

Lead Project Scientist

Storm or Project TD Tomas Experiment name Genesis TDR
Flight ID 10103H1 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 Kathy Martin Justin Kibbey</u>
		Navigator	<u>Ryan Kidden</u>
Cloud Physics	_____	Systems Engineer	<u>Bobby Peek</u>
Photographer/Observer	_____	Data Technician	<u>Terry Lynch Bill Olney</u>
/Guests	<u>Miltec Mitchell</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 N side. End up on W side, then return from W-E for 3rd pass before continuing to St. Croix. Fly at 6,000ft. Drop GPs sondes at end points and 1 at center point if wind center is found at FL.

Lead Project Scientist Event Log

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

Time	Event	Position	Comments
2029	takedoff	MacDill	H to MacDill
2332	obs	100 nm W of IP	live of convection here,
2347	obs		pretty good bumps
2347	obs	37 nm W of IP	approaching IP, LF
			shows lots of multiple areas
			of 24-28 dBZ returns to S,
			few cores of 40+ dBZ, but don't know
			if that's reaching high
2356	drop 1	at IP, begin radar	in stratiform rain,
		leg 1	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 75 W	broad core at FL, possible
			MIC to our west at ~15.5 W,
			lot of precip. to E
0022	obs	14.64 75	FL winds show circe
			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,	multiple isolated cores
		14.8 74.1, east	of deep convection here,
		of center	~40-45 dBZ on LF
0055	turn	90 nm E of "center"	turn to track ~270

15.3
174.6

15.3N
75 W
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
0121	pattern	on inbound leg, ~ 24 miles from presumed center	bit, generally strat. searching for center, tracking more toward 250-260. think center is further S
0125	"		was tracking track 15 now 240, now tracking 270
0130	center	15° 17' 75° 12'	marked center at FL, WS at FL 1 kt
0136	pattern		
0148	pattern	90 nm E of 75 W	turn back to track 90, on final pass
0152	drop 4		FL 22°, 16 kt, good launch
0210	drop 5	"center" drop	FL ~ 2 kt, SF lowest
		15° 20' 75° 20'	we've seen good launch, center from
			And 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 & SF 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 12

15 17
20

75 17
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 Reasor

Cloud Physics Scientist _____

Dropwindsonde Scientist Brad Klotz

Boundary-Layer Scientist _____

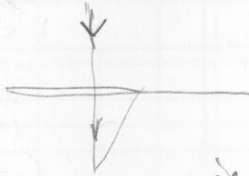
Workstation Scientist _____

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 @ 10kft. Drops at the endpoints and perhaps at the center. Pattern was flown as planned. There were some changes based on differences 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 profiler. Doppler analyses, one dropsonde at the center, and FC vs. SFMR 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: —