Lead Project Scientist JASON DUNION

Date 8-18-19 **Flight ID** 180818H1

Storm or Project EPG5 **Experiment name** GENESIS STAGE (PMODE)

Mission ID WBWXE Genesis

Pre-flight

- [x] 1. Participate in general mission briefing.
- [x] 2. Determine specific mission and flight requirements for assigned aircraft.
- [x] 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 Field Program Director.
- [ ] 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 Field Program Director
- [ ] 7 Determine next mission status, if any, and brief crews as necessary.
- [ ] 8. Notify Field Program Director 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 EP94 **Experiment name** Genesis Stage (PMODE)

Flight ID 20190818H1 **Mission ID** WBWIE GENESIS

A. Participants:

Function	Participant	Function	Participant
Lead Project Scientist	JASON DUNION	Flight Director	Ashley / Lundry / Holmes
Radar	Jon Zawislak	Pilot	Didier
Workstation		Pilot	Abitbol / Mitchell
Cloud Physics		Navigator	Richards
Dropsonde	Lisa Bucci	Systems Engineer	
Dropsonde	Richards	Data Technician	Muscarto
AXBT/AXCP	Richards	Electronics Technicians	
Observer/Guest	George Kiladis		
Observer/Guest	Allison Wing	Flight Engineer	

B. Take-off and Landing Times and Locations:

Take-Off: 1302 UTC Location: LIR (Liberia CR)

Landing: 1915 UTC Location: LIR (Liberia CR)

Number of Eye Penetrations: _____

C. Past and Forecast Storm Locations:

Date/Time	Latitude	Longitude	MSLP	Maximum Wind
/				
/				
/				
/				
/				

D. Mission Briefing:

Targeting EP95 again today - NHC up to a 50/90% chance of genesis in 2/5 days. The invest looked ragged overnight but convection started popping near the ctr this morning. A serendipitous ASCAT pass helped us reset the pattern a bit farther south. Butterfly w/ ~125nmi legs, 10kft with climbs to 20kft at the western endpts. BTs at 1st ctr + mids to sample large SST/OHC gradients around the storm. Coordinating with OTREC + NCAR G-V

Storm or Project_____ **Experiment name**

Flight ID 190818H1 **Mission ID** WBUXE GENESIS

E. —Equipment Status (Up **U**, Down **D**, 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

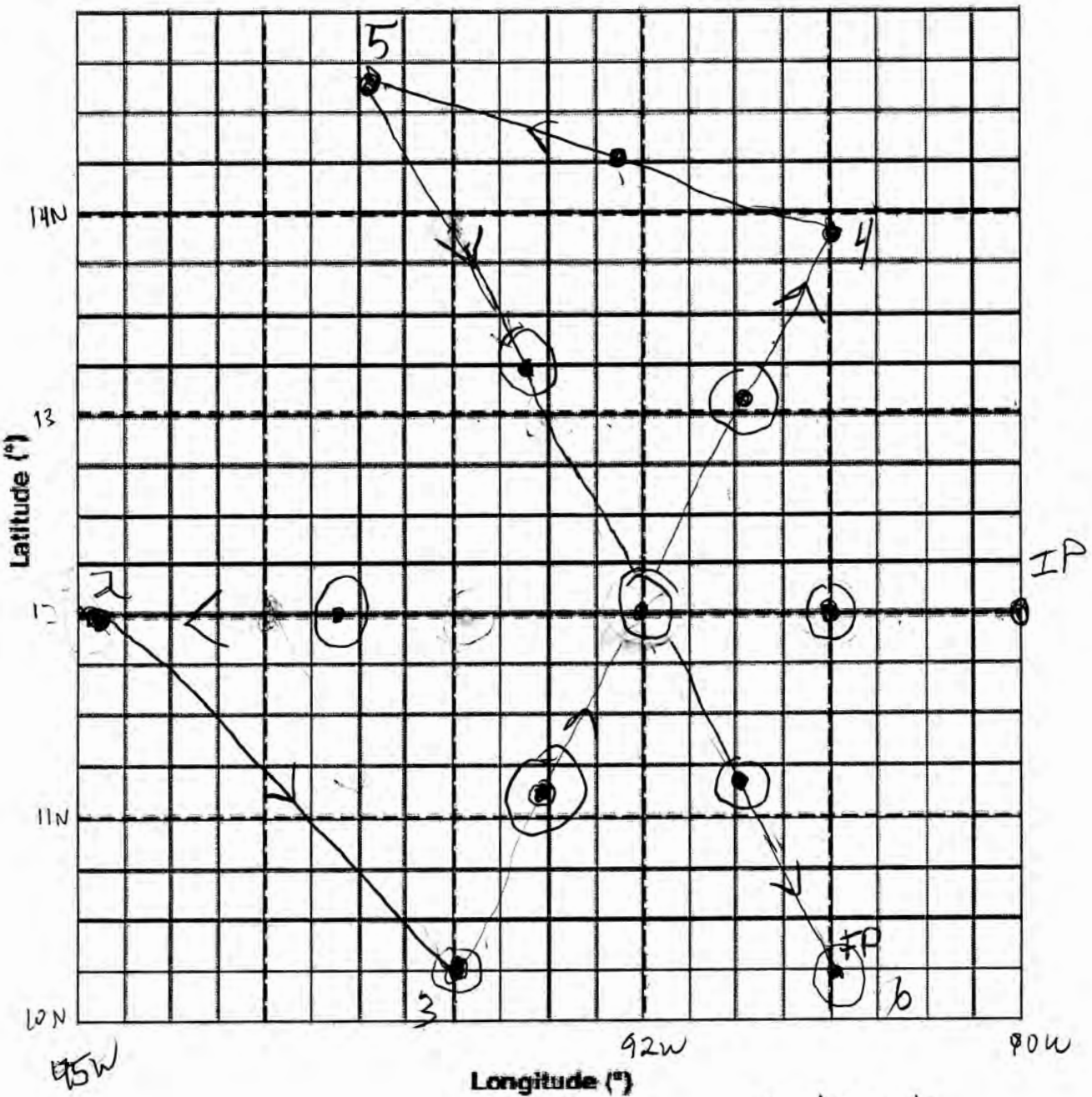
Date **Flight ID** **LPS**

Time	Event	Position	Comments
13027	T/O, Liberty CR		
14042	Drop	IP E of Ctr	
14162	drop / BTx2	mid pt IP-Ctr	BTs: 1good, 1bad 1drop
1435	Ctr hunting		drop + BTx2 good/good
14402	extend leg 50nm	50NMi WSW to ~P5W	sample w of ctr where GW was not dropping
14562	drop/ BTx2	mid pt Ctr-WP2	BTs- both bad
15162	drop	WP2 r175nmi	drop only
1525	adjust leg right to catch deep conv w TBR	downwind leg 2-3	
15522	drop	125nmi SW of ctr WP3	drop only
16072	drop / BTx2	mid pt WP3-Ctr	drop + BTx2 (2 good)
1615z	req. extending WP5 to R150nm		went with R140nm to avoid ATC Coord. issues
16342	drop/ BTx1 -	midpt Ctr-WP4	1 BT only - only have ch12s left
16372	Climbing back to 20kft		
1647	drop	WP 4	
17002	drop	midpt WP4-WP5	downwind leg descending to 10k
17122	drop	WP 5	
17252	drop/ BTx1	midpt WP5-Ctr	bad BT
17327	BTx1		backed up prev. BT - no SST
17452	drop / BTx1	Ctr	no hunting
1749z	BTx1		backed up bad BT - good BT
1758z	drop/ BTx1	midpt Ctr-FP	BT came in late - no SST
1813z	drop/BTx1	FP	

Observer's Flight Track Worksheet

Date 8-18-19 Flight 190818H1 Observer

Use highlighter to draw freehand on chart



● dropsonde

○ 2 BT combo

WP2: bumped out to R175nmi

WP5: bumped out to R140nmi

GV pt 1 = 1440Z
42 IP = 1400Z
42 ctr = 1500Z

Mission Summary

Scientific Crew (4 RF)
Lead Project Scientist
Radar Scientist
Cloud Physics Scientist
Dropwindsonde Scientist
Boundary-Layer Scientist
Workstation Scientist
Observers (affiliation)

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

Butterfly pattern successfully sampled ED95 and a MCV located ~140nm NW of the low-level ctr we also had good coordination with the NCAR GV (ORTEC).

Mission Synopsis: (include plot of actual flight track)

Standard butterfly w/ 125nmi legs, except extended to 175nmi to the W and 140nmi to the NW. 15 BTs were launched to sample SST/OHC (ED97 was in a high gradient OHC region)

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

this was a very successful Genesis Stude Pmode mission - the storm is struggling to organize despite having a 50/90% chance of genesis (NHC) late yesterday + today. Coordination w/ the NCAR GV (ORTEC) was good + their dropsondes (~40kft) helped supplement our mission w/ upper level envir. data

Problems:(list all problems)

Sondes not cutting out immediately after splash, causing spurious data
AVAPS is wondering if the new RH1's behave (float) differently at splash. Also notices the usual near sfc wind ramp up from wave refl. of GPS signal

Expendables used in mission:

	Deployed	Good	Bad
GPS sondes :	15	15	0
AXBTs :	15	8	7
Sonobuoys:	na		
UAVs	na		