HDSS XDD Quality Control

Michael Bell
John Molinari
Dave Vollaro
Lee Harrison

Issues with raw dropsonde data

- Equilibrium adjustment from aircraft
- Data dropouts
- Noise
- Sensor response (time constant)
- Sensor failure
- Spikes in the data

Proposed QC Processing Levels

- Level 0 : Raw binary sensor output
  - Processed via SQZ software to produce Level 1
- Level 1 : Minimally processed sounding (real-time)
  - GPS positions and altitudes processed with G-H filter
  - PTH processed using ASPEN basic package: equilibrium check, outlier check, buddy check, filter check (10-sec), low-pass filter (5-sec default, could be adjusted)
- Level 2: Final QC post-processing
  - Accelerate RH to account for sensor lag (not T)
  - Reprocess telemetry if needed
  - Manual inspection and verification

Real-time processing

- Propose further evaluation of data quality during the season before sending to GTS
- Automatic pipeline to produce Level 1 “quick-look” products
  - http://www.atmos.albany.edu/facstaff/vollaro/ONR/quicklook.html
    - User: TCIsondes Password: Gonzalo
  - Propose Level 1 data files available on password-protected FTP or HTTP site ASAP (host TBD)
  - Level 2 products available later (1-2 months?)