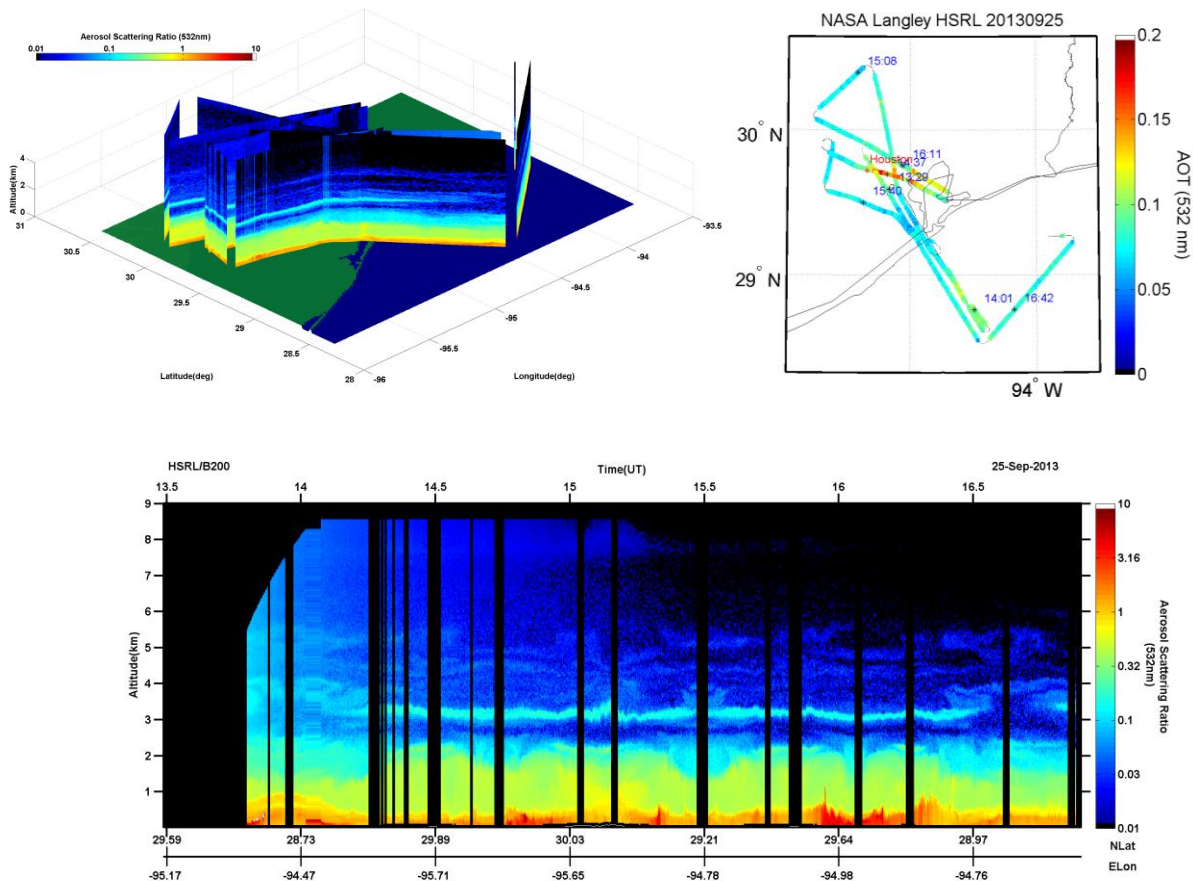


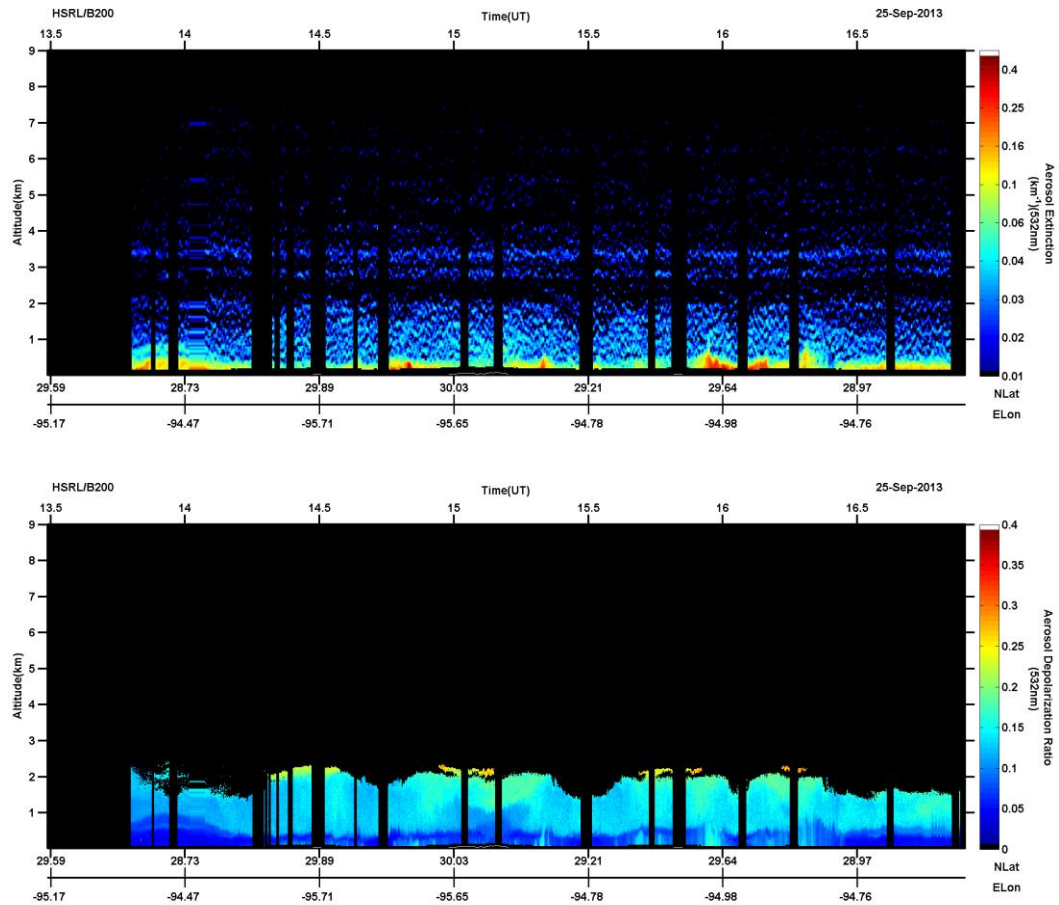
DISCOVER-AQ HSRL Data Summary

FLIGHT: Morning science flight (1 of 2)
DATE: September 25, 2013

SUMMARY:

There were very good conditions for aerosol observations by HSRL-2 this morning. There were no clouds. Although aerosol optical depth was generally very low, 0.07-0.08, with very low layer depths, a spike in both scattering and depolarization was significant near Channelview on the first loop and also near Moody Tower, Deer Park, and Smith Point on the 2nd loop. Maximum AOD was approximately 0.16 in the morning flight. The residual layer also showed significant depolarization. A persistent upper layer at 3 km throughout most of the flight pattern was at the limit of our signal.





Operator Flight Notes, Flight # 1

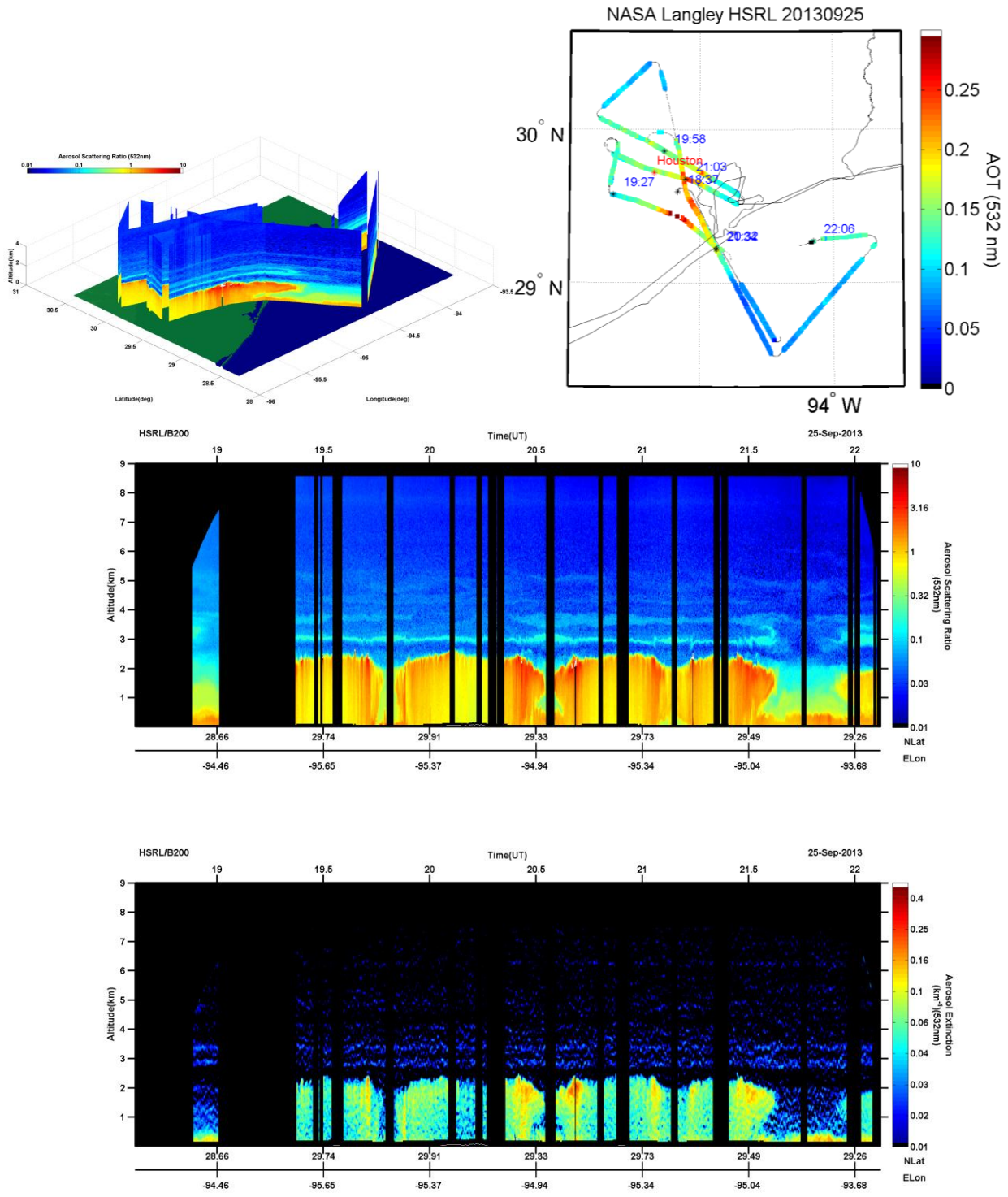
- OAC, PGR started at 1415 UTC
- I2 cal at 1420 UTC
- Possible ag fire on offset away on left side of plane (to the east), see smoke, Kurt took some photos 1511 UTC
- Enhanced aerosol at surface near channel view 1520, saw something similar earlier at this location
- Surface fire to the east side about 10 miles NE of Bush airport at 1546, obtained pilot photo, narrow plume stretches towards galveston bay
- Another surface aerosol hot spot in data 1557 UTC
- INF IGR cal started at 1653 UTC

FLIGHT: Afternoon science flight (2 of 2)

DATE: September 25, 2013

SUMMARY:

On the afternoon flight, a problem with the UV amplifier caused a delay in taking HSRL-2 data, but an instrument restart was fully successful. The aerosol measurements showed the aerosol layers becoming vertically mixed, compared to this morning, and increases in AOD. Peak AOD values were approximately 0.25. The region of peak aerosol values spread horizontally, especially to the region west of Galveston Bay and south of Ellington.



Operator Flight Notes, Flight # 2:

- UV amplifier problem, rest of system appears okay
- FOD doors opened at 18000 ft
- Data start delayed due need to address UV amplifier issue, system successfully restarted
- Restart of normal operations occurred after first point
- INF alignment issue being worked on at 1936 to 1942 UTC, prior to this time it was misaligned
- OAC, PGR, I2 calcs started at 2016 UTC
- Current leg sun perp to flight path, next leg sun direct behind 2141 UTC
- INF IGR cal at 2157 UTC