

ER-2 #809 08/19/13

Aircraft: [ER-2 - AFRC #809](#) ([See full schedule](#))

Flight Number: 13-9055

Payload Configuration: SEAC4RS

Nav Data Collected: Yes

Total Flight Time: 8.1 hours

Submitted by: Timothy Moes on 08/19/13

Flight Segments:

From:	EFD	To:	EFD
Date:	08/19/13		
Flight Time:	8.1 hours		
Log Number:	132301	PI:	Kent Shiffer
Funding Source:	Hal Maring - NASA - SMD - ESD Radiation Science Program		
Purpose of Flight:	Science		
Comments:	Coordinated ER-2/DC-8 science flight based out of EFD. Objectives were primarily for to fly over smoke in Wyoming. The majority of the flight was flown at 61kft geometric altitude with multiple AirMSPI datalines. WAS and SSFR are doubtful that they obtained good data, all other sensors indicated nominal operation.		

Flight Hour Summary:

	132301
Flight Hours Approved in SOFRS	166
Total Used	164.6
Total Remaining	1.4

132301 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
08/01/13	13-9048	Check	3	3	163	
08/02/13 - 08/03/13	13-9049	Science	6.5	9.5	156.5	
08/06/13 - 08/07/13	13-9050	Science	8.4	17.9	148.1	
08/08/13	13-9051	Science	7.2	25.1	140.9	
08/12/13	13-9052	Science	7.9	33	133	
08/14/13	13-9053	Science	6	39	127	
08/16/13	13-9054	Science	7.8	46.8	119.2	
08/19/13	13-9055	Science	8.1	54.9	111.1	
08/21/13	13-9056	Science	7.3	62.2	103.8	
08/23/13	13-9057	Science	7.7	69.9	96.1	
08/27/13	13-9058	Science	7.2	77.1	88.9	
08/30/13	13-9059	Science	7.4	84.5	81.5	
09/02/13	13-9060	Science	8.2	92.7	73.3	
09/04/13	13-9061	Science	8.4	101.1	64.9	
09/06/13 - 09/07/13	13-9062	Science	8	109.1	56.9	
09/09/13 - 09/10/13	13-9063	Science	8.1	117.2	48.8	
09/11/13 - 09/12/13	13-9064	Science	7.6	124.8	41.2	
09/13/13	13-9065	Science	8	132.8	33.2	
09/16/13	13-9066	Science	8	140.8	25.2	
09/18/13	13-9067	Science	7.9	148.7	17.3	

09/22/13	13-9068	Science	8.1	156.8	9.2
09/23/13	13-9069	Science	7.8	164.6	1.4

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.

Related Science Report:

SEAC4RS - ER-2 #809 08/19/13 Science Report

Mission: SEAC4RS

Mission Summary:

Flight Report – SEAC4RS ER-2, August 19, 2013 (Science flight #4)

Prepared by: Jens Redemann (Jens.Redemann-1@nasa.gov)

Purpose of flight: An aerosol-radiation oriented flight targeting young smoke in NE Wyoming (with a rosette pattern) and aged smoke Nebraska (with a bow-tie pattern), in close coordination with the DC-8.

Take-off: 10:03 local (Central DST) (UTC start = 15:03, UTC end =23:08)

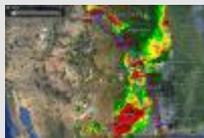
Duration: 8.1 hrs

Notes: After take-off en route to Wyoming pattern, the ER-2 trailed the DC-8 by only a few minutes. DC-8 reported being in Cirrus for a few minutes; ER-2 flew over that location within a few minutes. Should be good opportunity to compare DC-8 in situ measurements to ER-2 remote sensing. Plan was to survey the vicinity of a potential bow-tie pattern location on the way. Original area for bow-tie pattern looked sub-optimal for smoke. ER-2 proceeded to Wyoming and had an early ETA for rosette pattern. Decided to carry out MMS maneuver at 61kft to sync back up with DC-8. Flew rosette pattern at pre-determined location. AOD reported from the DC-8 was ~0.15 at center of rosette pattern, but up to 0.8 at Northern end, where DC-8 decided to extend its legs to sample smoke in situ. After rosette pattern, we headed towards bow-tie pattern in Nebraska. We decided to move the location Southward to the Kansas-Oklahoma border, where GOES AOD was larger and clouds looked favorable. Coordination with DC-8 worked well. Flew bow-tie pattern, AOD reported from DC-8 variable, again with gradient from 0.2-0.6 in the mid-visible. Two long legs for remote sensing on the way home, as well as ascent to 65kft shortly before landing. Communication between flight scientist, ground pilot and pilot was excellent again.

Aircraft and instruments: Communication issues improving – some time periods of Iridium dropping out. Most instruments appear to have worked nominally as far as limited in-flight and quick-look analyses showed. Problems with WAS pump prevented data acquisition. Some problems with SSFR platform remain. No aircraft issues. Aircraft ready to go for science flight on August 21, 2013.

Images:

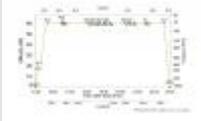
Figure1: Flight tracks (planned and flown) of ER-2 (blue) and DC-8



[Read more](#)

Figure2: Altitude vs time flight plan for science flight #4, August 19,

2013



[Read more](#)

Submitted by: Jens Redemann on 08/20/13

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