

Global Hawk #872 09/01/16 - 09/02/16

Aircraft: [Global Hawk - AFRC #872](#) ([See full schedule](#))

Flight Number: 872-0173

Payload Configuration: NOAA SHOUT HRR

Nav Data Collected: Yes

Total Flight Time: 22.8 hours

Submitted by: Frank Cutler on 09/06/16

Flight Segments:

From:	KWFF	To:	KWFF
Start:	09/01/16 03:04 Z	Finish:	09/02/16 01:54 Z
Flight Time:	22.8 hours		
Log Number:	16H004	PI:	Gary Wick
Funding Source:	Robbie Hood - NOAA - UAS Program Manager		
Purpose of Flight:	Science		
Comments:	<p>SHOUT Science Flight #4 On Top of Hurricane Hermine during Florida Approach The NASA/NOAA Global Hawk teamed with WP-3 and WC-130 manned aircraft to supply real-time data to the National Hurricane Center. The NOAA SHOUT program launched its second NASA Global Hawk mission into Hurricane Hermine after development from Tropical Depression #9 during the previous flight. Hermine developed to hurricane status during the flight where the deployment of 87 dropsondes mapped the three dimensional structure of the storm from 60,000 ft to the surface, a operational event that would match the record-setting 90 sondes deployed during the first flight. The Global Hawk atmospheric profiles extend from 60,000 ft to the surface which provide observations throughout the complete atmosphere within the storm, something no other platform can provide. These observations complement the low level and surface wind measurements from the NOAA WP-3 and Air Force C-130 aircraft. Similarly, HIWRAP downward looking Doppler radar provides profiles of precipitation structure as shown in that complements the WP-3D Tail Doppler Radar (TDR), as well as, winds similar to the TDR, but extending the TDR range of coverage to a larger area and greater depth in the atmosphere. TDR data is ingested by NOAA prediction models in real time, while HIWRAP is still in a post-flight demonstration mode. Once again, this data influenced the operational forecast: TROPICAL STORM HERMINE DISCUSSION NUMBER 16 NWS NATIONAL HURRICANE CENTER MIAMI FL AL092016 1000 AM CDT THU SEP 01 2016: "Based on Hurricane Hunter aircraft fixes and a dropsonde from the NASA Global Hawk aircraft, the initial motion is estimated to be 030/12 kt. A mid-tropospheric trough should steer the system north-northeastward to northeastward for the next couple of days. Later in the forecast period, a developing mid-level cutoff low near the northeast United States coast will cause a slowing of the forward speed as the cyclone interacts with the low. The official forecast track is essentially a blend of the latest GFS and ECMWF solutions, with the former model showing a track closer to the northeast coast and the latter taking the system farther offshore." SHOUT Principle Investigator, Dr. Gary Wick, PhD, was interviewed on NBC National News. The story can be found at: http://www.nbcnews.com/nightly-news/video/millions-on-alert-as-storm-gains-steam-in-the-tropics-755400771967 The graphic depicts the superposition of the Global Hawk and WP-3 flights while mapping out the structure of Hermine with dropsondes, HIWRAP and TDR observations. The unique asymmetric nature of the storm is illustrated by the NOAA GOES-East infrared image upon which the flight tracks are superimposed. The region of winds over 50 kt near the surface is mapped out relative to the circulation center. These observations were used by the National Hurricane Center in their advisories to alert coastal residents mainly to the right (east) of the center to the dangers of coastal flooding due to storm surge and heavy rainfall. Is this an issue of potential concern? This item has high visibility Geographic Location (Relevant region, city location) Tropical Storm Hermine, NASA Wallops, VA Partnering offices OAR, UAS Program, HRD, NHC, OMAO Contact's email address john.j.coffey@noaa.gov Contact's phone number (904) 923-1709 -- John "JC" Coffey Cherokee Nation Company supporting: NOAA UAS Program Office National Oceanic and Atmospheric Administration SSMC3/ OAR-R/ Room 11100 1315 East West Highway Silver Spring, MD 20910 Email: John.J.Coffey@noaa.gov Office Telephone: 301-734-1104 Cell Telephone: 904-923-1709</p>		

Flight Hour Summary:

	16H004	17H006
Flight Hours Approved in SOFRS	220	

Flight Hours Previously Approved		54
Total Used	166	73.2
Total Remaining		-19.2

17H006 Flight Reports						
Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/05/16 - 10/06/16	872-0177	Science	24.7	24.7	29.3	
10/07/16 - 10/08/16	872-0178	Science	23.7	48.4	5.6	
10/09/16 - 10/10/16	872-0179	Science	24.8	73.2	-19.2	

Source URL: https://airbornescience.nasa.gov/flight_reports/Global_Hawk_872_09_01_16_-_09_02_16#comment-0

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NASA Official: Bruce A. Tagg

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

16H004 Flight Reports						
Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
07/27/16	872-0168	Check	4.9	4.9	215.1	
08/19/16	872-0169	Ferry	10.3	15.2	204.8	
08/24/16 - 08/25/16	872-0170	Science	23.9	39.1	180.9	
08/26/16 - 08/27/16	872-0171	Science	23.8	62.9	157.1	
08/29/16 - 08/30/16	872-0172	Science	23.8	86.7	133.3	
09/01/16 - 09/02/16	872-0173	Science	22.8	109.5	110.5	
09/22/16 - 09/23/16	872-0174	Science	24	133.5	86.5	
09/24/16 - 09/25/16	872-0175	Science	22.8	156.3	63.7	
09/28/16	872-0176	Ferry	9.7	166	54	