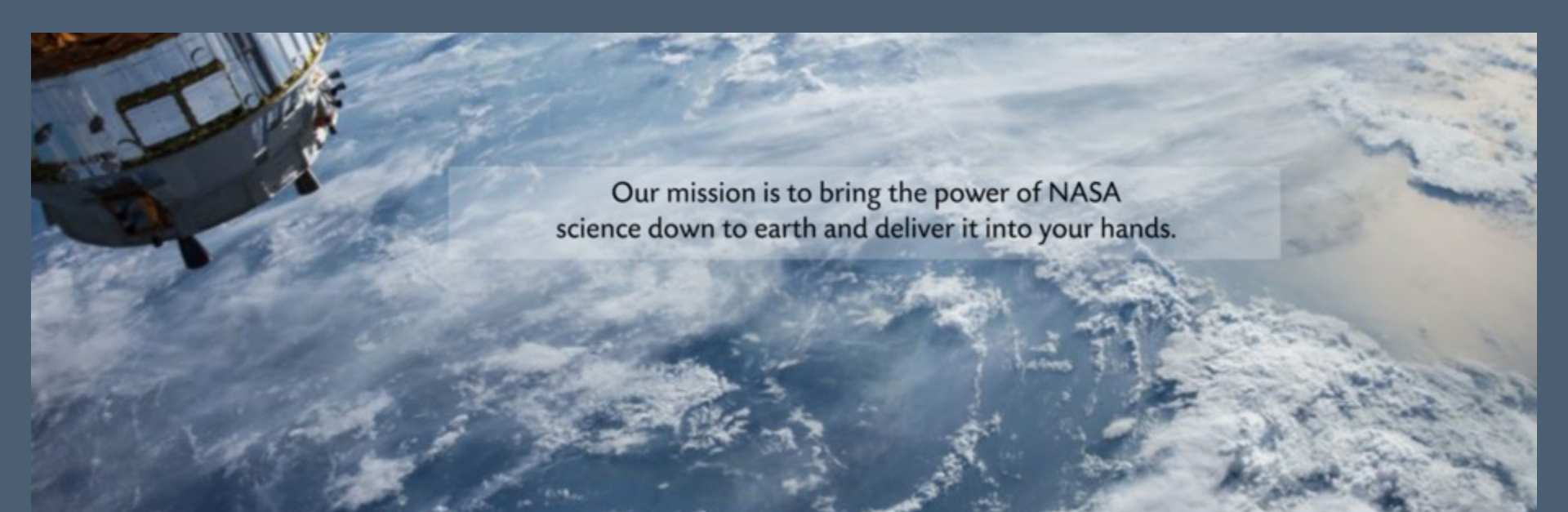




Our mission is to bring the power of NASA
science down to earth and deliver it into your hands.



HAQAST Updates – Fall 2023

The NASA Health and Air Quality Applied Sciences Team (HAQAST)
Tracey Holloway, Team Lead & Jenny Bratburd, Outreach Coordinator

University of Wisconsin—Madison





~120 in-person registrants and 200 online
36% registrants first-time HAQAST attendees

What is “hay-kast”?

- Health and Air Quality Applied Sciences Team
- 4 year initiative through January 2025
- 14 Members and 60+ co-investigators
- Mission: Connect NASA science with air quality and health applications
- Four types of work:
 - Member projects
 - Tiger team projects (collaborative)
 - Rapid Response (emergent/immediate)
 - Outreach, engagement





HAQAST1:
2011-2016



HAQAST2: 2016-2020
HAQAST3: 2021-2025

The team structure fundamentally changes outcomes.

- Increased visibility of work and resources to end-users
- Culture to support and promote collaborations and synergies
- Growth of two-way dialogue
- Increased collaborations to meet stakeholder needs
- Rapid spin-up of high-value activities



14 NASA Health and Air Quality Applied Sciences Team Members (HAQAST)

Tracey Holloway (Team Lead, UW-Madison)

Susan Anenberg (George Washington University)

Bryan Duncan (NASA GSFC)

Arlene Fiore (Massachusetts Institute of Technology)

Pawan Gupta (NASA GSFC)

Yang Liu (Emory University)

Jingqiu Mao (University of Alaska, Fairbanks)

Randall Martin (Washington University)

Ted Russell (Georgia Tech)

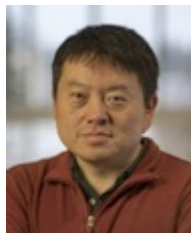
Jeffrey Pierce (Colorado State University)

Amber Soja (National Institute of Aerospace)

Daniel Tong (George Mason University)

Christopher Uejio (Florida State University)

Qian Xiao (University of Texas Health Science Center at Houston)





What are "Tiger Teams"?

March. 2021

2022

2024

2024

2025

14 HAQAST Members'
Proposed Initiatives
with stakeholders & Co-I
collaborators

YOU
ARE
HERE

Year 1 "Tiger Teams"
larger collaborations
Focused, stakeholder-
based, short-term

Year 2 "Tiger
Teams"

TBD

2023 Tiger Teams



- Analysis to support air quality and health TEMPO applications for surface ozone, *led by Arlene Fiore*



- Mitigating Uncertainties in Lateral Boundary Conditions used for Regional Air Quality Assessment Modeling, *led by Brad Pierce*



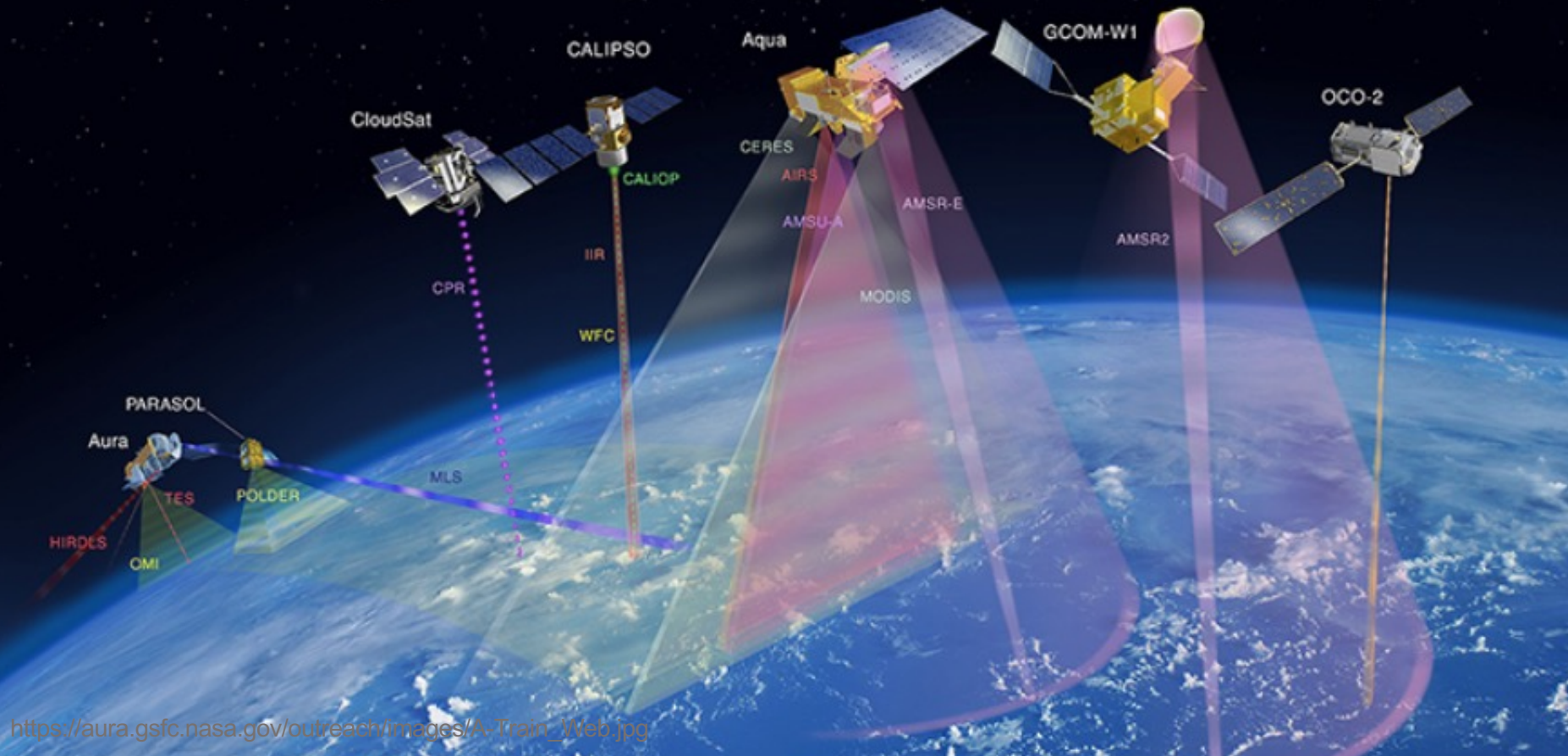
- Satellite Observations Supporting Assessment of Unconventional Oil and Gas Emissions and Exposures, *led by Ted Russell*



- Satellite Data for Environmental Justice, *led by Qian Xiao*



- Applications of GOES-R aerosol data in operational air quality management and public health decision support systems, *led by Yang Liu*



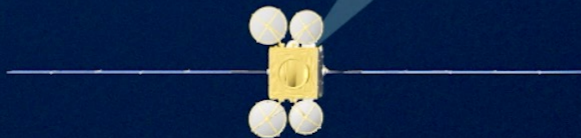


Tropospheric Emissions: Monitoring of Pollution

Hourly Measurement of Pollution



Smithsonian Astrophysical
Observatory





HAQAST Ambassadors



Zach Adelman (Lake Michigan Air Directors Consortium)

Temilayo Adeyeye (New York State Department of Health)

Doug Boyer (Texas Commission on Environmental Air Quality)

Kelly Crawford (US Department of Energy)

Michael Geigert (Connecticut Department of Energy and Environmental Protection)

Barron H. Henderson (US EPA)

Tabassum Z Insaf (New York State Department of Health)

Alex Karambelas (NESCAUM)

Byeong-Uk Kim (Georgia Environmental Protection Division)

Maeve MacMurdo (Cleveland Clinic)

Magdalene McCarty Sanders (Earth Stewards)

Steve Moran (Google)

Amirhosein Mousavi (Waste Management)

Leticia Nogueira (American Cancer Society)

Pallavi Pant (Health Effects Institute)

Allison Patton (Health Effects Institute)

Patrick Reddy (Independent, formerly CDPHE)

Eric Stevens (National Park Service)

Mary Tran (US Department of State)

Mary Uhl (WESTAR)

Scientists / Researchers

Group A

Academia/University

Research institute

Private enterprise

Government advisory group

Stakeholders / Data Users

Group B

Government regulatory body

Local authority

Air quality consultancy

Research institute/Government lab

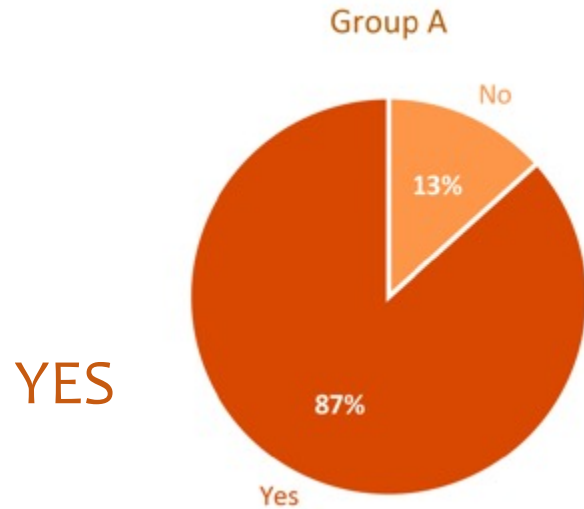
Public health

**Investigating the barriers and pathways to implementing
satellite data into air quality monitoring, regulation and policy
design in the United Kingdom**

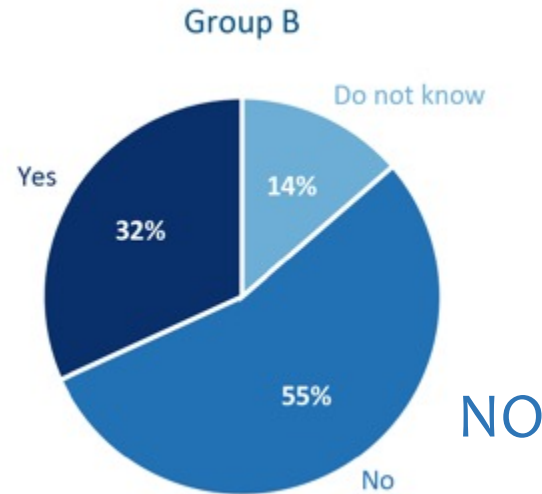
Do you consider satellite air quality data, in their current state,
to be useful to potential end users?

Do you consider satellite air quality data, in their current state,
to be useful to potential end users?

Scientists / Researchers



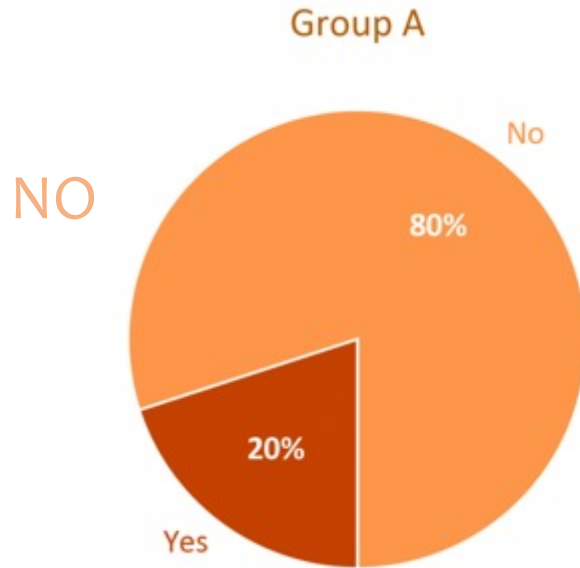
Stakeholders / Data Users



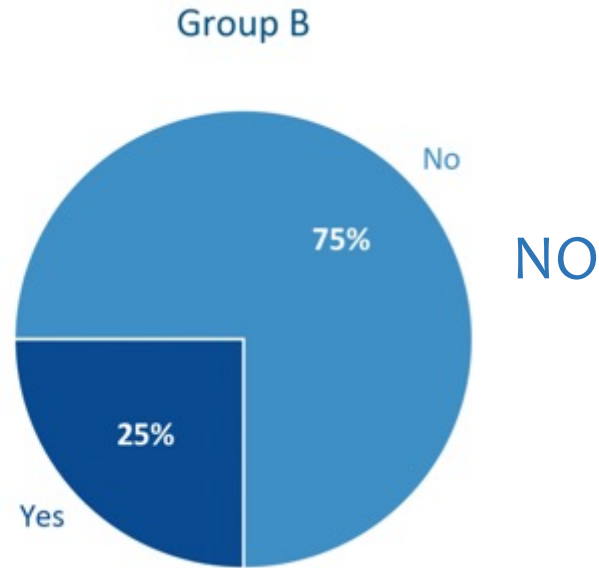
Have you ever collaborated with the other group on the incorporation of satellite data into air quality management activities?

Have you ever collaborated with the other group on the incorporation of satellite data into air quality management activities?

Scientists / Researchers



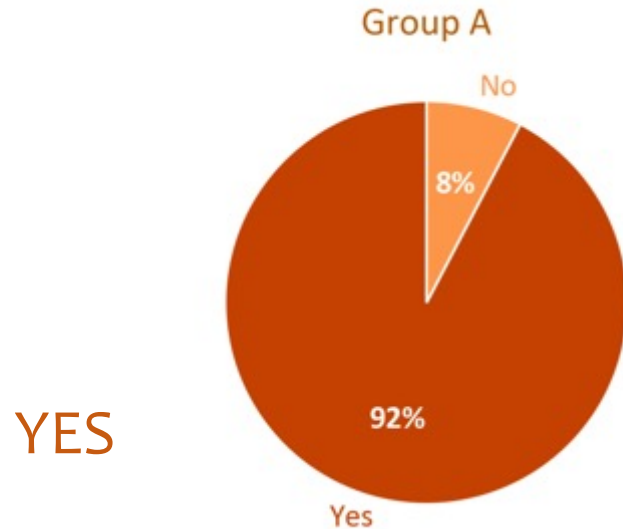
Stakeholders / Data Users



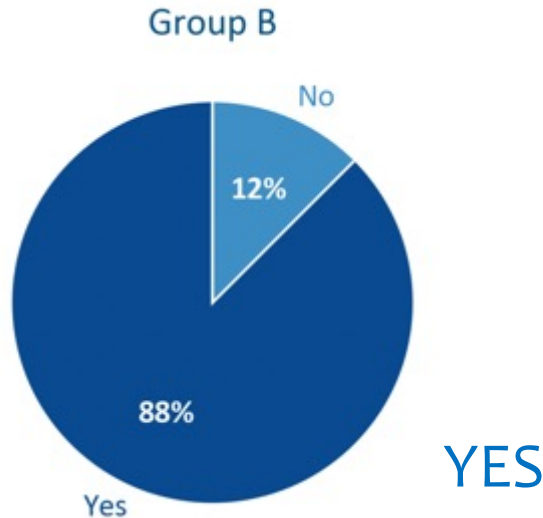
Would you be interested in a knowledge exchange program where satellite data experts and end users work collaboratively to utilise satellite AQ data for improved air quality management?

Would you be interested in a knowledge exchange program where satellite data expert and end users work collaboratively to utilise satellite AQ data for improved air quality management?

Scientists / Researchers



Stakeholders / Data Users





Making the Most of the Meeting

1. **Talk to new people!** Tip: “Is this your first HAQAST meeting?” will be a “Yes” for 1 in 3 people you meet!
2. **Shape the conversation** – Most sessions have 30 minutes for panel-based Q&A – your voice is key
3. **Share with your networks** – Current live-stream + all sessions recorded and posted (all past meetings are online at haqast.org)
4. **Be a Translator** – If you hear terminology you don’t know, please help us build our glossary! <https://haqast.org/glossary/>
5. **Share your ideas** – Our work is driven by information needs from health and air organizations. Chatting now, and sharing in the meeting follow-up survey.

9:45 –10:15 MDT Networking Break (break area)

10:15 –11:30 MDT

Session 2A – Focus on the West: Drying Lakes, Dust Storms and Health (Room 3, Webinar A)

Session 2B – Multiple Pollutant Sources and Other Environmental Exposures (Room 1, Webinar B)

11:30am –1:30pm MST Lunch Break
(Provided with Funding from NYU)

1:30 – 2:45 MDT

Session 3A – Focus on the West: Exposures and Health Impacts from Wildland Fires (Room 3, Webinar A)

Session 3B – Comparing Models and Observations: Strength and Limitations of Satellite Data (Room 1, Webinar B)

2:45 – 3:15 MDT Networking Break (break area)

3:15 – 4:15 MDT

Session 4A – Emissions from Mobile Sources, Commercial Transportation, and Inland Ports (Room 3, Webinar A)

Session 4B – Examining Exposure and Health Inequalities: Defining Environmental Justice in the context of Outdoor Air Pollution (Room 1, Webinar B)

8:00am MDT – Shuttle departs from Hyatt Place Salt Lake City/Cottonwood to Department of Environmental Quality



UTAH DEPARTMENT of
**ENVIRONMENTAL
QUALITY**

8:30 – 9:30am MDT Coffee and Poster Session (Department of Environmental Quality)

Breakfast provided by New York University

9:30 – 9:45am MDT Break

9:45 –10:45am MDT Session 5A and 5B

Session 5A – Complementing Low-Cost PM2.5

Monitoring - How can satellite data provide value to community organizations and cities? (Board Room #1015, Webinar A)

11:00 – 11:40 MDT Session 6 Flash Talks: Data Products and Tools (Board Room #1015, Webinar A)

11:45am -12:30pm Session 7 & Closing Remarks From Measurement to Action: Translating Data to Decision-Making (Board Room #1015, Webinar A)



Session 5B – State Planning for Ozone - National Ambient Air Quality Standards (NAAQS) and Other Federal Rules (Four Corners Room #4100, Webinar B)

Image: Google StreetView

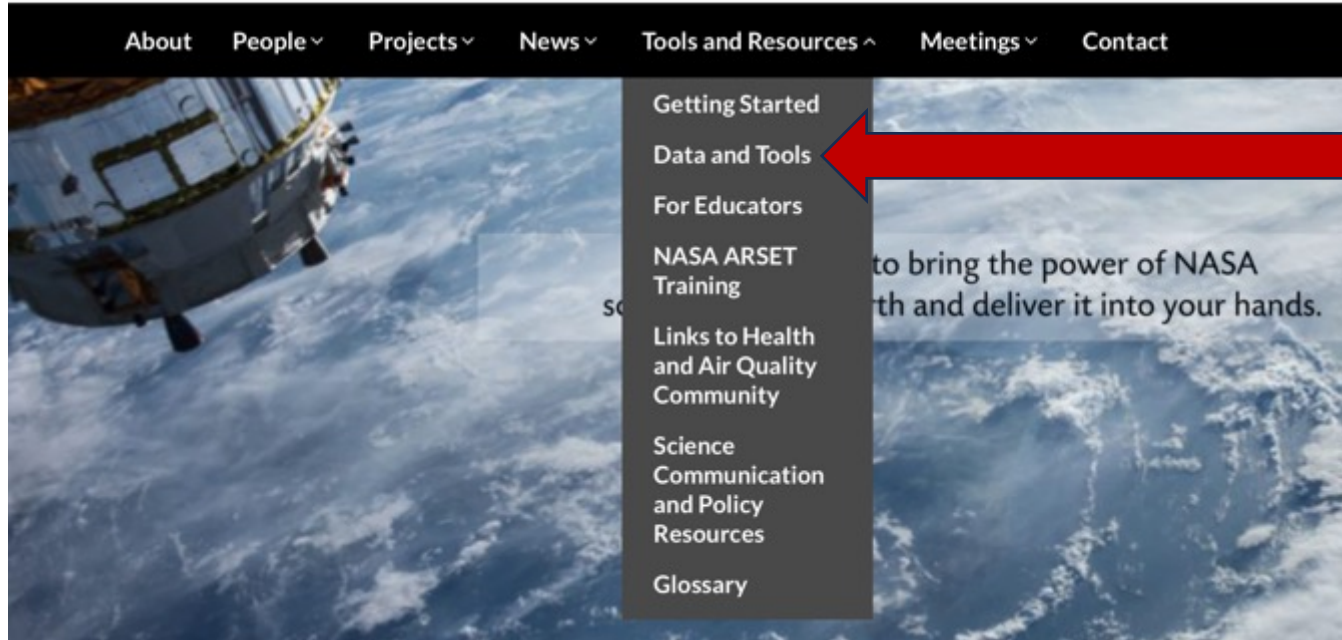
haqast.org

Getting Started Is Easy



NASA HEALTH AND AIR QUALITY APPLIED SCIENCES TEAM

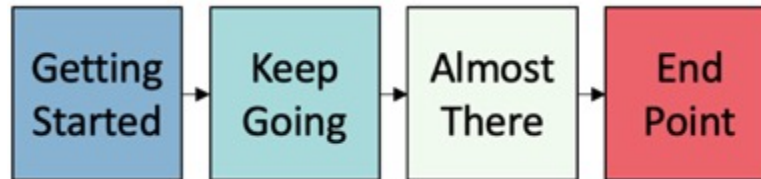
Connecting NASA Data and Tools with Health and Air Quality Stakeholders





Flowchart of Satellite Data Resources for Health and Air Quality Applications

- Goal: Guide users from a general question to a specific resource
- Current Platform: 54-page clickable document
- End Points: HAQAST tutorials, ARSET tutorials, websites, and publications



haqast.org

Getting Started Is Easy



NASA HEALTH AND AIR QUALITY APPLIED SCIENCES TEAM

Connecting NASA Data and Tools with Health and Air Quality
Stakeholders

Q Search

About People ▾ Projects ▾ News ▾ Tools and Resources ▾ Meetings ▾ Contact ^

Get Involved

HAQ Community
Forum

Our mission is to bring the power of NASA
science down to earth and deliver it into your hands.

NEW! Health and Air Quality Community Forum

Health and Air Quality Community Forum

Forums What's new Members Log in Register Search

New posts Search forums

Main Forum

	Threads	Messages	
Satellite Data Questions	5	11	Why use satellite data? Friday at 4:22 PM - Administrator
User Friendly Air Quality Tools	1	2	Fire event in Mantanzas Mar 15, 2023 - Administrator
Method Suggestions and Advice for Research	4	9	Python Tutorials May 12, 2023 - Alicia
Accessing Data Products	1	2	PM2.5 Datasets Mar 31, 2023 - Alexander Creighton

General Discussion

	Threads	Messages	
Please Read!	2	2	General Rules Mar 31, 2023 - Administrator
Upcoming Events	1	2	HAQAST Missouri Mar 15, 2023 - Jennifer McGinnis
Forum Suggestions	0	0	None

Members online
No members online now.
Total: 1 (members: 0, guests: 1)

Latest posts

- Why use satellite data?
Latest: Administrator - Friday at 4:22 PM
Satellite Data Questions
- Python Tutorials
Latest: Alicia - May 12, 2023
Method Suggestions and Advice for Research
- Ozone Nonlinearity
Latest: Jennifer McGinnis - Apr 28, 2023
Method Suggestions and Advice for Research

Forum statistics

Threads:	14
Messages:	28
Members:	17

- Browse already asked questions
- Create a profile to post a question or answer a question
- All levels of expertise are welcome!

<https://haq.community.forum/>

Jennifer McGinnis, Jenny Bratburd, and Community!!



HAQAST Massachusetts

- June 4 - 5, 2024 in Boston/Cambridge
- Public, hybrid meeting
- Dialogue with stakeholders & scientists