

## S-MODE - B200 (#801) - AFRC 05/18/21 - 05/19/21 Science Report

**Aircraft:** [B200 \(#801\) - AFRC](#) ([See full schedule](#))

**Date:** Tuesday, May 18, 2021 - Wednesday, May 19, 2021

**Mission:** S-MODE

### Mission Summary:

The previous data collections had been too cloudy to acquire good data for MOSES, so the remainder of the campaign prioritized the validation and calibration of MOSES. On 2021-05-18 the weather was forecast to be clear at the ONR TFO site and a joint campaign with MASS and the SIO wave gliders was planned, with a collection en route over the WHOI wave glider, which was still collecting data in the line near Santa Catalina Island. To maximize the chances of clear skies, a southern flight route was taken, which limited the data collection time at the ONR TFO site. Once the flight started, clouds formed over most of the track, especially at the TFO site. MASS collected data at the TFO site after it was able to dive under the clouds and fly at 900 feet above sea level. The NASA B200 collected data over both Catalina and TFO sites, with good data collected by DopplerScatt for the entire transect, but only limited data for MOSES. The conditions over all the sites included a range of winds varying from very weak to gale-force, and wave conditions including wind driven waves and large swell. The ocean models forecast eddy activity along the flight path. This variety of conditions helped to achieve one of the goals of the campaign: collecting data with all of the instruments under a large range of environmental conditions. Since MOSES only had partial success on 2021-05-18, it was decided that a final MOSES calibration flight over Lake Tahoe, California, would be collected. This flight was conducted successfully on 2021-05-19, drawing to a conclusion the data gathering part of the campaign.

The campaign conducted from May 5 to May 19 collected data on 6 flight opportunities. Although the "May Gray" Southern California weather conditions made the campaign planning challenging, the AFRC and TOI flight crews showed flexible planning capabilities and many lessons were learned that will help in planning the logistics of the October campaigns.

**Submitted by:** Judy Alfter on 05/25/21

### File:

 [S-MODE Field Experiment Report 2021-05-18-19\[1\].pdf](#)

### Related Flight Report:

## B200 (#801) - AFRC 05/18/21 - 05/19/21

**Flight Number:** 3216

**Payload Configuration:** S-MODE

**Nav Data Collected:** Yes

**Total Flight Time:** 3.7 hours

**Submitted by:** John T. McGrath on 05/19/21

### Flight Segments:

<b>From:</b>	KEDW	<b>To:</b>	KEDW
<b>Start:</b>	05/18/21 20:20 Z	<b>Finish:</b>	05/19/21 00:05 Z
<b>Flight Time:</b>	3.7 hours		
<b>Log Number:</b>	<a href="#">21B002</a>	<b>PI:</b>	John Farrar
<b>Funding Source:</b>	Barry Lefer - NASA - SMD - ESD Earth Venture Suborbital-3 Program		
<b>Purpose of Flight:</b>	Science		
<b>Comments:</b>	Good flight...no issues		

### Flight Hour Summary:

	21B002
<b>Flight Hours Approved in SOFRS</b>	25
<b>Total Used</b>	25
<b>Total Remaining</b>	0

### 21B002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining	Miles Flown
<a href="#">05/03/21</a>	3209	Science	1.1	1.1	23.9	0

<a href="#">05/03/21 - 05/04/21</a>	3210	Science	5.1	6.2	18.8	0
<a href="#">05/04/21</a>	3211	Transit	0.7	6.9	18.1	0
<a href="#">05/05/21</a>	3212	Science	1.8	8.7	16.3	0
<a href="#">05/07/21 - 05/08/21</a>	3213	Science	5.3	14	11	0
<a href="#">05/08/21</a>	3214	Transit	0.5	14.5	10.5	0
<a href="#">05/10/21 - 05/11/21</a>	3215	Science	3.7	18.2	6.8	0
<a href="#">05/18/21 - 05/19/21</a>	3216	Science	3.7	21.9	3.1	0
<a href="#">05/19/21</a>	3217	Science	3.1	25	-0	0

*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.*

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