Call notes, 6/30/15

Participants: J. Moskaitis, J. Feldmeier, M. Bell, M. Beaubien, L. Harrison, G. Tripoli, J. Molinari, R. Ferek, A. Reinecke, P. Black, N. Laudier, B. McNoldy, S. Williams, B. Creasey, W. Komaromi, plenty more that I missed.

Upcoming Events:

- July 10 @ 1300 EDT: PATs training
- July 14: Deadline for completion of shakedown flight plan
- July 22: Shakedown flight

Reminders:

- If you are planning on going to Ellington for shakedown flight, please confirm travel details with Natalie Laudier to make sure badging is squared away
- Review ops plan draft; send input/suggestions to Natalie Laudier
- EOL catalog will be up and running next week; check it out!
- If you missed the MTS training today, there will be another opportunity in conjunction with SHOUT

6/24 Test flight HDSS results:

<u>Michael Bell: Comparison of HDSS sondes (XDD) and Air Force sondes (RD-94)</u>

- Air Force sondes only go up to ~400 mb, but co-location in space and time is good w.r.t. the HDSS sondes launched from the WB-57
- Statistical comparison considers HDSS and Air Force sonde data with similar GPS heights
- HDSS sondes capture larger-scale vertical features in moisture, but RH sensor is too slow to see the details observed by the Air Force sondes
- HDSS streamer sonde has positive bias (~4 mb) in pressure w.r.t. Air Force sondes, but the 2 HDSS fast-fall sondes do not. It appears that the pressure sensed by the streamer sonde is suspect, rather than the GPS height. It is unclear if the issue is in some way caused by the streamer.
- The biases in u, v, T, and Td w.r.t. Air Force sondes are small for both the HDSS streamer sonde and the 2 HDSS fast-fall sondes. For u, v, and T, the bias is slightly larger in magnitude for the streamer sonde relative to the 2 fast-fall sondes.
- For the HDSS streamer sonde, pressure-based vertical velocity and GPS-based vertical velocity often do not agree sufficiently to pass QC, so ASPEN throws out most wind obs.

<u>Jon Moskaitis: Comparison of HDSS sondes (XDD) and KCRP radiosonde</u>

- Radiosonde provides data for entire depth of HDSS sonde profile, but co-location in space and time with HDSS sondes is not so good
- Plots compare data from HDSS streamer sonde and 1 HDSS fast-fall sonde to radiosonde
- Similar pressure bias apparent for HDSS w.r.t. radiosonde as for HDSS w.r.t. Air Force sondes
- Relative humidity profile much smoother for HDSS sonde than for radiosonde.

<u>Lee Harrison: Analysis of HDSS sonde telemetry data</u>

- Bit errors per record as a function of seconds into sounding for 3 HDSS soundings

- Noise is not completely random, but appears to occur in bursts. The burst nature of the noise could be a clue about its origin.
- All the way down to the surface, some packets have no bit errors.
- Noise would increase in heavy rain due to signal attenuation
- The receiver set-up on the WB-57 for the test flight was not ideal, so there is perhaps room for improvement

TC Naming conventions: How best to name/ingest/display storm-specific products into the field catalog remains an action item. Discuss with Greg S. when he returns from travel.

HDSS update: Yankee team is working on modifications to ensure sondes fall in fast-mode, primary approach is to remove material from back of sonde to move center of gravity forward. Streamer sonde is not thought to be the most promising way forward. Also looking at "mode hopping" in fast-fall sondes. Testing with drops from 1000 ft. Ron and Joel will look into options for Yankee to test ~10 sondes piggybacking on a CIRPAS or DC-8 flight.