

07/25/02

FC:

Report: Marine convection SE of Florida

Aircraft: P3, Citation

Log:

1554: Take-off
1610: Pickup convection close to EYW
Nice looking small convective cell
Tops ~ 14-15km, reflectivity ~ 45 dBZ
Full lifecycle of one core from 1610 to 1719
1614: Turn around
1615: Back on line
1622: Nice strong little line
Reflectivity ~ 55+ dBZ
1627: Turn around
Work small section of line
1628: Back on reverse leg
Nice strong convection
Tops ~ 15km, reflectivity ~ 50dBZ
1635: Trn around
1637: Back on track
Line already quite a bit weaker
1642: Turn around
1643: Back on track
Weaker – yet only thing in area
1650: Turn around
1651: Back on track
Entire line segment now showing bright band
No hard cells at all
1657: Turn around
Do a few more legs under anvil – now completely detached from convection
1719: Break off to north
Turn radar off
1727: ELDORA up
Nice cell on nose just off the coast
Full lifecycle of second core from 1727 to 1822
1730: Pass western ground site
Tops ~ 16km
1736: Turn around
1738: Reverse leg
1742: Cell still looks fairly healthy
1745: Turn around
Reflectivity ~ 50dBZ, tops ~ 15-16km
Weaker cells
Cells growing on both sides of radar
1752: Turn around to concentrate on one cell
Big cell now quite a bit weaker but still has some hard cores in it
New cell to the east of aircraft now building nicely
1757: Turn around

Big cell weaker
1802: Turn around
1803: Steady on reverse leg
1808: Turn around
1809: Back on steady heading
Cloud now has large regions of bright band
1814: Turn around
1815: Back on reverse heading
Detached anvil now with only small area of bright band sonnected to cloud
1819: Past cell
1822: Back on reverse heading
Cloud now completely detached
1837: New line developed on coast – will fly, our old lines all completely dead
First leg to second leg – tops climbed several km
1842: Turn around
1843: Back on line
Tops ~ 15km
Small intense cells
1852: Turn around
1853: Turn around and back on track
1855: Get pair of intense cells
Tops ~ 16-17km
1900: Turn around
1903: Turn around
Cell shows bright band at this stage
1905: Tops ~ 17+km, reflectivity ~ 55+dBZ
1909: Turn around
1911: Turn around
WARDS shows several strong cell sin bigger core
1919: Reboot radar for process error
Maneuver to better line
1921: ELDORA up
Storm still very intense
Change to E-W line
1929: Back on E-W track – parallel to line
Western cells still going strong and intense cell on eastern edge
Tops ~ 17km, reflectivity in core ~ 55dBZ
1938: Turn around
Strong cells on inflow end
Anvil over western ground site
1952: Turn around
East bound – this time further north
1954: Turned around
Convection in general is less intense
More stratiform with bright band over ocean
2001: ELDORA down
2012: ELDORA up
Reposition on new line
2035: ELDORA down to cool off
2041: ELDORA up
2044: On line along west coast
Tops ~ 18km, reflectivity in core ~ 50+dBZ
2054: ELDORA bust
RTB

2114: Land

Mission Reports:

Citation: Runs from A to B (eastern ground site) from 330 to 350. Maritime generated cirrus was flowing in from the SE. Steps at 330, 350 (top of cirrus), 330. 2. Runs from D to C (western ground site) from 330 to 390. Steps at 330, 350, 370, 390 (top of cirrus). 3. Spiraled from 390 to 360 over western site. Had clearance to 310 but ATC contacted us and needed us down right away. So, abandoned spiral at ~364. Dropped fast to below 330 so not sure what base was--maybe 350. 4. Spiraled from 290 to 370 over eastern ground site. Didn't get too much, but saw some cloud above 350. 5. One run from G to F at 370 (eastern ground site). No cloud. 6. Traveled to H and spiraled down from 370 to 320. At 320 ATC stopped our spiral and made use do right turns (spiral was to the left). Spiraled from 320 to 240 to right and ATC halted us again. At that point, RTB.

Flight Path & Focus: 152955 212351, rf11

Line 1: 155950 172030 near EYW, NE-SW orientation
full lifecycle core1
coordination w/Citation
Quality: Excellent

Part 1: 155950 172030

leg_1.1.1: 155950 161440 small core
leg_1.1.2: 161550 162740 growing
leg_1.1.3: 162800 163600 some outflow
leg_1.1.4: 163640 164250 thin outflow
leg_1.1.5: 164350 165050 little convection under outflow
leg_1.1.6: 165100 165730
leg_1.1.7: 165830 170610 anvil almost detached
leg_1.1.8: 170630 171510 only anvil remains
leg_1.1.9: 171530 172010

Line 2: 172950 183300 just off west coast souther tip of Florida, NW-SE orientation
full lifecycle core2
coordination w/Citation
Quality: Excellent

Part 1: 172950 183300

leg_2.1.1: 172630 173720
leg_2.1.2: 173740 174620 a cell on both sides – large cell and small cell
leg_2.1.3: 174640 175210 a cell on both sides
leg_2.1.4: 175240 175800 concentrate on large cell
leg_2.1.5: 175940 180300 still see both cells
leg_2.1.6: 180340 180900 still see both cells
leg_2.1.7: 180940 181500 anvil from large cell
leg_2.1.8: 181520 182040
leg_2.1.9: 182120 182650 both cells weak
leg_2.1.10: 182720 183420 both cells weak

Line 3: 183500 203230 just off west coast same spot as Line 2
convection-anvil system
coordination w/Citation
Quality: Excellent

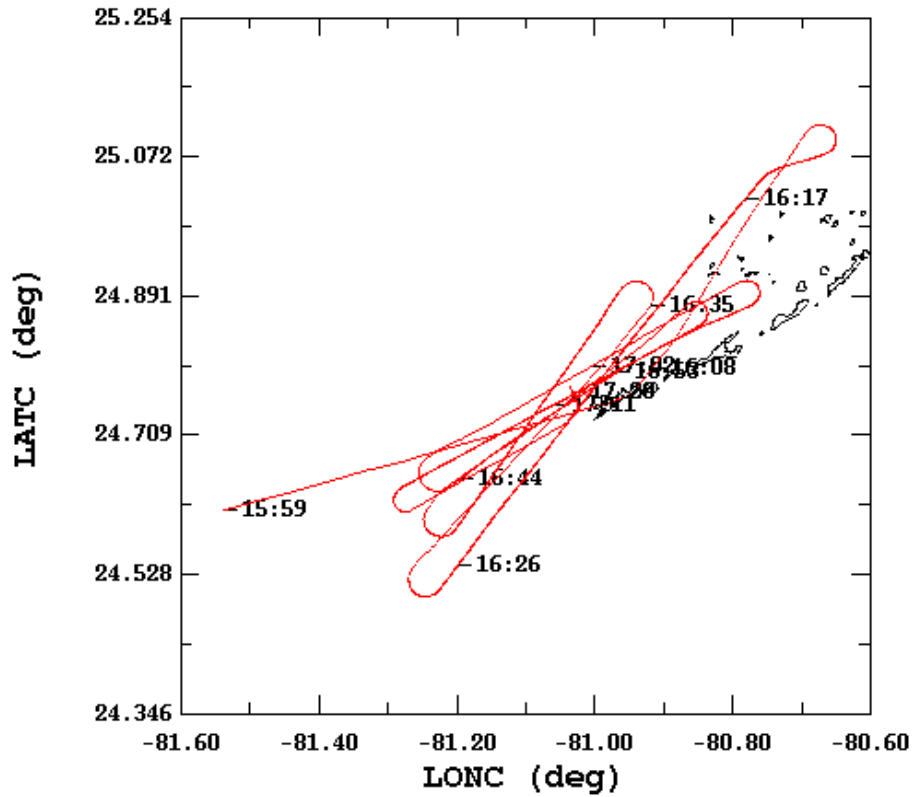
Part 1: 183500 192650

NW-SE orientation
old storm from Line 2, new storm
leg_3.1.1: 183520 184230 old storm large cell anvil

leg_3.1.2:	184320 185200	intense new storm convection where old storm small cell was
leg_3.1.3:	185320 190120	
leg_3.1.4:	190220 191020	
leg_3.1.5:	191120 191850	new storm convection, old storm large cell anvil
leg_3.1.6:	191920 192700	ELDORA down, new storm anvil
Part 2:	192700 203230	NEE-SWW orientation new storm
leg_3.2.1:	192850 193900	only new storm
leg_3.2.2:	193950 195230	anvil detached
leg_3.2.3:	195250 200140	convection less intense
leg_3.2.4:	200220 200940	ELDORA down
leg_3.2.5:	201020 202040	
leg_3.2.6:	202120 203200	

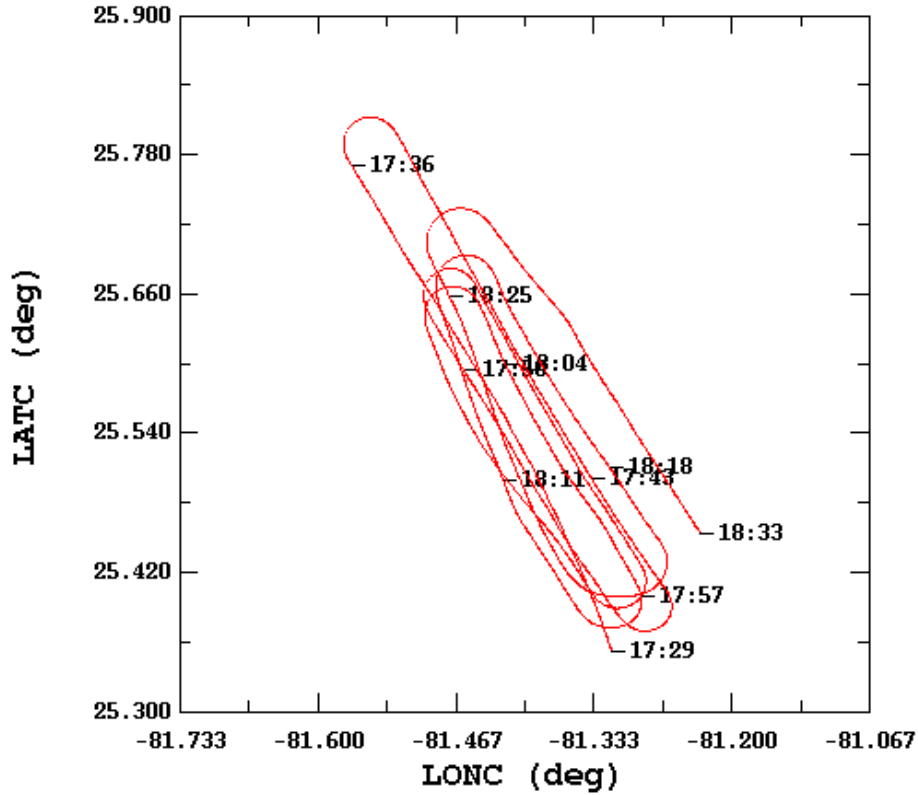
0725 Line 1


CRYSTAL-FACE, Flight #rf11
07/25/2002, 15:59:50-17:20:30



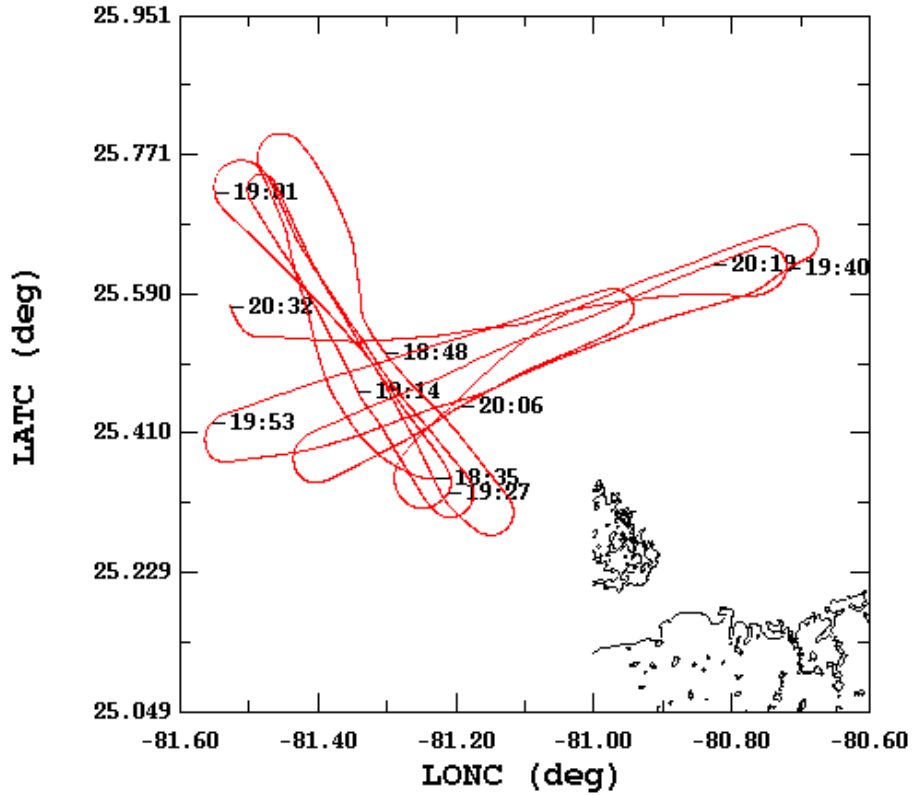
	mean	sigma	min	max
— LATC (deg), 1 s/sec	24.77	0.13	24.50	25.11
— LONC (deg), 1 s/sec	-81.04	0.18	-81.54	-80.65

CRYSTAL-FACE, Flight #rf11
07/25/2002, 17:29:50-18:33:00



	LATC (deg), 1 s/sec	mean	sigma	min	max
	LONC (deg), 1 s/sec	25.55	0.11	25.35	25.81
		-81.39	0.07	-81.57	-81.23

CRYSTAL-FACE, Flight #rf11
07/25/2002, 18:35:00-20:32:30



	mean	sigma	min	max
— LATC (deg), 1 s/sec	25.52	0.11	25.28	25.80
— LONC (deg), 1 s/sec	-81.22	0.21	-81.56	-80.67