

TO: Airborne Science Program
NASA Headquarters
Mail Suite 3F71
Attn: Bruce Tagg
bruce.a.tagg@nasa.gov

FAX: (202) 358-2770
Voice: (202) 358-2890

Flight Report

Aircraft :	N426NA P-3B Orion
Operating Site(s) From / To :	KWAL/KWAL
Flight Date :	7/16/2011
Flight Number :	1088
Take Off Time :	Local / GMT 948/1348
Landing Time :	Local / GMT 1730/2130
Flight Time :	7.7
Flt Request # / PI:	11P201 Dr. Jim Crawford (NASA LaRC) N/A []
Purpose of Flight(s) :	Data [x] Ferry [] Functional Check [] Other []
Aircraft Status:	Up [x] Down []
Sensor Payload :	DISCOVER-AQ mission configuration
Comments :	<ul style="list-style-type: none">• Eight science flight of the DISCOVER-AQ campaign. Flight was successful. Please see mission science report for further science updates.

SUBMITTED BY: Rick McKee _____

DATE: 7/20/2011

Flight Hours Flown

Flight	Date	Aircraft Flight #	Data Flight#	Duration (hr)	Remaining Hours*
<i>Total Allocated</i>	6/26/2011				100
FCF	6/26/2011	1069		.8	100
DISCOVER-AQ ECF	6/26/2011	1069		1.6	98.4
PPF	6/26/2011	1069		1.1	98.4
PCF #1	6/28/2011	1074		2.6	95.8
Media Event Flight	6/28/2011	1074		.8	95.8
ECF #2	6/29/2011	1077		.9	94.9
PCF #2	6/30/2011	1079		2.8	92.1
Science Flight 1	7/01/2011	1080	#1	7.3	84.8
Science Flight 2	7/02/2011	1081	#2	7.7	77.1
Science Flight 3	7/05/2011	1073	#3	8.0	69.1
Science Flight 4	7/10/2011	1083	#4	7.6	61.5
Science Flight 5	7/11/2011	1071	#5	5.5	56.0
Science Flight 6	7/14/2011	1071	#6	8.1	47.9
Science Flight 7	7/16/2011	1087	#7	5.6	42.3
Science Flight 8	7/20/2011	1088	#8	7.7	34.6

Comments: This afternoon flight expected to see code orange conditions along with extreme temperatures and humidity. While code orange was only realized at Padonia, ozone aloft reached 120 ppbv and appeared to be higher on average than previous flights except for the code red conditions sampled on 2 July. High aerosol loading was also observed and polluted conditions extended much higher in the atmosphere. This was the first flight for which 10 kft was not high enough to reach clean free tropospheric conditions. Thus, cleaner air could only be observed at the northern sites at altitudes above ~12.5 kft. This was the last day for the NOAA ship which was stationary in the northern Chesapeake Bay. The P3-B was able to incorporate the ship's location into the circuit and perform three profiles over it. This day was also favorable for MISR observations.