LAUREL CLARK EARTH CAMP: A PROGRAM FOR TEACHERS AND STUDENTS TO EXPLORE THEIR WORLD AND STUDY GLOBAL CHANGE THROUGH FIELD-EXPERIENCE AND SATELLITE IMAGES. S. R. Buxner[1], A. Orchard[2], D. Colodner[2], K. Schwartz[3], D. A. Crown[1], B. King[2], and A. Baldridge[1], [1]Planetary Science Institute, 1700 E. Fort Lowell Rd., Suite 106, Tucson, AZ 85719 (buxner@psi.edu), [2]Arizona-Sonora Desert Museum, 2021 North Kinney Road, Tucson, Arizona 85743, [3] Arizona Project WET, University of Arizona, Tucson, AZ, 85721.

Introduction: Beginning in 2003, as a tribute to honor the legacy of Columbia space shuttle astronaut Laurel Clark, a team of educators from the Arizona-Sonora Desert Museum (ASDM) and the University of Arizona (UA) came together to create a two-week summer experience to help middle school students appreciate the beauty of the American Southwest through experiential learning, science inquiry, and learning about their environment. Since the first 20 middle school students attended the program in the summer of 2005, Earth Camp, with NASA support, has expanded into a more comprehensive program that includes new partners, the Planetary Science Institute (www.psi.edu/epo) and Arizona Project WET at the University of Arizona (http://cals.arizona.edu/arizonawet/), and new programs including *High School Earth Camp* and *Earth Camp for Educators*.

Middle School Earth Camp: *Middle School Earth Camp* is for students entering grades 7 – 9 and is built around issues of water resources and sustainability. Campers work with local expert scientists from soil science, hydrology, tree-ring studies, planetary science, and botany. Additionally, they are challenged to take actions in their own homes, communities, and schools to live more sustainably. Campers explore changing conditions on Earth, including the use of satellite images, and meet with local community members who are making a difference in the community (e.g. water harvesting, leading community recycling efforts). *Middle School Earth Camp* is capstoned by a Learning Celebration in which campers present what they have learned during camp and make a public pledge to change their actions to balance their needs with that of nature.

High School Earth Camp: *High School Earth Camp* is for students entering grades 9 – 12 and is designed to educate and inspire youth to build leadership skills through experiential learning and conceptual understanding of earth processes. Campers explore global changes in climate, water, and the landscapes of the Colorado Plateau, and how these changes impact sustainability. Many of the investigations take place during a 5 day rafting trip down the Green River's Desolation Canyon in Utah, where students study the history of water resources policy, development of the West, and impacts on flora, fauna, and ecology of the Southwest. Throughout their investigations, they use historic photographs and satellite images to analyze changes to landscapes and impacts of change at different scales. *High School Earth Camp* is capstoned by a Learning Celebration in which campers are given an opportunity to share their discoveries with their friends and families and pledge to make a change in their life that will lead to a sustainable future.

Earth Camp for Educators: *Earth Camp for Educators* is a year-long professional development program designed to give middle and high school teachers an opportunity to explore relevant content about the Earth and work with scientists and their peers to acquire new scientific practice skills for learning and teaching through authentic inquiry. Teachers explore environmental change in the Southwest from multiple perspectives, using hands-on field investigations, classroom exploration and modeling, and NASA satellite images. The workshops build science skills scaffolding from guided investigations to designing their own questions and designing a scientific way to investigate those questions. The workshop series includes an overnight field-study designed to deepen content knowledge and apply scientific practice skills. In addition teachers take part in a week-long summer workshop where they use satellite images to conduct an investigation of environmental change and create a poster to go on exhibit at the Arizona-Sonora Desert Museum and on an online exhibit.

Earth Clubs: Students and teachers who participate in one of the Earth Camp programs are recruited to start, or support, an Earth Club at their school. Supported by all of the project partners, Earth Clubs focus on applied project-based learning using direct observation and large scale comparative analysis to assess change in earth systems. They also engage in positive action programs focused on their environment and community.

Online Tool for Studying Change: Through the first year and a half of the project, we have been developing an online tool that will allow teachers and students to compare temporal and spatial change using NASA satellite data. The tool is being designed with input of our first cohort of teacher participants and will be field tested in the coming year.

Additional Information: You can learn more about Earth Camp, including access application materials at http://www.desertmuseum.org/earthcamp/.

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