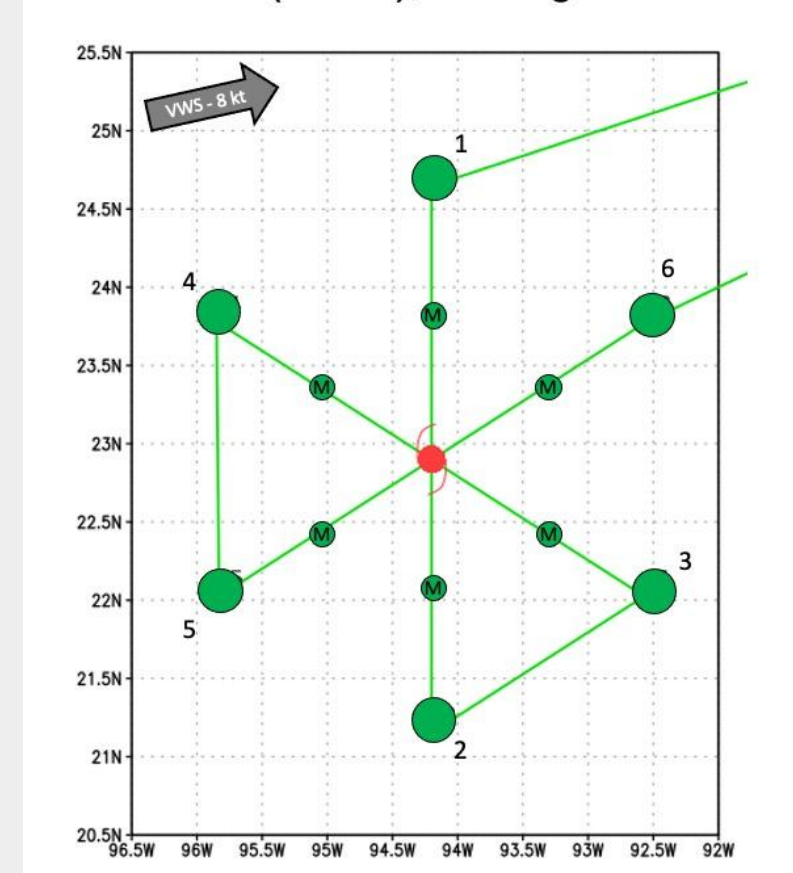# NOAA Airborne Radar: Operational Support

Paul Reasor (HRD, radar lead) and John Gamache (HRD, radar co-lead)
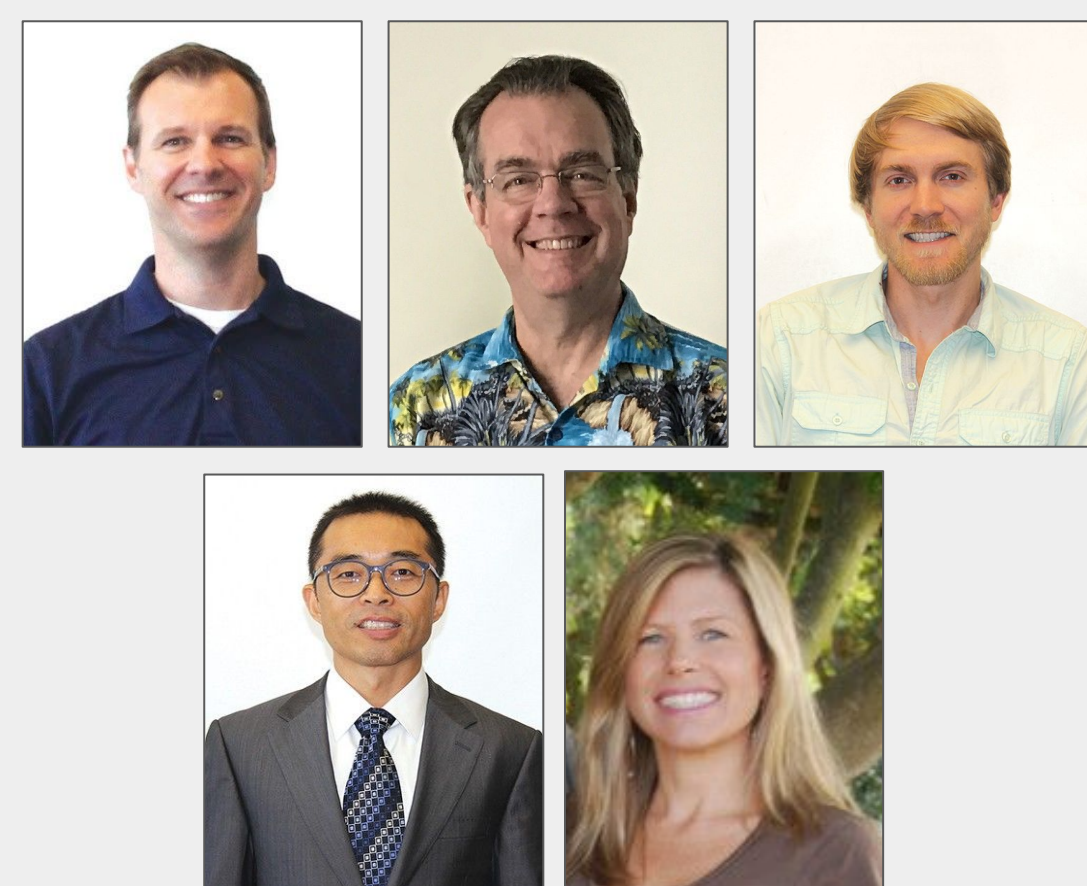
The Support Process

NWS Requests TDR Data

2024100611 (Milton); Tasking: NHC/EMC

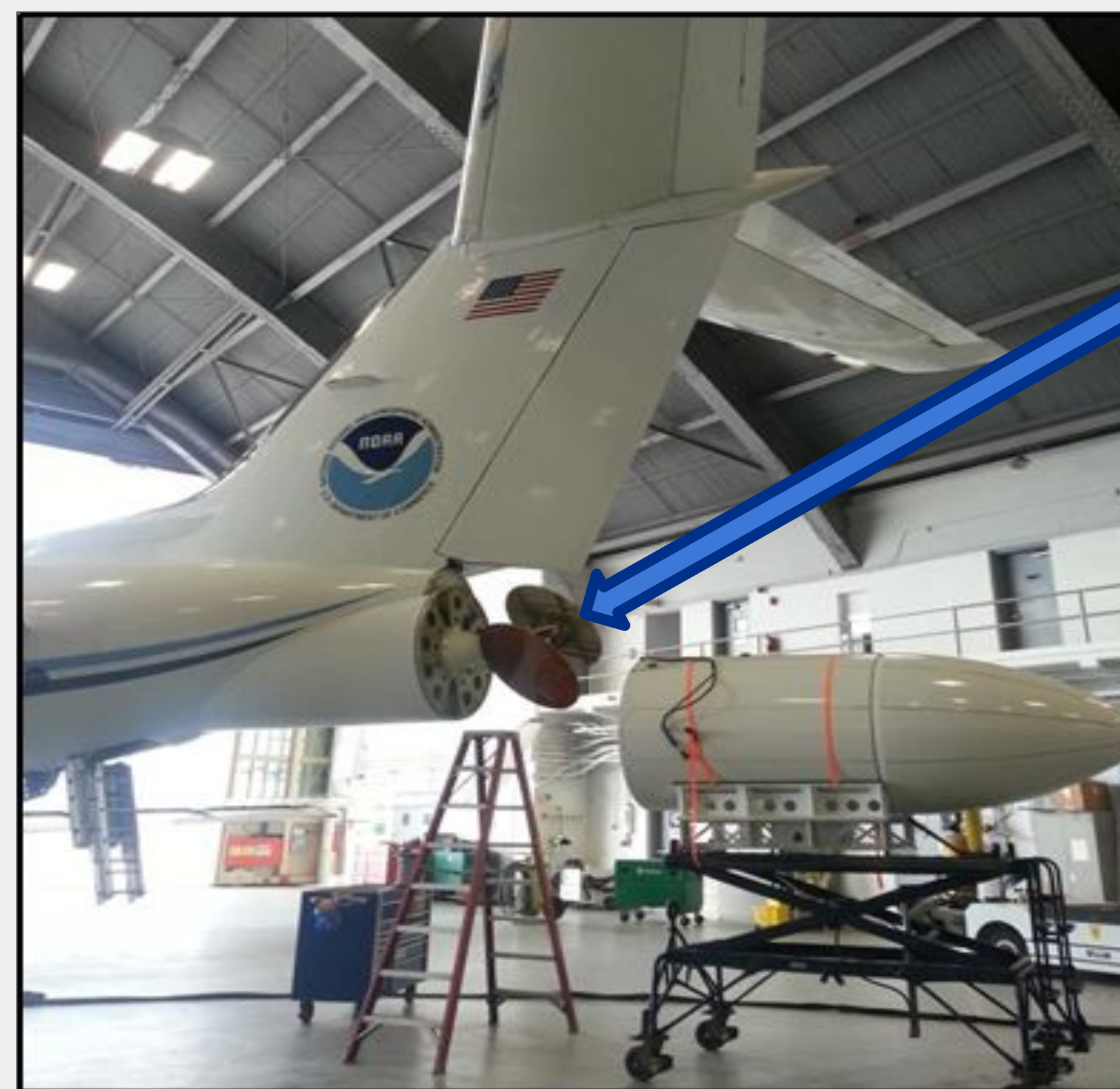**AOML Assembles Support Team**

AOML Radar Support:

- Monitors TDR system
- Transmits radar processing parameters
    - → Software then initiates automatically
- Monitors product transmission

To NHC   To EMC   To Scientists

Tail-Doppler Radar "TDR"

Operational Support Setup during a Hurricane Flight

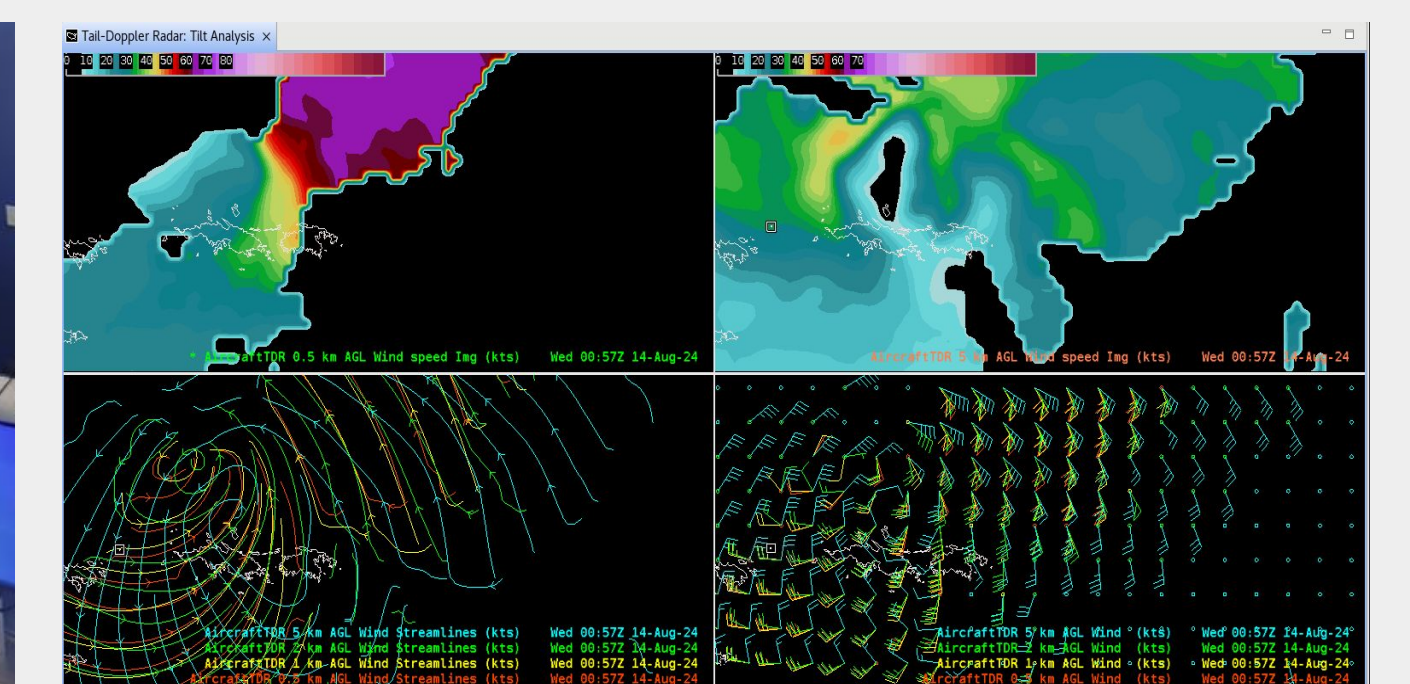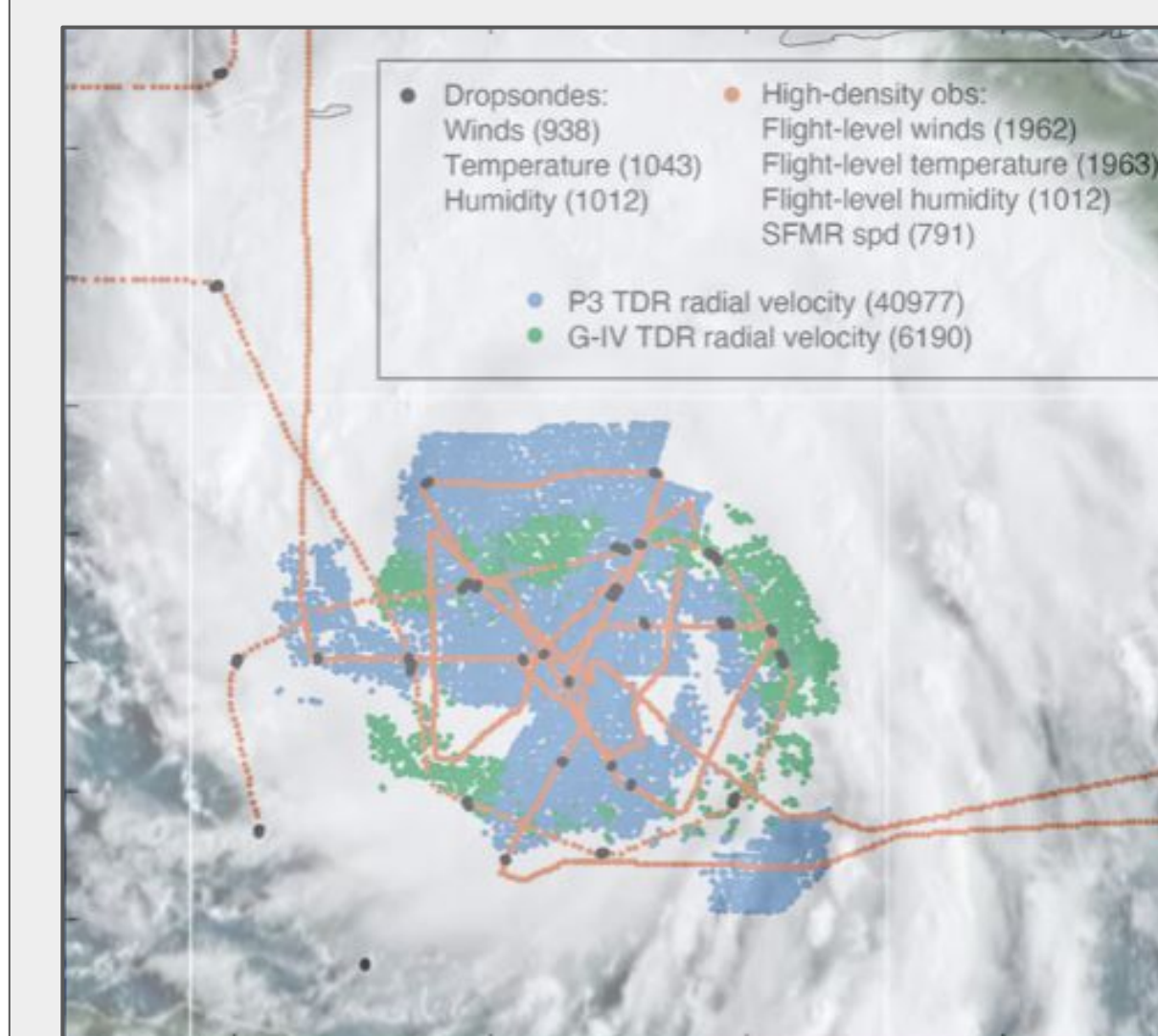## Operational Impact

NHC "Hackathon" ('22) TDR Visualization

Storm Structure Visualization at NHC

TDR Assimilation into Hurricane Models

Used by Hurricane Specialists

TS Ernesto Discussion Number 10
NWS NHC Miami FL
AL052024
1100 PM AST Tue Aug 13 2024

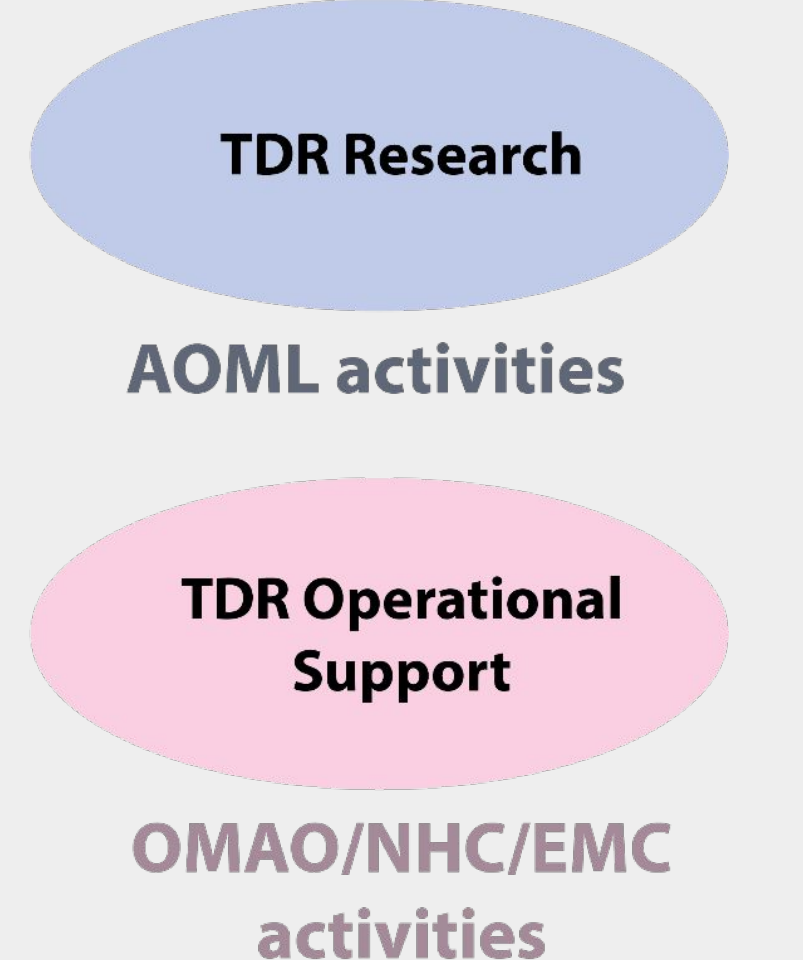…The tropical cyclone remains asymmetric, as **NOAA Tail Doppler Radar data show** the strongest winds and heaviest rainfall are generally confined to the northern and eastern semicircles of the storm…
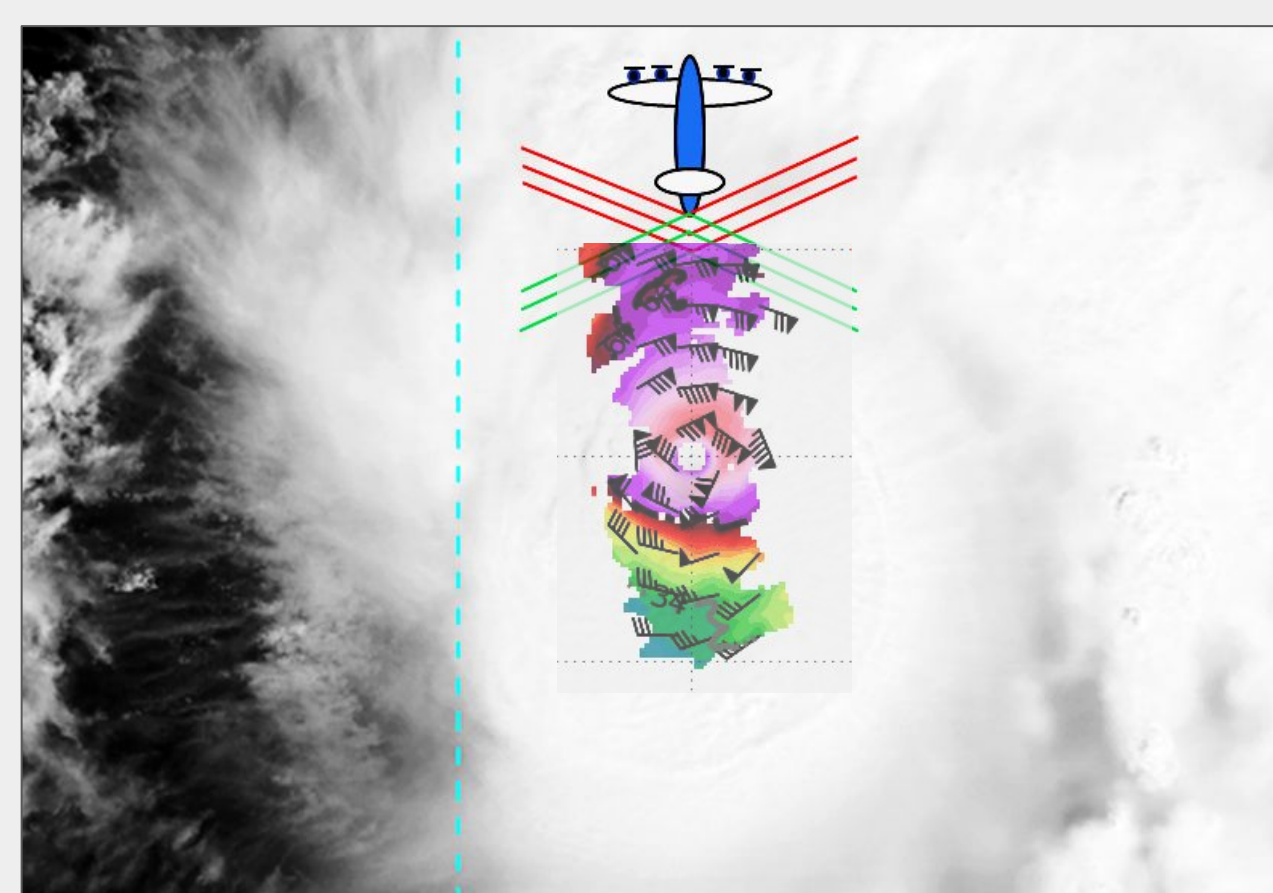
Transitioning TDR Support

Current Practice

TDR Research

TDR Operational Support

AOML activities

AOML developments support transition of NWS' hurricane reconnaissance operations

Desired Outcome

TDR Research

AOML activities

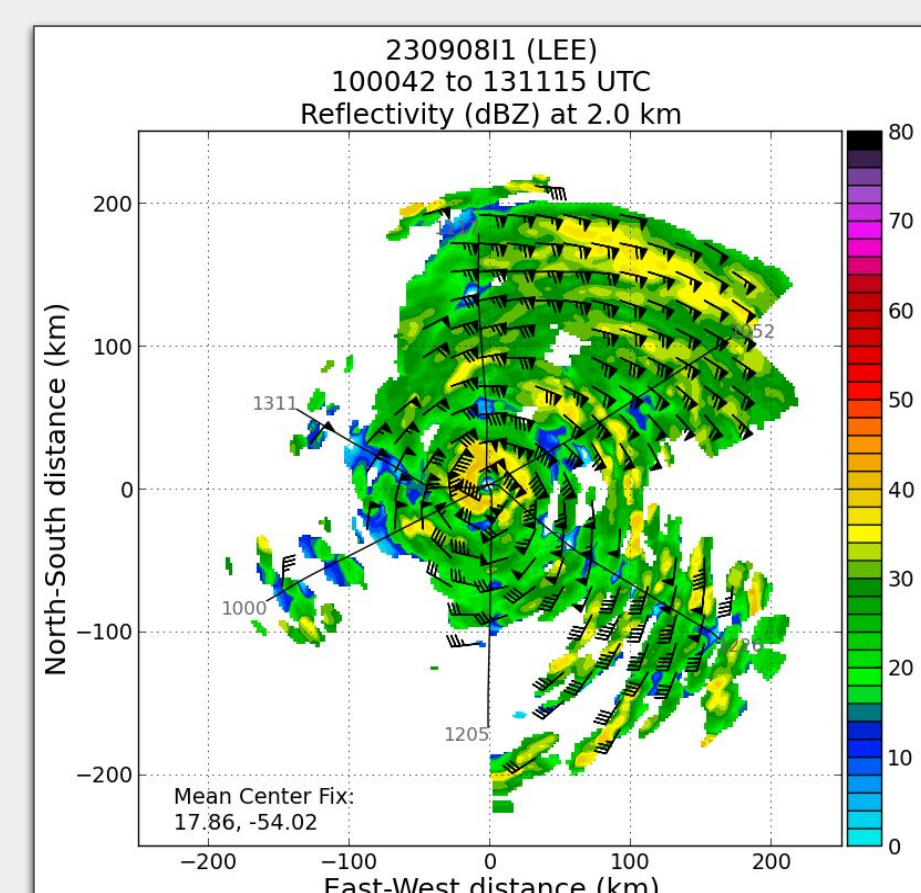TDR Operational Support

OMAO/NHC/EMC activities

- AOML guiding **support automation** & preparing **training**
- TDR support assumed by operational agencies next year to ensure **continued availability** of this important data

3D Winds

3D Winds Retrieved from TDR Scans

TDR Used to Reveal Storm Structure

TDR Support Numbers (2024)

5 — AOML staff (up to 4 flights/day)

191 — Analyses transmitted

358.5 — Support hours (~45 work days)

- **AOML developed the processing software** and has worked to maximize operational impact
- Real-time TDR products also **used for hurricane research**