Radar Scientist Form

(Updated 31 May 2019)

Flight ID 20190920H1 **Storm** JERRY / AL10

HRD Radar Scientist (Aircraft/Ground) ZAWISLAK / REASOR

AOC Radar Operator MASCARO

The aircraft radar scientist is responsible for data collection from all radar systems on his/her assigned aircraft, working with the ground radar scientist to ensure successful transmission of all radar products from the aircraft in a timely manner, and contributing to mission science by communicating real-time radar products to the LPS. Specific responsibilities are detailed in the *Aircraft Radar Support Guide* located on the radar workstation desktop and in the flight bag.

∮ Pre-flight Notes.

Indicate below any existing radar instrumentation issues, pre-flight radar repairs or other instrumentation issues (e.g., GPS swapout) that might impact radar data collection or analyses. If none, then simply write NONE below.

SETUP WENT SMOOTHLY

∮ Pre-flight Setup <u>with</u> Ground Radar Scientist.

Preferably before the planeside briefing, establish Xchat communication with the ground radar scientist on #radar. Check off the following tasks.

- ☐ Communicate any pre-flight issues noted above.
- ☐ Confirm latest flight pattern. Sketch to the right. Indicate legs constituting proposed analyses.
- ☐ Go through Steps 1-3 of Aircraft Radar Support Guide.

∮ In-flight Setup with Ground Radar Scientist.

After radar recording has begun, reestablish Xchat communication with the ground radar scientist on #radar. Check off the following tasks.

☐ ~~Go through Steps 4-7 of Aircraft Radar Support Guide.~~

Indicate below any issues identified during Steps 4-7, in particular any radar instrumentation issues evident in the radar displays. If none, then simply write NONE below.

18°38'
59°49'

∮ In-pattern Radar and Weather Event Log.

Indicate below any radar down times or significant weather observations that might be helpful for interpreting radar analyses (e.g., flight through sparse shallow convection).

17.81
63.76

Time (HHMMSS)	Event (Radar or Weather)	
1219 Z 1225 Z	AT IP, NO CLOUD BELOW, ANVIL ABOVE, ALTHOUGH THAT ANVIL HAS DECENT REFLECTIVITY ABOVE STARTING TO SEE MORE COVERAGE OF WEAK RETURNS, MIDPOINT, MUCH MORE & THE COVERAGE	INBOUND 135°
1239 Z	SO AT CTR, LOW CLOUD THICK OVER CTR, ANVIL ABOVE, JUST NO SOLID PRECIP IN IT, JUST ON NORTH AND EAST SIDES	CTR K (
1251 Z 1301 Z	SO SOME CONVECTIVE BANDING TO NORTH/EAST, BUT THEN ABOUT W WENT THROUGH DECENT BAND ON NW SIDE. JUST @ NEAR MIDPOINT SOME DE LOCATION NO CLOUDS ON THE END POINT TO NW	OUTBOUND TO NW
1317 Z 1338 Z	BARELY ANY PRECIP OR CLOUDS OUT ON WEST SIDE GOING THROUGH THAT MIDPOINT BAND AGAIN → NOT MUCH HEIGHT IN ECHO TOP	DOWNWIND
1401 Z	ACROSS IN A PRETTY SHALLOW BAND. DECENT dBZ BELOW THOUGH NOW OUTBOUND TO EAST → WENT THROUGH SIGNIFICANTLY DEEP BAND BUT OUTSIDE THE SFC RMW → THEN SOME STRATIFORM TO	
1419 Z	TURNING DOWNWIND TO NE → GOOD BAND TO OUR EAST ON RIGHT WING ECHO TOPS BELOW 6 km, BUT INTENSE	INBOUND NE
1522 Z	SO NO PRECIP OVER THE CENTER, SHALLOW CLOUD BUT A LOT OF VERY DEEP CONVECTIVE BANDING AROUND FROM NORTH (DSL)	OUTBOUND TO SW
	TO SOUTH (FORMER RADAR) → EYEWALL OF SORTS, AND THE PEAK WINDS ARE INSIDE THAT CONVECTIVE BAND	← CTR #3
	SO EXPOSED CTR UNDER SHIELD, AND CONVECTIVE BAND W/ TOPS TO 20 km, 40 dBZ TO 16 km	
1529 Z	NEARING ENDPOINT, ANVIL LIGHT ABOVE, SHALLOW CLOUD UNDER, SO UPSHEAR IT LOOKS LIKE IT SHOULD THE BAND IS TRYING TO ROTATE UPSHEAR	
1540 Z	CTR NOW PRETTY WELL EXPOSED NOT MUCH TO SW, EVEN SHORTENING THE LEG	
1553 Z	INBOUND APPROACH MID FROM SOUTH, REACH CONVECTIVE BAND W/ ECHO TO 12 km. NOT MUCH STRATIFORM KEEP HITTING THIS "OUTER BAND"	

BIG, THIN SPIRAL BAND BASICALLY. GOES FROM LARGER RADIUS UPSTREAM TO SMALLER DOWNSTREAM BUT STRONGER AND ESSENTIALLY THE "EYEWALL"

1615 Z HEADING OUTBOUND ON 360° → A LOT MORE STRATIFORM ~~ON THAT~~ OF THE BAND TO THE NORTH. ALMOST LEAVING CONVECTION. THEN ANVIL STRATIFORM TO THE NORTH

BUT THEN TRANSITIONED INTO MODERATELY DEEP CONVECTION → TRYING TO GROW

1625 Z : WENT THROUGH ANOTHER BAND AT THE MIDPOINT

∮ End-of-Flight Shutdown <u>with</u> Ground Radar Scientist.

Once the aircraft exits the system, reestablish Xchat communication with the ground radar scientist on #radar. Check off the following tasks.

☐ Go through "NEAR END OF FLIGHT" Steps 1-5 of Aircraft Radar Support Guide.

If you recorded 'N' for Analysis Sent at any point during the flight, please detail the situation below. If there are any other *mission-critical* issues pertaining to the radar systems not documented above, please note them here. If none, then simply write NONE below.

RADAR WENT DOWN @ DURING 1ST OW PASS DJ
POWER WAS LOST TO PARTS OF THE AIRPLANE
17232 DOWN → QUICK BACK UP
AFTER POWER CYCLE

✓
THIS HAPPENED AS WE TRIED TO
GO OUTBOUND FROM THE FIREWALL
SO WENT BACK IN AND CIRCLED
TO BRING EVERYTHING BACK UP
THEN DID 2ND OCEAN WIND LEG

Jobfile Parameters for Automated TDR Analysis

FLIGHT ID: 20190920H1

Aircraft Radar Scientist: ZAWISLAK

	Leg Start Time	Leg End Time	Storm Motion		Center Fix			Inbound Track	Outbound Track	Event Type	Max Radius if not 250 km	Horiz. spacing if not 2 km	Accept. for Graphics?	Analysis Sent?
					Time	Latitude	Longitude							
	HHMMSS	HHMMSS	Deg	Kts	HHMMSS	Decimal Deg	Decimal Deg	Azimuth (deg)	Azimuth (deg)	IN/TS/ H/MH			(Y/N)	(Y/N)
INBOUND FROM IP	1218 INBOUND SE	1303 DOWNWIND NW	WNW	14	1238	18°38'	59°49'	135	315	H			Y	Y
INBOUND FROM 270	1327 Z (1322 Z) INBOUND 270°	1419	WNW	14	1352	18°47'	60°41	270	090	H			Y	Y
HAD TO TURN BACK TO IP	1440 INBOUND 45°	1536	WNW	14		18.96	60.49 CFD VORTEX PROGRAM	45	225 — CONSISTENT W/ CARCAH	H		NO PROFILE	Y	Y
	↳ 1448Z → S. DEVIATION AROUND CONVECTION APPROACHING MIDPOINT. NOT A GOOD HEADING INITIALLY. ABOUT 60 NM FROM CTR, GOT ON BETTER TRACK												Y	Y
		↳ FOR PROFILE												
INBOUND FROM SOUTH	1546	1632	WNW	14	~1607	~ APPROXIMATE FIXED CTR ON KARMA 19.10	60.67	180	360	H			Y	Y
OCEAN WINDS #1 →	1632 BACK TO THE SOUTH FOR OCEAN WINDS	1702 → ALL THE WAY FROM THE NORTH				19°9'	60°56'	360° ↗	OCEAN WINDS AZIMUTH BACK TO NORTH	H		ONLY OCEAN WINDS PROFILE		
		NOT COMPLETE OW	—		AT 1703Z ↗	TRIED TO GO OUTBOUND AGAIN, BUT POWER ISSUE SO ORBITED IN THE EYE TO FIX THE POWER ISSUE				—				
OW #2	~1733	1745				OUTBOUND		360° ← OCEAN WINDS AZIMUTH	RADAR WENT DOWN MOMENTARILY					
OW #3	1745	1757Z → COMING BACK				INBOUND TO CTR		180°						
OW #3	1758	1808 OR SO				OUTBOUND TO NORTH		360°						