

# After Dark

Updates from Great Basin National Park Foundation & Great Basin Observatory



## Spring, 2019

Great Basin National Park Foundation purchased needed Search and Rescue equipment for Great Basin National Park rangers. Technical safety equipment is used by rangers to rescue visitors in dangerous situations while caving, climbing or hiking. Right, Great Basin rangers happily display some of their new equipment.



## Reach for the Stars

This winter and spring the Great Basin National Park Foundation visited 27 elementary, middle and high school classrooms in the two large rural counties adjacent to Great Basin National Park.

“We are so excited that the Foundation is expanding our outreach efforts,” explains Nichole Andler, Great Basin National Park’s Chief of Interpretation, “through outreach and education to local schools we are creating long lasting friends and supporters of the Park and inspiring our surrounding communities to protect and preserve the unique resources of the Basin and Range, especially the dark night skies.”

Response from students and teachers to the

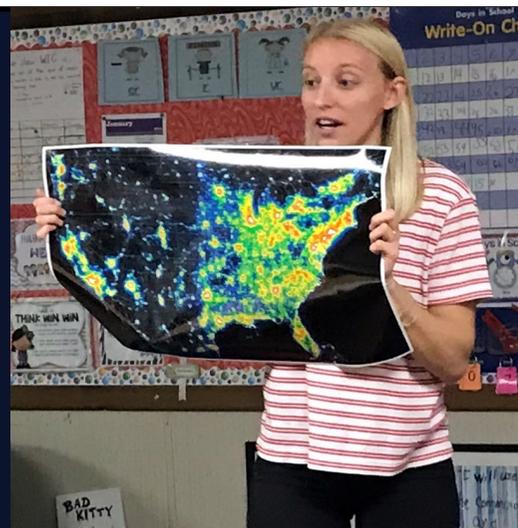
presentations that focus on Great Basin National Park, dark sky preservation, and grade appropriate, science standard interactive activities, has been overwhelmingly positive. “Really a lot of class Participation!” “Great job with my class, thank you for the age appropriate lesson.” “Students loved the lesson, learned a lot and loved the hands-on activity.” “We were tickled to have the opportunity for you to visit us!” ... Have been some of the teachers comments so far.

*Reach for the Stars* will present in 90% of elementary and middle schools in White Pine and Millard counties this year, using science and Great Basin National Park as a means to spark children’s curiosity and awaken stewardship and conservation.



Right, Janzen Quinn, *Reach for the Stars* intern teaches students about light pollution and why the Great Basin is special.

Left, first grade students at David E. Norman Elementary demonstrate how the moons light is created by bouncing



## Great Basin Observatory Research Report– Southern Utah University

The Great Basin Observatory (GBO) has been doing *double* duty at Southern Utah University (SUU) helping students explore the cosmos, while allowing non astronomy and non physics majors a chance to collaborate on deep space research together.

SUU students published two research papers in the Journal of Double Star Observations (JDSO) this winter using data from the Great Basin Observatory. Both papers utilized GBO data combined with GAIA data (a European Space Agency observatory measuring the positions, distances and motions of stars in our galaxy ) to analyze star systems that appear to be gravitationally bound.

They found that the star systems are optical doubles as the stars are not close to each other and are not gravitationally linked. Although, one system appears to contain a proper motion pair, meaning that the stars are nearly identical to each other in movement, speed and direction, but not close enough to be gravitationally interacting.

The Double Star Research Group, which worked on the data is composed of a diverse group of SUU students. Pictured left to right is Professor of Astronomy and Physics Rhett Zollinger, with students Gideon Johnson, a



**SUU's Double Star Research Group attracts diverse majors**

Chemistry and Philosophy major, Dallas Anselmo a Criminal Justice major, William Zerkle, undecided, Morgan Taylor an Applied Math major, Sterling Young a Human Nutrition major, and Taylor Hammack, a biology major.

According to Dr. Zollinger, "The GBO has given SUU students a literal out of this world research experience that they never would have received otherwise. It's been a highly valuable resource for us."

*"CDC Measurements of AB and AC Components of WDS 20023+6438", JDSO January 2019*

*"CCD and GAIA Observations Indicate That WDS 02222+2437 Is Not Gravitationally Bound", JDSO January 2019*

## Bronze Relief Map will highlight Great Basin's Geologic Features



A new bronze map sculpture featuring Great Basin's Wheeler Peak Cirque and Rock Glacier topography is starting fabrication this spring. The sculpture, supported by the Great Basin National Park Foundation and the Fund for People in Parks, will allow Park visitors to view, touch and marvel at the cirque's steep glacially carved terrain. Park visitors will be able to enjoy the sculpture next year when it will be installed at the Mather Overlook on the Wheeler Peak Scenic Drive.