

## ER-2 #809 08/12/13

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

Flight Number: 13-9052

Payload Configuration: SEAC4RS

Nav Data Collected: Yes

Total Flight Time: 7.9 hours

**Comments:** Coordinated ER-2/DC-8 science flight based out of EFD. Objectives were primarily for Southeast Air Chemistry with main goals to sample regions over the Gulf near New Orleans and pollution from Birmingham. Several aeronet sites were overthrown and vertical profiling maneuvers were conducted off the Southern Coast of Louisiana and additional one enroute to EFD. eMAS was known non-operational prior to the mission. All other instruments were installed and initial indications were that they worked well. In general, a very good flight with significant science objectives achieved.

Submitted by: Timothy Moes on 08/12/13

### Flight Segments:

<b>From:</b>	EFD	<b>To:</b>	EFD
<b>Start:</b>	08/12/13 12:58 Z	<b>Finish:</b>	08/12/13 20:52 Z
<b>Flight Time:</b>	7.9 hours		
<b>Log Number:</b>	<a href="#">132301</a>	<b>PI:</b>	Kent Shiffer
<b>Funding Source:</b>	Hal Maring - NASA - SMD - ESD Radiation Science Program		
<b>Purpose of Flight:</b>	Science		

### Flight Hour Summary:

	<b>132301</b>
<b>Flight Hours Approved in SOFRS</b>	166
<b>Total Used</b>	164.6
<b>Total Remaining</b>	1.4

### 132301 Flight Reports

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

<a href="#">09/22/13</a>	13-9068	Science	8.1	156.8	9.2
<a href="#">09/23/13</a>	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 08/12/13 Science Report

**Mission:** SEAC4RS

**Mission Summary:**

### Flight Report – SEAC4RS ER-2, **August 12, 2013** Science Flight 3

Prepared by: Richard Ferrare ([richard.a.ferrare@nasa.gov](mailto:richard.a.ferrare@nasa.gov))

Purpose of flight: 1) acquire remote sensing data over rosette in the Gulf of Mexico, 2) fly over AERONET stations, 3) remotely sense Birmingham plume, 4) sample UT/LS on return to Houston.

Pilot: Dean Neeley

Playbook topics: SE chemistry, remote sensing of aerosol in broken cloud field, air chemistry

Flight plan: Proceed up over Gulf executing a dip to 45 kft before rosette pattern over Gulf, execute rosette pattern in coordination with DC8, proceed NW over Gulf near Pensacola and fly over SEARCH-OLF AERONET station, proceed NE over SEARCH-Centreville2 AERONET station, continue NE over Huntsville, fly over Yorkville AERONET station, conduct section rosette in coordination with DC-8 over Birmingham plume, return to Houston with dips along the way.

Takeoff: 7:59 CDT (12:59 UT)

Duration: 7.9 hours

Notes:

ER-2 received excellent takeoff clearance and was allowed to directly climb to 17 kft, then 65 kft, which is an unusual event. After collecting data during dip prior to first rosette over the Gulf, both ER-2 and DC-8 were well coordinated over first rosette in the Gulf. Mostly clear skies with some small low clouds were present over the first rosette. ER-2 flew over some small convection near the Florida coast before proceeding over AERONET sites, Huntsville, and the second rosette. The convection had not yet built up over this second rosette and the aircraft were well coordinated in this rosette pattern. CPL measured cirrus over much of the second rosette with some breaks in one of the rosette legs. One the way back to Houston, the ER-2 performed one dip but was unable to perform a second dip because of convection.

Aircraft and instruments: Instruments were able to transmit data to the ground in real-time. eMAS did not operate during flight due to problem with digitizer. All other instruments appear to have worked nominally as far as limited in-flight and quick-look analyses showed. ER-2 may have a minor maintenance issue with spoiler actuator that may require maintenance before next flight.

**File:**

 [seac4rs\\_er2\\_12aug2013\\_ejj.pdf](#)

**Submitted by:** Richard Ferrare on 08/15/13

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NASA Official: Bruce A. Tagg

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