

ER-2 #809 08/23/13

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

Flight Number: 13-9057

Payload Configuration: SEAC4RS

Nav Data Collected: Yes

Total Flight Time: 7.7 hours

Submitted by: Timothy Moes on 08/23/13

Flight Segments:

From:	EFD	To:	EFD
Start:	08/23/13 14:52 Z	Finish:	08/23/13 22:33 Z
Flight Time:	7.7 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 Southeast US Air Chemistry. All sensors were operational and science teams are evaluating their data. Aircraft in good shape ... will continue to debug electrical issues with the lower Q-bay power.		

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 08/23/13 Science Report

Mission: SEAC4RS

Mission Summary:

Flight Report – SEAC4RS ER-2, August 23, 2013 (Science flight #6)

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

Purpose of flight: A flight to study boundary layer clouds/chemistry/radiation links in coordination with the DC-8, followed by convection near the Mississippi River Valley in Southern Arkansas.

Take-off: 9:52 local (Central DST) (UTC start = 14:52, UTC end =22:33)

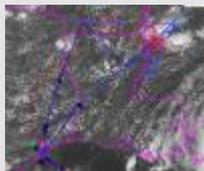
Duration: 7.7 hrs

Notes: Coordination with DC-8 at first rendez-vous point required reducing parts of DC-8 flight plan. Worked a West-East 300km leg extending from a presumed isoprene hot spot to the W of the Mississippi across and beyond the Mississippi, mostly to assess the difference in cloud structures and BL chemistry visible on previous days (both satellite imagery and DC-8 obs). ER-2 flew several legs with DC-8 at different altitudes in the BL, below and above developing Cu clouds. ER-2 then broke off to support coordinated convection work between the DC-8 and SPEC LearJet, just East of Mississippi. ER-2 flew three race track patterns, generally N-S with a high tower developing towards the N end of track. ER-2 then returned to morning point of coordination with DC-8 along the E-W leg for contrasting observations. Plans for flight along a triangle to survey region were abandoned due to difficulty in coordination with DC-8. In-flight coordination with DC-8 worked well, but the planned coordination did not work out properly at times, because changes made by the pilots of the two aircraft could not be synced up. This was due to late delivery of flight plans to pilots. Two lessons learned are: 1) deliver flight plans to pilots at noon the day before flight to allow iterations; 2) avoid coordination between aircraft late in the flight. Communication between ER-2 flight scientist, ground pilot and pilot was excellent. Overall a very successful flight for coordinated cloud-radiation work between ER-2 and DC-8.

Aircraft and instruments: Worst flight for Iridium to date. Very few packages sent down to the instrument groups. All instruments appear to have worked. There appears to be an intermittent problem with an experimenter power panel that will be trouble-shot on Sunday (8/25). Aircraft ready to go for science flight on August 26, 2013.

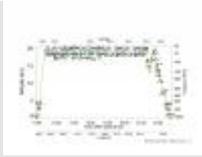
Images:

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



[Read more](#)

Figure2: Altitude vs time flight plan for science flight #6, August 23, 2013.



[Read more](#)

Submitted by: Jens Redemann on 08/24/13

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