Documentation and Task Lists for 2003/2004

File description and task list for 2003-04 LTER Met Files:

o1=omit from level 1,

ok= no changes to get to level 1,

rclow= reverse temperatures to mV and apply clow subroutine to mV values using
          Steinhart-Hart equation,

bad= normally would be included in level 1 but number is bogus,

flag= reasonable number but needs a note attached concerning its collection:

Array I.D. meaning:

    First and Second Digit
01 = Hoare
02 = Fryxell
03 = Bonney
04 = Commonwealth
05 = Howard
06 = Taylor
07 = Vanda
08 = Brownsworth
09 = Explorer's Cove
10 = Canada Gl. (without Eddy Sensors)
11 = Vida
12 = Hoare Submerged
13 = Fryxell Submerged
14 = Bonney East Submerged
15 = Canada Gl. (with Eddy Sensors)
16 = Bonney West Submerged
17 = Fryxell Snow Fence
18 = Beacon Valley
19 = Upper Howard Gl.

Hardware Notes:
1) Continued service schedule.
2) Installed sonic sensors at several stations
3) Install IRT sensors at Taylor and Commonwealth glaciers

Filename:	ben03401.dat
Station:	Beacon Valley met station
Date of Establishment:	November 27, 2000 by Susan Kaspari, Thomas Nylen and Adrian Green
Author of this report:	Thomas Nylen
File Period:	January 29, 2003 (29) @ 1115 to January 28, 2004 (28) @ 1400
Sampling Frequency:	wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	ben001v1 (Progam Signature: 32732)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2) – PY23271
    ok
7. mean solar flux going up (W/m2) – PY 23277
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) – Q30806
    divide by 200, multiply by 221.93
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. sample of battery voltage
    o1

notes:
1)   No Missing data
2)   Adjusted clock -39 seconds on January 28, 2004 (29) @ 1354
3)   Check input values on January 28, 2004 (29) @ 1354, everything looked good
4)   Check wind direction on January 28, 2004 (29) @ 1355, direction of monitor pointing north.
5)   Replaced one SM4M storage modules for another on January 28, 2004 (28) @ 1400

Filename: boy03401.dat
Station: Lake Bonney met station
Date of Establishment: November 24, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 24, 2003 (24) @ 1615 to July 3, 2003 (184) @ 1145
Sampling Frequency: sonic and prec. every 60 minutes, wind speed every 4 sec, other every 30 sec
Averaging and Output Interval: every 15 minutes
Program name: boy023v1 (signature: 28114)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming up (W/m2) – PY18655
        ok
7. mean solar flux going down (W/m2) – PY20561
        ok
8. mean P.A.R. (micromols/s/m2) – Q29766
        divide by 200, multiply by 235.51
9. mean horizontal wind speed (m/s)
        ok
10. resultant mean wind speed (m/s)
        o1
11. resultant mean wind direction (degrees from north)
        ok
12. standard deviation of wind direction (degrees)
        ok
13. maximum wind speed (m/s)
        ok
14. minimum wind speed (m/s)
        ok
15. mean up-facing pyrgeometer, rad. comp. (W/m2) – 29787F3
        divide by 250; multiple by 256.41
16. mean up-facing pyrgeometer hemisphere temp
        Eppley
17. mean up-facing pyrgeometer thermopile (W/m2)
        Eppley
18. mean up-facing pyrgeometer case temp
        Eppley
19. mean down-facing pyrgeometer, rad. comp. (W/m2) – 29786F3
        divide by 250; multiple by 261.10
20. mean down-facing pyrgeometer hemisphere temp
        Eppley
21. mean down-facing pyrgeometer thermopile (W/m2)
        Eppley
22. mean down-facing pyrgeometer case temp
        Eppley

23. mean soil temperature @ 0 cm in soil (C)
    rclow
24. mean soil temperature @ 5 cm in soil (C)
    rclow
25. mean soil temperature @ 10 cm in soil (C)
    rclow
26. sample depth from sensor to surface (cm)
    (Original depth (0.6315) + Value) * 100
27. sample precipitation (mm)
    ok
28. sample of battery voltage
    o1

Note:
1.   No missing data

Filename: boy03402.dat to boy03496
Station: Lake Bonney met station
Date of Establishment: November 24, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: September 5, 2003 (248) @ 1200 to January 6, 2004 (6) @ 1115
Sampling Frequency: sonic and prec. every 60 minutes, wind speed every 4 sec, other every 30 sec
Averaging and Output Interval: every 15 minutes
Program name: boy023v1 (signature: 28114)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming up (W/m2) – PY18655
        ok
7. mean solar flux going down (W/m2) – PY20561
        ok
8. mean P.A.R. (micromols/s/m2) – Q29766
        divide by 200, multiply by 235.51
9. mean horizontal wind speed (m/s)
        ok
10. resultant mean wind speed (m/s)
        o1
11. resultant mean wind direction (degrees from north)
        ok
12. standard deviation of wind direction (degrees)
        ok
13. maximum wind speed (m/s)
        ok
14. minimum wind speed (m/s)
        ok
15. mean up-facing pyrgeometer, rad. comp. (W/m2) – 29787F3
        divide by 250; multiple by 256.41
16. mean up-facing pyrgeometer hemisphere temp
        Eppley
17. mean up-facing pyrgeometer thermopile (W/m2)
        Eppley
18. mean up-facing pyrgeometer case temp
        Eppley
19. mean down-facing pyrgeometer, rad. comp. (W/m2) – 29786F3
        divide by 250; multiple by 261.10
20. mean down-facing pyrgeometer hemisphere temp
        Eppley
21. mean down-facing pyrgeometer thermopile (W/m2)
        Eppley
22. mean down-facing pyrgeometer case temp
        Eppley

23. mean soil temperature @ 0 cm in soil (C)
        rclow
24. mean soil temperature @ 5 cm in soil (C)
        rclow
25. mean soil temperature @ 10 cm in soil (C)
        rclow
26. sample depth from sensor to surface (cm)
        (Original depth (0.6315) + Value) * 100
27. sample precipitation (mm)
        ok
28. sample of battery voltage
        o1

Note:
1.   Missing data between to July 3, 2003 (184) @ 1145 and September 5, 2003 (248) @ 1200, which is before boy03402 and various missing lines of data after September 5, 2003 (248) @ 1200. Battery voltage dipped too low after July 3, 2003, and recharged enough to start working after September 5, 2003. Missing data on January 6, 2004 between 0915 and 0930.
2.   Adjusted time ahead by 18 minutes and 8 secs on January 6, 2004 @ 0931 (GPS time)
3.   Checked values at on January 6, 2004 @ 0936. Values look good.
4.   Check wind alignment on January 6, 2004 @ 0936. No changes
5.   Swapped out up facing pyrgeometer on January 6, 2004 @ 1026, but disconnected it and hooked up the old sensor since the case temperature was not working properly.
6.   Swapped out down facing pyrgeometer on January 6, 2004 @ 1020. Old serial number is 29786F3 and new is 31512F3 (Constant = 3.53)
7.   Swapped out quantum sensor on January 6, 2004 @ 1005. Old number is Q29766 and new is Q23204.
8.   Replaced modules 1 SM4M with 1 SM4M on January 6, 2004 @ 1115.
9.   Replaced precipitation fluid on January 6, 2004 @ 0900. Added 2 gallons CSI antifreeze fluid with mineral oil on top.
10.   Replaced datalogger on January 6, 2004 @ 1100
11.   Replaced HMP45C RH head with recalibrated hear on January 6, 2004 @ 0944

Filename: boy03497
Station: Lake Bonney met station
Date of Establishment: November 24, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 6, 2004 (6) @ 1130 to January 24, 2004 (24) @ 1315
Sampling Frequency: sonic and prec. every 60 minutes, wind speed every 4 sec, other every 30 sec
Averaging and Output Interval: every 15 minutes
Program name: boy023v1 (signature: 51830)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming up (W/m2) – PY18655
    ok
7. mean solar flux going down (W/m2) – PY20561
    ok
8. mean P.A.R. (micromols/s/m2) – Q23204
    divide by 200, multiply by 286.44
9. mean horizontal wind speed (m/s)
    ok
10. resultant mean wind speed (m/s)
    o1
11. resultant mean wind direction (degrees from north)
    ok
12. standard deviation of wind direction (degrees)
    ok
13. maximum wind speed (m/s)
    ok
14. minimum wind speed (m/s)
    ok
15. mean up-facing pyrgeometer, rad. comp. (W/m2) – 29787F3
    divide by 250; multiple by 256.41
16. mean up-facing pyrgeometer hemisphere temp
    Eppley
17. mean up-facing pyrgeometer thermopile (W/m2)
    Eppley
18. mean up-facing pyrgeometer case temp
    Eppley
19. mean down-facing pyrgeometer, rad. comp. (W/m2) – 31512F3
    divide by 250; multiple by 283.29
20. mean down-facing pyrgeometer hemisphere temp
    Eppley
21. mean down-facing pyrgeometer thermopile (W/m2)
    Eppley
22. mean down-facing pyrgeometer case temp
    Eppley

23. mean soil temperature @ 0 cm in soil (C)
    rclow
24. mean soil temperature @ 5 cm in soil (C)
    rclow
25. mean soil temperature @ 10 cm in soil (C)
    rclow
26. sample depth from sensor to surface (cm)
    (Original depth (0.6315) + Value) * 100
27. sample precipitation (mm)
    ok
28. sample of battery voltage
    o1

Note:
1.   No Missing data
2.   Adjusted time ahead by 12 secs on January 24, 2004 @ 1254
3.   Checked values at on January 24, 2004 @ 1256. Values look good.
4.   Check wind alignment on January 24, 2004 @ 1303. No changes
5.   Replaced modules 1 SM4M with 1 SM4M on January 24, 2004 @ 1327.
6.   Added two more batteries and a solar panel to the two existing batteries and panel.

Filename:		brh03401.dat
Station:	`	Lake Brownworth met station
Date of Establishment:		November 13, 1996 by Peter Doran and D.J. Osborne
Author of this report:		Thomas Nylen
File Period:		January, 27, 2003 (27) @ 1500 to January 7, 2004 (7) @ 1615
Sampling Frequency:		wind speed every 4 sec; other every 30 sec
Averaging and Output Interval:		every 15 min
Program Name:		brh001v1 (program signature: 29453)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) – PY28169
   ok
7. mean solar flux going up (W/m2) – PY23275
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) – Q30803
    divide by 200, multiply by 226.18
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. sample of battery voltage
    o1

Notes:
1. No missing data
2. Adjusted clock minus 1 minute and 8 seconds on January 7, 2004 (7) @ 1601
3. Check input values on January 7, 2004 (7) @ 1605, values look good.
4. Check wind alignment on January 7, 2004 (7) @ 1530, no changes
5. Swapped out module one (1) SM4M on January 7, 2004 (7) @ 1615 for another SM4M

6. Installed sonic ranger and loaded new program, brh034v1, on January 7, 2004 (7) @ 1615. New program signature is 54401. The sonic depth is 60.6 cm from the surface.
7. Installed guide wires on station and sonic ranger.
8. Replaced batteries.

Filename:	bsn03401.dat
Station:	Lake Bonney Snow Fence
Date of Establishment:	January 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	January 24, 2003 (24) @ 1415 to November 7, 2003 (311) @ 0345
Sampling Frequency:	sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval:	every 15 min
Program Name:	bsn023v1v1.dld (Program Signature: 63043)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean soil P.A.R. +3.6 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 217.27
5. mean soil P.A.R. +1.8 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 222.23
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
   divide by 200, multiply by 275.02
7. mean air temp. @ 1.5 m (C)
   rclow
8. mean soil temperature @ 0 cm in soil -1.9 m (west) of snow fence (C)
   rclow
9. mean soil temperature @ 0 cm in soil +0.9 m (east) of snow fence (C)
   rclow
10. mean soil temperature @ 0 cm in soil +1.8 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.6 m (east) of snow fence (C)
    rclow
12. sample depth from sensor to surface (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Missing depth measurements between January 24, 2003 (24) @ 1415 and January 24, 2003 (24) @ 1445
2. Missing data between March 31, 2003 (90) @ 1645 and April 1, 2003 (91) @ 0125

Filename:	bsn03402.dat
Station:	Lake Bonney Snow Fence
Date of Establishment:	January 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	November 7, 2003 (311) @ 0400 to November 19, 2003 (323) @ 1115
Sampling Frequency:	sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval:	every 15 min
Program Name:	bsn023v1v1.dld (Program Signature: 63043)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean soil P.A.R. +3.6 m (east) from snow fence (micromols/s/m2)
    divide by 200, multiply by 217.27
5. mean soil P.A.R. +1.8 m (east) from snow fence (micromols/s/m2)
    divide by 200, multiply by 222.23
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
    divide by 200, multiply by 275.02
7. mean air temp. @ 1.5 m (C)
    rclow
8. mean soil temperature @ 0 cm in soil -1.9 m (west) of snow fence (C)
    rclow
9. mean soil temperature @ 0 cm in soil +0.9 m (east) of snow fence (C)
    rclow
10. mean soil temperature @ 0 cm in soil +1.8 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.6 m (east) of snow fence (C)
    rclow
12. sample depth from sensor to surface (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Sonic sensor repositioned. Need additional to cables to secure center posts.
2. CR10X time adjusted back 7 minutes and 13 seconds on November 19, 2003 @ 1115

Filename: bsn03403.dat
Station: Lake Bonney Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: November 19, 2003 (323) @ 1130 to January 5, 2004 (5) @ 1700
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: bsn023v1v1.dld (Program Signature: 63043)

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean soil P.A.R. +3.6 m (east) from snow fence (micromols/s/m2)
      divide by 200, multiply by 217.27
5. mean soil P.A.R. +1.8 m (east) from snow fence (micromols/s/m2)
      divide by 200, multiply by 222.23
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
      divide by 200, multiply by 275.02
7. mean air temp. @ 1.5 m (C)
      rclow
8. mean soil temperature @ 0 cm in soil -1.9 m (west) of snow fence (C)
      rclow
9. mean soil temperature @ 0 cm in soil +0.9 m (east) of snow fence (C)
      rclow
10. mean soil temperature @ 0 cm in soil +1.8 m (east) of snow fence (C)
      rclow
11. mean soil temperature @ 0 cm in soil +3.6 m (east) of snow fence (C)
      rclow
12. sample depth from sensor to surface (cm)
      Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
      o1

Notes:
1. Sonic sensor repositioned. Need additional to cables to secure center posts.
2. CR10X time adjusted +6 seconds on January 5, 2004 @ 1651
3. Sonic ranger height changed because new guide wires were installed. Old height was 1.08 cm, and the new height is 1.098 cm from the surface.

Filename: bsn03404.dat
Station: Lake Bonney Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: January 5, 2004 (5) @ 1715 to January 24, 2004 (24) @ 1130
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: bsn023v1v1.dld (Program Signature: 63043)

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean soil P.A.R. +3.6 m (east) from snow fence (micromols/s/m2) – Q30801
      divide by 200, multiply by 217.27
5. mean soil P.A.R. +1.8 m (east) from snow fence (micromols/s/m2) – Q30802
      divide by 200, multiply by 222.23
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2) – Q20266
      divide by 200, multiply by 275.02
7. mean air temp. @ 1.5 m (C)
      rclow
8. mean soil temperature @ 0 cm in soil -1.9 m (west) of snow fence (C)
      rclow
9. mean soil temperature @ 0 cm in soil +0.9 m (east) of snow fence (C)
      rclow
10. mean soil temperature @ 0 cm in soil +1.8 m (east) of snow fence (C)
      rclow
11. mean soil temperature @ 0 cm in soil +3.6 m (east) of snow fence (C)
      rclow
12. sample depth from sensor to surface (cm)
      Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
      o1

Notes:
1. Missing line of data between this file and the next
2. Sonic sensor repositioned on January 24, 2004 @ 1200 and secured with more cables.
3. CR10X time adjusted +2 seconds on January 24, 2003 (24) @ 1141
4. Removed 2 of the 4 batteries. Had to power down the station for ten minutes. Missed 15 minutes data.
5. Sonic sensor height, 111.0 cm

Filename: bsn03405.dat
Station: Lake Bonney Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: January 24, 2004 (24) @ 1200
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: bsn023v1v1.dld (Program Signature: 63043)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean soil P.A.R. +3.6 m (east) from snow fence (micromols/s/m2) – Q30801
    divide by 200, multiply by 217.27
5. mean soil P.A.R. +1.8 m (east) from snow fence (micromols/s/m2) – Q30802
    divide by 200, multiply by 222.23
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2) – Q20266
    divide by 200, multiply by 275.02
7. mean air temp. @ 1.5 m (C)
    rclow
8. mean soil temperature @ 0 cm in soil -1.9 m (west) of snow fence (C)
    rclow
9. mean soil temperature @ 0 cm in soil +0.9 m (east) of snow fence (C)
    rclow
10. mean soil temperature @ 0 cm in soil +1.8 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.6 m (east) of snow fence (C)
    rclow
12. sample depth from sensor to surface (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Sonic sensor repositioned on January 24, 2004 @ 1200 and secured with more cables.
2. CR10X time adjusted +2 seconds on January 24, 2003 (24) @ 1141
3. Removed 2 of the 4 batteries. Had to power down the station for ten minutes.
4. Sonic sensor height, 111.0 cm

Filename:	caa03401.dat
Station:	Canada Glacier met station
Date of Establishment:	Nov 20, 1995 by Karen Lewis
Reinstalled on glacier:	Jan 13, 1998 by Karen Lewis
Author of this report:	Thomas Nylen
File Period:	January 28, 2003 (28) @ 1015 to November 11, 2003 (315) @ 16:45
Sampling Frequency:	wind speed every 4 sec; all other every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	caa023v1 (program signature: 3341)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 2.55 meters (C)
   rclow
5. mean rh @ 2.55 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature– original depth was 50.0 cm from the surface (mV*0.01)
    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492
15. ice temperature – original depth was 100.0 cm from the surface (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.442
16. sample battery voltage
    o1

*Notes:
1. No missing data. Duplicate line at the end of the file. Use first line (November 11, 2003 @ 1645, and ignore the second.
2. Check time on November 11, 2003 (315) @ 16:45, adjusted CR10X time back 2 minutes and 41 seconds.
3. Check wind on November 11, 2003 (315) @ 16:50, pointing north
4. Swapped out one SM4M for one SM4M on November 11, 2003 (315) @ 16:51
5. Thermister stake height with board (1.2 cm): 71.4, 71.3, 71.3, 71.3 (original measurements with the board, 1.2 cm thick, when thermisters were installed are 65.1, 65.2, 65.2 and 65.0 cm).

Filename:	caa03402.dat
Station:	Canada Glacier met station
Date of Establishment:	Nov 20, 1995 by Karen Lewis
Reinstalled on glacier:	Jan 13, 1998 by Karen Lewis
Author of this report:	Thomas Nylen
File Period:	November 11, 2003 (315) @ 1700 to January 21, 2004 (21) @ 1730
Sampling Frequency:	wind speed every 4 sec; all other every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	caa023v1 (program signature: 3341)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 2.55 meters (C)
    rclow
5. mean rh @ 2.55 meters (%)
    ok
6. mean solar flux coming down (W/m2)
    ok
7. mean solar flux going up (W/m2)
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature – original depth was 50.0 cm from the surface (mV*0.01)
    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492
15. ice temperature – original depth was 100.0 cm from the surface (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.442
16. sample battery voltage
    o1

*Notes:
1. No missing data.
2. Check time on January 21, 2004 (21) @ 1734, add 6 secs to the datalogger.
3. Check wind on January 21, 2004 (21) @ 1735, pointing north
4. Swapped out one SM4M for one SM4M on January 21, 2004 (21) @ 1730
5. Thermister stake height with the board: 72.9, 72.8, 72.8, 72.8 (original measurements with the board, 1.2 cm thick, when thermisters were installed are 65.1, 65.2, 65.2 and 65.0 cm). Snow on the surface.

Filename:	caa03403.dat
Station:	Canada Glacier met station
Date of Establishment:	Nov 20, 1995 by Karen Lewis
Reinstalled on glacier:	Jan 13, 1998 by Karen Lewis
Author of this report:	Thomas Nylen
File Period:	January 21, 2004 (21) @ 1745 to January 29, 2004 (29) @ 1430
Sampling Frequency:	wind speed every 4 sec; all other every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	caa023v1 (program signature: 7862)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 2.55 meters (C)
    rclow
5. mean rh @ 2.55 meters (%)
    ok
6. mean solar flux coming down (W/m2)
    ok
7. mean solar flux going up (W/m2)
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature – original depth was 50.0 cm from the surface (mV*0.01)
    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492
15. ice temperature – original depth was 100.0 cm from the surface (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.442
16. sample battery voltage
    o1

*Notes:
1. No missing data.
2. Check wind on January 29, 2004 (29) @ 1507, pointing north
3. Swapped out one SM4M for one SM4M on January 29, 2004 (29) @ 1445
4. Thermister stake height with the board: 73.5, 73.4, 73.4, 73.5 (original measurements with the board, 1.2 cm thick, when thermisters were installed are 65.1, 65.2, 65.2 and 65.0 cm).
5. Replaced and rewired CR10 with a new CR10X between January 29, 2004 @ 1445 and 1505. Power was supplied to both dataloggers during the whole process. The storage module was connected to the new datalogger at the start of the switch.

Filename:	caa03404.dat
Station:	Canada Glacier met station
Date of Establishment:	Nov 20, 1995 by Karen Lewis
Reinstalled on glacier:	Jan 13, 1998 by Karen Lewis
Author of this report:	Thomas Nylen
File Period:	January 29, 2004 (29) @ 1445 to January 29, 2004 (29) @ 1500
Sampling Frequency:	wind speed every 4 sec; all other every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	caa023v1 (program signature: 3341)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 2.55 meters (C)
   rclow
5. mean rh @ 2.55 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature – original depth was 50.0 cm from the surface (mV*0.01)
    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492
15. ice temperature – original depth was 100.0 cm from the surface (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.442
16. sample battery voltage
    o1

*Notes:
1. These two lines of data were on the old CR10. Some data is missing as the wires were switched to the new CR10X.

Filename:	coh03401.dat
Station:	Commonwealth Glacier Station
Date of Establishment:	Nov 22, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	January 23, 2003 (23) @ 1615 to November 13, 2003 (317) @ 1100
Sampling Frequency:	sonic every 60 minutes, wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	coh023v2 (program signature: 60409)

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean air temp. @ 3 meters (C)
      rClow
5. mean R.H. @ 3 meters (%)
      ok
6. mean solar flux coming down (W/m2)
      divide by 100; multiply by 117.10
7. mean solar flux going up (W/m2)
      divide by 100; multiply by 123.00
8. mean horizontal wind speed (m/s)
      ok
9. resultant mean wind speed (m/s)
      o1
10. resultant mean wind direction (degrees from north)
      ok
11. standard deviation of wind direction (degrees)
      ok
12. maximum wind speed (m/s)
      ok
13. minimum wind speed (m/s)
      ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2)
      divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
      Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
      Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
      Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2)
      divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
      Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
      Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
      Eppley
22. ice temperature @ 50cm (original depth, mV*0.01)
      poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325

23. ice temperature @ 100cm (original depth, mV*0.01)

      poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492

24. sample depth from sensor to surface (m)

      Depth surface minus value multiplied by -100 to convert to cm

25. sample of battery voltage

      o1

*Notes:
1. No missing data. Duplicate line on November 13, 2003 (317) @ 1045. Selected the first of the two lines for the dataset.
2. CR10X time adjusted back 1 minute and 40 seconds on November 13, 2003 (317) @ 1055
3. Sonic depth is 59.1 cm.
4. Wind alignment check on November 13, 2003 (317) @ 1056, no changes
5. Thermister stake height on November 13, 2003 (317): 51.9, 51.5, 51.4, 51.7. Snow depth: 8.4, 12.8, 13.3, 8.1
6. Replaced one (1) SM4M with one (1) SM4M on on November 13, 2003 (317) @ 1100
7. Upper pyranometer: 29763f3, downward pyranometer: 29762f3
8. Upper pyrgeometer: 32059f3; downward pyrgeometer: 30831f3

Filename: coh03402.dat
Station: Commonwealth Glacier Station
Date of Establishment: Nov 22, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: November 13, 2003 (317) @ 1115 to December 5, 2003 (339) @ 1430
Sampling Frequency: sonic every 60 minutes, wind every 4 secs.; other every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: coh023v2 (program signature: 60409)

1. array I.D.
     o1
2. day
     ok
3. time
     ok
4. mean air temp. @ 3 meters (C)
     rClow
5. mean R.H. @ 3 meters (%)
     ok
6. mean solar flux coming down (W/m2)
     divide by 100; multiply by 117.10
7. mean solar flux going up (W/m2)
     divide by 100; multiply by 123.00
8. mean horizontal wind speed (m/s)
     ok
9. resultant mean wind speed (m/s)
     o1
10. resultant mean wind direction (degrees from north)
     ok
11. standard deviation of wind direction (degrees)
     ok
12. maximum wind speed (m/s)
     ok
13. minimum wind speed (m/s)
     ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2)
     divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
     Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
     Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
     Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2)
     divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
     Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
     Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
     Eppley
22. ice temperature @ 50cm (original depth, mV*0.01)
     poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325

23. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492
24. sample depth from sensor to surface (m)
    Depth surface minus value multiplied by -100 to convert to cm
25. sample of battery voltage
    o1

*Notes:
1. No missing data
2. CR10X time adjusted +1 on December 5, 2003 (339) @ 1428
3. Sonic depth is 59.0 cm.
4. Wind alignment check on December 5, 2003 (339) @ 1432, no changes
5. Removed regulator on batteries. New panel installed last year has a regulator built in, so the old one is no longer necessary.
6. Replaced one (1) SM4M with one (1) SM4M on December 5, 2003 (339) @ 1505
7. Upper pyranometer: 29763f3, downward pyranometer: 29762f3
8. Upper pyrgeometer: 32059f3; downward pyrgeometer: 30831f3
9. Swapped out CR10X with a recalibrated CR10X.

Filename: coh03403.dat
Station: Commonwealth Glacier Station
Date of Establishment: Nov 22, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: December 5, 2003 (339) @ 1445
Sampling Frequency: sonic every 60 minutes, wind every 4 secs.; other every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: coh023v2 (program signature: 60409)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rClow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming down (W/m2)
        divide by 100; multiply by 117.10
7. mean solar flux going up (W/m2)
        divide by 100; multiply by 123.00
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        ok
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2)
        divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
        Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
        Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
        Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2)
        divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
        Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
        Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
        Eppley
22. ice temperature @ 50cm (original depth, mV*0.01)
        poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325

23. ice temperature @ 100cm (original depth, mV*0.01)

        poly ($n0=-106.23, n1=239.65, 2=-512.50, n3=693.49, n4=-551.71, n5=254.79, n6=-63.07, n7=6.492$)

24. sample depth from sensor to surface (m)

        Depth surface minus value multiplied by -100 to convert to cm

25. sample of battery voltage

        o1

*Notes:
1. No missing data
2. Unplugged pyranometers on December 5, 2003 (339) @ 1438 to install new pyranometers, but could not get the screws out. Reinstalled old pyranometers. Replace pyranometers next visit.
3. Swapped out RH sensor on December 5, 2003 (339) @ 1445
4. Replaced one (1) SM4M with one (1) SM4M on December 5, 2003 (339) @ 1505
5. Upper pyranometer: 29763f3, downward pyranometer: 29762f3
6. Upper pyrgeometer: 32059f3; downward pyrgeometer: 30831f3
7. Swapped out CR10X with a recalibrated CR10X.

Filename:	coh03404.dat
Station:	Commonwealth Glacier Station
Date of Establishment:	Nov 22, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	December 5, 2003 (339) @ 1500
Sampling Frequency:	sonic every 60 minutes, wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	coh023v2 (program signature: 60409)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rClow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2)
    divide by 100; multiply by 117.10
7. mean solar flux going up (W/m2)
    divide by 100; multiply by 123.00
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2)
    divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
    Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
    Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
    Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2)
    divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
    Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
    Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
    Eppley
22. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325

23. ice temperature @ 100cm (original depth, mV*0.01)

poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492

24. sample depth from sensor to surface (m)

Depth surface minus value multiplied by -100 to convert to cm

25. sample of battery voltage

o1

*Notes:
1. No missing data
2. Unplugged pyranometers on December 5, 2003 (339) @ 1438 to install new pyranometers, but could not get the screws out. Reinstalled old pyranometers. Replace pyranometers next visit.
3. Swapped out RH sensor on December 5, 2003 (339) @ 1445
4. Replaced one (1) SM4M with one (1) SM4M on December 5, 2003 (339) @ 1505
5. Upper pyranometer: 29763f3, downward pyranometer: 29762f3
6. Upper pyrgeometer: 32059f3; downward pyrgeometer: 30831f3
7. Swapped out CR10X with a recalibrated CR10X.

Filename:	coh03405.dat
Station:	Commonwealth Glacier Station
Date of Establishment:	Nov 22, 1993 by Peter Doran5
Author of this report:	Thomas Nylen
File Period:	December 5, 2003 (339) @ 1515 to December 12, 2003 (346) @ 1500
Sampling Frequency:	sonic every 60 minutes, wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	coh023v2 (program signature: 60409)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rClow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   divide by 100; multiply by 117.10 before December 12, 2003 @ 1445
   divide by 100; multiply by 116.14 starting December 12, 2003 @ 1445
7. mean solar flux going up (W/m2)
   divide by 100; multiply by 123.00 before December 12, 2003 @ 1445
   divide by 100; multiply by 116.82 starting December 12, 2003 @ 1445
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2)
    divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
    Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
    Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
    Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2)
    divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
    Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
    Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
    Eppley

22. ice temperature @ 50cm (original depth, mV*0.01)

    poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325)

23. ice temperature @ 100cm (original depth, mV*0.01)

    poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492)

24. sample depth from sensor to surface (m)

    Depth surface minus value multiplied by -100 to convert to cm

25. sample of battery voltage

    o1

*Notes:

1. No missing data
2. Adjust CR10X +08 secs on December 12, 2003 (346) @ 1450
3. Unplugged pyranometers on December 12, 2003 (346) @ 1415 to install new pyranometers. Reposition upward pyranometer and pyrgometer towards the center post to reduce the flex in the crass-arm. Place the downward pyranometer and pyrgeometer towards the end of the cross-arm. Rotated the cross-arm counterclockwise so the downward sensors are more over ice/snow, and away from the station supports. Sensors were unplugged for about 30 minuts
4. Replaced one (1) SM4M with one (1) SM4M on December 12, 2003 (346) @ 1500
5. Old Upper pyranometer: 29763f3, old downward pyranometer: 29762f3; new Upper pyranometer: 29776f3, new downward pyranometer: 29777f3
6. Upper pyrgeometer: 32059f3; downward pyrgeometer: 30831f3.
7. Installed an Everest IRT on December 12, 2003. Installed a separate battery for the sensor.
8. Loaded and compiled new program, coh034v1 on December 12, 2003 @ 1500. New program signature is 31998
9. Checked wind monitor. Adjusted wind monitor back to point north after rotating cross arm on December 12, 2003.

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean air temp. @ 3 meters (C)
      rClow
5. mean R.H. @ 3 meters (%)
      ok
6. mean solar flux coming down (W/m2) – 29776F3
      divide by 100; multiply by 116.14
7. mean solar flux going up (W/m2) – 29777F3
      divide by 100; multiply by 116.82
8. mean horizontal wind speed (m/s)
      ok
9. resultant mean wind speed (m/s)
      o1
10. resultant mean wind direction (degrees from north)
      ok
11. standard deviation of wind direction (degrees)
      ok
12. maximum wind speed (m/s)
      ok
13. minimum wind speed (m/s)
      ok
14. mean incoming IR pyrgeometer output (pins A-B) (W/m2) – 32059F3
      divide by 250; multiply by 223.71
15. mean incoming IR hemisphere temp. (pins A-C) (mv)
      Eppley
16. mean incoming IR thermopile output (pins F-G)(W/m2)
      Eppley
17. mean incoming IR case temp. (pins E-D)(mv)
      Eppley
18. mean outgoing IR pyrgeometer output (pins A-B)(W/m2) – 30831F3
      divide by 250; multiply by 271.00
19. mean outgoing IR hemisphere temp. (pins F-G) (mv)
      Eppley
20. mean outgoing IR thermopile (pins A-C) (W/m2)
      Eppley
21. mean outgoing IR case temp. (pins E-D) (mv)
      Eppley
22. ice temperature @ 50cm (original depth, mV*0.01)
      poly (n0=-105.05,n1=232.89,2=-494.81,n3=669.70,n4=-533.67,n5=247.01,n6=-61.29, n7=6.325

23. ice temperature @ 100cm (original depth, mV*0.01)

poly (n0=-106.23,n1=239.65,2=-512.50,n3=693.49,n4=-551.71,n5=254.79,n6=-63.07, n7=6.492

24. Surface Temperature (C)

ok

25. sample depth from sensor to surface (m)

Depth surface minus value multiplied by -100 to convert to cm

26. sample of battery voltage

o1

*Notes:
1. First line of data is a repeat of last line of coh0345.dat. Disregard the first line.
2. Adjust CR10X +44 secs on January 19, 200 (19) @ 1340
3. Replaced one (1) SM4M with one (1) SM4M on January 19, 200 (19) @ 1433
4. Checked wind monitor. No changes
5. Sonic sensor height before placing more guide wires on was 61.0 cm, the new height after install guide wires is 60.0. Check data
6. Stake height from top to snow surface is 57.7, 57.2, 57.2, 57.6 cm.
7. Removed grounding rod just in case it was in the way of the IRT sensor.
8. Sealed IRT battery box and top of PVC pipe housing the IRT sensor.

Filename:	exe03401.dat
Station:	Explorer's Cove Station
Date of Establishment:	Nov 21, 1997 by Peter Doran, D.J. Osborne and Keith Sauter
Author of this report:	Thomas Nylen
File Period:	January 29, 2003 (29) @ 1415 to December 30, 2003 (365) @ 1715
Sampling Frequency:	prec every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	exe023v1 (program signature: 65455)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean RH @ 3 meters
   ok
6. mean solar flux coming up (~W/m2)
   ok
7. mean solar flux going down (~W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    o1
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiple by 289.45
15. mean soil temperature @ 0 cm (C)
    rclow
16. mean soil temperature @ 5 cm (C)
    rclow
17. mean soil temperature @ 10 cm (C)
    rclow
18. sample precipitation (mm)
    ok
19. sample battery voltage

notes:
1. Adjusted time -36 sec on December 30, 2003 (365) @ 1621
2. Checked input values on December 30, 2003 (365) @ 1625 everything working fine
3. Checked wind December 30, 2003 (365) @ 1627, rotated 10 degrees counterclockwise..
4. Replaced one SM4M storage module on December 30, 2003 (365) @ 1717 with 1 SM4M

5. Swapped out upward pyranometer on December 30, 2003 (365) @ 1646. Old sensor number is PY41090 and new number is PY28371.
6. Swapped out downward pyranometer on December 30, 2003 (365) @ 1653. Old sensor number is PY40423 and new number is PY28348.
7. Swapped out Vaisala HMP45C RH probe with recalibrated on December 30, 2003 (365) @ 1630

Filename: exe03402.dat
Station: Explorer's Cove Station
Date of Establishment: Nov 21, 1997 by Peter Doran, D.J. Osborne and Keith Sauter
Author of this report: Thomas Nylen
File Period: December 30, 2003 (365) @ 1715 to January 19, 2004 (19) @ 1515
Sampling Frequency: prec every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: exe023v1 (program signature: 61847)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean RH @ 3 meters
        ok
6. mean solar flux coming up (~W/m2)
        ok
7. mean solar flux going down (~W/m2)
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        o1
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean P.A.R. (micromols/s/m2)
        divide by 200, multiple by 289.45
15. mean soil temperature @ 0 cm (C)
        rclow
16. mean soil temperature @ 5 cm (C)
        rclow
17. mean soil temperature @ 10 cm (C)
        rclow
18. sample precipitation (mm)
        ok
19. sample battery voltage

notes:
1. Adjusted time +21 sec on January 19, 2004 @ 1515
2. Checked input values on January 19, 2004 @ 1515 everything working fine
3. Checked wind January 19, 2004 @ 1515, no changes.
4. Replaced one SM4M storage module on January 19, 2004 @ 1524 with 1 SM4M

5. Swapped out batteries, station was powered down for a few minutes. It appears when the CR10X came back on that the clock was off by about an hour
6. Change anti-freeze fluid in the precipitation gage. Use an anti-freeze sold by Campbell Scientific Inc.

Filename: exe03403.dat
Station: Explorer's Cove Station
Date of Establishment: Nov 21, 1997 by Peter Doran, D.J. Osborne and Keith Sauter
Author of this report: Thomas Nylen
File Period: January 19, 2004 (19) @ 1615 (1530)
Sampling Frequency: prec every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: exe023v1 (program signature: 61847)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean RH @ 3 meters
   ok
6. mean solar flux coming up (~W/m2)
   ok
7. mean solar flux going down (~W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    o1
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiple by 289.45
15. mean soil temperature @ 0 cm (C)
    rclow
16. mean soil temperature @ 5 cm (C)
    rclow
17. mean soil temperature @ 10 cm (C)
    rclow
18. sample precipitation (mm)
    ok
19. sample battery voltage

notes:
1. Adjusted time +21 sec on January 19, 2004 @ 1515
2. Checked input values on January 19, 2004 @ 1515 everything working fine
3. Checked wind January 19, 2004 @ 1515, no changes.
4. Replaced one SM4M storage module on January 19, 2004 @ 1524 with 1 SM4M

5. Swapped out batteries, station was powered down for a few minutes. It appears when the CR10X came back on that the clock was off by about 45 minutes. Did not correct the time until January 23, 2004 at 0945
6. Change anti-freeze fluid in the precipitation gage. Use a anti-freeze sold by Campbell Scientific Inc.

Filename: exe03404.dat
Station: Explorer's Cove Station
Date of Establishment: Nov 21, 1997 by Peter Doran, D.J. Osborne and Keith Sauter
Author of this report: Thomas Nylen
File Period: January 19, 2004 (19) @ 1630 (1545) to January 23, 2004 (23) @ 0945
Sampling Frequency: prec every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: exe023v1 (program signature: 61847)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean RH @ 3 meters
        ok
6. mean solar flux coming up (~W/m2)
        ok
7. mean solar flux going down (~W/m2)
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        o1
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean P.A.R. (micromols/s/m2)
        divide by 200, multiple by 289.45
15. mean soil temperature @ 0 cm (C)
        rclow
16. mean soil temperature @ 5 cm (C)
        rclow
17. mean soil temperature @ 10 cm (C)
        rclow
18. sample precipitation (mm)
        ok
19. sample battery voltage

notes:
1. Adjusted time -40 minutes on January 23, 2004 @ 0936. Adjusted data back by 45 minutes between January 19,
    2004 @ 1530 (1615 in the file) and 23 January 23, 2004 (23) @ 0945 (1030 in the file).
2. Checked input values on January 23, 2004 @ 0938 everything working fine
3. Replaced one SM4M storage module on January 23, 2004 @ 0945 with 1 SM4M

Filename:	frl03401.dat
Station:	Lake Fryxell met station
Date of Establishment:	Jan 6, 1994 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	January 22, 2003 (22) @ 1345 to December 29, 2003 (364) @ 1845
Sampling Frequency:	sonic every 60 minutes, wind every 4 sec; others: every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	frl023v1.dld (program signature: 49340)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rClow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2)
    ok
7. mean solar flux going up (W/m2)
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiply by 261.14 before December 29, 2003 (364) @ 1715
    divide by 200, multiply by 314.76 on and after December 29, 2003 (364) @ 1715
15. mean soil temperature @ 0 cm in soil (C)
    rClow
16. mean soil temperature @ 5 cm in soil (C)
    rClow
17. mean soil temperature @ 10 cm in soil (C)
    rClow
18. sample depth from sensor to surface (cm)
    Depth surface minus value multiplied by -100 to convert to cm
19. sample of battery voltage
    o1

notes:
1. No missing data, first line overlaps with previous file. Use line from previous file
2. Time adjusted +22 sec on December 29, 2003 (364) @ 1522
3. Wind alignment checked on December 29, 2003 (364) @ 1525, no changes

4. Swapped out upward pyranometer on December 29, 2003 (364) @ 1703. Old sensor number is PY20515, new sensor number is PY25307
5. Swapped out downward pyranometer on December 29, 2003 (364) @ 1655. Old sensor number is PY20568, new sensor number is PY27929
6. Swapped out Quantum on December 29, 2003 (364) @ 1715. Old sensor number is Q29773, new sensor number is Q23207.
7. Swapped out Vaisala HMP45C RH sensor with recalibrated one on December 29, 2003 (364) @ 1644
8. Module replaced with 1 SM4M @ December 29, 2003 (364) @ 1845
9. Rotated sonic sensor ~10 degrees because it was too close to the battery box. Also install guide wires on the sonic sensor, which lowered the sensor heights about 4 cm.
10. Need to replace sensor holders for the Quantum and downward pyranometer
11. Installed guide wires on the main post.

Filename: frl03402.dat
Station: Lake Fryxell met station
Date of Establishment: Jan 6, 1994 by Peter Doran
Author of this report: Thomas Nylen
File Period: December 29, 2003 (364) @ 1900 to January 23, 2004 (23) @ 1100
Sampling Frequency: sonic every 60 minutes, wind every 4 sec; others: every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: frl023v1.dld (program signature: 49340)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rClow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming down (W/m2) – PY25307
        ok
7. mean solar flux going up (W/m2) – PY27929
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        ok
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean P.A.R. (micromols/s/m2) – Q23207
        divide by 200, multiply by 314.76
15. mean soil temperature @ 0 cm in soil (C)
        rClow
16. mean soil temperature @ 5 cm in soil (C)
        rClow
17. mean soil temperature @ 10 cm in soil (C)
        rClow
18. sample depth from sensor to surface (cm)
        Depth surface minus value multiplied by -100 to convert to cm
19. sample of battery voltage
        o1

notes:
1. No missing data
2. Time adjusted +10 sec on January 23, 2004 (23) @ 1100
3. Wind alignment checked on January 23, 2004 (23) @ 1115, no changes
4. Module replaced with 1 SM4M @ January 23, 2004 (23) @ 1109

5. Tighten guide wires on the main post and sonic ranger. Might have pulled the sonic down a bit.
6. Need to replace sensor holders for the Quantum and downward pyranometer

Filename: fsn03401.dat
Station: Lake Fryxell Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: January 22, 2003 (22) @ 1615 to November 5, 2003 (309) @ 0700
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: fs0231v1.dld (program signature: 17958)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean soil P.A.R. +3.8 m (east) from snow fence (micromols/s/m2)
        divide by 200, multiply by 223.73
5. mean soil P.A.R. +1.9 m (east) from snow fence (micromols/s/m2)
        divide by 200, multiply by 220.46
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
        divide by 200, multiply by 228.68
7. mean air temp. @ 1.3 m (C)
        rclow
8. mean soil temperature @ 0 cm in soil -4.5 m (west) of snow fence (C)
        rclow
9. mean soil temperature @ 0 cm in soil +1.0 m (east) of snow fence (C)
        rclow
10. mean soil temperature @ 0 cm in soil +1.9 m (east) of snow fence (C)
        rclow
11. mean soil temperature @ 0 cm in soil +3.8 m (east) of snow fence (C)
        rclow
12. Sonic Ranger Depth (cm)
        Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
        o1

Notes:
1. Missing data between 7/5/03 22:45 and 7/6/03 8:00.
2. Lines of data missing on this file are in the next file, fsn03402. They were inserted in the proper location.
3. Time adjusted ahead 3 minutes and 52 seconds on November 19, 2003 (309) @ 1516
4. Swapped out two SM716 for one SM4M on November 19, 2003 (309) @ 1431
5. Sonic sensor depth to ground is 83.0

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean soil P.A.R. +3.8 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 223.73
5. mean soil P.A.R. +1.9 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 220.46
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
   divide by 200, multiply by 228.68
7. mean air temp. @ 1.3 m (C)
   rclow
8. mean soil temperature @ 0 cm in soil -4.5 m (west) of snow fence (C)
   rclow
9. mean soil temperature @ 0 cm in soil +1.0 m (east) of snow fence (C)
   rclow
10. mean soil temperature @ 0 cm in soil +1.9 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.8 m (east) of snow fence (C)
    rclow
12. Sonic Ranger Depth (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Lines of data missing from previous file are in this file, fsn03402. They were inserted in the proper location.
2. Time adjusted back 3 minutes and 52 seconds on November 19, 2003 (309) @ 1516
3. Swapped out two SM716 for one SM4M on November 19, 2003 (309) @ 1431
4. Sonic sensor depth to ground is 83.0

Filename: fsn03403.dat
Station: Lake Fryxell Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: November 19, 2003 (323) @ 1445 to December 29, 2003 (363) @ 1200
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: fs0231v1.dld (program signature: 17958)

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean soil P.A.R. +3.8 m (east) from snow fence (micromols/s/m2)
      divide by 200, multiply by 223.73
5. mean soil P.A.R. +1.9 m (east) from snow fence (micromols/s/m2)
      divide by 200, multiply by 220.46
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
      divide by 200, multiply by 228.68
7. mean air temp. @ 1.3 m (C)
      rclow
8. mean soil temperature @ 0 cm in soil -4.5 m (west) of snow fence (C)
      rclow
9. mean soil temperature @ 0 cm in soil +1.0 m (east) of snow fence (C)
      rclow
10. mean soil temperature @ 0 cm in soil +1.9 m (east) of snow fence (C)
      rclow
11. mean soil temperature @ 0 cm in soil +3.8 m (east) of snow fence (C)
      rclow
12. Sonic Ranger Depth (cm)
      Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
      o1

Notes:
1. Time adjusted +8 seconds on December 29, 2003 (363) @ 1213
2. Swapped out one SM4M for one SM716 on December 29, 2003 (363) @ 1210
3. Sonic sensor depth to ground is 104.5

Filename: fsn03404.dat
Station: Lake Fryxell Snow Fence
Date of Establishment: January 2001 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: December 29, 2003 (363) @ 1215 to January 23, 2004 (23) @ 1430
Sampling Frequency: sonic every 60 minutes, every 30 sec for all the others
Averaging and Output Interval: every 15 min
Program Name: fs0231v1.dld (program signature: 5425)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean soil P.A.R. +3.8 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 223.73
5. mean soil P.A.R. +1.9 m (east) from snow fence (micromols/s/m2)
   divide by 200, multiply by 220.46
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2)
   divide by 200, multiply by 228.68
7. mean air temp. @ 1.3 m (C)
   rclow
8. mean soil temperature @ 0 cm in soil -4.5 m (west) of snow fence (C)
   rclow
9. mean soil temperature @ 0 cm in soil +1.0 m (east) of snow fence (C)
   rclow
10. mean soil temperature @ 0 cm in soil +1.9 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.8 m (east) of snow fence (C)
    rclow
12. Sonic Ranger Depth (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Time adjusted +5 seconds on January 23, 2004 (23) @ 1500
2. Swapped out one SM716 for two SM716 on January 23, 2004 (23) @ 1445
3. Sonic sensor depth to ground is 101.1 cm.

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean soil P.A.R. +3.8 m (east) from snow fence (micromols/s/m2) - Q30804
    divide by 200, multiply by 223.73
5. mean soil P.A.R. +1.9 m (east) from snow fence (micromols/s/m2) - Q30800
    divide by 200, multiply by 220.46
6. mean Air P.A.R. @ 1.6 m (micromols/s/m2) – Q30805
    divide by 200, multiply by 228.68
7. mean air temp. @ 1.3 m (C)
    rclow
8. mean soil temperature @ 0 cm in soil -4.5 m (west) of snow fence (C)
    rclow
9. mean soil temperature @ 0 cm in soil +1.0 m (east) of snow fence (C)
    rclow
10. mean soil temperature @ 0 cm in soil +1.9 m (east) of snow fence (C)
    rclow
11. mean soil temperature @ 0 cm in soil +3.8 m (east) of snow fence (C)
    rclow
12. Sonic Ranger Depth (cm)
    Depth surface minus value multiplied by -100 to convert to cm
13. sample of battery voltage
    o1

Notes:
1. Swapped out two SM716 for one SM4M on January 29, 2004 (29) @ 1000

Filename:	hod0341.dat
Station:	Howard Glacier Station
Date of Establishment:	Nov 20, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	January 16, 2003 (16) @ 1600 to November 12, 2003 (316) @ 1630
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	hod023v1 (26628)

1. array I.D.
      o1
2. day
      ok
3. time
      ok
4. mean air temp. @ 3 meters (C)
      rclow
5. mean R.H. @ 3 meters (%)
      ok
6. mean solar flux coming down (W/m2)
      divide by 100; multiply by 120.48 (30853F3)
7. mean solar flux going up (W/m2)
      divide by 100; multiply by 109.89 (32058F3)
8. mean horizontal wind speed (m/s)
      ok
9. resultant mean wind speed (m/s)
      o1
10. resultant mean wind direction (degrees from north)
      ok
11. standard deviation of wind direction (degrees)
      ok
12. maximum wind speed (m/s)
      ok
13. minimum wind speed (m/s)
      ok
14. ice temperature @ 50cm (original depth, mV*0.01)
      poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
      poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
16. mean air temp @ 1 meter m (C)
      rclow
17. mean rh @ 1 meter (%)
      ok
18. sample of battery voltage
      o1

*Notes:
1. No data missing
2. First line repeats last line of hod0233.dat. Delete first line of this file.
3. Adjusted time -1:18 sec on November 12, 2003 (317) @ 16:24
4. Checked input values on November 12, 2003 (317) @ 16:25, everything looked good.
5. Check wind direction, no adjustments.
6. 4 measurements on the stake board to top of the stake) are 85.7, 85.6, 85.7 and 85.8 cm and the board is 1.2 cm.

7. Swapped out SM4M module for another SM4M on November 12, 2003 (317) @ 1631

Filename:	hod0342.dat
Station:	Howard Glacier Station
Date of Establishment:	Nov 20, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	November 12, 2003 (316) @ 1645 to November 28, 2003 (332) @ 1200
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	hod023v1 (26628)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2) - 30853F3
    divide by 100; multiply by 120.48
7. mean solar flux going up (W/m2) - 32058F3
    divide by 100; multiply by 109.89
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
16. mean air temp @ 1 meter m (C)
    rclow
17. mean rh @ 1 meter (%)
    ok
18. sample of battery voltage
    o1

*Notes:
1. Swapped out CR10X on November 28, 2003 (332) @ 1200. Lost only a 30 sec interval. Clock is correct on new CR10X.
2. Adjusted time +2 sec on November 28, 2003 (332) @ 1138
3. Checked input values on, everything looked good.
4. Check wind direction, on November 28, 2003 (332) @ 1130, pointing north.

5. Cross arm was rotated a bit so pyranometers were more over ice. Rotated black box of wind monitor to compensate.
6. Did not swap out storage module.

Filename:	hod0343.dat
Station:	Howard Glacier Station
Date of Establishment:	Nov 20, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	November 28, 2003 (332) @ 1215 to January 16, 2004 (16) @ 1730
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	hod023v1 (30364)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) - 30853F3
   divide by 100; multiply by 120.48
7. mean solar flux going up (W/m2) - 32058F3
   divide by 100; multiply by 109.89
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
16. mean air temp @ 1 meter m (C)
    rclow
17. mean rh @ 1 meter (%)
    ok
18. sample of battery voltage
    o1

*Notes:
1. Adjusted time +56 sec on to January 16, 2004 (16) @ 1714
2. Checked input values on, everything looked good.
3. Check wind direction, on to January 16, 2004 (16) @ 1717, pointing north.
4. Installed sonic ranger on to January 16, 2004 (16) @ 1730. Sonic depth is 81.2 cm from surface
5. Loaded new program, Hod034v1 on to January 16, 2004 (16) @ 1730. New program signature is 9224.
6. 4 measurements on the stake board to top of the stake) are 75.3, 75.3, 75.2, 75.1 cm and the board is 1.2 cm.

7. Swapped out SM4M module for another SM4M on November 12, 2003 (317) @ 1631

Filename: hoe03401.dat
Station: Lake Hoare met station
Date of Establishment: Dec 1, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 29, 2003 (29) @ 1815 to December 11, 2003 (345) @ 1715
Sampling Frequency: wind every 4 sec; other every 30 sec
Averaging and Output Interval: every 15 minutes
Program Name: hoe023v1 (Program signature: 51032)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming down (W/m2)
        ok
7. mean solar flux going up (W/m2)
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        ok
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean P.A.R. (micromols/s/m2)
        divide by 200, multiply by 243.47 (Q29775)
15. sample station barometric pressure (mbar)
        ok
16. mean temperature difference 1-3 m (C)
        Multiply by -1
17. sample of battery voltage
        o1

*Notes:
1. No missing lines of data
2. Did not adjusted clock
3. Did not check wind monitor
4. Replaced 1 SM 4M storage modules with one SM4M on December 11, 2003 @ 1725

Filename: hoe03402.dat
Station: Lake Hoare met station
Date of Establishment: Dec 1, 1993 by Peter Doran
Author of this report: Thomas Nylen
File Period: December 11, 2003 (345) @ 1730 to January 12, 2004 (12) @ 1515
Sampling Frequency: wind every 4 sec; other every 30 sec
Averaging and Output Interval: every 15 minutes
Program Name: hoe023v1 (Program signature: 51032)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming down (W/m2) – PY20222
        ok
7. mean solar flux going up (W/m2) – PY28370
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        ok
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean P.A.R. (micromols/s/m2) - Q29775
        divide by 200, multiply by 243.47
15. sample station barometric pressure (mbar)
        ok
16. mean temperature difference 1-3 m (C)
        Multiply by -1
17. sample of battery voltage
        o1

*Notes:
1. No missing lines of data
2. Adjusted time -4 minutes and :23 sec on January 12, 2004 (12) @ 1454
3. Check wind direction on January 12, 2004 (12) @ 1500, pointing north
4. Swapped out upward pyranometer on January 12, 2004 (12) @ 1522. Old sensor number is PY20222, new sensor number is PY25306
5. Swapped out downward pyranometer on January 12, 2004 (12) @ 1517. Old sensor number is PY28370, new sensor number is PY27937

6. Swapped out Quantum on January 12, 2004 (12) @ 1530. Old sensor number is Q29775, new sensor number is Q28265.
7. Swapped out Vaisala HMP45C RH sensor with recalibrated one on January 12, 2004 (12) @ 1508.
8. Replaced CR10X on January 12, 2004 (12) @ 1515
9. Replaced 1 SM 4M storage modules with one SM4M on January 12, 2004 (12) @ 1535.

Filename:	hoe03403.dat
Station:	Lake Hoare met station
Date of Establishment:	Dec 1, 1993 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	January 12, 2004 (12) @ 1545 to January 30, 2004 (30) @ 1215
Sampling Frequency:	wind every 4 sec; other every 30 sec
Averaging and Output Interval:	every 15 minutes
Program Name:	hoe023v1 (Program signature: 10675)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters ©
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2) – PY25306
    ok
7. mean solar flux going up (W/m2) – PY27937
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) – Q28265
    divide by 200, multiply by 235.84
15. sample station barometric pressure (mbar)
    ok
16. mean temperature difference 1-3 m ©
    Multiply by -1
17. sample of battery voltage
    o1

*Notes:
1. Line of data is missing between the file and the last (January 12, 2004 (12) @ 1530)
2. Adjusted time +21 sec on January 30, 2004 (30) @ 1217
3. Check wind direction on January 30, 2004 (30) @ 1219, pointing north
4. Replaced 1 SM 4M storage modules with one SM4M on January 30, 2004 (30) @ 1222.

Filename: hoep3401.dat
Station: Lake Hoare precipitation station
Date of Establishment: January 26, 2002 @ 1545 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: January 29, 2003 (29) @ 1815 to December 11, 2003 (345) @ 1715
Sampling Frequency: every 30 sec
Averaging and Output Interval: every 15 minutes
Program Name: lhp023v1.dld (Program signature: 48224)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. total precipitation (mm)
        ok
5. mean soil temperature @ 0 cm in soil (C)
        rClow
6. mean soil temperature @ 5 cm in soil (C)
        rClow
7. mean soil temperature @ 10 cm in soil (C)
        rClow
8. sample of battery voltage
        o1

*Notes:
1. Did not adjusted time
2. Replaced two SM716 storage module with two SM716 on December 11, 2003 @ 1725

Filename: hoep3402.dat
Station: Lake Hoare precipitation station
Date of Establishment: January 26, 2002 @ 1545 by Thomas Nylen
Author of this report: Thomas Nylen
File Period: December 11, 2003 (345) @ 1730 to January 12, 2004 (12) @ 1645
Sampling Frequency: every 30 sec
Averaging and Output Interval: every 15 minutes
Program Name: lhp023v1.dld (Program signature: 48224)

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. total precipitation (mm)
        ok
5. mean soil temperature @ 0 cm in soil (C)
        rClow
6. mean soil temperature @ 5 cm in soil (C)
        rClow
7. mean soil temperature @ 10 cm in soil (C)
        rClow
8. sample of battery voltage
        o1

*Notes:
1. Adjusted CR10 time back 3 minutes and 6 secs on January 12, 2004 (12) @ 1645
2. Swapped out old CR10 for new CR10X on January 12, 2004 (12) @ 1700
3. Replaced two SM716 storage module with two SM716 on January 12, 2004 (12) @ 1645
4. Replaced precipitation fluid in gage between January 12, 2004 (12) @ 1545 and 1615. Ignore recorded values
    since it was only associated with replacing the fluid.

Filename:	hoep3403.dat
Station:	Lake Hoare precipitation station
Date of Establishment:	January 26, 2002 @ 1545 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	January 12, 2004 (12) @ 1715 to January 30, 2004 (30) @ 1145
Sampling Frequency:	every 30 sec
Averaging and Output Interval:	every 15 minutes
Program Name:	lhp023v1.dld (Program signature: 47297)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. total precipitation (mm)
    ok
5. mean soil temperature @ 0 cm in soil (C)
    rClow
6. mean soil temperature @ 5 cm in soil (C)
    rClow
7. mean soil temperature @ 10 cm in soil (C)
    rClow
8. sample of battery voltage
    o1

*Notes:
1. Missing line of data between this and previous file.
2. Moved CR10X from battery box to enclosure. Rewired the CR10 between January 30, 2004 (30) @ 1145 and 1215.
3. Replaced two SM716 storage module with one SM4m on January 30, 2004 (30) @ 1145

Filename: tar03401.dat
Station: Taylor Glacier Station
Date of Establishment: 1994 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 17, 2003 (17) @ 1030 to November 14, 2003 (318) @ 1530
Sampling Frequency: depth every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 minutes
Program name: tar023v2 (program signature: 33460)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m)
   divide by 100; multiply by 118.76 (30884F3)
7. mean solar flux going up (W/m2)
   divide by 100; multiply by 111.86 (32057F3)
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    flag
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-106.57,n1=241.60,n2=-517.58,n3=700.30,n4=-556.87,n5=257.01,n6=-63.57, n7=6.54
16. mean air temp @ 1m (C) from 107 Temp. Probe
    rclow
17. mean RH at 1m (%) from Vaisala HMP45C Probe
    ok
18. sample depth from sensor to surface (cm)
    Converted value based on temperature, subtracted starting value, and multiplied by -100 to convert to cm
19. sample of battery voltage
    o1

*Notes:
1. No missing data
2. Wind prop blew apart on 3/23/03 18:45. Flagged all wind data as missing after that.
3. CR10X time adjusted back 13 seconds on November 14, 2003 @ 1523

4. Input values checked on November 14, 2003 @ 1525, everything looked good.
5. Check wind alignment, no adjustment
6. 4 measurements on the stake board to top of the stake) are 73.1, 73.1, 73.4 and 73.3 cm and the board is 1.2 cm.
7. Swapped (1) SM4M module for another on November 14, 2003 @ 1535.
8. Sonic depth measured on November 24, 2003 is 123.5 cm from surface
9. Installed new RH1m replacement head on November 24, 2003 @ 1456
10. Lowered Shorwave radiation stand by 11 cm on November 24, 2003 to move it out of the way of the wind monitor.

Filename:	tar03402dat
Station:	Taylor Glacier Station
Date of Establishment:	1994 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	November 14, 2003 (318) @ 1545 to January 17, 2004 (17) @ 1100
Sampling Frequency:	depth every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval:	every 15 minutes
Program name:	tar023v2 (program signature: 33460)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   divide by 100; multiply by 118.76 (30884F3)
7. mean solar flux going up (W/m2)
   divide by 100; multiply by 111.86 (32057F3)
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    flag
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-106.57,n1=241.60,n2=-517.58,n3=700.30,n4=-556.87,n5=257.01,n6=-63.57, n7=6.54
16. mean air temp @ 1m (C) from 107 Temp. Probe
    rclow
17. mean RH at 1m (%) from Vaisala HMP45C Probe
    ok
18. sample depth from sensor to surface (cm)
    Converted value based on temperature, subtracted starting value, and multiplied by -100 to convert to cm
19. sample of battery voltage
    o1

*Notes:
1. No missing data

Filename:		tar03403dat
Station:		Taylor Glacier Station
Date of Establishment:		1994 by Peter Doran
Author of this report:		Thomas Nylen
File Period:		January 17, 2004 (17) @ 1115 to January 17, 2004 (17) @ 1245
Sampling Frequency:		depth every 60 minutes, wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval:		every 15 minutes
Program name:		tar023v2 (program signature: 33460)

1. array I.D.
     o1
2. day
     ok
3. time
     ok
4. mean air temp. @ 3 meters (C)
     rclow
5. mean R.H. @ 3 meters (%)
     ok
6. mean solar flux coming down (W/m2)
     divide by 100; multiply by 118.76 (30884F3)
7. mean solar flux going up (W/m2)
     divide by 100; multiply by 111.86 (32057F3)
8. mean horizontal wind speed (m/s)
     ok
9. resultant mean wind speed (m/s)
     o1
10. resultant mean wind direction (degrees from north)
     flag
11. standard deviation of wind direction (degrees)
     ok
12. maximum wind speed (m/s)
     ok
13. minimum wind speed (m/s)
     ok
14. ice temperature @ 50cm (original depth, mV*0.01)
     poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
     poly (n0=-106.57,n1=241.60,n2=-517.58,n3=700.30,n4=-556.87,n5=257.01,n6=-63.57, n7=6.54
16. mean air temp @ 1m (C) from 107 Temp. Probe
     rclow
17. mean RH at 1m (%) from Vaisala HMP45C Probe
     ok
18. sample depth from sensor to surface (cm)
     Converted value based on temperature, subtracted starting value, and multiplied by -100 to convert to cm
19. sample of battery voltage
     o1

*Notes:
1. No missing data
2. Time adjusted +11 secs on January 17, 2003 @ 1353.
3. Input values checked on January 17, 2003 @ 1355, everything looked good.

4. Check wind alignment, no adjustment
5. Installed multiplexer on January 17, 2003 @ 1245, and moved ice temp probes to multiplexer and moved RH1m from Channel 9 to Channel 8. Ice temperature probes not working properly. Check all connections and not sure why they are not working. Flag data.
6. Installed IRT on January 17, 2003 @ 1245. Values seem a bit too high.
7. New program, tar034v1 was loaded on January 17, 2003 @ 1245.
8. Sonic height is 131.8 cm from surface.
9. Ice stake height using board (1.2 cm) are 81.5, 81.7, 81.9, 81.7 cm.
10. Replaced (1) SM4M with another on January 17, 2003 @ 1245.

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) - 30884F3
   divide by 100; multiply by 118.76
7. mean solar flux going up (W/m2) - 32057F3
   divide by 100; multiply by 111.86
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    flag
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. ice temperature @ 50cm (original depth, mV*0.01)
    poly (n0=-105.87,n1=237.58,n2=-507.11,n3=686.25,n4=-546.23,n5=252.43,n6=-62.53, n7=6.44
15. ice temperature @ 100cm (original depth, mV*0.01)
    poly (n0=-106.57,n1=241.60,n2=-517.58,n3=700.30,n4=-556.87,n5=257.01,n6=-63.57, n7=6.54
16. mean air temp @ 1m (C) from 107 Temp. Probe
    rclow
17. mean RH at 1m (%) from Vaisala HMP45C Probe
    ok
18. surface temperature (C)
    ok
19. sample depth from sensor to surface (cm)
    Subtracted starting value, and multiplied by 100 to convert to cm
20. sample of battery voltage
    o1

*Notes:
1. No missing data
2. Time adjusted +2 secs on January 24, 2003 @ 1115.

3. Input values checked on January 24, 2003 @ 1116, everything looked good.
4. Check wind alignment, no adjustment
5. Sonic height is 91.6 cm from surface.
6. Ice stake height using board (1.2 cm) are 82.4, 82.5, 82.5, 82.5 cm.
7. Replaced (1) SM4M with another on January 24, 2003 @ 1124.
8. Replaced one of the station batteries
9. Installed new sonic sensor mount, which changed the height.

Filename:	uhod3401.dat
Station:	Upper Howard Glacier Station
Date of Establishment:	November 14, 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	January 16, 2003 (16) @ 0945 to March 28, 2003 (87) @ 0700
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	uhod012v1 (Prog Sign# 11892)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean snow temp @ 20cm (C)
    rclow
15. mean snow temp @ 40cm (C)
    rclow
16. sample of battery voltage
    o1

*Notes:
1.

Filename:	uhod03402.dat to uhod03408.dat
Station:	Upper Howard Glacier Station
Date of Establishment:	November 14, 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	????? to ?????
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	uhod012v1 (Prog Sign# 11892)

Garbage

*Notes:
1.   CR10 stopped functioning properly

Filename:	uhod3409.dat to uhod3434
Station:	Upper Howard Glacier Station
Date of Establishment:	November 14, 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	March 28, 2003 (87) @ 0700 to October 23, 2003 (296) @ 1000
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	uhod012v1 (Prog Sign# 11892)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean snow temp @ 20cm (C)
    rclow
15. mean snow temp @ 40cm (C)
    rclow
16. sample of battery voltage
    o1

*Notes:
1. Quite a bit of missing data between the 26 files. Not enough power to keep the CR10X functioning properly.

1. array I.D.
        o1
2. day
        ok
3. time
        ok
4. mean air temp. @ 3 meters (C)
        rclow
5. mean R.H. @ 3 meters (%)
        ok
6. mean solar flux coming down (W/m2)
        ok
7. mean solar flux going up (W/m2)
        ok
8. mean horizontal wind speed (m/s)
        ok
9. resultant mean wind speed (m/s)
        o1
10. resultant mean wind direction (degrees from north)
        ok
11. standard deviation of wind direction (degrees)
        ok
12. maximum wind speed (m/s)
        ok
13. minimum wind speed (m/s)
        ok
14. mean snow temp @ 20cm (C)
        rclow
15. mean snow temp @ 40cm (C)
        rclow
16. sample of battery voltage
        o1

*Notes:
1. One line of data
2. Time adjusted ahead 32 minutes and 54 secs on November 12, 2003 @ 1043 (GPS time)
3. Check wind direction on November 12, 2003 @ 1046 (GPS time), pointing north
4. Repositioned snow probes, both were exposed. New depths are 10 and 20 cm below the surface.
5. Replaced two 716SM with one SM4M on November 12, 2003 @ 1048

Filename:	uhod3436.dat
Station:	Upper Howard Glacier Station
Date of Establishment:	November 14, 2001 by Thomas Nylen
Author of this report:	Thomas Nylen
File Period:	November 12, 2003 (316) @1100 to January 16, 2004 (16) @ 1045
Sampling Frequency:	wind every 4 sec others: every 30 sec
Averaging and Output Interval:	every 15 minutes
Program name:	uhod012v1 (Prog Sign# 11892)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean snow temp @ 20cm (C)
    rclow
15. mean snow temp @ 40cm (C)
    rclow
16. sample of battery voltage
    o1

*Notes:
1. Time adjusted ahead 32 secs on January 16, 2004 @ 1036 (GPS time)
2. Check wind direction on January 16, 2004 @ 1038, pointing north
3. Swapped out upward pyranometer on January 16, 2004 (12) @ 1100. Old sensor number is PY20567, new sensor number is PY28167
4. Swapped out downward pyranometer on January 16, 2004 (12) @ 1100. Old sensor number is PY41096, new sensor number is PY28349
5. Swapped out batteries (one new, one from the L. Vida station) on January 16, 2004 (12) @ 1100.
6. Swapped out Vaisala HMP45C RH sensor with recalibrated one on January 16, 2004 (16) @ 1115.
7. Replaced one SM4M with one SM4M on January 16, 2004 (16) @ 1116

1. array I.D.
       o1
2. day
       ok
3. time
       ok
4. mean air temp. @ 3 meters (C)
       rclow
5. mean R.H. @ 3 meters (%)
       ok
6. mean solar flux coming down (W/m2)
       ok
7. mean solar flux going up (W/m2)
       ok
8. mean horizontal wind speed (m/s)
       ok
9. resultant mean wind speed (m/s)
       o1
10. resultant mean wind direction (degrees from north)
       ok
11. standard deviation of wind direction (degrees)
       ok
12. maximum wind speed (m/s)
       ok
13. minimum wind speed (m/s)
       ok
14. mean snow temp @ 20cm (C)
       rclow
15. mean snow temp @ 40cm (C)
       rclow
16. sample of battery voltage
       o1

*Notes:
1. One line of data.
2. Batteries were replaced on January 16, 2004 @ 1100. Line of data is missing while the batteries were swapped.

Filename:	vaa03401.dat
Station:	Lake Vanda met station
Date of Establishment:	November 24, 1994 by Peter Doran, rebuilt
Author of this report:	Thomas Nylen
File Period:	January 27, 2003 (27) @ 1100 to December 8, 2003 (342) @ 1230
Sampling Frequency:	wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	vaa990v1 (4472)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   ok
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiply by 239.60
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 10 cm in soil (C)
    rclow
17. mean Onyx River temperature (C)
    rclow
18. sample of battery voltage
    o1

notes:
1. Station blew over on 9/9/03 2145 during a katabatic event. Station was rebuilt on December 8, 2003. All above surface measurements were flagged.
2. Install new pyranometers on December 8, 2003. New sensor numbers are Upward: PY18400 and downward: PY18657
3. Installed new Quantum (PAR) on December 8, 2003. New sensor number is Q19649.
4. Installed new wind monitor, but the wind speed was not working. Need to replace.

5. Installed sonic sensor, about 65 cm (value from CR10X) from the surface. Did not have a ruler so could not measure exact depth.
6. Swapped RH probes for recalibrated head on December 8, 2003
7. Swapped out batteries on December 8, 2003.

Filename:	vaa03402.dat
Station:	Lake Vanda met station
Date of Establishment:	November 24, 1994 by Peter Doran, rebuilt
Author of this report:	Thomas Nylen
File Period:	December 8, 2003 (342) @ 1230 to December 8, 2003 (342) @ 1400
Sampling Frequency:	wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	vaa990v1 (4472)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2)
    ok
7. mean solar flux going up (W/m2)
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    ok
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiply by 239.60
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 10 cm in soil (C)
    rclow
17. mean Onyx River temperature (C)
    rclow
18. sample of battery voltage
    o1

notes:
 1.   First line of the data file repeats the last line of vaa03401.dat. Use the last line from vaa03401.dat.

Filename:	vaa03403.dat
Station:	Lake Vanda met station
Date of Establishment:	November 24, 1994 by Peter Doran, rebuilt
Author of this report:	Thomas Nylen
File Period:	December 8, 2003 (342) @ 1415 to December 8, 2003 (342) @ 1500
Sampling Frequency:	wind every 4 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	vaa990v1 (4472)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   ok
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiply by 239.60
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 10 cm in soil (C)
    rclow
17. mean Onyx River temperature (C)
    rclow
18. sample of battery voltage
    o1

notes:
1. Installed new program, vaa034v1, on December 8, 2003 @ 1500. New program signature is 23474.
2. No missing lines of data
3. Adjust time +23 minutes and 02 seconds on December 8, 2003 @ 1457
4. Replaced SM4M with another SM4M on December 8, 2003 @ 1500

Filename:	vaa03404.dat	
Station:	Lake Vanda met station	
Date of Establishment:	November 24, 1994 by Peter Doran, rebuilt	
Author of this report:	Thomas Nylen	
File Period:	December 8, 2003 (342) @ 1500 to December 8, 2003 (342) @ 1600	
Sampling Frequency:	wind every 4 secs.; sonic every 3600 secs.; other every 30 secs.	
Averaging and Output Interval:	every 15 min	
Program Name:	vaa034v1 (23474)	

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2)
   ok
7. mean solar flux going up (W/m2)
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   ok
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2)
    divide by 200, multiply by 310.04
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. surface height change (cm)
    bad
19. sample of battery voltage
    o1

notes:
1. First line of the data file repeats the last line of vaa03403.dat. Use the last line from vaa03403.dat.

Filename:	vaa03405.dat
Station:	Lake Vanda met station
Date of Establishment:	November 24, 1994 by Peter Doran, rebuilt
Author of this report:	Thomas Nylen
File Period:	December 8, 2003 (342) @ 1615 to January 26, 2004 (26) @ 1100
Sampling Frequency:	wind every 4 secs.; sonic every 3600 secs.; other every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	vaa034v1 (23474)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) – PY18400
   ok
7. mean solar flux going up (W/m2) - PY18657
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   ok
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) – Q19469
    divide by 200, multiply by 310.04
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. surface height change (cm)
    (0.656 m + measurement) * 100
19. sample of battery voltage
    o1

notes:
1. Adjusted datalogger clock ahead by 18 secs on January 26, 2004 (26) @ 1036
2. Check wind monitor alignment on January 26, 2004 (26) @ 1039, pointing north
3. Repositioned ultrasonic sensor and secured with guide wires on January 26, 2004 (26) @ 1100. New height is 55.1 cm.

4. Installed new wind monitor on January 26, 2004 (26) @ 1057
5. Swapped SM4m module for another on January 26, 2004 (26) @ 1110.

Filename: via03401.dat
Station: Lake Vida met station
Date of Establishment: November 24, 1995 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 27, 2003 (27) @ 1145 to January 7, 2004 (7) @ 1000
Sampling Frequency: wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 min
Program Name: via990v1 (program signature: 32732)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) – PY20523
   ok
7. mean solar flux going up (W/m2) – PY23250
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) - Q29765
    divide by 200, multiply by 263.64
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. sample of battery voltage
    o1

notes:
 1. No missing date

Filename: via03402.dat
Station: Lake Vida met station
Date of Establishment: November 24, 1995 by Peter Doran
Author of this report: Thomas Nylen
File Period: January 7, 2004 (7) @ 0930 to January 7, 2004 (7) @ 1200
Sampling Frequency: wind every 4 secs.; others: every 30 secs.
Averaging and Output Interval: every 15 min
Program Name: via990v1 (program signature: 32732)

1. array I.D.
    o1
2. day
    ok
3. time
    ok
4. mean air temp. @ 3 meters (C)
    rclow
5. mean R.H. @ 3 meters (%)
    ok
6. mean solar flux coming down (W/m2) – PY20523
    ok
7. mean solar flux going up (W/m2) – PY23250
    ok
8. mean horizontal wind speed (m/s)
    ok
9. resultant mean wind speed (m/s)
    o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) - Q29765
    divide by 200, multiply by 263.64 before January 7, 2004 (7) @ 1115
    divide by 200, multiply by 227.42 after January 7, 2004 (7) @ 1115
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. sample of battery voltage
    o1

notes:
1. No missing date
2. Time adjusted minus 40 minutes and 53 seconds to January 7, 2004 (7) @ 1020
3. Check wind alignment on to January 7, 2004 (7) @ 1059, pointing north. Afterwards rotated cross-arm clockwise so downward pyranometer is over soil, and away from the station.

4. Install new pyranometers on January 7, 2004 (7) @ 1130 and 1145. New sensor numbers are Upward: PY18656 and downward: PY28347
5. Installed new Quantum (PAR) on January 7, 2004 (7) @ 1115. New sensor number is Q28259.
6. Installed sonic sensor, about 50.5 cm from the surface.
7. Swapped RH probes for recalibrated head on January 7, 2004 (7) @ 1150
8. Swapped out batteries on January 7, 2004 (7) @ 1059.
9. Swapped out module with 1 SM4M on January 7, 2003 (7) @ 1200.
10. Loaded new program, via034v1 on January 7, 2004 (7) @ 1200

Filename:	via03403.dat
Station:	Lake Vida met station
Date of Establishment:	November 24, 1995 by Peter Doran
Author of this report:	Thomas Nylen
File Period:	January 7, 2004 (7) @ 1200 to January 26, 2004 (26) @ 1430
Sampling Frequency:	wind every 4 secs.; ultrasonic every 3600 secs; others: every 30 secs.
Averaging and Output Interval:	every 15 min
Program Name:	via034v1 (program signature: 1749)

1. array I.D.
   o1
2. day
   ok
3. time
   ok
4. mean air temp. @ 3 meters (C)
   rclow
5. mean R.H. @ 3 meters (%)
   ok
6. mean solar flux coming down (W/m2) – PY20523
   ok
7. mean solar flux going up (W/m2) – PY23250
   ok
8. mean horizontal wind speed (m/s)
   ok
9. resultant mean wind speed (m/s)
   o1
10. resultant mean wind direction (degrees from north)
    ok
11. standard deviation of wind direction (degrees)
    ok
12. maximum wind speed (m/s)
    ok
13. minimum wind speed (m/s)
    ok
14. mean P.A.R. (micromols/s/m2) - Q29765
    divide by 200, multiply by 227.42
15. mean soil temperature @ 0 cm in soil (C)
    rclow
16. mean soil temperature @ 5 cm in soil (C)
    rclow
17. mean soil temperature @ 10 cm in soil (C)
    rclow
18. surface height change (cm)
    (measurement + 50.65 cm)*100
19. sample of battery voltage
    o1

notes:
1. No missing date
2. Time adjusted +2 seconds to January 26, 2004 (26) @ 1428
3. Check wind alignment on to January 26, 2004 (26) @ 1429, pointing north.
4. Swapped out module with 1 SM4M on January 26, 2004 (26) @ 1432.