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# SMSCFebruary 2022 Newsletter

## NASA News This Month



### Fully deployed & nearly a million miles from Earth!

The James Webb Space Telescope will not be in orbit around the Earth, like the Hubble Space Telescope is - it will actually orbit the Sun, 1.5 million kilometers (1 million miles) away from the Earth at what is called the second Lagrange point or L2. What is special about this orbit is that it lets the telescope stay in line with the Earth as it moves around the Sun. This allows the satellite's large sunshield to protect the telescope from the light and heat of the Sun and Earth (and Moon).

Happy 130th,  
[Bessie  
Coleman](#), the

first African American, and the first Native American, woman pilot (who now has a [mountain on Pluto](#) named after her) is a must for anyone seeking to tell great stories about early aviators!



## Local Events

**Mar. 31st - Artemis Watch party @ SCC (this will also be livestreamed)**

We are looking for partners who would like to do events around the release of the first images from James Webb Space Telescope - July through October, 2022. Please email us if interested. Here's some background: <https://outerspace.stsci.edu/display/WSTCE/>

## Challenges, Opportunities & Resources

### The 2022 NC GreenPower Solar+ Schools grant is here!

Any North Carolina K-12 school may apply for a grant toward the installation of an educational solar array, including a weather station, temperature sensors, data monitoring and much more. In addition, awardees receive related benefits, including a STEM curriculum and teacher training.

**Submissions due by 11:59pm on Monday, February 28, 2022** More here:

<https://www.ncgreenpower.org/solar-schools/#2022-schools>

### NASA GLOBE Cloud Challenge 2022: Clouds in a Changing Climate

**[15 January to 15 February 2022]**

<https://observer.globe.gov/cloud-challenge-2022> Did you know that clouds can both warm and cool our planet? Keeping an eye on clouds helps NASA study our climate. We need your help capturing data about clouds where you live! [The Global Learning and Observations to Benefit the Environment \(GLOBE\) Program](#) invites you to take part in our upcoming Cloud Challenge: “Clouds in a Changing Climate.”



### NASA Offers \$1 Million for Innovative Systems to Feed Tomorrow's Astronauts

Good food for healthier, happier humans in space and on Earth. The Deep Space Food Challenge is an international competition where NASA offers prize purse awards to U.S. teams and recognition to international teams. Teams are invited to create novel and game-changing food technologies or systems that require minimal inputs and maximize safe, nutritious, and palatable food outputs for long-duration space missions, and which have potential to benefit people on Earth. Find more information here:

<https://www.deepspacefoodchallenge.org/challenge>

## Career Connections

NASA's new "[Groundlinks](#)" program connects students with crew members currently inside NASA's Human Exploration Research Analog, or HERA, a habitat housed at NASA's Johnson Space Center in Houston, Texas. Through the crew's answers, students can learn more about how NASA prepares humans to live and work in space. [Click here](#) to watch the first Groundlinks episode, featuring HERA crew members Christopher Roberts and Madelyne Willis.



## Feb. 2 [5pm] - VEEPS: Careers in Planetary Science

The Lunar and Planetary Institute is pleased to offer a free virtual program for high school students and their families. In this webinar, you will learn about the multidisciplinary careers in planetary science and the different ways that students can get involved in this exciting and growing field. We hope you'll join us for this unique opportunity to hear from experts, ask questions, and begin planning your future! **Register HERE:** [https://www.zoomgov.com/webinar/register/WN\\_uC6CFliWRNewHuPY2Sf8Tg](https://www.zoomgov.com/webinar/register/WN_uC6CFliWRNewHuPY2Sf8Tg)

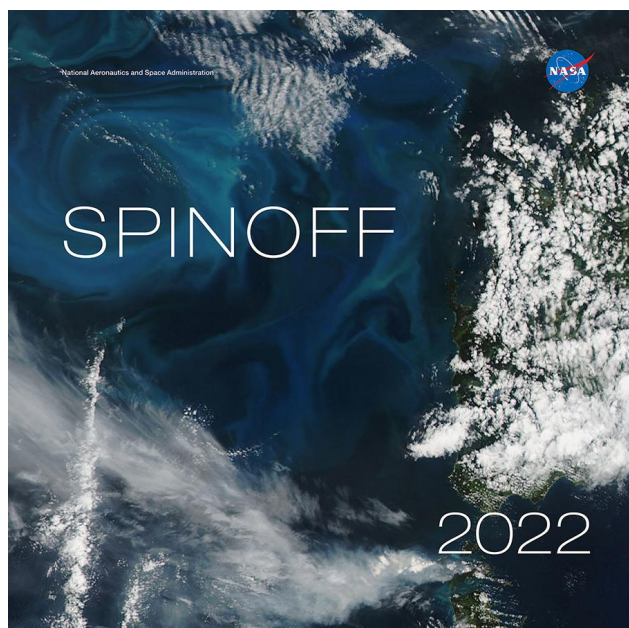
## Feb. 21st - applications are due for STEM Enhancement in Earth Science an internship program for High School Students.

SEES will accept interns who are 16 or older by July 1, 2022. The only costs are for your transportation to/from Austin and any incidentals. SEES provides transportation to/from the airport and dorm, dorm costs, meals, and activities. We do have travel scholarships for students in need. **However, this year is a hybrid model with both on-site and virtual opportunities. Find more information here:**

<http://www.tsgc.utexas.edu/sees-internship/>

**Ask SME: Close-up with a NASA Subject Matter Expert** - Ask SME videos are professionally developed to capture a glimpse of NASA SME's personal interests and career journeys. Each can be used to spark student interest and broaden their ideas of the STEM workforce. Find them HERE:

<https://nasaclips.arc.nasa.gov/careerconnection>



**NASA Spinoffs Help Fight Coronavirus, Clean Pollution, Grow Food, More** - learn more about:

- How companies use information from [NASA's vertical farm](#) to sustainably grow fresh produce
- New ways that technology developed for insulation in space [keeps people warm](#) in the great outdoors
- How a system created for growing plants in space now helps [improve indoor air quality](#) and reduces the spread of airborne viruses like coronavirus
- How phase-change materials – originally developed to help astronauts wearing spacesuits – absorb, hold, and release heat to help keep [race car drivers](#) cool

## K-12 Educators

### NASA Kahoots!

Want to learn more about the engineering, science, and technology responsible for talking to astronauts and retrieving data from the Moon and beyond? Explore the challenges faced by communications engineers from NASA's Goddard Space Flight Center in Greenbelt, Maryland, with this [quick, fun quiz](#) for students ages 13 and older.



**Feb. 3: 9:30-11:30 a.m. EST [Tune in live to watch](#) in-flight education downlinks**

between students on Earth and astronauts orbiting 250 miles above in space. Students will ask questions of NASA astronauts living and working on the International Space Station. Can't fit in into your schedule - no problem, you can watch recordings with this YouTube playlist:

<https://youtube.com/playlist?list=PLTUZypZ67cdv9X4DxjUGvN4wfN6EdHTUo>

**GLOBE Educator One-Week Pacing Guides** - Are you interested in doing GLOBE but not sure where to start? Check out these guides which provide a five-day sequence of activities that address a guiding question. More information and webinars can be found here:

<https://www.globe.gov/web/nasa-langley-research-center/home/resources>

- [Air Quality \(Aerosols\)](#) - Grades 6-12
- [Cloud Types Featuring NASA GLOBE CLOUD GAZE](#) - Grades 3-8
- [Clouds and Energy Budget](#) - Grades 6-12
- [Mosquito Habitat](#) - Grades 4-8
- [Plant Phenology](#) - Grades 4-8
- [Trees and the Carbon Cycle](#) - Grades 6-12
- [Urban Heat Islands](#) - Grades 6-12

**Nominate a Student with Perseverance** -

Teachers, educators, and community leaders are encouraged to nominate middle school students who've shown that nothing will deter them from their educational journey. The next opportunity **opens Feb. 1st**.



More details [HERE](#):

<https://mars.nasa.gov/mars2020/participate/got-perseverance/#Opportunity-2>

**CS4ALL NSF Supported Program at Appalachian State University**

**Summer 2022 Dates: (June 19 - July 15)** The objective is to train high school teachers to teach AP CS Principles in their schools. During this four-week summer program, participants will gain skills that they can utilize to establish an AP CS Principle course and create instructional and support material for their course. In addition, participants will have hands-on experience with some CS modules that they can use in their courses. **Full-time high school or early college teachers are eligible.** We are seeking energetic and motivated participants who can entice students about computer science and its application in different fields.

More information here: <https://cs.appstate.edu/cs4all/index.php>

**REPOSITORY ALIGNED TO NC STATE STANDARDS** *(currently under revision)*

<https://www.southwesterncc.edu/stem/stem-repository>



## Books, Videos & Interactives

**Think Scientifically - Elementary School Science Literacy Program** - a three-book series for elementary school teachers that integrates math, science and reading instruction. It can be downloaded from HERE: <https://sdo.gsfc.nasa.gov/epo/educators/thinkscientifically.php>

**Space Nutrition for Kids** - [https://www.nasa.gov/sites/default/files/space\\_nutrition\\_book.pdf](https://www.nasa.gov/sites/default/files/space_nutrition_book.pdf)

**Astrobiology** - a graphic novel series that explores the many facets of astrobiology: the study of the origin, evolution, and distribution of life in the Universe.

<https://astrobiology.nasa.gov/resources/graphic-histories/>

**NOTE: If you would like us to supply hard copies of these downloadable books, just ask!**



**Video [Time= 7:02]** The first “A” in NASA is “[with you when you fly](#),” and has great ways to help you engage your audiences in the past, present, and future of aeronautics, including the recent [75 years of Armstrong video series](#), the spring launch of the [X-57 experimental all-electric airplane](#), and the upcoming [imaginAviation](#) three-day, virtual event with a special STEM Engagement component.

**Interactive Webb 360 virtual tour** of the science

behind the James Webb Space Telescope Mission

<https://p.tourit.etx.asu.edu/tl2jve4u/619dlwfm3kbme19/index.html>

**Astromaterials 3D** - A virtual library for exploration and research of NASA's space rock collections. You can watch a demo of how to use this resource with this video: [https://youtu.be/k-aYsYq\\_vUk](https://youtu.be/k-aYsYq_vUk) [start at 30 minutes to how to use this resource or watch the whole thing and explore a virtual tour of the meteorite lab]!

## Professional Development

Join the **NASA STEM Engagement & Educator Professional Development** Collaborative at Texas State University for FREE 60-minute webinars. **Earn 1-hour of professional development** credit by attending. See the titles, dates, and registration links for each event HERE: <https://www.txstate-epdc.net/event-post/>



## Opportunities For All

**February 15, 2022, Tuesday, 2pm-3pm Eastern - Online Workshop: Increasing Community Resilience to Extreme Weather and Environmental Hazards - The Citizen Science, Civics, and Resilient Communities (CSCRC) Project** The CSCRC Project aims to engage the public in active learning and resilience planning around heat waves, sea level rise, extreme precipitation, and drought. In this online workshop we will hear from the core project team as well as select NISE Network partners who participated about their work and ways you too can engage communities in this content. [Learn more and register](#)

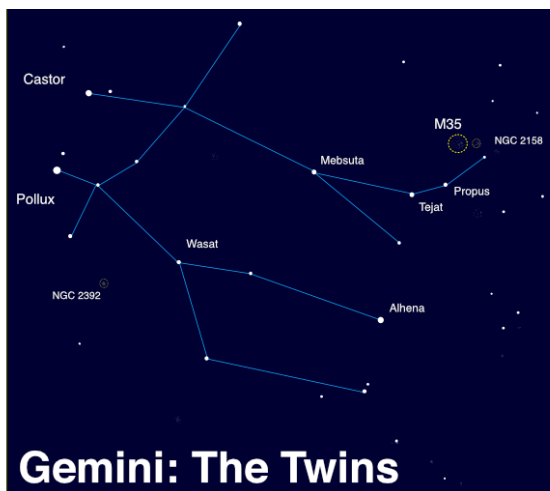
**NASA's Eyes on the Earth Puts the World at Your Fingertips** - NASA's real-time 3D visualization tool [Eyes on the Earth](#) got a recent upgrade to include more datasets, putting the world at your fingertips. Using the tool, you can track the planet's vital signs – everything from carbon dioxide and carbon monoxide to sea level and soil moisture levels – as well as follow the fleet of Earth satellites providing those measurements.

<https://www.jpl.nasa.gov/news/nasas-eyes-on-the-earth-puts-the-world-at-your-fingertips>

In addition, there are also Eyes on the Solar System, Asteroids, Exoplanets & Mars! Find them all here: <https://eyes.nasa.gov/>

## February skies

[Happy Year of the Tiger](#) February 1st is the start of the new lunar year. For those celebrating in any capacity, NASA resources can help with [awesome visuals](#), hands-on [activities](#), and custom [planetarium shows](#). Need more? [Just ask!](#)



The Night Sky Network's "[Legends in the Sky](#)" activity includes downloadable "Create Your Own Constellation" handouts so you can draw your own star stories.

Image created with assistance from Stellarium. [https://nightsky.jpl.nasa.gov/news-display.cfm?News\\_ID=994](https://nightsky.jpl.nasa.gov/news-display.cfm?News_ID=994)

We are available for in-person/in-class activities on Fridays. You can use [this spreadsheet](#) to check availability and make plans. Days other than Fridays may be available - just ask by emailing [r\\_neff@southwesterncc.edu](mailto:r_neff@southwesterncc.edu)!