

DISCOVER-AQ HSRL Data Summary

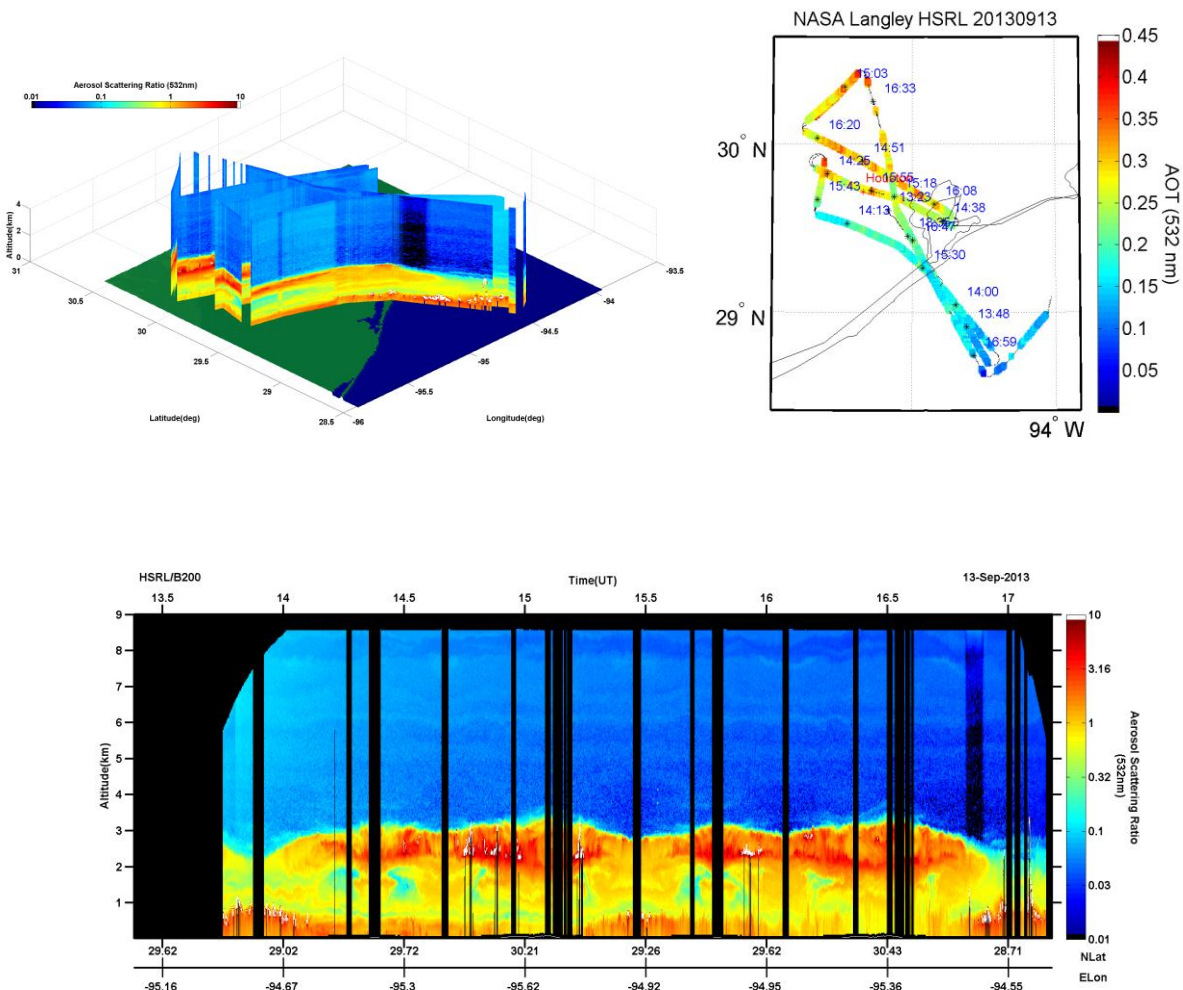
FLIGHT: Morning science flight (1 of 2)

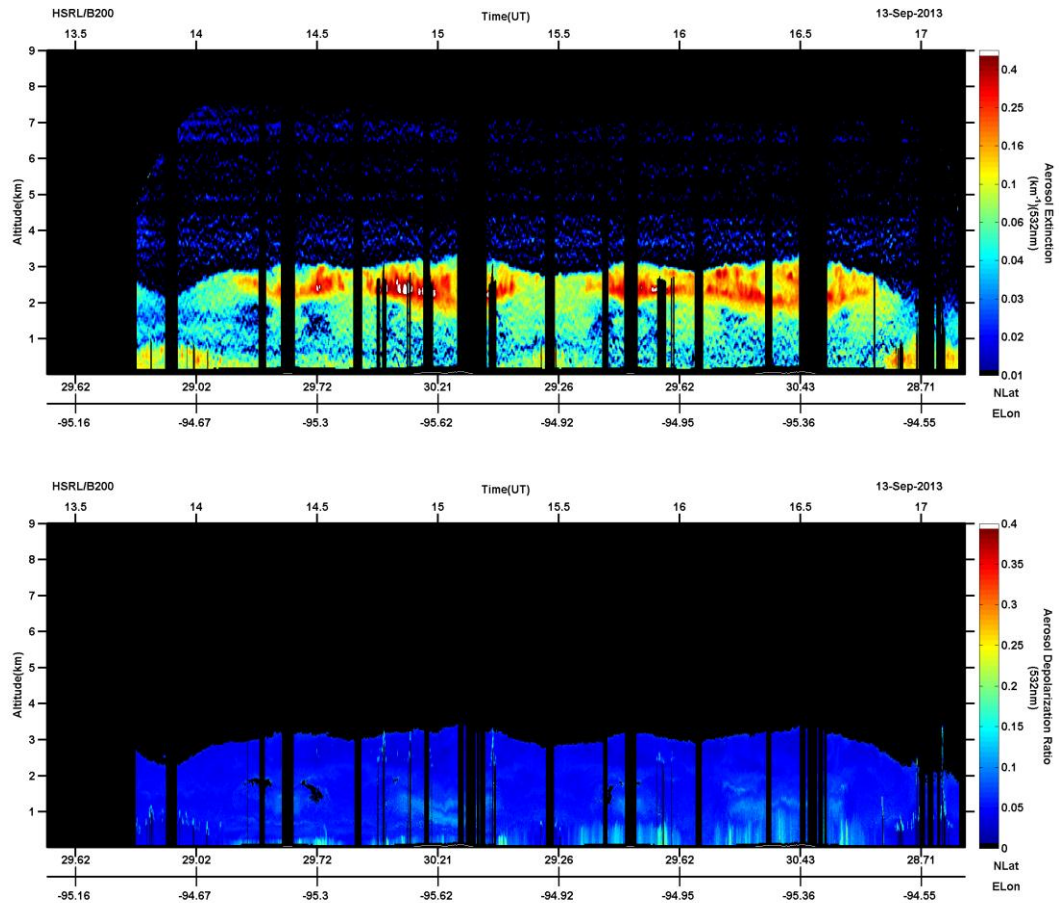
DATE: September 13, 2013

DURATION: 4.0 hours, 13:30 to 17:31 UTC

SUMMARY:

Today was relatively cloud free. HSRL-2 observations were dominated by a smoke layer between 6000 and 10,000 ft. The smoke layer had the greatest scattering in the northern part of the flight pattern, near Conroe, but was present throughout most parts of the pattern over land. Over Sugarland and Moody Tower, there was a noticeable aerosol-free region at 4000-6000 ft between the bottom of the smoke layer and the top of the boundary layer. HSRL-2 also saw some depolarization (from non-spherical particles) in the residual layer between 4000-6000 ft remaining from yesterday. Localized regions of non-spherical particles with stronger depolarization are also visible in the boundary layer. Summary plots are shown below for flight 1.





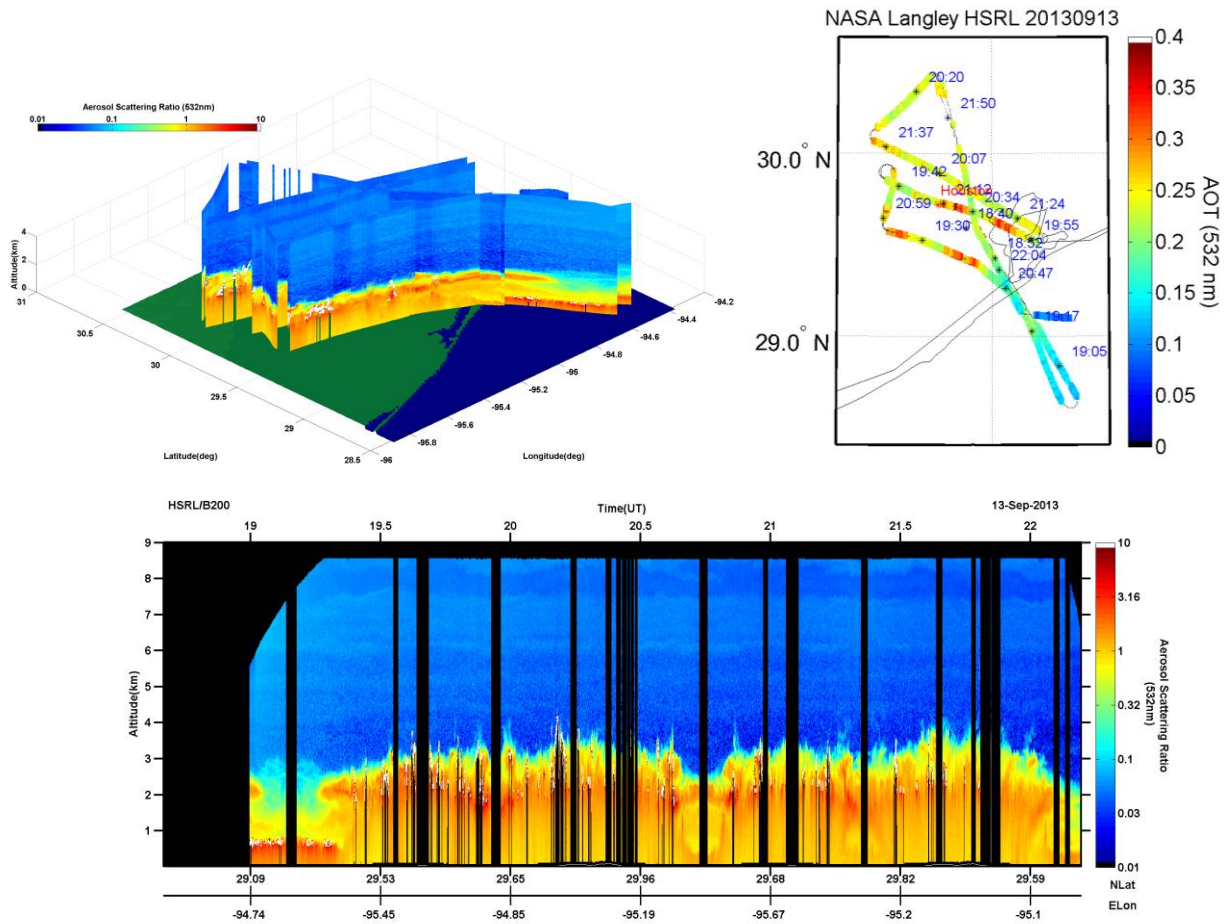
Operator Flight Notes, Flight # 1:

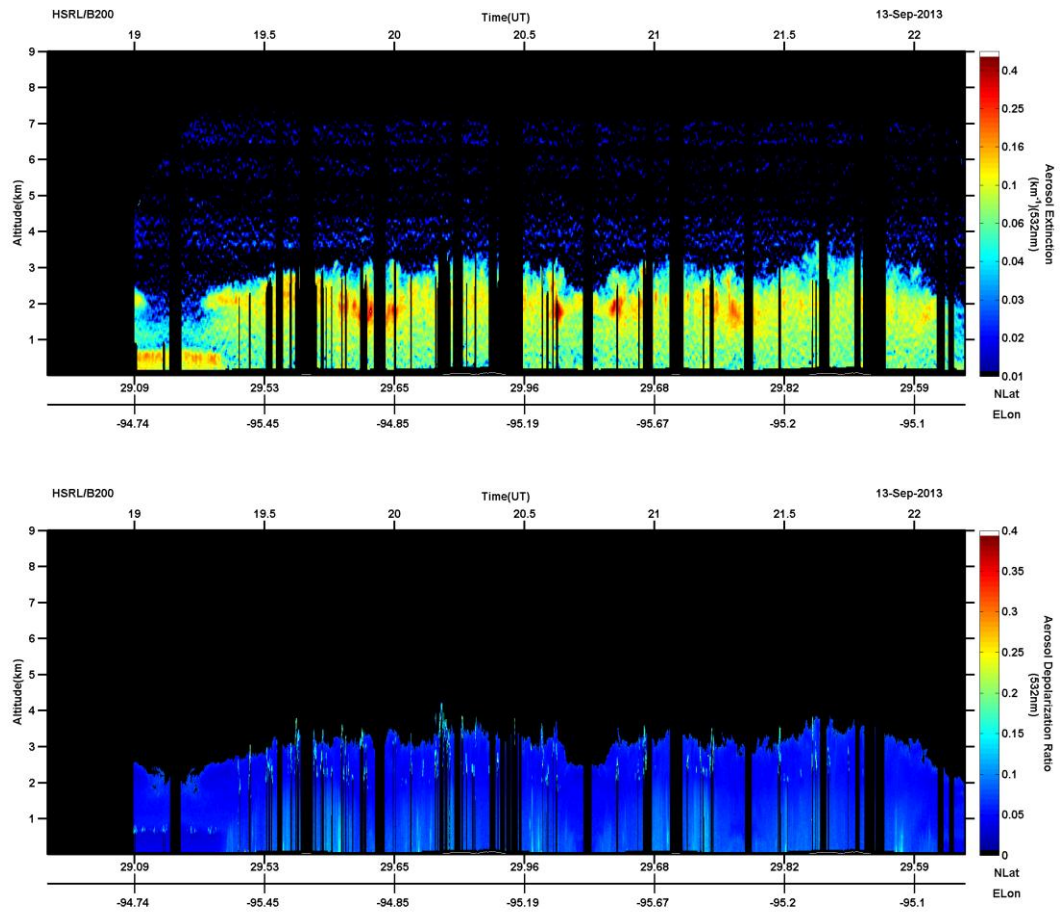
- Making some adjustments to INF 1409UTC
- Tuning INF at 1429 UTC
- Tuning INF at 1451 UTC
- OAC, PGR, I2 Cals at 1507 UTC
- INF tuning 1623 UTC
- OAC, PGR, I2 Cals at 1631 UTC
- Practice boresite test at 1648, started new file
- IGR cal 16:59 UTC

FLIGHT: Afternoon science flight (2 of 2)
DATE: September 13, 2013
DURATION: 3.8 hours, 18:45 to 22:31 UTC

SUMMARY:

In the afternoon flight, HSRL-2 observed that this morning's smoke layer aloft has merged with the rising boundary layer. There is much less stratification and both the smoke from this morning's upper layer and the non-spherical particles from this morning's lower layer have been vertically mixed. Summary plots for flight #2 are shown below.





Operator Flight Notes, Flight # 2:

- INF tuning at 1950 UTC
- OAC, PGR, I2 calcs at 2023 UTC
- Tuning INF at 2036 UTC
- Tuning INF at 2123 UTC
- OAC, PGR, I2 calcs at 2148 UTC
- Tuning INF at 2153 UTC
- INF IGR cal at 2205