	00	971.1	938.7
Willie Field (8929)			77.87S			167.02E			20 M						
Jan	-4.3	49	2.6	-12.0	3.3	49	081	1.7	0.51	178	14	990.2	49	999.4	982.6
Feb	-11.7	00	-1.1	-25.5	3.5	00	072	2.6	0.76	178	15	991.9	00	1003.7	973.0
Mar	-22.2	00	-8.0	-37.1	3.4	00	064	2.7	0.80	164	14	989.6	00	1005.6	975.0
Apr	-29.6	00	-9.1	-44.1	2.5	00	076	1.6	0.66	153	19	986.5	00	1010.9	962.3
May	-31.8	00	-8.2	-49.2								984.1	00	996.6	967.7
Jun	-28.1	00	-9.2	-45.9	2.2	00	105	1.3	0.57	172	20	1004.3	00	1030.0	975.0
Jul	-24.9	00	-8.5	-46.9	5.3	00	134	3.0	0.58	181	28	984.3	00	1004.8	959.4
Aug	-36.0	01	-13.6	-52.8	0.2	01	037	0.1	0.48	082	11	989.2	01	1013.9	970.2
Sep	-24.3	01	-7.4	-48.0	3.2	01	137	1.8	0.56	180	26	987.4	01	1006.1	969.1
Oct	-20.0	00	-8.8	-37.6	3.5	00	085	1.5	0.41	168	18	970.3	00	985.3	949.1
Nov	-8.8	00	0.8	-28.8	4.4	00	131	2.5	0.57	174	22	976.7	00	996.0	952.8
Dec	-5.1	01	1.6	-13.9	2.7	00	065	1.1	0.41	208	13	979.0	00	993.2	960.0
MEAN	-20.6											986.1			
Windless Bight (8927)			77.73S			167.70E			61 M						
Jan	-3.9	00	4.9	-15.6	2.3	00	316	0.3	0.15	260	11	986.4	00	997.9	974.3
Feb	-11.8	00	1.2	-31.0	2.3	00	064	1.3	0.56	102	8	992.6	00	1003.4	972.1
Mar	-22.6	00	-6.9	-36.0	2.2	00	062	1.2	0.56	092	10	991.0	00	1007.2	976.0
Apr	-29.7	00	-7.2	-45.1	2.2	00	055	1.4	0.61	074	10	988.0	00	1012.8	963.7
May	-30.8	00	-7.9	-51.0	2.3	00	045	0.9	0.40	092	11	985.6	00	998.7	971.4
Jun	-27.9	00	-9.4	-45.9	2.1	00	061	1.3	0.61	167	14	1006.1	00	1032.5	976.1
Jul	-25.1	00	-8.6	-47.9	2.8	00	051	0.9	0.31	198	22	986.4	00	1006.1	963.1
Aug	-36.1	01	-11.8	-53.2	1.5	01	010	0.6	0.41	293	10	990.6	01	1015.4	971.5
Sep	-24.3	01	-7.9	-46.6	2.7	01	045	0.5	0.18	203	19	989.3	01	1008.7	970.5
Oct	-19.7	00	-6.6	-40.1	2.4	00	019	0.7	0.29	212	14	972.0	00	987.2	950.9
Nov	-8.4	00	3.5	-25.9	2.4	00	354	0.6	0.24	189	10	977.9	00	996.8	954.3
Dec	-4.5	00	3.2	-14.4	1.5	00	005	0.5	0.31	023	9	978.7	00	992.9	961.0
MEAN	-20.4				2.2		043	0.8	0.39			987.1			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
White Out (8697)			77.87S			168.16E			30 M						
Jan	-3.7	68	1.5	-9.8	3.9	69	215	2.0	0.50	202	15	981.9	68	991.4	973.8
White Island (8722)			78.09S			168.01E			30 M						
Jan	-3.5	68	0.9	-7.6	5.3	68	199	3.3	0.63	198	18	978.3	68	988.0	967.9
Herbie Alley (8697)			78.10S			166.67E			30 M						
Jan	-5.6	35	1.9	-13.8	3.0	35	218	0.9	0.31	223	14	987.1	35	997.8	978.8
Feb	-11.9	00	-0.5	-24.0	3.6	00	131	1.8	0.49	143	16	992.6	00	1005.0	971.0
Mar	-22.7	00	-7.9	-36.1	3.3	00	123	1.2	0.37	172	20	990.6	13	1007.3	974.8
Apr	-29.8	00	-8.4	-44.5	4.0	00	159	2.3	0.56	208	27	985.0	58	1010.9	964.9
May	-32.9	00	-10.0	-51.4	3.3	00	161	1.2	0.36	164	32				
Jun	-28.4	00	-8.4	-45.2	4.1	00	170	1.9	0.48	191	32	1006.6	52	1029.5	975.5
Jul	-24.7	00	-8.4	-46.0	7.6	00	180	5.7	0.76	177	37	979.5	36	997.7	954.9
Aug	-36.3	01	-12.5	-52.8	2.5	01	181	0.5	0.18	206	32				
Sep	-24.2	01	-6.8	-49.5	6.6	01	173	4.3	0.65	175	33	986.4	23	1007.3	970.4
Oct	-19.3	00	-7.6	-35.6	5.2	04	167	2.4	0.47	205	34	971.3	01	986.6	950.9
Nov	-9.0	00	-0.2	-25.9	7.2	00	172	5.3	0.73	203	30	977.3	01	996.3	954.0
Dec	-5.2	00	1.6	-13.9	3.7	00	120	1.0	0.26	178	17	980.0	03	994.4	962.1
MEAN	-20.8				4.5		167	2.2	0.47						
Cape Spencer (8722)			77.97S			167.55E			30 M						
Jan	-5.5	35	1.9	-13.1	4.1	35	205	2.1	0.50	202	17	983.7	35	995.0	974.5
Feb	-12.8	01	-1.2	-25.2	3.8	01	117	1.9	0.49	164	16	989.1	01	1000.6	968.3
Mar	-23.2	00	-9.2	-36.4	3.9	00	122	1.7	0.44	199	22	988.7	00	1004.7	971.7
Apr	-31.0	00	-8.0	-46.2	4.2	00	127	1.0	0.23	233	24	986.9	00	1010.4	963.5
May	-33.1	00	-10.1	-55.0	3.3	00	242	0.5	0.14	216	22	984.8	00	995.5	966.5
Jun	-29.6	00	-9.6	-50.4	4.4	00	135	1.4	0.31	205	26	1004.6	00	1029.6	973.8
Jul	-26.2	00	-8.9	-53.0	5.8	00	210	2.7	0.47	219	36	983.9	00	1006.4	954.2
Aug	-37.1	01	-12.9	-58.9	1.9	01	177	0.3	0.16	212	30	990.5	01	1016.7	970.5
Sep	-24.9	08	-8.2	-49.2	5.4	08	186	2.1	0.39	225	33	987.2	08	1005.5	969.0
Oct															
Nov															
Dec	-4.8	49	3.9	-14.5	3.5	48	219	1.4	0.41	220	15	979.0	48	989.6	969.6

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Cape Bird (8901)			77.22S			166.43 E			70 M						
Feb	-4.9	02	1.9	-11.4	3.8	02	048	0.9	0.23	227	21	988.8	03	1003.2	969.0
Mar	-13.4	04	-4.2	-23.8	4.7	04	086	1.1	0.23	197	29				
Apr	-20.5	01	-6.4	-28.9	3.8	01	059	1.9	0.49	035	21				
May	-23.8	01	-8.1	-36.1	4.0	01	058	1.1	0.28	199	23				
Jun	-19.3	03	-5.8	-29.4	4.2	03	052	1.9	0.46	204	33				
Jul	-17.8	00	-5.1	-29.5	5.7	00	070	2.4	0.41	196	33				
Aug	-26.1	01	-8.5	-37.8	3.1	01	121	0.7	0.22	196	30	995.5	71		
Sep	-19.4	02	-5.1	-34.8	5.0	02	121	1.0	0.20	189	37	995.9	71	1003.1	
Oct	-14.9	01	-6.8	-23.4	4.5	01	054	0.6	0.14	182	27				
Nov	-5.8	02	3.9	-14.2	5.1	02	115	0.6	0.11	196	29				
Dec	-2.4	01	2.2	-6.8	4.4	01	358	0.8	0.19	224	24				
Scott Island (8983)			67.37S			179.97W			30 M						
Jan	-1.4	03	2.1	-6.1								980.8	03	994.3	966.1
Feb	-0.8	01	2.6	-4.4								981.2	01	1012.7	945.2
Mar	-2.5	28	1.4	-10.6								979.3	28	1001.2	946.9
Possession Is (8984)			71.89S			171.21E			30 M						
Jan	1.4	17	7.2	-2.9								977.5	16	988.0	969.6
Feb	-1.7	01	3.5	-6.2								978.9	00	998.7	955.7
Mar	-9.1	00	1.9	-18.6								976.1	00	991.6	959.2
Apr	-17.4	01	-6.4	-25.0								971.9	01	987.8	950.0
May	-22.4	01	-13.2	-31.1								972.9	01	990.2	960.7
Jun	-16.9	01	-5.6	-31.8								988.2	01	1005.3	960.8
Jul	-17.4	01	-7.6	-28.1								972.1	01	992.0	951.5
Aug	-22.8	02	-13.6	-32.4								977.8	02	1005.3	960.6
Sep	-18.0	02	-5.2	-28.0								975.3	02	1000.3	960.6
Oct	-13.9	11	-3.6	-22.8								960.4	11	984.0	944.5
Nov	-3.9	28	5.2	-14.2								965.9	28	983.6	943.7
Dec	1.0	29	7.9	-5.5								968.8	28	984.4	945.0
MEAN	-11.8											973.8			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir	vv	Con	Max Wind (dir	vv)	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Manuela (8905)			74.95S				163.69E				80 M				
Jan	-3.2	00	4.2	-10.0								979.9	00	992.1	969.8
Feb	-11.3	00	-1.0	-21.5								983.3	00	998.4	963.0
Mar	-20.9	00	-11.1	-30.2								981.0	00	997.1	964.4
Apr	-25.9	00	-12.4	-36.5								977.3	00	998.1	952.5
May	-27.9	00	-16.2	-40.6								975.5	00	990.0	961.5
Jun	-23.7	00	-8.9	-35.6								995.3	00	1017.1	964.6
Jul	-24.9	00	-14.8	-34.4								975.2	00	996.6	950.6
Aug	-27.7	01	-14.8	-38.8								980.1	01	1005.2	958.6
Sep	-24.4	01	-8.4	-34.6								979.1	01	1001.2	961.1
Oct	-18.9	00	-2.9	-30.6								962.6	00	982.5	941.8
Nov	-9.5	00	-0.8	-20.4								969.3	00	988.1	942.1
Dec	-5.2	00	1.2	-13.0								971.5	00	986.8	953.3
MEAN	-18.6											977.5			
Marilyn (8931)			79.95S				165.13E				75 M				
Jan	-5.9	00	1.1	-13.1	3.7	00	204	2.9	0.78	188	14	981.4	00	993.7	971.6
Feb	-16.3	00	-4.6	-34.6	3.3	00	255	2.3	0.70	232	9	985.7	00	997.1	967.2
Mar	-26.8	00	-12.4	-39.1	5.4	00	269	4.5	0.83	255	15	982.8	00	1000.3	968.4
Apr	-34.5	00	-18.4	-51.2	5.7	00	258	5.0	0.88	256	20	979.7	00	1007.1	955.6
May	-32.6	00	-10.1	-53.0	7.3	00	256	6.1	0.84	163	21	976.9	00	991.0	962.8
Jun	-31.6	00	-12.1	-50.8	6.2	05	248	5.2	0.84	253	22	997.6	00	1025.1	963.2
Jul	-28.6	00	-10.9	-43.9	7.1	00	244	5.6	0.79	269	17	978.5	00	998.3	956.4
Aug	-36.0	01	-18.6	-54.8	6.8	01	258	5.9	0.86	259	23	981.6	01	1007.0	961.6
Sep	-26.2	00	-8.6	-39.9	6.8	00	238	5.4	0.80	253	21	981.6	01	1000.8	960.9
Oct	-22.5	00	-10.6	-33.9	7.0	02	246	5.6	0.79	156	22	963.7	00	979.5	939.1
Nov	-12.1	00	-4.0	-26.0	5.1	00	212	4.1	0.81	193	15	971.0	00	990.7	944.6
Dec	-7.7	00	-0.5	-16.8	2.9	00	241	1.5	0.52	204	14	972.7	00	986.6	952.8
MEAN	-23.4				5.6		246	4.3	0.79			979.4			
Schwerdfeger (8913)			79.90S				169.97E				60 M				
Jan	-8.1	00	-1.8	-16.1	4.7	00	190	3.8	0.80	175	13	979.2	00	991.8	966.7
Feb	-19.4	00	-7.2	-36.5	3.2	00	230	2.3	0.72	226	10	984.0	00	996.3	966.4
Mar	-30.9	00	-14.4	-43.1	4.5	00	252	3.1	0.70	257	14	981.1	00	998.2	964.3
Apr	-38.6	00	-21.6	-54.8	5.1	00	235	3.9	0.77	270	16	977.7	00	1003.6	953.6
May	-37.5	00	-12.8	-57.6	6.0	00	237	4.7	0.78	262	18	974.6	00	987.2	957.2
Jun	-38.4	00	-13.9	-54.8	3.9	00	224	2.4	0.63	261	16	995.6	00	1023.4	962.7
Jul	-32.0	00	-12.6	-50.1	5.8	00	216	4.3	0.74	180	16	975.5	00	995.0	951.8
Aug	-42.0	01	-19.1	-61.9	4.6	01	242	3.5	0.75	247	17	979.6	01	1005.2	958.9
Sep	-30.5	00	-11.4	-44.5	6.2	00	217	4.9	0.80	167	17	978.3	00	996.9	957.7
Oct	-26.4	00	-12.9	-38.0	5.9	07	229	4.5	0.77	149	19	960.8	00	975.8	936.0
Nov	-14.4	00	-5.8	-30.0	5.5	00	198	4.2	0.78	182	20	967.9	00	985.9	941.6
Dec	-8.8	01	0.1	-17.1	3.2	00	220	1.5	0.47	217	14	970.8	00	984.7	952.1
MEAN	-27.3				4.9		224	3.4	0.73			977.1			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)	
Gill (8911)			79.99S			178.61W			55 M						
Jan	-8.9	00	-0.9	-18.8	3.5	00	204	2.0	0.56	170	9	980.7	00	992.7	965.1
Feb	-19.2	00	-7.1	-36.4	3.3	00	231	2.1	0.64	219	12	985.8	00	998.1	972.1
Mar	-34.2	00	-19.1	-48.2	3.3	00	245	2.4	0.71	270	11	983.1	00	998.9	963.5
Apr	-40.4	00	-22.4	-50.9	3.9	00	218	2.8	0.72	156	13	978.7	00	1001.7	957.3
May	-43.0	00	-20.9	-56.0	2.3	04	239	1.7	0.75	259	15	975.1	00	986.1	957.6
Jun	-40.0	00	-10.8	-54.9	3.8	26	213	3.1	0.83	200	13	997.3	00	1024.4	973.6
Jul	-31.9	00	-10.9	-51.4	6.4	30	197	4.7	0.73	190	20	976.1	00	996.8	951.5
Aug	-43.6	01	-23.8	-61.4								980.8	01	1003.6	956.8
Sep	-31.7	01	-9.0	-46.5								977.8	01	995.1	955.3
Oct	-27.8	00	-13.8	-40.2								962.6	01	976.2	942.8
Nov	-15.7	00	-7.8	-27.0	5.7	58	204	4.9	0.86	211	17	968.8	00	981.1	941.7
Dec	-9.4	00	-1.2	-16.9	3.7	00	234	2.0	0.53	173	10	973.6	00	987.4	953.8
MEAN	-28.8											978.4			
Lettau (8908)			82.52S			174.45W			55 M						
Jan	-7.5	66	0.2	-16.5	3.3	66	130	3.0	0.89	123	9	983.6	65	995.4	974.6
Feb	-18.3	05	-6.4	-36.1	3.4	05	163	2.6	0.76	171	14	987.2	05	999.0	971.7
Mar	-32.5	00	-18.2	-45.0	3.3	00	178	1.8	0.54	271	12	983.8	00	1001.2	966.3
Apr	-40.1	00	-19.9	-54.2	3.9	00	177	2.6	0.67	278	13	980.4	00	1010.0	957.7
May	-38.9	00	-14.1	-53.5	4.3	00	162	3.0	0.70	133	20	976.4	00	989.0	960.9
Jun	-38.5	00	-10.0	-54.6	3.5	07	174	2.5	0.72	125	14	999.4	00	1027.4	973.4
Jul	-32.4	00	-12.5	-53.2	5.6	00	153	3.7	0.66	337	26	979.1	00	997.3	951.0
Aug	-41.7	01	-19.8	-60.9	5.4	58	159	4.5	0.84	139	16	981.8	01	1008.5	958.8
Sep	-28.8	01	-9.0	-44.9	7.0	21	145	6.3	0.90	136	19	981.1	01	997.6	958.5
Oct	-25.1	00	-9.6	-38.1	4.7	01	156	3.7	0.79	130	15	964.1	00	979.5	939.7
Nov	-13.4	60	-7.2	-25.5	6.8	60	145	6.1	0.90	144	21	966.9	60	984.3	939.8
Dec	-6.6	67	0.6	-11.1	3.0	67	159	1.2	0.40	153	10	978.4	67	987.0	958.2
MEAN	-27.0				4.5		155	3.3	0.73			980.2			
Elaine (8915)			83.13S			174.17E			60 M						
Jan	-4.4	00	2.0	-15.0	4.3	00	128	3.9	0.89	119	20	986.3	00	997.7	976.4
Feb	-16.2	00	-3.5	-36.1	2.4	00	140	1.3	0.56	113	13	990.8	00	1000.5	974.0
Mar	-26.5	00	-10.4	-45.0	3.1	00	140	1.5	0.49	112	16	988.0	00	1005.1	973.8
Apr	-37.8	00	-16.6	-55.6	1.3	00	147	0.9	0.68	202	16	985.0	00	1015.1	961.4
May	-32.2	00	-8.8	-51.4	3.3	00	141	2.3	0.70	109	27	981.9	00	995.9	966.0
Jun	-35.5	00	-7.2	-56.8	2.4	00	135	1.7	0.69	109	17	1003.7	00	1030.8	977.5
Jul	-29.0	00	-9.1	-55.5	3.3	01	131	2.6	0.77	136	24	984.7	00	1004.0	954.9
Aug	-36.9	01	-13.4	-60.6	3.9	01	143	2.6	0.66	109	20	986.7	01	1013.9	963.8
Sep	-25.7	00	-7.6	-43.2	5.1	01	140	3.8	0.74	109	20	987.7	00	1005.6	963.8
Oct	-19.9	00	-8.1	-36.8	5.2	00	137	3.7	0.71	109	28	969.2	00	984.8	944.6
Nov	-9.8	00	-2.2	-26.5	5.6	00	121	4.8	0.85	109	27	976.8	00	995.3	946.2
Dec	-6.3	01	-0.8	-15.4	2.8	00	127	1.6	0.57	113	18	977.1	00	989.3	953.1
MEAN	-23.4				3.6		134	2.5	0.69			984.8			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir	vv	Con	Max Wind (dir	vv)	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Larsen Ice Shelf (8926)			66.95S			60.91W			17 M						
Jan	-0.9	02	7.1	-11.9	4.2	02	352	0.2	0.05	151	16	981.5	02	995.2	965.2
Feb	-3.6	04	3.1	-18.6	4.8	03	166	1.2	0.25	178	18	978.4	03	997.3	950.2
Mar	-10.9	01	-0.6	-26.9	4.4	07	159	0.7	0.16	191	14	988.1	01	1006.2	964.0
Apr	-16.2	02	6.0	-32.8	4.1	02	206	0.9	0.23	271	22	978.9	02	1001.3	963.0
May	-19.7	01	3.2	-35.8	1.8	01	238	0.5	0.25	250	24	985.1	01	1013.4	956.3
Jun	-19.2	60	-6.1	-33.2	0.5	60	270	0.4	0.68	234	8	988.3	60	1009.0	967.2
Jul															
Aug															
Sep	-20.1	06	-1.4	-43.4	4.5	18	198	2.7	0.59	206	18	985.4	06	1006.7	960.4
Oct	-8.0	03	4.9	-32.0	4.5	03	228	1.5	0.33	198	16	974.2	03	1005.5	928.1
Nov	-6.1	04	5.1	-21.2	4.2	04	109	0.1	0.02	043	14	978.9	04	1004.3	956.1
Dec	-1.4	05	6.6	-15.6	4.3	04	317	0.6	0.15	192	13	973.7	04	990.7	953.1
Butler Island (8902)			72.21S			60.17W			91 M						
Jan	-1.8	10	7.0	-12.1	4.9	10	190	2.3	0.47	191	18	985.6	10	998.9	974.2
Feb	-7.8	12	1.8	-17.5	6.4	12	185	5.2	0.81	188	18	986.5	12	1002.2	971.9
Mar	-17.7	06	-9.1	-25.9	4.9	07	191	3.4	0.69	184	24	994.1	07	1007.7	981.5
Apr	-21.3	01	-6.8	-31.8	4.8	02	202	3.0	0.63	182	15	983.3	02	998.0	964.9
May	-20.3	00	6.9	-33.5	4.8	00	218	1.9	0.40	203	27	987.3	00	1012.4	967.5
Jun	-24.1	00	0.9	-36.2	6.8	09	194	5.3	0.78	185	26	992.7	00	1005.6	966.7
Jul	-27.2	00	-8.5	-36.5	6.6	16	195	4.6	0.69	178	21	975.6	00	1000.6	935.6
Aug	-24.8	02	-7.4	-41.2	4.6	03	208	3.2	0.70	181	23	971.0	02	997.5	935.1
Sep	-19.7	01	-0.5	-34.0	6.6	01	208	4.2	0.62	264	29	974.6	01	994.3	947.2
Oct	-8.1	01	8.0	-23.6	5.3	01	227	2.3	0.45	201	27	962.3	02	988.4	927.6
Nov	-7.8	03	0.6	-19.5	4.6	03	197	0.7	0.16	184	18	970.3	03	988.6	956.0
Dec	-2.8	07	7.2	-10.9	3.6	04	187	1.7	0.47	219	15	963.7	04	975.4	938.2
MEAN	-15.3				5.3		199	3.1	0.57			978.9			
Limbert (8925)			75.42S			59.95W			40 M						
Mar	-23.9	14	-12.0	-36.5	1.8	14	183	1.2	0.67	187	11	992.9	14	1004.7	978.5
Apr	-28.6	10	-17.9	-43.2	1.1	10	213	0.9	0.80	216	10	981.7	10	994.9	968.1
May	-30.6	35	-20.9	-41.8	0.3	35	220	0.1	0.43	220	13	986.1	35	1009.5	972.6
Jun	-39.4	43	-24.5	-52.0	0.7	43	212	0.6	0.79	205	7	999.9	43	1014.2	969.8
Jul	-40.1	38	-28.2	-52.5	0.1	38	312	0.0	0.41	206	6	990.6	38	1011.1	971.6

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Racer Rock (8947)			64.07S			61.61W			17 M						
Jan	1.4	11	6.5	-1.4	5.5	10	027	1.8	0.33	071	24	986.1	10	1000.9	970.3
Feb	1.1	13	5.1	-1.1	6.1	12	052	3.7	0.60	052	27	980.7	12	1001.8	952.5
Mar	0.3	11	4.1	-3.0	7.1	11	043	3.0	0.41	206	26	990.9	11	1006.5	957.0
Apr	-0.5	17	4.9	-4.6	7.4	17	358	2.5	0.33	271	28	983.9	17	1005.9	958.4
May	-2.1	13	2.2	-8.0	6.1	21	027	2.1	0.34	278	30	988.9	13	1020.0	951.3
Jun	-4.0	11	1.6	-11.6	7.0	11	092	1.0	0.15	068	32	993.4	11	1010.9	963.3
Jul	-5.0	24	0.5	-10.9	7.9	27	057	2.5	0.31	223	26	985.8	24	1015.9	958.4
Aug	-6.1	13	0.1	-12.0	8.1	13	231	3.1	0.38	319	29	985.5	13	1012.4	946.5
Sep	-5.4	13	2.2	-13.1	8.4	13	136	1.1	0.13	168	27	987.6	13	1007.8	963.3
Oct	-1.5	12	3.8	-7.9	7.3	12	261	2.3	0.32	067	26	981.0	12	1011.1	933.7
Nov	-0.4	13	4.0	-4.0	7.5	13	002	2.5	0.34	293	23	983.3	13	1011.2	955.8
Dec	1.0	14	5.8	-1.8	5.8	13	007	1.0	0.17	068	25	978.9	13	996.5	955.0
MEAN	-1.8				7.0		026	1.1	0.32			985.6			
Bonaparte Point (8923)			64.78S			64.07W			8 M						
Jan	0.7	07	6.1	-2.2	4.4	07	128	2.1	0.48	195	26	973.4	07	986.9	955.8
Feb	1.0	07	6.6	-2.5	4.7	07	131	1.7	0.37	268	23	967.0	07	986.9	941.1
Mar	1.0	05	6.6	-4.1	5.1	05	145	2.6	0.51	198	22	977.4	05	995.6	943.7
Apr	0.0	05	6.2	-5.2	5.7	05	122	3.0	0.52	229	23	970.3	05	992.6	946.8
May	-0.7	05	6.4	-7.0	5.1	05	120	2.2	0.44	209	20	975.4	05	1006.4	932.8
Jun	-3.5	06	2.9	-12.1	5.3	06	099	1.0	0.19	187	26	981.9	06	1001.2	953.7
Jul	-3.3	06	4.2	-13.2	6.1	08	109	1.2	0.19	343	23	973.2	06	1005.5	940.9
Aug	-8.1	08	0.4	-21.0	6.2	08	111	2.4	0.39	295	28	975.4	08	1003.9	928.7
Sep	-7.4	12	2.9	-22.6	3.1	43	087	1.4	0.45	309	16	977.0	12	998.6	950.0
Oct	-2.7	09	2.2	-11.8								968.4	09	1003.6	920.4
Nov	-0.6	10	3.9	-9.1								968.0	11	996.6	944.6
Dec	0.1	09	4.2	-3.4								963.5	09	984.4	939.4
MEAN	-2.0											972.6			
Sky-Blu (8917)			74.79S			71.49W			1395 M						
Feb	-11.7	24	-2.5	-20.4	1.0	24	327	0.3	0.35	253	11	810.5	24	822.4	798.3
Mar	-12.9	00	-3.6	-31.1	0.4	13	320	0.2	0.41	185	10	811.8	00	825.4	795.2
Apr	-20.4	00	-6.0	-36.9								801.2	00	818.4	782.6
May	-18.1	00	-5.2	-35.2								805.0	00	827.2	787.5
Jun	-26.9	00	-12.0	-45.5								815.1	00	840.3	781.7
Jul	-24.2	00	-10.9	-41.4								805.1	00	828.4	772.9
Aug	-28.0	01	-12.9	-46.2								802.2	01	827.6	772.5
Sep	-23.0	00	-7.6	-45.9								808.0	00	828.7	784.6
Oct	-15.1	00	-7.8	-27.5								799.2	00	820.8	773.9
Nov	-11.7	40	-4.1	-25.2	0.5	40	331	0.2	0.48	323	7	807.3	40	821.2	786.0
Dec	-9.9	00	0.2	-19.9	6.6	00	298	4.2	0.63	309	29	820.5	00	832.4	801.9

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Santa Claus Is (21364)			64.96S			65.67W			25 M						
Jan	0.4	37	2.9	-1.8	4.8	37	268	1.6	0.34	310	16	983.6	37	996.7	968.8
Feb															
Mar															
Apr															
May															
Jun															
Jul															
Aug															
Sep															
Oct															
Nov															
Dec	0.2	25	6.0	-2.4	7.0	25	226	2.4	0.35	296	24	974.3	25	987.7	951.8
Clean Air (8987)			90.00S						2835 M						
Jan	-24.9	02	-18.9	-32.2	3.3	02	020	2.8	0.85	352	11	691.3	02	704.0	681.0
Feb	-40.8	00	-23.1	-49.5	3.0	01	035	2.3	0.77	018	11	985.8	00	695.7	674.5
Mar	-54.9	01	-39.9	-70.2	3.0	01	038	2.3	0.76	360	10	681.6	01	692.7	673.3
Apr	-61.8	01	-53.8	-73.0	4.0	02	042	3.5	0.86	004	12	672.2	01	686.6	660.1
May	-58.0	02	-36.5	-74.9	4.6	02	023	3.8	0.84	016	13	675.5	02	692.4	658.4
Jun	-59.4	00	-42.6	-73.0	3.6	00	068	3.0	0.85	032	11	689.0	00	712.2	672.8
Jul	-63.8	00	-46.9	-75.5	3.5	00	064	2.6	0.76	358	13	676.0	00	690.7	660.6
Aug	-57.9	01	-38.8	-71.8	4.4	02	043	3.7	0.83	032	14	675.1	01	691.4	657.1
Sep	-63.0	01	-44.6	-73.2	3.2	01	065	2.6	0.80	002	12	679.9	01	700.1	665.7
Oct	-50.5	01	-33.2	-69.2	3.8	01	030	3.2	0.85	018	13	672.4	01	688.6	659.4
Nov	-38.1	00	-30.5	-50.8	2.8	00	032	2.0	0.71	026	11	680.4	00	698.6	662.4
Dec	-29.7	02	-19.2	-39.8	2.5	02	024	1.7	0.67	313	9	679.5	02	693.7	669.3
MEAN	-50.2				3.5		040	2.7	0.80			704.9			
Henry (8985)			89.01S			1.03 W			2755 M						
Jan	-23.3	00	-15.1	-30.6	4.4	00	033	3.7	0.85	001	12	700.6	00	713.4	689.9
Feb	-38.5	00	-20.2	-48.8	4.4	00	049	3.4	0.78	021	13	695.2	00	705.5	684.6
Mar	-53.2	00	-38.6	-67.0	3.7	00	047	3.3	0.89	035	9	691.5	00	702.2	682.3
Apr	-58.8	00	-51.4	-67.2	5.9	00	042	5.5	0.94	037	12	682.1	00	695.9	670.8
May	-56.1	00	-35.8	-69.1	6.2	00	035	5.6	0.91	026	12	685.8	00	704.6	667.4
Jun	-56.3	00	-40.6	-66.8	5.5	00	059	5.0	0.89	039	12	698.6	00	721.7	682.4
Jul	-60.2	00	-45.6	-72.1	6.1	03	059	5.2	0.85	053	13	685.5	00	701.2	668.9
Aug	-55.0	01	-35.5	-67.2	6.2	01	048	5.5	0.88	032	16	684.8	01	701.9	665.0
Sep	-58.6	40	-43.5	-67.0	4.9	40	072	4.4	0.89	057	10	690.4	40	709.4	673.6
Oct	-43.1	57	-31.2	-50.5	5.2	57	038	4.8	0.93	039	13	681.3	57	692.9	676.0
Nov	-36.6	00	-29.0	-47.4	3.3	00	049	2.5	0.77	046	10	689.9	00	708.6	671.6
Dec	-27.6	00	-19.8	-37.4	2.3	00	046	1.7	0.76	360	9	688.8	00	703.4	678.8
MEAN	-47.3				4.8		048	4.1	0.86			689.5			

Mon	Mean Air Temp (C)	% of Mon Data Abs	Max Air Temp (C)	Min Air Temp (C)	Mean Wind Speed (m/s)	% of Mon Data Abs	Result Wind (dir)	vv	Con	Max Wind (dir)	vv	Mean Air Press (mb)	% of Mon Data Abs	Max Air Press (mb)	Min Air Press (mb)
Nico (8924)			89.00S			89.67E			2935 M						
Jan	-24.5	00	-15.1	-31.8	4.0	00	273	3.2	0.81	254	15	681.3	00	694.6	671.2
Feb	-39.1	00	-22.9	-48.9	3.0	00	294	2.4	0.81	265	17	675.2	00	684.4	665.7
Mar	-53.6	00	-38.1	-68.4	2.3	00	297	1.9	0.81	217	9	670.6	00	682.1	663.0
Apr	-60.6	01	-50.4	-70.8	3.4	06	301	2.9	0.85	265	11	661.5	01	675.8	649.9
May	-57.2	00	-37.5	-72.8	3.6	00	275	3.1	0.85	202	12	664.8	00	682.2	647.7
Jun	-58.3	00	-41.6	-71.4	3.9	08	324	3.5	0.89	360	12	678.3	00	700.5	662.5
Jul	-62.2	00	-44.8	-73.5	4.0	16	314	3.3	0.82	005	12	665.1	00	680.7	649.2
Aug	-56.9	01	-39.5	-71.8	5.2	20	303	4.5	0.88	344	13	664.8	01	681.9	647.3
Sep	-61.6	01	-44.2	-72.0	3.6	19	315	3.2	0.88	343	13	669.2	01	689.1	654.8
Oct	-50.2	00	-31.9	-67.8	3.5	00	293	2.9	0.83	230	11	661.8	00	679.1	648.3
Nov	-37.8	02	-29.2	-50.8	2.5	00	300	1.7	0.67	220	10	669.8	00	689.2	652.0
Dec	-29.1	00	-21.1	-37.9	1.9	00	294	1.1	0.56	217	9	669.2	00	683.7	659.6
MEAN	-49.3				3.4		300	2.7	0.81			669.3			
Relay Station (8918)			74.02S			43.06E			3353 M						
Jan	-31.3	00	-18.9	-42.4	7.9	00	108	7.3	0.93	075	21	646.3	00	656.8	637.1
Feb	-40.4	00	-25.1	-52.2	6.3	00	124	5.9	0.95	137	17	643.1	00	651.0	635.1
Mar	-49.8	01	-29.1	-66.9	7.0	01	131	6.2	0.89	217	19	636.8	01	654.2	628.4
Apr	-60.4	00	-46.2	-71.5	6.4	00	134	6.0	0.94	147	14	630.1	00	637.9	621.9
May	-58.8	00	-44.1	-71.1	7.3	00	127	6.7	0.91	092	20	630.7	00	644.8	622.7
Jun	-52.5	00	-33.9	-65.2	8.0	00	116	7.6	0.95	123	18	644.5	00	658.6	623.5
Jul	-61.2	00	-49.5	-68.8	8.9	00	131	8.6	0.97	131	17	630.4	00	646.8	617.1
Aug	-58.5	01	-42.1	-69.0	7.9	01	132	7.4	0.94	150	20	632.9	01	646.0	610.5
Sep	-56.4	01	-39.0	-70.4	8.5	01	126	8.0	0.95	103	19	633.8	01	652.9	620.7
Oct	-51.8	00	-37.9	-67.6	8.0	00	128	7.7	0.96	154	16	625.9	00	642.8	616.8
Nov	-40.0	00	-27.0	-54.4	5.6	00	117	5.4	0.96	116	14	636.3	00	656.4	624.0
Dec	-32.7	00	-21.5	-46.0	5.1	00	105	4.4	0.86	076	18	636.9	00	648.5	627.9
MEAN	-49.5				7.2		124	6.7	0.93			635.6			

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 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 $\pm 0.2 \text{ hPa}$. Two mercury barometers have been purchased for use at McMurdo, Antarctica but are not yet available.

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 1999. 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 1999

6.1. AWS Performance

Forty-eight AWS units were installed at the start of 1999 and 50 were installed by the end of 1999. Based on the installation months the AWS units delivered 76% of the temperature data, 77% of the pressure data and 62% of the wind data during 1999. Complete data sets were received from 11 AWS units and 33 AWS units operated for the installed period. Fifteen AWS units were not received for one month or more during the year or stopped during the year. Many 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
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D-10	The aerovane was "frozen" occasionally in April to June and August and September. The station stopped transmitting from the beginning of June to the middle of August.
D-47	Station started transmitting on 6 February. Temperature sensor not functioning. Station transmitted erratically from April through August. Station resumed transmitting 12 December.
D-57	Station installed on 20 January. No delta-T or extra high wind speed sensor. Wind speed and direction not functioning until 7 February. Station stopped transmitting for early part of May and again mid July to mid August due to low battery voltage. Erratic transmissions in September.
Dome C II Port Martin	OK. Station repaired 17 December. Pressure corrected for high wind speed conditions.
Cape Denison	Sporadic transmission in September. A new station was installed on 17 December. Pressure corrected for high wind speed conditions.
Sutton	Station began transmitting 19 August. Wind speed and direction not functioning properly because the tower may be leaning or have fallen.
Penguin Point	Station stopped transmitting 3 June and resumed transmitting 5 July. The aerovane was "frozen" occasionally in August and September. Pressure corrected for high wind speed conditions.
Byrd	Station stopped transmitting 29 May. Station resumed transmitting on 23 November after being unplugged and plugged in again.
Mount Siple	Site has a "dog house" AWS without wind speed and direction. Pressure sensor not functioning correctly January, February, November, and December.
Theresa Doug	Delta-T sensor buried after 13 February. Station stopped transmitting at the end of May and started transmitting again 16 October. Relative humidity sensor not functioning.
Elizabeth	Aerovane "frozen" mid July to mid August. Station stopped transmitting 10 August due to low battery voltage and resumed intermittent transmissions on 13 September as battery recharged in the austral spring.
Harry	A new station was installed on 26 January. The delta-T sensor is not functioning. The aerovane was "frozen" occasionally from July through September.
Erin	Aerovane not functioning. Station stopped transmitting 26 July due to low battery voltage and resumed intermittent transmissions in mid September as battery recharged in the austral spring.
Siple Dome	A new station was installed on 23 January. Aerovane not functioning or only partially functioning from May through November. Delta-T sensor not installed.
Swithinbank Marble Point Ferrell	Delta-T sensor not functioning. Batteries were installed on 11 January. Batteries were installed 21 January. Delta-T not functioning properly. Station stopped transmitting 14 March.
Pegasus North	Station was replace on 12 January. Relative humidity sensor was fixed 17 January. Pressure not functioning. Station began transmitting erratically April through September. Station stopped transmitting 23 November.
Pegasus South	Relative humidity sensor not functioning. Wind speed not functioning. Delta-T erratic mid August through December.
Minna Bluff	New AWS installed with high wind unit 25 January. Delta-T sensor not functioning. Aerovane occasionally "frozen" June through September and November and December.
Linda	New station electronics installed 15 January. Aerovane occasionally "frozen" July through October. Station stopped transmitting 5 October. Station was unplugged and plugged in again 26 November and began transmitting.
Willie Field	New station installed 16 January. Delta-T sensor not functioning.
Windless Bight	New station installed 25 January.

White Out	Station removed 11 January.
White Island	Station removed 11 January.
Cape Bird	New station established 28 January. Relative humidity not functioning until the boom was replaced 3 December. Pressure not functioning correctly March through December.
Herbie Alley	Installed 11 January. Pressure functioned erratically March through September.
Cape Spencer	Installed 11 January. Station stopped transmitting 28 September and resumed transmitting 15 December.
Whitlock	Station began transmitting a few days in January after the solar panel was uncovered but stopped again due to low battery voltage after the solar panel was covered with snow. On 25 December all components were dug out and raised, so the station began transmitting. Delta-T sensor not functioning.
Scott Island	Site has a "dog house" AWS without wind speed and direction. Station stopped transmitting 23 March due to low battery voltage.
Possession Island	Site has a "dog house" AWS without wind speed and direction. Increased instances of missing transmissions after October.
Manuela	Aerovane broken.
Marilyn	OK.
Schwerdtfeger	Relative humidity sensor stopped functioning the end of February. It functioned erratically from mid March through October and then began working again for November and December.
Gill	Relative humidity sensor not functioning. Aerovane "frozen" part of June and July, all of August through October, and part of November.
Lettau	Transmitting with gaps in January. Transmissions OK after station raised and new batteries installed late January. Aerovane "frozen" parts of August and September. November and December had many gaps in the transmission.
Elaine	Relative humidity sensor worked sporadically throughout the year.
Larsen Ice Shelf	Station stopped transmitting 18 June due to low battery voltage. Station started transmitting intermittently in August and then constantly from September through December.
Butler Island	Aerovane intermittently "frozen" in July. 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 January, February, and March. Station stopped transmitting on 13 April due to low battery voltage. Station resumed transmitting 7 September.
Limbert	Station transmission sporadic January and February and again May through July. Station stopped transmitting 29 July.
Racer Rock	OK.
Bonaparte Point	Relative humidity sensor not functioning. Aerovane stopped functioning 21 September.
Ski-Hi	Station removed.
Sky Blu	Station installed 7 February. Aerovane not functioning 27 March through October. Station was removed for testing 19 November and returned 30 November.
Santa Claus Island	Station stopped transmitting 21 January. Station was removed for testing. A new station was installed 7 December.
Clean Air	Occasional problems with relative humidity sensor.
Henry	Station stopped transmitting 28 September due to low battery voltage. Station resumed transmitting 18 October as the battery recharged in the austral spring.
Nico	Aerovane occasionally "frozen" June through September.
Relay Station	OK.
Dome Fuji	Transmitted erratically January, February, October, and November.

6.2. AWS Antarctic Field Activities

McMurdo area

Manuela site (8905) on Inexpressible Island could not be visited on the inbound icebreaker trip because of ice conditions. On 3 January 1999 C. Stearns and MST Kelly stopped at Whitlock site (8921) on Franklin Island and found that the snow was up to the top of the tower and partially covering the solar panel. The aerovane was replaced and the solar panel was uncovered in the hopes that the AWS unit would start if the batteries could be charged. There was about one foot of snow over ice at the tower so the tower was not raised since the time available for site work was limited. Whitlock AWS was received for a few transmissions so the unit was operating but the solar panel was covered with snow again.

On 11 January, 1999 Marble Point AWS site (8906) was visited by helicopter. Two boxes of batteries were installed. A new set of coordinates were obtained using differential GPS and equipment borrowed from the UNAVCO group. On 13 January Pegasus North was visited by truck. AWS 8927 was replaced with 8928. Willie Field AWS (8929) was also visited and a two-meter snow pit was also dug for the purpose of snow sampling by Sarah Das. Ferrell AWS site (8934) was visited by helicopter on 14 January. The unit was nearly completely buried in snow. Two boxes of batteries were left at the site for installation at a later date when the unit could be properly raised.

On 16 January, AWS 8929, which had been removed from Penguin Point and equipped to measure relative humidity, was put on the air and found to be operating correctly. The unit was installed at Willie Field about 1300 local time along with a Bendix aerovane and relative humidity sensor but without a vertical air temperature difference. The boom height was about 2.5 m.

On 17 January, Pegasus North AWS site was visited again by truck. A new boom was installed. On 18 January the relative humidity on AWS 8927 was not working and it was determined that the terminal screw for the output was missing so the relative humidity was not connected. The screw was found and reinstalled, and the relative humidity was being measured.

On 19 January, the helicopter flight to Ferrell site was turned around 5 nm west of Ferrell due to fog that was present to the south and north at the turn around point. On 21 January, a flight was made to Cape Bird with Peter Brookman, NZ and John Wilson, NZ to select a site for the Cape Bird AWS unit. A slightly sloping area was found east of and slightly above the hut that would be very satisfactory. There was a spot 300 m away that could be used to land a sling load of equipment to avoid hauling everything up the rather steep slope from the normal helicopter site. Skuas are occupying some of the area near the site and are not to be disturbed. Ferrell AWS site was also visited by helicopter on 21 January. The unit was raised by on five-foot tower section, and the new batteries were installed. A new solar panel and junction box were also installed.

On 25 January a flight was made by C. Stearns and Tony Worby to Minna Bluff where AWS 8935 was installed using a high wind speed boom with an HMP 35A relative humidity sensor. The use of this unit meant that a high wind speed system at Manuela Site could not be installed using the icebreaker. The site was easily found. The R.M. Young wind bird was broken. AWS 21360 and the boom and high wind speed sensor were removed. Pegasus South was visited on the return flight and the boom was replaced. The relative humidity did not operate so the electronics needs to be removed. Back at McMurdo, the plane was unloaded, gassed up, and loaded with equipment for Windless Bight. AWS 8927 along with the boom with an HMP 35A and R.M. Young wind bird was installed at Windless Bight. AWS 8901, boom and wind bird were returned to McMurdo.

On 28 January, C. Stearns installed Cape Bird AWS (8901) assisted by Rosemary and Carl from BFC. The wind speeds were above 30 knots during the installation. The relative humidity did not work and may have been damaged during the helicopter sling load to Cape Bird. The wind system, pressure, and temperatures were working properly after the installation.

The AWS units at White Out and White Islands are used by SPAWAR for fog forecasting for Williams Field. On 11 January, the AWS units were removed and installed at Cape Spencer (AWS 8722) and

Herbie Alley (AWS 8697).

Linda AWS site (8919) was visited by R. Holmes on 26 November. The unit was unplugged and plugged in again and began to function. Cape Bird was visited on 3 December and a new boom was installed.

On 25 December Whitlock AWS was visited by the icebreaker. The crew was able to add a new 6 foot tower section. All the components were dug out and raised to a new position above the current snowline. A new high speed wind sensor was installed.

West Antarctica

On the evening of 23 January, Robert Holmes and Sarah Das left for Siple Dome field camp. On 24 January, Siple Dome AWS was visited by snowmobile. AWS 8900 was replaced with AWS 8938, and a new antenna was installed. The construction of the snow pit and hole for the installation of the 10 m vertical snow temperature profile was begun. On 26 January, the site was again visited by snowmobile, and the installation of the snow temperature profile was completed. AWS 8900 was installed at Harry site replacing AWS 21355. On 26 January, Lettau AWS site (8908) was visited by twin otter from Siple Dome field camp. The unit was raised by one five-foot tower section, and new batteries were installed. A two-meter snow pit was also dug for snow sampling by Sarah Das.

Byrd AWS site (8903) was visited by R. Holmes on 23 November. The unit was unplugged and plugged in again and began to function.

Adelie Coast

The Institut Francais Pour la Recherche et la Technologie Polaires (IFRTP) raised the tower, repaired the wind sensor and installed AWS 8912 at D-57 on 20 January.

J. Sheedy and personnel from the icebreaker visited Port Martin (8930) on 17 December. One of the chains of a guy line had corroded and snapped. The glass covering the solar panel was smashed. The original tower section was in good shape so it was re-erected with 4 guy lines. The new AWS main electronics, high wind speed boom, and new battery box were installed. One of the battery terminals was completely corroded and will have to be replaced. The boom was not oriented in any particular direction.

Cape Denison was also visited on 17 December. A new AWS unit (8988) and high wind speed boom were installed. Sutton and Cape Webb were not found.

Antarctic Peninsula

The British Antarctic Survey visited Larsen Ice Shelf (8926) on 1 February and found that the unit was over 10 nm from the ice edge. The aerovane had failed due to a loose screw and a failed wind direction resistor and was replaced with the repaired aerovane from Limbert site. The Ski-Hi AWS unit (8917) was moved to Sky-Blu on 6-7 February and erected on the east side of the approach to Sky-Blu ice runway.

USAP personnel from Palmer Station visited the Bonaparte Point AWS unit (8923) on 27 February. The wiring from the solar panel was connected backwards. After reversing the wiring the batteries started charging. Santa Claus Island AWS unit ceased transmitting on 21 January. A trip was made to the island by Jeff Otten on the L.M. Gould, and no signal was detected. The batteries and solar panel checked out okay. The AWS electronics, boom and associated sensors were removed and taken to Palmer Station for testing. It was found that the AWS unit was operating properly, but the antenna and antenna cable were shorted by salt water. Another unit with an enclosed antenna was shipped to Palmer Station for installation at Santa Claus Island. AWS 8933 was installed at Santa Claus Island on 7 December.

7. GLOBAL TELECOMMUNICATIONS SYSTEM

The data from 33 Antarctic AWS units were entered into the Global Telecommunications System (GTS) during 1999. 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 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/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/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/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/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/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/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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