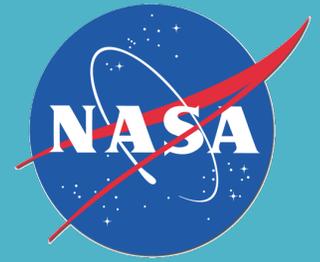


Some thoughts from Headquarters for the NASA Airborne and Field Data Workshop



Melissa Martin – ESD Airborne Science Program

Barry Lefer – ESD Research and Analysis

March 29, 2022

A foundational document:

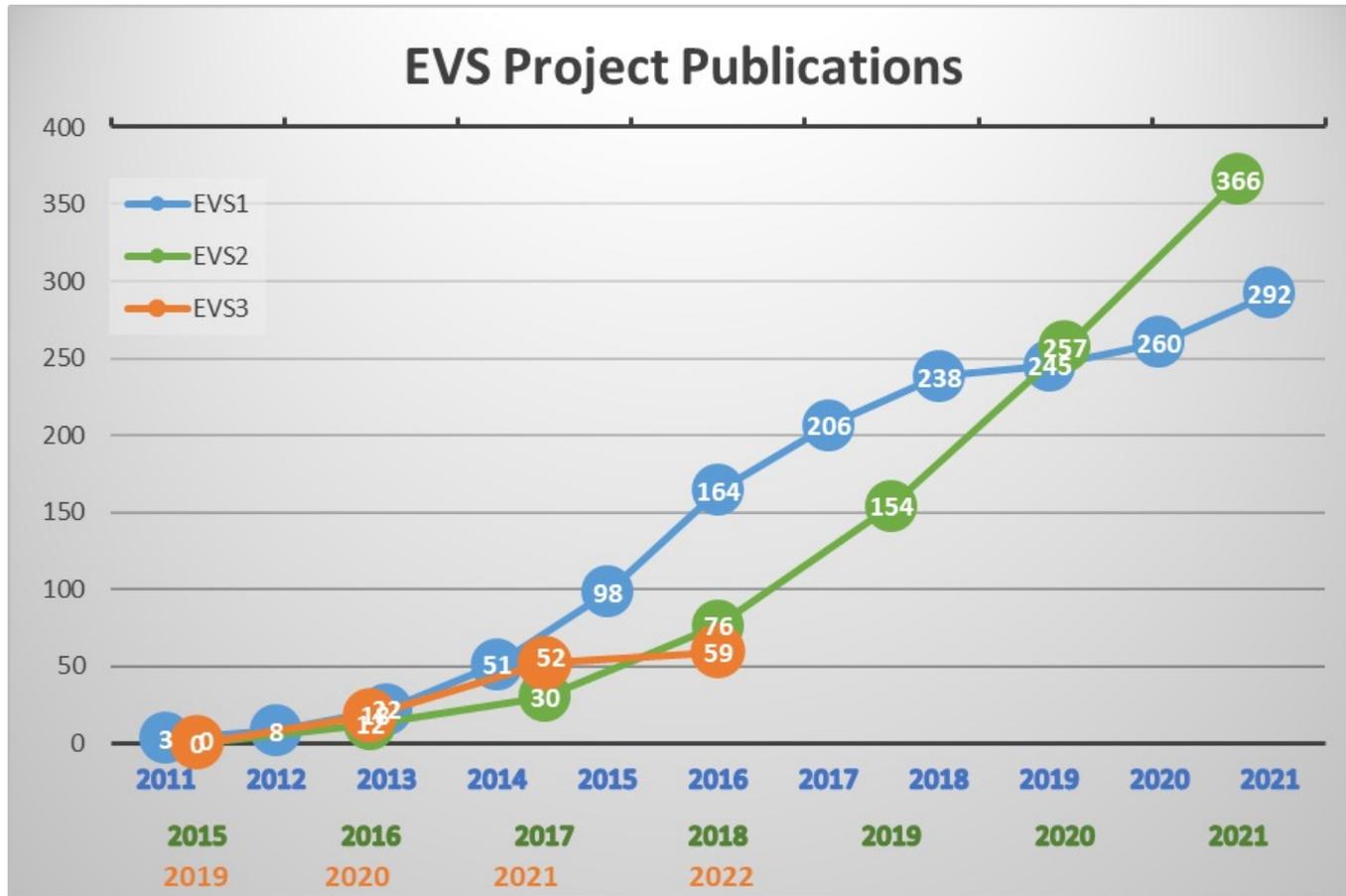
NASA Data and Information Policy

NASA promotes the full and open sharing of all data with the research and applications communities, private industry, academia, and the general public. The greater the availability of the data, the more quickly and effectively the user communities can utilize the information to address basic Earth science questions and provide the basis for developing innovative practical applications to benefit the general public.

- NASA will plan and follow data acquisition policies that ensure the collection of long-term data sets needed to satisfy the research requirements of NASA's Earth science program.
- NASA commits to the full and open sharing of Earth science data obtained from NASA Earth observing satellites, sub-orbital platforms and field campaigns with all users as soon as such data become available.
- There will be no period of exclusive access to NASA Earth science data. Following a post-launch checkout period, all data will be made available to the user community. Any variation in access will result solely from user capability, equipment, and connectivity.
- NASA will make available all NASA-generated standard products along with the source code for algorithm software, coefficients, and ancillary data used to generate these products.
- All NASA Earth science missions, projects, and grants and cooperative agreements shall include data management plans to facilitate the implementation of these data principles.

<https://science.nasa.gov/earth-science/earth-science-data/data-information-policy>

Publications from airborne and field data are an important metric for headquarters at the Program Level



Number of publications supported by EV Suborbital data and/or funding



Publications from airborne and field data are an important metric for headquarters at the Investigation Level

EVS-2 monthly summary
March 2022

Completed EVS-2 Missions:

- CORAL, NAAMES, ORACLES, ACT America, ATom, OMG

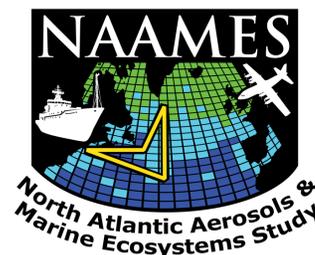
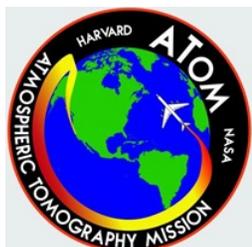
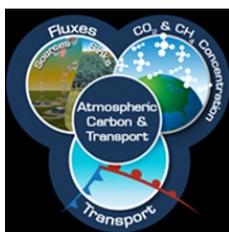
Number of publications which EVS-2 data and/or funding has supported

| | Total published | STM first author | Non-STM first author |
|--------------|-----------------|------------------|----------------------|
| ACT-America | 47 | 29 | 18 |
| ATom | 91 | 43 | 48 |
| CORAL | 13 | 10 | 3 |
| NAAMES | 89 | 66 | 23 |
| OMG | 66 | 34 | 32 |
| ORACLES | 54 | 34 | 20 |
| TOTAL | 360 | 216 | 144 |

EVS2 Publications by Projects



Please note that ATom reports an additional 29 doi's for data sets published (available) at the ORNL DAAC.



Rapid (3-6 month) transition of data to DAACS

Promotes open science and enables non-ST led publications

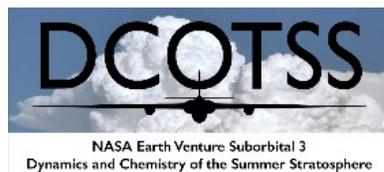
EVS-3 DAAC data locations and availability

| | |
|----------|--|
| ACTIVATE | ASDC.DAAC ASDC Projects ACTIVATE (nasa.gov) |
| DCOTSS | ASDC DAAC: ASDC Projects DCOTSS (nasa.gov) |
| IMPACTS | GHRC DAAC: GHRC IMPACTS Collection Landing Page (nasa.gov) |
| Delta-X | ORNL.DAAC : Delta-X (ornl.gov) |
| S-MODE | PO.DAAC: https://podaac.jpl.nasa.gov/OMG |

EVS-3 PROJECT campaign data archive locations

| | |
|----------|--|
| ACTIVATE | https://www-air.larc.nasa.gov/missions/activate/index.html |
| DCOTSS | https://www-air.larc.nasa.gov/missions/dcotss/index.html |
| IMPACTS | http://catalog.eol.ucar.edu/impacts_2020 |
| Delta-X | Facility instruments: https://uavsar.jpl.nasa.gov/ and https://avirisng.jpl.nasa.gov/dataportal/ |
| S-MODE | All other science ready products: http://delta-x.jpl.nasa.gov/ http://smode.whoi.edu:8080/thredds/catalog/insitu/catalog.html |

- Submit to DAACs publications/DOIs
- Advertise on DAACs science talks/open data workshops/science teams



Regular Open Data Workshops

- Good standard practice for all Airborne Missions
- Advertise in all your presentations the next open data workshops
- Encourages engagement with non-science team members
- Encourages new collaborations and publications



ACTIVATE 2021 Data Workshop

October 20-21, 2021

The purpose of this meeting is to introduce the ACTIVATE project to the larger atmospheric sciences and applications community. We will provide an overview of the project, data details, and examine case flights. We will have discussion time with interested participants to enhance collaboration. All times below in EDT.

Wednesday, 20 October 2021

- 9:00-9:10 What is ACTIVATE all about? – Sorooshian
- 9:10-9:15 Where can I access data? – DAAC/ASDC
- 9:15-9:35 What data are there? What are ICARTT files and what is in them? What are Merge Products/Tools? – Chen/Shook
- 9:35-9:50 Discussion
- 9:50-10:20 Case Study: 29 February 2020 (Research Flight 12 = Statistical Survey Flight)
- Forecasting details leading to flight plan decision
 - Steps the day of the flight (from pre-flight weather meeting to post-flight briefing and instrument checks)
 - Detailing the flight path
 - Data results
- 10:20-11:00* Discussion (e.g., how would you use the data? what questions do you have about the data? are you interested in collaborating around a topic?)
 *Discussion will continue on Day 2 at greater length to allow the day's materials to soak in to generate more topics to discuss

| Presenter | Title | Play MP4 w/audio | View PDF slides |
|-------------|---|------------------|-----------------|
| Sorooshian | Introduction to ACTIVATE | | |
| Ziamba | Langley Aerosol Research Group Experiment (LARGE) Instrumentation | | |
| Moore | Langley Aerosol Research Group Experiment (LARGE) Cloud Instrumentation | | |
| Kirschler | German Aerospace Center (DLR) Cloud Measurements | | |
| Crosbie | Cloud Water | | |
| Diskin | Diode Laser Hygrometer (DLH) and Trace Gas | | |
| Thornhill | Turbulent Air Motion Measurement System (TAMMS) | | |
| Robinson | Drosondes | | |
| Hostetler | High Spectral Resolution Lidar (HSRL) - 2 | | |
| Cairns | Research Scanning Polarimeter (RSP) | | |
| Corral | Explaining Leg Indices | | |
| Delgado | Co-Locating Measurements | | |
| Schlosser | Intro to Data Visualization | | |
| Wang | WRF Process Modeling | | |
| Liu / Zhang | MERRA-2 Reanalysis & Trajectory Products | | |

The Importance of outreach in the Open Data Environment



NASA LaRC
ACTIVATE Project

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News & Features

Videos

Banner, Logos & PowerPoint
Templates

Media

News & Features

- [A BIOS Treasure: The Tudor Hill Marine Atmospheric Observatory](#)
- [Submarine tracker base now looks to the skies to monitor air](#)
- [The Wild Idea to End Droughts by Triggering Artificial Rain](#)
- [UA Professor Researching Cloud Seeding To Make It Rain](#)
- [Episode 283: Arizona wildfires help researchers study the evolution of clouds; \(Arizona Public Media, June 2021\).](#)
- [Taking Flight to Study Clouds and Climate; EOS Science News by AGU, 19 May 2021.](#)
- [The Earth Observer March/April 2021; Volume 33, Issue 2 \[PDF\]](#)
- [2020 Airborne Sciences Program Report \(page 10-13\) \[PDF\]](#)
- [Herbold Fellow Kira Zeider Utilizes Machine Learning to Model Aerosol Behavior](#)
- [ACTIVATE Begins Year Two of Marine Cloud Study](#)
- [KXCI Thesis Thursday Podcast featuring Kira Zeider](#)
- [NASA JPL Podcast: On A Mission – Season 3, Episode 6: Air and Shield](#)
- [NASA Take Five: Episode 19 ACTIVATE Feature](#)
- [ACTIVATE Makes a Careful Return to Flight](#)
- [Probing the Hazy Mysteries of Marine Clouds](#)
- [NASA Embarks on Five U.S. Expeditions Targeting Air, Land and Sea](#)
- [NASA Awards \\$30M Five-Year Grant to Armin Sorooshian and Xubin Zeng](#)
- [Probing the Hazy Mysteries of Marine Clouds](#)
- [NASA Langley to launch \\$30 million airborne campaign to study clouds, aerosols to improve climate models](#)
- [NASA flight mission to investigate aerosols' role in sea cloud formation](#)
- [WVEC Media Day Package](#)