

Great Basin National Park Foundation

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By Aviva O'Neil, Executive Director, Great Basin National Park Foundation

Supporting science education and resource conservation within the Park

I like to think of [Great Basin National Park](#) as a portal to time and space. Traveling towards eastern Nevada, passing mountain range and basin, followed by mountain range and basin, time begins to slow. Cities are left far behind. The vistas are expansive, and the geology laid bare.



Milky Way over the Great Basin Observatory, Photo Credit: Paul Gardner

The high elevations of the Park support the world's oldest living trees - the Great Basin Bristlecone pine, many of which are 3-4,000 years old. And underneath the Park's surface lies dozens of limestone caverns which researchers now believe to be 600 million years old. Great Basin National Park is a place one can enjoy quiet and experience a longer view of time. From trees, to caves, to stars. The Park has some of the very darkest and most stable skies in the contiguous United States. At Great Basin one can connect with a dark sky heritage all humans had access to a few centuries ago. In 2010, a Park ranger wondered how amazing it would be for the Park to hold a research-grade astronomical observatory. An observatory that would utilize the pristine dark skies for research and help preserve them through education and outreach. Great [Basin National Park](#)

[Foundation](#) (GBNPF), the nonprofit partner of Great Basin National Park, made this dream a reality in 2015.



High school researchers visit the telescope at Great Basin Observatory, Photo Credit: Aviva O'Neil

The [Great Basin Observatory](#) (GBO) is the only research-grade observatory located in a national park. The GBO operates remotely and is maintained through a partnership collaborative which includes the Park, the Foundation, the University of Nevada, Reno, and Southern Utah University. This incredible partnership has leveraged the Park's dark skies and elevated their need for preservation. The partnership has benefited the local community and pre-college students throughout the Great Basin. For the last five years, with help from GBNPF, students have been able to use the GBO to study supernovae, exoplanets, black holes, double star systems, and more. We've created astronomy and dark sky curriculum for upper elementary and middle school students. And through partnerships with our university professors, high school, and even middle school students have been able to use the GBO to complete original research.

In fact, the third group of Ely Middle School students is almost finished with their Double Star Research paper that will be published in the Journal of Double Star Observations. In a state where only 20% of middle schoolers are proficient in science, this is a big deal!

Over 10,000 Park visitors are seeing the stars from Park astronomy programs during the summer months each year. GBNPF supports to [Scientist in the Park](#) (SIP) interns who bring a depth of knowledge and passion to these summer programs. Past SIP interns have been planetary science and physics majors from Harvard and Yale. 2024s SIPs include a PhD candidate in the Geological and Planetary Sciences division at the California Institute of Technology who is a student researcher at NASA's Jet Propulsion Laboratory studying Saturn's moons Titan and Enceladus; and a PhD candidate in Astronomy and Astrophysics at the

University of California Los Angeles who is researching supermassive black holes.



Telescopes set up for Great Basin National Park Astronomy Program, Photo Credit: Austin Pratt

As the Executive Director of Great Basin National Park Foundation, I am very proud of the work we do to support science education and resource conservation within the Park and beyond its boundaries. Some things we like to say at Great Basin are: “Half the park is after dark” and “Even national parks need guardians”.

I am grateful to all our partners and Great Basin National Park Guardians who help us preserve, protect and share this special place.



Middle school research students exiting GBO, Photo Credit: Aviva O'Neil



Milky Way behind ancient Bristlecone pine in GBNP, Photo Credit: National Park Service

Learn More

- [Great Basin National Park Foundation](#) - a non-profit partner of Great Basin National Park
- [Great Basin Observatory](#) - the first research grade observatory built in a U.S. National Park!
 - [Schedule a virtual visit for your classroom](#) with a Great Basin National Park ranger, Great Basin Observatory scientist, or a Reach for the Stars Educator.
- [Great Basin National Park](#)