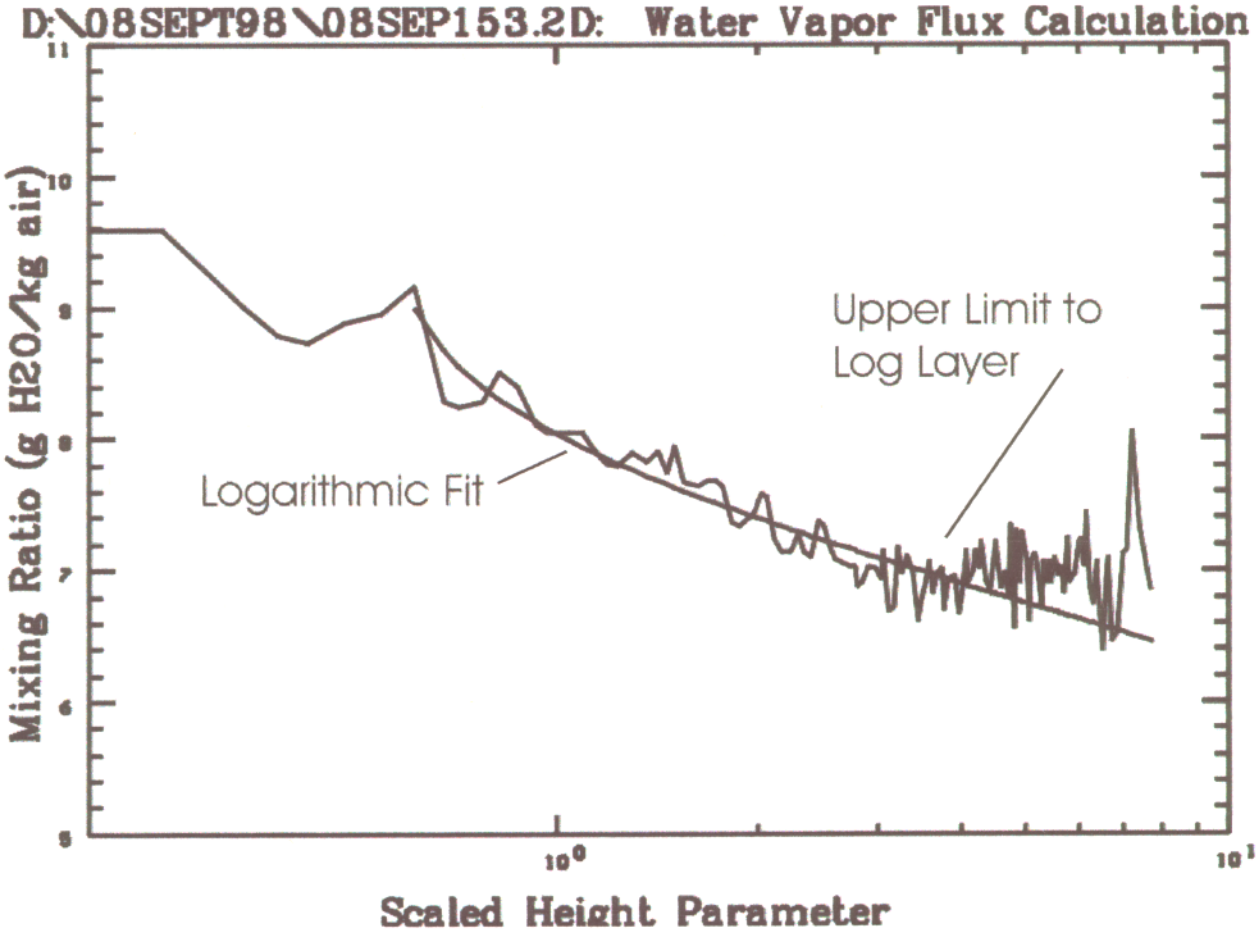

D:\08SEPT98\08SEP153.2D: Water Vapor Flux Calculation
Mixing Ratio (g H2O/kg air)
Scaled Height Parameter
Upper Limit to
Log Layer
Logarithmic Fit

Fig. 1

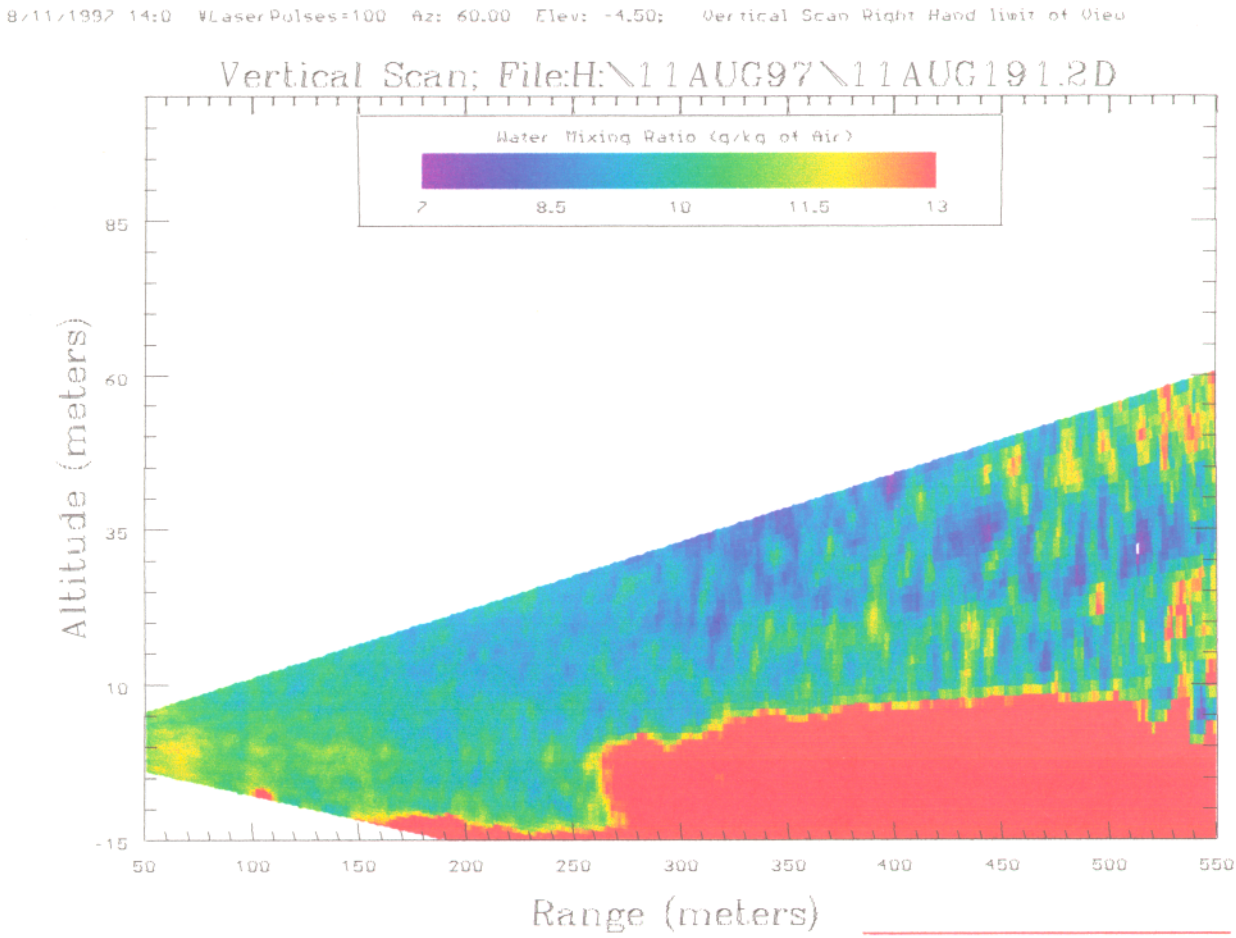

8/11/1992 14:0 #LaserPulses=100 Az: 60.00 Elev: -4.50; Vertical Scan Right Hand limit of View
Vertical Scan; File:H:\11AUG97\11AUG191.2D
Water Mixing Ratio (g/kg of Air)
7
8.5
10
11.5
13
Altitude (meters)
85
60
35
10
-15
50
100
150
200
250
300
350
400
450
500
550
Range (meters)

Fig. 2 **A**

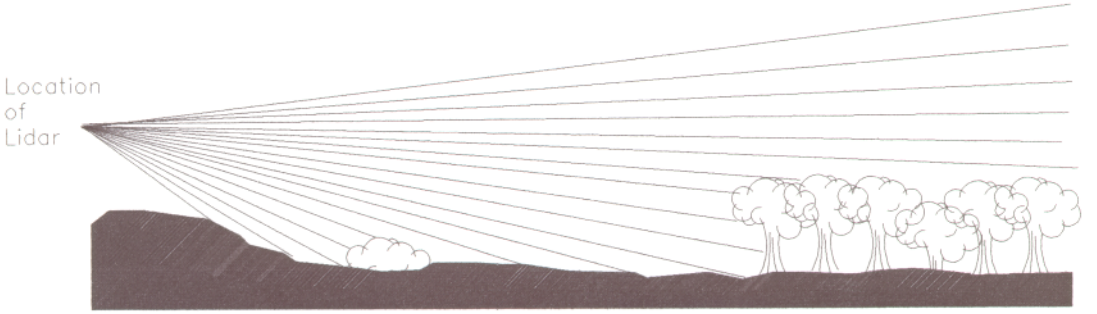


Fig. 2 **B**

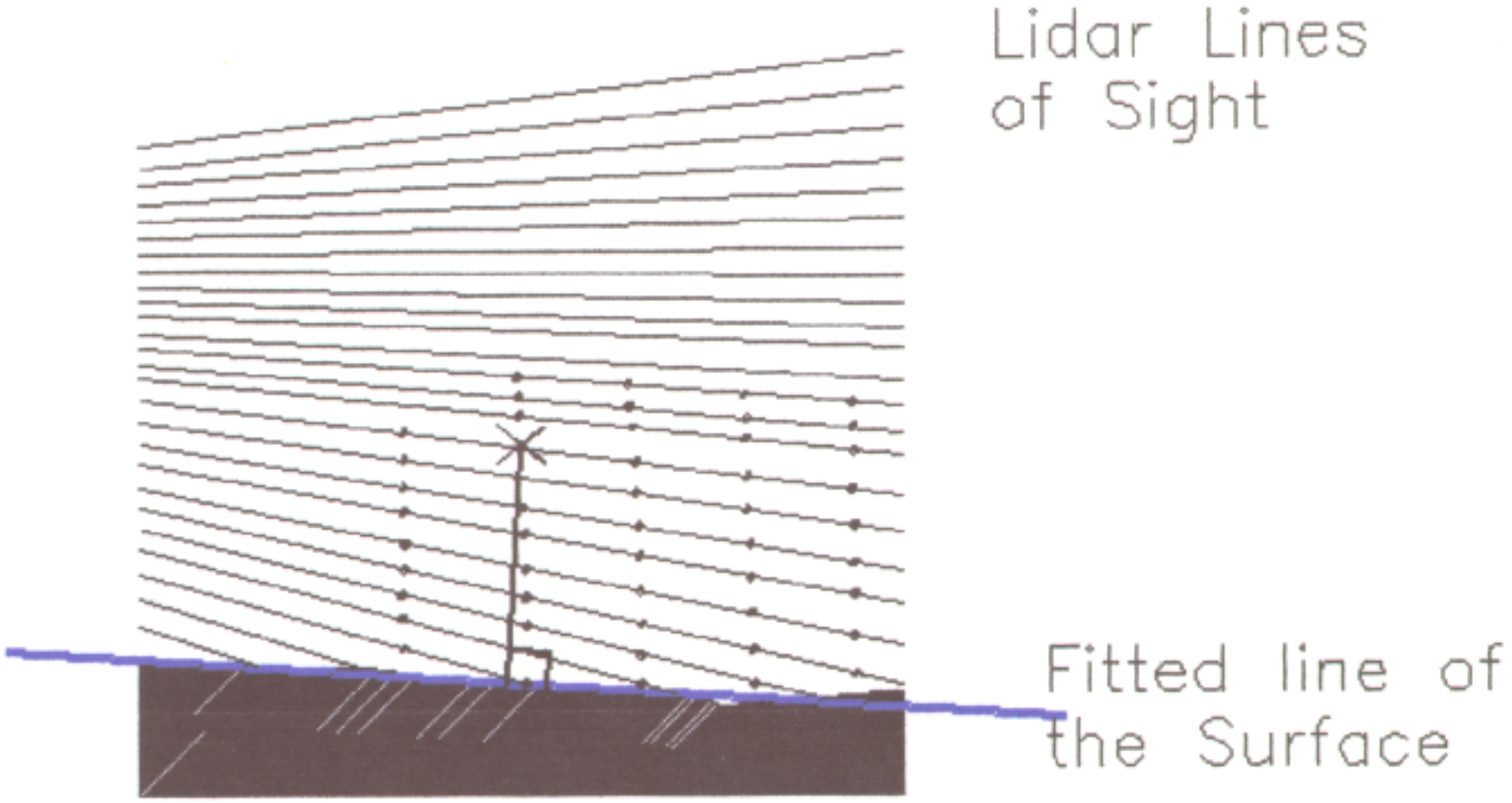


Fig. 3

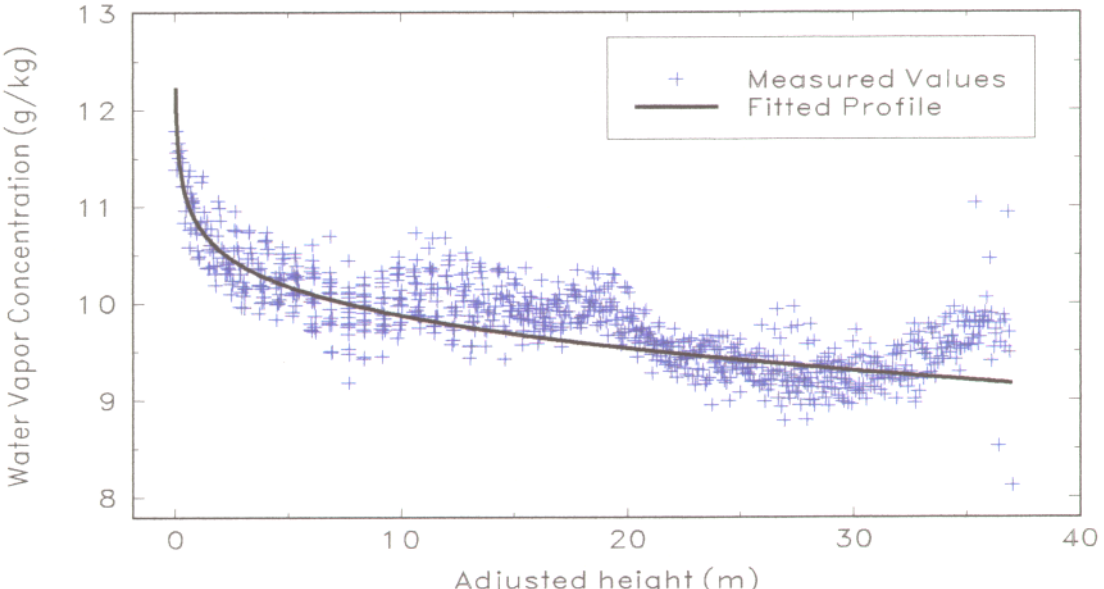

Measured Values
Fitted Profile
Water Vapor Concentration (g/kg)
13
12
11
10
9
8
0
10
20
30
40
Adjusted height (m)

Fig. 4

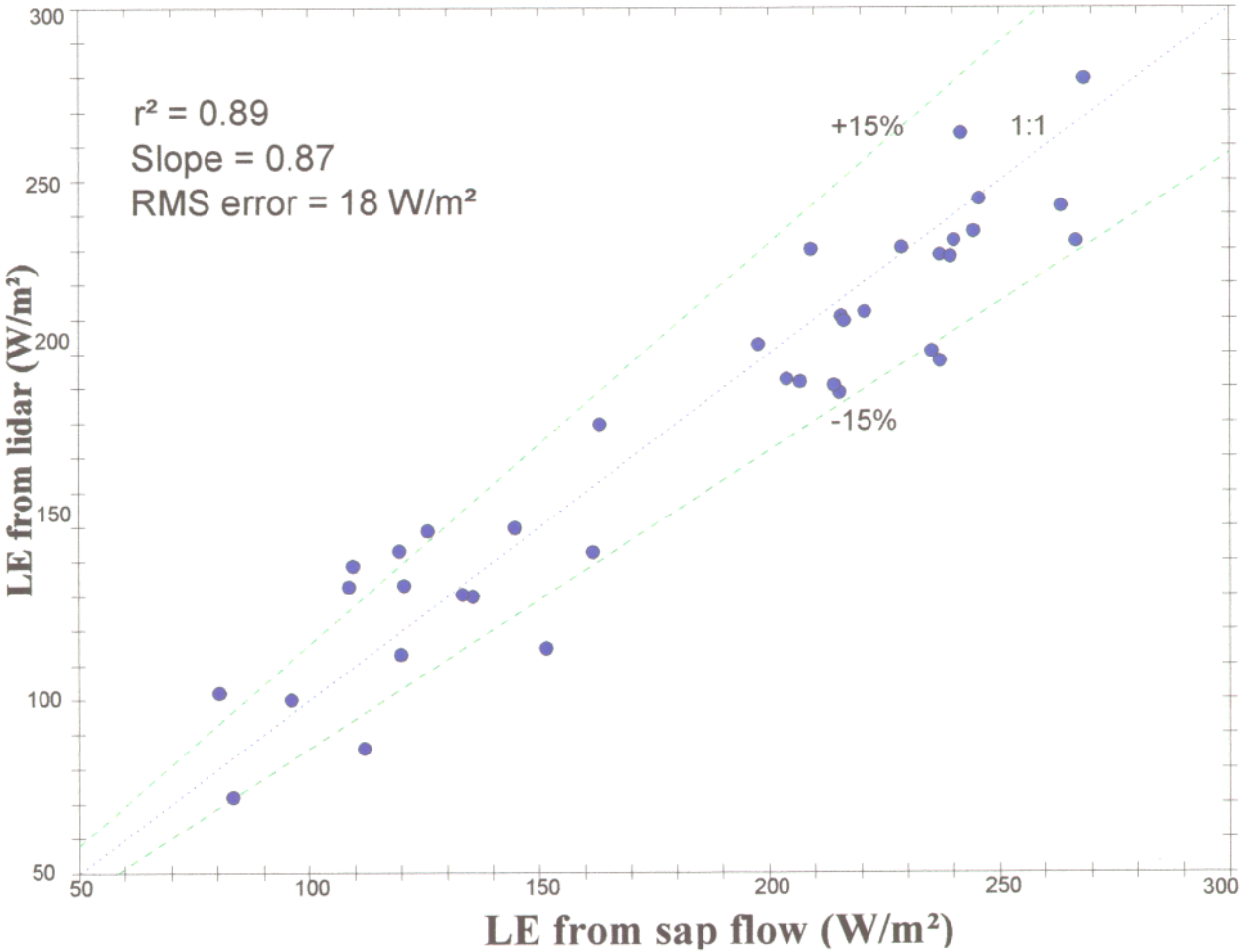

r² = 0.89
Slope = 0.87
RMS error = 18 W/m²
+15%
1:1
-15%
LE from lidar (W/m²)
LE from sap flow (W/m²)
300
250
200
150
100
50
50
100
150
200
250
300

Fig. 5

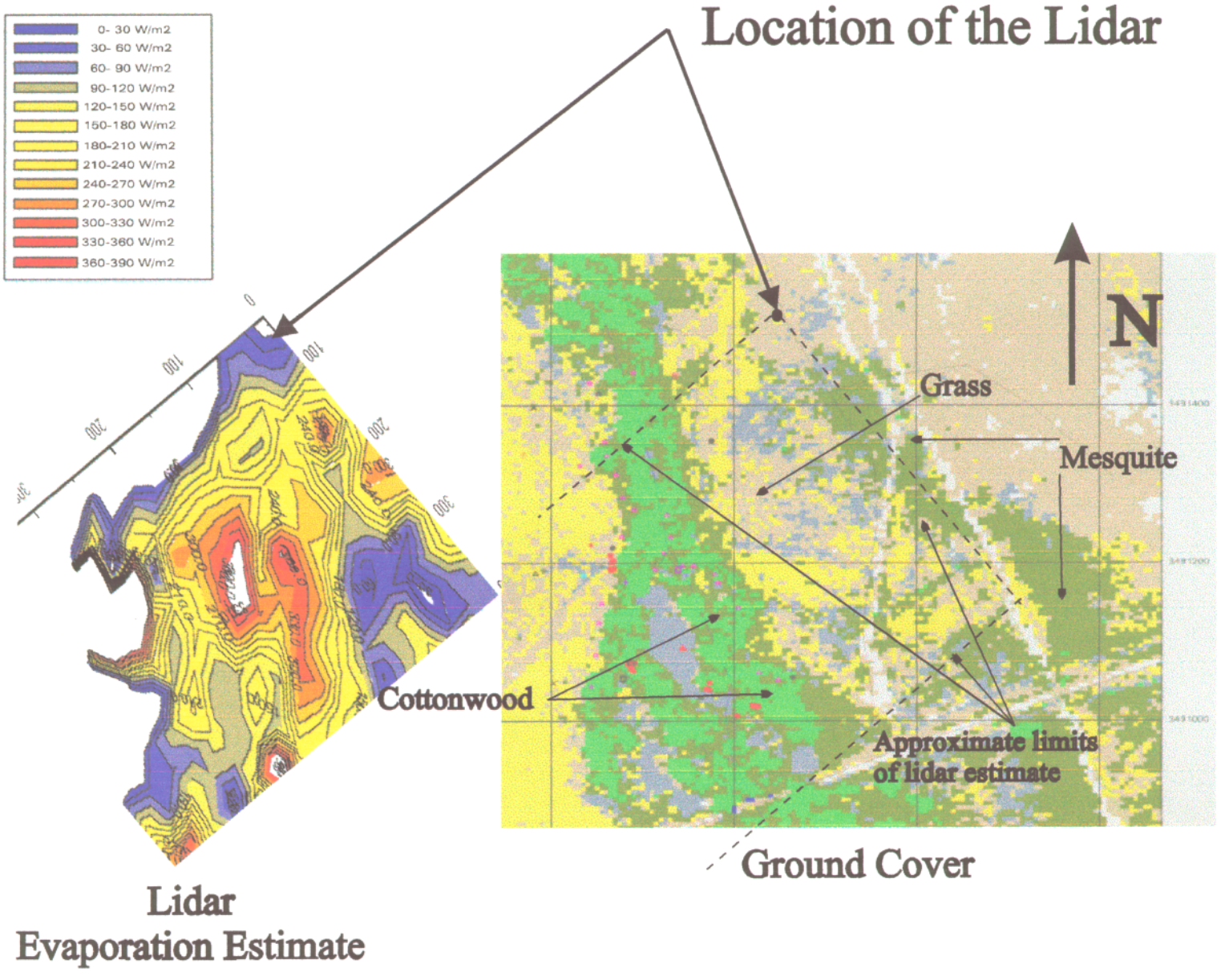

Location of the Lidar
0- 30 W/m2
30- 60 W/m2
60- 90 W/m2
90-120 W/m2
120-150 W/m2
150-180 W/m2
180-210 W/m2
210-240 W/m2
240-270 W/m2
270-300 W/m2
300-330 W/m2
330-360 W/m2
360-390 W/m2
N
Grass
Mesquite
Cottonwood
Approximate limits of lidar estimate
Ground Cover
Lidar Evaporation Estimate

Fig. 6

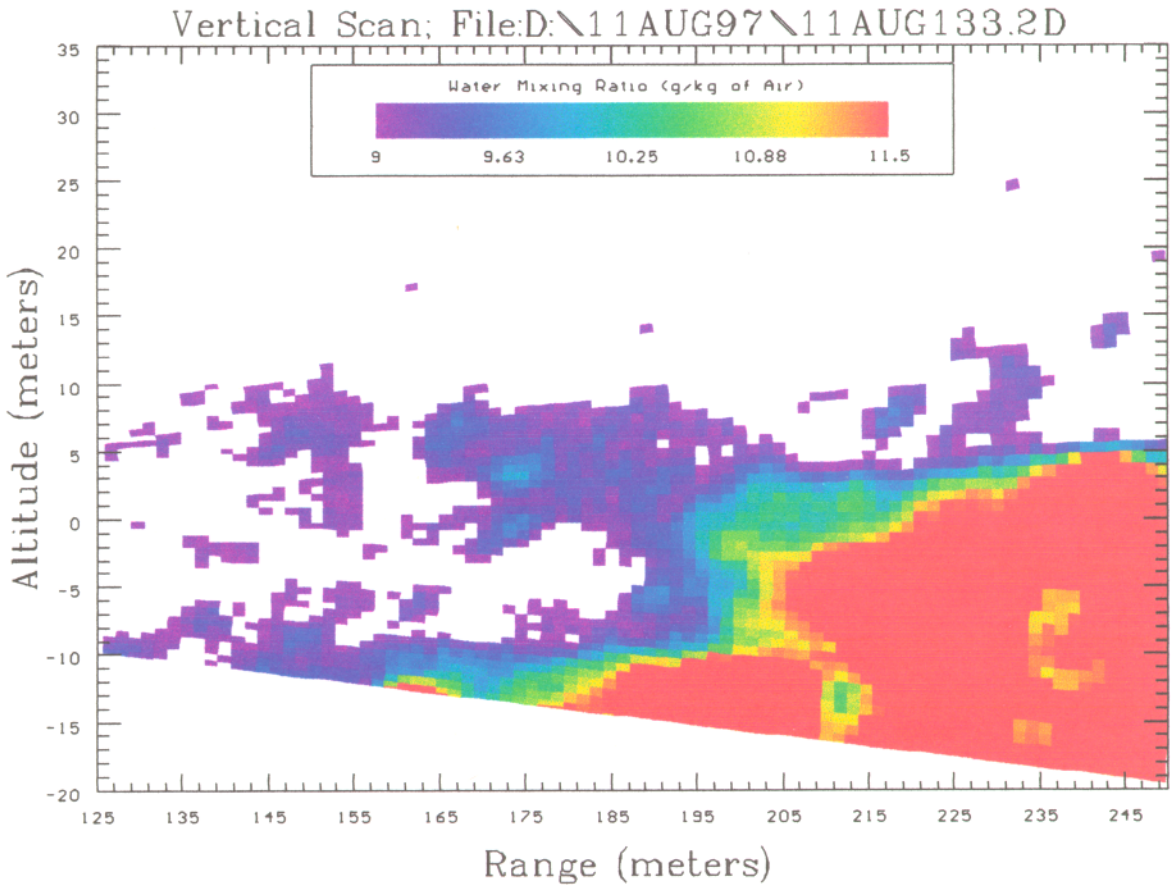

8/11/1997 12:29 #LaserPulses=100 Az: 40.00 Elev: -4.50; Vertical Scan Right Hand limit of View
Vertical Scan; File:D:\11AUG97\11AUG133.2D
Water Mixing Ratio (g/kg of Air)
9
9.63
10.25
10.88
11.5
Altitude (meters)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
125
135
145
155
165
175
185
195
205
215
225
235
245
Range (meters)

Fig. 7 A

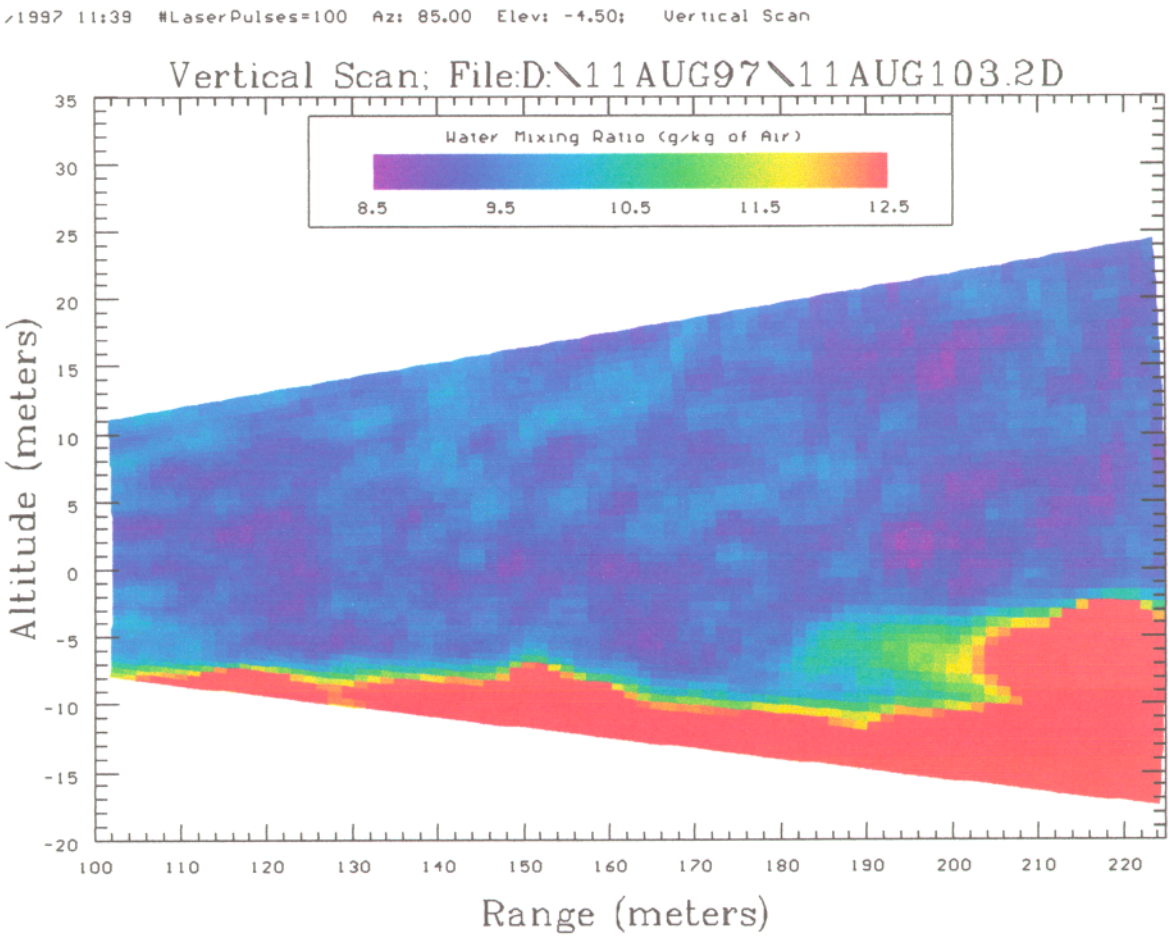

8/11/1997 11:39 #LaserPulses=100 Az: 85.00 Elev: -4.50; Vertical Scan
Vertical Scan; File:D:\11AUG97\11AUG103.2D
Water Mixing Ratio (g/kg of Air)
8.5
9.5
10.5
11.5
12.5
Altitude (meters)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
100
110
120
130
140
150
160
170
180
190
200
210
220
Range (meters)

Fig. 7 B

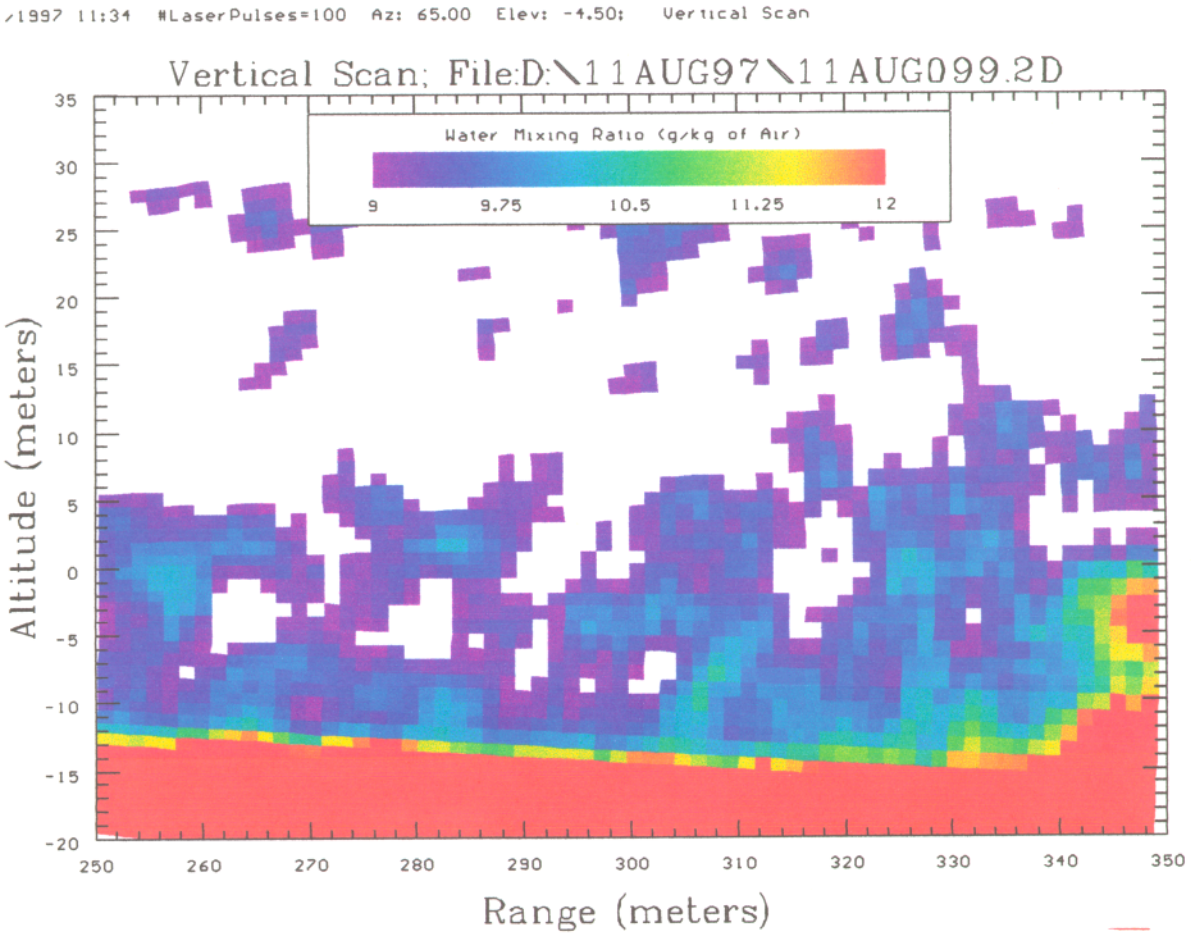

8/11/1997 11:34 #LaserPulses=100 Az: 65.00 Elev: -4.50: Vertical Scan
Vertical Scan; File:D:\11AUG97\11AUG099.2D
Water Mixing Ratio (g/kg of Air)
9
9.75
10.5
11.25
12
Altitude (meters)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
250
260
270
280
290
300
310
320
330
340
350
Range (meters)

Fig. 8 **A**

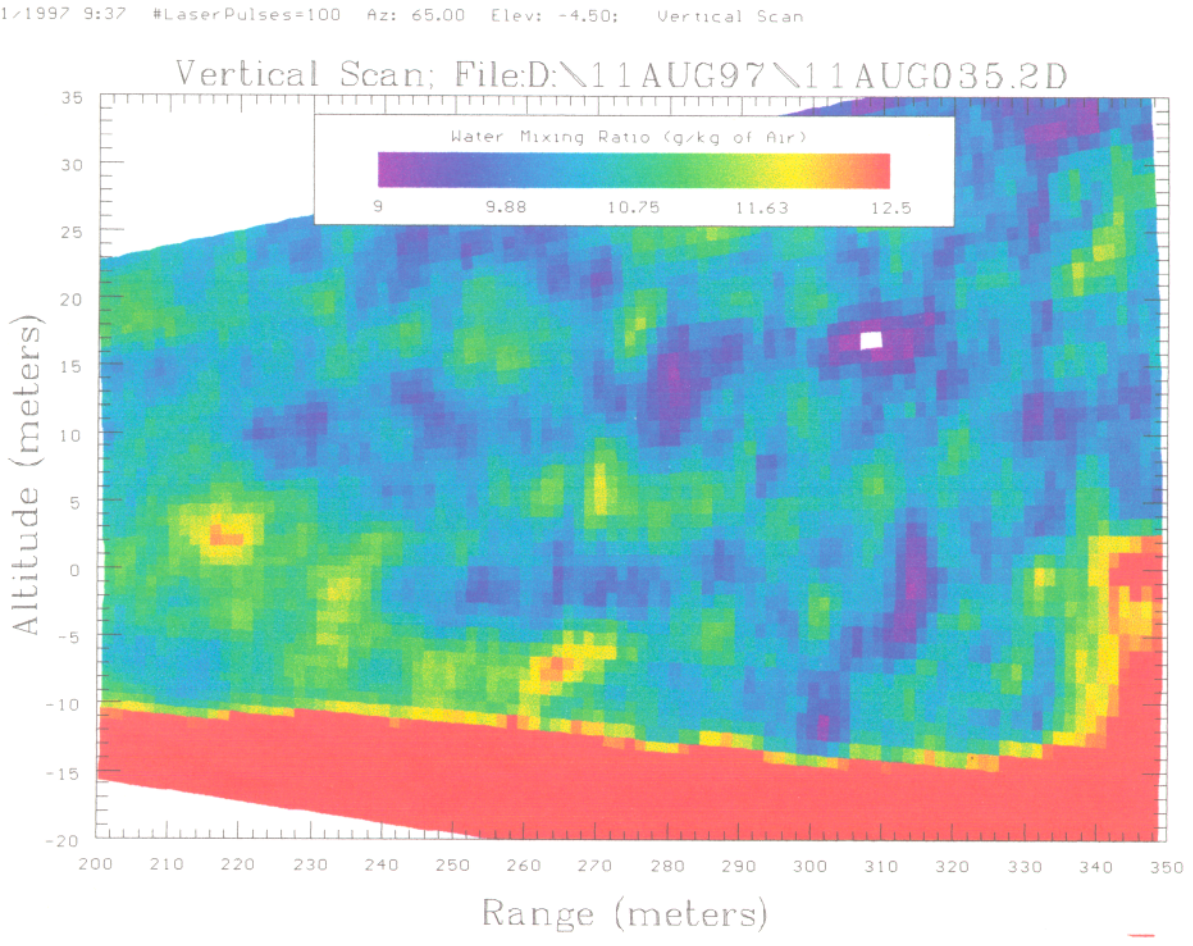

8/11/1997 9:37 #LaserPulses=100 Az: 65.00 Elev: -4.50: Vertical Scan
Vertical Scan; File:D:\11AUG97\11AUG035.2D
Water Mixing Ratio (g/kg of Air)
9
9.88
10.75
11.63
12.5
Altitude (meters)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
Range (meters)

Fig. 8 **B**

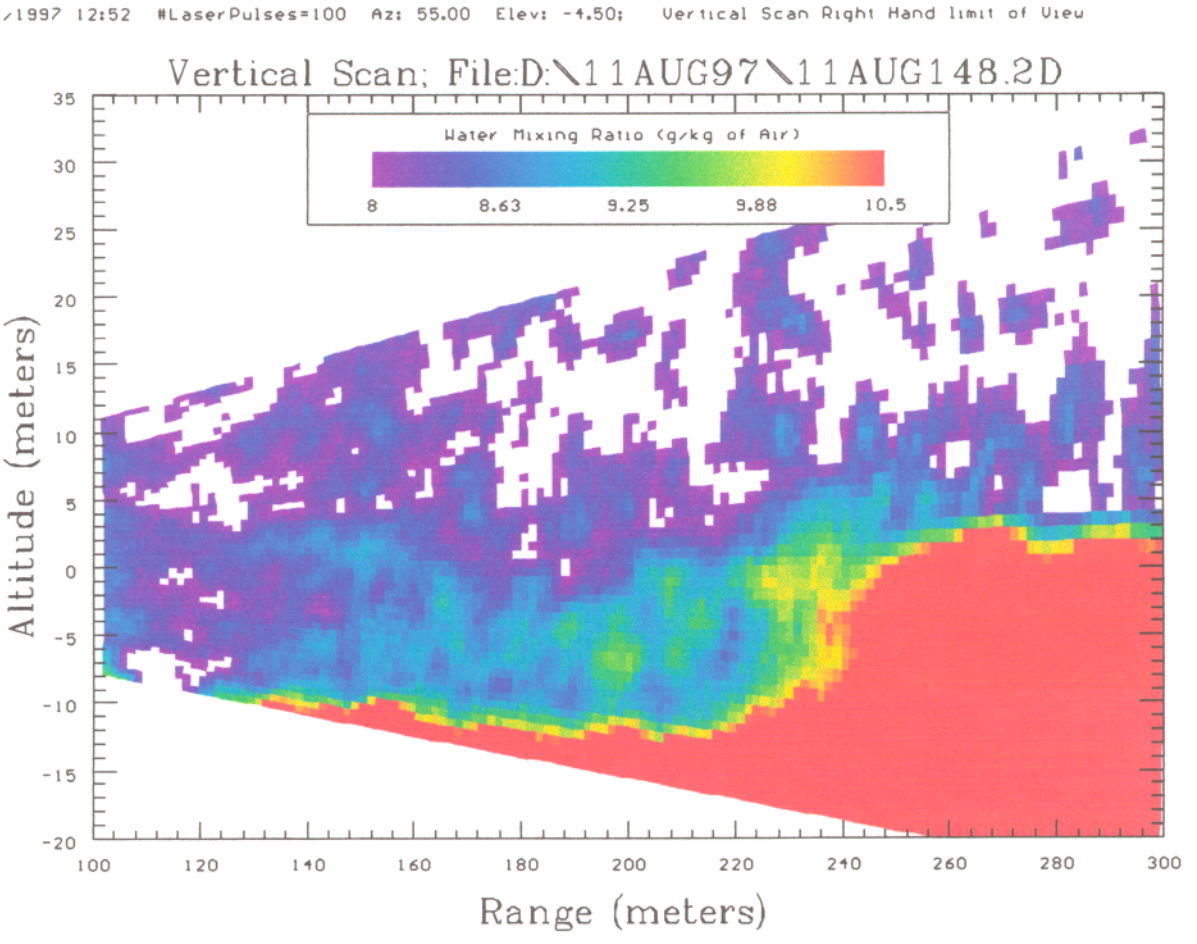
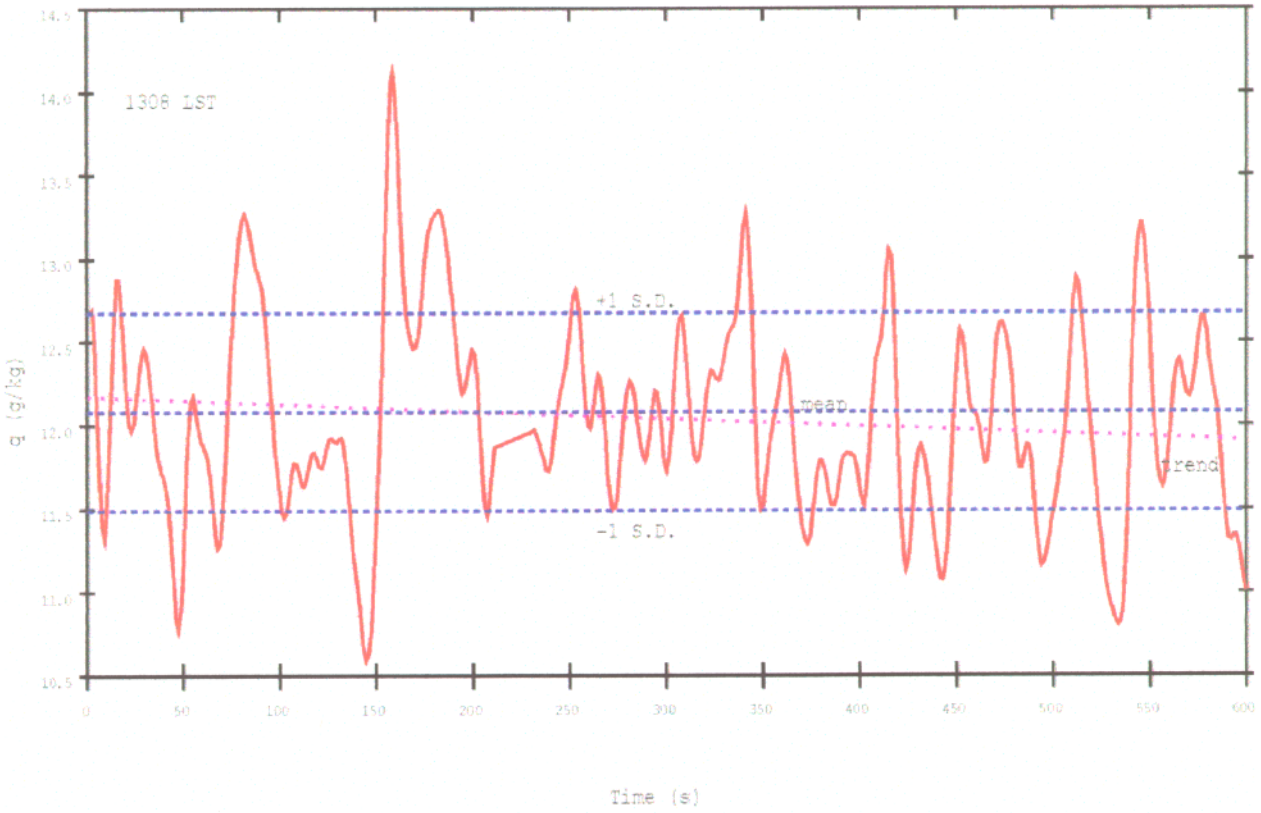

8/11/1997 12:52 #LaserPulses=100 Az: 55.00 Elev: -4.50; Vertical Scan Right Hand limit of View
Vertical Scan; File:D:\11AUG97\11AUG148.2D
Water Mixing Ratio (g/kg of Air)
8
8.63
9.25
9.88
10.5
Altitude (meters)
35
30
25
20
15
10
5
0
-5
-10
-15
-20
100
120
140
160
180
200
220
240
260
280
300
Range (meters)

Fig. 8 **C**


1308 LST
+1 S.D.
mean
trend
-1 S.D.
q (g/kg)
Time (s)

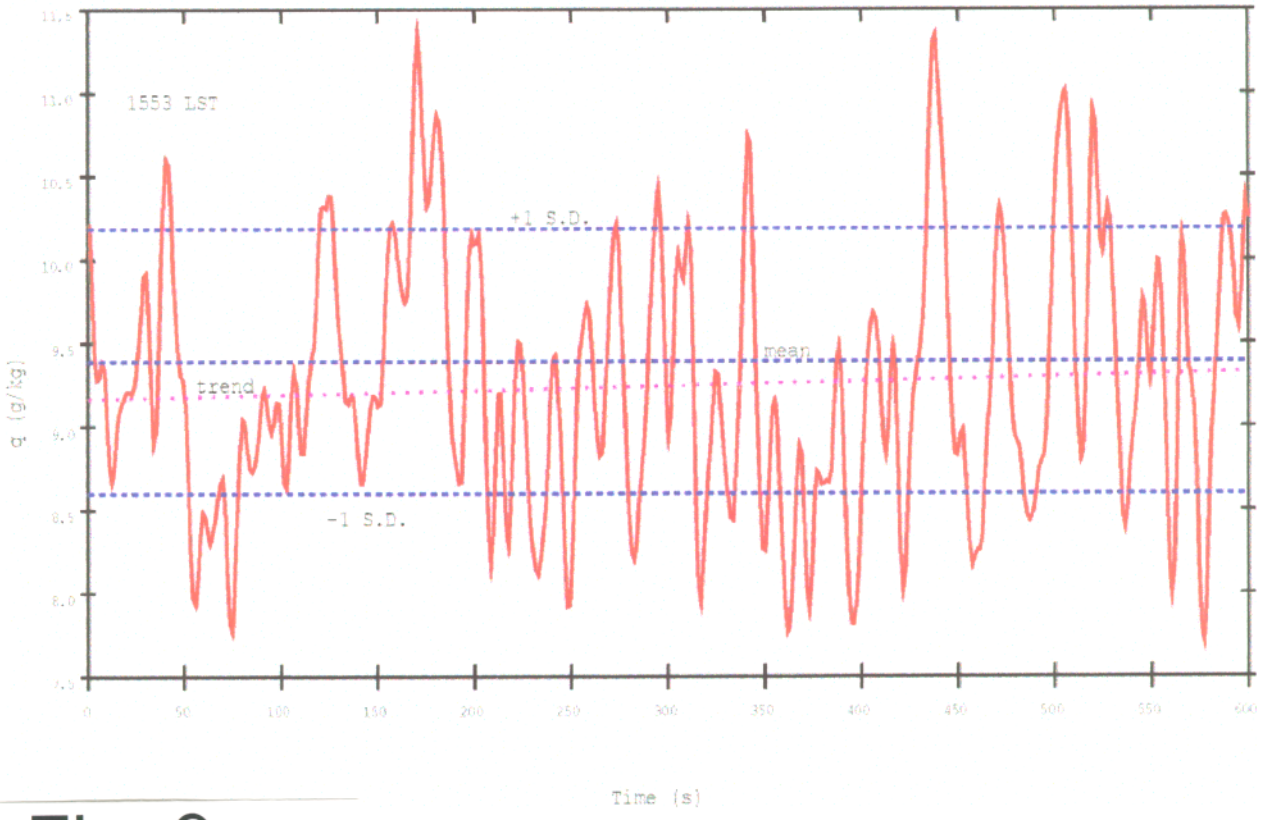

1553 LST
+1 S.D.
mean
trend
-1 S.D.
q (g/kg)
Time (s)

Fig. 9