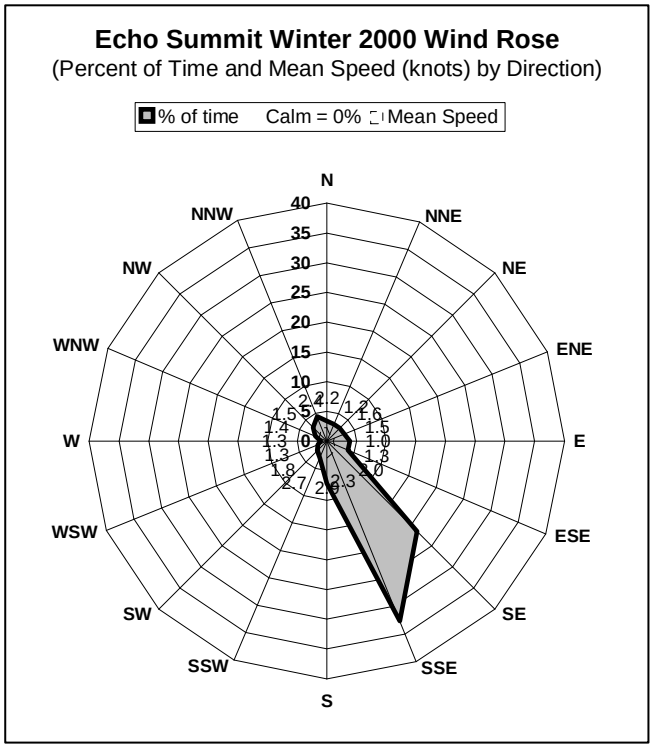
Appendix D

Additional Summaries of Meteorological Data in and near the Tahoe Basin

Figure D-1. Wind Roses for Echo Summit and SLT-Sandy Way - Winter 2000.



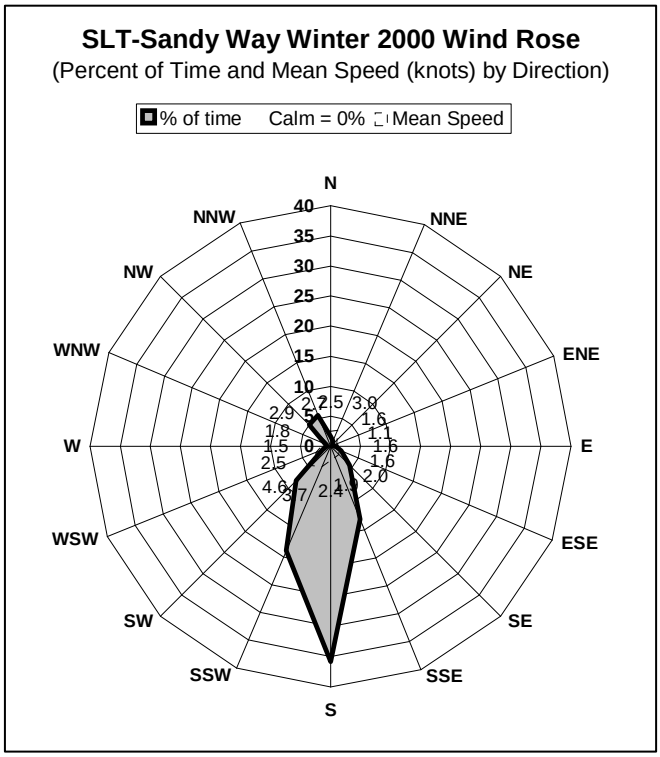
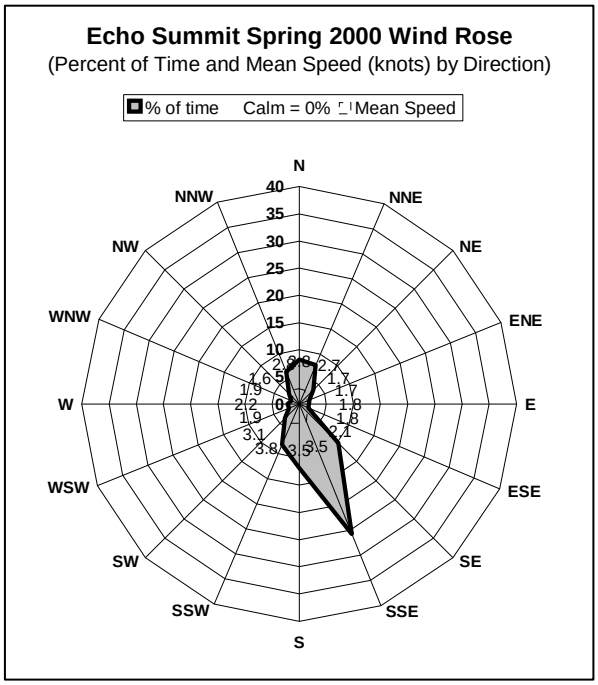
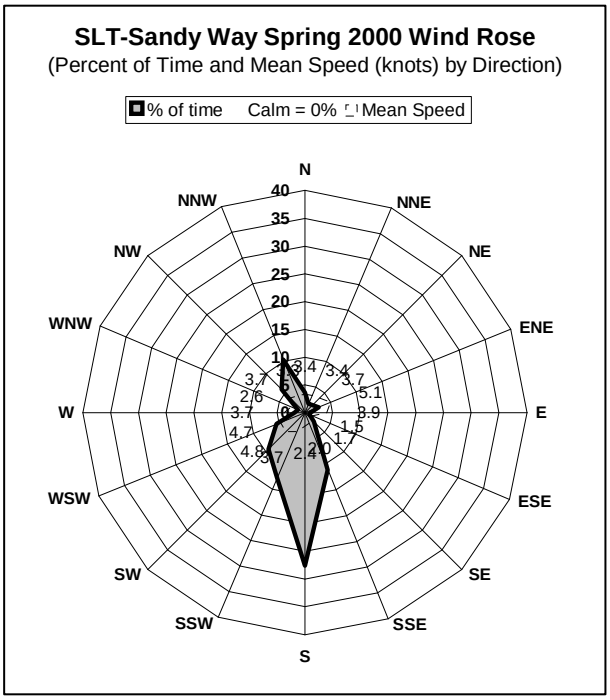


Figure D-2. Wind Roses for Echo Summit, SLT-Sandy Way, & Incline Village - Spring 2000.





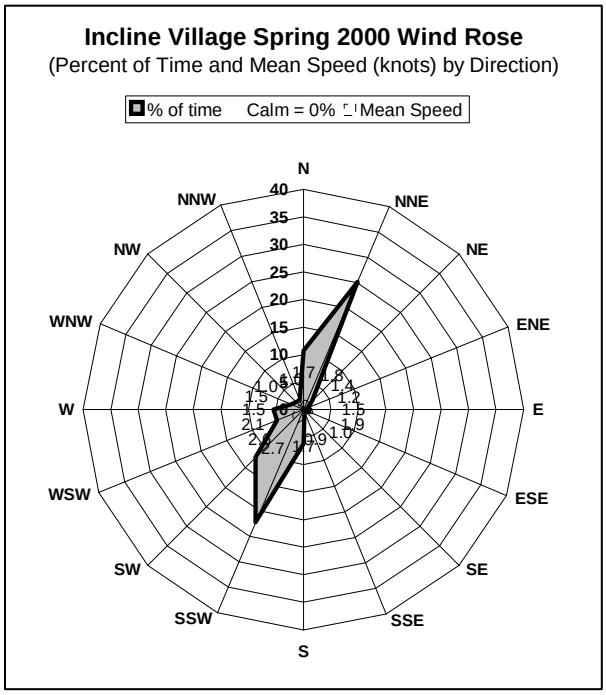
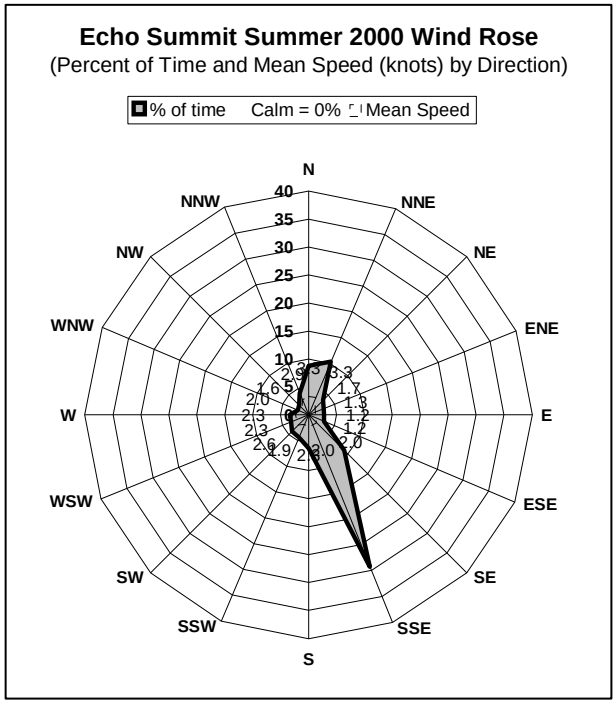
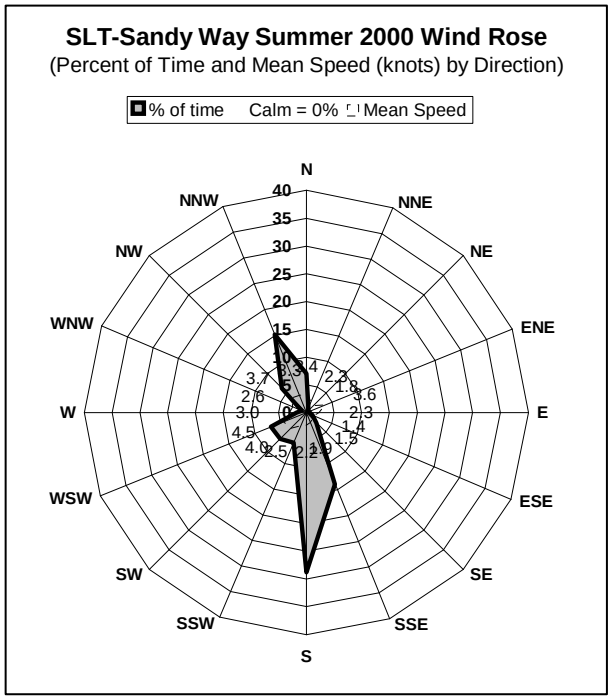


Figure D-3. Wind Roses for Echo Summit, SLT-Sandy Way, & Incline Village - Summer 2000.





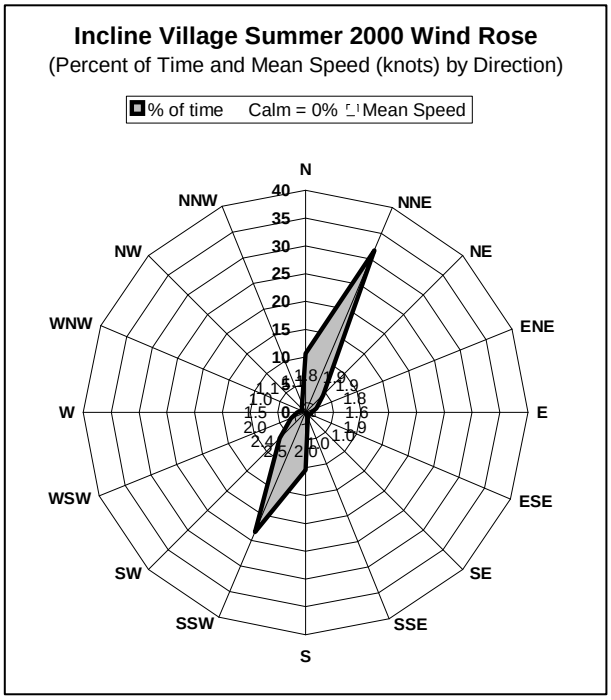
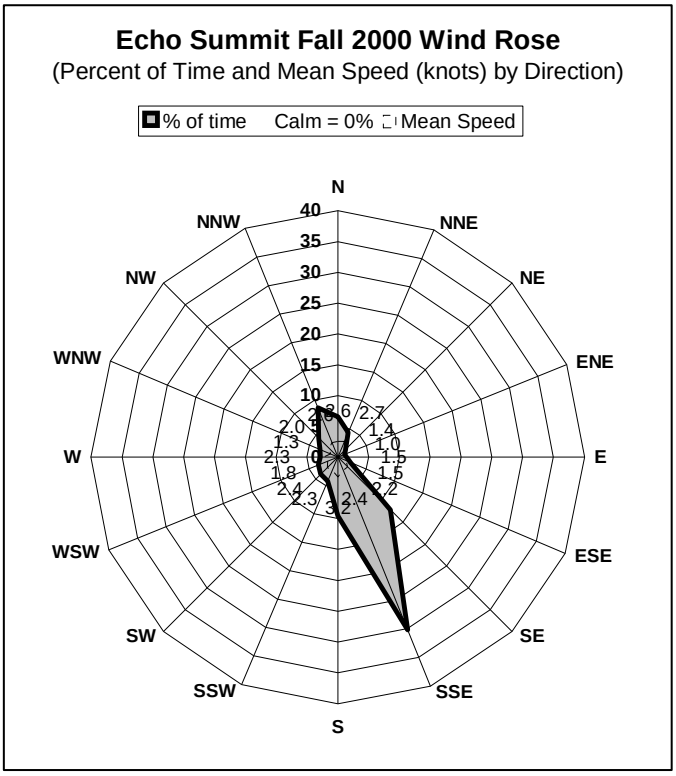


Figure D-4. Wind Roses for Echo Summit and SLT-Sandy Way - Fall 2000.



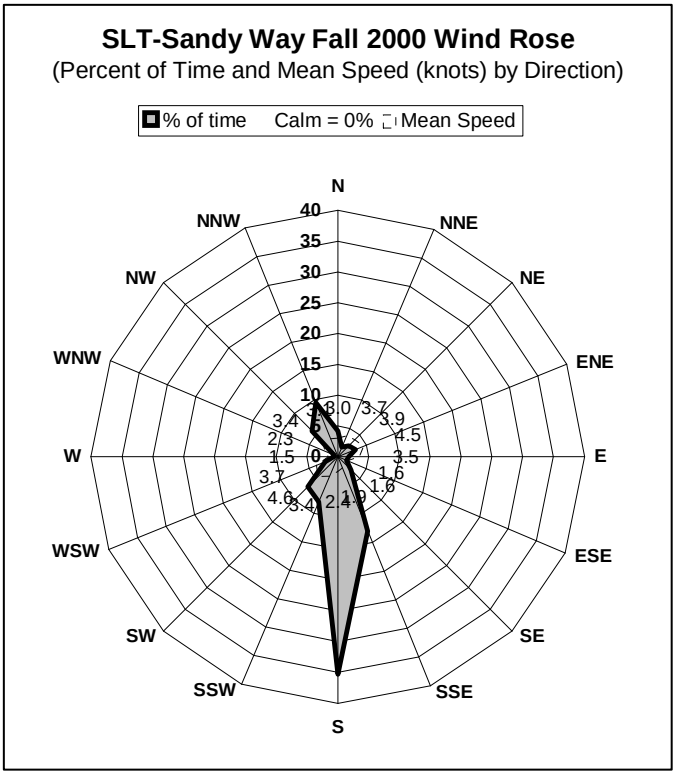
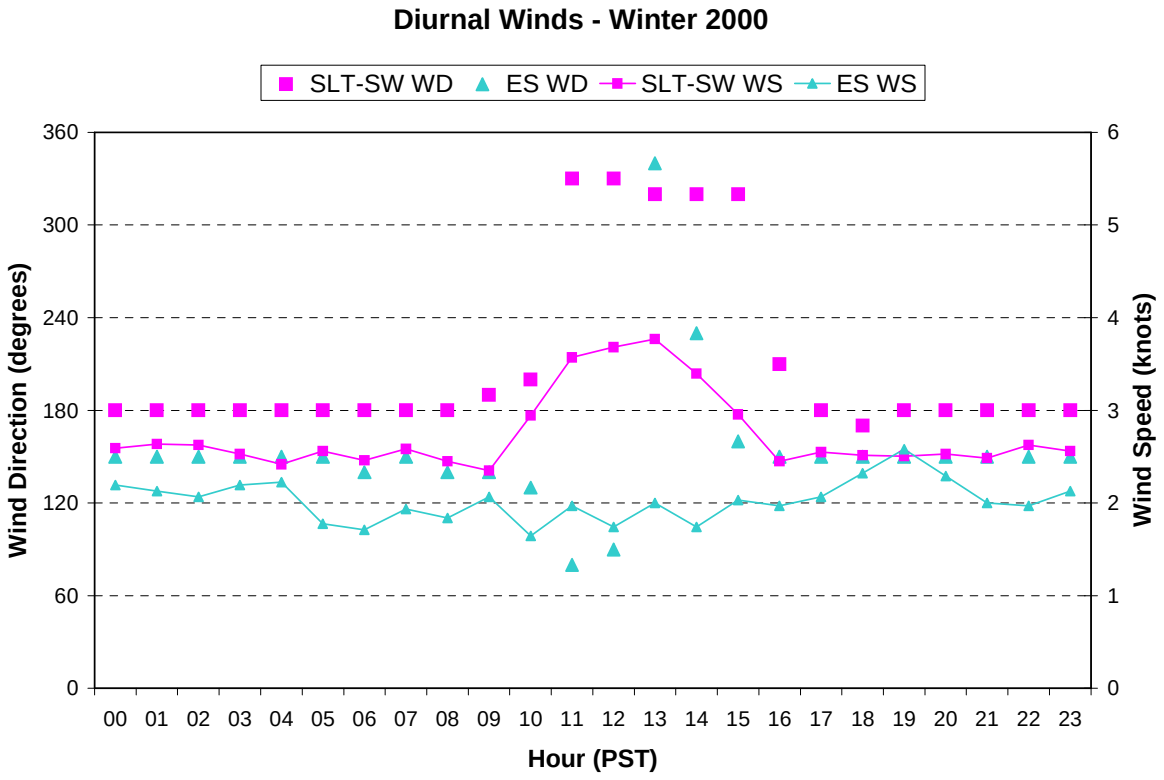
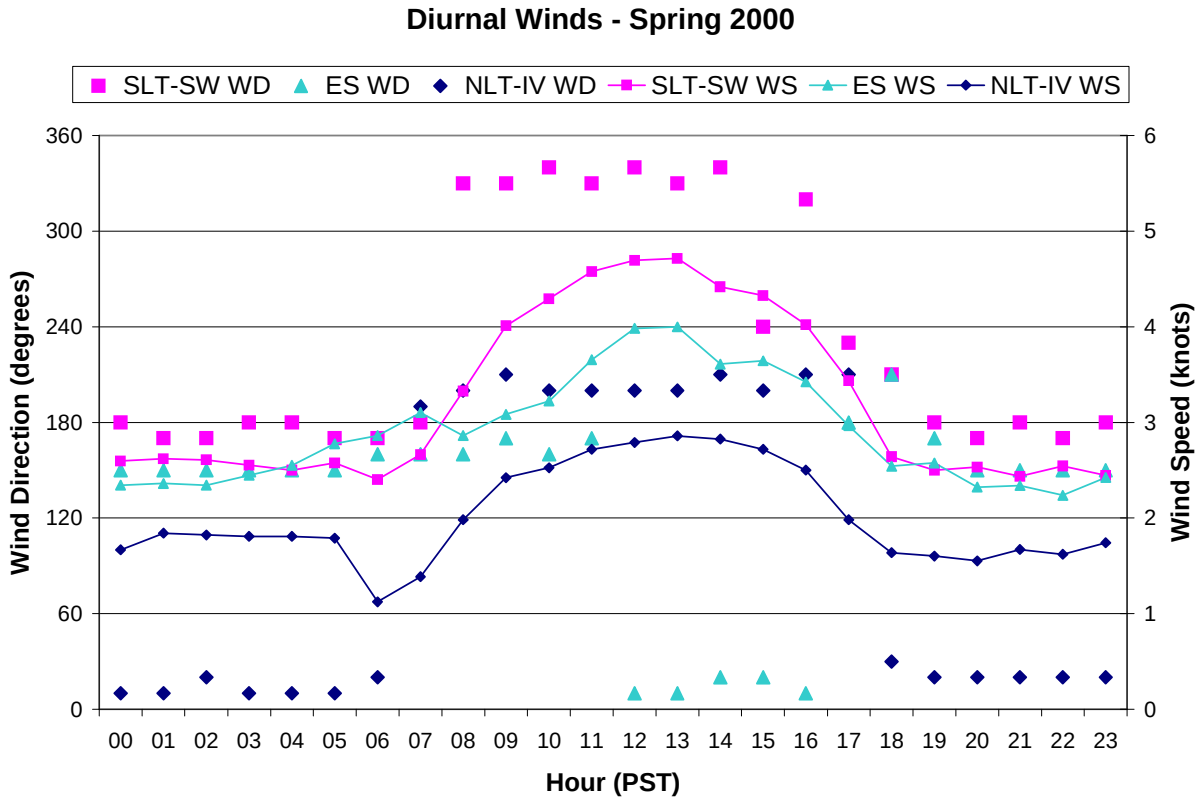
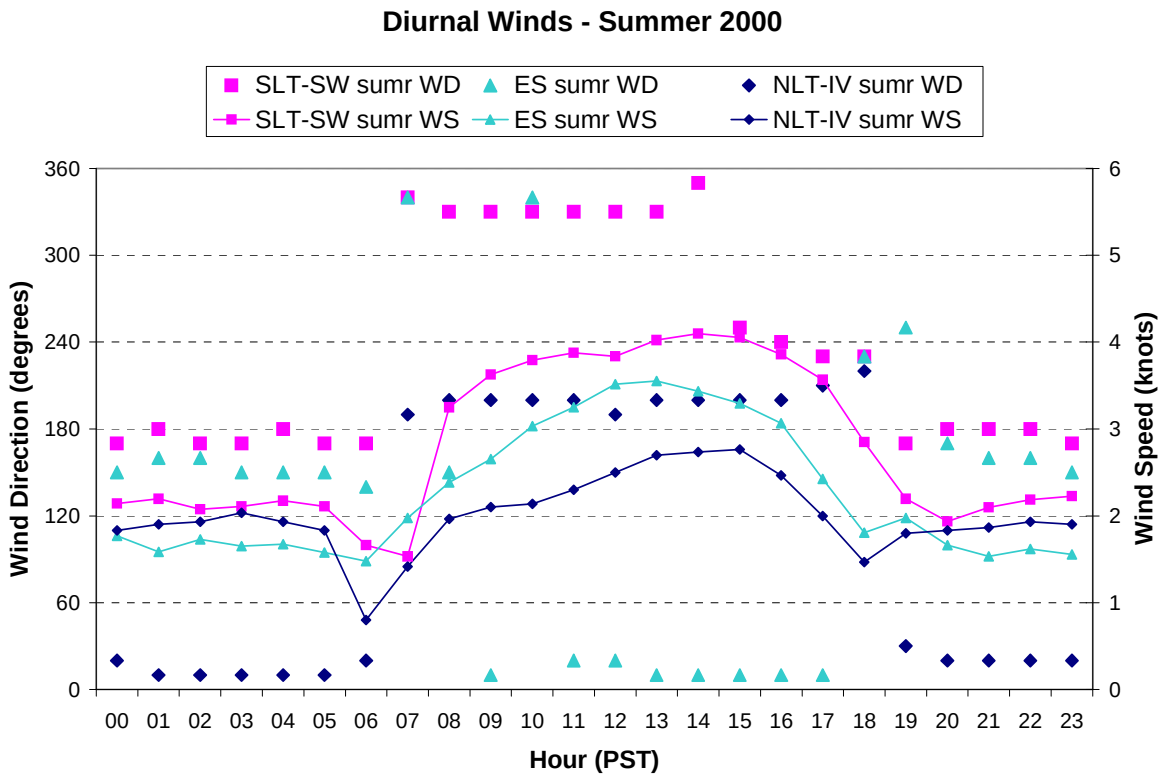


Figure D-5. Diurnal Variations in Winds within Tahoe Basin - Echo Summit (ES), S. Lake Tahoe – Sandy Way (SLT-SW), and, when available, Incline Village (IV).






Diurnal Winds - Summer 2000
SLT-SW sumr WD
ES sumr WD
NLT-IV sumr WD
SLT-SW sumr WS
ES sumr WS
NLT-IV sumr WS
Wind Direction (degrees)
Wind Speed (knots)
Hour (PST)
0
60
120
180
240
300
360
0
1
2
3
4
5
6
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

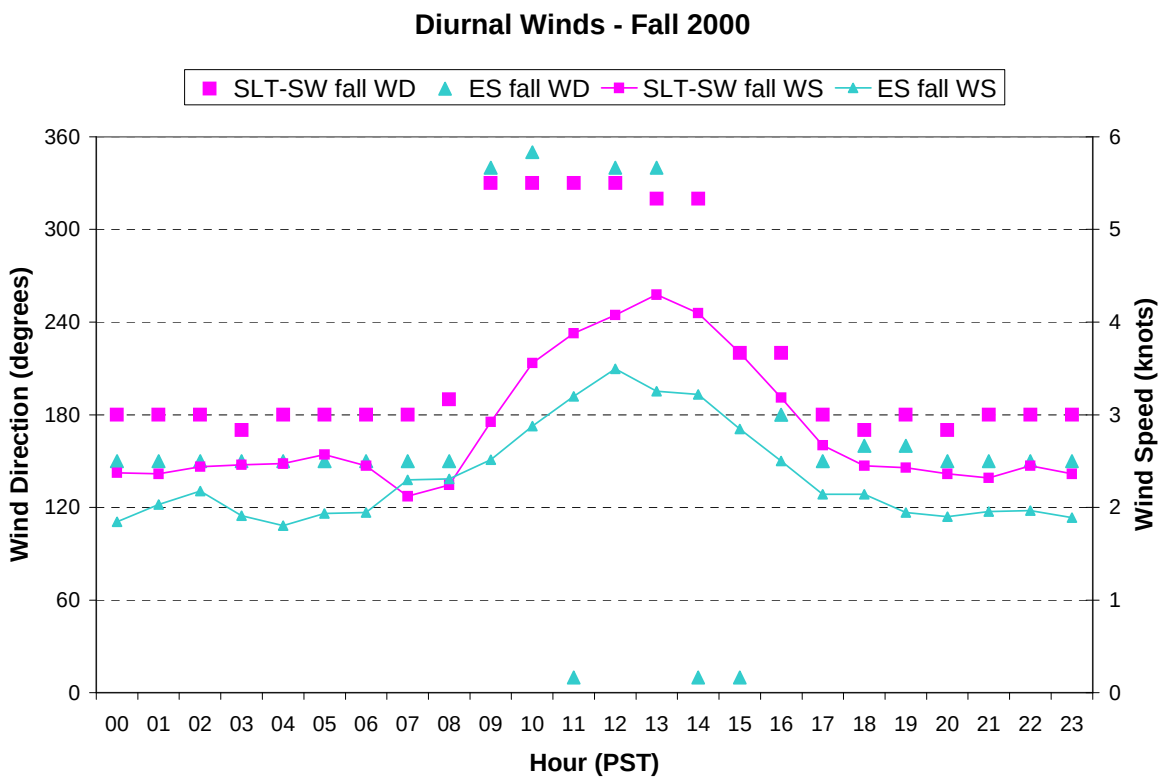

Diurnal Winds - Fall 2000
SLT-SW fall WD
ES fall WD
SLT-SW fall WS
ES fall WS
Wind Direction (degrees)
Wind Speed (knots)
Hour (PST)
0
60
120
180
240
300
360
0
1
2
3
4
5
6
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Figure D-6. Binned Wind Speed Frequencies for Slide Mountain, NV (1968-1970 data).

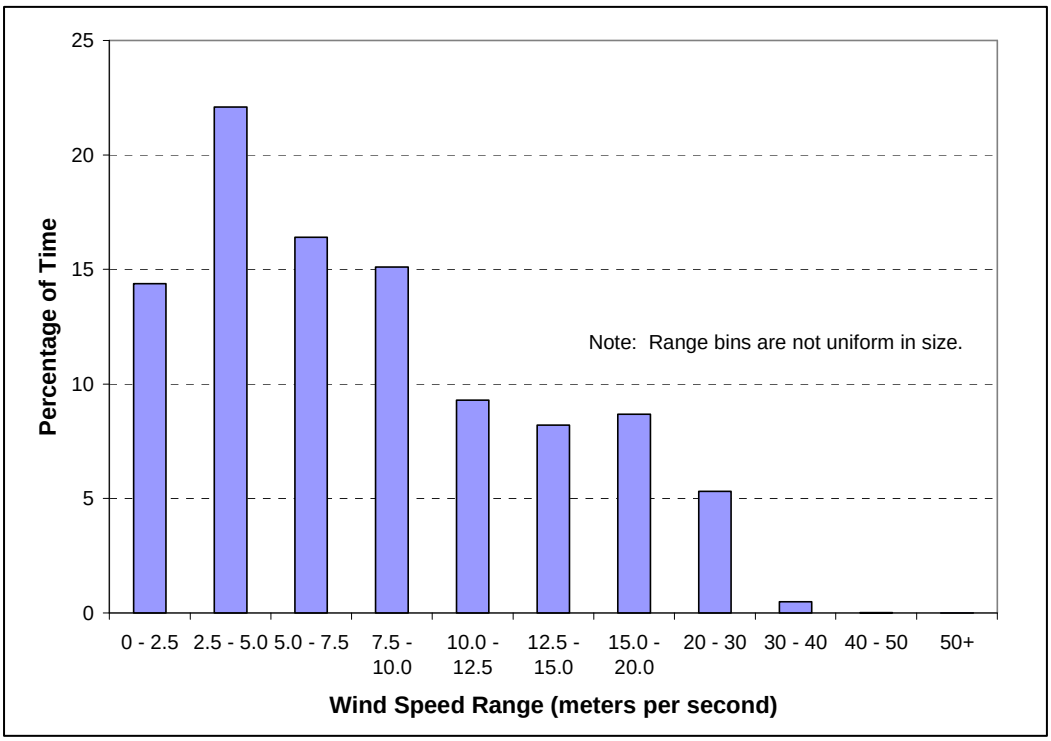
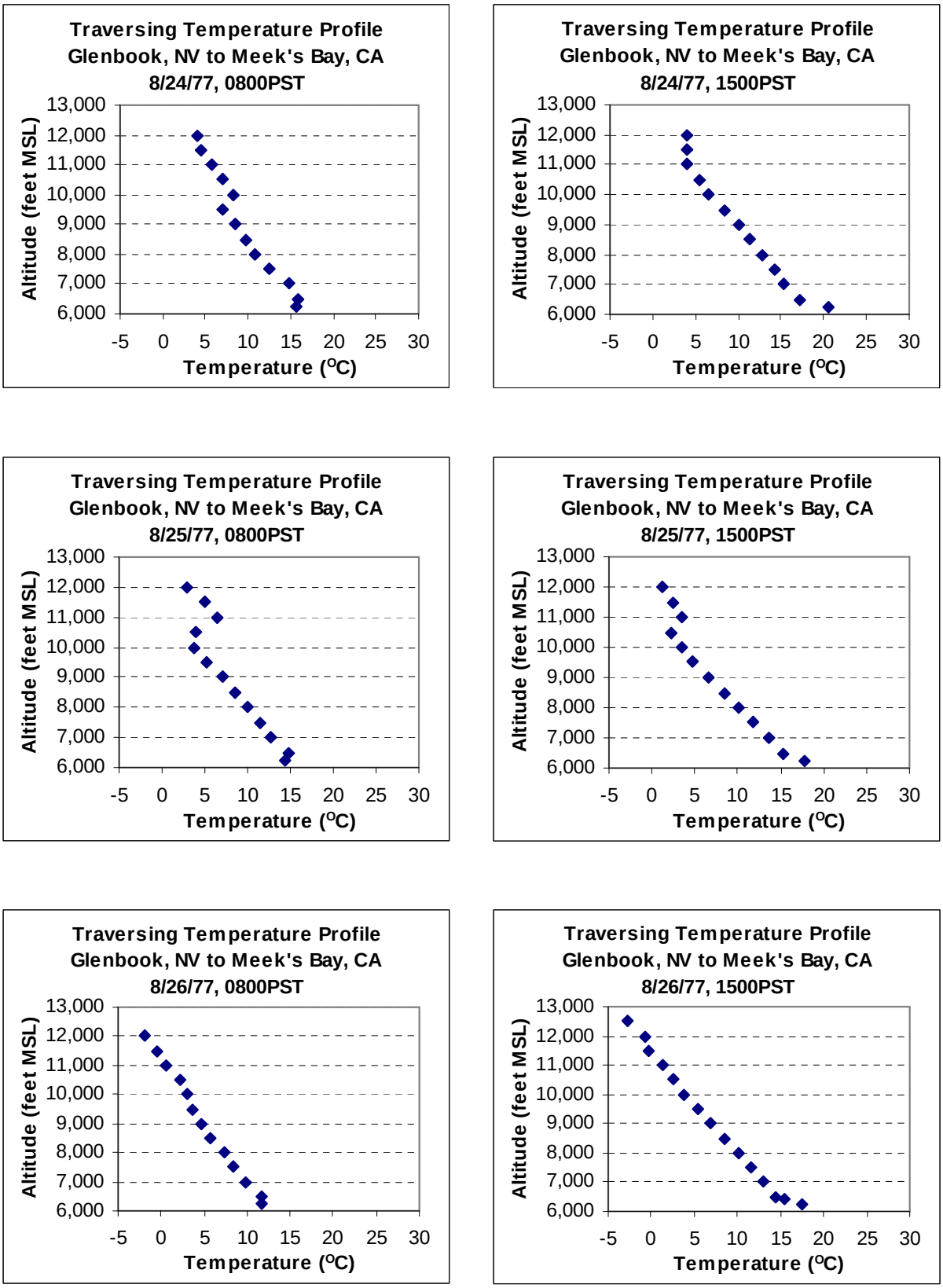
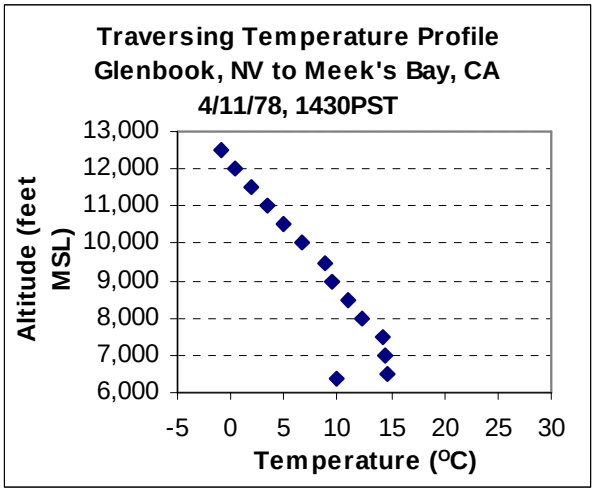
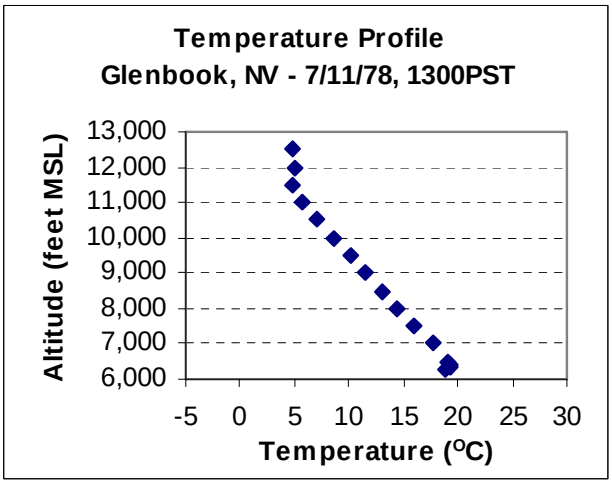
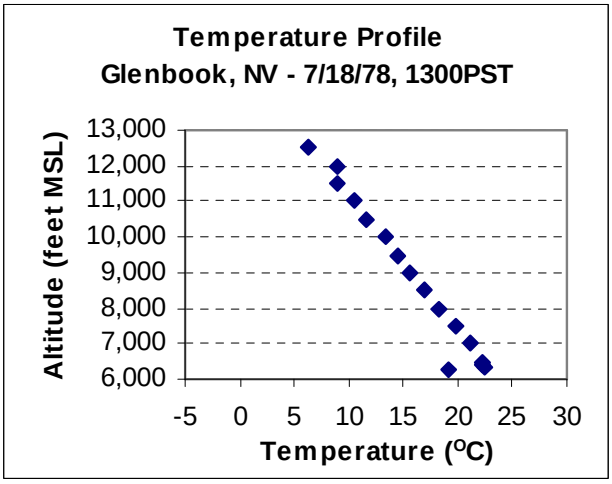


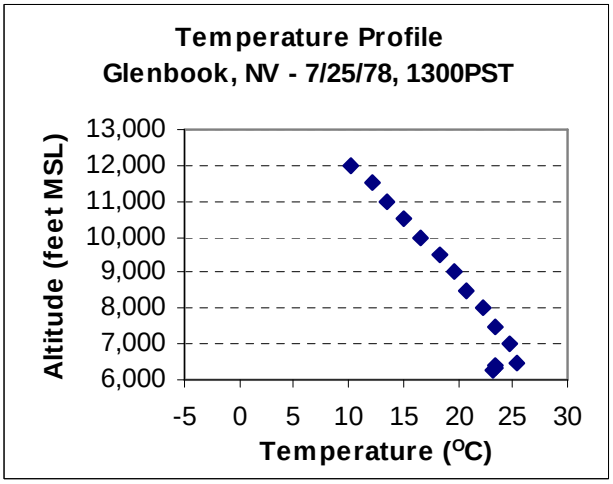
Figure D-7. Historical Temperature Profiles by Aircraft.

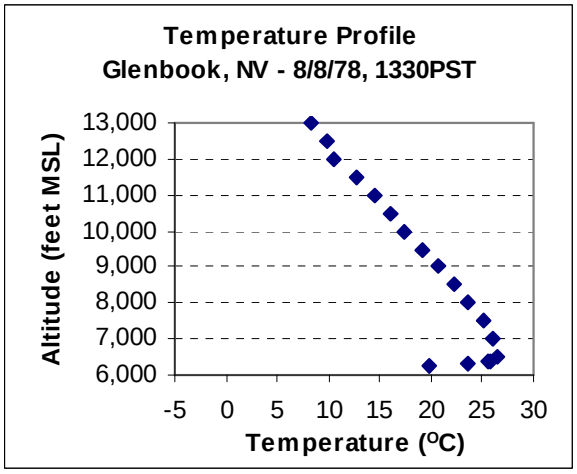



Traversing Temperature Profile
Glenbook, NV to Meek's Bay, CA
4/11/78, 1430PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5 0 5 10 15 20 25 30
Temperature (°C)


Temperature Profile
Glenbook, NV - 7/11/78, 1300PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5 0 5 10 15 20 25 30
Temperature (°C)


Temperature Profile
Glenbook, NV - 7/18/78, 1300PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5 0 5 10 15 20 25 30
Temperature (°C)


Temperature Profile
Glenbook, NV - 7/25/78, 1300PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5 0 5 10 15 20 25 30
Temperature (°C)


Temperature Profile
Glenbook, NV - 8/8/78, 1330PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5
0
5
10
15
20
25
30
Temperature (°C)

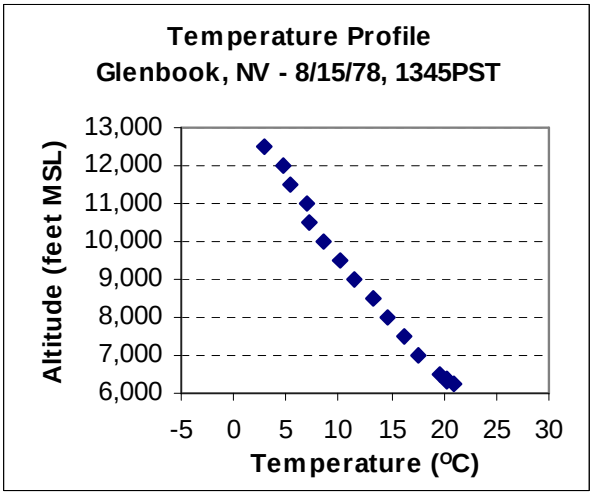
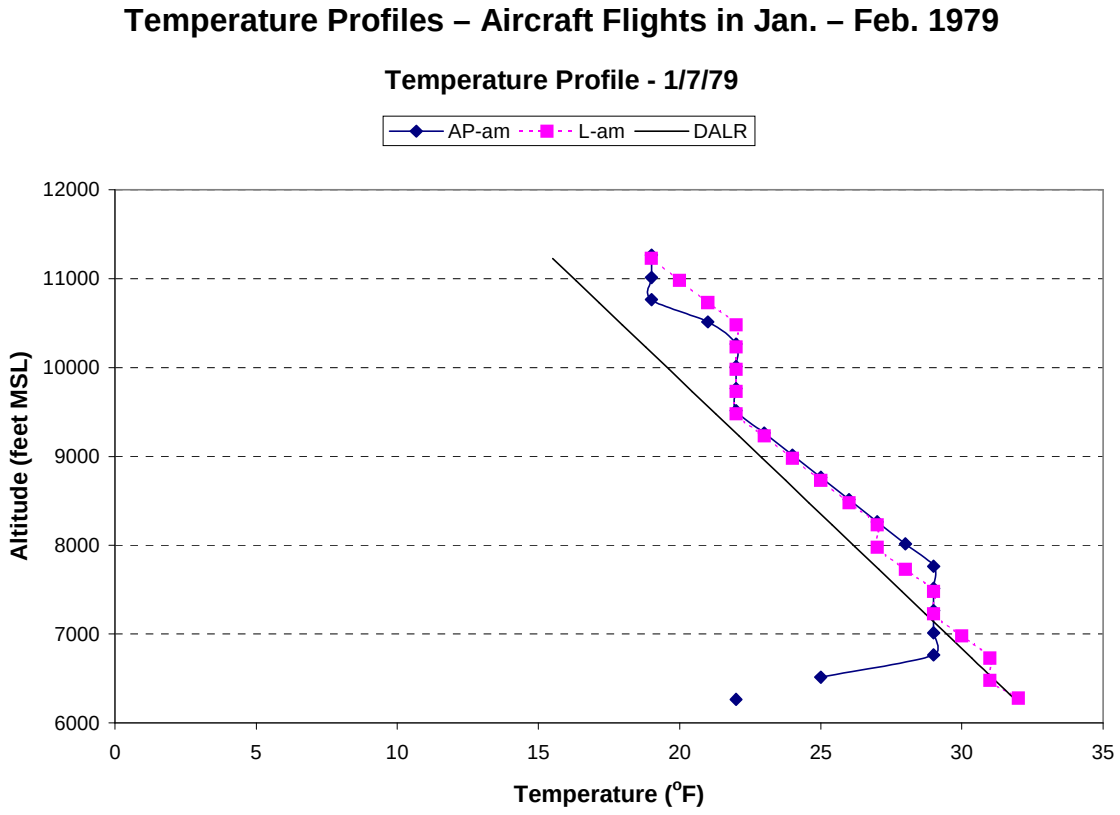
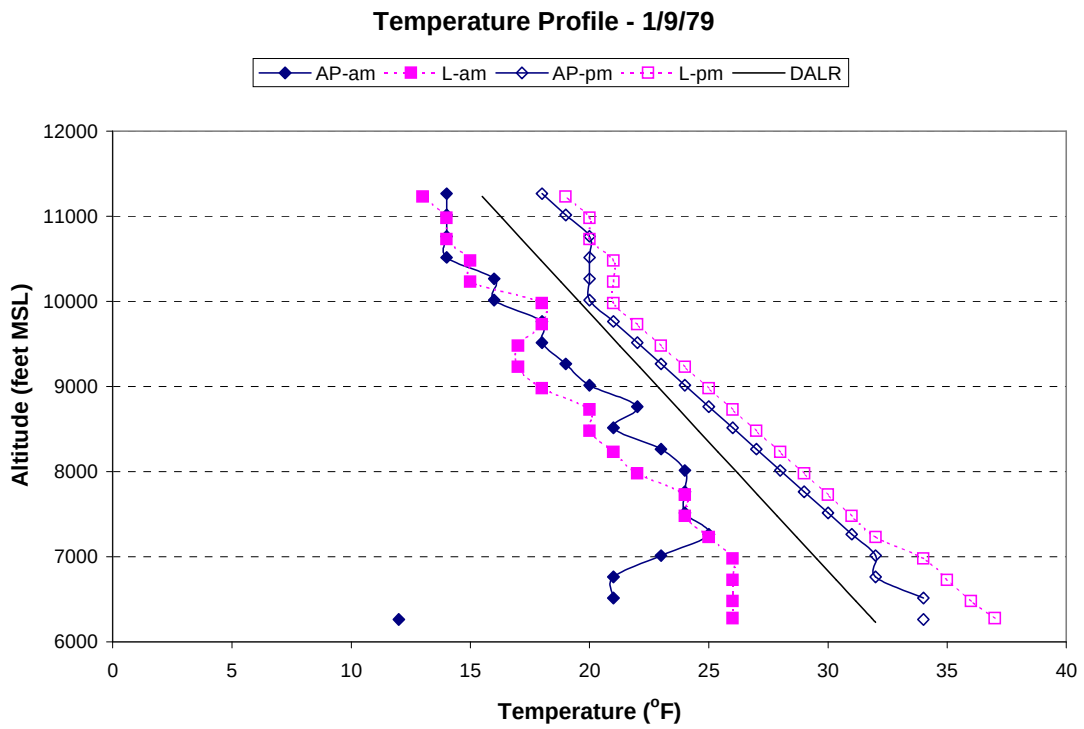
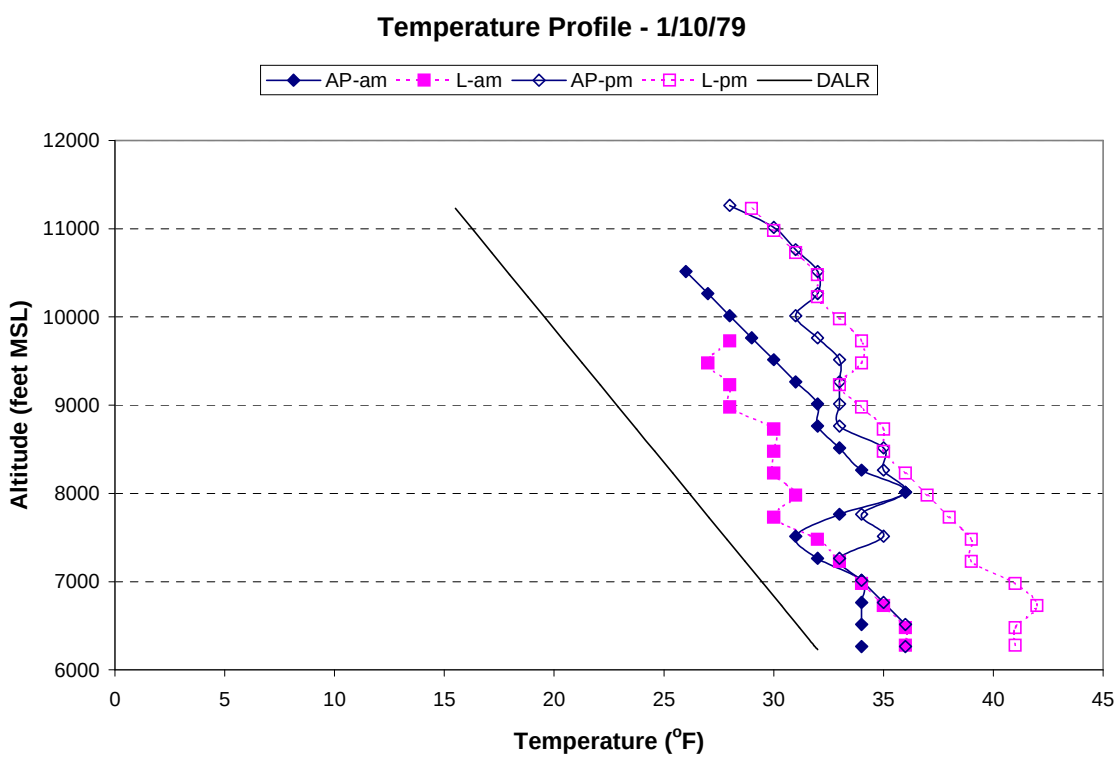
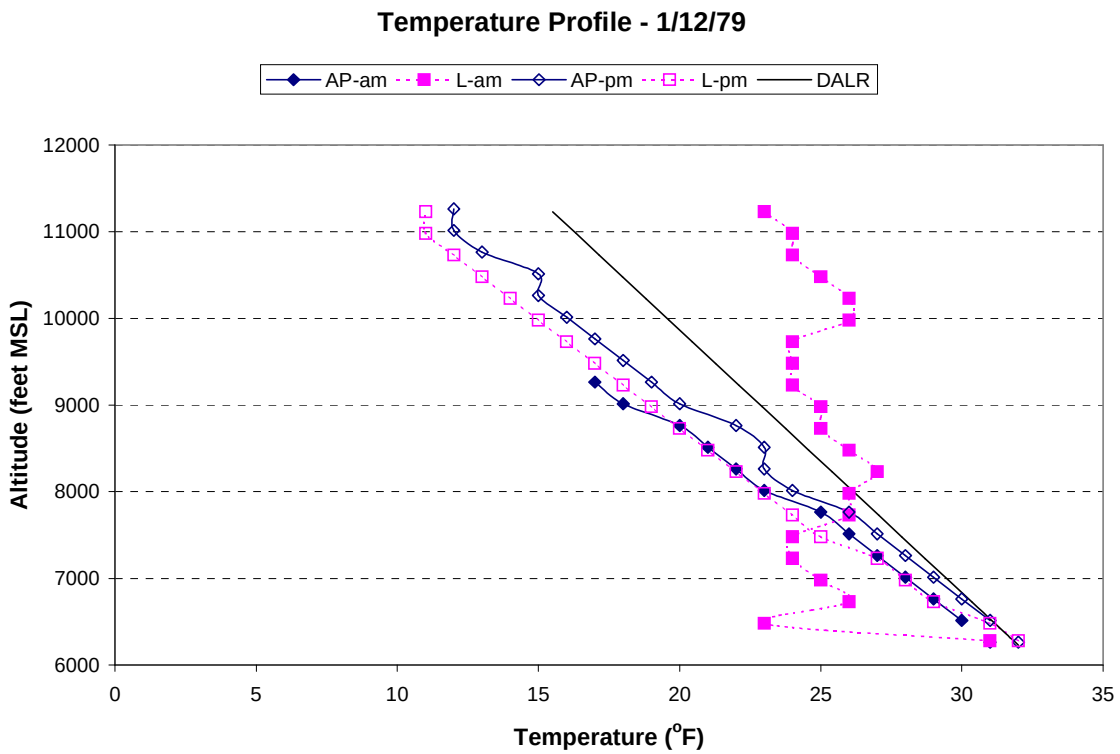

Temperature Profile
Glenbook, NV - 8/15/78, 1345PST
Altitude (feet MSL)
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
-5
0
5
10
15
20
25
30
Temperature (°C)

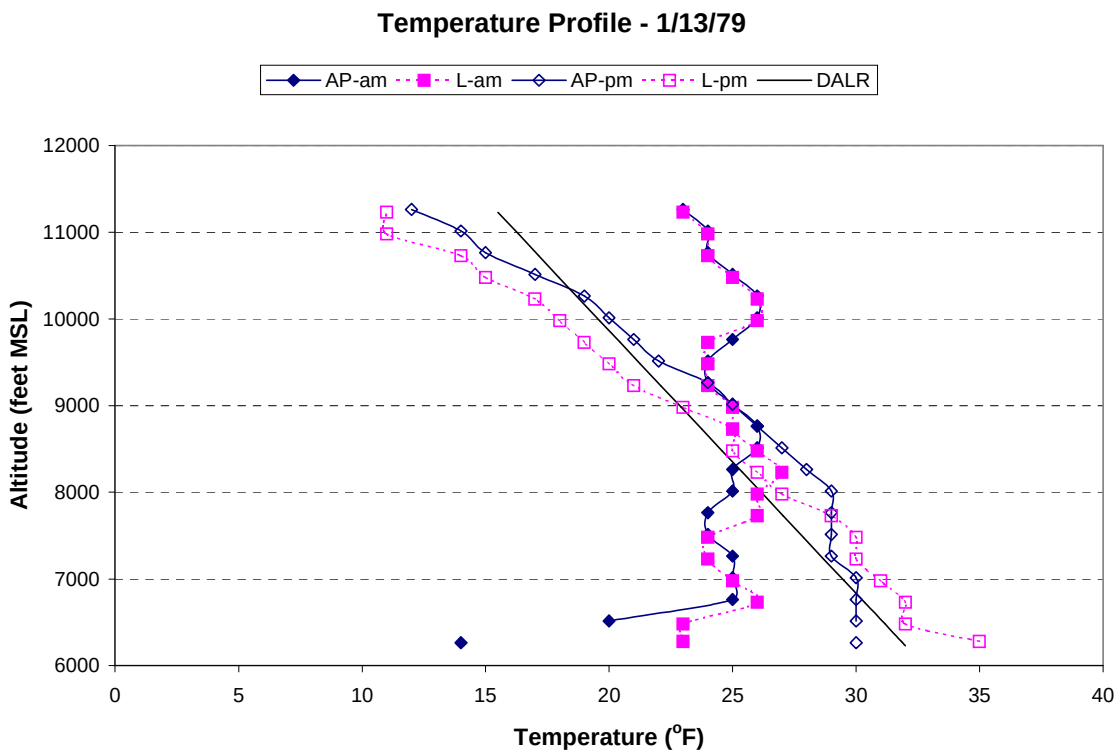
Figure D-8. Historical Vertical (Spiral) Temperature Profiles by Aircraft.

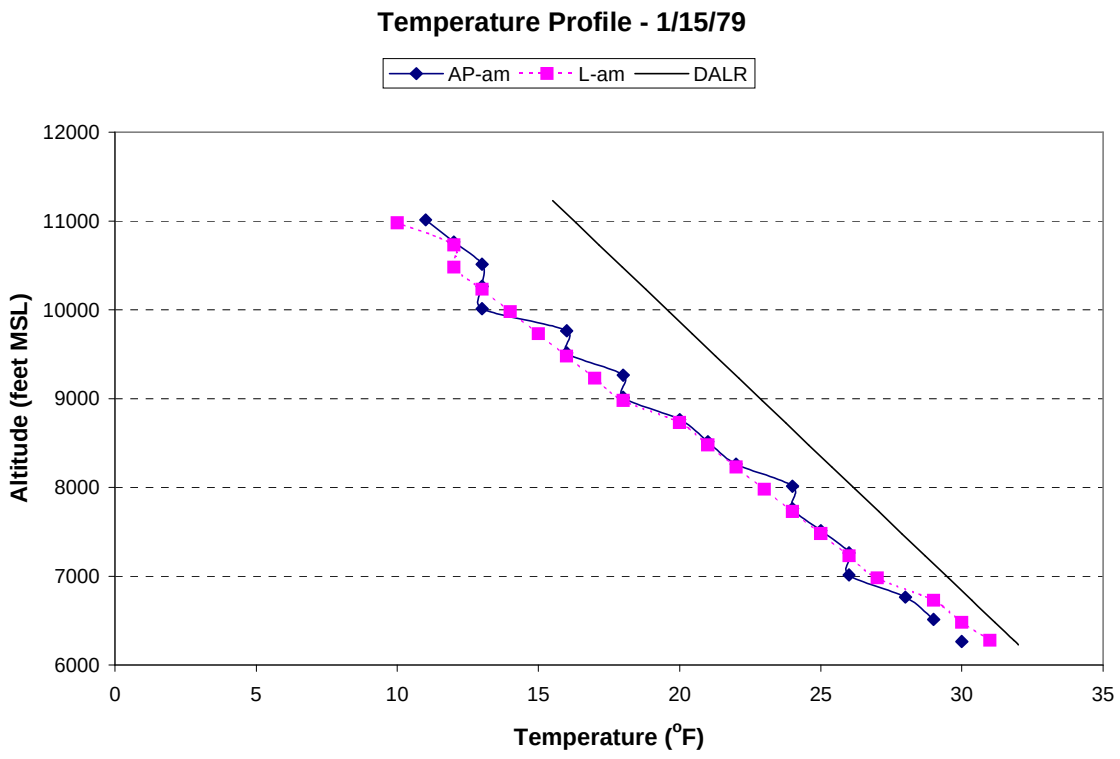


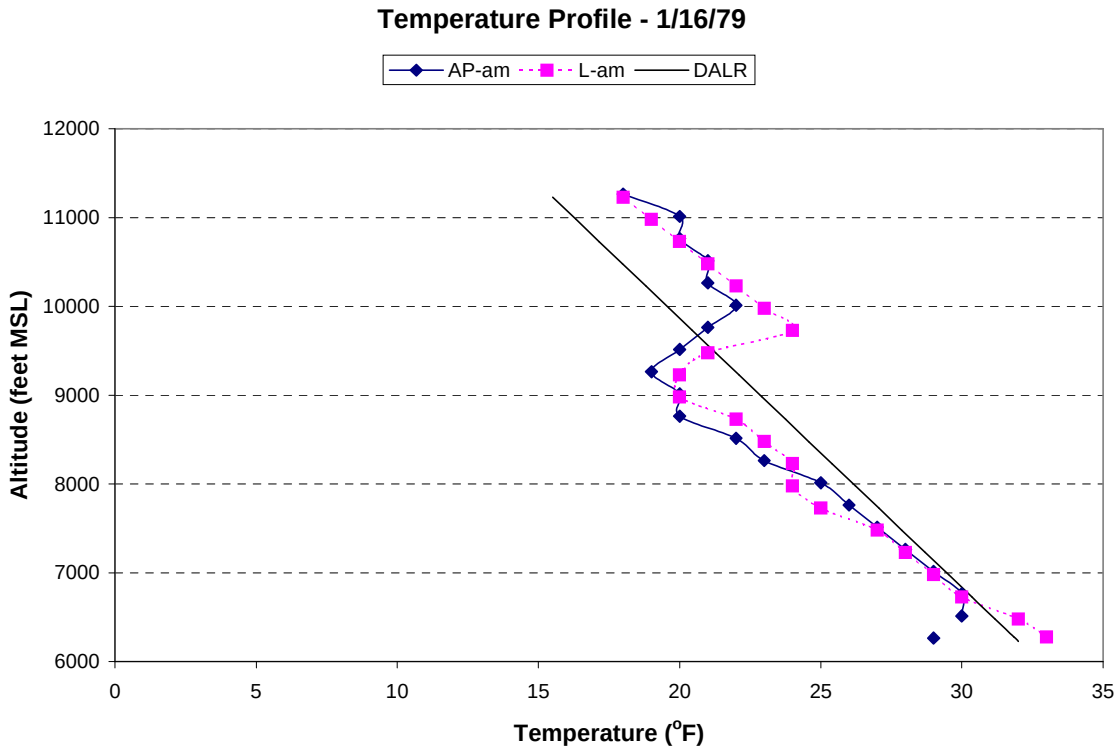

Temperature Profile - 1/9/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

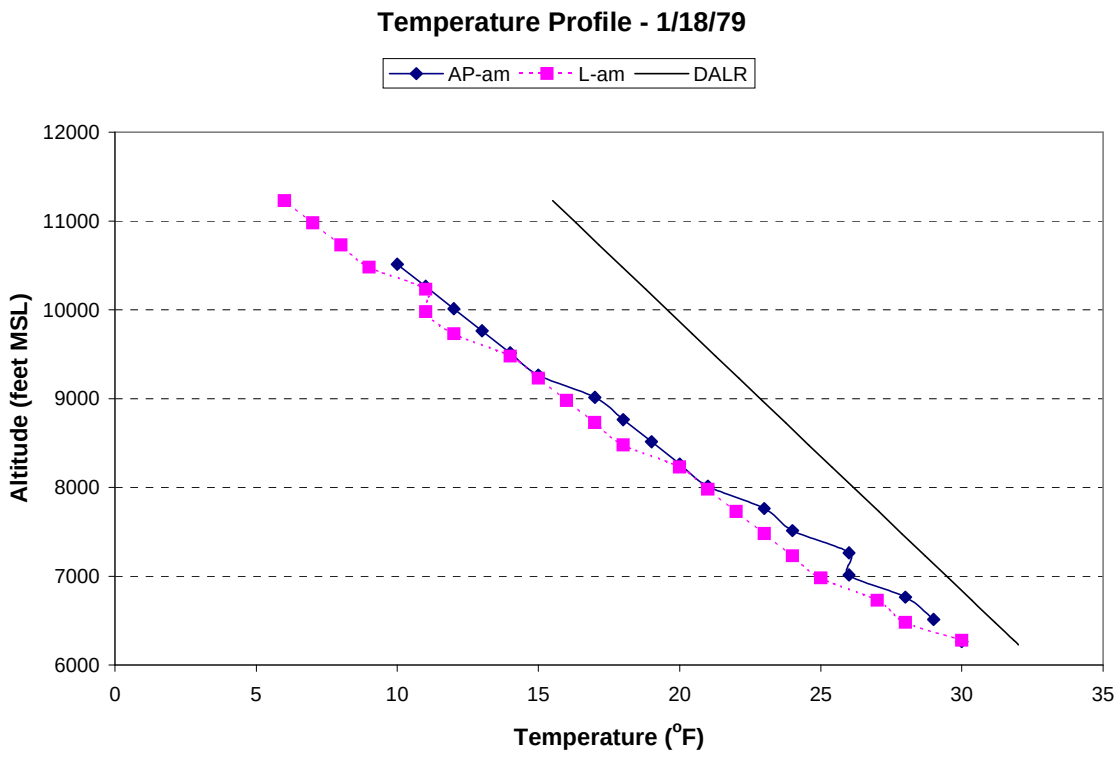

Temperature Profile - 1/10/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
Temperature (°F)

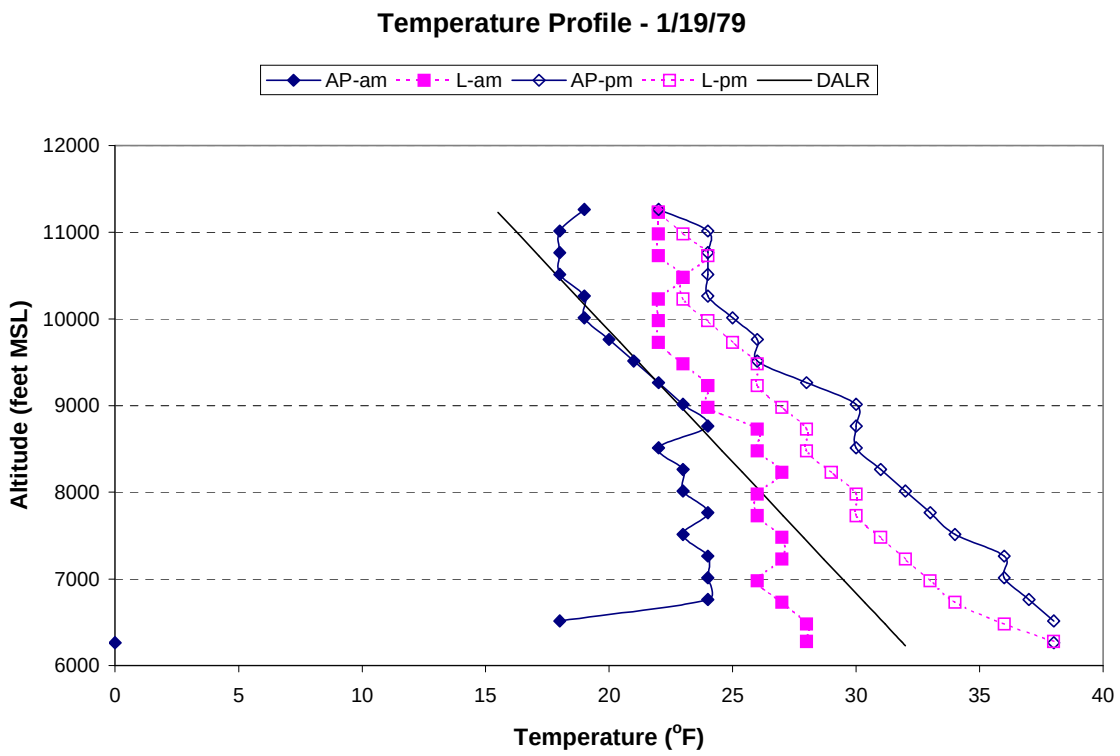

Temperature Profile - 1/12/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

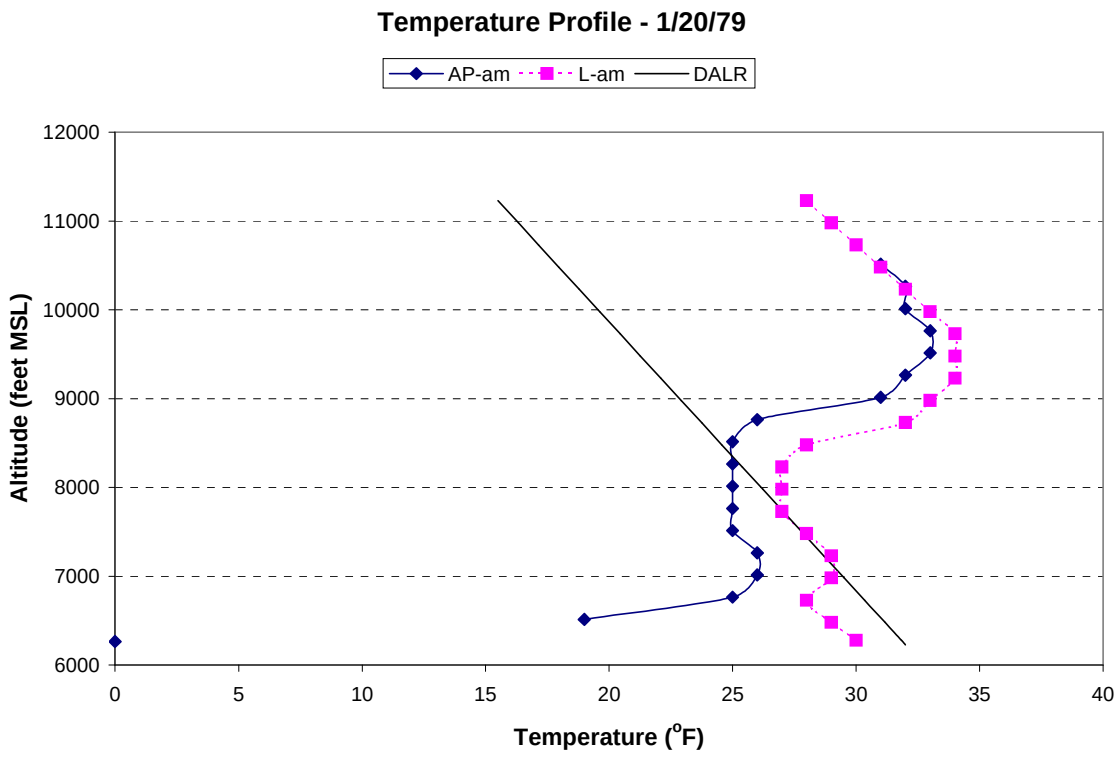

Temperature Profile - 1/13/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

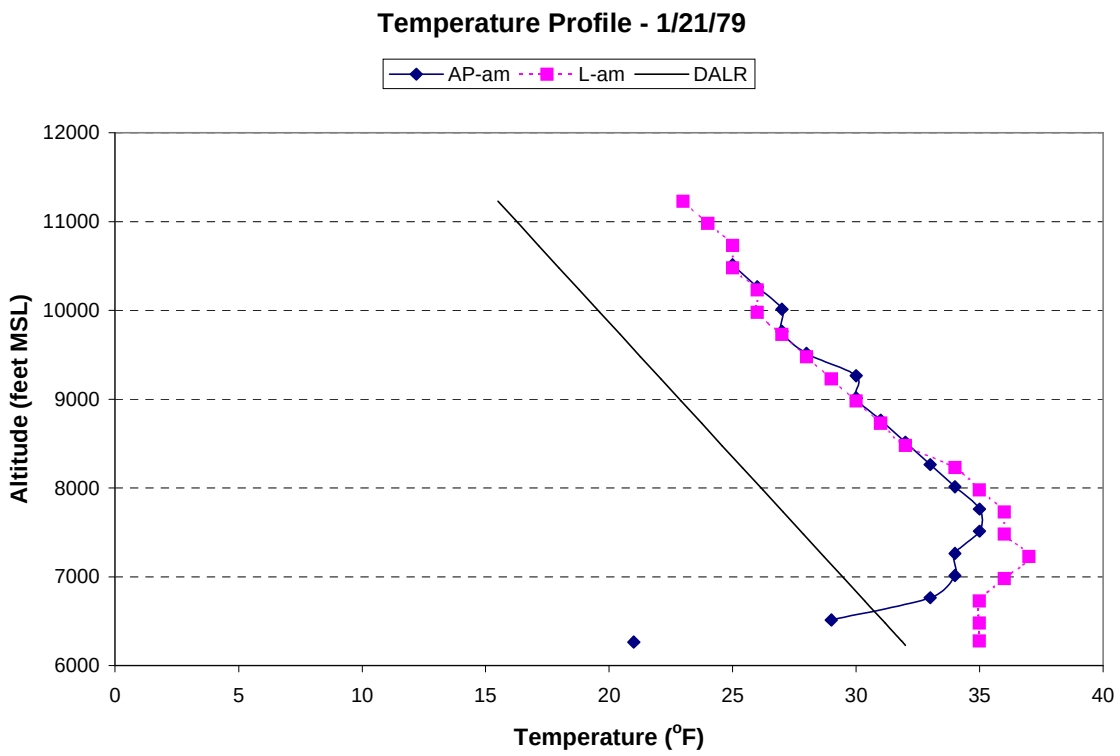

Temperature Profile - 1/15/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

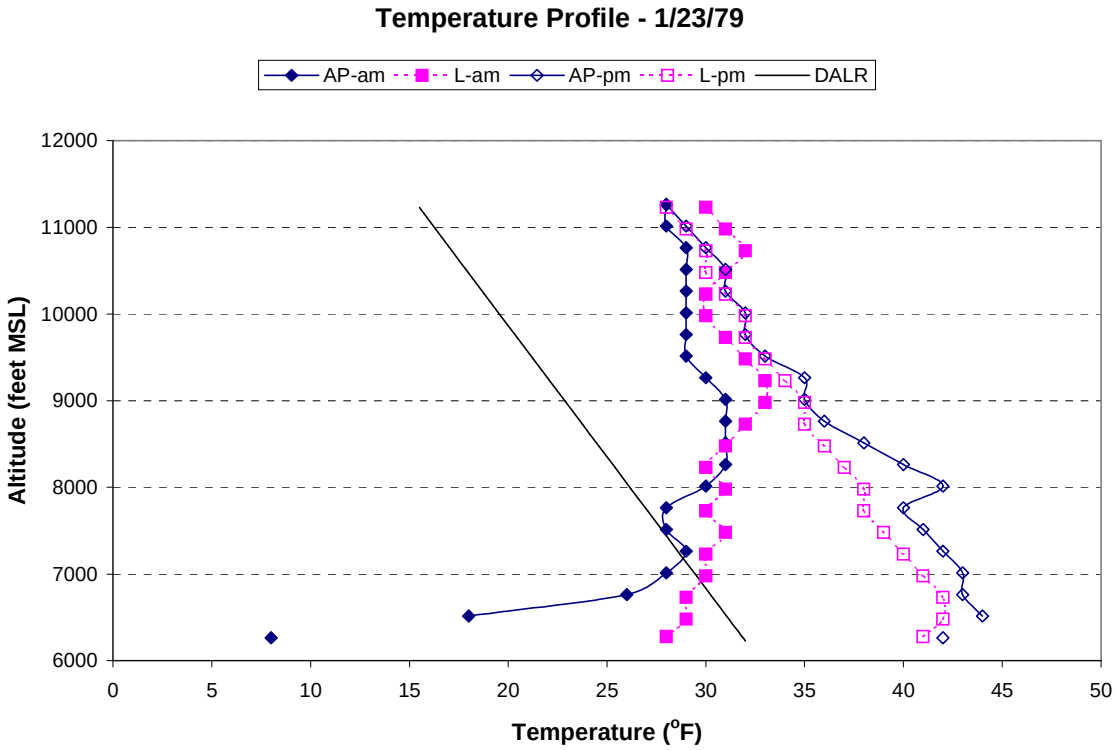

Temperature Profile - 1/16/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

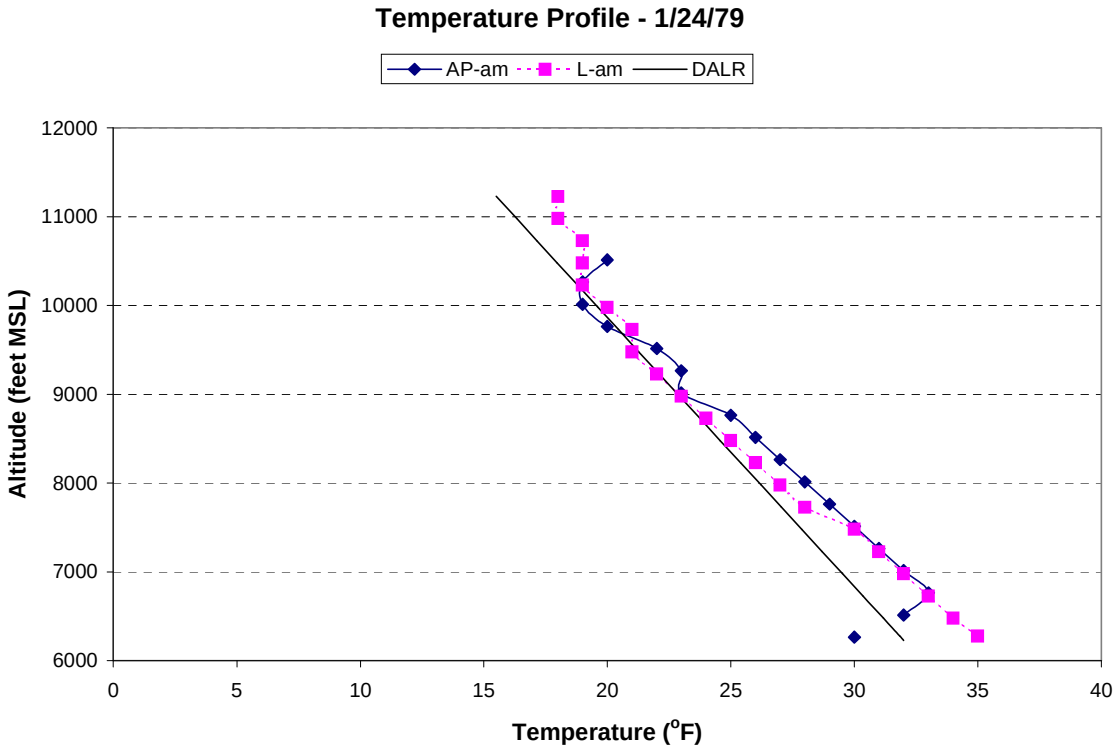

Temperature Profile - 1/18/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

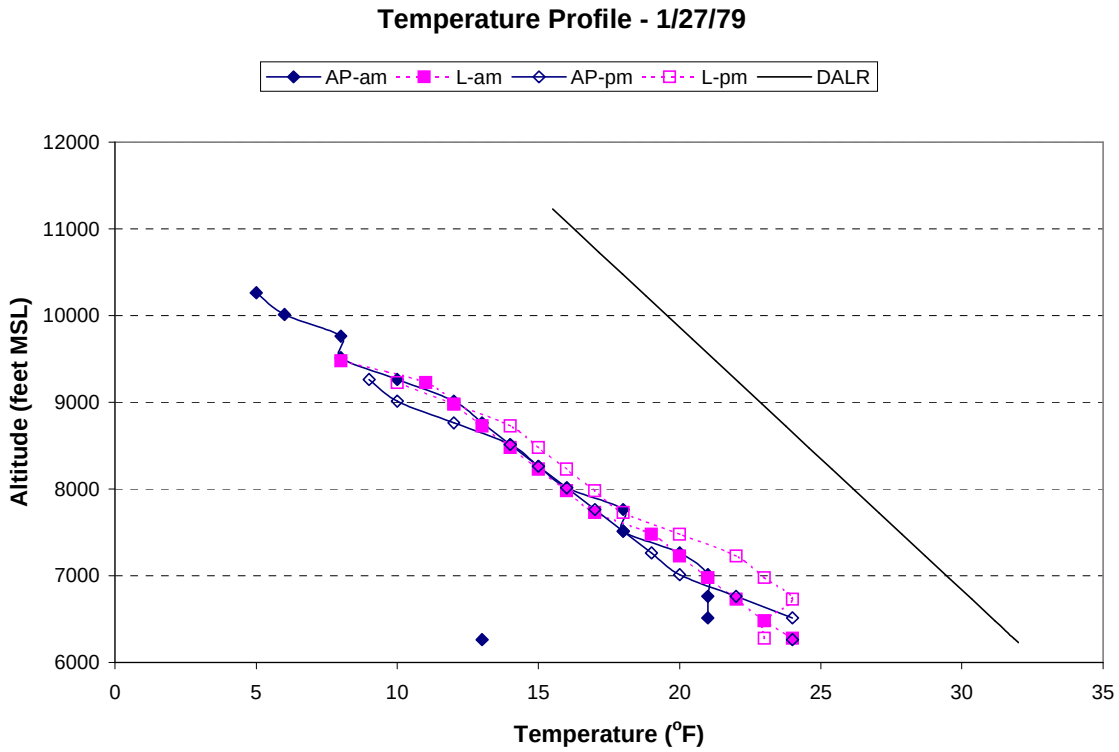

Temperature Profile - 1/19/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

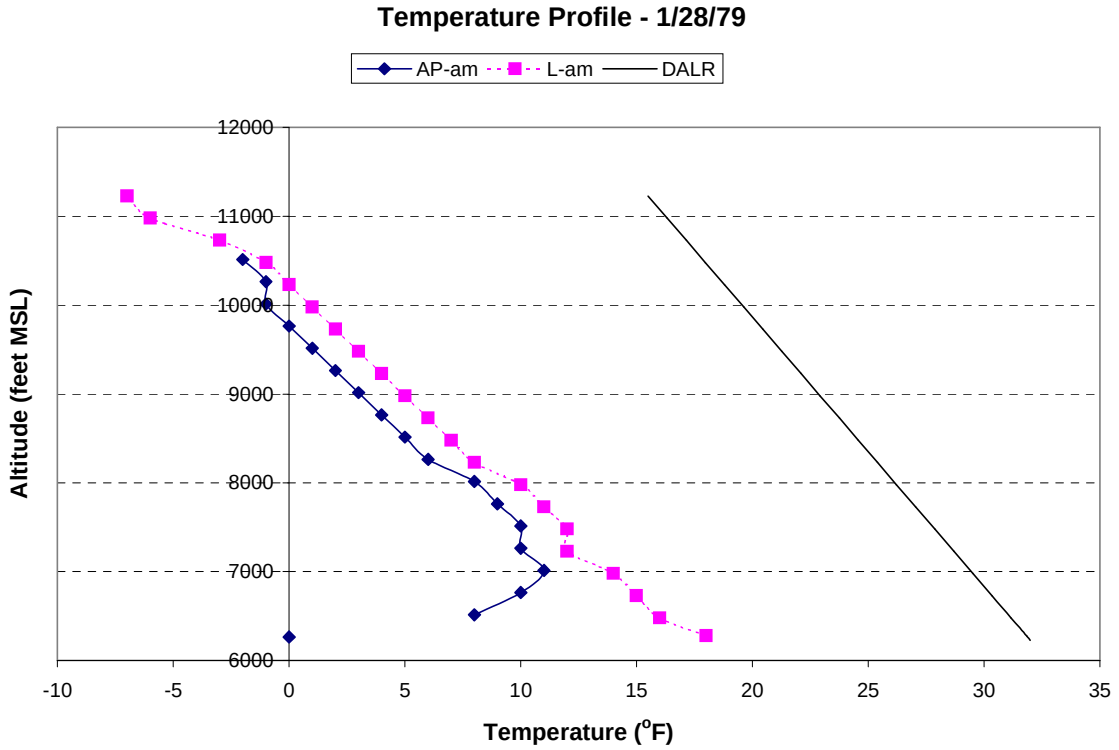

Temperature Profile - 1/20/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

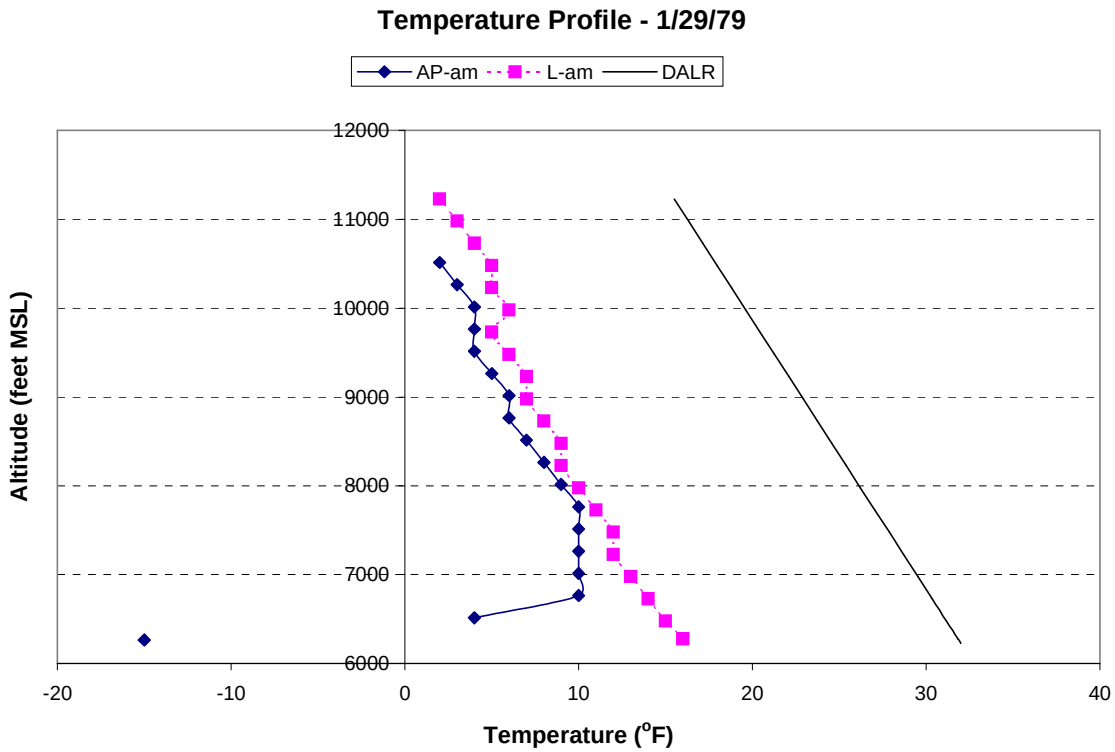

Temperature Profile - 1/21/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

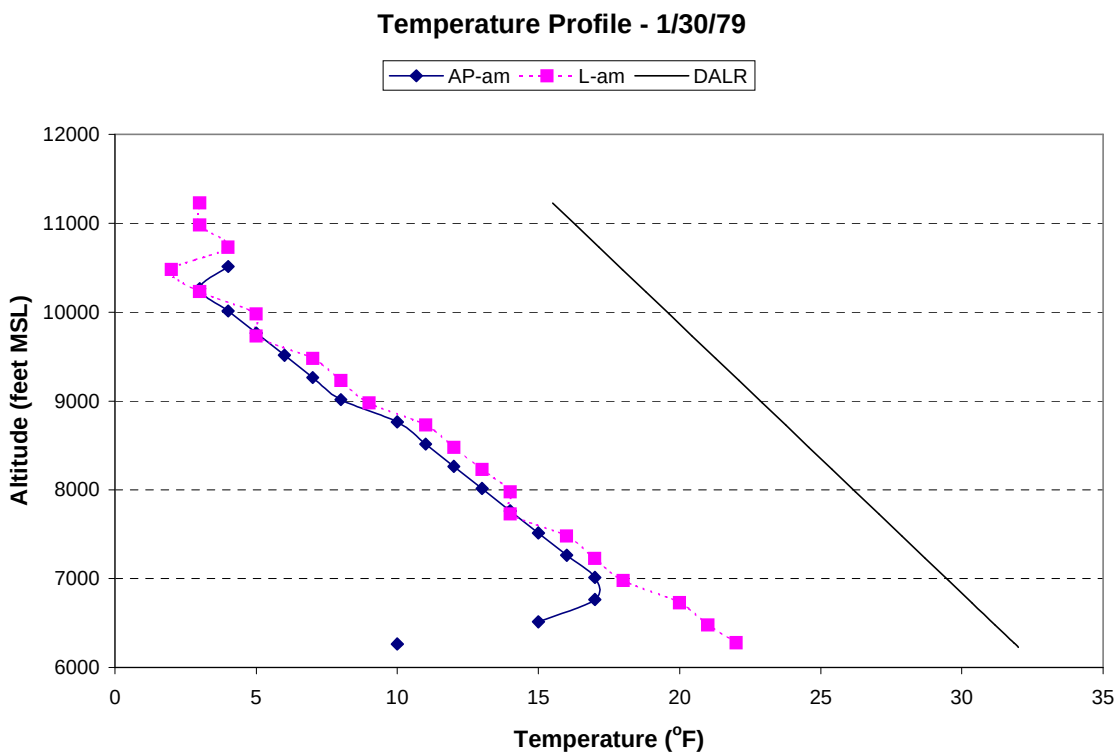

Temperature Profile - 1/23/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
50
Temperature (°F)

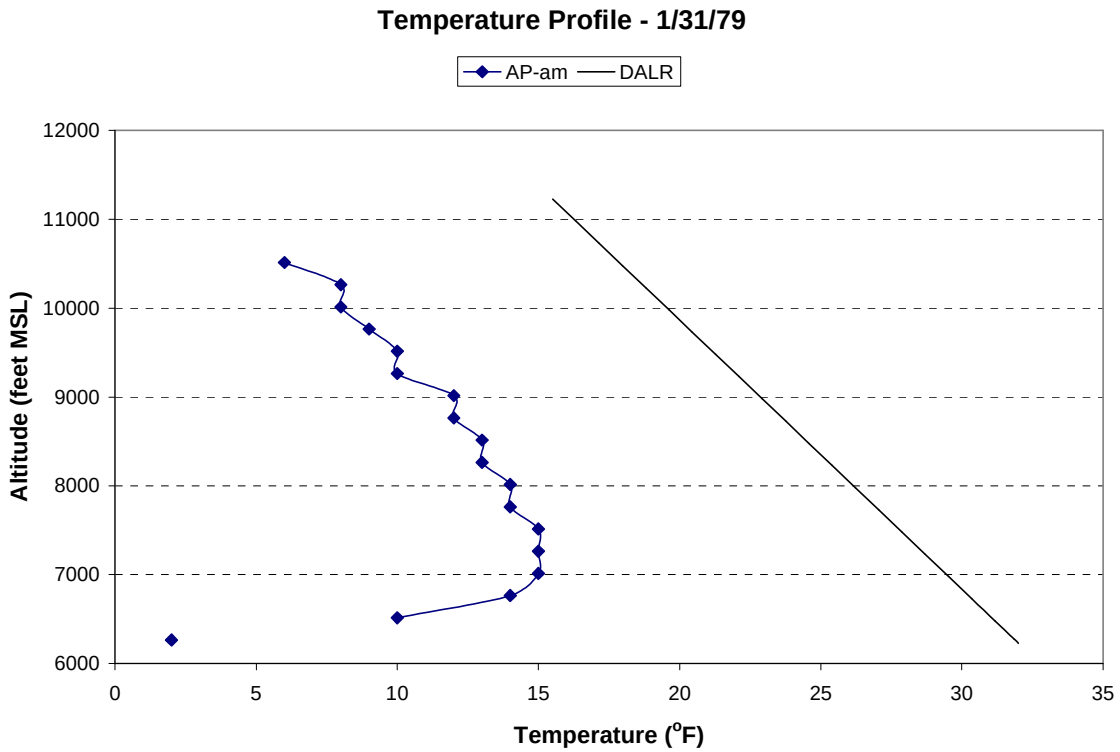

Temperature Profile - 1/24/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)

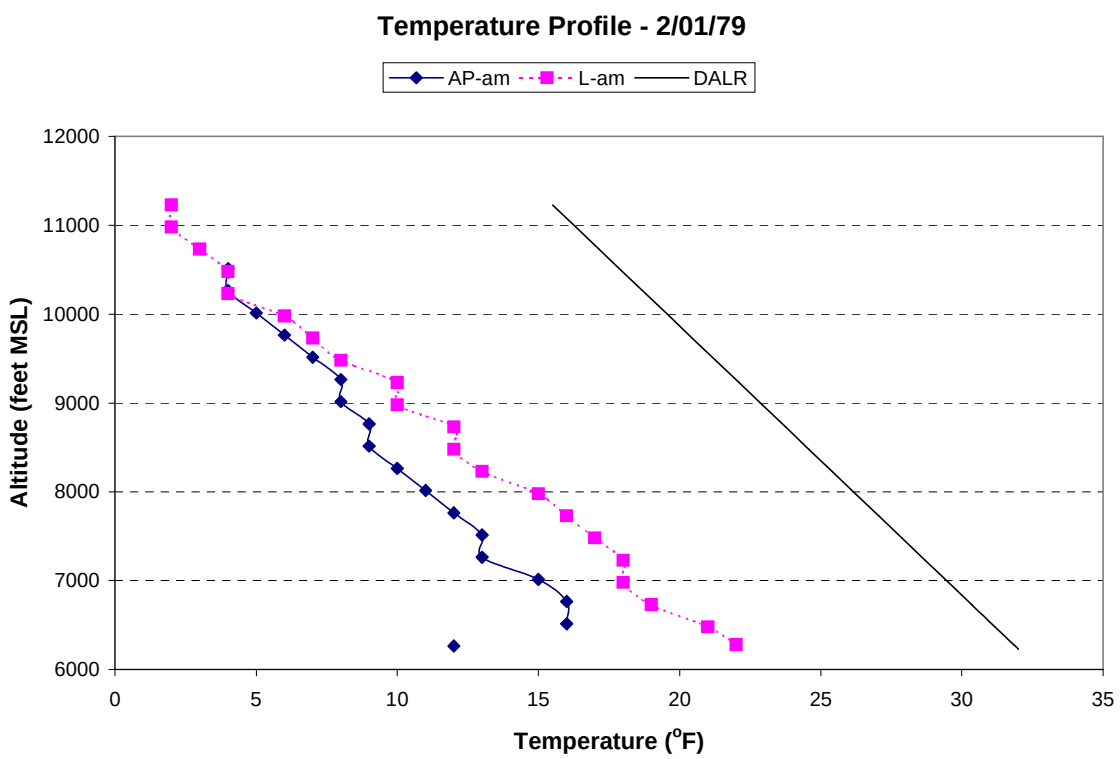

Temperature Profile - 1/27/79
AP-am
L-am
AP-pm
L-pm
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

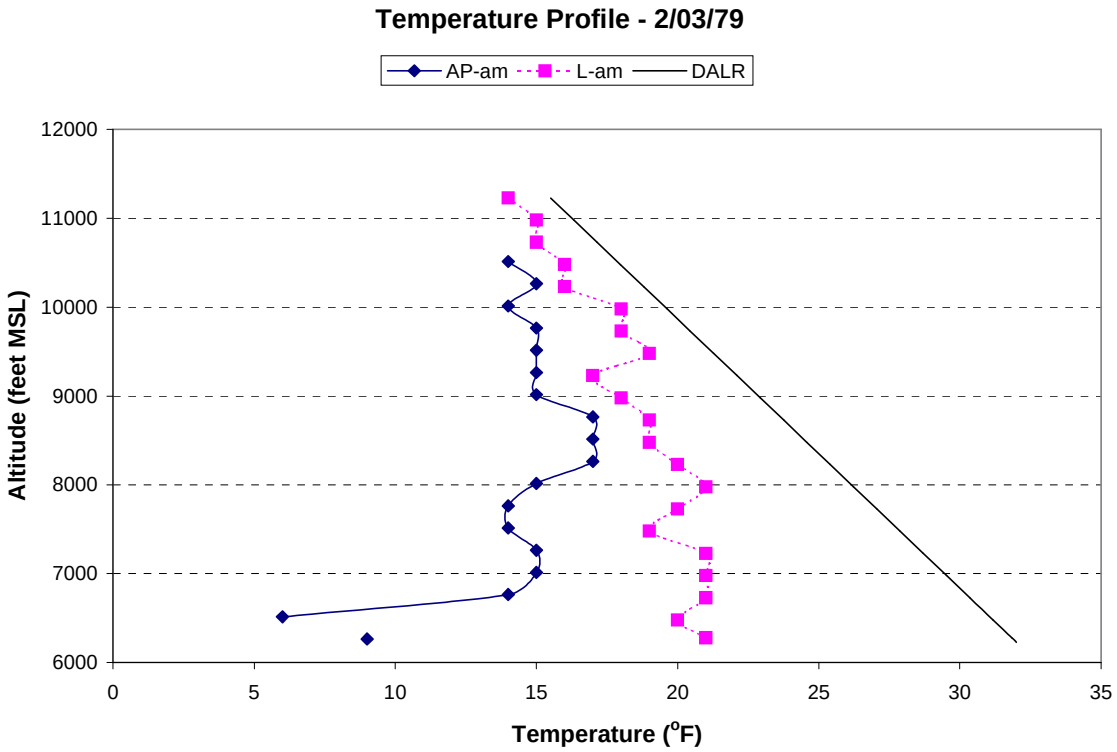

Temperature Profile - 1/28/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
-10
-5
0
5
10
15
20
25
30
35
Temperature (°F)

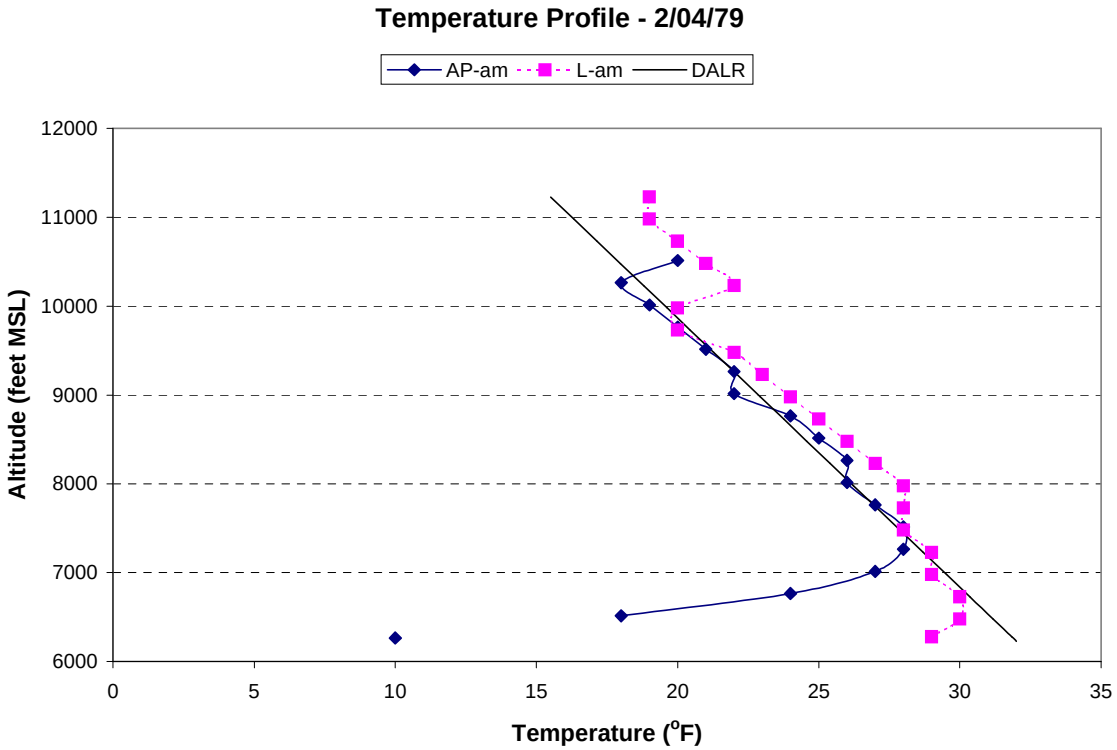

Temperature Profile - 1/29/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
-20
-10
0
10
20
30
40
Temperature (°F)

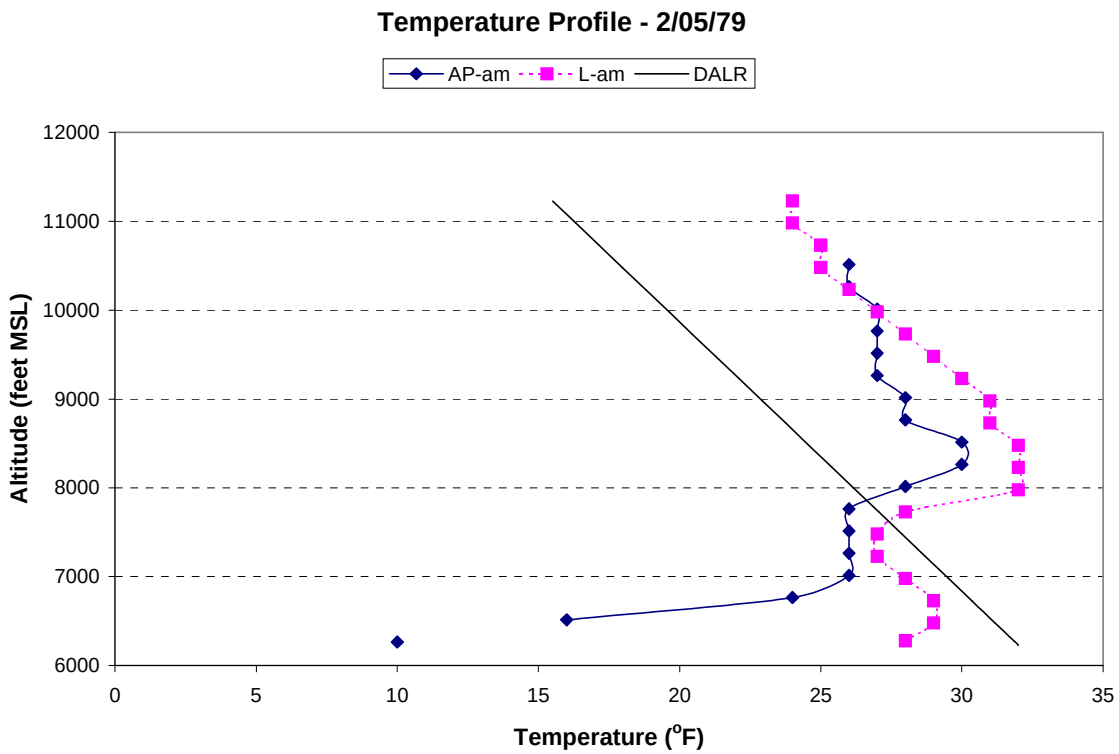

Temperature Profile - 1/30/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

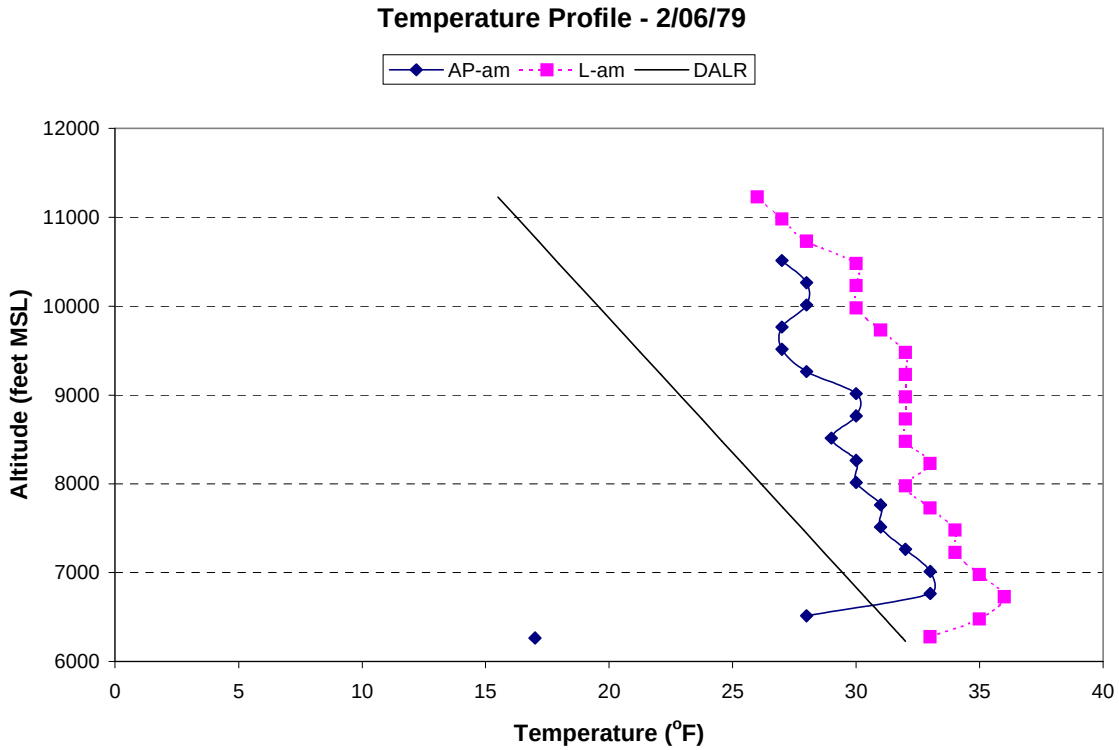

Temperature Profile - 1/31/79
AP-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

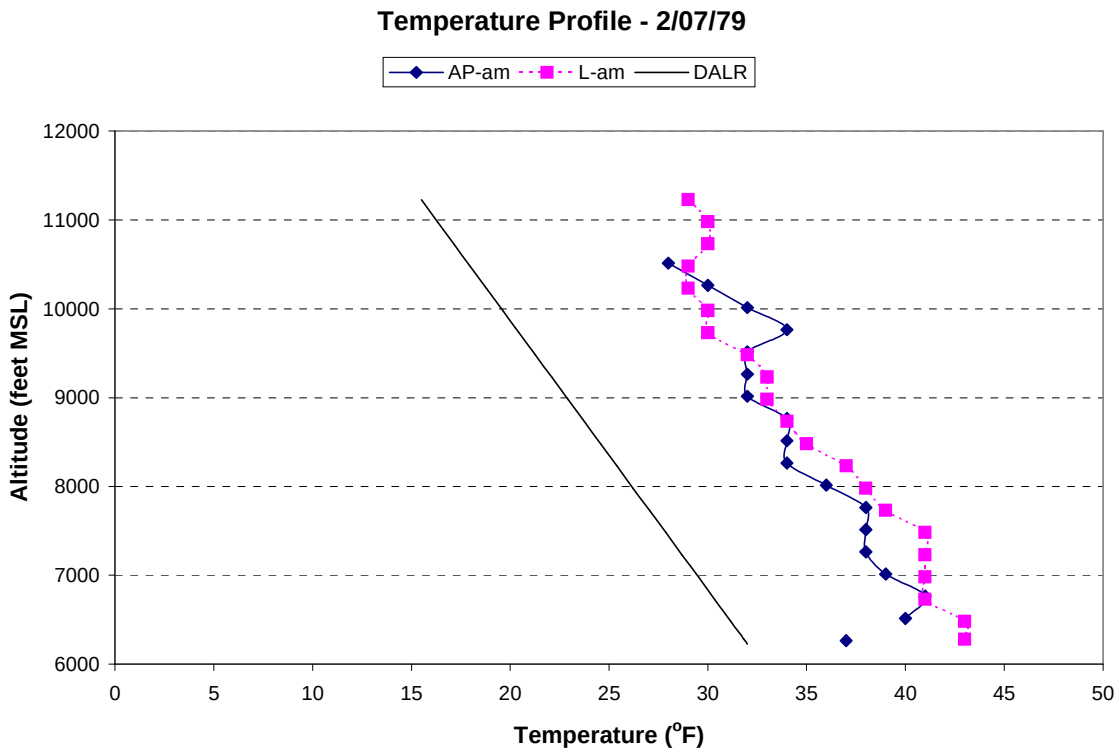

Temperature Profile - 2/01/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

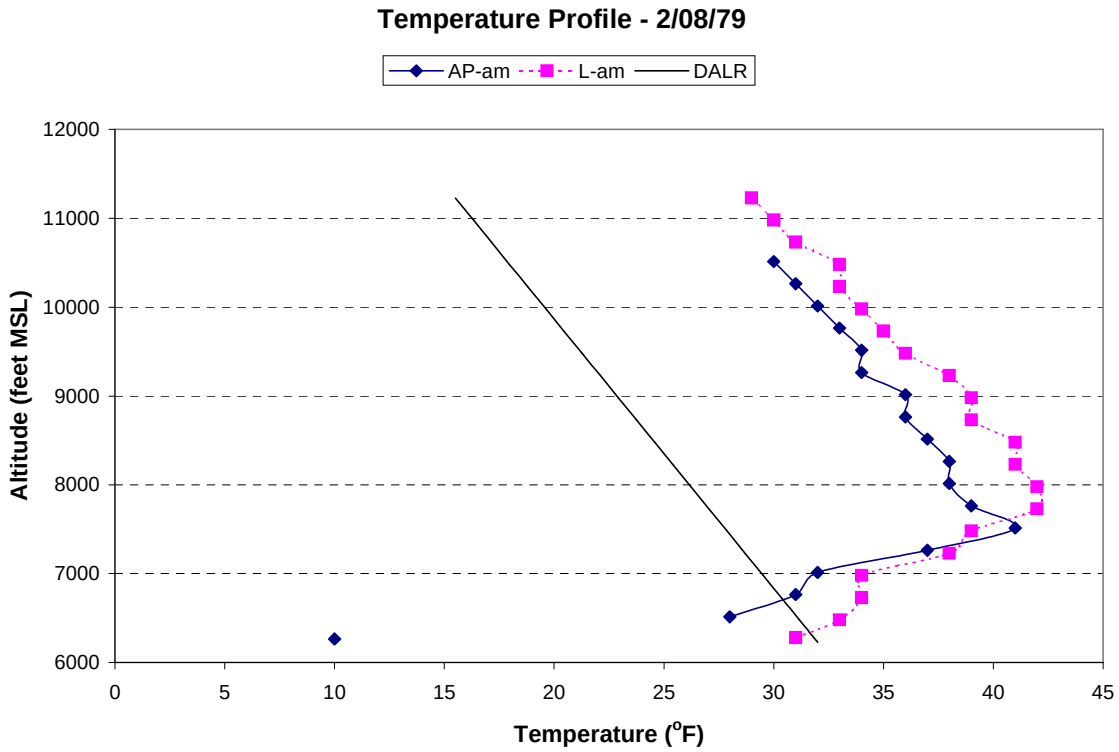

Temperature Profile - 2/03/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

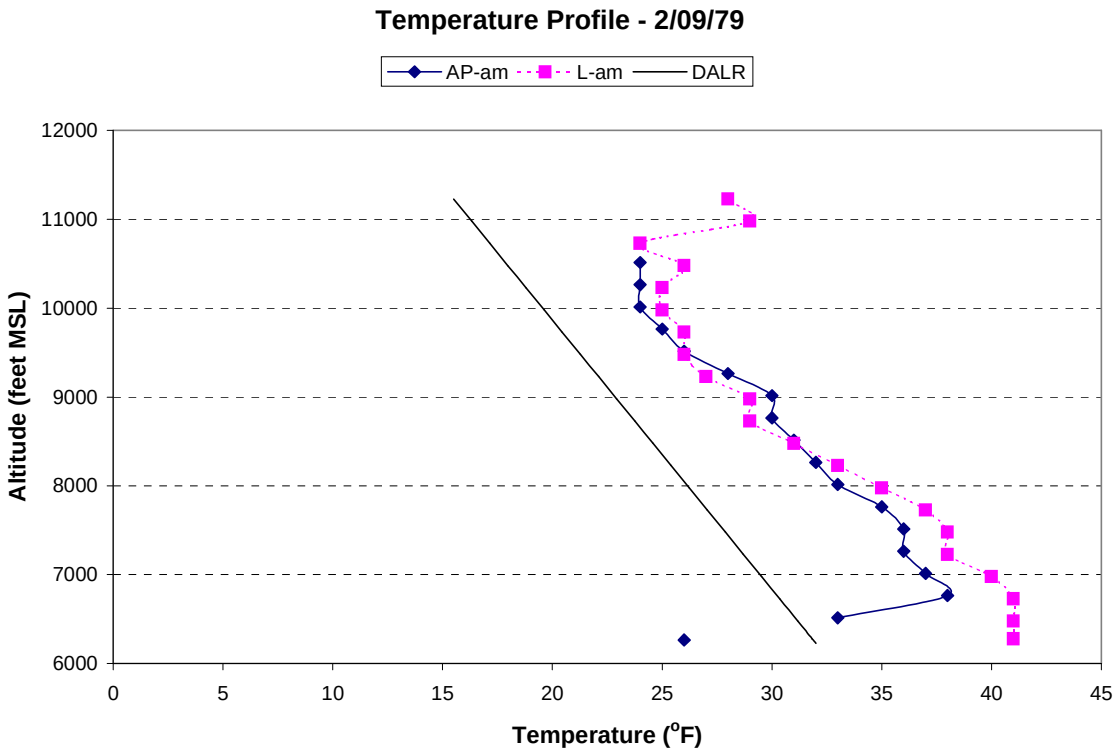

Temperature Profile - 2/04/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

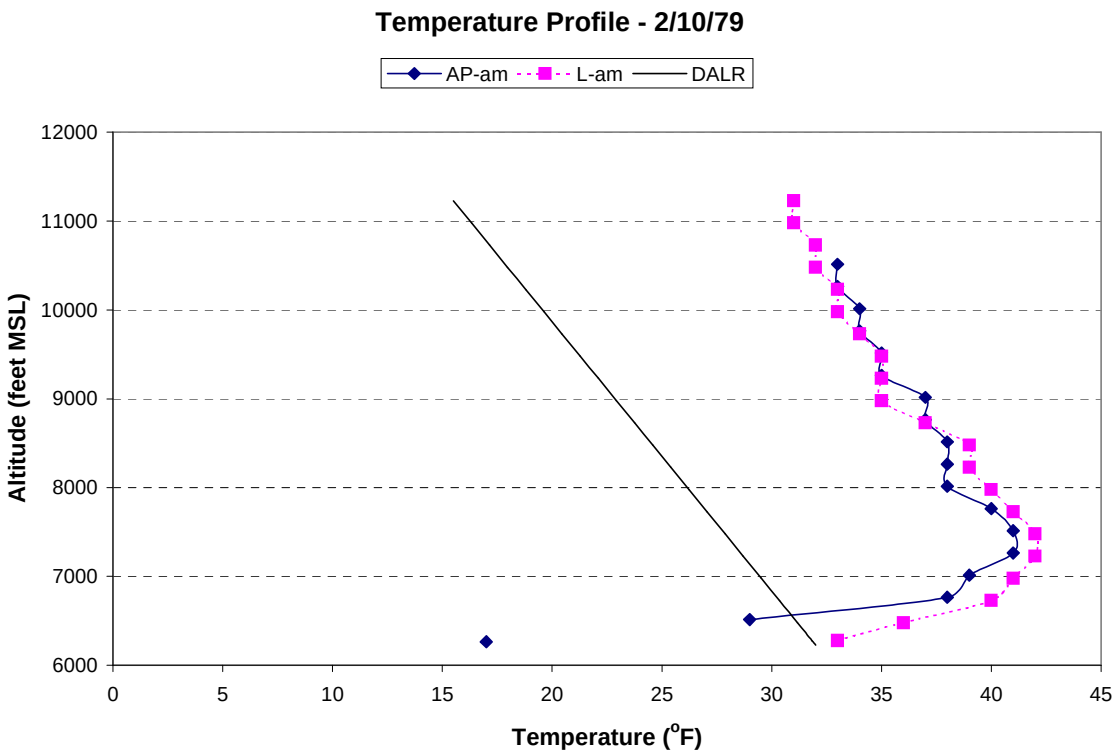

Temperature Profile - 2/05/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

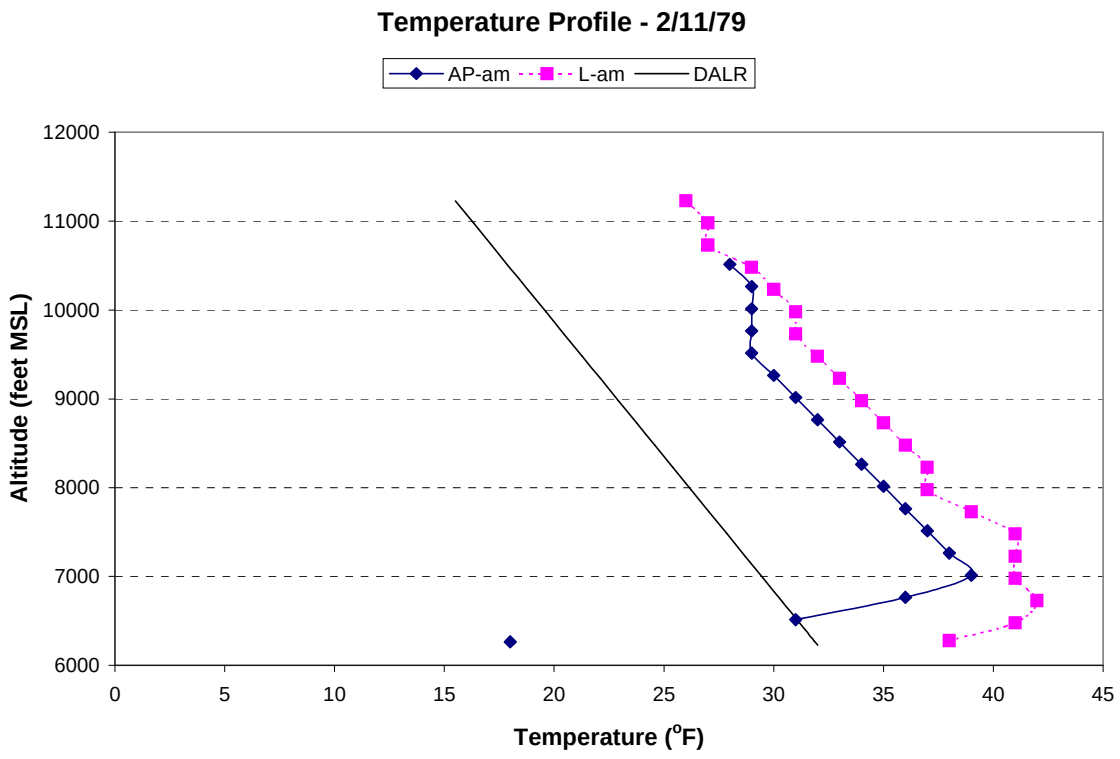

Temperature Profile - 2/06/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
Temperature (°F)


Temperature Profile - 2/07/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
50
Temperature (°F)


Temperature Profile - 2/08/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
Temperature (°F)


Temperature Profile - 2/09/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
Temperature (°F)


Temperature Profile - 2/10/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
Temperature (°F)


Temperature Profile - 2/11/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
40
45
Temperature (°F)

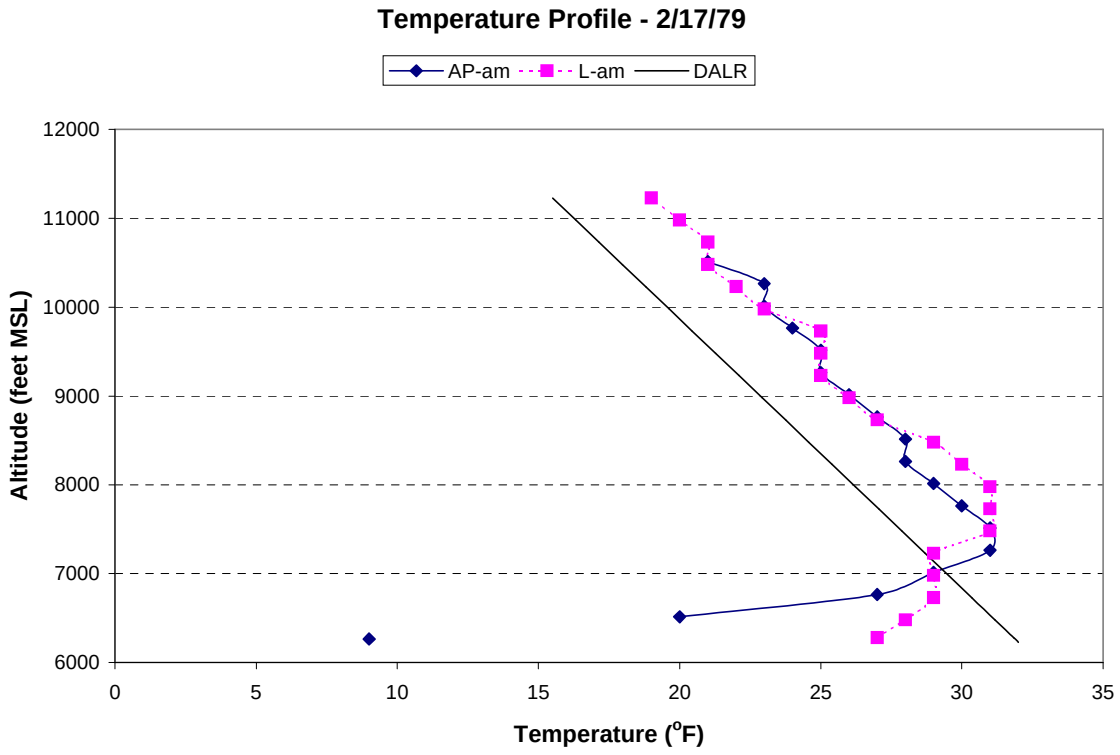

Temperature Profile - 2/17/79
AP-am
L-am
DALR
Altitude (feet MSL)
12000
11000
10000
9000
8000
7000
6000
0
5
10
15
20
25
30
35
Temperature (°F)

Figure D-9. Historical winds aloft frequency summary for Sacramento Executive Airport.

1000' Wind Summary
Sacramento - Executive Airport
Elevation: 20 feet
Lat-Lon: 38° 31'N 121° 30'W
prd of rcrd: 8/62 - 11/65
#recs: 2455
wind speed in knots
source: California Upper Air Wind Climatology, Aerometric Data Division, CARB

4am \ Season:	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	32.1	20.6	18.2	17.6	5.6	16.6	17.8	14.5	16.2	17.3	345-015
NE	5.2	5.3	2.9	5.4	2.8	6.1	5.1	6.1	3.8	5.8	015-045
EN	1.5	2.0	3.3	3.6	0.3	9.0	0.7	3.5	1.4	3.8	045-075
E	5.2	3.1	2.1	4.0	1.4	3.0	4.3	4.2	3.0	3.7	075-105
ES	6.0	4.8	2.9	3.1	2.4	5.4	2.2	3.8	3.0	4.3	105-135
SE	11.9	9.7	5.8	8.1	2.4	4.1	9.8	7.6	6.8	7.9	135-165
S	13.4	9.6	14.9	9.1	17.8	6.3	14.1	8.3	15.4	7.9	165-195
SW	6.7	9.4	20.7	11.4	43.4	11.1	25.0	11.1	26.9	11.1	195-225
WS	5.2	8.4	12.4	12.6	11.9	8.1	11.2	8.7	10.9	9.6	225-255
W	3.0	13.5	6.2	8.1	4.2	6.2	1.8	8.8	3.8	8.2	255-285
WN	2.2	5.0	2.5	5.2	3.5	4.2	2.5	6.9	2.8	5.2	285-315
NW	6.0	10.1	6.6	11.1	3.5	9.4	4.7	9.5	5.0	10.1	315-345
Calm	1.5		1.7		0.7		0.7		1.1		

10am \ Season	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	26.3	17.0	20.9	13.0	10.5	7.8	30.5	13.9	21.0	13.4	345-015
NE	6.1	5.7	3.1	3.6	2.2	6.0	1.3	6.0	2.9	5.2	015-045
EN	1.0	2.0	1.8	4.3	2.2	4.0	4.0	3.2	2.4	3.6	045-075
E	5.1	4.0	1.8	2.3	0.0	0.0	1.3	2.5	1.7	3.2	075-105
ES	4.0	5.0	1.8	4.0	0.6	3.0	4.0	5.8	2.4	5.0	105-135
SE	13.1	12.0	4.9	7.6	3.3	2.7	9.3	12.0	6.9	9.8	135-165
S	11.1	17.0	9.2	13.7	4.4	4.4	13.2	10.8	9.1	11.9	165-195
SW	7.1	10.7	18.4	9.5	32.6	8.5	12.6	10.1	19.4	9.2	195-225
WS	6.1	14.0	12.9	8.1	24.9	6.2	8.6	8.7	14.3	7.6	225-255
W	5.1	8.4	6.1	6.6	6.1	3.5	4.6	4.4	5.6	5.4	255-285
WN	1.0	5.0	4.3	6.4	3.3	5.3	2.6	6.8	3.0	6.1	285-315
NW	12.1	13.5	14.1	10.4	8.3	7.8	7.3	10.3	10.3	10.3	315-345
Calm	2.0		0.6		1.7		0.7		1.2		

4pm \ Season:	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	27.7	13.8	7.8	14.4	1.3	10.3	15.7	12.6	12.3	13.4	345-015
NE	5.9	3.5	0.4	9.0	0.0	0.0	1.2	2.7	1.6	3.7	015-045
EN	3.2	3.0	0.8	2.5	0.0	0.0	0.4	5.0	1.0	3.1	045-075
E	2.7	2.8	0.0	0.0	0.0	0.0	0.8	4.5	0.8	3.3	075-105
ES	4.3	4.3	0.0	0.0	0.0	0.0	1.2	4.0	1.2	4.2	105-135
SE	9.0	5.6	5.8	8.3	0.4	12.0	3.6	8.4	4.5	7.3	135-165
S	11.2	8.0	5.3	7.0	0.4	6.0	8.1	8.2	6.0	7.8	165-195
SW	8.5	9.8	20.2	12.4	30.7	13.3	18.5	11.3	20.1	12.3	195-225
WS	5.9	14.5	30.5	12.7	41.6	13.7	17.3	12.4	24.8	13.2	225-255
W	2.7	4.0	5.3	7.3	11.8	5.9	6.0	5.7	6.7	6.0	255-285
WN	5.9	4.4	6.6	7.9	4.2	6.1	5.6	5.4	5.6	6.1	285-315
NW	12.8	15.0	16.0	12.9	9.2	8.8	20.6	8.4	14.8	10.9	315-345
Calm	0.5		1.2		0.4		0.8		0.8		

3000' Wind Summary
Sacramento - Executive Airport
Elevation: 20 feet
Lat-Lon: 38° 31'N 121° 30'W
prd of rcrd: 8/62 - 11/65
#recs: 2455
wind speed in knots
source: California Upper Air Wind Climatology, Aerometric Data Division, CARB

4am \ Season:	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	35.6	17.9	23.7	15.9	14.0	11.9	15.0	12.1	19.8	14.7	345-015
NE	14.4	12.8	8.7	11.8	6.7	6.5	7.7	11.6	8.6	10.7	015-045
EN	3.8	6.0	2.5	6.2	2.8	4.1	5.1	7.7	3.5	6.3	045-075
E	4.5	4.3	1.7	7.5	2.5	4.7	2.9	3.8	2.7	4.8	075-105
ES	3.0	9.8	2.1	3.8	3.2	4.1	3.3	4.3	2.9	5.0	105-135
SE	8.3	7.3	1.7	5.8	3.9	5.9	4.7	9.1	4.2	7.3	135-165
S	5.3	13.1	17.0	11.8	14.4	9.4	13.9	10.9	13.6	10.9	165-195
SW	5.3	9.9	13.3	10.3	17.9	8.5	15.0	11.2	14.1	9.9	195-225
WS	3.0	16.8	11.2	10.0	9.1	7.8	8.8	8.4	8.7	9.1	225-255
W	5.3	12.3	4.1	11.2	10.5	5.8	4.4	9.6	6.3	8.2	255-285
WN	6.8	16.1	4.1	7.9	6.3	5.8	7.3	5.3	6.1	7.6	285-315
NW	3.8	8.6	9.1	10.8	8.1	7.1	11.3	7.9	8.7	8.5	315-345
Calm	0.8		0.8		0.7		0.7		0.8		

10am \ Season	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	29.9	16.5	21.0	16.0	17.8	10.3	21.3	15.2	21.6	14.5	345-015
NE	12.4	12.3	5.6	7.6	2.2	9.0	11.3	13.3	7.1	11.4	015-045
EN	1.0	3.0	1.2	4.5	2.8	4.2	2.0	5.3	1.9	4.5	045-075
E	0.0	0.0	1.2	7.5	2.2	4.8	3.3	4.8	1.9	5.3	075-105
ES	3.1	4.0	2.5	4.0	1.7	3.7	2.7	5.5	2.4	4.4	105-135
SE	6.2	11.0	6.8	8.4	2.8	7.2	5.3	8.4	5.1	8.7	135-165
S	11.3	13.9	12.3	11.6	11.7	7.4	18.7	14.0	13.6	11.6	165-195
SW	10.3	14.1	11.7	10.5	17.2	7.7	10.7	11.2	12.9	10.0	195-225
WS	7.2	10.4	7.4	12.6	12.8	5.7	6.0	7.3	8.7	8.2	225-255
W	4.1	9.8	6.2	6.7	7.2	7.5	5.3	7.8	5.9	7.6	255-285
WN	4.1	8.0	8.0	8.9	10.0	5.8	1.3	4.0	6.3	7.0	285-315
NW	8.2	11.6	16.0	12.1	10.6	9.0	10.0	10.0	11.5	10.7	315-345
Calm	2.1		0.0		1.1		2.0		1.2		

4pm \ Season:	Winter		Spring		Summer		Fall		Annual		
Direction	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	% of Time	Mean Speed	Compass Degrees
N	28.5	17.1	12.0	14.7	2.1	10.4	13.3	15.4	13.1	15.8	345-015
NE	11.3	12.6	2.5	9.2	0.4	6.0	3.6	14.0	4.0	12.2	015-045
EN	2.7	5.8	0.0	0.0	0.0	0.0	0.0	0.0	0.5	5.8	045-075
E	0.5	4.0	0.0	0.0	0.4	5.0	0.4	2.0	0.3	3.7	075-105
ES	3.2	5.0	0.8	3.0	0.8	5.5	2.4	3.3	1.8	4.2	105-135
SE	6.5	7.3	2.1	9.8	0.4	6.0	3.2	8.1	2.8	8.0	135-165
S	7.0	8.0	8.7	11.7	2.5	11.3	9.7	11.6	7.0	10.9	165-195
SW	5.4	11.7	16.9	11.9	22.7	11.4	16.9	11.6	16.1	11.6	195-225
WS	8.6	14.4	19.4	11.6	33.2	9.5	11.7	10.6	18.7	10.7	225-255
W	5.4	7.9	9.9	9.3	14.3	6.1	10.5	6.9	10.3	7.3	255-285
WN	5.9	7.9	8.7	8.3	14.7	6.9	9.3	5.8	9.8	7.1	285-315
NW	14.0	10.9	17.4	11.1	8.0	11.1	17.7	9.7	14.3	10.6	315-345
Calm	1.1		1.7		0.4		1.2		1.1		

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