

Flight Report: DISCOVER-AQ Science Flight #3

From: KEFD To: KEFD

Start: 09/11/13 13:49 Z Finish: 09/11/13 22:03 Z

Flight Time: 8.2 hours

Log Number: 13P201 PI: James Crawford

Funding Source: Hal Maring - NASA - SMD Radiation Science Program

Official report logged at:

[http://airbornescience.nasa.gov/flight\\_reports/P-3\\_Orion\\_09\\_11\\_13](http://airbornescience.nasa.gov/flight_reports/P-3_Orion_09_11_13)

Flight	Date	Duration	Cumulative Hours	DISCOVER-AQ Hours remaining
<i>Total Allocated</i>				100
ECF	8/27/13	2.3	2.3	97.7
PCF	8/28/13	2.1	4.4	95.6
Transit	9/2/13	3.9	8.3	91.7
Science Flight - 1	9/4/13	8.0	16.3	83.7
Science Flight - 2	9/6/13	7.9	24.2	75.8
Science Flight - 3	9/11/13	8.2	32.4	67.6

Comments: This was the third science flight for DISCOVER-AQ and the first flight to successfully complete all 24 spirals over 8 ground sites in the Houston metropolitan area. This was partly due to the fact that ascents to altitudes of 10,000 to 12,000 feet were sufficient to reach the top of the aerosol layer that has been much deeper than the gas phase enhancements in the lower atmosphere thus far in the campaign. It was also the first flight to observe ozone in excess of 80 ppbv in the lower atmosphere over the region. The ozone enhancement was observed up to 2 km over the West Houston site during the third circuit and provided a stark contrast to ozone levels more typically 60 ppbv or less across the rest of the sampling domain.