

# CSET Dropsonde Data Debrief



June 14, 2016

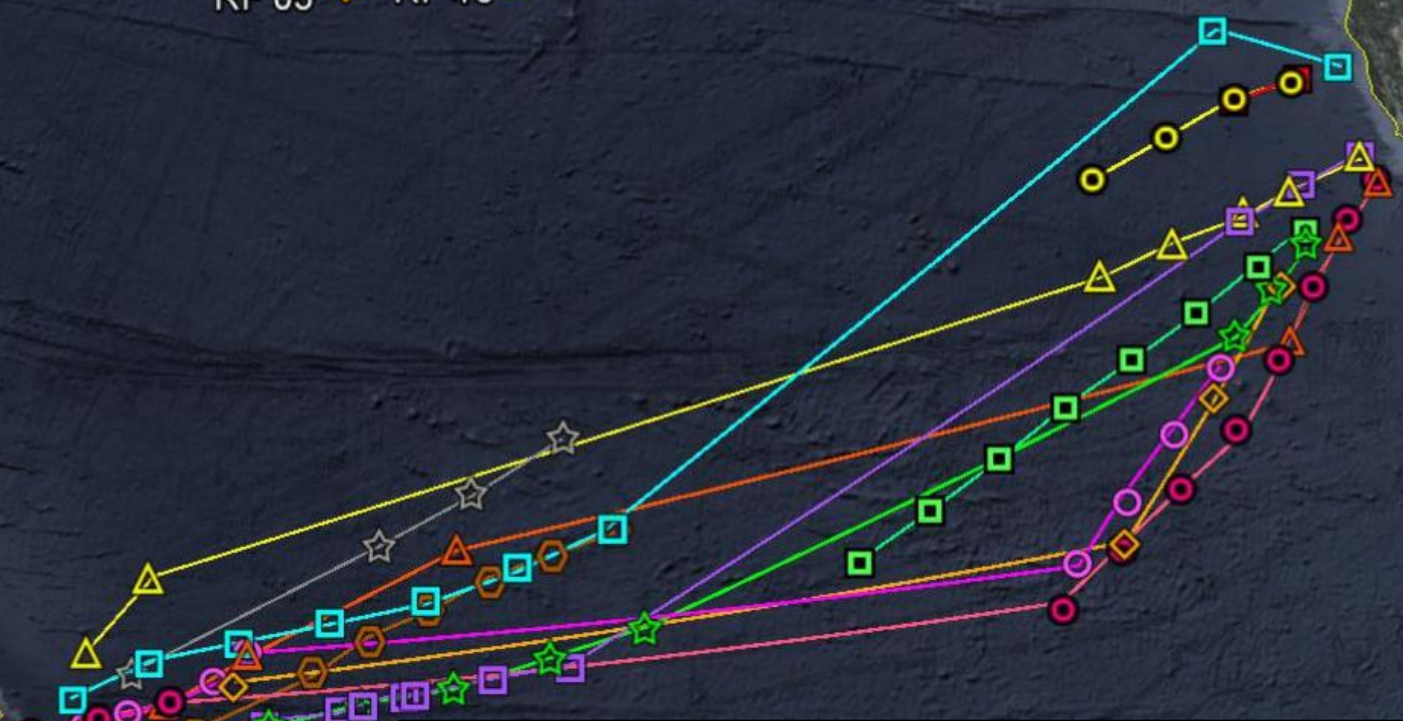
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National Science Foundation  
WHERE DISCOVERIES BEGIN



- |       |   |       |   |       |   |
|-------|---|-------|---|-------|---|
| RF 01 | ○ | RF 06 | □ | RF 11 | ■ |
| RF 02 | ■ | RF 07 | ○ | RF 12 | ☆ |
| RF 03 | △ | RF 08 | ◊ | RF 13 | △ |
| RF 04 | ☆ | RF 09 | ○ |       |   |
| RF 05 | ◇ | RF 10 | □ |       |   |

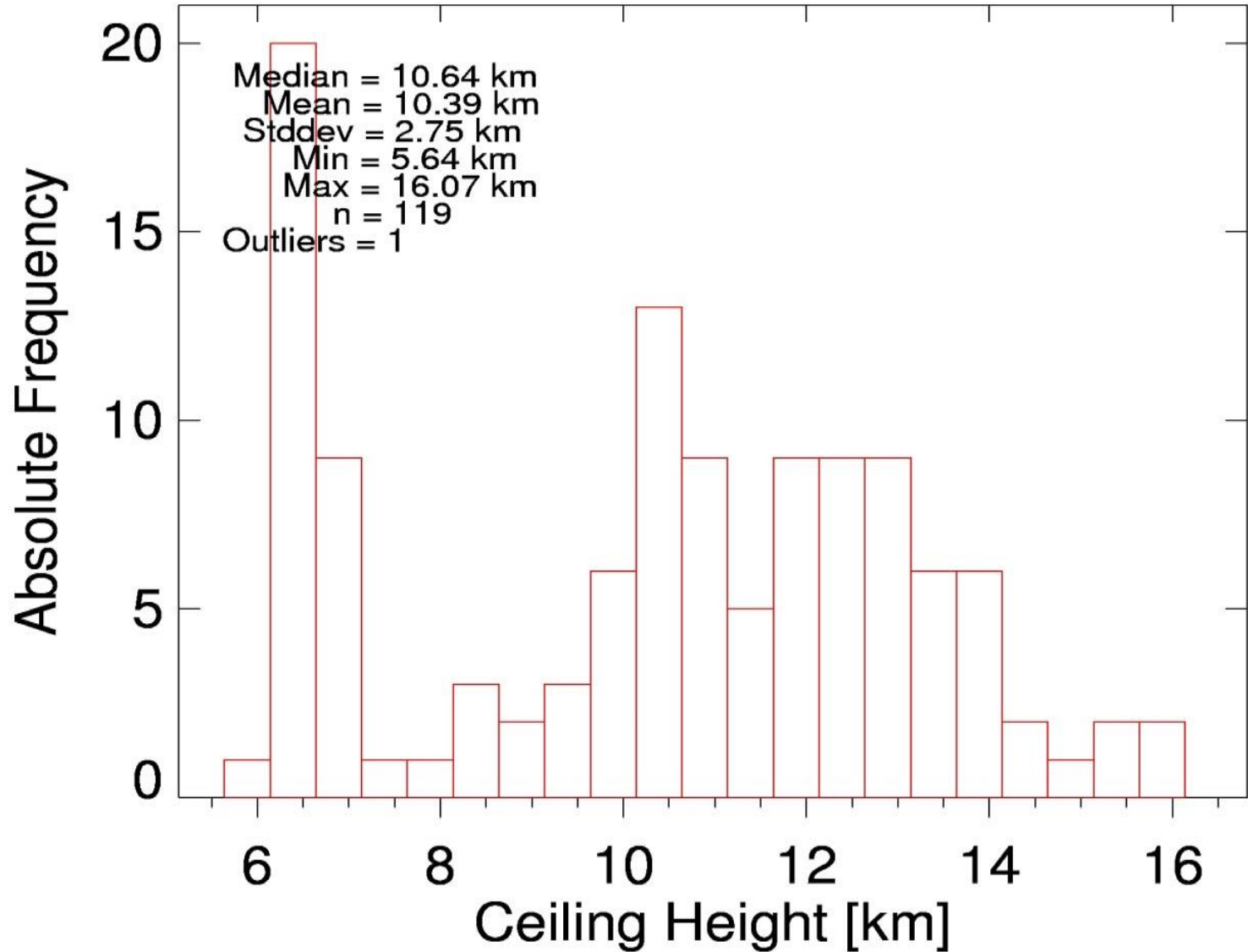


**CSET 13 research flights (7/1-8/12)**  
**NCAR/NSF GV aircraft**  
**120 Dropsonde Releases**

# Dropsondes Released/Flight

Flight (Date)	Sondes Released		Flight (Date)	Sondes Released
RF01 (7/1)	4		RF09 (7/24)	11
RF02 (7/7)	2		RF10 (7/27)	11
RF03 (7/9)	5		RF11 (7/29)	8
RF04 (7/12)	9		RF12 (8/1)	4
RF05 (7/14)	4		RF13 (8/3)	7
RF06 (7/17)	9		RF14 (8/7)	8
RF07 (7/19)	10		RF15 (8/9)	5
RF08 (7/22)	9		RF16 (8/12)	14

# CSET Dropsonde Release Altitudes



# Quality Control Procedures

1. Evaluate near-real time data (during campaign)
2. Examined raw data profiles
3. Categorized according to data quality issues
  - Fast falls
  - Launch detect errors (IDL noted distance traveled)
  - No launch
  - Sensor biases
4. Data QC Process Steps
  - Pressure Correction
  - **RH correction for temperature dependency**
  - Check for duplicate sonde ID's
  - ASPEN Batch Processing (Sensor time constant, height calculation, removal outliers)
5. Evaluate individual QC profile (Sanity Check)

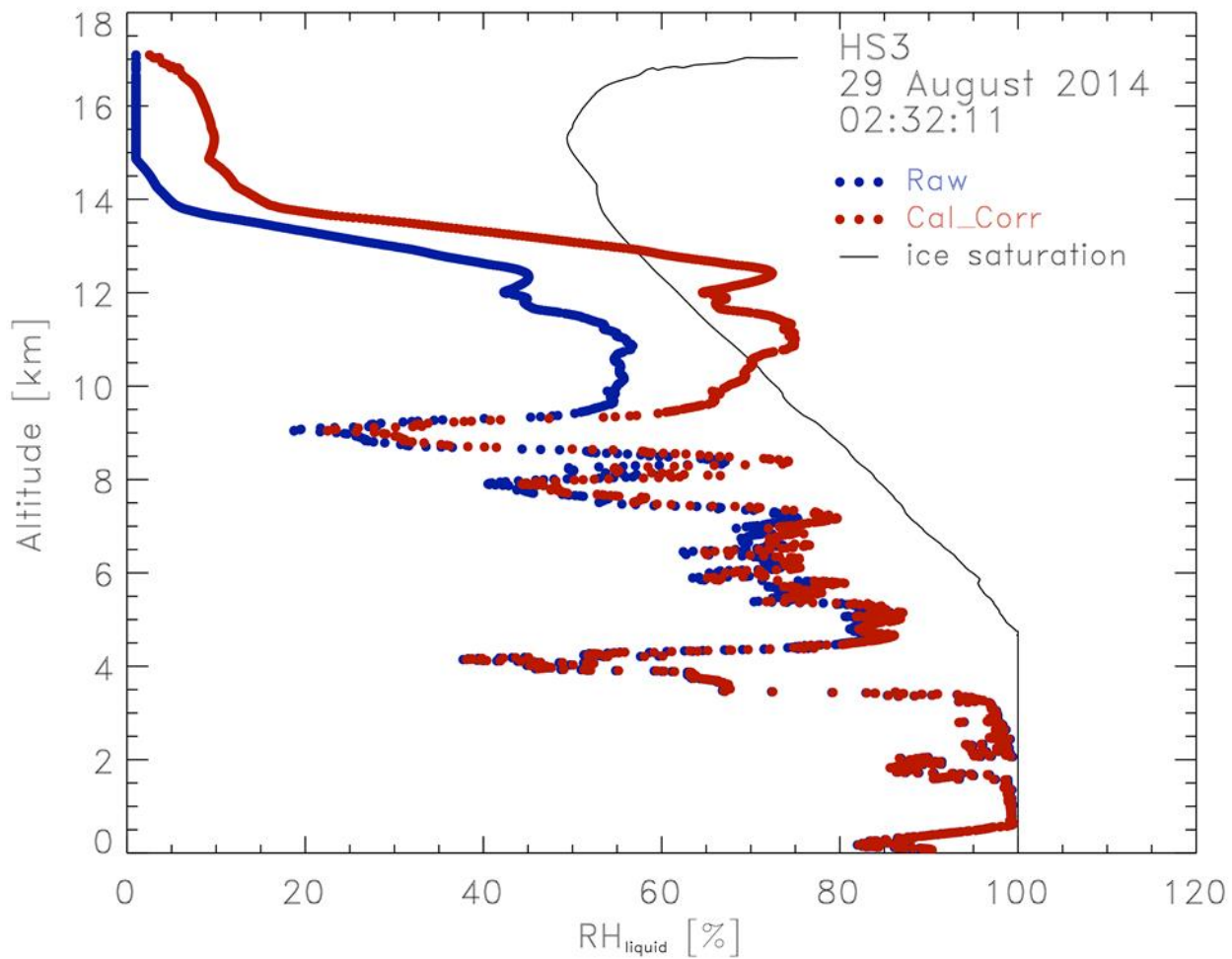
# Dropsonde Statistics

- 120 QC soundings contained in the final data archive.
- 100% transmitted data to surface
- 3 fast falls
- Two warm T bias
  - One complete : T profile removed (set to missing value)
  - One partial : changed values to missing above ~610 mb

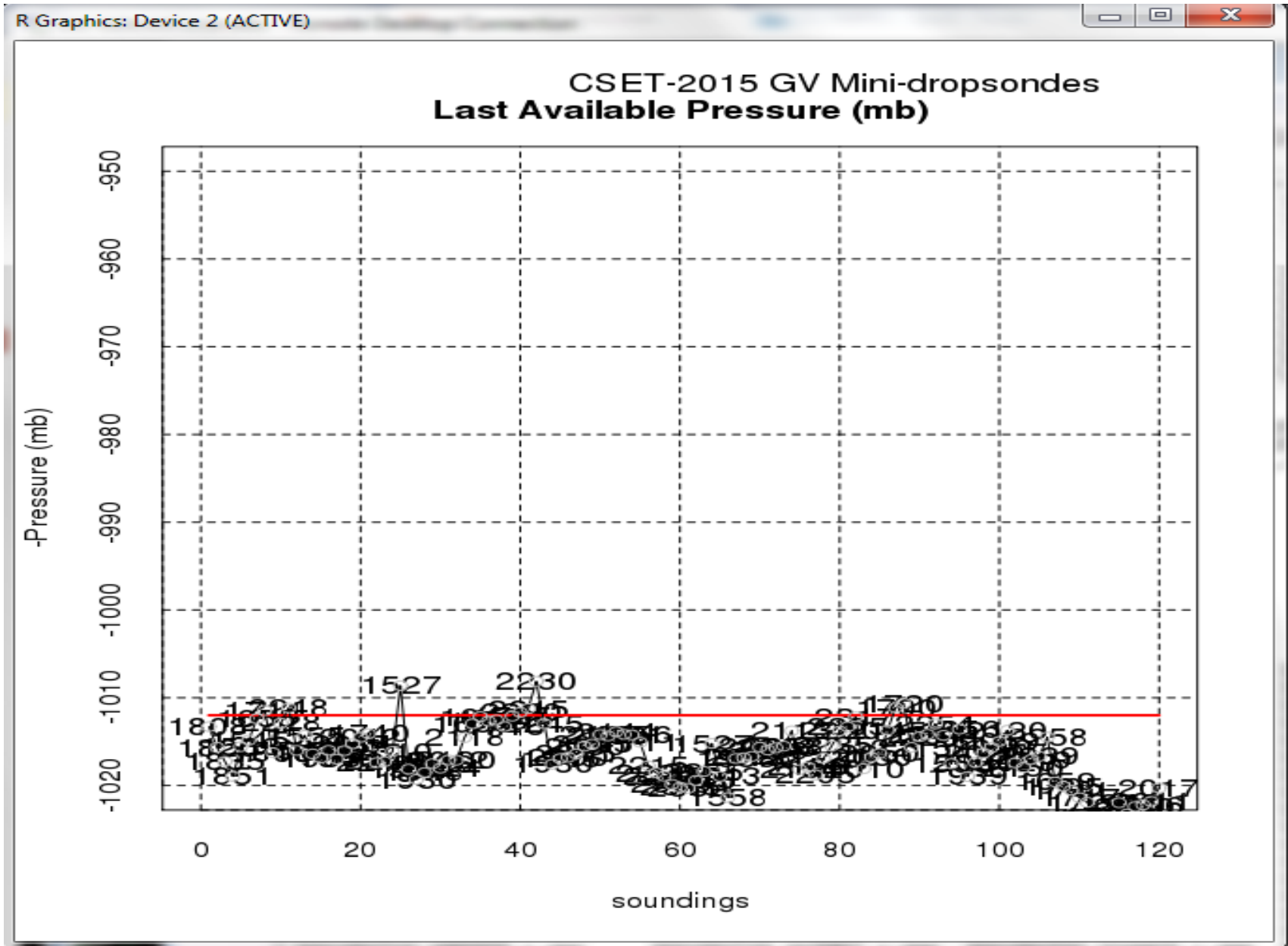




# Impact of temperature dependent correction



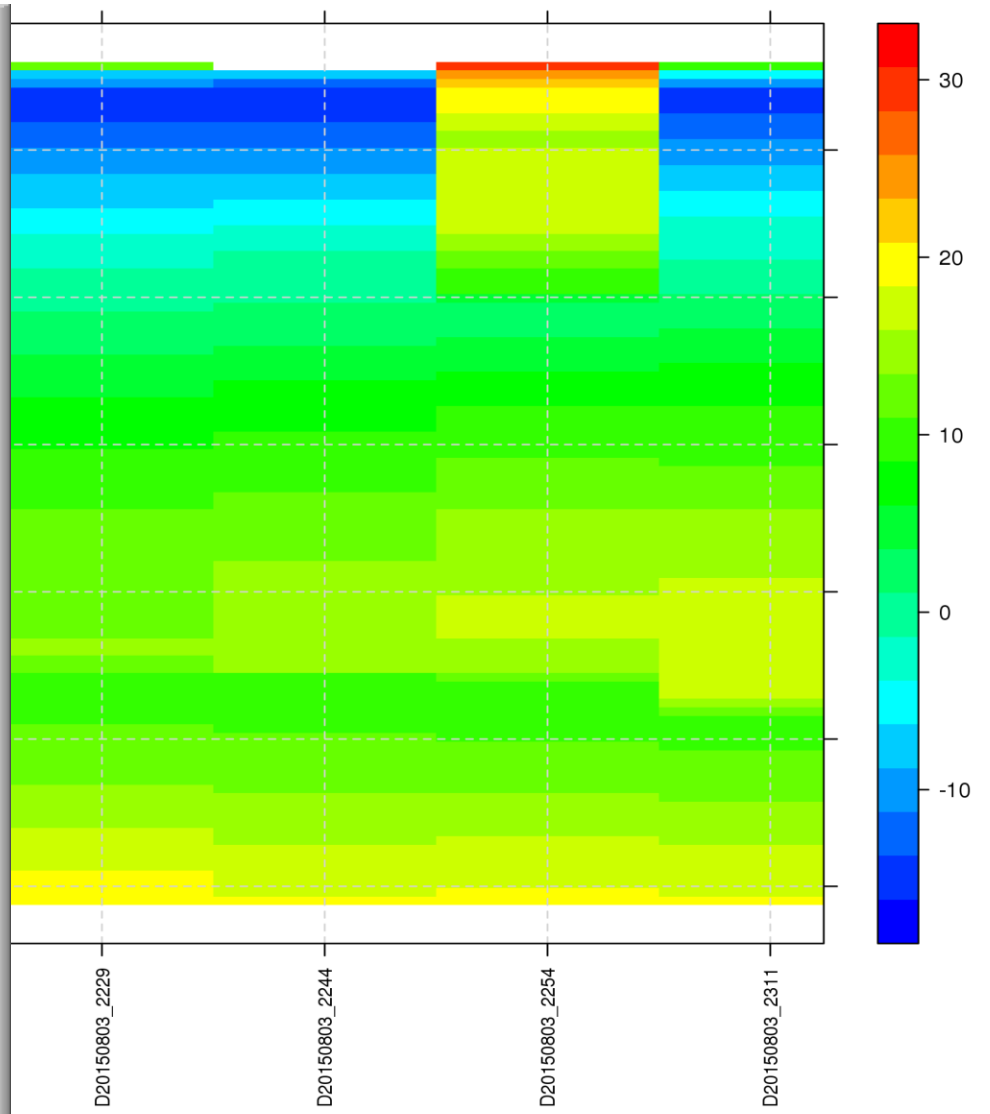
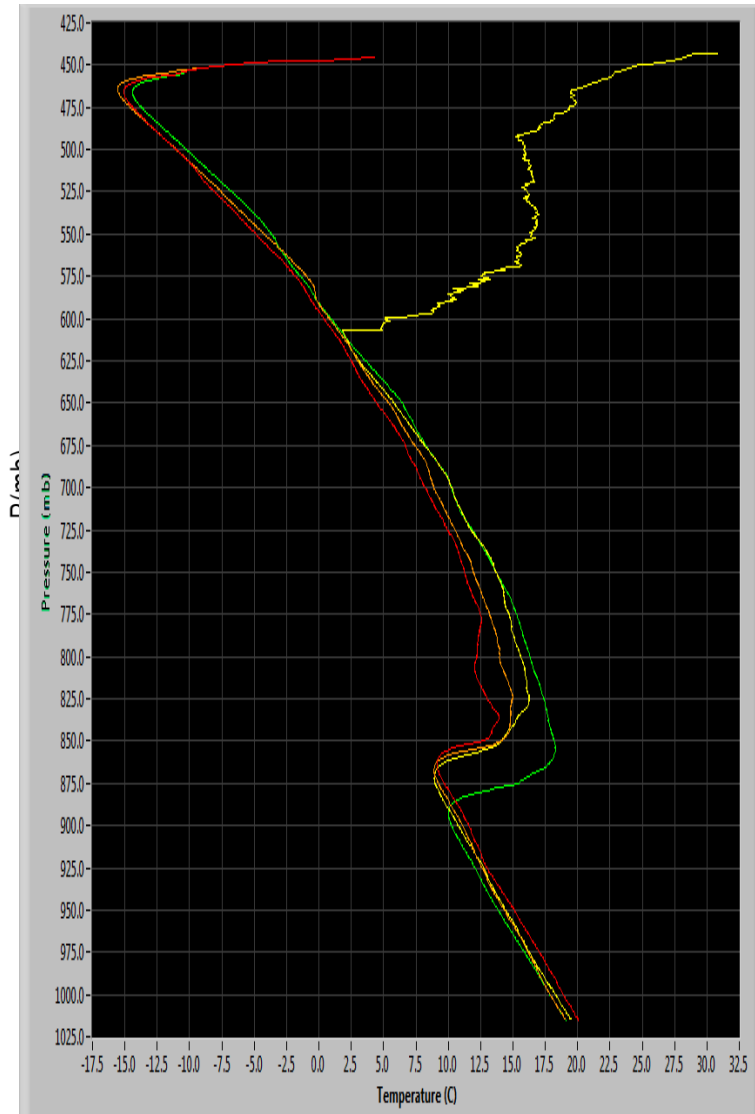
# Sondes to Surface





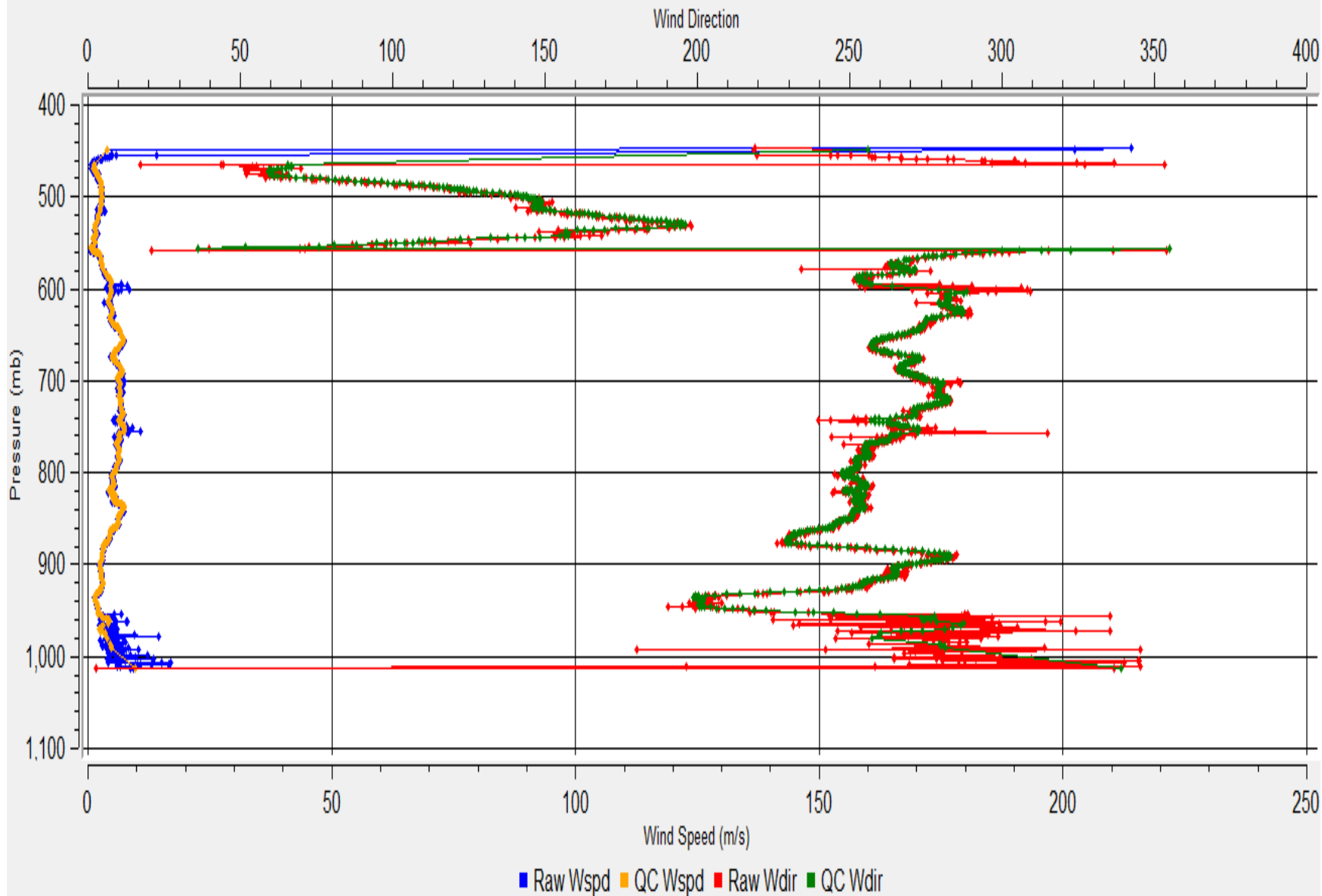
# RF13

T(degC), 7 soundings



# Noisy Sureface Winds

D20150719\_220048\_i.dat 150735054 CSET, Gulfstream V, N677F



# CSET Dropsonde Summary



- 120 dropsondes released
- 115 dropsondes with good data (no issues)
- 5 Dropsondes with issues (fast falls & T sensor)
- AVAPS Operators on the ground – Successful remote control Operations!!
- CSET 1<sup>ST</sup> Field campaign of dropsonde remote operations on the G-V