Flight Report: DISCOVER-AQ Science Flight #5

From: KPMD   To: KPMD

Start: 01/31/13 16:19 Z   Finish: 02/01/13 00:02 Z

Flight Time: 7.7 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_01_31_13_-_02_01_13

Flight	Date	Duration	Cumulative Hours	DISCOVER-AQ Hours remaining	PODEX Hours remaining
Total Allocated				100	21
ECF	1/10/13	1.1	1.1	98.9	21
ECF -2	1/10/13	0.6	1.7	98.3	21
PCF	1/10/13	2.1	3.8	96.2	21
Transit	1/14/13	8.3	12.1	87.9	21
Science Flight – 1	1/16/13	8.4	20.5	79.5	21
Science Flight – 2	1/18/13	7.6	28.1	71.9	21
Science Flight – 3	1/20/13	7.4	35.5	64.5	21
Science Flight – 4	1/21/13	7.6	43.1	56.9	21
Science Flight – 5	1/22/13	7.9	51	49	21
PODEX - 1	1/28/13	5.4	56.4	49	15.6
Science Flight – 6	1/30/13	7.7	64.1	41.3	15.6
Science Flight – 7	1/31/13	7.7	71.8	33.6	15.6

Comments: This was the seventh DISCOVER-AQ flight into the central valley, and the first of two flights coordinating with collaborators at the Bay Area Air Quality Management District (BAAQMD). Pollution did not seem dramatically higher than the previous day in the southern valley, and the residual layers at higher altitudes were less substantial. The low altitude transect over the northern portion of the valley was relatively clean. Initially, there was concern that 1000 feet was not low enough to see surface emissions. There was a gradient on the first missed approach at Yuba City, about a factor of two in scattering (from 30 to 60/Mm); however, the three missed approaches at airports just east of the Bay area showed almost no gradient down to the surface. This pattern will be repeated tomorrow, hopefully with more to see for contrast. During the third circuit the plane flew directly over students from Kingsburg High School who held hands to formed an ozone molecule after several days of chatting with the scientists on board the P-3B during flights. This was captured by the nadir camera on the P-3B.