19980925H1 - RADAR

E.5 Doppler Radar Scientist (On-Board)

The on-board Doppler radar scientist (DRS) is responsible for data collection from all radar systems on his/her assigned aircraft. Detailed operational procedures and check lists are contained in the operator's manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.5.1 Preflight

_____ 1. Determine the status of equipment and report results to the on-board lead project scientist (LPS).

_____ 2. Confirm mission and pattern selection from the on-board LPS.

_____ 3. Select the operational mode for radar system(s) after consultation with the on-board LPS.

_____ 4. Complete the appropriate preflight calibrations and check lists as specified in the radar operator's manual.

E.5.2 In-Flight

_____ 1. Operate the system(s) as specified in the operator's manual and as directed by the on-board LPS or as required for aircraft safety as determined by the AOC flight director or aircraft commander.

_____ 2. Maintain a written commentary in the radar logbook of tape and event times, such as the start and end times of F/AST legs. Also document any equipment problems or changes in R/T, INE, or signal status.

E.5.3 Postflight

_____ 1. Complete the summary check lists and all other appropriate check lists and forms.

_____ 2. Brief the on-board LPS on equipment status and turn in completed forms to the LPS.

_____ 3. Hand-carry all radar tapes and arrange delivery as follows:

a. Outside of Miami - to the HRD Field Ground Operations Center (FGOC).
b. In Miami - to MGOC or to AOML/HRD. [Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]

_____ 4. Debrief at the appropriate operations center (FGOC or MGOC).

_____ 5. Determine the status of future missions and notify the appropriate operations center (FGOC or MGOC) as to where you can be contacted.

Doppler Radar Scientist Check List

Flight ID: 980925H1

Aircraft Number: N42RF

Doppler Radar Operators: GAMACHE

Radar Technician: DUGRANRUT, GOLDSTEIN

Number of digital magnetic tapes on board: 4 LEFT

Component Systems Status:

MARS ✓ Computer ✓

DAT1 ✓ DAT2 ✓

LF ✓ R/T Serial # _____

TA ✓ R/T Serial # _____

Time correction between radar time and digital time: RADAR IS THE USUAL 1½ SEC. AHEAD OF FLIGHT LEVEL COMPUTER

Radar Postflight Summary

Number of digital tapes used: DAT1 _____

DAT2 _____

Significant down time:

DAT1 _____ Radar LF _____

DAT2 _____ Radar TA _____

Other Problems:

HRD Radar Tape Log

Flight 980925H1 Aircraft N42RF Operator CAMACHE Sheet 1 of 1

LF RPM 2 TA RPM 10

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event
DT1	YES	103650	2100/1400
DT1	NO	152633	1600/1600 for VTD
DT1	YES	1536	GAIN UP DUE TO NEED TO "HUNT"
DT1		1851	STOPPED RECORDING

HRD Radar Tape Log

Flight ______________ Aircraft ______________ Operator ______________ Sheet ____ of ____

LF RPM ______________________ TA RPM ______________________

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event

HRD Radar Tape Log

Flight ______________ Aircraft ______________ Operator ______________ Sheet ____ of ____

LF RPM ______________________ TA RPM ______________________

(Include start and end times of DATs, as well as times of F/AST legs and any changes of radar equipment status)

Tape #	F/AST On?	Event Time (HHMMSS)	Event

HRD Radar Down-Time Log

Operator GAMACHE Flight ID 980925H1 Sheet 1 of ____

Item	Time Down (HHMMSS)	Time Up (HHMMSS)	Problem
TAIL PROBS	111400		"LOST AZIMUTH DRIVE" ON TA
LOCKUP	112400	1128	~~BARRON~~ SYSTEM LOCKUP
	~~1222~~		
	150900		RADAR FROZE UP
	151259		RADAR BACKUP
	1624		TAIL RADAR STOPPED RECORDING
	162830		TAIL RADAR REC. BACK UP.

Item List: DAT1, DAT2, COMP, MARS, LF, TA.

Include serial numbers of any new R/Ts.

1994
95
96
1997
1998

1208/10 eye,
21 15' 77° 4.9
turn to NW along coast

1315 21 24 77.15
eye

1435,
2132 77 20 eye
eye

1440 - circling in eye,
1448 - hdg NW outbound
For FL
1604 - land at Tampa International!
Another recco. tomorrow morning??

980925H1

H- GEORGES

48 HOURS CREW ON THIS FLIGHT AS ON LAST N42RF FLIGHT

@ 1141 23° 49'. 81° 17'
(preliminary)

@ 1141 23°50.8' 81°16.9'
(from nav.)

1144 Pretty ugly radar presentation down there

131642 24° 8' 81° 30'
@ initial 980mb

@ 24°08' 81°29'

1536 @ 24°15.9 81°54.9' 981mb

1420 @ 24°9' 81°39'

1559 E eyewall

85 knots at 58m

~ 112 kts at 900m

1657 24°31.5′ 82°08.0′

1754 24°31.8′ 82°26.5′ ~980mb

Highest winds are not in what appears to be the eye.

They are in the ~~feature~~ the rainband 70 or 80 nm out from center from SE to N side.

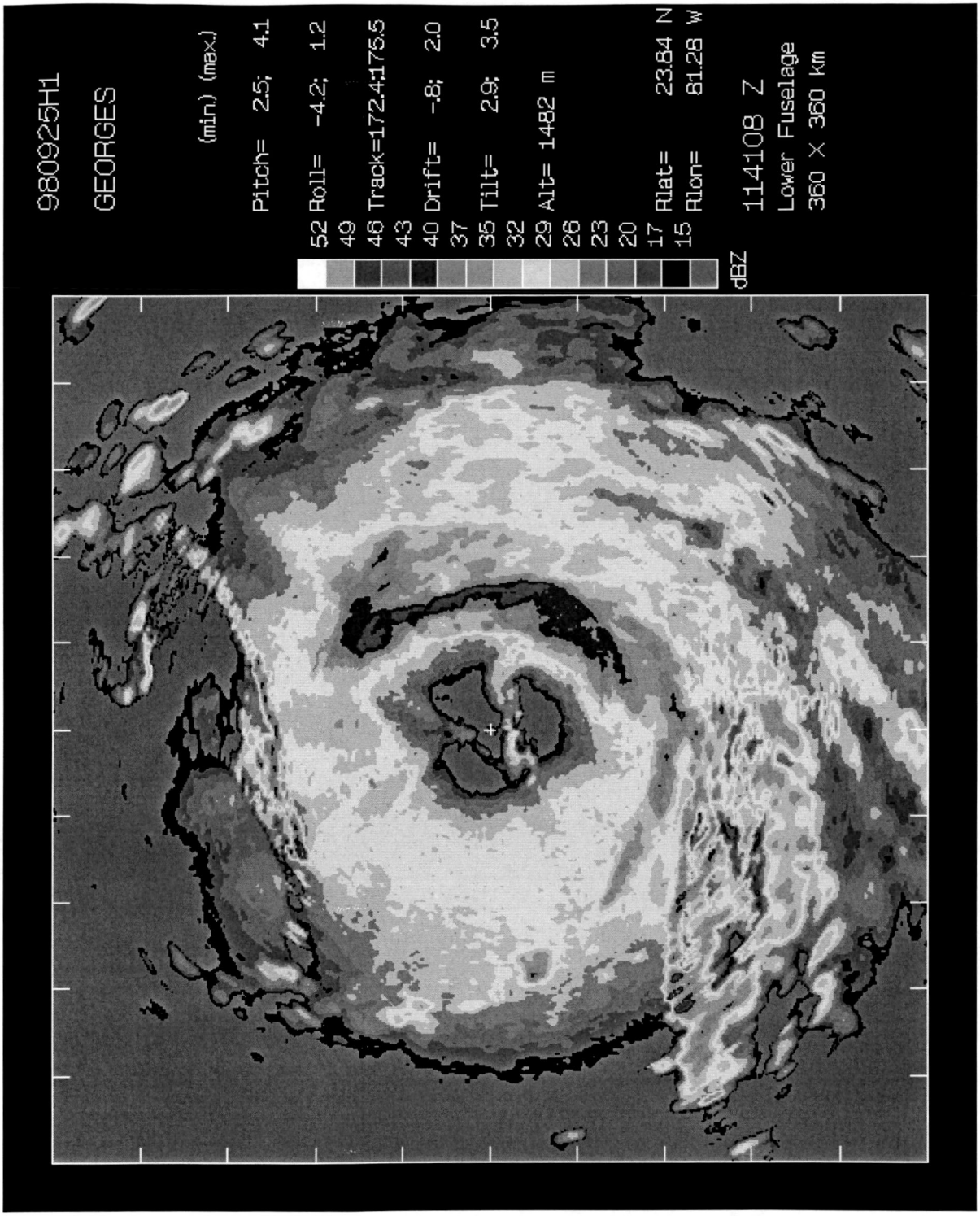

Figure 2. Single sweep of radar reflectivity from lower-fuselage C-band radar during first fix of center at 1141 UTC. Note Cuba and Florida Keys in the radar return.

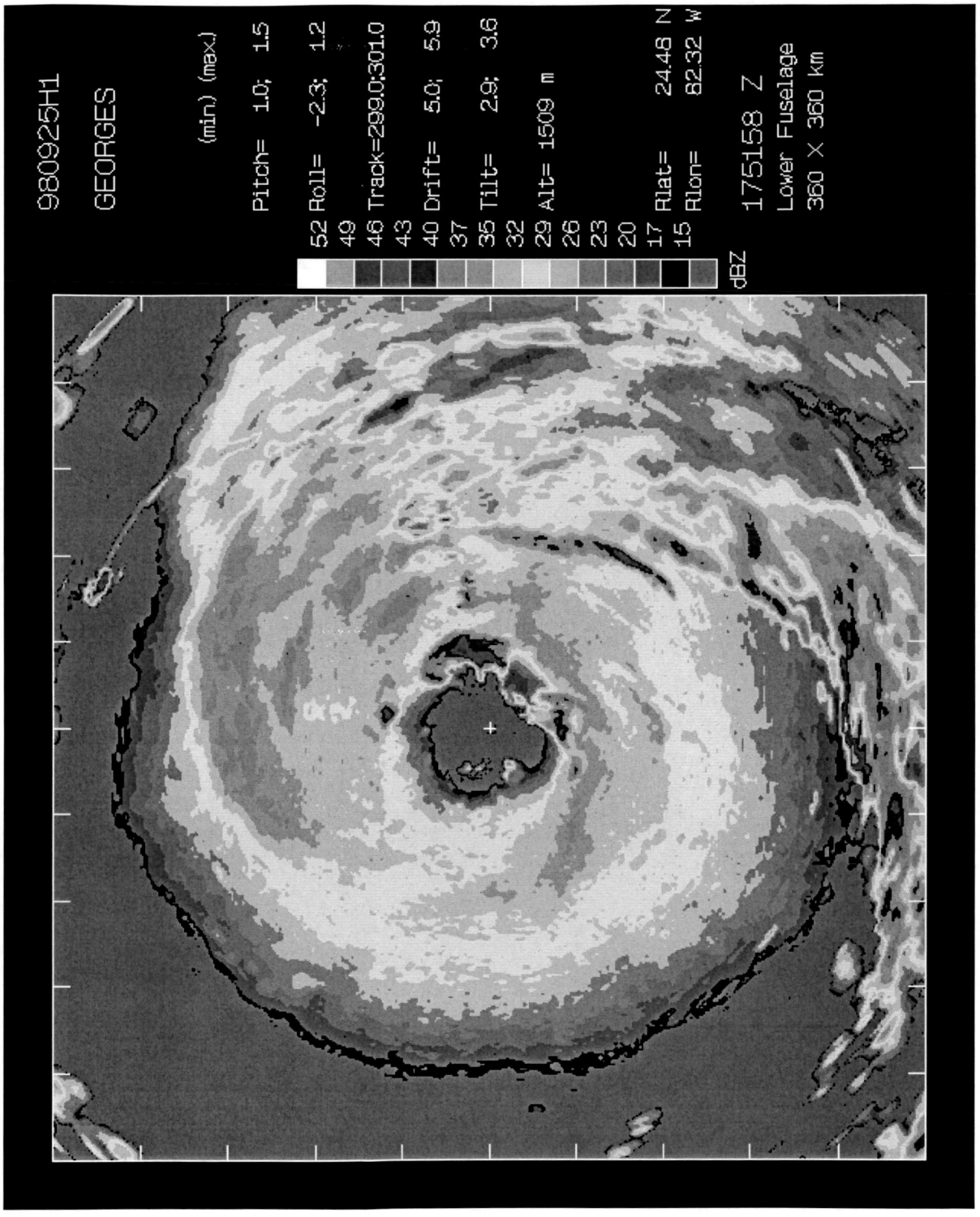

Figure 3. As in Fig. 2, except for 1751 UTC (sixth and last fix of hurricane center)