

NASA Aeronautics

July 2025
No. 50

Monthly STEM Newsletter

INSIDE

—
**National Wildland
Firefighter Day**
—

—
**Anniversary of the
NASA Meatball**
—

—
**NASA Aero 101,
Gateways to Blue
Skies Winners, and
MORE!**



NASA's ACERO Project tests their mobile air traffic kit during wildfire prevention operations. Credit: NASA

July 2025

Summer is heating up, Aeronauts! This month we celebrate and honor wildland firefighters for National Wildland Firefighter Day and we wish the NASA meatball logo a very Happy Birthday! Meet the NASA Aeronautics summer intern, Renee Miller, featured as the Aeronautics Crew Highlight. She's a fiery teacher with a great story and some fun hobbies. It is already time for students to start applying for SPRING 2026 internships so be sure to share this opportunity with anyone interested. Check out coming deadlines and a few extensions for college professors to engage in NASA capstone projects. Help us congratulate the Gateways to Blue Skies Competition winners and learn more about all the projects submitted to support agriculture through aviation. The X-59 is making her way through crucial testing and gearing up for first flight. Head to Flight Log now to sign up for upcoming flights and start collecting endorsement stamps, mission patches, other virtual flights, and more!

Do you need to see more of something or have a new idea for upcoming newsletters? Let us know! Do you know someone else who needs this monthly update? Share the good news. Not subscribed yourself? [Sign up for our monthly STEM newsletter](#) today! Have questions or want to be removed from the list? Send an email to april.a.lanotte@nasa.gov or holly.o.gutierrez@nasa.gov.

National Wildland Firefighter Day

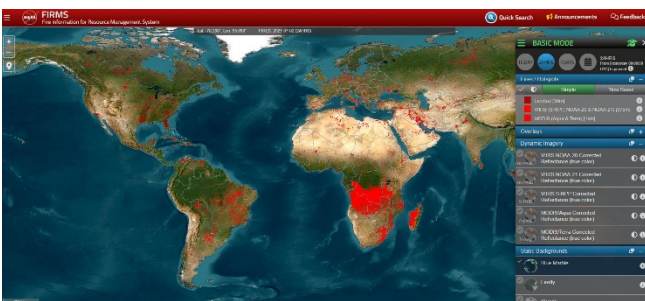
July 2nd

On July 2nd of each year, we honor those who work together to step into the flames of a wildfire to save human and animal lives. This day falls during the Week of Remembrance at the start of fire season and reminds us of the importance of fire safety.

Each year wildfires burn millions of acres of forests and grasslands, and wildland firefighters have a big job that requires collaboration with multiple agencies, sometimes across multiple states. NASA is working to help improve the capabilities of wildland fire emergency personnel with the use of uncrewed aircraft such as drones. [NASA's Advanced Capabilities for Emergency Response Operations \(ACERO\) Project](#) conducts research into the capabilities of uncrewed aerial vehicles (UAVs) to assist wildland firefighters during disaster situations.

To focus in on the importance of wildland fire research and mitigation efforts, NASA has several educational resources you can use today! These include:

The [NASA Fire Information Resource Management System \(FIRMS\)](#) webpage knows where wildland fires and potential hotspots are occurring across the globe. Access this real-time map to share active fires with your students or look back at other dates to look for trends or learn more about where and when wildland fires happen.



Explore the capabilities of UAVs with the [Drones to the Rescue](#) STEM activity. Use a coding program to create a simulation of a drone navigating through a wildfire. Join NASA in the mission to support and assist wildland fire personnel and learn more about who they are and what they do. Speaking of what they do, we also have a [Surprisingly STEM video](#) that highlights Wildfire Aeronautics Researcher Kathryn Chapman.

NASA Meatball Anniversary

July 15th



Happy 66th Birthday, NASA Meatball! The NASA logo has been lovingly dubbed “The NASA Meatball” since 1975. It became the official logo of NASA in July 1959 when the NACA (National Advisory Committee on Aeronautics) added space exploration to the mission becoming NASA (National Aeronautics and Space Administration). Created by chief designer, James Modarelli at NASA’s Lewis Research Center (now NASA Glenn Research Center) in Cleveland, Ohio, the meatball represents a different aspect of the missions of the air and space agency.

The sphere represents a planet, the stars represent space, the red chevron is a wing to represent aeronautics, and the orbiting spacecraft going around the wing represents the joint mission of space with aeronautics. The meatball logo did take a break from the limelight when the agency decided to take a more modern approach introducing the NASA “worm” logo, a red stylized writing of the letters N-A-S-A.

Today, both logos are highly recognized as representation of the air and space agency, NASA. NASA as an agency and all the people dedicating their expertise to the missions have not only created a home in the science and technological community but also with the public through pop culture and media. NASA has been [voted the best place to work in government for 13 years in a row!](#) The NASA meatball represents the teamwork and community of the NASA family. Read more about the [history of the NASA meatball](#) and its meaning.

Aeronautics Crew Highlights

National Intern Day - July 31st

In honor of National Intern Day, the Aeronautics STEM team invites you to learn more about our Aeronautics summer intern, Renee Miller. NASA is a family and works like a team, so we thank our interns for being a part of the NASA family and part of the mission!



"My path to becoming an educator intern with NASA has been anything but linear—but every step has

brought me closer to the intersection of science, education, and inspiration. I majored in physics and astronomy. In graduate school I studied history of science, then science education. Curiosity is what drives me, a desire to understand how things work. As my studies evolved, I become motivated to share that sense of wonder with others.

I have always loved museums, specifically science museums! As a kid, my favorite places were the Adler Planetarium and the Griffin Museum of Science + Industry. It's no surprise that my career began in museums. One of my first jobs was helping a museum develop an aviation camp. I taught the fundamentals of flight, but students also learned about the aviation industry. Watching students light up as they met with aviation professionals, made connections between theory and practice, showed me the power of real-world STEM experiences. I can't leave out that this is where I got to skydive for the first time!

I enjoyed working in informal education environments. They're interesting, engaging, and motivating. I started to wonder what it is about these places that people find so inspiring. What makes people pursue and stay engaged with scientific experiences? And the flipside, what are the hurdles encountered and how can we remove them? These questions don't have easy answers, but I do have some ideas! One involves sharing real-world stories with students and helping them make connections with people working in STEM fields.

My experiences in museums laid the foundation for my classroom work. As a middle school science teacher, I get to do fun, museum-like experiences, but I also have opportunities to build relationships with students over time. My classroom is a place where I test my theories about what keeps students interested and engaged in STEM. I connect students with scientists, create meaningful

field trip experiences, and engage in Citizen Science projects. Most importantly, I invite students to ask and answer the scientific questions that they believe are important. My students are full of questions, questions without straightforward answers! It's a challenge and a privilege to help them investigate their world and develop their own scientific identities.

I am always looking out for educational opportunities that challenge and inspire me. This is my second summer interning with NASA, and working with the Aeronautics team has been an amazing learning experience! It puts me at the crossroads of innovation and education. I have opportunities to contribute to educational materials, support outreach efforts, and think creatively about how to bring aeronautics to life. These internships allow me to grow professionally and spark students' interest in fields that they might never have considered.

Contrary to what my students may believe, I do have a life outside of the classroom. I enjoy live music and spending time outdoors with my family. If I weren't a teacher, I would be a baker - my signature dish is pumpkin whoopie pies. Fun fact - I have been teaching aerial yoga for over ten years."

Welcome to the NASA Aeronautics Team, Renee!

STEM Opportunities COMING SOON!!

New Aeronautics STEM Activities

Stay tuned for more STEM coming just in time for back-to-school! At NASA, we believe in Aeronautics for Everyone, so come back to find what we've been cooking up over the summer for everyone to learn from and dream for the future.

Deadline Extended! NASA Aeronautics Capstone Projects

CALLING ALL PROFESSORS! The college capstone program has extended their deadline to **July 31st, 2025**. Opportunities include:

- Optimization of Excitations for System Identification
- Wind Tunnel Demand Forecast Model
- Advanced Air Transportation System Concept for 2040+
- Aircraft Design & Demonstration of Active Flow
- Airspace Resilience Analysis
- Aero-structural Wing Design Optimization
- Predictive Maintenance for Wind Tunnel Test Facilities

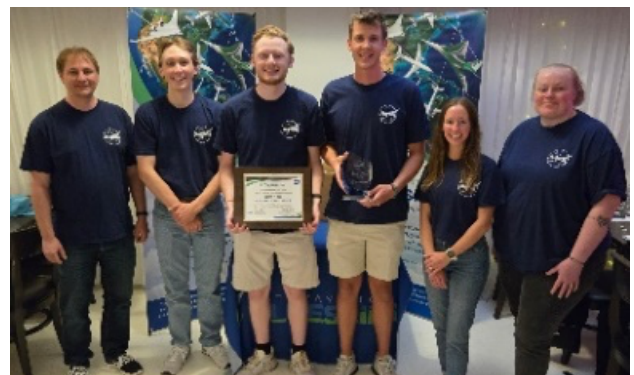
Log in or create an account on [NASA STEM Gateway](#) to find the aeronautics capstone projects and learn more while working with NASA experts.

We Have Winners! Gateways to Blue Skies Competition



The Gateways to Blue Skies Competition challenges teams of multidisciplinary university students of all academic levels to solve climate-related challenges.

The 2025 theme, *AgAir: Aviation Solutions for Agriculture*, tasked teams with finding solutions to support the agricultural industry through aviation. The winning team members are awarded an opportunity to intern during the 2025-2026 academic year at one of the four aeronautics-focused centers: Langley Research Center, Glenn Research Center, Ames Research Center, or Armstrong Flight Research Center.



CONGRATULATIONS to the winners of the 2025 Gateways to Blue Skies Competition!

1st Place: South Dakota State University
Project: Soil Testing and Plant Leaf Extraction Drone

2nd Place: University of Tulsa
Project: CattleLog Cattle Management System

Best Technical Paper: Boston University
Project: PLAANT – Precision Land Analysis and Aerial Nitrogen Treatment

Read more in [NASA's Winners Announcement](#) and learn about the projects submitted for the 2025 competition at the [Gateways to Blue Skies website](#).

Get the Scoop on NASA Aeronautics: NASA Aeronautics 101

Join the Aeronautics Team and a special guest each month to learn more about NASA Aeronautics missions, activities, and opportunities. Use the information to bring conceptual engineering, career pathways, and more to your students. Join us on the fourth Wednesday of each month for a different Aeronautics topic. We meet via Teams with the next session being held on **July 23rd at 6pm ET/ 3pm PT**. It's easy to join--just use the information below to join the conversation. If you register in [NASA STEM Gateway](#) to let us know you're coming, you'll receive a copy of the presentation at the end of the session. We look forward to seeing you!

[Join us July 23rd!](#)

Meeting ID: 252 856 825 018

Passcode: Hc3md7wh

NASA Internships

Find [NASA Centers and Facilities](#) to learn more about what each center and facility has to offer, then head to the [Internship webpage](#) to find in-person opportunities in a variety of

career fields. Spring 2026 internship applications are open through **September 12th, 2025**. Students 16 years and older are eligible to apply.



Join the NASA Internship webinar on **Friday, August 1st, 2025, 1-2 pm ET** to explore internship opportunities, learn about eligibility and application requirements, and discover how to apply. Hear from current interns about their experiences and get tips to make your application stand out. This session will guide you through everything you need to know to kickstart your NASA journey. Q&A included! Register on [NASA STEM Gateway](#) to join the call.

High School Students, This One Is For YOU! NASA Glenn High School Capstone Projects



Did you know NASA's Glenn Research Center is using aeronautics to study algae? NASA scientists are using uncrewed aerial vehicles (UAVs) equipped with remote sensors to study harmful algal blooms. High school students apply for your chance to work closely with NASA experts and present your project at the culminating event. The [Glenn High School Capstones webpage](#) has all the information. Head to [NASA STEM Gateway](#) to learn how to qualify and apply by **September 19th, 2025**.

Don't Miss Your Chance to Fly with the X-59!

NASA Aeronautics Flight Log

Learn how the flight crew is working hard to get the X-59 off the ground when you watch NASA's new YouTube shorts series, "[59 Seconds on NASA's X-59](#)." Join Nils Larson as he talks about the X-59 in 59 seconds and read the description to get your Flight Log code. Head to [NASA Aeronautics Flight Log](#), enter the code,



and start building your virtual flight log today!

Explore STEM activities, videos, and more to learn all about NASA Aeronautics, the crew, and the missions. Attend a NASA Aeronautics event and complete STEM activities to collect endorsement stamps and earn virtual mission patches. Stay in the know with new opportunities and activities when you join the [contact list](#). Join today and fly with us!

More Opportunities! Are you interested in other STEM connections with NASA? Log in or create a new account to join [NASA's STEM Gateway](#) to find opportunities that interest you. Check out [NASA Engages](#), submit a request to connect NASA experts with the community to share NASA missions and content inspiring students to pursue a career in STEM!

Did you know?

July 6th is Air Traffic Control Day! Air traffic controllers are the people who manage and direct air traffic safely and efficiently in designated airspace. Today we celebrate the air traffic control system established in the U.S. in 1986 and the air traffic controllers who dedicate their profession to keeping people safe in the air and on the ground. [NASA's Smart Skies](#) program helps learners to understand the basics of air traffic control using mathematical processes, critical thinking, and problem-solving skills. Get familiar with Smart Skies today but come back next month to see the NEW updated version. Learn about the research NASA is conducting with the [Air Traffic Management eXploration \(ATM-X\) project](#) to protect our future airspace.

July 29th is the anniversary of when President Dwight D. Eisenhower signed NASA into law. Happy Anniversary, NASA! Before venturing into space, NASA was the NACA (pronounced N-A-C-A) exploring the possibilities of aviation and how it impacts life on Earth. In 1925, the NACA transitioned to NASA by adding space exploration to the mission. Together they make this organization stronger and inspiring to future generations who dream of flying whether in air or in space. Learn more about NASA's history with the [History of NACA](#), the [History of NASA](#), and use the [NACA to NASA timeline poster](#) for everyone to see how NASA has made great progress in aerospace over the years.

Links to our Aeronautics STEM Resources:

[Aeronautics STEM Page](#): (all ages) This link takes you to a wide variety of educator resources, Aeronautics@Home, ebooks, National Academies Reports, webinars, lithographs and mini posters, the NASA Aeronautics Research Institute, and more.

[Aeronautics@Home](#): (K-12) This web page contains aeronautics-based activities, videos, games, and more that can be completed at home, in the classroom, or in any number of settings. Topic areas include: "Build It!" "Make It!" "Explore It!" "Watch It!" "Solve It!" "Color It!" "Read It!" "Craft It!" and "En Español".

[Aeronautics Innovations Challenges](#): Keeping up with our many design challenges and opportunities for both post-secondary and K-12 can be tough. In response, we created a "one-stop shop" to pull them all together in one location.

[Flight Log Experience](#): (K-12, post-secondary, general public) Sign up to send your name with NASA Aeronautics on X-planes, UAS flights, and more as you build your virtual NASA flight log. Earn virtual endorsement stamps and mission patches and access aeronautics STEM activities and resources. Educators can sign up their entire class.

[Museum and Informal Education Alliance](#): (Informal Educators and Museums) Not in a classroom? Looking for informal education materials? Join NASA's Museum and Informal Education Alliance, where you have access to NASA resources—including aeronautics—for your program, organization, museum, science center, or library. Find out about events happening near you and in the virtual world, and let the MIE Alliance help you build your programs! Access to guest speakers, the latest announcements about grant programs, and an active community network allow you to connect with other like-minded people in a supportive, engaging, and aerospace-focused neighborhood.

[NASA Connects](#): (K-12, post-secondary) NASA Connects is a network of educators who come together to collaborate, share NASA resources, and create personal collections of materials that can then be shared with others. Members can join groups tailored to their specific interests.

[NASA Express Sign-Up](#): (K-12, post-secondary) Have you signed up for NASA's NASA EXPRESS weekly newsletter? This newsletter contains the latest information for educators (K-12 and post-secondary) about new resources, design challenges, internships, and workshops. It is THE go-to for the latest STEM news.

[Space to Learn](#): (K-12, post-secondary, educators, general public) Need more resources from a variety of contents? NASA has a page full of learning resources from all projects and programs at NASA.

National Aeronautics and Space Administration

Headquarters

300 E. Street, SW
Washington, DC 20546

www.nasa.gov/aeroresearch