19980914I1-AXBT

E.4 Boundary-Layer Scientist (On-Board)

The on-board boundary-layer scientist (BLS) is responsible for data collection from AXBT's, AXCP's, BUOY's, and sea surface temperature radiometers (if these systems are used on the mission). Detailed calibration and instrument operation procedures are contained in the air-sea interaction (ASI) manual supplied to each operator. General supplementary procedures follow. (Check off and initial.)

E.4.1 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 mode of operation for instruments after consultation with the HRD/BLS and the on-board LPS.

_____ 4. Complete appropriate preflight check lists as specified in the ASI manual and as directed from the on-board LPS.

E.4.2 In-Flight

_____ 1. Operate the instruments as specified in the ASI manual and as directed by the on-board LPS.

E.4.3 Postflight

_____ 1. Complete summary check list forms and all other appropriate check list forms.

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

_____ 3. Debrief as necessary at the appropriate operations center (FGOC or MGOC).

_____ 4. Determine the status of future missions and notify appropriate operations center (FGOC or MGOC) as to where you can be contacted.

Form E-4
Page 1 of 3

AXBT/AXCP Check Sheet Summary

Flight 980919I

		Number
(1)	Probes dropped	7
(2)	Failures	6 (or 5)
(3)	Failures with no signal	1 (or 2)
(4)	Failures with sea surface temperature, but terminated above thermocline	0
(5)	Probes that terminated above 250 m, but below thermocline	1
(6)	Probes used by channel number CH12	3
	..... CH14	1
	..... CH16	3
	..... CH__	

NOTES

SHOULD ASK ENGINEERS TO SET UP PRINTOUT IN BACK TO SHOW SSTs (+ sub surface)...

AXBT and AXCP Check Sheet

Flight Number 980919I

Take-off Time 1744 UTC

Storm GEORGES

AXBT/AXCP Contract Number _____

Landing Time _____

AXCP/ AXBT#/ Type	Channel Number	Lot Number	Predicted Drop Time (HHMMSS)	Actual Drop Time (HHMMSS)	Predicted Lat. Deg. Min.	Predicted Long. Deg. Min.	Actual Lat. Deg. Min.	Actual Long. Deg. Min.	Surface Temp. AXBT	Surface Temp. IRT	MLD (m) in seconds	Comments
AXBT	12			1911					28.6		20s	
"	16			1918					29.0		?	
"	14			1923								No show ?
"	12			1933					28.0		40s	
"	16			1946					28.3		25s	
"	12			1953					?		?	
"	16			2008					28.8		20s	

*M = Magnavox; H = Hermes; S = Sippican.

AXCP Log

Flight Number _____

Storm Name _____

Storm Direction/Speed _____

Take-off Time _____

Landing Time _____

Leg #	Out/In	RA (m)	PMIN (mb)	VMAX (m/s)	RMAX (km)	Time PMIN	Time VMAX	Time End Pass

Leg/ Drop No.	Tube No.	Channel No.	Probe Type		Ground Speed	Predicted Drop Time	Actual Drop Time	Latitude	Longitude	Status		Comments
			Slow	Reg.						Good	Bad	

19980919I1_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: 980919I1

Aircraft Number: 43RF

Doppler Radar Operators: Dodge / Murillo

Radar Technician: Terry Lynch

Number of digital magnetic tapes on board: 8

Component Systems Status:

MARS ✓ Computer ✓

DAT1 did not use! DAT2 ✓

LF ✓ R/T Serial # 102

TA ✓ R/T Serial # 201 / 201

Time correction between radar time and digital time: _____

Radar Postflight Summary

Number of digital tapes used: DAT1 0

DAT2 1

Significant down time: NONE

DAT1 _____ Radar LF _____

DAT2 _____ Radar TA _____

Other Problems: Radar worked great. We stopped collecting at 2231 because no scatterers and Terry wanted to work on system.

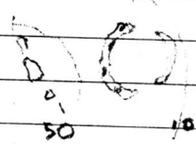
01 20 50 Z - END TURN TO 015°
01 38 20 Z Start turn to 240°
01 40 10 Z - END TURN
02 01 26 Z - Start turn to 280°
02 01 51 Z END TURN
02 18 20 Z - END RECORDING TAPE #12

9809191I GEORGES

SYNOP FLOW from Barbados
LPS: M. Black C. Physics: S. Murillo
Radar: P. Dodge & S. Murillo
Plan to do 3 passes, early on, first 2 VTD, 3rd FAST

174437 Take off from Barbados

1900 SKETCH of LF



Note: Beautiful sym eye, ~ 40-45 dBZ all around

191030 FAST off
191120 Leg start BEAUTIFUL EYE

1928 15°29'.8 53°50'.9 934 extrap CA
eyewall ~ 40 nm diam

1953 15 M/S UP, 150 KTS
1955 AWESOME EYE,
1958 20 NM DIAM EYE ~ 45 dBZ

2034: Well, Folks, if you weren't here you'll have to buy the video! THE most beautiful eye ~ 20 nm — sunlit mountain range of clouds dropping sharply to a sea with

98091971 G Georges.

huge - long wavelength swells capped by breaking waves.

2231 - Stopped ½ Because no scatterers.

VTD musings: The peak winds at 1km in GEORGES. IVTD matched well with a hand analysis of the eye/eyewall sondes that Chris Landsea mock to compare with - BUT sondes indicate winds > 60 m/s all around eye while IVTD was very asymetric. Then we examined Leg 1 and Leg 2 EVTDS then winds. Leg 2 looked good but leg 1 was the culprit with high winds to N — on an E-W pass! ALAS I did not have Rtevtd_exp - so I could not correct for ~~#~~ center. IN HINDSIGHT, I could have run intervtd and sent 2nd leg - instead of sending intevtd_2leg generated file. BUT, without ability to compare flight level winds near real time hard to do. SO, in future, while flying legs record many flight level winds (by hand) and then use those to more judiciously judge EVTD/IVTD output before sending. ALSO, would be good to send R-Z image in addition to X-Y.

~~98091921~~

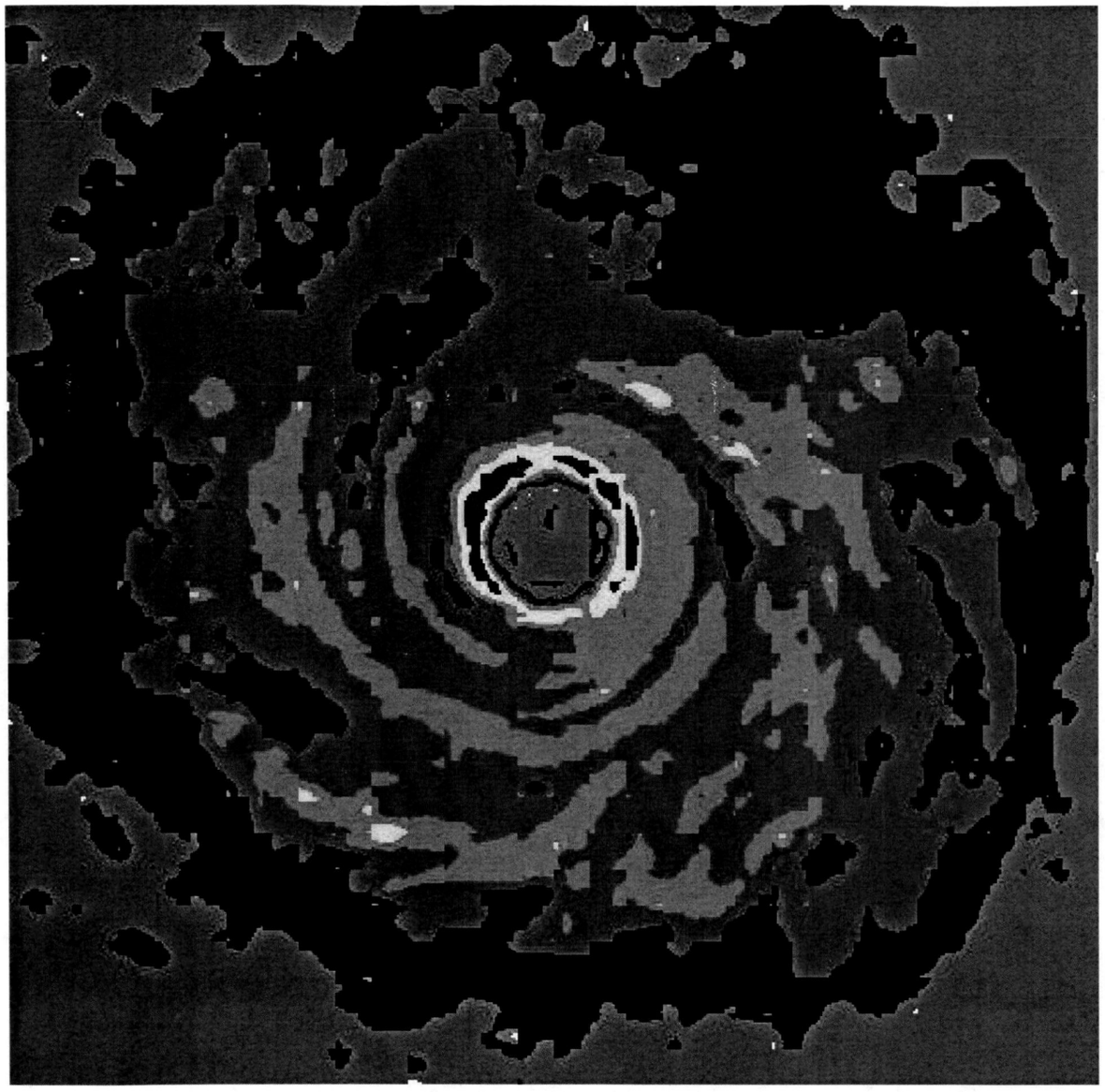
98092LI G Georges

SYNOPTIC FLOW

LPS M Black

174016 Take off from Barbados

1847: center 200 nmi NNW of us (we at 14°41' 64°28'). That is the closest we will probably get all day


980919I1
GEORGES
195427 Z to
195630 Z
48
41
35
28
21
15
Alt 4304 m
dBZ
Slat 15.56 N
Slon 53.92 W
360 X 360 km
produced by
HRD / AOC