

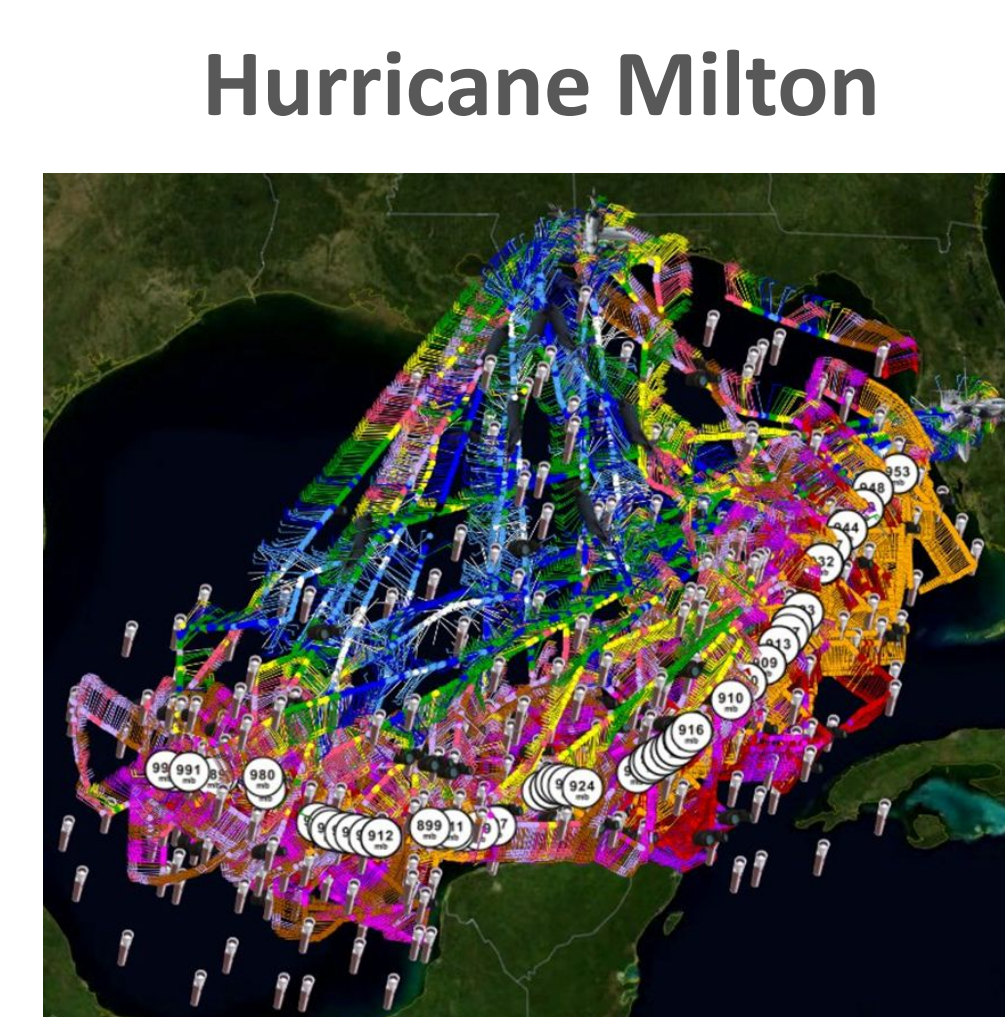
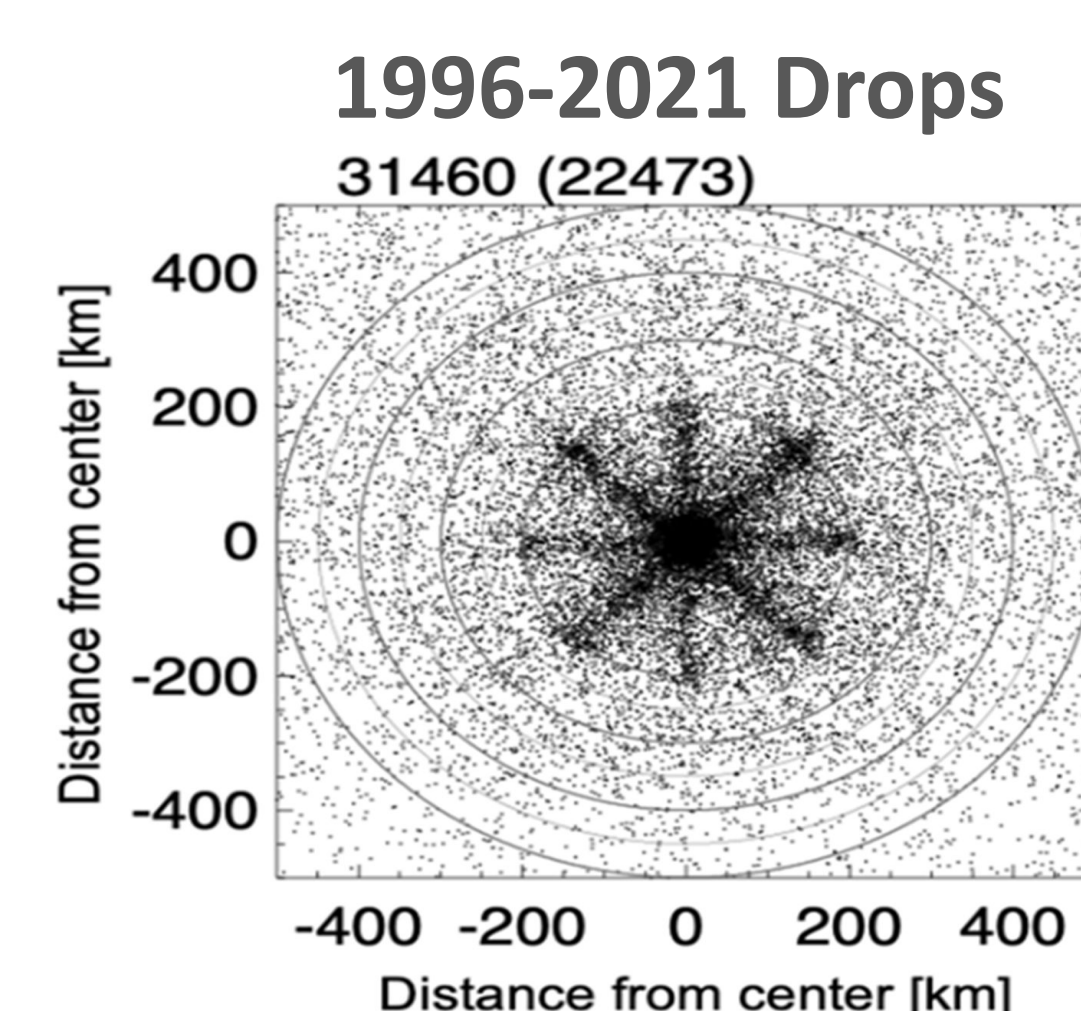
# Dropsonde Data in Tropical Cyclones

Sim Aberson (HRD) and Kathryn Sellwood (HRD/CIMAS)

Dropsondes report pressure, temperature, humidity and 3-dimensional wind velocity at 2-4 Hz.

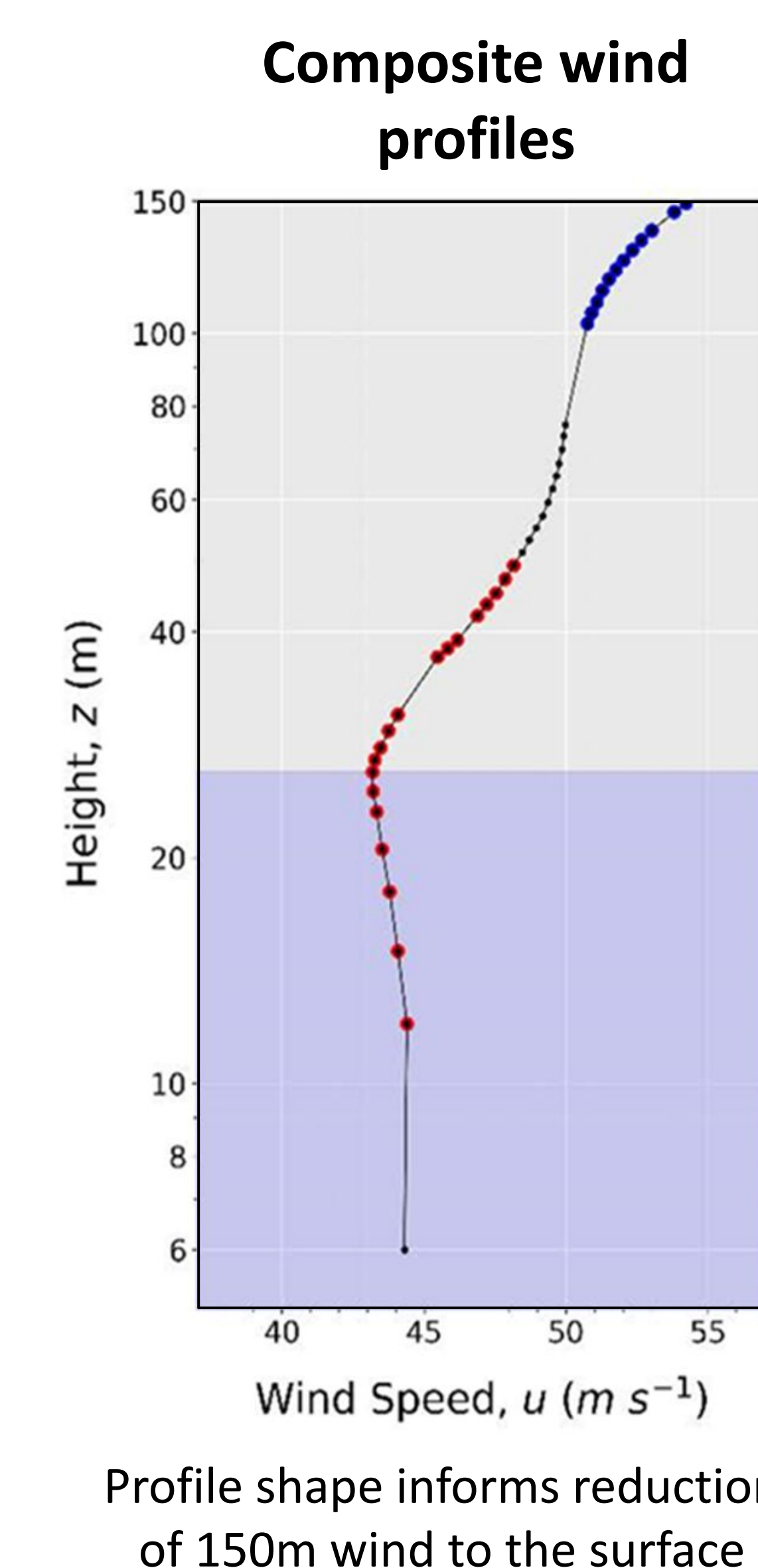
## Training and Data Archival

- Provide real time quality-control (QC) training
- Organize, update, and publish global sonde data
- Improve ASPEN QC software

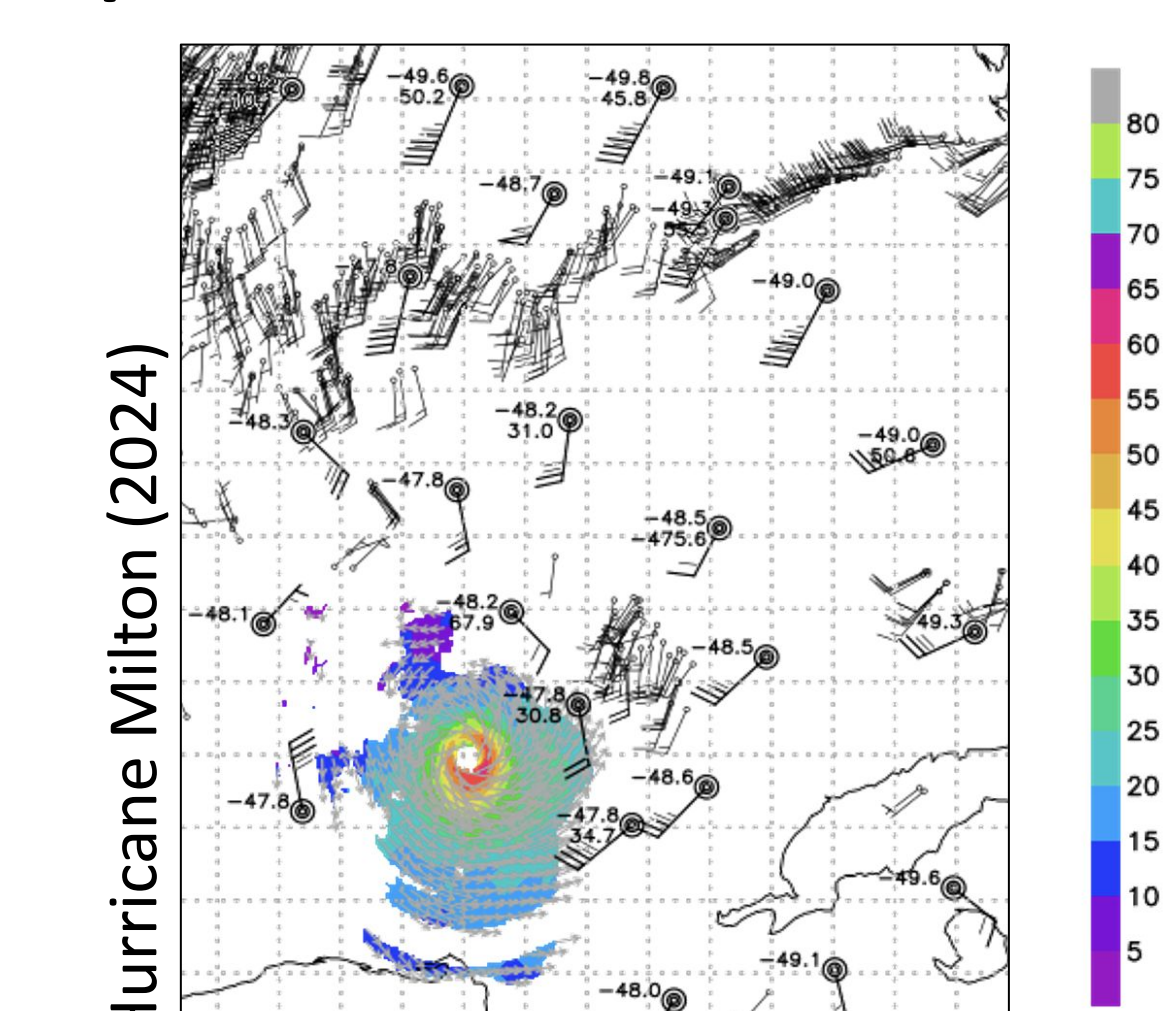


## Research

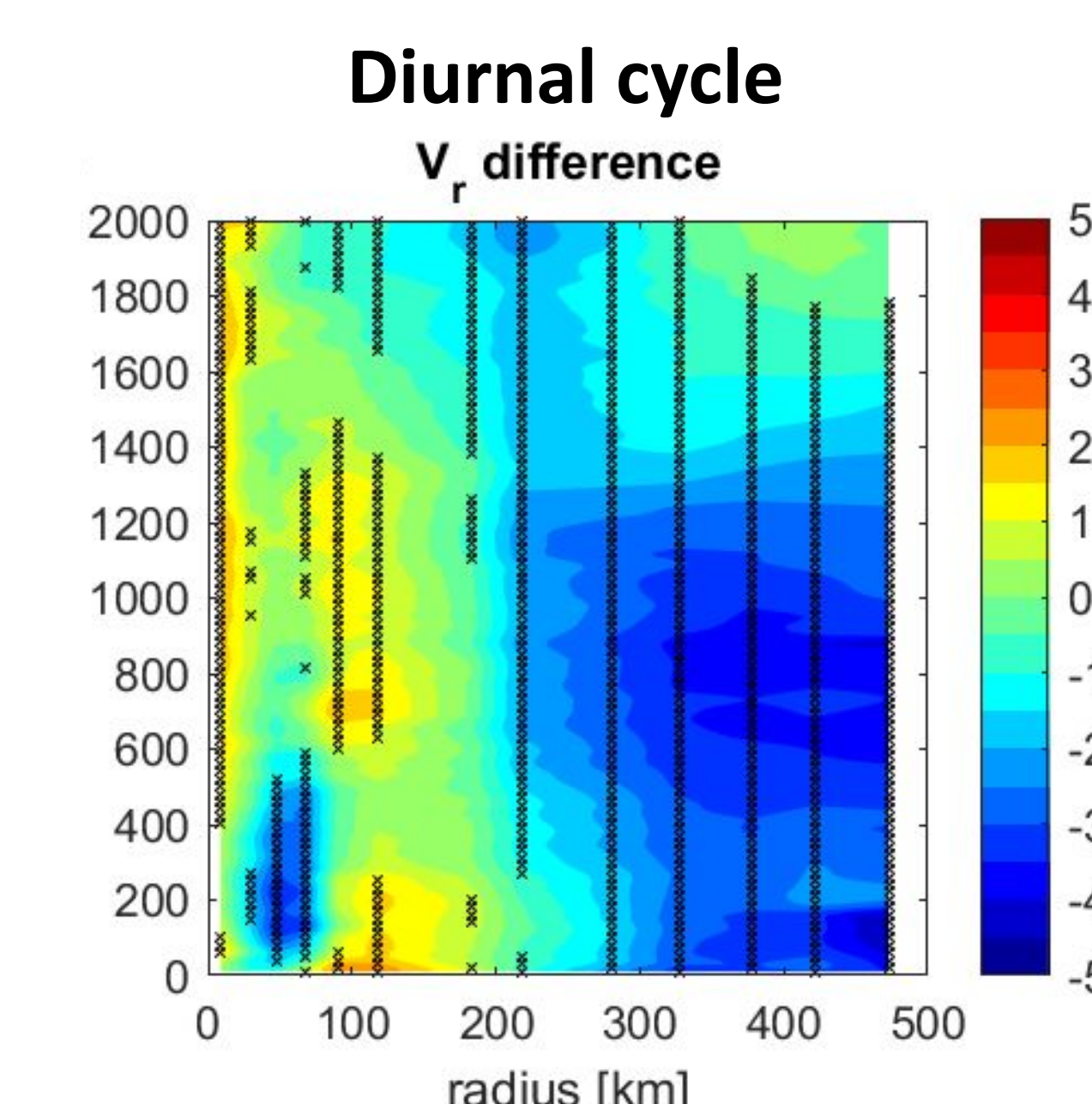
- Ground truth for new and remote observations
- Composite structures



Airborne Doppler Radar analyses, dropsonde data, + satellite winds



Prototype display for NHC



Diurnal variations contribute to intensity change

## Real-Time

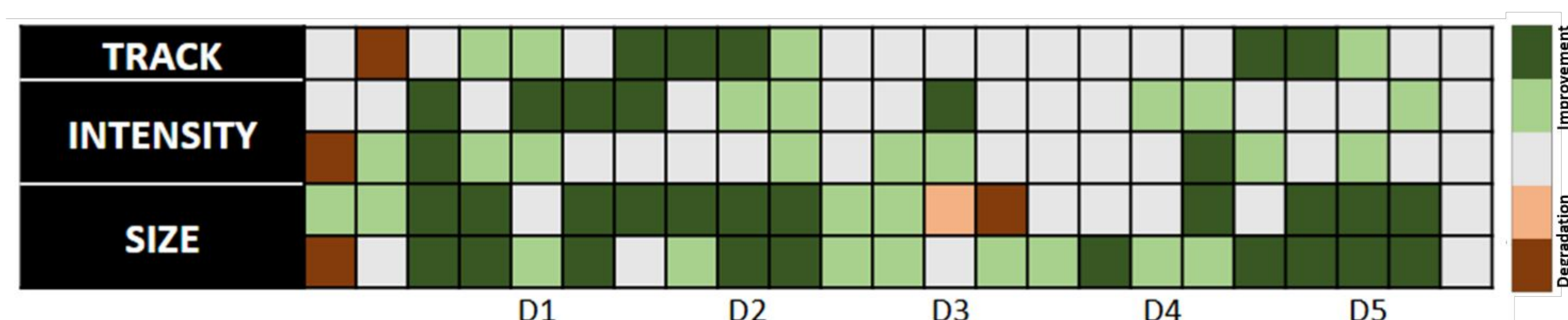
- Apply QC using ASPEN
- Ensure timely transmission
- Intensity estimation

NHC Forecast Advisory for Beryl: "The initial intensity will remain at 115kts for this advisory, given a couple of dropsonde observations in the NE quadrant of Beryl's inner eyewall"

## Improve Numerical Models

- Improving model physics
- Validating model fields
- Assimilating to improve forecasts

Dropsonde Impact in Basin-Scale HWRF



## Collaborations



## Future

- Visualization for NWS
- Automated QC
- "TC-DROPS" dataset
- New instruments

Skew-T Log P diagram  
"Dots" are current product  
Contour is proposed

