

# Online Workshop Overview



NISE Network Overview

Explore Science Toolkit: Earth and Space

Toolkit Application and Reporting

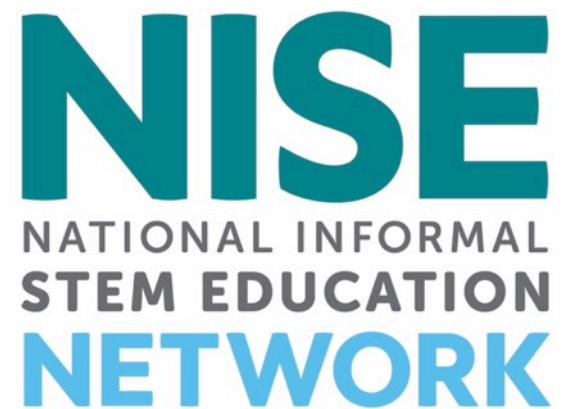
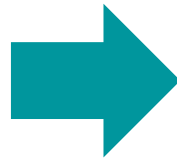
Professional Development

Connecting with your local experts/volunteers

Q/A

# **NISE NETWORK OVERVIEW**







*NISE Net supports **informal learning about STEM** in communities across the United States.*



*NISE Net engages **all audiences** in learning about STEM in ways that are fun and easy to understand.*





# Hundreds of Products



## nano

se trata de...  
¿una mariposa?

Las alas de la mariposa Morfo Azul aparentan ser de dicho color. Sin embargo, están hechas de nanoestructuras transparentes que reflejan la luz azul que ven tus ojos. Nuevas pinturas, energías eficientes, espacios entre las nanoestructuras para crear color.



A large blue Morpho butterfly is shown on the right. A circular inset above it shows a magnified view of the nanostructure on its wing, which consists of a series of ridges and valleys. The word 'Media' is overlaid in large white text at the bottom.



# Millions of People



Nanotechnology



Synthetic biology



Sustainability



Earth and space



*NISE Net improves the **practices and skills** of educators and scientists.*



# Thousands of Educators



Team-based inquiry



Inclusive approaches



Science and society



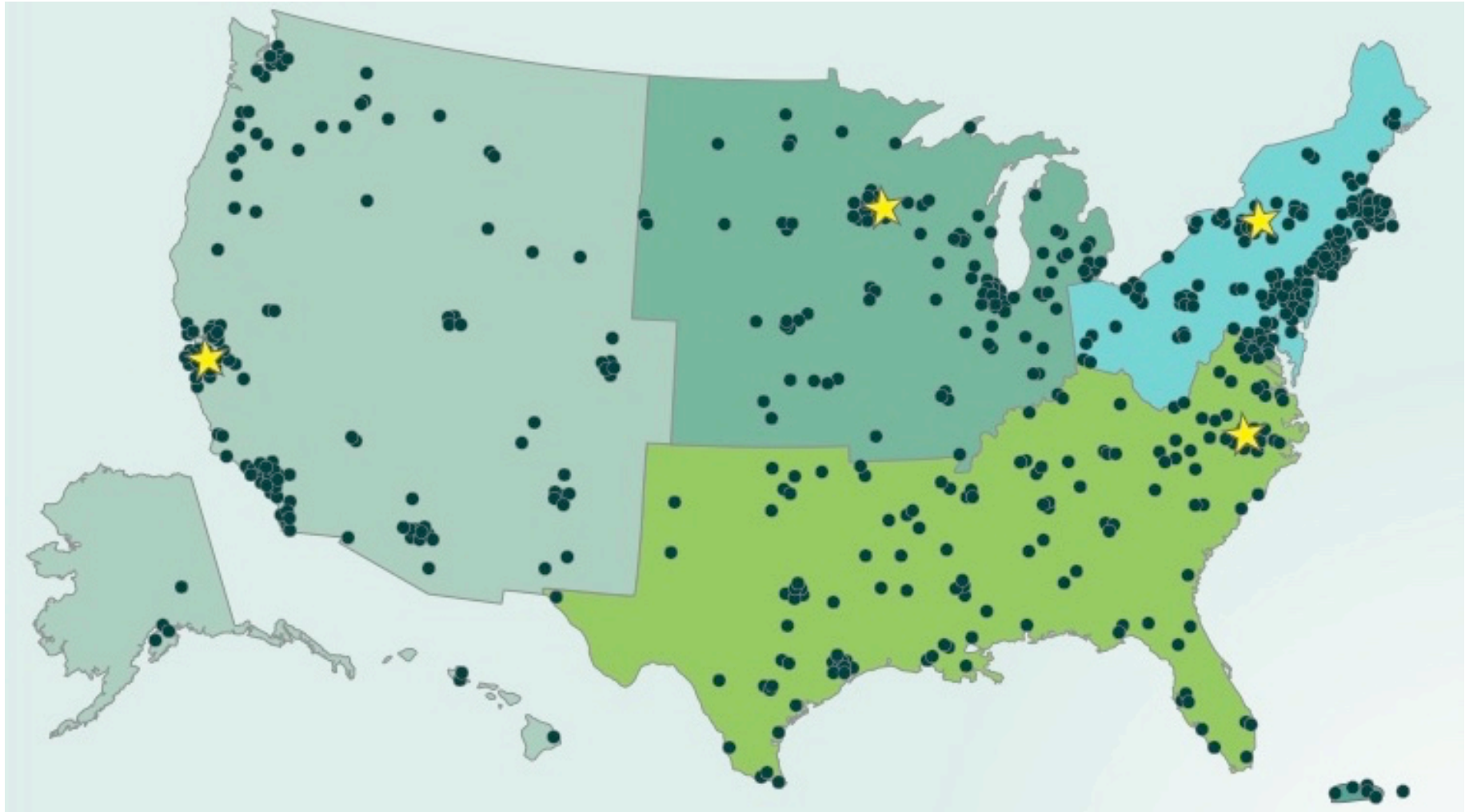
Community partnerships



*NISE Net creates **lasting relationships** among individuals and organizations.*



Over **600 organizations** regularly participate in Network activities.





# Stay Connected

**NORTHEAST** – Ali Jackson - Sciencenter, Ithaca, NY

Northeast: NY, VT, NH, ME, RI, CT, and MA

Mid-Atlantic: PA, NJ, MD, DC, DE, OH, and WV

**SOUTHEAST** – Brad Herring - Museum of Life and Science, Durham, NC

Southeast: VA, NC, SC, KY, TN, LA, MS, AL, GA, FL, and Puerto Rico

South: TX, AR, and OK

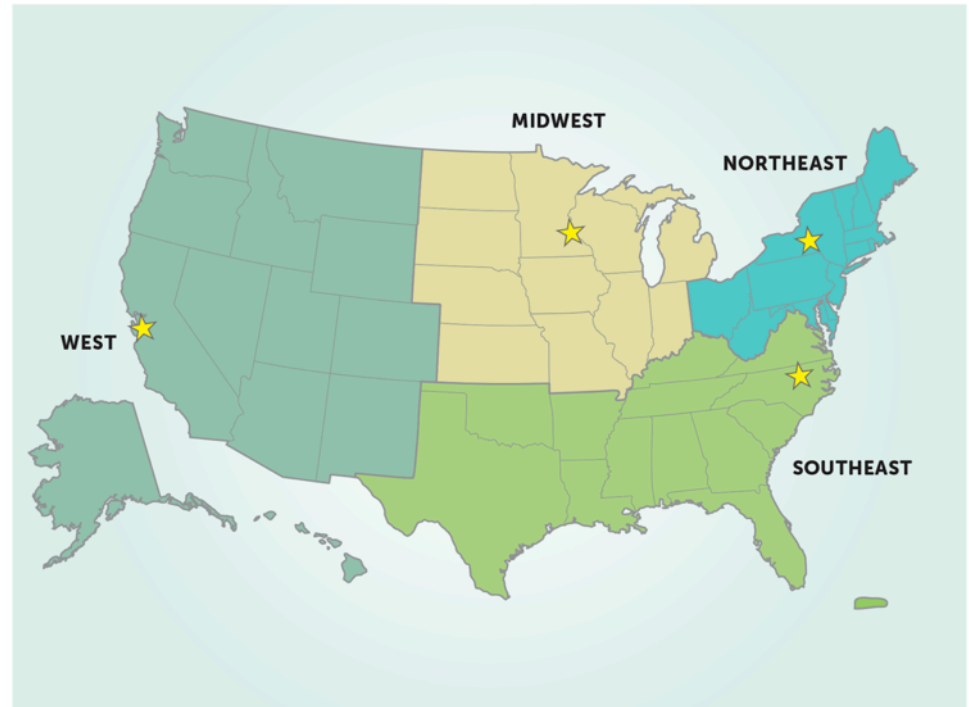
**MIDWEST** – Christina Leavell - Science Museum of Minnesota, St. Paul, MN

ND, SD, NE, KS, MN, IA, MO, WI, IL, MI, and IN

**WEST** – Frank Kusiak - UC Berkeley Lawrence Hall of Science, Berkeley, CA

Southwest: CA, NV, AZ, and HI

West AK, WA, OR, ID, MT, WY, CO, UT, and NM



# Earth and Space



# Earth and Space

## GOALS

Engage public and professional audiences in learning about Earth and space sciences

Encourage new and strengthened partnerships among national and local organizations that support informal and lifelong learning





# Earth and Space Toolkits



## Description

- **STEM educational resources**, including hands-on activities, videos, and media
- **Professional resources** for planning, implementation, and staff training
- **All necessary materials** to build partnerships, provide professional development, and engage the public

## Timeline

- **Four toolkits** distributed in years 2-5
- **250 copies** of each toolkit distributed in Years 2-5

# Earth and Space Exhibitions



## Description

- **STEM educational components**, including hands-on exhibits, multimedia elements, graphics, and a seating/reading area
- **Professional resources** for planning, implementation, and staff training
- **Compact, modular design** can be arranged in different configurations within 400 square feet

## Timeline

- **Exhibition** developed in Years 1-2
- **50 copies** distributed in Years 3-4

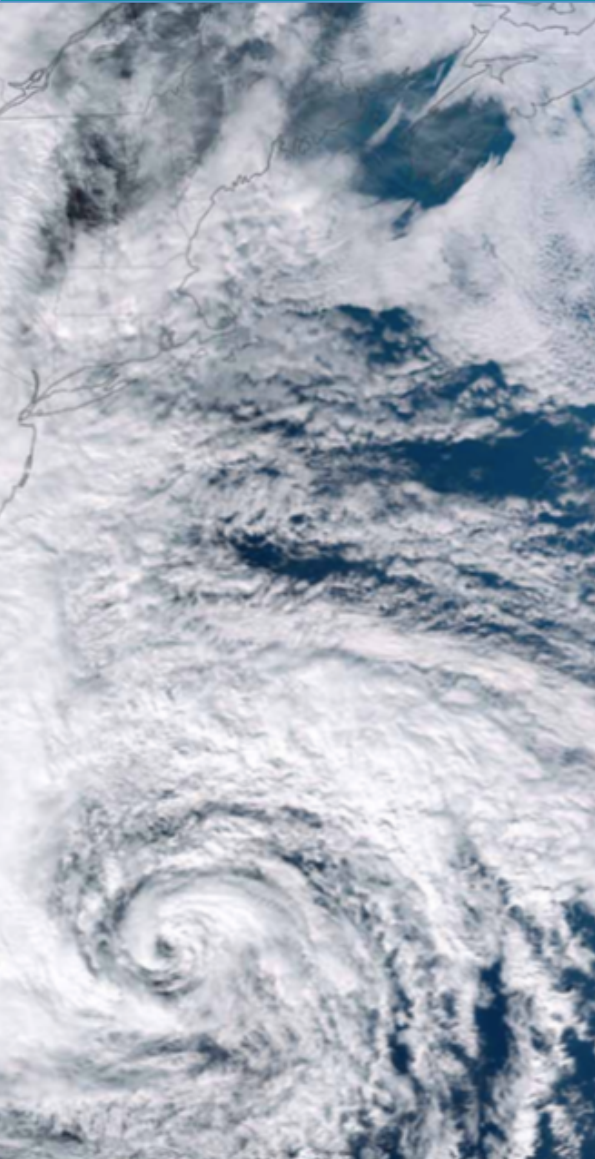
# Poll Question

---

Does your organization currently offer programming or have exhibits around Earth and space?

# EXPLORE SCIENCE: EARTH & SPACE TOOLKIT

# STEM Focus



## **Disciplinary**

- Heliophysics
- Earth science
- Planetary science
- Astrophysics

## **Cross-disciplinary**

- Science, technology, and society



# Learning Framework



1. Experience Earth and space **PHENOMENA** and explore science findings.
2. Use the scientific **PROCESS** and reflect on science as a way of knowing.
3. **PARTICIPATE in** the scientific community and identify as a science learner.

# Design



## **Overall:**

- Inviting, appealing, and engaging
- Compatible with the exhibition design

## **Materials and maintenance:**

- Safe for visitors of all ages
- Easy to, set up, clean up, and store
- Consumables are inexpensive and readily available

## **Accessibility:**

- Universal Design approach
- Bilingual English and Spanish

## **Design principals:**

- Engaging
- Authentic
- Current
- Relevant

# Target Audiences



## **Public:** Informal and lifelong learners

- Museum audiences
  - Families with children ages 4-10
  - School groups K-6
  - Other museum visitors
- Underserved audiences
  - Museum visitors
  - Offsite programs

## **Professional:** Informal educators

- Museum educators
- Educators in out of school settings



# Contents



**All necessary materials** to engage the public, provide professional development, and build partnerships:

- **STEM educational resources**, including hands-on activities, videos, and media
- **Professional resources** for planning, implementation, and staff training

# Contents



Kit contents, packed for shipping



Materials for one activity



Kit contents, boxes opened



Professional resources

# Contents



**Promotional materials, including banner, ads, poster, photos**



# Investigating Clouds

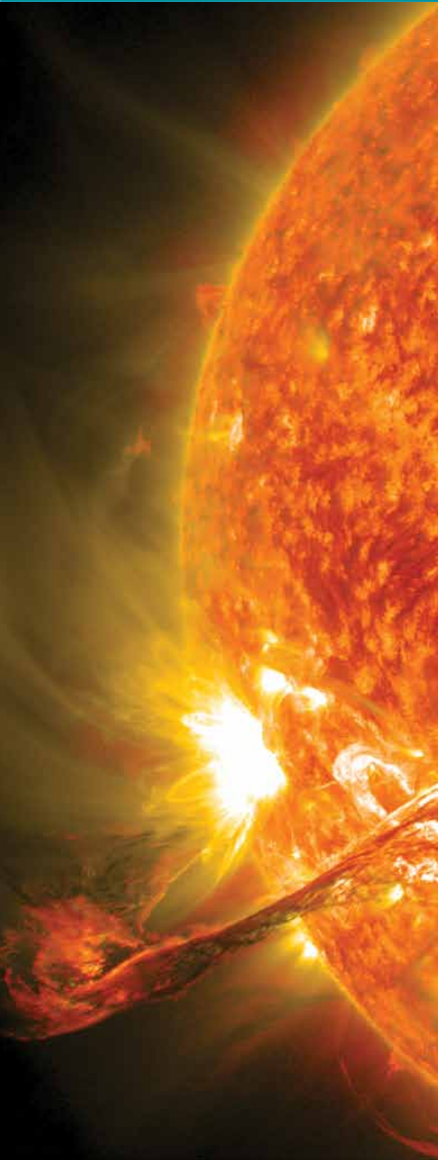


# Ice Orbs





# Professional Resources – Toolkits



## Kit materials

- Tools and guides on engaging the public
  - Engaging diverse audiences
  - Facilitation tips and strategies
- Training materials for specific products
  - Training videos
  - Additional science content/background
- Opportunities for local partnerships with subject matter experts

# TOOLKIT APPLICATION

# Application Timeline



**September 1, 2016:** Online application opens to apply for a free physical toolkit

**November 4, 2016:** Deadline to submit application

**December 2016:** Notification of award decisions

**January 2017:** Toolkits delivered to successful applicants

**March - May 2017:** Successful applicants host required public event(s)

**June 15, 2017:** Event reports due online

# Toolkit Eligibility



The physical toolkit is designed for informal science education public events and outreach. To be eligible to receive a physical toolkit, organizations must be:

- Located in the United States
- Public informal science outreach and education institutions such as:
  - science museums and science centers,
  - children's museums,
  - natural history museums,
  - public planetariums and observatories, and
  - NASA visitor centers

*Please note that K-12 schools, afterschool programs, libraries, parks, and astronomy clubs are not eligible to receive physical toolkits. Consider downloading a digital toolkit if your organization does not meet eligibility criteria. Digital toolkits will be available for download in February 2017 at [nisenet.org/earthspacekit](http://nisenet.org/earthspacekit)*



# Application Process



## Application link

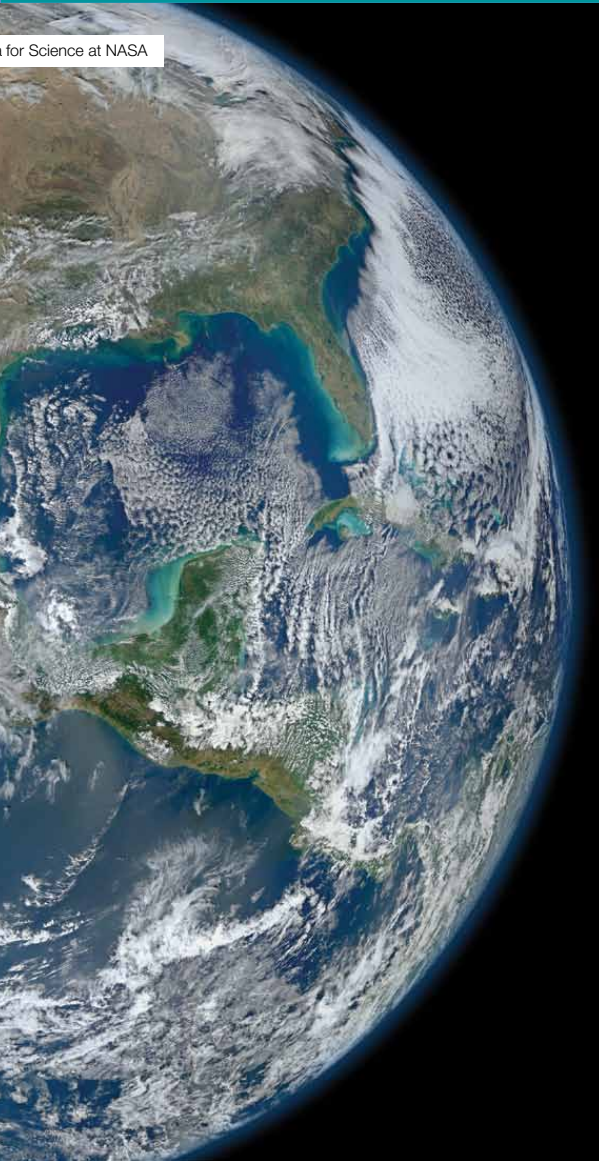
Applications must be submitted online using SurveyGizmo by November 4, 2016.

- [surveygizmo.com/s3/2935641/Earth-Space-Toolkit-2017-Application](https://surveygizmo.com/s3/2935641/Earth-Space-Toolkit-2017-Application)

## Selection process

A total of 250 toolkits will be awarded through a competitive award process.

# Partner Expectations



## **Recipients must:**

- Use the toolkit for at least one event between March and May 2017
- Meet data reporting requirements – due June 15, 2017
- Restock and maintain the toolkit

## **Recipients may:**

- Attend professional development online workshops
- Collaborate with local experts
- Collaborate locally to reach underserved audiences

# Using Your Toolkit All Year Long



- **Solar eclipse:** August 21, 2017
- **Celestial events:** Meteor showers, lunar eclipses, full moons, planetary events, and more
- **Earth and space science events:**
  - World Water Day, March 22, 2017
  - Earth Hour, March 25, 2017
  - Global Astronomy Month, April
  - Yuri's Night, April 12, 2017
  - Earth Day, April 22, 2017
  - National Environmental Education Week, week of Earth Day
  - Astronomy Day (Spring), April 29, 2017
  - Astronomy Week (Spring), April 24-30, 2017
  - World Oceans Day, June 8, 2017
  - Asteroid Day, June 30, 2017
  - International Observe the Moon Night, July 15, 2017
  - Astronomy Day (Fall), September 30, 2017
  - Astronomy Week (Fall), September 25-October 1, 2017
  - World Space Week, October 4-10, 2017
  - Earth Science Week, October 8-14, 2017

# PROFESSIONAL DEVELOPMENT



# Professional Development



## One-hour online workshops 2017

- What's in your Explore Science: Earth & Space toolkit?
- Science behind the Explore Science: Earth & Space toolkit activities
- Finding and collaborating with astronomy experts and volunteers
- Tips for planning your August 21, 2017 Solar Eclipse event
- How to find NASA resources - a tour of online materials
- Strategies for addressing Earth and space science misconceptions and difficult concepts
- Ask an astronomer
- Partners sharing experiences about their events and programs

## Three-week online workshops (ASP)

- February 27 - March 17
- Topic(s) TBD

# Poll Question

---

Are there other topics you would like to see covered in a one-hour online workshop?

# Three-Week Online Workshop



**February 27 – March 17, 2017**

**Deeper discussion** of toolkit activities, background science, and facilitation techniques

- **Workshop elements:**
  - Forum discussions
  - Short readings and videos
  - Exercises to try with museum visitors
  - Live web meetings
- **Possible topics:**
  - Engaging visitors with toolkit activities
  - Scale: size and distance
  - Our place in space
  - Models as learning tools
  - Preparing for the total solar eclipse
  - How to work with local astronomy clubs



# Poll Questions

---

Is someone from your organization likely to participate in the three-week online workshop if you receive a toolkit?

Which topics would you most like to see covered in this three-week workshop?

# CONNECTING WITH LOCAL EXPERTS & VOLUNTEERS

# Find Volunteers



- **Night Sky Network:** amateur astronomy clubs dedicated to public outreach  
[www.nightskynetwork.org](http://www.nightskynetwork.org)
- **AAS Astronomy Ambassadors**  
[www.aas.org/outreach/roster-aas-astronomy-ambassadors](http://www.aas.org/outreach/roster-aas-astronomy-ambassadors)
- **Solar System Ambassadors:**  
<http://solarsystem.nasa.gov/ssa/>
- **Colleges and Universities**



# Thank You + Questions

