

## Lead Project Scientist

Storm or Project TS Karl Experiment name RAPX  
Flight ID 20160920II Mission ID WB12A KARL

### 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.

FL, SFMR, DMT, SONDE, TAIL, LF

### Lead Project Scientist Check List

Storm or Project TS KARL Experiment name RAPX

Flight ID 20160920I1 Mission ID WB12A KARL

**A. Participants:**

HRD		AOC	
Function	Participant	Function	Participant
Lead Project Scientist	<u>Bucci</u>	Flight Director	<u>BELSON/ SEARS</u>
Radar/Workstation	<u>KLOTZ</u>	Pilots	<u>PRICE</u> <u>KAHN / REES</u>
		Navigator	<u>SIEGEL</u>
Cloud Physics		Systems Engineer	<u>HEYTEK</u>
		Data Technician	<u>NAEHER</u>
Dropwindsonde	<u>CHRISTOPHERSON</u>	Electronics Technician	<u>PEEK</u>
AXBT/AXCP		Other	
Photographer/Observer			
s/Guests			

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

Take-Off: 1740 UTC Location: STX

Landing: \_\_\_\_\_ UTC Location: \_\_\_\_\_

Number of Eye Penetrations: 4

1833 5506 IP  
2003 5506 center  
2133 5506 EP

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

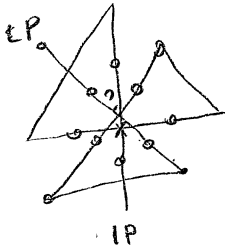
Date/Time	Latitude	Longitude	MSLP	Maximum Wind

**D. Mission Briefing:**

TS Karl is a 40 kt, 1006 mb storm moving W at 15 kts. It is under about 15 kts of southerly shear leaving the LLC exposed. There still appears to be dry air to the east, though the environment seems to be moistening and SSTs are favorable. Flying 10,000 ft, dropping sondes ends and mids, no center hunting.

Shear caused by upper level low to the east.

13-14 drops



### Mission Summary

#### Storm name

YYMMDDA# Aircraft 43RF

#### Scientific Crew (43RF)

Lead Project Scientist BUCCI  
 Radar Scientist KLOTZ  
 Cloud Physics Scientist \_\_\_\_\_  
 Dropwindsonde Scientist CHRISTOPHERSON  
 Boundary-Layer Scientist \_\_\_\_\_  
 Workstation Scientist \_\_\_\_\_  
 Observers (affiliation) \_\_\_\_\_

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

*Mission Synopsis: (include plot of actual flight track)*

Flight pattern was shifted to start S and end in the NW. Shear from upper level low continues to displace convection to the east and north. West environment remains dry, though sondes show low levels moistening on the south. No TS winds found on sondes or SFMR. Hunted for center on last pass and did not find a coherent vortex.

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

coordinated well with G-IV. Dropped sondes to supplement G-IV coverage. Weakening of TS Karl makes rapid intensification less likely. Presence of the upper level low seems to be the inhibiting factor to intensification, since environment is slowly moistening and

*Problems: (list all problems) sTs are favorable.*

Minor: LPS headset

LF down partially en route, up by storm

*Expendables used in mission:*

GPS sondes: 14 (1 bad)

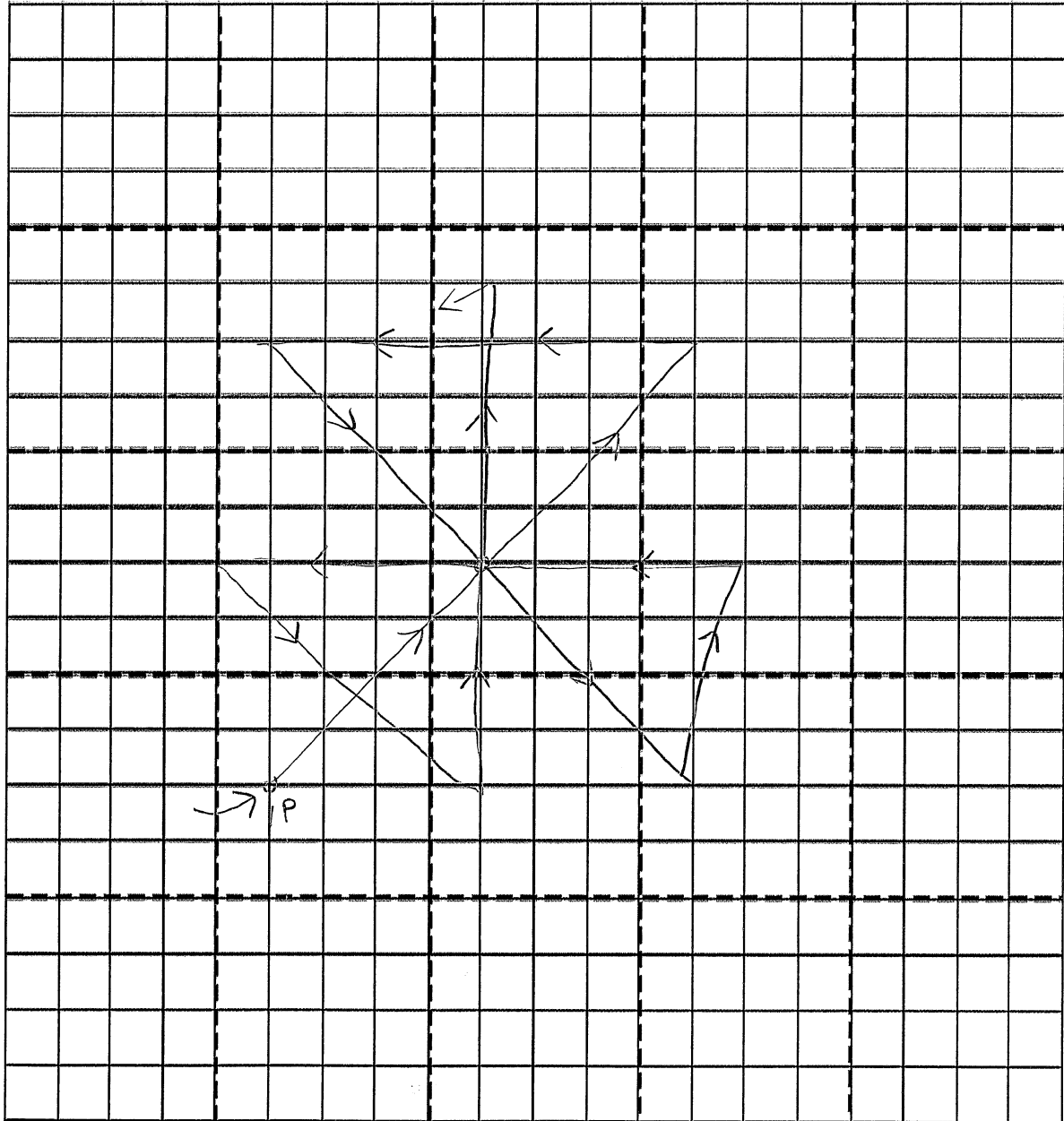
AXBTs: 0

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

# Observer's Flight Track Worksheet

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

Latitude ( $^{\circ}$ )



Longitude ( $^{\circ}$ )

### Lead Project Scientist Event Log

Date 2016-09-20 Flight ID 20160920I1 LPS Bucci

Time	Event	Position	Comments
1748	take off	STX	
1830	LF down	18° 4' N 61° 15' W	
	LF fixed		looks good
1940	IP		no sonde (G-IV redundant)
1952	mid drop 1	S leg	
2002	center	20° 2' N 65° 20'	LLC off to left
2013	mid drop 2	N leg	shallow cu below / start
2024	N end pt		turn to the SE
2054	W end pt		clear
2105	midpoint drop <sup>3</sup>	W	
2117	drop 4	center	
2127	drop 5	mid pt E	
2140	E end pt		turn to NW
2158	NE end pt drop <sup>6</sup>		precip
2210	drop 7	NE mid	
2221	drop 8	mid SW	
2241	drop 9	SW end pt	
2311	drop 10	SE end pt	bad sonde
2312	drop 11	SE end pt	
2321	drop 12	SE mid pt	
2342	drop 13	NW mid pt	
2352	drop 14	NW end pt	