

Flight Report: DISCOVER-AQ Science Flight #6

From: KEFD To: KEFD

Start: 09/14/13 12:51 Z Finish: 09/14/13 20:50 Z

Flight Time: 8.0 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_14_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
Science Flight - 4	9/12/13	8.0	40.4	59.6
Science Flight - 5	9/13/13	7.9	48.3	51.7
Science Flight - 6	9/14/13	8.0	56.3	43.7

Comments: This was the sixth science flight for DISCOVER-AQ. During this flight, 23 spirals were successfully completed. During the third circuit, two spirals were skipped due to weather, but there was time for an additional fourth spiral over Galveston to end the flight. This day was cloudier than other flights, but a frontal system just to the north of Houston was holding the smoke layer over the area, producing higher AODs. Ambient AODs were in the 0.3 to 0.6 range, providing a great opportunity to evaluate HSRL and Aeronet retrievals of aerosol properties. Both cloudiness and AODs were more intense to the north and west of the flight domain. Due to the depth of the aerosol layer, profiles were needed up to 15,500 feet throughout the flight. This required performing spiral descents at 2,000 feet per minute throughout the second and third circuits. Ozone levels remained below 70 ppbv, with highest values spread across the central portion of the domain and lowest levels over Conroe in the north and Galveston and Smith Point in the south.