NISE Net Online Workshop

Using Your Explore Science: Earth & Space Toolkit Outdoors: Practical Advice for Collaborations and Logistical Aspects

Tuesday, December 10, 2019



Welcome!

Today's presenters are:

- Catherine McCarthy, Science Museum of Minnesota, MN
- Dave Prosper, Astronomical Society of the Pacific, CA
- Charlie Gibson, Michigan Science Center, MI
- Naomi Pequette, Denver Museum of Nature & Science, CO



As we wait to get started with today's discussion, please:

Introduce yourself! Type your name, institution, and location into the Chat Box

Questions? Feel free to type your questions into the <u>Chat Box</u> at any time throughout the webinar or use the raise your hand function in the participants list and we'll unmute your microphone.

Today's discussion will be recorded and shared on nisenet.org at: <u>nisenet.org/events/online-workshop</u>

Using Your Explore Science: Earth & Space Toolkit

Outdoors:

Practical Advice for Collaborations and Logistical Aspects









Created by sandi

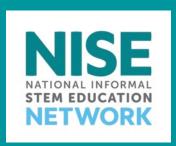
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December 2019

www.nisenet.org





NISE Network Tools for Collaboration and Community Partnerships



Catherine McCarthy

Project Leader
Science Museum of Minnesota
Saint Paul, Minnesota
cmccarthy@smm.org

Created by priyanka from Noun Project

Science

of Minnesota®

If you are using activities outside,

it may look less like this . . .



. . . and may look more like this

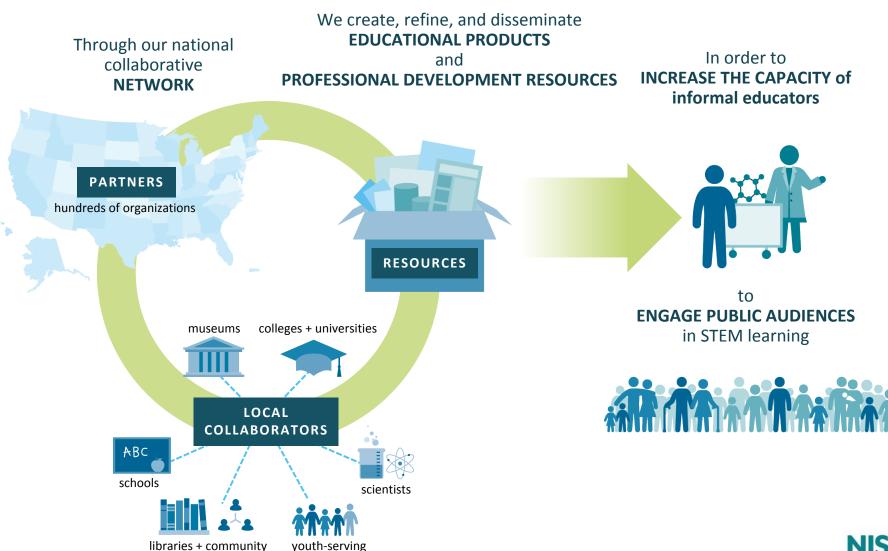




We often can't make successful outdoor events happen on our own

City Skies project, Franklin Institute, Philadelphia, courtesy of Derick Pitts

How NISE Network Works



youth-serving

organizations

organizations



Local Collaborations



We encourage our partners to collaborate locally in their communities to engage their audiences.





Accessing Complementary Talents



Building Community Spirit



Complex Problems Require Cross-Disciplinary Approaches



Developing More Relevant and Effective Solutions



Eliminating Waste and Duplication of Effort



Fostering Innovative Ideas, Approaches, and Solutions



Getting a Whole Lot More Done



Higher Level of Commitment to Action



Ineffective Approaches to Solving Problems



Joint Forces are Better Than Single Players



Key to Success



Life is More Fun When We Work Together



More Sharing of Ideas and Opportunities



Nature of Work Has Changed



Overcoming Breakdowns in Working Relationships



Persistent Multi-Dimensional Problems



Quicker Access to Resources in Emergency Situations



Resources are Decreasing in the Face of Increasing Demands



Stimulating New Ideas



Transforming Lose-Lose Outcomes into Win-Win Ones



Unity of Teams Keeps Up the Spirit of Good Work



Victory is better together



Wicked Social Problems Can Be Resolved through Collaboration



X-ing Different You and I Achieve Approaches will Greater Progress Result in Better Together Solutions



More Time to Catch Some Zzzz's

Why Collaborate?

To achieve something you can't do on your own!

Image Courtesy of Michael Sampson and Plantronics in collaboration with Philippe Creytens, Sebastien Thielke, and Olivier Berard



Accessing Complementary Talents



Building Community Spirit



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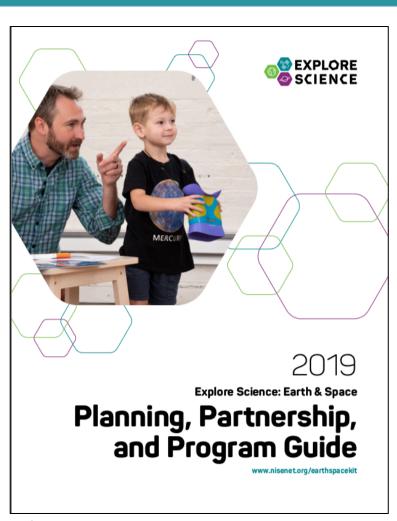


More Time to Catch Some Zzzz's

Why Collaborate?

- 1.To share resources, expertise, and connections
- 2. To build upon existing strengths
- 3. To reach new audiences

Explore Science: Earth & Space toolkit Event Planning and Promotion Guide



- Partnerships tips
- Finding local experts
- Finding volunteers
- Tips for facilitators
- Tips for guest speakers





Collaboration Guide



MUSEUM & COMMUNITY PARTNERSHIPS:

Collaboration Guide

For museums working with community youth-serving organizations

By Catherine McCarthy and Brad Herring



Available at https://www.nisenet.org/collaboration-guide



Collaboration Companion Video

Creating Successful Collaborations: Museum and Community Partnerships





Levels of Partnerships - Continuum

Different intensity at different times

PARTNERSHIP CONTINUUM AND CHARACTERISTICS





Tools and Templates

Template MOUs & emails

SAMPLE TEMPLATE MEMORANDUM OF UNDERSTANDING (MOU) (Organization A) (Organization B) The purpose of this Memorandum of Understanding (MOU) is to clarify the expectations, roles, and responsibilities of the collaboration between our two organizations (Parties) on PROJECT XXXXXX (Project). This is not a legally binding agreement. Intent to Collaborate It is the intent of the Parties to jointly collaborate on the implementation of the Project. The Project has the following purpose: Timeline: The overall project will take place between Date and Date. The Project has the following key milestones **Roles and Responsibilities** Communicate as needed about the implementation and progress of the project Organization A will provide: Training/orientation (where/when):

Museum & Community Partnerships

Collaboration Tips



Why collaborate? To achieve something you can't do on your own!

- · To share resources, expertise, and connections
- · To build upon existing strengths
- · To reach new audiences

Be patient! Collaboration takes time

- · Start small; developing a relationship and building trust takes time
- · Communicating takes time: your organizations have different cultures and terminology
- Always keep the long-term relationship in mind while working on shorter-term projects

Be clear about your goals and expectations. Discuss who, what, when, where and why.

- . What: Decide on your common goals; be sure your partnership is mutually beneficial
- · How: Agree upon activities to meet your shared goals and missions
- · Who: Clarify your roles and responsibilities for all project activities
- · Where: Decide upon the locations of activities
- . When: Agree upon a timeline and key dates, and check in regularly

Get to know each other. Each partner has a lot to learn and a lot to offer.

- Familiarize yourself with your partner organization through websites, newsletters, events, and other opportunities
- The more you understand about each others' purpose, activities, audiences, and culture, the easier your partnership will be
- Individuals come to a partnership with different strengths and experiences; every group needs dreamers, developers, and doers

Communication is critical!

- Strive to achieve a flexible trusting atmosphere; be open and honest while still being tactful and supportive
- Things may not always go smoothly, so don't hesitate to pick up the phone and have an frank conversation to work things out
- Involve more than one contact person at each organization at different levels to ensure
 a deeper relationship that can survive changing circumstances and turnover

Stay focused on your goals. And don't forget to celebrate your successes!

- Reflect on your partnership and project based on your original goals, and consider how you want to improve, change course, or evolve the relationship
- As you work together keep your long-term relationship in mind; by leveraging your combined resources and strengths, you can each do much more for your community

Watch for a more comprehensive guide to collaborations between museums and community organizations in the Explore Science kit!



Profiles of Youth Serving Organizations

4-H

ABOUT

4-H is a global network of youth organizations whose mission is engaging youth to reach their fullest potential while advancing the field of youth development. 4-H is the youth development program of our nation's Cooperative Extension System & USDA. The 4-H name represents four personal development areas (head, heart, hands, and health) that members work on through fun and engaging programs.

AUDIENCE AND GEOGRAPHIC REACH

4-H is the nation's largest youth development organization, empowering six million young people throughout all 3,007 counties of the United States. Through America's 110 land-grant universities and its Cooperative Extension System, 4-H reaches every corner of our nation—from urban neighborhoods to suburban schoolyards to rural farming communities. 4-H has a network of more than 611,800 volunteers, 3,500 professionals, and more than 25 million alumni. In most states, kids can join 4-H if they're between the ages of 8 and 18; some states offer programs for younger children.

WEBSITE

http://www.4-h.org

FINDING A LOCAL PARTNER

There are 4-H programs in every county in the United States:

http://www.4-h.org/get-involved/find-4-h-clubs-camps-programs/

STEM FOCUS AND RESOURCES

4-H has a long history of "learn by doing" and focuses on many topics including: robotics, alternative energy, engineering, environmental science, ag-science, and veterinary science.

- Science programs: http://www.4-h.org/youth-development-programs/4-h-science-programs/
- Curriculum: http://www.4-hmall.org/Category/educationresources.aspx
- Science training resources: http://www.4-h.org/resource-library/professional-development-learning/science-training-guides-resources/
- Science checklist: http://www.4-h.org/Professional-
 - Development/Content/Science/Building-Understanding/4-H-Science-Checklist.dwn
- . Online STEM professional development: http://www.click2sciencepd.org/

TIPS FOR COLLABORATION

- Ongoing: Collaborate with a local 4-H club leader to plan activities within the regular club structure, location, and activities; this can providing opportunities for repeat visits with the same children
- Special event: Collaborate with a local 4-H club for a special event at the museum or another location

National Youth Serving Organizations

- 1.4-H
- 2. Afterschool Alliance
- 3. Boys & Girls Clubs of America
- 4. Boy Scouts of America
- 5. Girls Inc.
- 6. Girl Scouts
- 7. Libraries
- 8. National Girls Collaborative Project
- 9. Parent Teacher Association (PTA)
- 10. Y (YMCA)
- 11. YWCA



Illustrative Stories and Advice

"Community organizations and museums have a common interest, they both want to make their cities a better place. Science is an essential part of that."



- Jayatri Das, Chief Bioscientist, The Franklin Institute, Philadelphia, PA



"You always have to be open about what is working, what is not working, why it didn't work, and why is it successful. Communication is the key to

making a good partnership work."

Dorothy McCargo Freeman, Associate Dean and State 4-H Director,
 University of Minnesota Extension Center for Youth Development, Saint Paul, MN



Be patient! Collaboration takes time

- Start small; developing a relationship and building trust takes time
- Communicating takes time: your organizations have different cultures and terminology
- Always keep the long-term relationship in mind while working on shorter-term projects
- Start early; your partner's schedule will vary from your own, so be sure to include enough lead time so that you both can be prepared for the work of the collaboration



Setting goals and expectations

- What: Decide on your common goals; be sure your partnership is mutually beneficial
- How: Agree upon activities to meet your shared goals and missions
- Who: Clarify your roles and responsibilities for all project activities
- Where: Decide upon the locations of activities
- When: Agree upon a timeline and key dates, and check in regularly



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Communication is critical

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- Things may not always go smoothly, so don't hesitate to pick up the phone and have an honest conversation to work things out
- Involve more than one contact person at each organization at different levels to ensure a deeper relationship that can survive changing circumstances and turnover



Stay focused on your goals Be prepared to change

- Reflect on the original goals of your partnership and project, and consider how you want to improve, change course, or evolve the relationship
- As you work together, keep your long-term relationship in mind; by leveraging your combined resources and strengths, you can each do much more for your community



Barriers to Success

- Lack of time and capacity to sustain the relationship
- Lack of clear purpose or common vision
- Lack of understanding roles or responsibilities
- Lack of commitment or buy-in by key individuals
- Major differences in philosophies and styles of working
- Unacceptable balance of power and control
- Staff turnover
- Failure to communicate
- Lack of feedback
- Failure to respond to feedback and evaluation
- Financial input and time commitments outweigh potential benefit



Thank You







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Dave Prosper Astronomical Society of the Pacific San Francisco, CA

NASA Night Sky Network



- 400+ clubs across the USA dedicated to public astronomy outreach
- 55,000 events held for 6 million people since 2004, all by volunteers from NSN member clubs
- Clubs receive toolkits about various space science topics to assist them in their outreach



Partners in Outreach

Girl Scouts: Space Science Badges





Libraries: NASA @MyLibrary



Girl Scouts: Space Science Badges

- Led by SETI and Girl Scouts of Northern California
- NSN club members assisted with development of the badges
- Amateur astronomers and scouts also developed best practices on how to work with each other!





STARnet: NASA@MyLibrary

2019 Summer of Space

:: Celebrating 60 Years of Space Exploration

- NSN clubs helped support libraries with spacethemed programming
- 50th Anniversary Apollo 11!

Coldwater Library /
Kansas Astronomical
Observers / Renee Lehl





Smiley Library/San Bernardino Valley Amateur Astronomers /Bruce Herwig



ASTRONOMICAL SOCIETY of the PACIFIC

Partnering with Astronomy Clubs

- Remember: they are volunteers!
- Contact club's outreach person
- Schedule well in advance
 - Time and date
 - Setup time
 - Backup date

Type of event?

Expected type and number of audience?

- Event location
- Exchange event contacts & backups
- Review your rules and theirs!
- Crowd control & clear guidelines for visitors
- (Astronomers love treats)
- Thank the club!



Solar Observing at Old Faithful /
Southwest Montana
Astronomical Society /
Lynn Powers



Safety Concerns: Night

- #1 Concern: Trip + bump hazards
 - Sunset safety and stargazing prep talk at sundown.
 - Greeters assist w/arrivals
 Basic rules: no running or sudden movement, red light only, no flash photography
- Let folks adjust their eyes
- Red light is your friend!
 - Potential activity: visitors maker/ shield their own red lights
- Cold temps = warming area
- Animals! Follow regular camping rules, esp with food (bears, raccoons, boars, scorpions etc)



International Observe the Moon Night 2016 / Seagrave Memorial Observatory / Jim Hendrickson

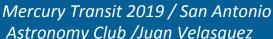
Strict Laser Policy!

Safety Concerns: Day

Solar Observing

- Solar Eclipse 2017: biggest astronomy event in decades for USA
- Eye safety #1 concern,
- Watch where scope is pointed!
- Always watch telescopes
- Always ensure proper, ANSI certified eye protection is used





Watch Out for Heat Exhaustion!

- Sunblock+Water: Stay unburnt and hydrated!
- · Find shade or make it



Solar Eclipse
2017 at
LL Bean HQ /
Southern Maine
Astronomers

Day + Night Concerns:

- Insects: bees, fire ants, mosquitos
- Cars (yes, even day): Use Spotters

2020 Astronomy Events

- Best Meteor Showers: Perseids (Aug 12-13), Geminids (Dec 13-14, new Moon!)
- Astronomy Days:
 - Spring : May 2
 - Fall: September 26
- International Observe the Moon Night: September 26
- Solstices: June 20, Dec 21
- Equinoxes: March 19, Sept 22
- Mars opposition October 13
- 20th Anniversary International Space Station w/Crew: November 4, 2000
- Saturn & Jupiter's extremely close conjunction: December 21
- Solar Eclipse North America: April 8, 2024



Mercury Transit 2019 / Astronomers of Verrado / Kenyon Spencer

ASTRONOMICAL SOCIETY of the PACIFIC



NASA Night Sky Network

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Night Sky Network nightsky.jpl.nasa.gov

@nightskynetwork (FB/Twit/Insta)



Charlie Gibson Michigan Science Center, Detroit, MI

Outside Outreach

Michigan Science Center (MiSci), Detroit, MI

Charles Gibson

Director Of Outreach



About MiSci



- The mission of the Michigan Science Center is to inspire curious minds of all ages to discover, explore and appreciate science, technology, engineering and math in a creative, dynamic learning environment.
- 190,000+ Annual Attendance
- 80,000+ Annual Outreach Impact



Traveling Science and ECHO

- Workshops, Presentations,
 Science Festivals (Family Science Nights), virtual visits and webinars
- Schools, Libraries, Community Events
- STARLAB





Earth & Space Toolkits

- Space / Astronomy Days
- Yuri's Night World Space Party (21+)
- Astronomy Events
 (Astronomy at the Beach Milford, MI; Statewide
 Astronomy Night)
- Scopes in the City





ASTRONOMY AT THE BEACH

- Annual 2-night Star Gazing Event
- AATB started in 1996 to view the comets Hyakutake and Hale-Bopp
- Great Lakes Association of Astronomy Clubs (GLAAC)
 - 13 members clubs, universities, science centers
- Michigan Department of Natural Resources (DNR)
- Located in Milford, MI





ASTRONOMY AT THE BEACH

- Event runs from 6pmmidnight
- We bring...
 - All the A/V equipment
 - Activities
 - STARLAB
 - Lots of staff/volunteers





ASTRONOMY AT THE BEACH

- Attendance has grown from 200 (1995) to 6,000 (2018)
- Marketing done mostly through GLAAC
- MiSci shares on Facebook, general member/public eblasts









Scopes in the City

Michigan Space Grant Consortium

- 4 programs and development
- Does not fund equipment

Community Telecommunications Network

- Telescopes (5 types)
- 10x10 canopy

Partnership with Detroit Public Library

3 locations – all late fall 2019

Inspired by Adler Planetarium





Scopes in the City

- Telescopes outside focused on night sky objects or buildings/distant lights
- Activities
 - NISE Explore Science: Earth and Space Kit
 - Facilitated by volunteers from clubs, libraries or MiSci
 - Indoor or outdoor (weather permitting)







Challenges

- Weather wind, rain, you name it
- Coordinating with partners
- Location
- Parking





Tips

Practical advice...

- Get a good cart
- Use durable bins (no fold-over lids)
- Bring a canopy if possible
- <u>Kick me nots</u> for tripods
- Flashlights with red balloons
- Rain gear for staff
- Towels
- Garbage bags











Charles Gibson

Director of Outreach (until Dec 13)
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mi-sci.org
@mi_sci (Twitter and Instagram)





Naomi Pequette Denver Museum of Nature & Science, Denver, CO













Activities by Canoe Naomi Pequette









OUR MISSION

Be a catalyst! Ignite our community's passion for nature and science.

OUR VISION

The Denver Museum of Nature & Science envisions an empowered community that loves, understands, and protects our natural world.

OUR VALUES

- We love science.
- We are curious, creative, and playful.
- We cultivate relationships: with each other, diverse communities, the environment, and for our future.
- We think critically and act with empathy.



OUR STRATEGIC OBJECTIVE

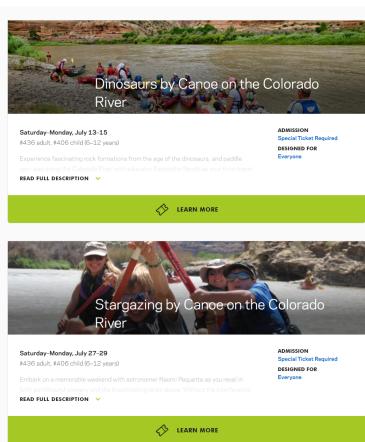
Increase the number and diversity of people who connect with the Museum around nature and science in ways that are meaningful to them.



Science by Canoe

• Read 18 reviews of Centennial Canoe Outfitters - Day Tour





GUNNISON RIVETZ LTINETZATZY 3-DAY ESCALANTE BIZIDGE

Gunnison River 3-Day Itinerary.

- **Day 1:** Meet your guide staff at the designated put-in at Escalante Canyon Bridge, located 35 miles south of Grand Junction, CO and start packing your dry bags and loading the gear in the canoes.
- After breakfast, each car owner will drive his vehicle to our private parking location at the Whitewater take-out. Centennial Canoe will shuttle all drivers back to the put-in meeting point. This generally takes approximately one hour. While the shuttle is being run, everyone else will be packing gear and preparing to paddle when the drivers return. Upon their arrival to the put-in our guides will demonstrate paddling instructions and safety issues before launching. Shortly after launching, you will begin paddling past the towering red sandstone walls of Escalante Canyon.
- > Enjoy the thrill of paddling through Hail Mary's Rapid (or you can choose to skirt around the side). Paddle downriver until approximately noon and enjoy lunch on the river's edge, maybe catching a glimpse of an eagle or a desert sheep.
- After lunch, continue paddling and having water fights (optional) until roughly 3 p.m. You will make camp near the ancient red sandstone walls of Dominguez Canyon (depending on campsite availability).
- Late afternoon on the first day is devoted to setting up your tent and possibly taking a short hike, relaxing, playing, or floating in the river.
- ▶ Happy Hour begins at 5:30 p.m. where hors d'oeuvres and wine will be served.
- Dinner is served around 7 p.m. followed by campfire activities that may include games, singing, western tall tales, or guitar playing.
- > Day 2: The middle day will often be a layover day devoted to hiking the Dominguez Canyon Wilderness Area (depending on campsite availability). Here you can discover ancient Indian petroglyphs and waterfalls, cool off and play in the water pools, and see wildlife. Many times lunches will be packed for the hike so you can explore this multi-million year old canyon to your heart's content. Other activities during the day may include playing in the river, floating through a stretch of rippling water, and/or relaxing in camp. However, your guides may choose to move downriver on the second day. Factors that influence this decision are weather, pace of the group, campsite availability, etc.
- **Day 3:** You will break down camp after a hearty breakfast and paddle out of the majestic Dominguez Canyon where the scenery begins to turn much greener with vegetation.
- After numerous water fights, river barging, joke telling, and just having good fun, you typically reach the Whitewater takeout between 2-4 p.m. after lunch on the last day of the trip. It takes about an hour to unpack gear, and then you're on your way home.



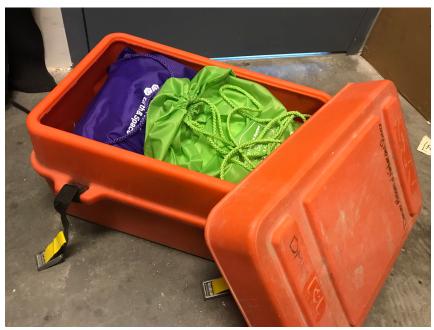












Photo Credits: Samantha Sands

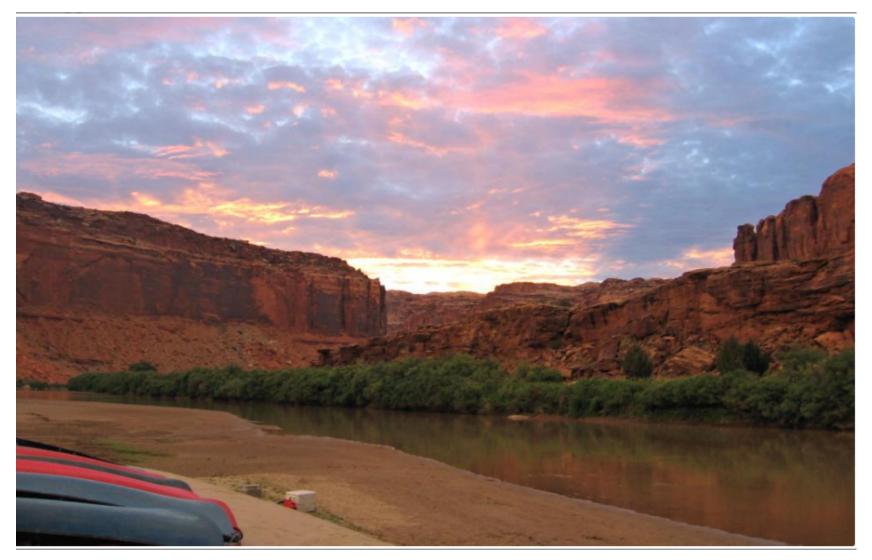
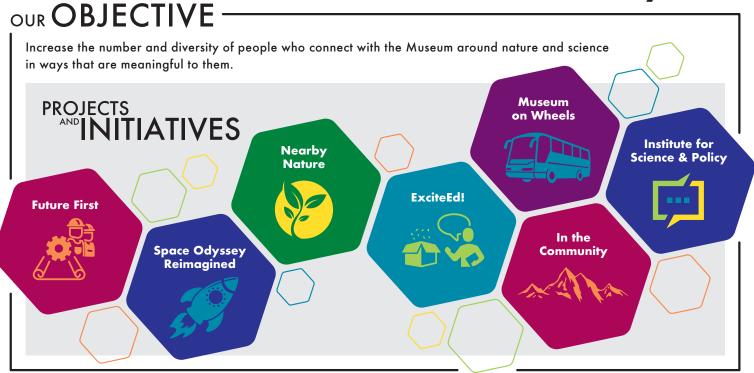


Photo Credit: Centennial Canoe





UPCOMING PROFESSIONAL DEVELOPMENT

Upcoming Online Workshops



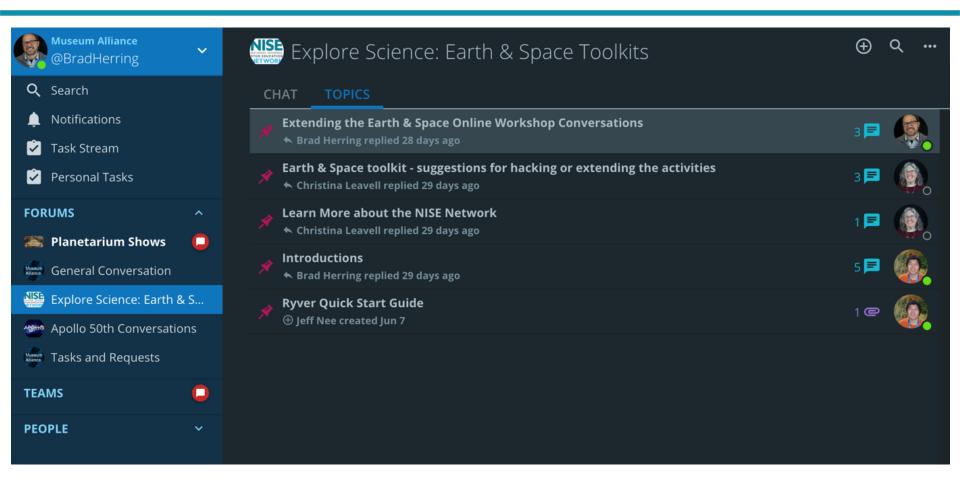
Science Behind the 2020 Explore Science: Earth & Space toolkits

February/March 2020

Sustainability in Science Museums – 3 Part Series February/March 2020

Learn more at nisenet.org/events





Extending the Online Workshop conversation via the Museum Alliance's Ryver online forum. Sign up here: https://museumalliance.ryver.com/application/signup/guests/TGcXfWsrasrSC71

Get Involved

Learn more and access the NISE Network's online digital resources nisenet.org

Subscribe to the monthly newsletter nisenet.org/newsletter



Follow NISE Net on social networking nisenet.org/social



Questions and Discussion



Thank You





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