

**07/17/02**

**FC:**

Aircraft: Proteus, P3

**Log:**

1755: Take-off  
26 04N 81 35W

1821: Past leg first time

1822: Back level again on west side  
Tops ~ 10km  
Tops of cores ~ 15-16km

1827: Leg end

1829: Back on track again  
Storm looks mostly dissipated and further to the west

1832: Begin to get under the anvil

1835: Get core  
Much weaker now  
Stuff building on east side  
Mostly dead now  
26 53N 82 01W – given by NPOL

1837: Turn around  
Things larger towards north

1840: Strong cell and nice big anvil  
We are right in the stratiform region

1843: Turn around

1845: Back on track

1846: Double anvil  
Anvils stream off fast again

1848: Coming to the system again

1850: Tops ~ 16km  
Nice strong echoes

1851: Tops ~ 17km  
Proteus overhead from 1851 to 1901

1853: Turn around

1856: Tops ~ 18km, reflectivities ~ 58dBZ

1901: Turn around

1903: Turn completed

1907: Strong anvil top ~ 17km  
Strong bright band

1912: Turn around  
Storm is mostly decaying

1922: Turn around

1924: Back on track

1927: Turn around for NPOL sector scan

1939: Turn around

1942: Top ~ 17.5km  
Huge anvil

1946: Turn around

1948: Back on track

1950: Strong bounded weak echo region

1955: Turn around

1957: Back on track  
Active convection on northern edge – legs quite a bit lower  
Core reflectivity ~ 50dBZ with few exception  
Southern end mostly stratiform with a bright band

2004: NPOL suggested warning eastern side of line  
Attenuation may block us out

2014: Strong cell  
Tops ~ 17km, reflectivities ~ 58 dBZ

2022: Turn around  
Could not get to end of convection  
Will continue on west hence a very good view of intense growing cells

2026: ELDORA down  
Good anvil SW side

2028: ELDORA up

2030: Turn to go through line toward eastern edge

2035: Reflectivity ~ 60dBZ  
Vortex

2041: Turn around

2043: Lineup on cell

2044: Northern edge cell much weaker  
Lots of attenuation at low levels

2053: Turn around

2054: Back on line

2056: ELDORA down

2111: ELDORA up  
South band leg

2117: ELDORA down  
Decide to return to EYW  
Will do maeuver on way in

2141: Straight and level for 1min

2142: Start with skid

2144: Stop skid  
Straight and level

2147: Airspeed

2151: Straight and level

2154: Pitching motion

2155: Stop pitching

2255: Land

### **Mission Reports:**

Proteus: The Proteus took off around 1600Z, with the goal of flying an Aqua overpass. The Aqua overpass track was aligned parallel to the west coast of the Florida peninsula. The overpass took place at 1846Z. The Proteus lined up in a NE-SW-oriented racetrack pattern that was about 20 km wide. The track extended from about 30 km north of Cuba at the south end to the Ft. Myers area on the north end, with the west side of the track over Key West. The Proteus made three circuits of this track, with clear-sky conditions over the ocean portions for most of the flight. This was desirable for the AIRS validation, which was accomplished successfully. On the last circuit, they got into some of the anvil blow-off from the Ft. Myers system. The Proteus landed around 2000Z.

P-3: The P-3 took off at 1755Z and sampled the outflow to the west of the convection occurring in the Naples area. The deepest convective tops observed with the ELDORA radar were higher than 18 km altitude, and individual cells were seen to “pulsate” in relation to one another. The P-3 sat in this system for almost the entire flight at an altitude of about 5 kft. At 2026Z they tried to make a

jog east to sample the air on the other side of the Naples convection, but by then the anvils from the Florida eastconvection system had reached and merged with the west-coast air. The P-3 returned to base at 2215Z.

Summary: Convective activity kicked off on the west coast in the Naples and Ft. Myers areas around 1730Z. Anvils began streaming off to the west from both systems and were quite extensive over the eastern Gulf by about 1845Z. This was a no-fly day for the ER-2, WB-57F, Twin Otter, and Citation.

**Flight Path & Focus:** 172650 221820, rf06

Line 1: 181400 212100 Naples Ft Myers area  
convection-anvil system, anvil outflow to west over eastern Gulf  
coordination w/Proteus  
large system

Quality: Good/Ok – high tops

Part 1: 181400 203120 N-S orientation  
convection-anvil

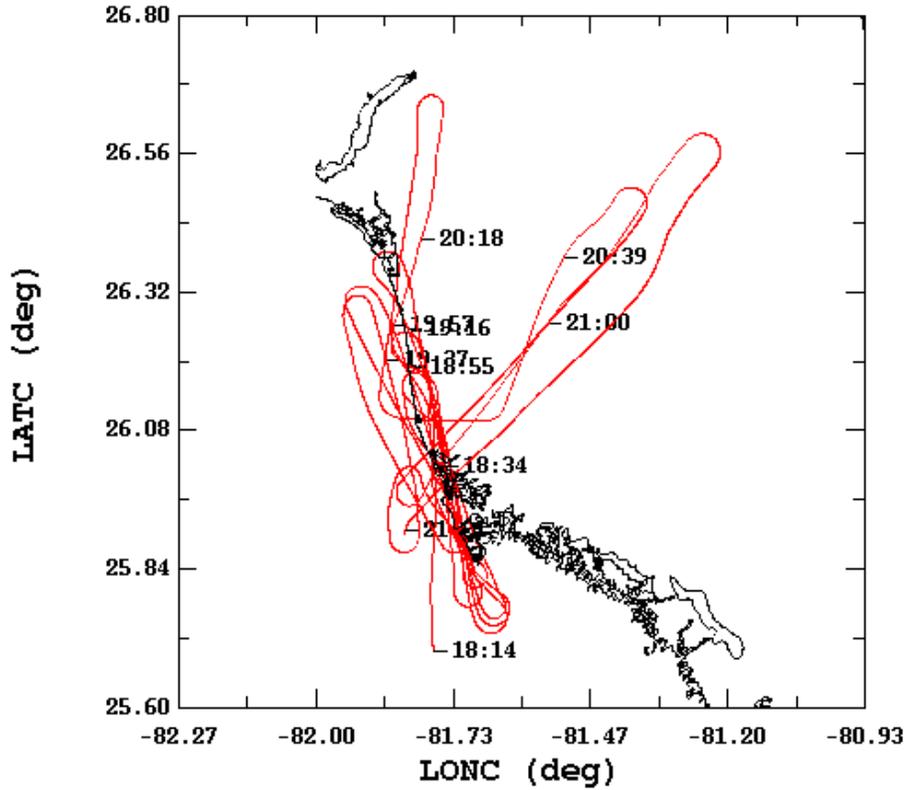
leg\_1.1.1: 181400 182040 nice convection  
leg\_1.1.2: 182150 182910 outflow forming  
leg\_1.1.3: 183000 183720  
leg\_1.1.4: 183850 184500  
leg\_1.1.5: 184600 185300 anvil present  
leg\_1.1.6: 185440 190200 high tops  
leg\_1.1.7: 190320 191230 high tops  
leg\_1.1.8: 191350 192350  
leg\_1.1.9: 192430 192800 move NW lengthen legs between 9-10, loop btwn 9-10  
leg\_1.1.10: 193130 193930 nice flat top  
leg\_1.1.11: 193950 194720 detached anvil, flat top  
leg\_1.1.12: 194750 195550  
leg\_1.1.13: 195630 200620  
leg\_1.1.14: 200650 201550 move north between 14-15, trn btwn 14-15  
leg\_1.1.15: 201550 202230  
leg\_1.1.16: 202310 203120 ELDORA down

Part 2: 203200 212100 NE-SW orientation  
convection-anvil

leg\_1.2.1: 203410 204200  
leg\_1.2.2: 204250 205240  
leg\_1.2.3: 205310 210630 ELDORA down  
leg\_1.2.4: 210730 212130 action both side, ELDORA down

# CRYSTAL-FACE, Flight #rf06

07/17/2002, 18:14:00-21:21:00



	mean	sigma	min	max
— LATC (deg), 1 s/sec	26.12	0.21	25.70	26.66
— LONC (deg), 1 s/sec	-81.72	0.14	-81.95	-81.21