

Lead Project Scientist

Storm or Project TD Tomas

Experiment name Genesis / TDR

Flight ID 101103H1

Mission ID 1221A TOMAS

Preflight

- 84 1. Participate in general mission briefing.
- 84 2. Determine specific mission and flight requirements for assigned aircraft.
- 84 3. Determine from AOC flight director/meteorologist whether aircraft has operational fix responsibility and the mission designation.
- 84 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.
- 84 5. Meet with AOC flight director and navigator at least 3 hours before take-off for initial briefing.
- 84 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.
- 84 7. Report status of aircraft, systems, necessary on-board supplies and crews to MGOC in Miami.
- 84 8. Before take-off, brief the on-board GPS dropsonde operator on times and positions of drop times.
- 84 9. Make sure each HRD flight crew member has a life vest.
- 84 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

Storm or Project TD Tomas Experiment name Genesis/TDR

Flight ID 10110341 Mission ID 1221A Tomas

A. Participants:

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Robert Rogers / Shirley Murillo</u>	Flight Director	<u>Jon Sears</u>
Radar/Workstation	<u>Paul Reesor</u>	Pilots	<u>Carl Newman</u> <u>Kathy Martin</u> <u>Justin Kibbey</u>
		Navigator	<u>Ryan Kidder</u>
Cloud Physics		Systems Engineer	<u>Bobby Peck</u>
Photographer/Observer	<u>Miltec</u>	Data Technician	<u>Terry Lynch</u>
/Guests	<u>Mitchell</u>		<u>Bill Olney</u>
Dropwindsonde	<u>Brad Klotz</u>	Electronics Technician	
AXBT/AXCP		Other	

B. Take-off and Landing Times and Locations:

Take-Off: 2029 UTC Location: MacDill

Landing: 0436 UTC Location: St. Croix

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind

D. Mission Briefing:

Fly "genesis" mission into possible re-forming Tomas.
Fly single leg - 4, 90 min legs with 1P on W side. End up on W side, then
return from W-E for 3.5 pass before continuing to St. Croix. Fly at 10,000 ft.
Drop GPs sondes at end points and 1 at center point if wind center is found at FL.

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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				
Data System				
GPS sondes				
AXBT/AXCP				
Ozone instrument				
Workstation				
Cameras				

REMARKS:

Lead Project Scientist Event Log

Date 11/3/10 Flight ID 10110341 LPS Rogers/Morillo

Time	Event	Position	Comments
2029	takeoff	Maui	to Maui
2332	obs	100 nm N of IP	line of convection here, pretty good bumps
2347	obs		
2347	obs	37 nm N of IP	approaching IP, LF shows multiple multiple areas of 24-28 dBZ returns to S, few cores of 40+ dBZ, but don't know if that's reading high
2356	drop 1	at IP, begin radar leg 1	in stratiform rain, no launch detect
0002	obs	15.9 75	FL 80°, 30 kt, broad area of strat. precip., embedded convective cores from LF
0017	obs	15.4N 75W	broad core at FL, possible MLC to our west at ~15.5W, lot of precip. to E
0022	obs	14.64 75	FL winds show circle center dia meter of about 50 nm
0035	pattern	13.82 75	turn downwind, track 45, go downwind to set up on E side
0037	drop 2	13.85 74.89	at end of N-S leg, no launch detect again
0053	obs	on downwind leg, 14.8 74.1, east of center	multiple isolated cores of deep convection here, ~40-45 dBZ on LF
0055	turn	90 nm E of "center"	turn to track ~270

15.3
74.6

15.3N
75W
Est. midlevel
center

Lead Project Scientist Event Log

Date _____ Flight ID _____ LPS _____

Time	Event	Position	Comments
0107	drop 3	90 nm E of center	FL 165°, 30 kt
010950	pattern		turn to track 270
0116	obs	~ 40 nm E of center	strongest FL winds
		40 kt	at 10 kft, in widespread
			precip, generally strat.
0121	pattern	on inbound leg,	searching for center, tracking
		~ 24 miles from	more toward 250-260.56
		presumed center	think center is further S
0125			was tracking track is now 240, now
012			tracking 270
0130	center	15° 17' 75° 12'	marked center at FL,
0136			WS at FL 1 kt
0148	pattern	90 nm E of 75 W	turn back to track 90,
	BB		on final pass
0152	drop 4		FL 22°, 16 kt, good launch
0210	drop 5	"center" drop	FL ~ 2 kt, 5F lowest
		15° 20' 75° 20'	we've seen good
			launch, center from
			Find center was 15° 17'
			75° 20'
0220	obs	15° 20' 74° 31'	broad line of precip,
			may be convective, band
			oriented NE/SW, strong FL
			& 5F winds (perhaps 45 kt at stc)
0231	drop 6	15° 19' 73° 45', at	FL 167°, 25 kt
		end of pattern	
0436	land	T. 15X	land in STX

15 17

75 18

15 17
20

75 18
20

200850
15 17
75 20

Mission Summary

Storm name

YYMMDDA# Aircraft 42RF

10110341

Scientific Crew (4RF)

Lead Project Scientist Rob Rogers

Radar Scientist Paul Rector

Cloud Physics Scientist _____

Dropwindsonde Scientist Brad Klotz

Boundary-Layer Scientist _____

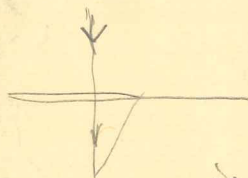
Workstation Scientist _____

Observers _____

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

See previous

Mission Synopsis: (include plot of actual flight track)



Flight pattern: Fly a single figure-4 pattern @ 100ft. Drops at the endpoints and perhaps at the center. Pattern was flown as planned. There were some changes based on difference in the center position from what was expected.

Evaluation: (did the experiment meet the proposed objectives?) Mission did meet objectives. There was a good distribution of scatterers that provided ample coverage for the Apples. Doppler analyses, one dropsonde at the center, and Fz vs SFR winds all indicated a vortex that tilted generally toward the east with height. Bulk of precip. was on east side, including a line of heavy rain in a NE/SW band on E side of storm. Storm still generally becoming consolidated, with fairly warm cloud tops from CF but occasionally high reflectivity from LF.

Problems: (list all problems)

No major problems, but 1st 2 drops had no launch detects. Not sure of reason, but could have been operator issues.

Expendables used in mission:

GPS sondes: 6

AXBTs: —

Sonobuoys: —