

Global Hawk (AV-6)

Capabilities, Payload,
Changes, Constraints



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Global Hawk (AV-6) Capabilities

- Flight Level: ~55-60,000 ft
- Duration: ~24 hr
- Flight Frequency
 - 1x per 24 hr
 - 3 consecutive flights
 - 7 day max >> hard down
- Range: 11,000 nm
- Payload: 1,500+ lbs
- Mission Science Support
 - 3 shifts per mission (2-3 MSs per shift)
- Deployment Site: NASA Wallops Flight Facility

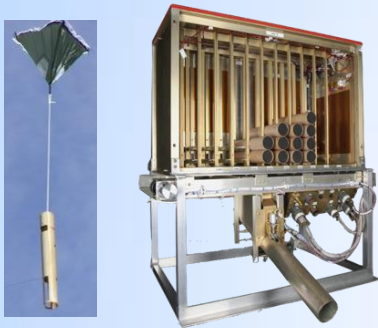


Global Hawk Operations Center (GHOC)

2015 NOAA SHOUT

Global Hawk (AV-6) Instrumentation

Airborne Vertical Atmospheric Profiling System (AVAPS)



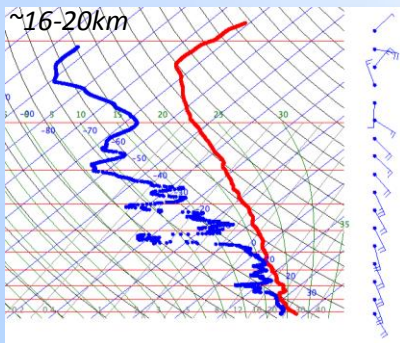
PI: Terry Hock, NCAR / Gary Wick, NOAA

Measurements:

- temperature, pressure, wind, humidity (vertical profiles);
- 88 dropsondes per flight;

Resolution:

- ~2.5 m (winds), ~5 m (PTH)



High Altitude Monolithic Microwave Integrated Circuit (MMIC) Sounding Radiometer (HAMSR)



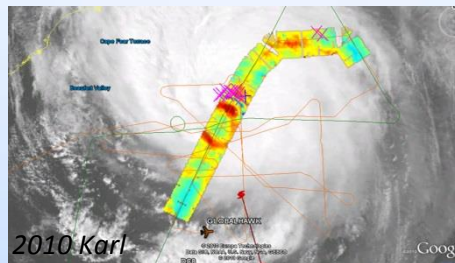
PI: Dr. Bjorn Lambrigtsen, JPL

Measurements:

- Microwave AMSU-like sounder;
- 25 spectral channels in 3 bands; (50-60 GHz, 118 GHz, and 183 GHz)
- 3-D distribution of temperature, water vapor, & cloud liquid water;

Resolution:

- 2 km vertical; 2 km horizontal (nadir)
- 40 km wide swath



High-Altitude Imaging Wind and Rain Airborne Profiler (HIWRAP)



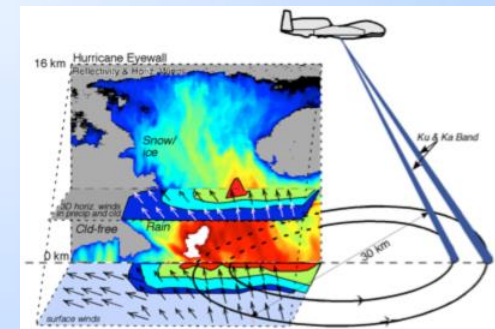
PI: Dr. Gerald Heymsfield, NASA GSFC

Measurements:

- Dual-frequency (Ka- & Ku-band), dual beam, conical scanning Doppler radar
- 3-D winds, ocean vector winds, and precipitation;

Resolution:

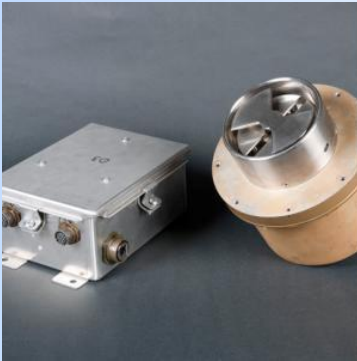
- 60 m vertical, 1 km horizontal;



2015 NOAA SHOUT

Global Hawk (AV-6) Instrumentation

Lightning Instrument Project (LIP)



PI: Richard Blakeslee, NASA

Measurements:

- *Lightning, electric fields, electric field changes, & air conductivity;*