

H₂O KLAHOMA: A VISION FOR 2020

23rd Annual OKLAHOMA ENVIRONMENTAL EDUCATION EXPO



FRIDAY, FEBRUARY 7, 2020

Oklahoma City Zoo
Rosser Conservation Education Center
2000 Remington Pl., Oklahoma City, OK 73111



23rd Annual Oklahoma Environmental Education Expo

EXPO AGENDA

- 8:00AM - Registration Opens
- 8:30AM - Welcome by OKC Zoo Animal Ambassadors
- 9:00AM - Keynote Presentation - Dr. Kevin Kloesel
"Oklahoma's Water Vision"
- 9:30AM - Break - Visit Exhibitors
- 9:45AM - Session I
- 10:30AM - Break - Visit Exhibitors
- 10:45AM - Session II
- 11:30AM - Lunch
- 12:30PM - Session III
- 1:15PM - Break - Visit Exhibitors
- 1:30PM - Session IV
- 2:15PM - Break - Visit Exhibitors
- 2:30PM - Sea Lion Show
- 3:00PM - Closing Remarks, Door Prizes

KEYNOTE ADDRESS

Dr. Kevin Kloesel serves as Director of the Oklahoma Climatological Survey which is charged with providing weather and climate data, analysis and expertise to stakeholders and decision makers throughout the state, and operates the Oklahoma Mesonet weather observing network. Kevin is a tenured Associate Professor with teaching and research interests ranging from synoptic meteorology to societal impacts and decision-making in weather-impacted situations.



He was the lead author on the chapter covering Oklahoma in the most recent National Climate Assessment which focused on the human welfare, societal and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways. This assessment was written to help inform decision-makers, utility and natural resource managers, public health officials, emergency planners, and other stakeholders by providing a thorough examination of the effects of climate change on the United States. Fourth National Climate Assessment, Volume II, Impacts, Risks, and Adaptation in the United States: Chapter 23: Southern Great Plains. 2018

Kevin works directly with thousands of K-12 students and teachers, as well as hundreds of emergency management agencies in finding appropriate applications for weather data in local education, decision-making, and weather safety planning. He has provided numerous training workshops to improve weather forecasting and decision making in Korea, China, Japan, Taiwan and Nigeria, as well as weather preparedness training to the NFL, NCAA, NASCAR, and numerous sports venues, concert halls and amusement parks throughout the country.

A frequent guest on local, state and national radio and television programs, he has appeared on the National Academies of Science Distinctive Voices, NPR's Talk of the Nation, the Tavis Smiley Show, WeatherBrains, ABC Nightly News, The Discovery Channel, The Weather Channel, WxGeeks, the BBC, and dozens of local radio and TV shows from coast to coast. He has also provided keynotes at the National Tornado Summit and the SXSW Eco Conference. He has served on two National Academies of Sciences panels reviewing weather forecast performance for the nation. He also served as a content designer for Scholastic's The Magic School Bus Kicks Up a Storm. Kevin formerly served as an Associate Dean and led the National Weather Center's outreach, tour and visitor programs from 2006-2014.

Concurrent Session Schedule At-a-Glance

	Auditorium	Classroom 3	Classroom 4	Discovery Theater	Tree House	Canopy
Session I: 9:45-10:30	The Adventures of "Willie Waterdrop"	Oklahoma Rains - How much did you get?	Amphibian Infectious Disease Citizen Science Project	Experiential Education using Aquaponics in Your Classroom	From the Forests to our Faucets	
		Full Circle Citizenship – How Individual Actions Lead to Healthy Communities	Keeping Our Water Resources Safe – OKC's Storm Water Quality Programs			
Session II: 10:45-11:30	Adapting to Changing Rain Patterns with Rainwater Harvesting	Oklahoma's Inland Waterway	HYDROPOWER: In the flow since 4000BC	Project WET: A Water Education Curriculum for All Ages	C'mon in, the waters fine	Earth Rebirth: Optimizing Your School Garden's Value
Session III: 12:30-1:15	Animal S.O.S.	Human Impacts and the Growing Demand for Water	What Blue Thumb Can Do for You?	To It, Through It, and Out of It: Plant Interactions with Water	The Truth About Hydraulic Fracturing: How the Oil and Natural Gas Industry is Using Our Water	From Mere Students to Citizen Scientists: Water-related Projects for Your Classroom
			Making Waves in Science Education Setting the Mood - Preparing Students for the Outdoor Classroom			
Session IV: 1:30-2:15	Water Conservation	Keepers of the Earth		Indoor Water Audits: Simple Tools to Save Water in Your School	Every Palace has a Fountain... Does yours?	



Our mission is to support Oklahoma educators and promote, in formal and non-formal settings, environmental literacy through communication, resource sharing, skill building, program sponsorship and recognition of excellence.

The Oklahoma Association for Environmental Education was established in 1993 and is the state affiliate of the North American Association for Environmental Education (NAAEE). OKAEE brings together a variety of environmental educators who share a common goal – excellence in environmental education. OKAEE serves educators of all grade levels, natural resource professionals, students, university faculty, environmental clubs, non-profit educational programs, and corporate environmental interests. OKAEE unites these diverse interests in a forum designed to energize and inspire participants to greater levels of achievement.

OKAEE accomplishes many of its goals by hosting a one-day conference, the Oklahoma Environmental Education Expo (EE Expo). The first EE Expo was held in February 1996, and 2020 marks the 23rd EE Expo.

The activities and day-to-day operations of OKAEE are organized and carried out by a ten member Board of Directors. Board members are all volunteers. As in most not-forprofit organizations, OKAEE is constantly seeking new board members. We would love for you to join us.

For more information about OKAEE, please contact Erica Buckwalter at: ebuckwalter@okc zoo.org or 405-425-0270

Session Descriptions

Title	Summary	Presenter Name(s)	Organization /Affiliation:	Grade level:	Room Assignment	Session Assignment
The Adventures of "Willie Waterdrop"	Learn how to teach the water cycle as an obstacle course visiting the ocean, clouds, drinking water treatment, a toilet, wastewater treatment and more!	Sean Hussey	Oklahoma Water Resources Board	5th grade and up	Auditorium	Session I: 9:45-10:30
Oklahoma Rains - How much did you get?	Getting accurate rainfall measurements is a difficult process. students will examine rainfall distribution, rainfall rates, and some important facts to remember about rain gauge networks.	Andrea Melvin	Oklahoma Mesonet	Something for all ages	Classroom 3	Session I: 9:45-10:30
Full Circle Citizenship – How Individual Actions Lead to Healthy Communities	The land and water are connected ~ Join us as we investigate simple ways to contribute to healthy, resilient, sustainable communities.	Cheryl Cheadle and Amy Seiger	Oklahoma Conservation Commission	middle school, high school, adult	Classroom 3	Session I: 9:45-10:30
Amphibian Infectious Disease Citizen Science Project	Infectious disease in Oklahoma is a growing concern among aquatic amphibians; learn about two diseases and how you and your students can help.	Jessa Watters	Sam Noble Museum, University of Oklahoma	all age levels	Classroom 4	Session I: 9:45-10:30
Keeping Our Water Resources Safe – OKC's Storm Water Quality Programs	Learn about our "CSI" methods for identifying a pollution source, using technology for cleanup, and the simple things you can do to keep our water safe.	Rebecca Dallen	City of Oklahoma City	grade school and higher.	Classroom 4	Session I: 9:45-10:30
Experiential Education using Aquaponics in Your Classroom	Discover how you can bring the nitrogen cycle to life; experience plant biology, ecology, and zoology; dabble with engineering; implement economic principles; and provide experiential education using Aquaponics.	Reese Hundley	Symbiotic Aquaponic	Pre-K through College	Discovery Theater	Session I: 9:45-10:30
From the Forests to our Faucets	Forests are nature's living reservoirs and water treatment plants. Explore Oklahoma's water sources and how forests have an impact on them with a simple demonstration you can easily recreate in your classroom!	Mo Rice (maybe a forester too)	Oklahoma Forestry Services	upper elementary/middle	Tree House	Session I: 9:45-10:30
Adapting to Changing Rain Patterns with Rainwater Harvesting	Climate scientists predict that Oklahoma will see the same amount of rain but in fewer storms. Learn how to capture water in a rain collection system and all the things you can use it for.	Jeri Fleming	Oklahoma Water Survey/University of Oklahoma	Any	Auditorium	Session II: 10:45-11:30
Earth Rebirth: Optimizing Your School Garden's Value	This workshop will cover unique and exciting ways to engage the school garden in the classroom, optimize water use, and cool partnerships that can expand your capacity in the garden.	Andrew Sartain	Earth Rebirth	Any	Canopy	Session II: 10:45-11:30
Oklahoma's Inland Waterway	Discover ways to teach your student's about Oklahoma river navigation and transportation of agricultural products by barge.	Audrey Harmon, Melody Afill, Emily Ague	Oklahoma Ag in the Classroom	3rd and up	Classroom 3	Session II: 10:45-11:30
HYDROPOWER: In the flow since 4000BC	How water is converted into mechanical motion and the fundamentals of hydroelectric generation.	Robert Campbell	Grand River Dam Authority	Presentation is suitable for 4th through 12th grades.	Classroom 4	Session II: 10:45-11:30
Project WET: A Water Education Curriculum for All Ages	An introduction to a curriculum filled with fun and engaging water based activities for all ages. Each participant will receive a Project WET sampler guide book!	Candice Miller	Oklahoma Blue Thumb	Project WET 2.0 is targeted to K12 educators.	Discovery Theater	Session II: 10:45-11:30
C'mon in, the waters fine	Exploring water through Growing Up WILD early childhood curriculum.	Laura Wilhelm and Charlotte Wood-Wilson	Oklahoma Project WILD	Early Childhood	Tree House	Session II: 10:45-11:30



Session Descriptions

Title	Summary	Presenter Name(s)	Organization /Affiliation:	Grade level:	Room Assignment	Session Assignment
Animal S.O.S.	Endangered means there's still time. Learn about threats facing animals worldwide and what you can do to help animals in your own	Brooke Troxell	OKC Zoo	Any	Auditorium	Session III: 12:30-1:15
From Mere Students to Citizen Scientists: Water-related Projects for Your Classroom	From stream selfies to artificial leaf packs to chemical analysis, citizen science projects are fun and engaging ways to learn about water quality and quantity.	Cheyenne Olson, Dr. Nicole Colston	Oklahoma State University	Any	Canopy	Session III: 12:30-1:15
Human Impacts and the Growing Demand for Water	Discover interdisciplinary lesson for exploring the causes and effects of our global population's growing demand for water resources. Engage in simulations matched to state standards.	Kristy Brugar	University of Oklahoma	Primarily middle school (grades 6-8) but the activities can be scaled up and down	Classroom 3	Session III: 12:30-1:15
What Blue Thumb Can Do for You	The mission of the Blue Thumb Program is "Stream Protection through Education." If you are engaged in environmental education as it relates to water, please come to this flash talk to learn how we can support your efforts.	Rebecca Bond	Oklahoma Blue Thumb	Blue Thumb works with people of all ages, but stream monitoring is targeted at those in middle school or older.	Classroom 4	Session III: 12:30-1:15
Making Waves in Science Education	Learn about several opportunities that GRDA is providing for science educators to learn more about water and how to incorporate water education into their classrooms.	Jacklyn Jaggars and Bill Mausbach	Grand River Dam Authority	4th grade and up.	Classroom 4	Session III: 12:30-1:15
Setting the Mood - Preparing Students for the Outdoor Classroom	Developing observational skills, sparking curiosity and initiating student collaboration to maximize the benefits of experiential learning. We will discuss tools/techniques to enhance the learning environment.	Travis Monroe	YMCA Thrive Outside	My lessons can be amended for use with all ages/grade levels	Classroom 4	Session III: 12:30-1:15
To It, Through It, and Out of It: Plant Interactions with Water	Water: why plants need it, how they get it, how they save it, and how we can take care of them while conserving water.	Shelley Mitchell	OSU Horticulture/Landscape Architecture	elementary school and up	Discovery Theater	Session III: 12:30-1:15
The Truth About Hydraulic Fracturing: How the Oil and Natural Gas Industry is Using Our Water	The OERB will discuss water usage in the oil and natural gas industry. We will review the origins of water and hydrocarbons in Oklahoma and discuss how the industry uses water to produce oil and natural gas along with reuse and recycling.	Mike Mathis/ Bud Ground	Continental Resources/The Petroleum Alliance	Any	Tree House	Session III: 12:30-1:15
Water Conservation	The role of water conservation in Oklahoma, its benefits, and how we can positively impact future generations of Oklahomans.	Christina Chioraske	City of Oklahoma City Water Conservation	Middle to High School	Auditorium	Session IV: 1:30-2:15
Keepers of the Earth	It's a party... turned crisis! Immerse yourself in a water conservation simulation to see what impact our actions have on our waterways.	Erica Buckwalter	OKC Zoo	Any	Classroom 3 & 4	Session IV: 1:30-2:15
Indoor Water Audits: Simple Tools to Save Water in Your School	Conduct an indoor water audit: check faucets and toilets for leaks, calculate flow rates, understand the largest indoor water users, and implement simple water conservation efforts.	Abbey Pizel	City of Oklahoma City Water Conservation	Any	Discovery Theater	Session IV: 1:30-2:15
Every Palace has a Fountain... Does yours?	Join us for a STEAM Solar H2O fountain design and discovery. Certified KidWind Instructors will guide you in using KidWind gear, clay, solar panels, and pumps to make your fountain flow and glow.	Kathy Jackson	SpiritWind Kidz Ranch	Any	Tree House	Session IV: 1:30-2:15



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