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SMSC December 2021 Newsletter

News This Month

We spent the last week of November meeting with all of our NASA partners in the Science Activation Collective. The purpose was to strengthen connections, review 2021, plan for 2022 and LEARN from each other. Here locally in WNC we are interested in your ideas - what has been useful for you in this newsletter? Please take a minute to give us feedback using this form: <https://forms.gle/rzx4jbHtBzq6447TA>

NASA NEWS & Events



James Webb Space Telescope Launch on Dec. 22nd!

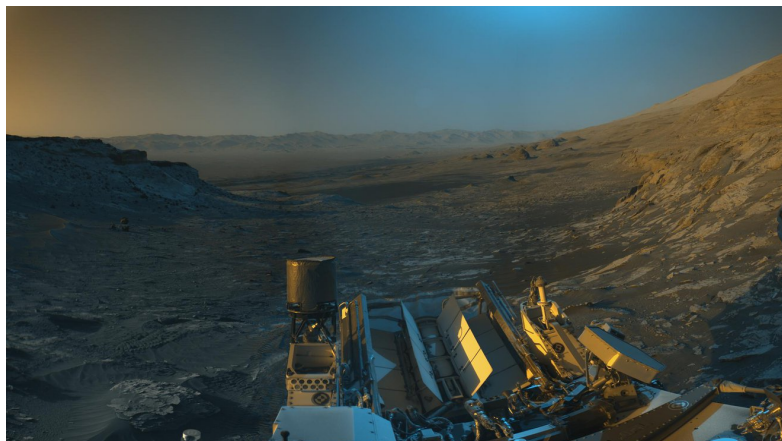
The James Webb Space Telescope (Webb) will be the largest, most powerful and complex space telescope ever built and launched into space. Launching from French Guiana on December 22, 2021, NASA and its international partners want to help you celebrate this generational moment in our common exploration of the wider universe, through in-person or virtual events. Find a listing of events here: <https://outerspace.stsci.edu/display/WSTCE>

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's Curiosity Rover Sends a Picture Postcard From Mars



NASA/JPL-Caltech - more info here: <https://www.jpl.nasa.gov/images/a-picture-postcard-from-curiositys-navcams>

K-12 Opportunities & Resources

Computer Science Education Week is Dec. 6-10. This annual event seeks to inspire K-12 students to learn computer science, advocate for equity in computer science education and celebrate the contributions of students, teachers, and partners to the field. Launch your celebration with [NASA computer science educational resources](#).



Connect Students with Laser Communications! - NASA's Laser Communications Relay Demonstration (LCRD) will showcase the advantages of communicating information using infrared lasers! This is known as laser communications. Learn more about LCRD with these STEM activities for students, ranging from K-12. Download the activities and answer sheets here:

https://www.nasa.gov/mission_pages/tdm/lcrd/connect-students-with-laser-communications.html

GLOBE International Virtual Science Symposium - If you missed the Informational Webinar for the 2022 GLOBE International Virtual Science Symposium (IVSS), it has been recorded and is now available. The webinar provides an overview of the 2022 IVSS, including submission requirements.

The theme for the 2022 IVSS is “Engineering Solutions for a Changing Climate.” Students are encouraged to think creatively about engineering and solving environmental issues through engineering solutions, especially concerning climate change.

To view the webinar, [click here](#); To view the slide deck, [click here](#).

Dates to Keep in Mind:

- Reports Accepted: 01 January through 11 March 2022
- Judging Webinar: 30 March, 10:00 a.m. MT (To join, [click here](#); passcode: 2022IVSS)
- Judging Period: 30 March through 06 April
- Feedback and Virtual Badges Shared: 22 April
- Drawing for Stipends: 22 April



NASA Challenges Students to Design Moon-Digging Robots The [Lunabotics Junior Contest](#) is open to K-12 students in U.S. public and private schools, as well as home-schoolers. To enter the contest, students must submit entries, which must include an image of the robot design and a written summary explaining how the design is intended to operate on the Moon, **by Jan. 25, 2022**.

<https://www.nasa.gov/press-release/nasa-challenges-students-to-design-moon-digging-robots>

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>

MATERIALS FREE to CLASSROOMS (They're doing no good sitting in an office)

(send an email to r_neff@southwesterncc.edu to claim these for your classroom)

- [Mosquito mapper guide and materials](#)
- The GLOBE Program information guide & activity [connections to NGSS](#)
- Astrobiology Curriculum guide and graphic story books
- Far Out Math Activities Guides

Professional Development Webinars



Dec. 6 - 10 [1:00pm] join Tynker for daily **CodeLab Live sessions** featuring NASA subject matter experts. Get up to speed on Tynker's space-themed "NASA's Return to the Moon" coding adventures and learn about the NASA Artemis missions that will land the first woman and first person of color on the lunar surface. Teachers can join live to have Tynker run the Hour of Code for them. [RSVP here](#).

Dec. 8th [1:00pm] Educator Guides for the Artemis Generation

NASA's Office of STEM Engagement is creating educator guides that will allow teachers to help their students develop the skills needed to move us into the future. Each guide has 4 activities and all of the accompanying background information to make sure educators are comfortable leading students along the way. **Register Here:**

<https://origin-www.eventscloud.com/ehome/index.php?eventid=650928&>

Dec. 9th [2:00pm] The Story Maps Tell

How can data and maps work together to tell a story? Join the GLOBE (Global Learning and Observations to Benefit the Environment) program for a professional development webinar for teachers and citizen scientists to find out. Dr. Michael Jabot will share the story maps tell using

data from GLOBE Mosquito Habitat Photo Challenge and StoryMaps. Explore ways to use these free online data and tools with your students or projects. [Click here](#) to register.

Dec. 15th [4:30 pm] - Computational Thinking: Crew Transportation with Orion

Explore the Crew Transportation with Orion educator Guide. Using science, engineering and geometry, students design, build and test model spacecraft. **Register Here:**

<https://origin-www.eventscloud.com/ehome/index.php?eventid=648298&>

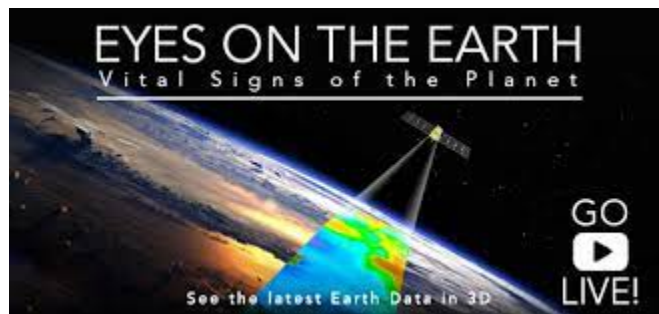
Opportunities For All

Join the NASA Night Sky Network on **Tuesday, December 7** at 6:00pm Pacific Time (9:00pm Eastern) to hear **Dr. Jerry Bonnell from NASA's Astronomy Picture of the Day** bring us the best of APOD for 2021.

Along with Robert Nemiroff, Jerry Bonnell has written, coordinated, and edited NASA's [Astronomy Picture of the Day](#) (APOD) since 1995. The [APOD archive](#) contains the largest collection of annotated astronomical images on the internet.

Public Engagement with Science - This is a guide to creating conversations among the public and scientists for mutual learning and societal decision-making. This guide is designed to help staff at informal science education organizations and others who are interested to develop, implement, and evaluate activities and events that incorporate the multidirectional dialogue and mutual learning at the heart of public engagement with science. Read here:

https://www.mos.org/sites/dev-elvis.mos.org/files/docs/offerings/PES_guide_10_20r_HR.pdf



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>

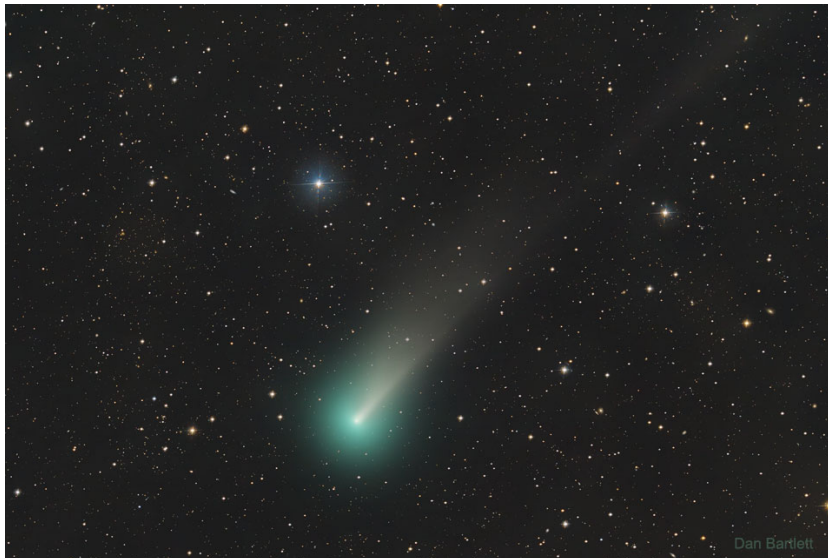
December skies

What are some skywatching highlights in December 2021? See three planets after sunset, but say goodbye to Venus as the "Evening Star" at the end of the month. Then have a hunt for newly discovered Comet Leonard in the early morning through mid-month. **Finally, get up early on Dec. 14 to watch for Geminid meteors after local moonset, around 2 a.m.**



The constellation Auriga in the northeast sky at nightfall in December. The brightest star in this constellation is golden Capella. The bright red star just above the horizon is reddish Aldebaran in the constellation Taurus. Image via Till Credner, [AlltheSky.com](https://www.allthesky.com).

Astronomy Picture of the Day



Introducing Comet Leonard
Image Credit & Copyright: Dan Bartlett

Explanation: Here comes Comet Leonard. Comet [C/2021 A1 \(Leonard\)](https://www.nasa.gov/feature/comet-leonard) was discovered as a faint smudge in January 2021 when it was out past [Mars](https://www.nasa.gov/feature/comet-leonard) -- but its [orbit](https://www.nasa.gov/feature/comet-leonard) will take the [giant shedding ice-ball](https://www.nasa.gov/feature/comet-leonard) into the inner Solar System, passing near both [Earth and Venus](https://www.nasa.gov/feature/comet-leonard) in December before it swoops around the Sun in early January 2022.