



## AIAA Tucson Section - Free NASA STEM Webinar

### AIAA Tucson Section Announces for Educators

*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 below the titles, dates, and registration links for each event.*

#### **Explore Earth: Examining Our Planet's Changing Climate**

Event Date: Sept. 21 at 1 p.m. EDT

<https://na.eventscloud.com/571783>

NASA's Earth Science Division (ESD) missions help us to understand our planet's interconnected systems, from a global scale down to minute processes. Working in concert with a satellite network of international partners, ESD can measure precipitation around the world, and it can employ its own constellation of small satellites to look into the eye of a hurricane. Using observations from satellites and other instruments NASA has collected extensive data to document our planet's ecosystem and changing climate. In this webinar, participants will learn about how NASA's monitor the health of our planet and explore related resources and standards aligned lessons to engage student in climate science.

#### **NASA STEM: The Importance of Trees - Greening Up Globally**

Event Date: Sept. 21 at 5 p.m. EDT

<https://na.eventscloud.com/565875>

Integrate GLOBE Trees into your programming by exploring the role of trees through a fun game of tag or using various tools and methods to measure tree height. Trees cool and moisten our air and fill it with oxygen and can help balance our carbon budget.

#### Quick Links

[AIAA National](#)

[AIAA Tucson](#)

[Tucson Facebook](#)

[Tucson Twitter](#)

#### Upcoming Events

Sep 25

YP Virtual Game Night

Oct 9

Tucson Technical Mini-Conference

Oct 12

Monthly Leadership Council Meetings

Nov 9

Members Meeting

Nov 15-18

ASCEND

Did you know that forests are considered one of the world's largest banks for all of the carbon emitted into the atmosphere through natural processes and human activities? During this webinar you will gain experiential awareness of different kinds of land cover and how those change across the surface of the land.

### **Explore Earth: Balancing the Sea Level-Rise "Budget" with NASA**

Event Date: Sept. 21 at 6:30 p.m. EDT

<https://na.eventscloud.com/573858>

Ocean levels have fluctuated over the past 120 years, with notable rises occurring in recent decades. As a result, more and more coastal communities around the world are experiencing sea level-rise flooding events, and the expectation is that their extent and frequency will increase during the next 50 years. In order to accurately predict future sea level rise, scientists rely on various data sources (past and present) to create a "budget," which accounts for all inputs and outputs to the Earth's ocean system. In this webinar, participants will learn about NASA research projects (airborne and satellite) that are improving our understanding of historic ocean measurements and the contributing factors to sea level rise. Relevant instructional resources will also be included.

### **Explore Earth: Radiation & The Electromagnetic Spectrum**

Event Date: Sept. 22 at 4:30 p.m. EDT

<https://na.eventscloud.com/573731>

Participants will learn about life onboard the International Space Station and the impacts of radiation. We will take a tour of the Electromagnetic Spectrum which includes videos that introduce electromagnetic waves, their behaviors, and how scientists visualize these data. Each region of the electromagnetic spectrum (EMS) is described and illustrated with engaging examples of NASA science. Come and explore the amazing world beyond the visible!

### **NASA EPDC Virtual Learning Opportunities: Digital Badges for Educators and Students**

Event Date: Sept. 22 at 6 p.m. EDT

<https://na.eventscloud.com/573163>

Participants will receive an overview of the EPDC virtual learning opportunities that are available to educators and students. We will take a walk through the EPDC website to discover the resources available to assist educators with their STEM instruction and students with their continuous STEM

learning. A detailed overview of the educator and student digital badging systems will be shared to include, creating an account, exploration of the available badges and student communities.

### **Explore Flight: Smart Skies**

Event Date: Sept. 23 at 1 p.m. EDT

<https://na.eventscloud.com/574273>

you want to engage your students in real life applications of mathematics and science? NASA Fly By Math consists of five Air Traffic Control (ATC) problems. Each examines a different distance-rate-time air traffic scenario that an air traffic controller might encounter. Each ATC Problem features a Student Workbook and a Teacher Guide. All curriculum materials are free and available to download.

### **Explore Space Tech: ECLSS, Water Filtration and the Engineering Design Process**

Event Date: Sept. 23 at 4:30 p.m. EDT

<https://na.eventscloud.com/570400>

NASA's fleet of satellites, its airborne missions and researchers address some of the critical challenges facing our planet today and in the future: climate change, sea level rise, freshwater resources and extreme weather events. Come learn about the Environmental Control and Life Support System onboard the International Space Station that reclaims wastewater. Learn about hands-on experiments and physical demonstrations that can be used within the classroom to create, build, and test a water filtration device using commonly available materials.

### **Small Steps to Giant Leaps: 3...2...1...Takeoff! Presented in Spanish**

Event Date: Sept. 23 at 6 p.m. EDT

<https://na.eventscloud.com/574118>

Los participantes obtendrán información de la actividad 3,2,1...¡Despegue!. La aplicación de las cuatro fuerzas de vuelo y la tercera Ley de Newton es importante en la aeronáutica y sobre todo en hacer volar x-planes de papel. Regresaremos en la historia con los X-Planes y las investigaciones de aeronáutica de la NASA y al mismo tiempo veremos hacia el futuro de las inovaciones aeronáuticas de la NASA. Durante décadas la NASA ha estudiando el ruido en los aeroplanos para poder reducirlo. Participe y aprenda acerca del nuevo X-plane, el X-59 QueSST y de la investigación del vuelo supersónico silencioso de la NASA. Además compartiré una visión general de los recursos educativos relacionados con la NASA tales como: videos, hojas de información con echos relevantes, productos disponibles para imprimir y

oportunidades de desarrollo profesional. Estos recursos abordan los estándares nacionales de ciencias y matemáticas.

### **Commercial Crew Program Updates and New Resources**

Event Date: Sept. 24 at 5 p.m. EDT

<https://na.eventscloud.com/574422>

NASA's Commercial Crew Program is the next phase in space transportation, enabling industry to provide safe, reliable and cost-effective access to and from the International Space Station and low-Earth orbit. Get updates about the companies, the vehicles, the crew and the STEM classroom resources related to the Commercial Crew Program.

### **Explore Earth: "Denting" Our Planet's Magnetic Field**

Event Date: Sept. 24 at 6:30 p.m. EDT

<https://na.eventscloud.com/574079>

A consequence of Earth's molten iron core, the magnetic field shields our planet and its inhabitants from the solar winds, gusts of charged particles emitted by the Sun. While interactions between the magnetic field, atmospheric molecules and these charged particles produce the hauntingly beautiful aurora borealis and australis lights, solar winds can also impair electronics, pose health risks to astronauts aboard the International Space Station...and even alter the ability of our planet to support life in the distant future. In this webinar, we will explore our evolving magnetic field, the underlying geologic processes that produce it, and how NASA scientists are monitoring changes in order to keep satellites and astronauts safe. Relevant instructional resources will also be included.

### **NASA STEM at Home and School: Urban Heat Island Story Map**

Event Date: Sept. 28 at 1 p.m. EDT.

<https://na.eventscloud.com/565881>

Using various visualizations (i.e., images, charts, and graphs), we will explore the urban heat island effect using land surface temperature and vegetation data. The resources engage students in STEM activities investigating the processes that create differences in surface temperatures, as well as how human activities have led to the creation of urban heat islands.

### **Reach Your Goals: Classroom-Ready Earth Science Resources from My NASA Data**

Event Date: Sept. 28 at 4:30 p.m. EDT

<https://na.eventscloud.com/572593>

In this EPDC session, participants will learn about new (and recently updated) resources from My NASA Data that enable educators to integrate NASA data in a variety of ways. No matter if you are a virtual or face-to-face educator, MND has something for you. You will not want to miss the resources that integrate Google Classroom and other interactive (and customizable) teaching tools. You will walk away from this session with resources that integrate the science practice of data analysis using Earth Science topics that are ready to implement the next day.

### **Explore Earth: Episode VI - Return of the [NASA] GEDI**

Event Date: Sept. 28 at 6 p.m. EDT

<https://na.eventscloud.com/574234>

This year, NASA marks 20 years of continuous human presence aboard the International Space Station (ISS). Partly a U.S.-designated National Laboratory, the ISS provides a one-of-a-kind platform to validate and utilize technologies that facilitate unique physical science research aimed at improving life on our blue planet. Currently in the sixth year of its mission timeline, the NASA Global Ecosystem Dynamics Investigation (GEDI) instrument uses LIDAR technology to constantly collect data from its vantage point on the ISS. In this sequel to the April webinar, participants will be updated on NASA GEDI's progress in characterizing Earth's carbon and water cycling processes as well as its biodiversity. Relevant instructional resources will also be included.

### **Explore Earth with Remote Sensing**

Event Date: Sept. 29 at 6 p.m. EDT

<https://na.eventscloud.com/571619>

Join us for a free webinar to explore one of the most wide-spread technology used by NASA- remote sensing. We will review NASA's educational resources on remote sensing and dive deep with a few activities that explore remote sensing of Earth's landcover to illustrate the connection between remote sensing technology and computer imagery.

### **Explore Earth: Exploring Our Home to Understand the Universe**

Event Date: Sept. 30 at 1 p.m. EDT

<https://na.eventscloud.com/574423>

NASA funded scientists from around the world are exploring the extraordinary places right here to inform our exploration into alien worlds.

This free webinar will explore ways Earth Science is teaching us what may be happening on other worlds and explore activities you can use in your home and

classroom to better understand what we might find in our solar system and beyond.

**SOFIA: Stratospheric Observatory for Infrared Astronomy Presented in Spanish**

Event Date: Sept. 30 at 4:30 p.m. EDT.

<https://na.eventscloud.com/574119>

Acompáñenos a descubrir como es que los astrónomos aprenden del sistema solar y más allá utilizando herramientas diferentes a los telescopios en la Tierra. En ésta presentación compartiremos con Andrew Fischer el Ingeniero líder de operaciones de SOFIA (Stratospheric Observatory for Infrared Astronomy) del Centro de Investigaciones de vuelos Armstrong de la NASA. Aprenda acerca de SOFIA, un Boeing 747SP modificado que transporta un telescopio de 2.7 metros de diámetro. Al mismo tiempo, hablaremos del telescopio especial Hubble y sus extraordinarias fotografías de planetas, estrellas y galaxias. Y compartiremos recursos de STEM de la NASA.

If you have any questions, please send an email to Michelle Rouch, AIAA Tucson Section Chair  
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