Tropical Cyclone Observations from NOAA’s Hurricane Field Program

Shirley Murillo
Deputy Director, Hurricane Research Division – Atlantic Oceanographic & Meteorological Laboratory
NOAA’s Hurricane Field Program

Supporting observational data collection for research and operations
Advancing the Prediction of Hurricanes EXperiment (APHEX)

1. Collect observations

2. Develop & refine measurement strategies

3. Improve the understanding of TCs
Hurricane Hunter Aircraft

NOAA G-IV

NOAA WP-3D
• **In-situ**
  Wind, press., temp.

• **Expendables**
  Dropsondes
  AXBT, AXCP, buoy

• **Remote Sensors**
  Tail Doppler Radar (TDR)
  SFMR
  Doppler Wind Lidar (DWL)
  Scanning Radar Altimeter
  Scatterometer/ profiler

• **Platforms**
  Unmanned Aerial Systems (UAS)
Three aircraft instruments

Tail Doppler Radar

GPS Dropsonde

Stepped Frequency Microwave Radiometer
Hurricane Delta 2020

In-situ data: flight level winds

Tail Doppler Radar Analysis
Hurricane Delta 2020

NOAA G-IV Flight Track Drop Locations for DELTA (AL262020)
On 2020100700 the storm was centered at 20.8 N; -84.30 W

Tail Doppler Radar Analysis

Flight Track with Drop locations
Hurricane Observations

Flight track + Flight-level Winds: SALLY (NOAA 20200913T11)

Dropsonde data w/ radar analysis
Hurricane Delta 2020

SFMR surface winds

Tail Doppler Radar Analysis
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