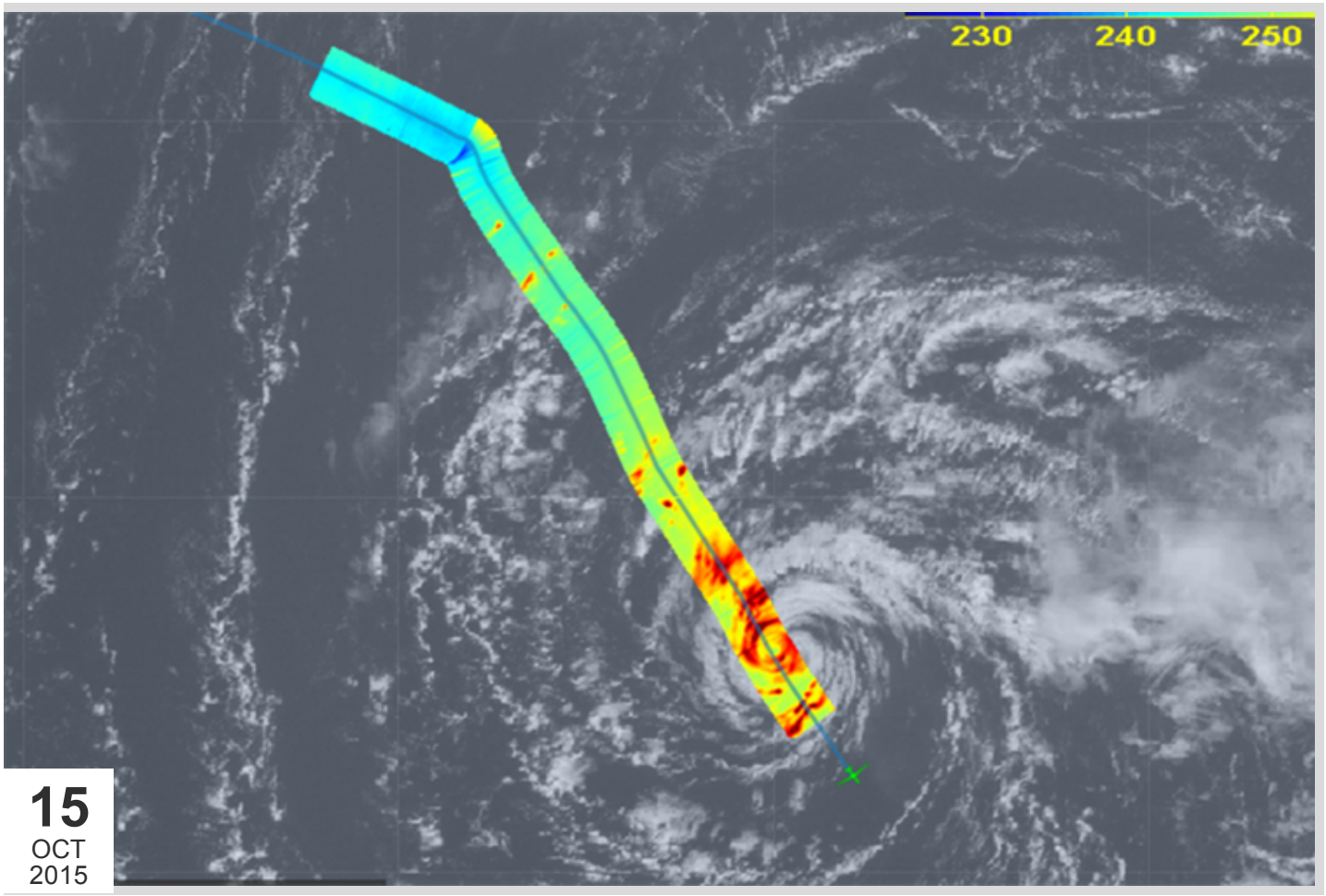

Real-Time Data from Global Hawk Provided for Erika and Fred

As briefed at the NCEP Analysis of Alternative Conference, this Summer for the first time ever, the NOAA Unmanned Aircraft Systems (UAS) Program, working closely with the ESRL's Global Systems Division, and NASA partners, has successfully delivered real-time data from research flights over Tropical Storm Erika and Hurricane Fred through the Global Telecommunications System (GTS) for distribution to national and international forecast centers. NOAA UAS and partners also designed a comprehensive data management plan in support of “Sensing Hazards with Operational Unmanned Technology” (SHOUT) Global Hawk missions. The team's goal is to provide real-time/near real-time data from the UAS instruments via satellite through NASA's Global Hawk ground station to NOAA, NASA and public users.

Imagery from Tropical Storm Erika and Hurricane Fred was furnished along with environmental data from the following instruments:

NOAA's AVAPS — The Advanced Vertical Atmospheric Profiling System is developed by NCAR (the National Center for Atmospheric Research), and can deploy dropsondes at altitudes up to 65,000 ft from the unmanned Global Hawk aircraft. This enables high vertical resolution measurements of the temperature, pressure, relative humidity, and wind speed and direction in the atmosphere.

NASA's HIWRAP — The High-Altitude Imaging Wind and Rain Airborne Profiler is a radar system designed to examine the development and factors of storm intensity: it’s formation, structure and intensification.

NASA JPL's HAMSR — The High Altitude MMIC Sounding Radiometer is a passive microwave sensor and atmosphere sounder designed and built at the NASA Jet Propulsion Laboratory. The system uses the microwave spectrum to generate temperature and humidity profiles of the atmosphere.

NASA GHRC's LIP — The CAMEX-4 ER-2 Lightning Instrument Package consists of eight state of the art digital electric field mills and a dual-tube Gerdien conductivity probe; These field mills allow the determination of the vector components of the electric field to improve our knowledge of the electrical structure of the atmosphere.

By assessing the operational effectiveness of UAS and quantifying the potential of UAS environmental data to improve high impact weather prediction, the SHOUT Team is also and to helping mitigate the risk of satellite observing gaps. The SHOUT project is using targeted observing efforts using NASA's Global Hawk for observing and predicting high impact oceanic weather. As the project matures, other viable unmanned observing technologies may be incorporated into the observing strategies tested as operational prototypes.

Is this is an issue of potential concern?	
This item has high visibility	
Geographic Location (Relevant region, city location)	NASA Wallops Flight Facility, Tropical Storm Erika, Tropical Storm, Hurricane Fred
Partnering offices	OAR, NOAA UAS Program, ESRL, PSD, AOML, HRD, OMAO
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