

TAHOE: STATE OF THE LAKE REPORT 2017

EDUCATION AND OUTREACH

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TERC education and outreach

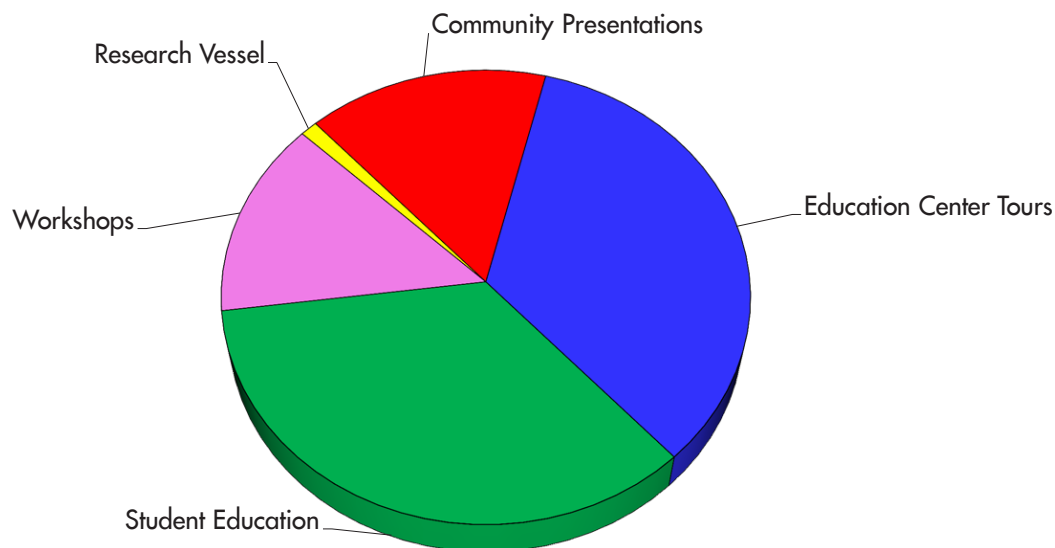
In 2016

Part of TERC's mission is education and outreach. Our public, K-12, teacher professional development, and volunteer programs are designed to provide science-based information about the Lake Tahoe region in order to foster responsible action and stewardship.

During 2016, TERC recorded 15,997 individual visitor contacts. The majority represented student field trips and visitors to the Tahoe Science Center at Incline Village. In addition, TERC hosts

monthly public lectures and workshops, makes presentations to local community organizations, and takes a limited number of visitors out on our research vessels. TERC organizes and hosts annual events and programs including the North Lake Tahoe Science Expo, South Lake Tahoe Science Expo, Youth Science Institute, Trout in the Classroom teacher training program, Project WET workshops, and a volunteer docent training program.

TERC also partners with numerous groups to deliver environmental science education in the Tahoe basin. In 2016, these included AmeriCorps, Lake Tahoe Outreach Committee, North Tahoe Environmental Education Coalition, Sierra Nevada College, Sierra Watershed Education Partnerships (SWEP), South Tahoe Environmental Education Coalition, UC Davis Young Scholars, and many others.



Total Number of Contacts: 15,997

EDUCATION AND OUTREACH

TERC educational exhibits

In 2016

Each year, TERC works to enhance our exhibits and increase the offerings available in the UC Davis Tahoe Science Center. During 2016, we continued work on the Lake Tahoe in Depth touchscreen exhibit, contributed to the Take Care™

stewardship campaign by designing a mural wall with interactive flip-panels, added hands-on activities related to Lake Tahoe's geology, added exhibit signage, and updated our Citizen Science Tahoe mobile app. These activities all aid in

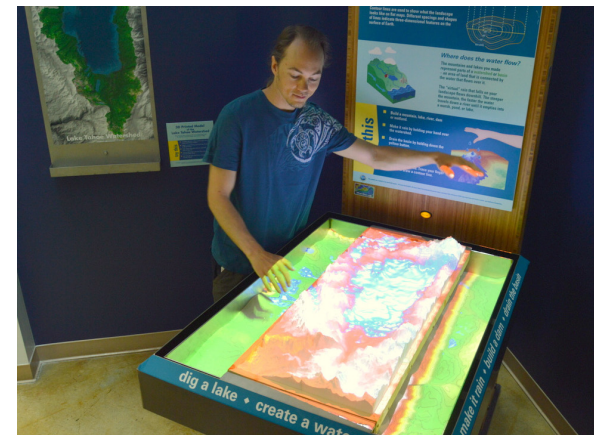
our mission to provide engaging exhibits and interactive hands-on educational activities.



The Lake Tahoe in Depth exhibit wall has new wall signage and content describing both real-time and historical lake water quality conditions. By viewing data from around the shores of Lake Tahoe, visitors will be able to explore how conditions are changing over time and at different locations around the lake. Photo: A. Toy



Utilizing the Take Care™ (TakeCareTahoe.org) stewardship messages, TERC staff created a flip-panel mural which provides a fun and engaging way to teach visitors about local stewardship and actions to take care of Tahoe. Photo: A. Toy



A new 3D Printed Model of the Lake Tahoe Watershed is available for the Augmented Reality Sandbox. This model took over 150 hours of 3D print time and was completed by Aaron Vanderpool and Andy Rost of Sierra Nevada College. Fill the lake with virtual water to see the evolving shape of Lake Tahoe at different lake levels. Photo: A. Toy

EDUCATION AND OUTREACH

TERC educational exhibits, continued

In 2016

TERC and our partners have launched an updated version 2.0.7 of the smartphone app, “Citizen Science Tahoe,” that encourages beach-goers of all ages to submit what they see at Lake Tahoe. This observational data will be used by scientists to better understand conditions around the lake.

Citizen scientists can help lake researchers by taking a few minutes to enter what they see at the beach, from algae to wildlife to litter. Share all of your observations on our mobile app. Join Tahoe’s largest community-powered science project and become part of our citizen scientist community to help us

understand conditions around the lake.

New hands-on exhibits: *Rocks of Tahoe* and *Erosion* were added to the growing number of science activities at the Tahoe Science Center.

TERC’s native and non-native aquariums at both science centers have new and growing occupants.



Download the new Citizen Science Tahoe mobile app (CitizenScienceTahoe.com) and add a splash of science to your family’s beach day. Share what you observe whenever you visit the beach. Photo: A. Toy



New hands-on exhibits on the *Rocks of Tahoe* and *Erosion* were added. TERC continues to seek ways to provide more engaging hands-on activities for visitors. Funding was provided by the Nevada Department of Tourism and Cultural Affairs. Photo: A. Toy



TERC provides information about Lake Tahoe’s aquatic food web by showcasing various native and non-native species in our aquariums at the Tahoe Science Center and Tahoe City Field Station. Our largest trout “Lahn timer,” a Lahontan cutthroat trout grown from the Trout in the Classroom project, is now 2.5 years old and nearly 10 inches. Photo: A. Toy

EDUCATION AND OUTREACH

TERC educational programs

In 2016

TERC provides various educational programs for the public, K-12 students, teachers, and volunteers. Public programs include science center tours, monthly lecture series, citizen science programs, and garden workshops.

K-12 programs include school field trips, Trout in the Classroom, Youth

Science Institute, and Science Expo. The TERC Education Team provided informal science education to more than 5,450 third- through eleventh-grade students by hosting over 74 field trips during the year.

Each year we train new volunteer docents at our annual Docent Training. Volunteer docents become local experts

and lead public tours at our two science centers. Volunteers also participate in garden work each year to make the Tahoe City Field Station's native plant demonstration garden a beautiful community and ecological resource.



The TERC docent training program is held annually each June and provides new volunteers with all of the information they need to be Lake Tahoe experts and to share their love of Lake Tahoe with others. Photo: A. Toy



Students witness the early life stages of Lahontan cutthroat trout as part of the Trout in the Classroom program. Students (pictured above) are releasing their small Lahontan cutthroat trout into Lake Tahoe in hopes that they will thrive in their native Lake Tahoe. Photo: Kings Beach Elementary School



Each year a small group of select high school students participate in the annual Youth Science Institute from January through May. During this after-school program participants work with scientists, conduct experiments, and share science activities with other students. Photo: H. Segale

EDUCATION AND OUTREACH

TERC educational programs, continued

In 2016

During the summer months, we offer programs at the Tahoe City Field Station. In 2016, volunteer docent and Lake Tahoe Master Gardener Dave Long provided the first annual high altitude gardening workshop series which provided guidance on how to grow vegetables and fruit in our unique climate.



Volunteer docent Dave Long describes the varieties of vegetable seedlings for attendees to take home from the gardening workshops held at the Tahoe City Field Station. Photo: A. Toy

Another new program from TERC's education and outreach programs was the first annual Nevada STEM Underwater and Aerial Vehicle Computer Science Institute for teachers hosted by TERC faculty member Alex Forrest with the Northern Nevada Regional Professional Development Program.



Alex Forrest (far left) oversees the "OpenROV" first underwater mission in Pyramid Lake as part of the Nevada STEM Underwater and Aerial Vehicle Computer Science Institute for teachers. Photo: B. Crosby

We continued to update and modify available science activities and thematic field trips. Landforms and Topography are pre-existing activities that have been updated. Climate Change and Carbon Cycling are the newest activities to join the selection of programs available to academic institutions of all forms.



TERC creates new science activities to enhance student interest in science. In the "What Contains Carbon Activity" students investigate everyday items that contain carbon and model how carbon cycles through the environment. Photo: A. Toy

EDUCATION AND OUTREACH

TERC special events

In 2016

TERC hosts monthly lectures throughout the year on various environmental issues, new scientific research, and related regional topics of interest. Some of the topics during 2016 included “Exploring Mars”, “Physics of Snow”,

“Tree Mortality”, “A Gut-Feeling: How Intestinal Microbes Modulate Mood and Behavior”, “Science of Beer”, “Science of Wine”, “Imperiled Fishes”, and “Climate Change Models Using Ocean Species.”

Special events hosted annually include

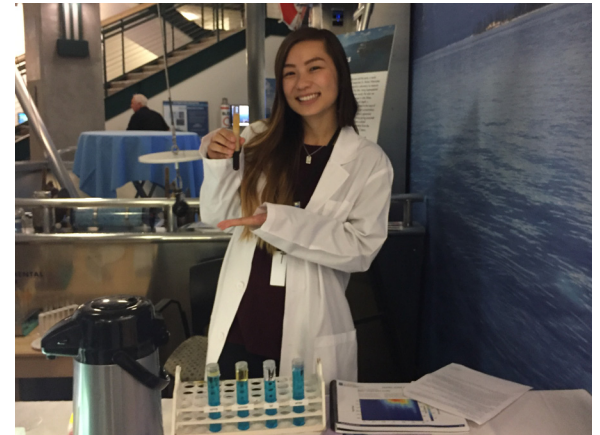
North Tahoe Science Expo (March), South Tahoe Science Expo (April), Garden workshops (June - August), Summer Teacher Institute (July), and the new Science of Cocktails event (October).



At the 12th annual North Tahoe Science Expo students learned about Earth science, weather, climate, and space science. Students use dry ice to explore how different volcanoes erupt. Photo: A. Toy



At the second annual South Lake Science Expo, held on the Lake Tahoe Community College campus, students learn about weather and cloud formation with the “Cloud in a Bottle” experiment. Photo: A. Toy



At the first annual Science of Cocktails event, themed beverages taught about density (shown here), pH, fluorescence, sublimation, polymers, latent heat, fermentation, and alcohol science. Photo: T. Dolan