

## Lead Project Scientist

Storm or Project AL99 Experiment name GENESIS (NHC INVEST)  
Flight ID 20160828 11 Mission ID NOAA3 05EEA INVEST

### Preflight

- \_\_\_ 1. Participate in general mission briefing.
- \_\_\_ 2. Determine specific mission and flight requirements for assigned aircraft.
- \_\_\_ 3. Determine from AOC flight director/meteorologist whether aircraft has operational fix responsibility and the mission designation.
- \_\_\_ 4. Contact HRD members of crew to:
  - a. Assure availability for mission.
  - b. Review field program safety checklist
  - c. Arrange ground transportation schedule when deployed.
  - d. Determine equipment status.
- \_\_\_ 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- \_\_\_ 6. Meet with AOC flight crew at least 2 hours before take-off for crew briefing. Provide copies of flight requirements and provide a formal briefing for the flight director, navigator, and pilots.
- \_\_\_ 7. Report status of aircraft, systems, necessary on-board supplies and crews to MGOC in Miami.
- \_\_\_ 8. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
- \_\_\_ 9. Make sure each HRD flight crew member has a life vest.
- \_\_\_ 10. Perform a headset operation check with all HRD flight crew members. Make sure everyone can hear and speak using the headset.

### In-Flight

- \_\_\_ 1. Confirm from AOC flight director that satellite data link is operative (information).
- \_\_\_ 2. Confirm camera mode of operation.
- \_\_\_ 3. Confirm data recording rate.
- \_\_\_ 4. Complete Lead Project Scientist Form.
- \_\_\_ 5. Check in with the flight director to make sure the mission is going as planned (i.e. turns are made when they are supposed to be made).

### Post flight

- \_\_\_ 1. Debrief scientific crew.
- \_\_\_ 2. Gather completed forms for mission and turn in to data manager at HRD.
- \_\_\_ 3. Obtain a copy of the 10-s flight listing from the AOC flight director. Turn in with completed forms.
- \_\_\_ 4. Obtain a copy of the radar DAT tapes. Turn in with completed forms.
- \_\_\_ 5. Obtain a copy of serial flight data on thumb drive. Turn in with completed forms.

[Note: all data removed from the aircraft by HRD personnel should be cleared with the AOC flight director.]

- \_\_\_ 6. Report landing time, aircraft, crew, and mission status along with supplies (tapes, etc.) remaining aboard the aircraft to MGOC.
- \_\_\_ 7. Determine next mission status, if any, and brief crews as necessary.
- \_\_\_ 8. Notify MGOC as to where you can be contacted and arrange for any further coordination required.
- \_\_\_ 9. Prepare written mission summary using **Mission Summary** form.

### Lead Project Scientist Check List

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**A. Participants:**

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>ZAWISLAK</u>	Flight Director	<u>SEARS / WILLIAMS</u>
Radar/Workstation	<u>ANNANE</u>	Pilots	<u>KEANS / ABTDL</u>
		Navigator	<u>GALLAGHER</u>
Cloud Physics		Systems Engineer	<u>LYNCH</u>
		Data Technician	<u>MASCARO</u>
Dropwindsonde	<u>ZAWISLAK</u>	Electronics Technician	
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

**B. Take-off and Landing Times and Locations:**

Take-Off: 1703 UTC Location: MACDILL

Landing: 0038 UTC Location: MACDILL

Number of Eye Penetrations: \_\_\_\_\_

**C. Past and Forecast Storm Locations:**

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
28 / 0251Z	23.2	-79.5	N/A	N/A
28 / 1800Z	24.0	-81.8	N/A	N/A
28 / 1945Z	23.8	-81.8		
28 / 2142Z	23.5	-81.9	1009	46kt (SEMP HEAVY RAIN)

ASCAT PASS ←  
CLEAR LOW-LEVEL  
CIRCULATION.  
NHC FORECAST  
POSITION  
VDH

280/60

**D. Mission Briefing:**

INITIALLY NHC TASKED INVEST MISSION TO CLOSE OFF ANY LOW-LEVEL CIRCULATION ASSOCIATED W/ AL99. FL WILL BE 1500 FT. TIME PERMITTED AFTER RELEASE FROM NHC, 2 OPTIONS, AND/OR, IF PRECIP, THEN FC 4 AT 10 KTS; ALSO IF NO PRECIP, OR TIME PERMITTED, CLIMB TO AS HIGH AS POSSIBLE FOR LAUNHWNER ~~600~~ WEST OF WAVE TROUGH TO SAMPLE SHEAR AND DRU AIR.

SHEAR (SHIPS, 00): 18 KT / 331°

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E. — Equipment Status (Up ↑, Down ↓, Not Available N/A, Not Used O)

Equipment	Pre-Flight	In-Flight	Post-Flight	# DATs / CDs /Expendables/ Printouts
Radar/LF	↑	↑		
Doppler Radar/TA	↑	↑		
Cloud Physics	<del>N/A</del>			
Data System	↑	↑		
GPS sondes	↑	↑		
AXBT/AXCP	N/A	N/A		
Ozone instrument	N/A	N/A		
Workstation	↑	↑		
Cameras	↑	↑		

REMARKS:

### Lead Project Scientist Event Log

Date 206092811 Flight ID                      LPS ZAWISLAK

Time	Event	Position	Comments
1703Z	T/O		
1750Z	10 / DELTA	25° 3' 50" / 82° 56' 9"	1P FIRST OF E/W LEG
1832Z	PT 2 / DELTA	25° 0' 05" / 80° 24' 52"	PT 2, TURN SW TOWARDS CTR
1842Z			CONVECTION EAST OF CTR, EVEN OVER CTR 1 SICKET
1900Z	CENTER → PASSED WEST	23° 54' 30" / 81° 59' 0"	NEAR EAST PAS. LIGHT NE WINDS
1917Z	PT 3 / DELTA	23° 26' 25" / 82° 58' 0"	TURNING EAST ALONG CUBA RIDGE
1934Z	PT 4 / DELTA		ECHO TOPS VISIBLE TO SOUTH
	↳	23° 30' 57" / 81° 47'	TURN NE/N TOWARD CTR, LIGHT WEST WINDS
	PTS		GUM RETURNS IN TA TO EAST
1942Z	CTR	23° 55' / 81° 31'	SOUTHERLY → TURNED SEASTERLY, NOW WEST TO MAKE TA
1952Z	TURN AT PTS / DELTA	24° 2' / 82° 9'	GOING TOWARDS SW FOR CTR PASS
	CTR	23° 44' / 81° 47'	MANEUVERING TO CENTER
2010Z	PT 6 / DELTA	23° 34' / 81° 7'	TURN NORTH TO SOME WIND FIELD
2023Z	PT 7 / DELTA	24° 25' / 81° 9'	TURN BACK FOR NE → SW PASS
2039Z	CTR	23° 43' / 81° 47'	NEAR CENTER
2055Z	PT 8 / DELTA	23° 27' / 82° 12'	TURNED TO EAST
2117Z		23° 57' / 81° 49'	DECISION TO MAKE ANOTHER NE-SW PASS
2132Z		24° / 82°	INSTEAD NW TO SE
2140Z	CTR	23° 36' / 81° 36'	CTR - NW TO SE GUM CONVECTION
2150Z			GUM EAST IN SE QUAD TURN NORTH
2158Z			COMING ABOUT FOR E-W PASS
2213Z			HEADING TOWARD CENTER THROUGH COM.
2254Z	SONDE 1	24N / 84W	LEG 1 - WEST - EAST 1P
2306Z	SONDE 2	24N / 83W	LEG 1 - WEST - EAST 1MP
2316Z	SONDE 3	24N / 82W	LEG 1 - WEST - EAST 2ND
2328	SONDE 4	25N / 82W	LEG 2 - EAST - WEST 1P

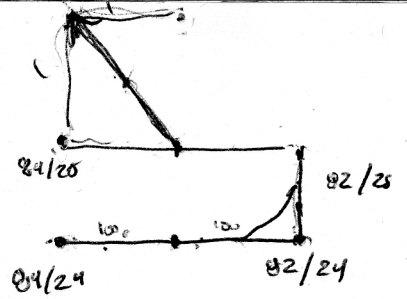
END OF  
NHC TASKING  
~2230Z





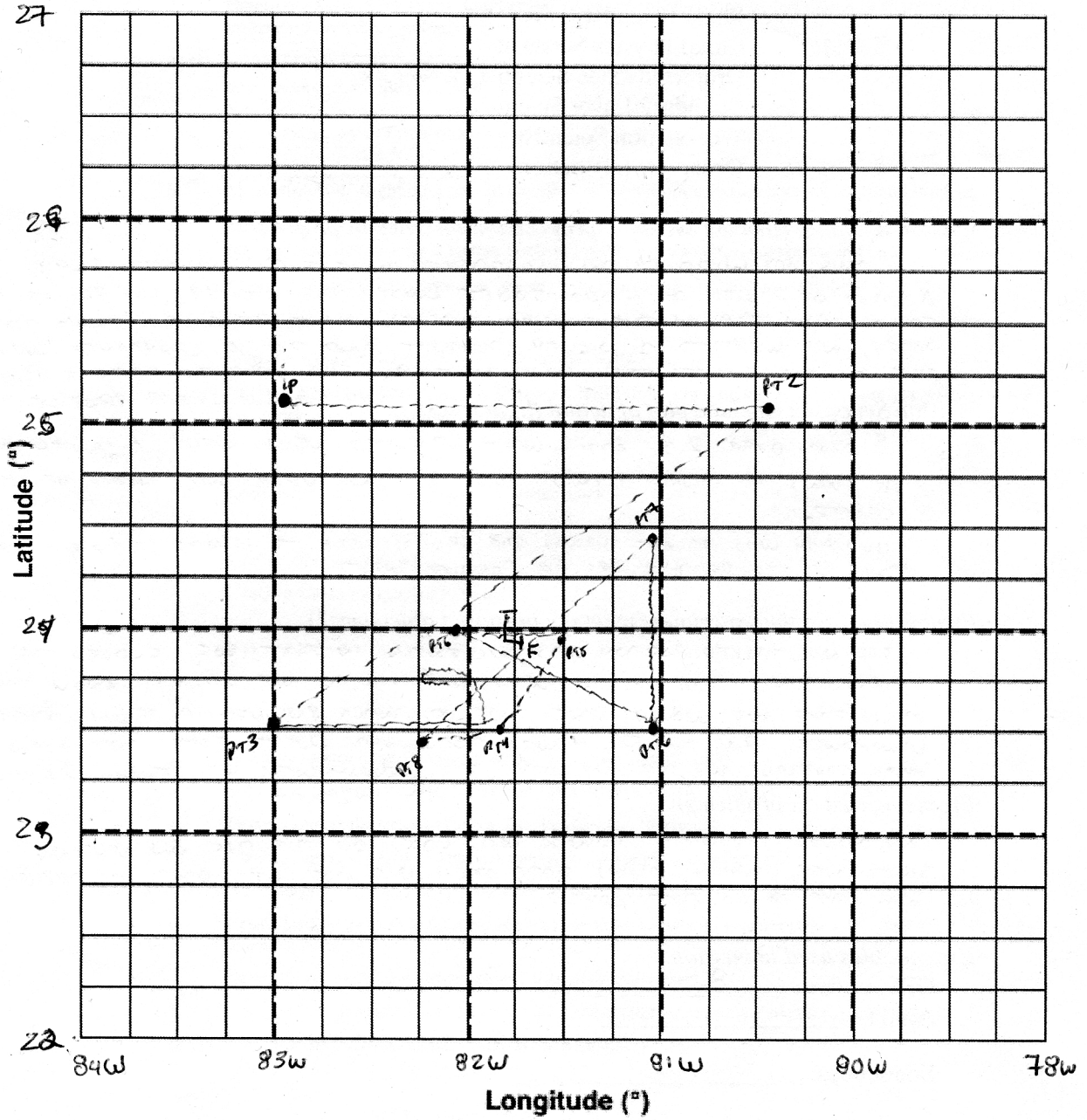
84 82.5 82  
 2.5 250 m  
 1 N

70 SW



### Observer's Flight Track Worksheet

Date \_\_\_\_\_ Flight \_\_\_\_\_ Observer \_\_\_\_\_



## Mission Summary

### Storm name

YYMMDDA# Aircraft 43RF

160828

### Scientific Crew (4 RF)

Lead Project Scientist ZAWISLAK

Radar Scientist ANNANE

Cloud Physics Scientist \_\_\_\_\_

Dropwindsonde Scientist ZAWISLAK

Boundary-Layer Scientist \_\_\_\_\_

Workstation Scientist \_\_\_\_\_

Observers (affiliation) \_\_\_\_\_

### Mission Briefing: (include sketch of proposed flight track or page #)

THIS WAS INITIALLY DU NHC TASKED INVEST MISSION INTO AL99. A SERIES OF PASSES AT 1000-1500 FT CLOSED THE CENTER AND PROVIDED A ZIG ZAG FIX OF NOW TD9 IN THE FLORIDA STRAITS. ONCE RELEASED FROM TACKLING DUES, WE WENT TO A HIGHER ALTITUDE AND DID A LAWNMOWER SURVEY OF THE ENVIRONMENT TO THE WEST OF TD9. THIS WAS TO SAMPLE BOTH THE

### Mission Synopsis: (include plot of actual flight track) DRY AIR AND SHEAR PROFILE.

8 DROPS OVER 2.5 ENDS - WEST ORIENTED LEGS WERE EXECUTED W/ DROPS AT TURNS AND MIDDLE POINTS. WE GOT ONE DROP JUST NORTH OF THE CENTER.

HUMIDITY WAS DECENT THROUGH THE TROPOSPHERE TO 500MB, THEN DRI ABOVE. MUCH GREATER DEPTH OF DRY AIR FURTHER WEST.

### Evaluation: (did the experiment meet the proposed objectives?)

THE NHC TASKED PORTION WAS SUCCESSFUL IN THAT WE CLOSED THE CIRCULATION. OUR PORTION WAS A BONUS AS WE DID NOT KNOW HOW MUCH TIME WE WOULD HAVE. WE ORIGINALLY PLANNED A FIG. 4 THEN LAWNMOWER, BUT THE FIG. 4 WAS ABANDONED DUE TO TIME AND GIVEN HOW MUCH WORK COVERAGE WE ALREADY HAD. THE LAWNMOWER WAS FLOWN SUCCESSFULLY AT 29KFT

### Problems: (list all problems)

NO MAJOR PROBLEMS. POWER WAS LOST ON THE A/C ON UNDOING SWITCHOVER, WHICH MEANS DATA TECH1 DID NOT GET DATA OFF AIRPLANE. WILL HAVE TO DO THAT LATER.

### Expendables used in mission:

GPS sondes: 8

AXBTs: \_\_\_\_\_

Sonobuoys: \_\_\_\_\_