ORACLES - P-3 Orion - WFF 10/15/18 Science Report

Aircraft: P-3 Orion - WFF (See full schedule)
Date: Monday, October 15, 2018
Mission: ORACLES
Mission Location: São Tomé
Mission Summary:

Take –off at 06:58:46UT. During Southbound transit at 18kft, we saw similar situation to Oct 7, i.e. minimal direct contact between smoke and Sc from 3-9S. APR detects heavily precipitating Sc clouds at 5S, in all 3 channels; consistently, SEVIRI shows LWP of > 300 g/m2 . We identified two regions that showed gap (8.5S) and no gap (9.5S) in relative close proximity. Significant drizzle (3-channel APR return) between 11 and 13S. Square spiral at 14S, geometrically thin high smoke loading layer at 13kft, broken Sc. **Very clean BL**, low cloud bases 500ft; 77ppb CO, BC 30ng, 7Mm-1 scat, 0.23 ACAOD. During sawtooth N-bound, clouds thickening, found peak above-cloud smoke at 12.4S (1.5ug/m3 BC), dropping as we head N. Level legs at 5.5kft yield 220ppb CO, 1.3ug/m3 BC and at 8kft 120-135 ppb CO, 20Mm-1 scat, 300ng/m3 BC. Second set of sawtooth patterns contrasting 9.5 and 8.5S – found smoke near cloud top at 9.5 and gap at 8.5S, as indicated by lidar during S-bound leg. Regular spiral (because of Ci around) at 5.5 S, because lack of data in routine flight coverage at that latitude and drizzle in APR during S-bound leg, measured 0.8g/m3 LWC. Landed at 14:26:14.
See flight report file for details.

Submitted by: Sarah Doherty on 10/15/18
File:
PRF09Y18_20181015_FlightScienceReport_V2.pdf
Related Flight Report:

P-3 Orion - WFF 10/15/18

Flight Number: ORACLES Science Flight #9
Payload Configuration: ORACLES
Nav Data Collected: No
Total Flight Time: 7.8 hours
Archive Data: 20181015 (91 binary files; 39 image files; 26 archive (plain-text) files)
Submitted by: Mike Cropper on 10/15/18
Flight Segments:

From:	FPST	**To:**	FPST
Start:	10/15/18 07:50 Z	**Finish:**	10/15/18 15:40 Z
Flight Time:	7.8 hours		
Log Number:	19P018	**PI:**	Jens Redemann
Funding Source:	Hal Maring - NASA - SMD - ESD Radiation Science Program		
Purpose of Flight:	Science		
Miles Flown:	1700 miles		

Flight Hour Summary:

	18P004	19P018
Flight Hours Approved in SOFRS	188.5	
Flight Hours Previously Approved		144
Total Used	44.5	110
Total Remaining		34

19P018 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
10/02/18	ORACLES Science Flight #3	Science	8.5	8.5	135.5	1940
10/03/18	ORACLES Science Flight #4	Science	8.5	17	127	1970

10/05/18	ORACLES Science Flight #5	Science	9	26	118	2000
10/07/18	ORACLES Science Flight #6	Science	8.4	34.4	109.6	2000
10/10/18	ORACLES Science Flight #7	Science	8.3	42.7	101.3	1970
10/12/18	ORACLES Science Flight #8	Science	5.3	48	96	800
10/15/18	ORACLES Science Flight #9	Science	7.8	55.8	88.2	1700
10/17/18	ORACLES Science Flight #10	Science	8.5	64.3	79.7	2000
10/19/18	ORACLES Science Flight #11	Science	8	72.3	71.7	1800
10/21/18	ORACLES Science Flight #12	Science	8.2	80.5	63.5	1800
10/23/18	ORACLES Science Flight #13	Science	8.1	88.6	55.4	1800
10/25/18	ORACLES Transit #1	Transit	7.8	96.4	47.6	2009
10/26/18	ORACLES Transit #2	Transit	7	103.4	40.6	2100
10/27/18	ORACLES Transit #3	Transit	5.8	109.2	34.8	1692
10/27/18	ORACLES Transit #4	Transit	0.8	110	34	72

Source URL: https://espo.nasa.gov/oracles/science_reports/ORACLES_-_P-3_Orion_-_WFF_10_15_18_Science_Report#comment-0

Page Last Updated: April 22, 2017

Page Editor: Brad Bulger

NASA Official: Marilyn Vasques

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

18P004 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
09/17/18	ORACLES ATF	Check	1.3	1.3	187.2	0
09/19/18	ORACLES PTF	Check	3.7	5	183.5	0
09/21/18	ORACLES Transit #1	Transit	6.3	11.3	177.2	1716
09/22/18	ORACLES Transit #2	Transit	8.2	19.5	169	2131
09/24/18	ORACLES Transit #3/Science Flight	Transit	9.3	28.8	159.7	2500
09/27/18	ORACLES Science Flight #1	Science	8	36.8	151.7	1875
09/30/18	ORACLES Science Flight #2	Science	7.7	44.5	144	2400