

Observing the Sky and Lunar Photo of the day: Two New Astronomy Education Web Sites. C. A. Wood¹, J. Brausch², R. Kramer³, and A. Ayiomamitis⁴. ¹Planetary Science Institute, 1700 E. Ft. Lowell, Suite 106, Tucson, Arizona 85719, chuck@observingthesky.org, ²208 S. G St., Glen Ullin, ND 58631, jbrausch@westriv.com, ³Space Studies, University of North Dakota, Grand Forks, ND, 85719, ryan@observingthesky.org, ⁴ELTA Box 51, Nea Palatia 19015, Greece, anthony@perseus.gr.

Introduction: The Internet provides the most direct way for scientists to communicate with large numbers of people around the world, without the distortions often introduced by traditional media. Thus, the Internet is the ideal medium for large-scale scientific public outreach. Having previously reached as many as 4,000,000 unique visitors per year with VolcanoWorld (<http://volcano.und.edu>), a NASA-funded web site that provided information direct from PhD volcanologists, we have developed two new astronomy-related web sites to provide accurate and interesting information to teachers, students and the public.

ObservingtheSky.org: NASA has many beautiful web sites to share the excitement of space exploration with the public. The goal of our NASA-IDEAS funded *Observing the Sky* (OtS) project is to enhance visceral understanding of space science by guiding the public to personally observe the night sky. OtS helps people go from a NASA discovery announcement to having photons from spacecraft, planets, shooting stars and galaxies fall directly on their own eyeballs. OtS promotes observation of objects in the sky coincident with current NASA missions and projects. At the time of Shuttle launches or enhancements for the International Space Station, OtS shows where to find and how to observe these spacecraft. As Cassini approaches Saturn, OtS guides observers to find the planet in the sky and recognize the rings and satellites the spacecraft will fly by. Similarly, bright comets, aurora, star clusters and many other objects studied by NASA instruments and scientists are highlighted for observation as discoveries and observations are announced.

The OtS guides the public to NASA's existing web sites – but OtS has an even more subversive goal – to guide people away from NASA sites to observe the night sky – to personally make connections with their cosmos. OtS is an innovative website that goes beyond any existing space science and sky observing sites because it is the only website featuring real-time nightly observations and guidance by a skilled observer, Jay Brausch, and occasional comments from PhD astronomers. Visitors to OtS learn what objects are observable and how they look. Near real-time digital images, descriptive reports and an opportunity to submit observations gradually will make OtS the focal point for observers of the sky.

Since beginning operations on Sept 26, 2003, OtS has published 293 short articles (an average of 2.7 stories/day), attracted 8,749 unique visitors (average of 80/day) from 69 countries, and downloaded 28 megabytes/day of space information.

Lunar Photo of the Day: LPOD is based on the very successful Astronomy Picture of the Day, which contains a daily photo and caption with links to further information. APOD is viewed by millions of people and has sparked a wider interest in astronomy and the new understanding that comes with the beautiful images. APOD has spawned an Earth-POD and a somewhat different Mars-POD. All of these PODs provide easy ways for astronomers – both amateur and professional – and the general public to stay in touch with science and be awed by the beauty of the cosmos.

LPOD has a smaller canvas than the entire universe, but it concerns the most visible and accessible part of the extra-terrestrial universe. Some might question if there is enough material to support a daily LPOD. We believe the answer is a resounding YES! There are 10^5 to 10^6 spacecraft images, from Ranger and Luna to Apollo, Clementine and Lunar Prospector. Earth-based observers have drawn many thousands of sketches and maps during the nearly 400 years following Galileo. And since the advent of lunar photography in the 1850s, uncounted photos have been acquired. Also, there are books, scientists, astronauts, telescopes and spacecraft that have been critical to learning about the Moon – they deserve LPODs too!

Rather than being a mere collection of lunar images, LPOD strives to be an educational resource. Every image is accompanied by a description that ideally refers to visible details to offer a bite-size morsel of understanding. But we don't forget the non-scientific impacts of the Moon on our lives. The Moon is beautiful, especially seen against a terrestrial landscape, and has inspired legions of poets, painters, lovers and science-fiction writers. All are grist for LPOD!

LPOD began on Jan 1, 2004 and in the first 15 days featured 9 amateur images of the Moon, 3 from Lunar Orbiter, one each of astronauts on the surface and from Luna and Clementine, one of a USGS map and Baldwin's classic 1949 book!

In 12 days LPOD has attracted 3,815 unique visitors (average of 347/day) from 47 countries, and downloaded 23 megabytes/day of space information.