

**NOAA / AOML / Hurricane Research Division
2021 Hurricane Field Program
Advancing the Prediction of Hurricanes Experiment (APHEX)**

FLIGHT LOG -- 2021070911

MISSION PLAN			
FLIGHT ID	2021070911	STORM	N/A
MISSION ID	WXWXA SITE04	TAIL NUMBER	NOAA43
TASKING	CSL	PLANNED PATTERN	Survey pattern + modules
MISSION SUMMARY			
TAKEOFF [UTC]	1200	LANDING [UTC]	1929
TAKEOFF LOCATION	Lakeland, FL	LANDING LOCATION	Lakeland, FL
FLIGHT TIME	7.5	BLOCK TIME	7.7
TOTAL REAL-TIME RADAR ANALYSES (Transmitted)	N/A	TOTAL DROPSONDES (Good/Transmitted)	7 (7/0)
OCEAN EXPENDABLES (Type)	None	sUAS (Type)	None
APHEX EXPERIMENTS / MODULES	None planned		
HRD CREW MANIFEST			
LPS ONBOARD	Zawislak	LPS GROUND	Dunion
TDR ONBOARD	N/A	TDR GROUND	N/A
ASPEN ONBOARD	N/A	ASPEN GROUND	N/A
NESDIS SCIENTISTS	N/A		
GUESTS (Affiliation)	N/A		
AOC CREW MANIFEST			
PILOTS	Abitbol, Stateler, Keith		
NAVIGATOR	B. Richards		
FLIGHT ENGINEERS	Heysteck		
FLIGHT DIRECTOR	Parrish, Hathaway		
DATA TECHNICIAN	Warnecke		
AVAPS	Warnecke		

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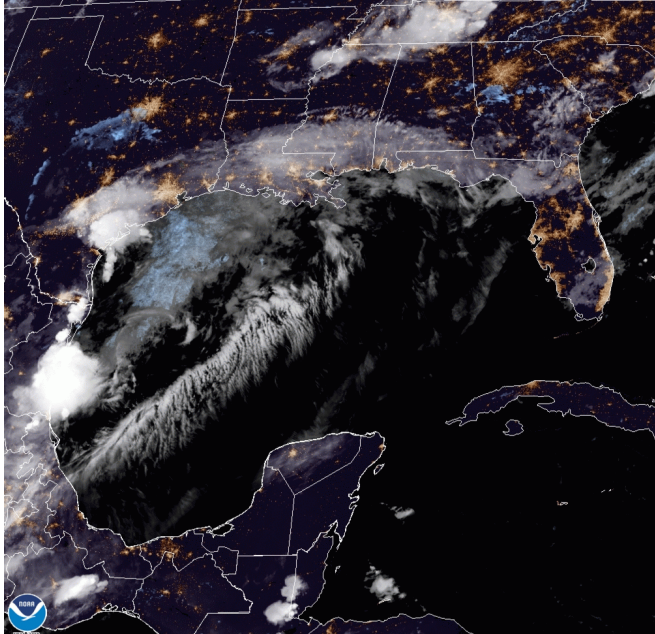
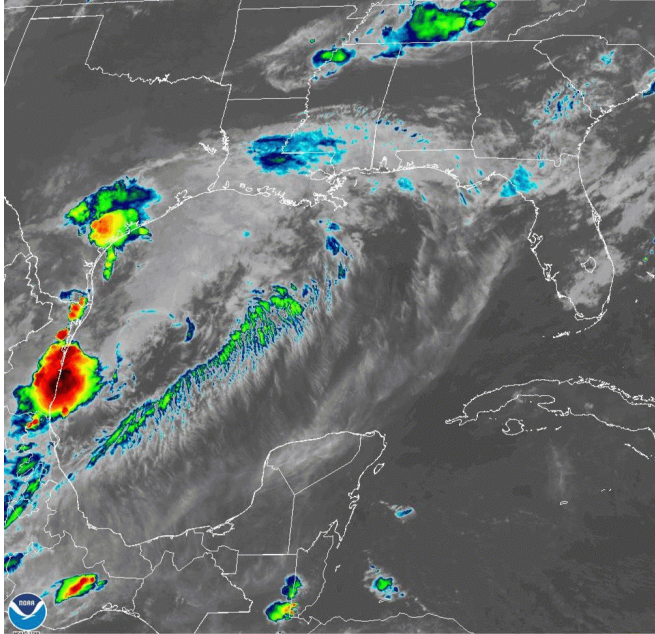
FLIGHT LOG -- 2021070911

PRE-FLIGHT	
Flight Plan	<p style="font-size: small;"> ● 12 UTC Rawinsonde ● 00 UTC Rawinsonde ● 00 and 12 UTC Rawinsonde </p>
Expendable Distribution	Dropsondes releases determined in real-time
Preflight Weather Briefing	
Instrument Notes	The TDR is not yet installed.

IN-FLIGHT	
Time [UTC]	Event

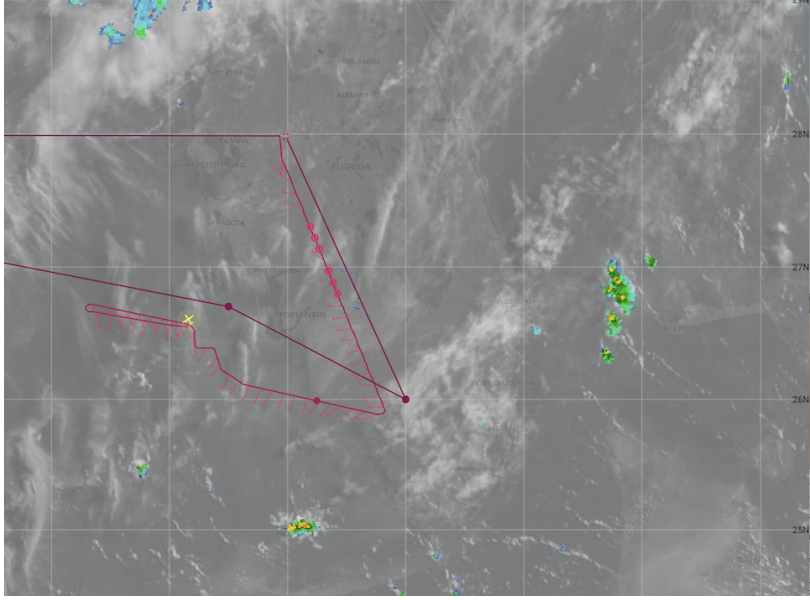
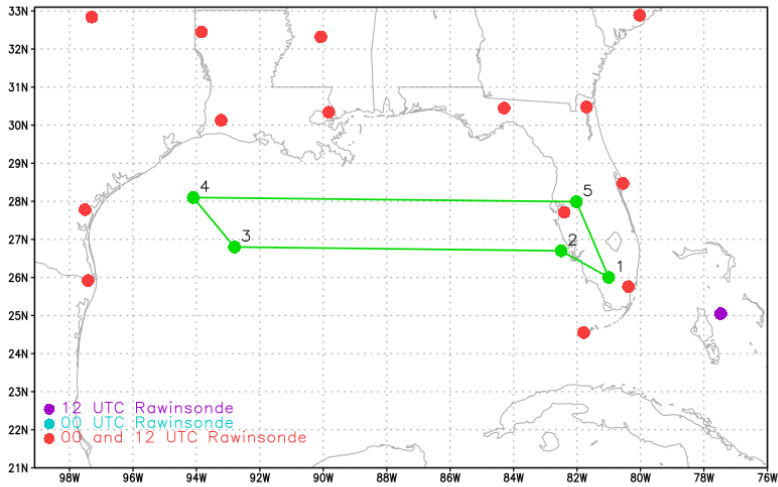
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FLIGHT LOG -- 2021070911

<p>1150z</p>	 <p style="text-align: center; font-size: small;">09 Jul 2021 07:46Z NOAA/NESDIS/STAR GOES-East GEOCOLOR</p>
<p>1150z</p>	 <p style="text-align: center; font-size: small;">09 Jul 2021 07:46Z NOAA/NESDIS/STAR GOES-East Band 13</p>
<p>1210z</p>	<p>Begin straight and level NNW-SSE runs over the western FL Peninsula (~25 minutes)</p>
<p>1234z</p>	<p>End of 1st NNW-SSE run...heading NNW for clear air module off the FL</p>

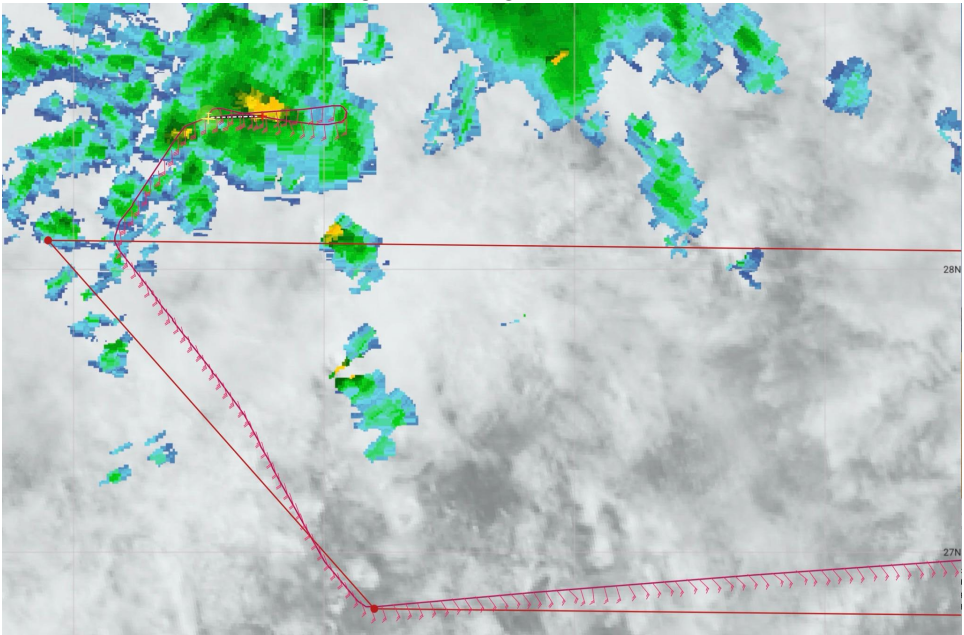
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FLIGHT LOG -- 20210709I1

	west coast
1319z	Sonde #1
1325z	 <p>Finishing 2 “clear air” WNW-ESE legs at 10 kft. Climbing to 11K ft, then 1 kft intervals to test DWL sensitivity. Planned N43 flight track (dark red lines) and actual flight track (light red lines) are shown.</p>
1345z	<p>Revising flight plan</p> 

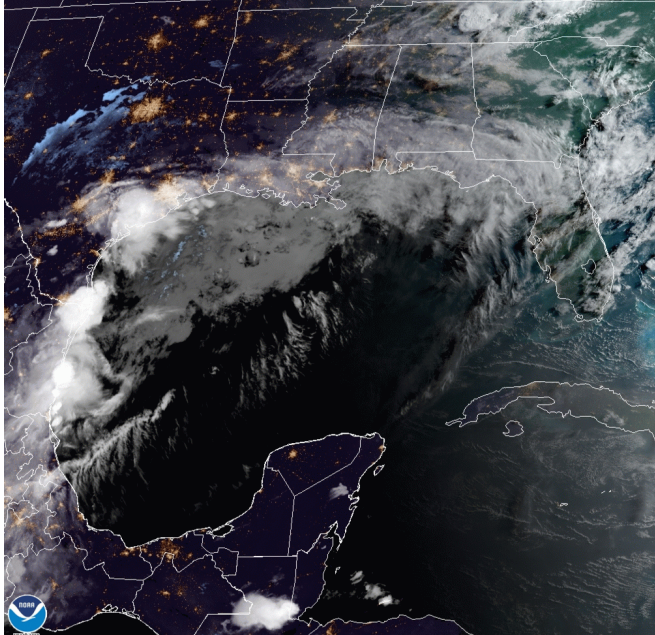
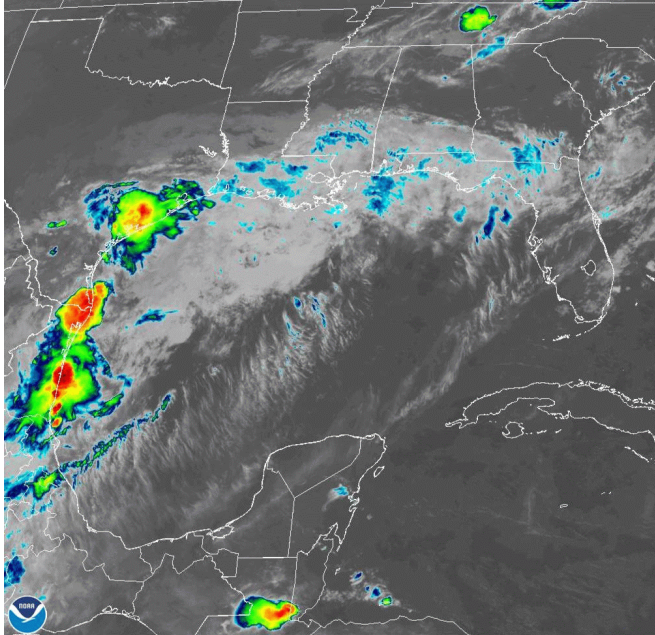
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FLIGHT LOG -- 20210709I1

1500z	Descending to WP 3 (down to 10K ft) on approach to WP 4 (convection is collapsing here and it's not as good a target environment)
1515z	Heading to a convective area ~35-40 nm NE of WP 4 that looks like a good operating area (convective + light stratiform rain + some broken clouds below the aircraft).
1530z	<p>Flying convective area centered near 28.5N 93.3W. Rotated legs on that center testing different DWL configurations. Image below shows N43 working the convective area (at 28.5N 93.3W). Planned N43 flight track (dark red lines) and actual flight track (light red lines) are shown.</p> 
1530z	Sonde #2
1536z	Sonde #3

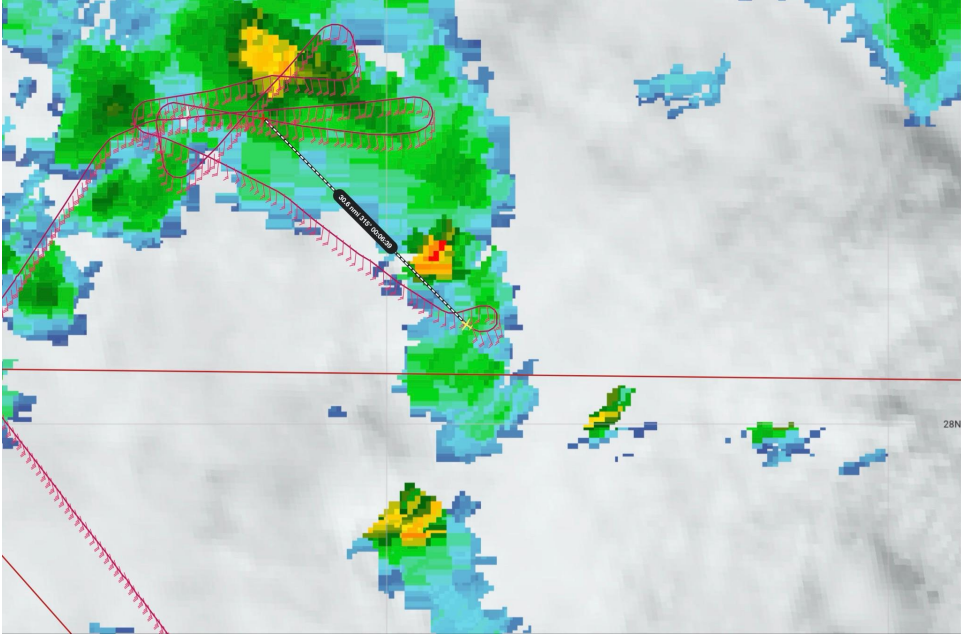
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FLIGHT LOG -- 2021070911

1551z	 <p>09 Jul 2021 11:46Z NOAA/NESDIS/STAR GOES-East GEOCOLOR</p>
1551z	 <p>09 Jul 2021 11:46Z NOAA/NESDIS/STAR GOES-East Band 13</p>

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	 <p>Targeting new area of developing convection to the SE (~28.2N 92.9W). Highest reflectivity was too high to penetrate, so sampling a bit south of the deepest convection.</p>
1624z	Sonde #4
1625z	Heading back to stratiform area to the NW (now near 28.7N 93.2W)
1641z	Sonde #5
1705z	Heading to the area of WP 3 10-12k ft and then ferry back to KLAL
1719z	Sonde #6
1732z	Sonde #7
1735z	Near WP3- turning east and climbing (~19 k ft) to ferry back to KLAL
1800	JZ worked with Gamache and Reasor to check the status of some of the TDR scripts on the HRD workstation. HRD will need to work with AOC next week to update the HRD workstation so that a TDR shakedown flight can be flown the week of 19 Aug.
1929z	Landed at KLAL

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POST-FLIGHT	
Mission Summary	NOAA43 flew a calibration and test flight for the NOAA CSL MD2 Doppler Wind Lidar. The mission began with a NNW-SSE race track over the west coast of South Florida for some overland calibration. This was followed by a 10 k ft race track pattern in mostly clear air over the water west of Ft. Myers, FL. After the clear air test, N43 flew west toward the western Gulf of Mexico to sample areas of clear air, stratiform precipitation, and edges of deeper convection. Targets also included areas with varying cloud conditions below the aircraft. Multiple altitudes were flown as dropsondes were released to validate the DWL measurements. All dropsondes collected good data.
Actual Standard Pattern Flown	No standard pattern flown
APHEX Experiments / Modules Flown	N/A
Plain Language Summary	New technology, called a Doppler Wind Lidar, was tested on the P-3 and operated in multiple types of environments (over land, over water in clear air, and over water in light rain/clouds). Parachuted weather instruments called dropsondes were released from the plane and will be used for comparison to the winds measured by the Doppler Wind Lidar instrument.
Instrument Notes	The TDR was not available for this mission. All other aircraft instruments operated nominally.

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Final Mission
Track

