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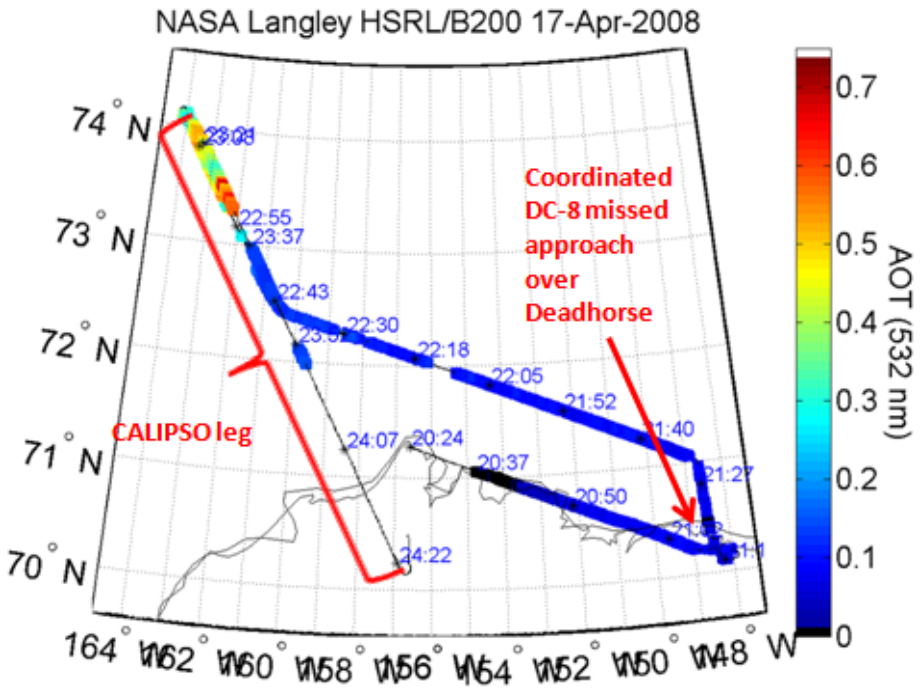
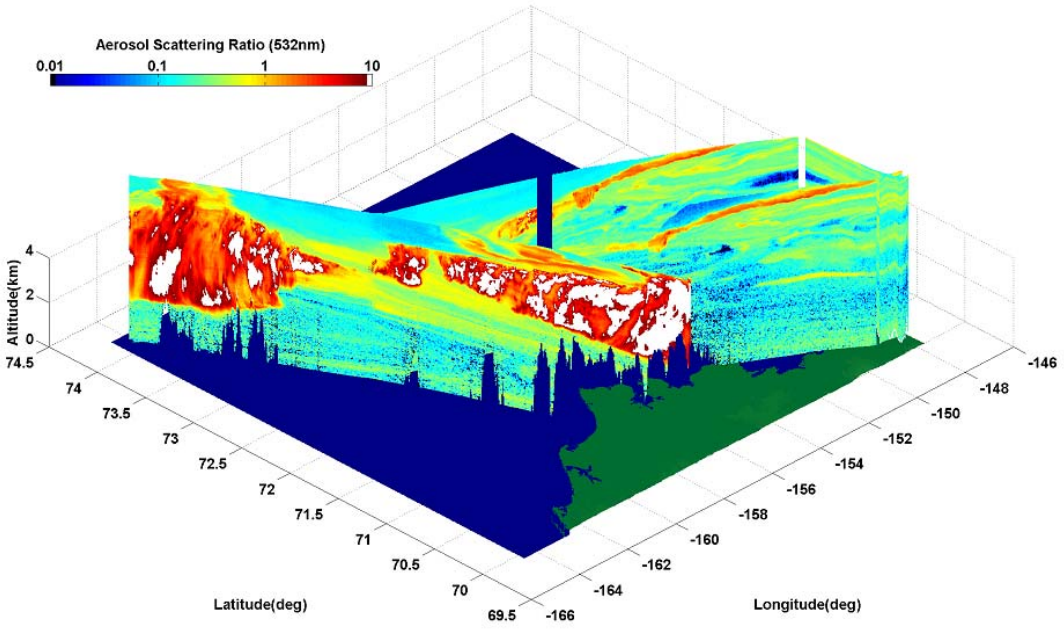
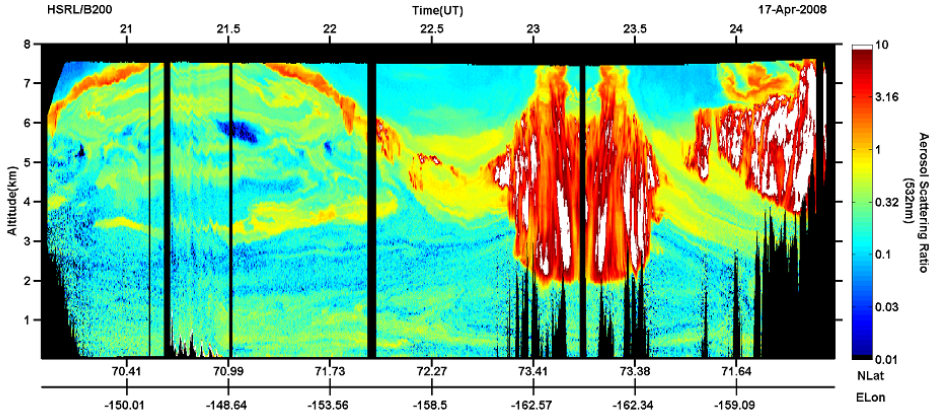
Flight Report

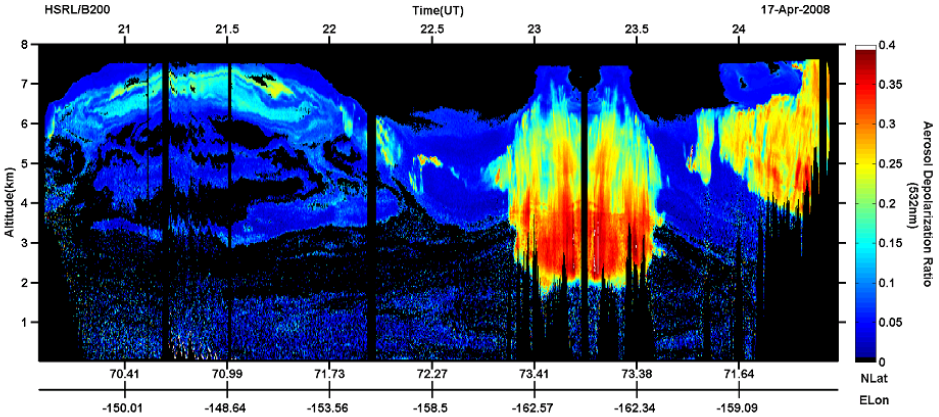
Aircraft :	LaRC B-200 King Air (N529NA) (Operating as NASA529)
Operating Site(s) From / To :	Pt. Barrow to Pt. Barrow, AK
Flight Date :	4/17/2008
Flight Number :	R-140
Take Off Time :	1221 Local, 2021 UTC
Landing Time :	1646 Local, 0046 UTC 4/18/2008
Flight Time :	4.4 hours
Principal Investigator:	Rich Ferrare
Purpose of Flight :	Data [X] Ferry [ ] Functional Check [ ] Other [ ]
Sensor Payload :	HSRL and Digital Camera
Comments :	Launched for simultaneous over flight of DC-8 in vicinity of Deadhorse, AK arrived just prior to Dc-8 and made a second pass over their spiral. Tracked north over DC-8 projected path for 50 miles and then westbound, arriving at the CALIPSO track just after overflight. Flew north then south along track to 70 miles south of Barrow then recovered at Barrow. During the B200/DC-8 coincident measurements over Deadhorse, HSRL observed thin aerosol layer between 6-8 km; high depolarization suggested mix of dust/ice. Very little aerosol was observed near the surface during the coincident measurements. Along the CALIPSO track west of Barrow, observed elevated ice clouds between 2-6 km along the northern portion of the track. The elevated aerosol layer also seemed to merge into these clouds, so these could also have been mix of ice and dust. This could be good flight to examine CALIPSO aerosol/cloud discrimination.

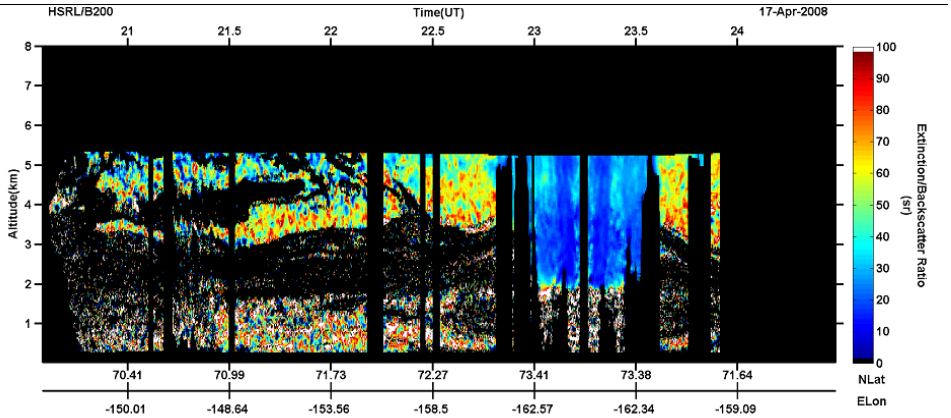
SUBMITTED: Rich Ferrare **DATE: 4/21/2008**

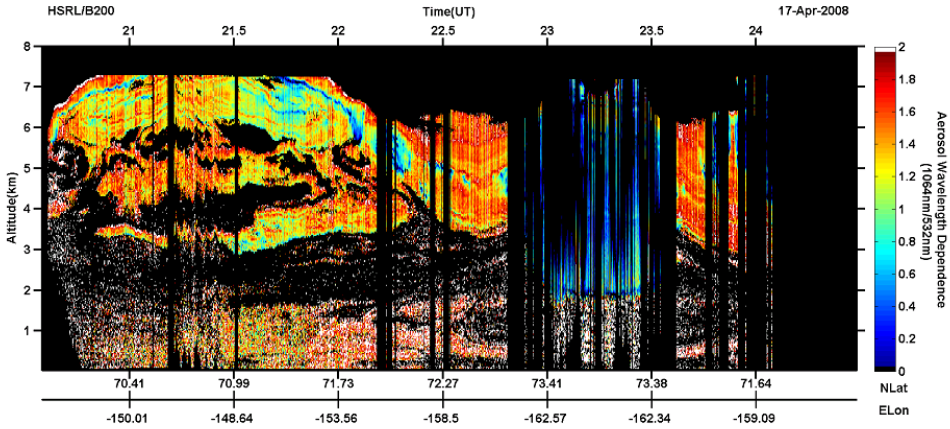

NASA Langley HSRL/B200 17-Apr-2008
74° N
73° N
72° N
71° N
70° N
164° W
162°
160°
158°
156°
154°
152°
150°
148°
Coordinated
DC-8 missed
approach
over
Deadhorse
CALIPSO leg
22:55
23:37
22:43
22:30
22:18
22:05
21:52
21:40
21:27
20:50
24:07
20:24
20:37
24:22
AOT (532 nm)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0


Aerosol Scattering Ratio (532nm)
0.01
0.1
1
10
Altitude(km)
4
2
0
74.5
74
73.5
73
72.5
72
71.5
71
70.5
70
69.5
Latitude(deg)
-146
-148
-150
-152
-154
-156
-158
-160
-162
-164
-166
Longitude(deg)


HSRL/B200
Time(UT)
17-Apr-2008
21
21.5
22
22.5
23
23.5
24
Altitude(km)
8
7
6
5
4
3
2
1
10
3.16
1
0.32
0.1
0.03
0.01
Aerosol Scattering Ratio (532nm)
70.41
70.99
71.73
72.27
73.41
73.38
71.64
NLat
-150.01
-148.64
-153.56
-158.5
-162.57
-162.34
-159.09
ELon


HSRL/B200
Time(UT)
17-Apr-2008
21
21.5
22
22.5
23
23.5
24
Altitude(km)
8
7
6
5
4
3
2
1
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Aerosol Depolarization Ratio (532nm)
70.41
70.99
71.73
72.27
73.41
73.38
71.64
NLat
-150.01
-148.64
-153.56
-158.5
-162.57
-162.34
-159.09
ELon


HSRL/B200
Time(UT)
17-Apr-2008
21
21.5
22
22.5
23
23.5
24
Altitude(km)
8
7
6
5
4
3
2
1
100
90
80
70
60
50
40
30
20
10
0
Extinction/Backscatter Ratio (sr)
70.41
70.99
71.73
72.27
73.41
73.38
71.64
NLat
-150.01
-148.64
-153.56
-158.5
-162.57
-162.34
-159.09
ELon


HSRL/B200
Time(UT)
17-Apr-2008
21
21.5
22
22.5
23
23.5
24
Altitude(km)
8
7
6
5
4
3
2
1
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Aerosol Wavelength Dependence (1064nm/532nm)
70.41
70.99
71.73
72.27
73.41
73.38
71.64
NLat
-150.01
-148.64
-153.56
-158.5
-162.57
-162.34
-159.09
ELon