

# Dropsonde DEEPWAVE EOL/PI/NSF Campaign Debrief



November 10, 2014  
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# DEEPWAVE Dropsonde Summary

- 279 dropsondes deployed + 4 engineering drops on RF01
  - Engineering tests sondes were released on ferry flights, a great opportunity for testing new dropsondes concepts
- Sondes dropped on flights RF02 to RF26, except RF15 which was a inter-comparison flight with DLR Falcon
- Median of 11 sondes dropped per flight
- 67 sondes (24%) dropped over land
- Sonde issues
  - 1 sounding with no PTH data, winds only
  - 3 drops (~1.5%) were fast falls
- Preliminary sounding success rate: 98.5% (275 of 279)
- 1 flight with remote control from ground, no dropsonde operator on G-V
- Student effort of putting Temp message data onto GTS with ASPEN quasi real-time worked well
  - EOL staff training was effective in the field by Kate Yong an associate scientist
- RF02 had launcher issues, did impact some planned releases
  - Issue was minimized by adding heater blankets and flying below 40,000 ft to keep baggage door open to keep warm
  - We had a tech and eng scheduled for the start of the program for any issues to insure project success, which unfortunately was needed
  - Launcher issue is currently under engineering analysis



# Dropsonde Lessons learned

- EOL follow up and monitor shipment status of dropsondes
- Learned of new shipping rules for expedite shipment of dropsondes in small quantities
- ASPEN training of students on site was critical and needed for computer setup/configurations
  - Future field programs to consider virtual machine to log into for ASPEN processing using remote desktop
- Even though AVAPS can be operated from the ground which did occur on 1 flight for 2 sondes, overland drops require operator on G-V for good coordination with pilots & to insure precise release at pre-defined drop locations
- No issues with post data QC processing
- One drop overland was recovered as all sondes were labeled explaining return process

