NOAA National Environmental Satellite, Data, and Information Service (NESDIS) + NOAA Open Data Dissemination (NODD) + Amazon Web Services (AWS) Hours
June 13, 2024 | 12-1:15 PM EDT

TO: NESDIS NODD AWS Office Hours Participants

DATE: 13 JUNE 2024 | 12-1:15 PM EDT

FROM: Satya Kalluri, Lihang Zhou (NOAA National Environmental Satellite, Data, and Information Service), Adrienne Simonson, Jenny Dissen & Kate Szura (NOAA Open Data Dissemination Engagement and Communication), Liz Cox (North Carolina Institute for Climate Studies)

SUBJECT: Responses to Questions from NOAA LEO JPSS AWS Office Hours

Dear Colleagues,

Thank you again for your tremendous contribution during the NESDIS LEO JPSS - NODD - AWS Office Hours. Your data related questions and comments raised during the discussion were heard and noted by NOAA.

This document provides brief responses to questions that were identified during the registration and that were raised during the discussion. Names and attributions of individuals and their affiliation have not been documented, unless it is a NOAA speaker.

We recognize the importance of continued engagement and collaboration, and invite ongoing comments via our emails.

Thank you,
Satya Kalluri, Lihang Zhou(National Environmental Satellite, Data, and Information Service)
Adrienne Simonson, Jenny Dissen, Kate Szura (NOAA Open Data Dissemination)

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1. General Agenda of the Webinar

OUTLINE FOR THE DISCUSSION

12:00 - 12:09 Brief Introductions by NESDIS LEO, NODD, and AWS
12:09- 12:10 NODD Overview
12:10 - 12:25 NOAA LEO Joint Polar Satellite System (JPSS) Presentation (Data Access)
12:25 - 12:45 LEO JPSS Access via AWS (Training and Demo) and Use Cases
12:45 - 1:10 Open Discussion (Please use "Raise Hand" or the chat to raise questions)
1:10 - 1:15 Summary Comments/Closing Remarks/Next Steps

2. Questions and Responses

The questions below were identified as part of the registration process and during the Office Hours discussion. Responses are provided in brief where the NOAA team felt information was available.

QUESTIONS RAISED FROM REGISTRATION FORM

QUESTION FROM REGISTRATION	RESPONSE
I really like how in prior Office Hours you reviewed examples of how to use the NODD Data in various platforms (e.g. AWS SageMaker Studio Lab), so I hope that always continues forward for future datasets.	Thank you for the feedback on the NODD Office Hours with our cloud service provider (CSP) partners. We greatly appreciate it and look forward to continuing to host additional events so users can become more familiar with NOAA's data and the CSP tools. The NODD team values user feedback. Please send any topics or areas of interest for future Office Hours events to NODD@NOAA.GOV.
What is the process for requesting NODD to host data?	NODD would greatly appreciate feedback from the public on data they would like to see added to the program. Data users can request specific datasets to be hosted by submitting a request to the NODD team at NODD@NOAA.GOV. When submitting the request, please include details such as the dataset name, timeframe of interest, variables of interest, and if you have a preferred cloud service provider platform. Additionally, if you are willing to share, please include details about your use case for the data as it helps the NODD team fulfill the request. Please see this FAQ and responses to others on our [NODD website](#).

Level 2 ATMS and MiRS datasets	ATMS products (Microwave Integrated retrieval system - MIRS) and ATMS/CrIS (NOAA Unique Combined Atmospheric Processing System - NUCAPS) products are available through the NODD program and can be accessed through our NODD Program Datasets page on our website. For access to the data via AWS, e.g. for N20, please access via this link: https://noaa-nesdis-n20-pds.s3.amazonaws.com/index.html#reprocessed/
Soil Type Mapping in Google Earth Engine	Thank you for submitting a topic of interest. This Office Hours will focus on access to Low Earth Orbit (LEO) Joint Polar Satellite System (JPSS) data via Amazon Web Services (AWS), which is one of our three cloud service providers. For more information about access to JPSS via Google, please reference our notes from our Office Hours on JPSS data via Google which are also accessible via the NODD website: noaa.gov/nodd or reach out to: cloud-public-dataset-conferences@google.com.
Data access methods in AWS and the NODD's selection and ingest process for NOAA's products.	NODD works with the LOs to determine which data they would like to disseminate through the program. The data is pulled by NODD from the raw source - one of the various Line Offices across NOAA - and then pushed to one of the three CSPs. NODD works with the CSPs to ensure all the needed storage is allocated and advertises data availability. The process can vary by dataset, but this is the overview. From AWS: NODD is a little unique in that NOAA owns the buckets. Not unique to the AWS open data program in general, but these pipelines run 24/7. Some of the data is put in every 7 minutes. The data is running continuously. The CSPs, at least AWS, does not touch the data and I believe that is the same for the other CSPs as well. NOAA puts the data in there and manages the data in the buckets.
NOAA21 L2 products	JPSS products are available through the NODD program and can be accessed through our NODD Program Datasets page on our website.

QUESTIONS / DISCUSSION FROM THE OFFICE HOURS

QUESTION FROM DISCUSSION	RESPONSE
What is CriS obs vertical resolution?	NUCAPS products are at 100 vertical levels (~1km layers), CrIS sensitivities vary with different altitudes and for different parameters. Please visit https://www.star.nesdis.noaa.gov/jpss/documents/AMM/N21/NOAA-21_NUCAPS_Provisional.pdf for details. In this linked resource, slide 39 has requirements for NUCAPS products.
Ran out of space with Sagemaker. Is there a place that you can see within settings if this is the case? When I do a start run time, does that restart everything?	Since StudioLab is free, it has limited memory and working scratch space. You can view settings to see how to free up some of that space. With SageMaker StudioLab, you're running in a virtual machine with several other folks so limited within StudioLab, but in the full SageMaker service, you can make the working space as big or small as you need. Also, you will want to restart the kernel to clear the slate.
If I have an application using the JPSS products that we want to put it into SageMaker Studio Lab? How do we do that? What's the level of skill set required to do that in terms of programming and linux environment, etc.	From AWS: Suggest start with Mya's notebooks and use the time select one. Try and use some of the code that is in there. Or you can click on the Launcher and create a new notebook, putting code in there. If you already have a notebook, you can upload it and configure it to the environment. From AWS: I'd say level 200 (beginner to intermediate level) programming in Python depending upon what you want to do. The easiest way forward is to reuse as much as you can of what Mya put into her JPSS notebooks and then edit from there.
How are datasets selected/prioritized for the NODD Program?	The process for requesting datasets depends on which organization you are with. If from an organization outside of NOAA, you can reach out to the NODD email and email the CSPs to request datasets. If working for NOAA, there is an internal process and the NODD team would be happy to connect with interested colleagues to

	walk through the process. For more information you can reach out to the NODD team at nodd@noaa.gov
How are the CSPs determined?	The CSPs were determined via a Request for Proposal (RFP), a formal governmental selection process.

3. Office Hours Organizing Team

Name	Title
Satya Kalluri	Chief Scientist for NOAA NESDIS LEO Program
Lihang Zhou	NESDIS LEO Satellite Product Manager
Adrienne Simonson	NODD Director
Patrick Keown	NODD Program Manager
Jenny Dissen	NODD Engagement Lead / NCICS / NC State University
Katelyn Szura	NODD Communications Lead
Jonathan Brannock	NODD Lead Cloud Software Engineer /NC State University
Denis Willett	NODD Cloud Software Engineer/NC State University
Otis Brown	Director, NC Institute for Climate Studies (NCICS) / NC State University
Mya Sears	NCICS Engagement and Data Analyst
Chris Stoner	AWS Open Environmental Data Lead

4. Poll Results

Poll 1		
Question	**Answer**	**Percent**
How do you access JPSS data today?	On-prem via NOAA	29%
	Cloud	0%
	Both/Either	18%
	3rd Party/Web-based Viewer	12%
	None/Other	41%

Poll 2		
Question	**Answer**	**Percent**
My primary goal for attending today is:	Technical use and access of JPSS data	19%
	To learn about cloud access to date (e.g. NODD Program)	44%
	Meet and engage with NOAA staff scientists	13%
	Learn about AWS access and tools	25%

5. Resources / References
    - NOAA Joint Polar Satellite System (JPSS) program website
    - NOAA Open Data Dissemination | NODD Email
    - SageMaker StudioLab
    - Gitlab Repository | Demo on Accessing JPSS via AWS

Thank you to our participants for engaging in this discussion!