

Teachers Explore the Mojave Desert, Nevada During EnviRetreat 2013

Five specially selected teachers took part in MEEC's 2013 EnviRetreat which took place on November 13th and 14th. The two-day event introduced the educators to a host of environmentally relevant educational sites in California and Nevada's Mojave Desert.

The annual EnviRetreat event is designed to promote quality EE learning in a "place-based" environment, with this year's teachers visiting numerous sites throughout Newberry Springs and the area surrounding Las Vegas. The following teachers were selected by MEEC to participate in the event: Jeff Art, Palm Vista Elementary, Twentynine Palms; Aneek daGama, Discovery School, Lancaster; Malissa Voegele-Bidnick, Alpine Elementary, Littlerock; Debbie Tsubota, Trona Elementary, Trona; and James Stockdale, Knight High School, Palmdale. Each participating teacher also received a MEEC tote bag filled with office supplies from MEEC Sponsor 3M Oak Hills and Good360 (valued at \$300) and a book containing detailed information about the points of interest they would visit during the retreat.

The educators started their first day at the Mojave Desert Air Quality Management District in Victorville, before hitting the road. Their first stop in Newberry Springs included a tour of the Hector Mine, owned and operated by Elementis Specialties. Production and Quality Control Manager Joyce Pulliam-Fitzgerald guided the teachers on a tour of the mine where they learned about the geological requirements necessary to produce Hectorite, the rare earth mineral that is mined at the site. The teachers also visited an area near the Mojave River which over the past 25 years produced a large "sand blow," resulting in over 40 homes being abandoned and destroyed. The constantly shifting desert sand has almost entirely buried the surrounding structures and land, making the area uninhabitable.

From here, the teachers headed back onto Interstate 15 to make their way towards their destination of Las Vegas, NV. There, the teachers visited The Springs Preserve for a private tour of the 180-acre facility. The Preserve offered a variety of hands-on activities and exhibits that allowed teachers to learn about native plants and animals of the Mojave Desert, in addition to human impacts on desert resources.

The group ended the first day by attending a reception at The Orleans Hotel sponsored by the California Desert Air Working Group, which was simultaneously hosting its annual conference at the hotel. Proceeds from the annual CDAWG conference, which is sponsored by the Mojave Desert Air Quality Management District, directly benefit MEEC. The reception provided teachers with the opportunity to mingle with MEEC sponsors as well as other environmental industry professionals. The evening came to a close with a relaxing dinner at Canal Street Steak House and enjoying personal time at the hotel.

The second day of EnviRetreat began with a hearty breakfast before the group departed for the Desert Tortoise Conservation Center. On this day, the 222-acre DTCC was specifically opened for MEEC's EnviRetreat teachers so they could learn about the efforts that the facility is undertaking to protect this desert icon. Educators had the opportunity to view areas of the facility that house sick and injured tortoises, as well as outside pens which house healthy animals waiting to be released back to the wild.

After departing the DTCC, the teachers were treated to a behind the scenes look at Ivanpah Solar Project near Stateline, Nevada. Owned and operated by NRG Energy, BrightSource Energy and Google, Ivanpah is the largest solar thermal project in the world. The group learned first-hand from NRG staff members about the conservation efforts that were undertaken in the building of the project. A native plant nursery and special desert tortoise enclosures for hatchlings are housed at the site.

The group departed Ivanpah Solar Project for the journey back to Victorville. During the two hour ride, the teachers reflected on their two-days of learning and were already excited to get back into their classrooms to share their new knowledge with their students and colleagues.



Teachers overlook mining operations at Elementis Specialties' Hector Mine in Newberry Springs, CA.



Jeff Art and Aneek daGama explore a water reclamation exhibit at The Springs Preserve in Las Vegas.



The Mojave Environmental Education Consortium
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MEEC Named "Top-Rated" Nonprofit for Second Year in a Row

This fall, many of MEEC's supporters logged onto the Greatnonprofits.org website to share their experiences with MEEC. As a result of all the positive comments and 5-Star ratings received, MEEC has earned the designation of "Top Rated Nonprofit Organization". Less than 1% of eligible nonprofits earn this honor annually, and 2013 is MEEC's second consecutive year to be included on Greatnonprofits.org "Top Rated" List.

Greatnonprofits.org is the leading developer of tools that allow people to find, review and share information about nonprofits and charities. All information and reviews are submitted by people who have personally experienced the impacts of the organization's work.



Boeing Employee Selects MEEC to Receive \$500 Donation

Each year, MEEC Sponsor Boeing hosts an Earth Day Photo Contest for its employees. Part of the prize is a \$500 donation made by Boeing to the charity of the winner's choice. One of this year's winners was Boeing employee Judi Paxton, whose photo of her "recycle puppies" Maggie and Ruby was recognized.

After Judi learned what MEEC does for High Desert educators, she chose MEEC to receive the \$500 prize contribution from Boeing. Many thanks to Boeing and its amazing employees for everything they do for MEEC and Environmental Education in the High Desert!

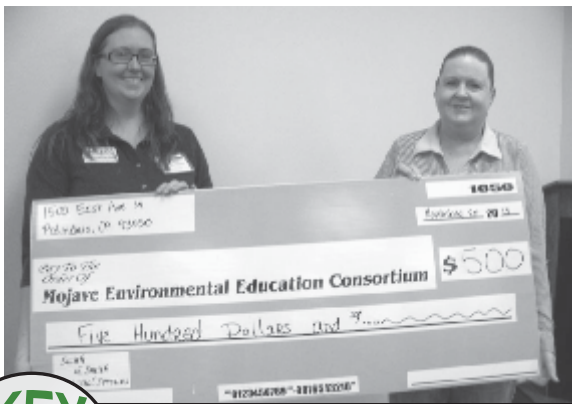
Boeing Corporate Photo Contest Winner



Judi Paxton's \$500 award winning photo of Maggie and Ruby recycling plastic bottles. Judi donated this money to the Mojave Environmental Education Consortium (MEEC)

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Judi Paxton (right), presents MEEC Program Specialist Samantha Murray with a \$500 check during a November Boeing Leadership Meeting.



Key Issues Institute Scholarships Available This Spring



Keep an eye on your e-mail and MEEC's website during the coming months - MEEC will soon be offering scholarship opportunities to attend the prestigious Key Issues Institute during the summer of 2014!

Key Issues is a national training institute located in Silverthorne, Colorado that allows educators to use the area's breathtaking ecosystem to combine classroom time and outdoor investigation as teachers explore a relevant environmental issue.

In the summer of 2013, four MEEC teachers were selected to attend Key Issues. Wouldn't you like to be a 2014 attendee?



Debbie Tsubota, Trona Elementary School, Trona, participates in a water conservation exercise during her week at Key Issues Institute.



Malissa Voegel-Bidnek (center), Alpine Elementary School, Little Rock, uses GPS technology during outdoor activities in Silverthorne.

2013 YELC STUDENT CONFERENCE BRINGS

“THE WOW” FACTOR

More than 260 students and their teacher team advisors from High Desert schools participated in the 9th annual Youth Environmental Leadership Conference (YELC) and STEM Service-Learning event held on Saturday, October 5th at Granite Hills High School in Apple Valley.

YELC YOUTH
Environmental
Leadership
Conference

Science, Technology, Engineering and Math (STEM) is a vital step towards providing students with the skills and technological familiarity that will enable them to take part in the exciting economies of the future. In 2013, MEEC once again incorporated STEM Service-Learning education into its popular student conference. Students participating in Service-Learning apply the skills and knowledge they learn in their academic coursework to identify and solve real-world community problems while accessing the expertise of community partners in addressing these issues.

Once again, MEEC was pleased to have Joel Greene, the founder and host of the nationally syndicated PBS television program “Curiosity Quest” and “Curiosity Quest Goes Green”, as YELC's Guest Keynote Speaker. Joel is passionate for kids and his invaluable knowledge helps students and teachers discover the steps that it takes to become “ambassadors of the environment,” and feel empowered to make a difference. Greene energized and motivated the 32 teams in attendance with great environmental Service-Learning project ideas before they spent the day rotating through workshops learning about robotics, water conservation, and designing working solar cookers.

Students and advisors enjoyed many fun and informative hands-on activities during “STEMFest”, an exhibitor fair that included NASA/JPL, Goldstone, Mojave Desert AQMD, Victor Valley Waste Water Reclamation, Burrtec, Mojave River Watershed Group, Women in Mining, and Abengoa Solar. Volunteers from Suntree Foundation enjoyed challenging students' math skills by helping them launch rockets and measure distance, while Abengoa Solar interns led solar activities, with each team receiving a working solar oven and solar panel kit for their classroom. All Seasons Solar Cookers demonstrated how easily the students could construct their own solar cooker while displaying mouth-watering dishes that were cooked outside throughout the day.

Each team will be invited to attend the annual YELC Project Showcase on April 19, 2014, where they will share the progress of their Service-Learning projects.



Students look on as Cliff Young from NASA JPL, shares math and engineering activities related to science.



Students launch hand-made rockets before taking measurements and graphing their results.

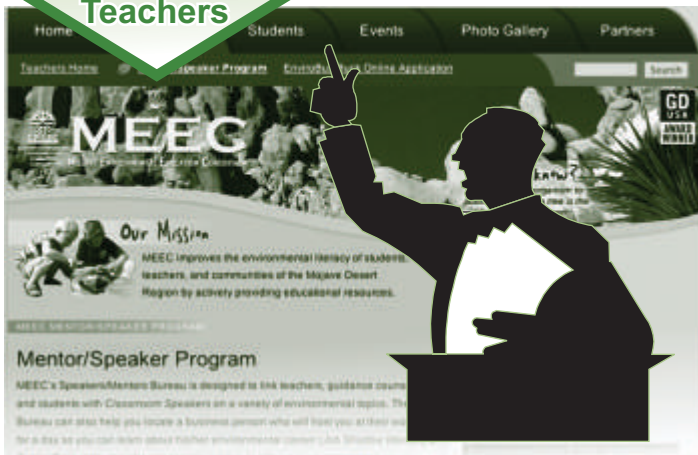


STEM Science
Technology
Engineering
Mathematics



Looking For an Environmental Classroom Speaker?

Teachers



Looking for a local professional to talk about Environmental STEM topics to your students? Look no further than MEEC's Speaker/Mentor Bureau! The Speaker/Mentor Bureau is designed to link educators and students with classroom speakers on a variety of STEM and environmental topics. The Bureau can also help teachers locate a local business person who can host students at their work site for a day to learn about his/her career. Students can even connect with a Senior Project Mentor who can provide them with guidance for an environmental-based Senior Project.

Our Speaker/Mentor Bureau is free and easy to use. Simply log onto our website and click on the "Mentor/Speaker" link under the Teacher Tab. If you are not yet a MEEC subscriber, be sure to register online to access MEEC's Speaker/Mentor Bureau and other website features.

MEEC Takes Part in "Salute to Youth" Career Connection in AV

On September 19, MEEC and sponsor Antelope Valley AQMD shared a booth during the annual Salute to Youth event, which drew nearly 3,000 middle, junior and high school students to the Antelope Valley Fair grounds in Lancaster.

Students were encouraged to network with over 100 local business, industry, government and community representatives who provided exhibits/demonstrations related to career and educational opportunities within eight pathways (Aerospace/Aviation/Industrial Technology, Arts/Media/Communications, Agriculture/Environment & Natural Resources, Business, Hospitality/Tourism/Education, Health Care, Information Technology and Law/Government/Public Services).

MEEC provided students with STEM and environmental career information, including salary ranges and educational requirements for these growing fields. Students also enjoyed spinning MEEC's "Eco Career Challenge" wheel for a chance to win a prize.



AVAQMD staffer Julie McKeen discusses "Green" careers with middle school students at MEEC's booth during 2013's Salute to Youth.

Baker Unified Expands STEM Education

The Baker Unified School District recently enlisted MEEC's help in further incorporating STEM (Science, Technology, Engineering and Math) education into its classrooms. During the October 9th Boeing-sponsored workshop, teachers were provided training on how to connect STEM concepts with the current Common Core State Standards and the upcoming Next Generation Science Standards. Teachers were also given the opportunity to ask questions regarding STEM and participate in hands-on activities that illustrated how to incorporate STEM into their daily lesson plans.



Facilitator Lori Suntree (rear) looks on as Baker Unified teachers collaborate on a project that connects STEM with curriculum.

COORDINATOR'S CORNER

As we ring in 2014, I hope you all enjoyed a wonderful and restful holiday season.

MEEC has been busy planning and working to make sure that we continue to bring you the most relevant and up-to date STEM based environmental education resources, with plenty of workshops, funding opportunities, contests and other professional development opportunities on the horizon. Keep a close watch on your e-mail and check out www.meeconline.com frequently for announcements about upcoming events. As always, all MEEC resources are offered to educators free of charge thanks to the support of our sponsors.

While visiting MEEC's website please take a moment to click on the "Partners" tab. This will take you to a list of all of MEEC's sponsoring partners. Clicking on the company name or logo will direct you to their website. Sponsorship levels range from Diamond Level (\$6000 and up) to Pearl Level (\$20-\$299). The Pearl Sponsorship is a brand new option that allows individuals and small businesses to become invested in EE and their community, in addition to supporting MEEC's missions and goals. I would encourage everyone to consider joining MEEC as a Pearl Level Partner by clicking the "Donate" button at the bottom of the Partners page on the website. You can even use your PayPal account or your credit card to make a tax deductible donation of \$20 or greater. This is



your chance show your support of MEEC and of educators throughout the High Desert!

I hope to see many new faces at the upcoming workshops that are being planned. Already on the calendar are three Advanced STEM workshops during which High Desert educators will be trained in hands-on activities that will introduce cutting-edge concepts that allow for the integration of STEM, Common Core and the Next Generation Science Standards into the classroom. Workshops will take place in Victorville (January 29), Yucca Valley (February 5) and Antelope Valley (February 13). An Education and the Environment Initiative Curriculum Workshop on February 6 at the Victor Valley Museum will offer participating teacher's free EEI materials. Women in Mining will be introducing "Cookie Mining" and "Toothpaste with a Twist" during a February 19 mineral workshop held at CEMEX's River Plant in Victorville.

As always, I am available to attend school staff meetings, district meetings and teacher in-services to provide information on MEEC's many programs. I'm also available to attend career events, science nights and more at your school site. Contact me by phone at (760) 245-1661 x 6717 or by email at smurray@mdaqmd.ca.gov.

S. Murray
Samantha Murray
MEEC Program Specialist



Mitsubishi Cement and Women in Mining Teach Educators Why "Cement is Not Concrete"



Teachers view mining operations at Mitsubishi Cement.



On September 11, MEEC sponsors Mitsubishi Cement Corporation and Women in Mining partnered to host a "Cement is Not Concrete" teacher workshop at Mitsubishi Cement's Lucerne Valley plant. Twenty educators were given the opportunity to tour the mining site and learn how cement is made from raw materials, blasted from the mountain-side and turned into a vital building material.

In addition to seeing the plant, Women in Mining provided hands-on activities for the teachers to take back to share with students. Each participant also received a free curriculum guide which included a historical timeline of cement notes.



Teachers make concrete coasters.

TEACHER

FEATURE:

Meet Kim Ferrante

Kim Ferrante, an 8th grade U.S. History teacher at Encore Junior and Senior High School in Hesperia, has been actively involved with MEEC for three years. Originally from West Los Angeles, Kim and her family moved to Apple Valley when she was in sixth grade and she has been in the High Desert ever since.



Kim Ferrante

Kim began her collegiate journey at Victor Valley Community College. Starting out, she had wanted to become a pastry chef, although things changed after she has spent some time in the business. Inspired by some of her own history teachers, Kim decided to pursue the idea of teaching history herself. She went on to receive her Bachelor's degree from Cal State San Bernardino and her teaching credential from Brandman University. Kim has been teaching 8th grade for the past five years and enjoys every minute of it.

Kim's school site is working hard to actively integrate Common Core State Standards into their daily routines. In doing so, they have created a cross-curricular environment that allows the merging of a topic within the different subject matters. She has used MEEC's resource library for just this purpose. "The printed and video resource information on the California and Los Angeles Aqueducts, as well as the NASA information give us ways to incorporate STEM into all subjects," said Ferrante.

Last summer, Kim participated with a team of her students in MEEC's Solar Oven Cook-Off Competition. Before the Cook-Off, her teaching team worked together to design a lesson that would incorporate CCSS and STEM concepts. Kim also brought a team of students to this year's Youth Environmental Leadership Conference. Her team was inspired by several of the project ideas presented and Kim has already taken back many ideas to other teachers at her school who are currently working on integrating STEM into all of their lesson plans.



OUTSTANDING SCIENCE FAIR PROJECTS!

MEEC, the Mojave Desert AQMD and the Mojave Desert Chapter of the Air and Waste Management Association invite your school to participate in the 2014 "Outstanding Environmental Science Project Awards" Program, which recognizes outstanding environmentally-themed science projects entered into local science fairs.

The program is open to students grades K-12 within MEEC's boundaries which encompass the San Bernardino County's High Desert Region, Antelope Valley and Riverside County's Blythe Region. Winners will be selected at the school, district and Regional levels. School-level winners will receive a \$25 gift card, while winners at District and Regional Competitions will receive \$50 gift cards. One winner per event will be selected by a MEEC judge, who will attend your science fair.

For more information about how to participate, Science Fair Coordinators can contact Violette Roberts, MEEC Executive Chair at: 760-245-1661 ext. 6104 by February 6, 2014.



Fantabulous Feedback

Letters from MEEC's "Fans"

"I asked MEEC Speaker Bureau Member Tony Malone to speak in my Chemistry and Physics morning classes today. He did awesome as usual, fascinating students and fueling their desires to be in the know and to investigate career options in environment and energy related fields. I can hardly imagine how much research he must put into his presentations. He spoke to over 200 students at Sultana HS today, in combined classes."

Mark Ziesmer
Sultana High School
Hesperia



"Thank you for your sponsorship to attend Key Issues Institute in Colorado. High Desert communities have to deal with many environmental issues and attending the Key Issues Institute has prepared me to teach future leaders and citizens in a thoughtful, productive way."

Debbie Tsubota
Trona Elementary School
Trona



"Thank you so much for everything! I am already incorporating what I learned while on EnviRetreat into my curriculum. I loved having the time to collaborate with my fellow educators. You guys are amazing for giving us all these opportunities!"

Aneek daGama
Discovery School
Lancaster



Visit www.meeconline.com



MEEC Funds \$30K in “EnviroBus Bucks” Field Trip Grants

Fifty-five teachers throughout the High Desert will begin planning field trips for their classes during the remainder of the school year, thanks to MEEC's EnviroBus Buck Program. The EBB program provides funding opportunities for field trips to environmentally-friendly sites. These field trips offer students a unique hands-on exploration into environmental stewardship and STEM careers. A total of \$30,866.22 was awarded to help offset the cost of field trips to a specially selected list of host sites, most of which are MEEC sponsors. Some of the sites that will be visited this year include: Ivanpah Solar Project, Lancaster Water Reclamation Plant, CalPortland Cement and the Mojave Natural Preserve. Some of this year's awardees are: Eric Gold, Baker Jr. High, Baker; James Leonard, Discovery School, Lancaster; Gaby Parrish, Galileo Academy, Victorville; and Monica Coughlin, Palm Vista Elementary, Twenty-nine Palms.



Teachers Plan Service Learning Projects During STEM Workshop

On October 23, teachers of grades 3 through 12 attended a Boeing-sponsored workshop at the Mojave Desert AQMD. The workshop was designed to equip educators to guide their students in developing STEM based Service Learning Projects on their school campus. Working with workshop facilitator Lorie Suntree, teachers were provided examples of how service learning projects can increase student participation in academic subjects and how to incorporate different subjects into their STEM-SL projects. Attendees also identified on-campus needs and received customized Service Learning Project Plans to take back and implement at their school sites.

Attendees were also provided with grade-specific curriculum, which included Common Core State Standards and Next Generation Science Standards, for activities presented during MEEC's 2013 Youth Environmental Leadership Conference.

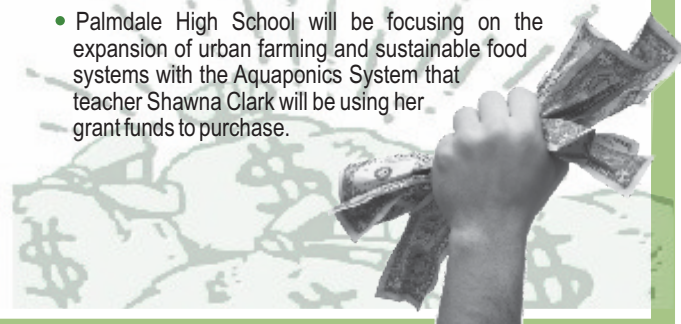


Teachers learn how to connect STEM Service Learning to CCSS and NGSS during Boeing Workshop.

14 Teachers Awarded MEEC Mini Grants for EE Projects

EE Mini Grants were awarded to 14 teachers to assist them with the purchase of supplies needed to implement Environmental Education project ideas at their schools. Grant amounts ranged from \$81 to \$972 each. In total MEEC awarded \$5,783.29 in funding for the 2013/2014 school year. Some on this year's awardees and their EE Projects include:

- Lisa Aburto, Yucca Loma Elementary, Apple Valley, who will be using her EE Mini Grant for a Wonders of Water unit that will teach her fifth graders about water conservation.
- LaKeysha Mattis, Cameron Elementary School, Barstow has plans to build working solar ovens that will cook food and pasteurize water to send to developing countries.
- Palmdale High School will be focusing on the expansion of urban farming and sustainable food systems with the Aquaponics System that teacher Shawna Clark will be using her grant funds to purchase.



Teachers Get a Peek “Behind the Ride”

On September 26, MEEC Sponsor Victor Valley Transit Authority hosted 20 teachers for a special behind the scenes tour of their new environmentally-friendly administration building and maintenance yard in Hesperia, CA. Teachers participated in an hour-long educational tour that highlighted the features which have resulted in the facility being designated as LEED (Leadership in Environmental Engineering and Design) certified.

Teachers were shown around the administration building which incorporates recycled materials for flooring and design purposes in addition to using solar skylights, solar paneling and sub-level heating and air systems. The group then moved into the maintenance yard where routine operations such as changing tires and large repairs are performed.

Outside the facility, teachers encountered even more exciting environmental innovations that Victory Valley Transit Authority has implemented, including a bus washing facility that uses recycled reclaimed water. Teachers also visited the CNG fueling station that the bus fleet utilizes.



Teachers visit VVTA's CNG fueling station during the facility's “Behind the Ride” Educational Site Visit.



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GOLD

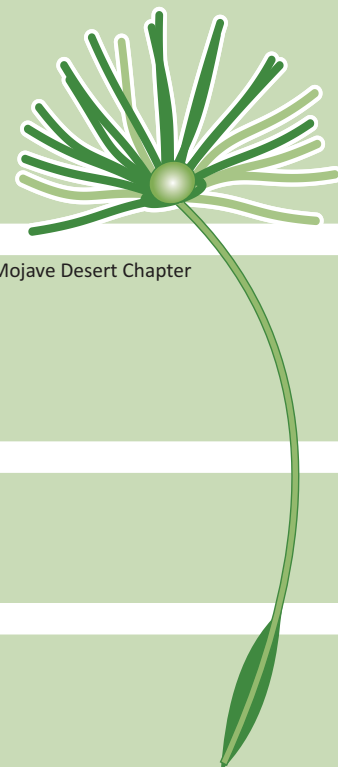
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BRONZE

- First Solar
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MEEC's MISSION

MEEC improves the environmental literacy of students, teachers, and communities of the Mojave Desert Region by actively providing educational resources.