



THE STAR DIAGONAL

THE JOURNAL OF THE OGDEN ASTRONOMICAL SOCIETY



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Vol. 44 Number 10

July 2016

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Meeting Announcement

No formal meetings until September. See you at Monte Cristo.

President's Message

Hi All,

With July comes our Monte Cristo star party and camp out, this year it is planned for the last week end of July. It is one of our best activities for observing at high altitude with dark skies or to just get away into the mountains where it is cool. I plan to bring the 25 inch telescope we have on loan from Weber State University, not sure how I will get it up there yet but I will work that out. We will also do Monte Cristo again Labor Day weekend; you can make it to either or both. We hope to see you there.

Thanks,
Lee Priest

Star Parties

Public

- 8/6 – Antelope Island
- 8/26 – Ranger Program and Star Count
- 9/24 – Antelope Island
- 10/1 – North Fork Park
- 10/22 – Antelope Island

Requested

Private

- 7/27-30 – Monte Cristo
- 8/31-9/5 – Monte Cristo
- 9/30-10/1 – North Fork Park
- 10/28-29 - Curlew

External

- 8/2-7 – www.oregonstarparty.org
- 9/29-10/1 – Great Basin Astronomy Festival

Monte Cristo Star Party and Family Camp Out

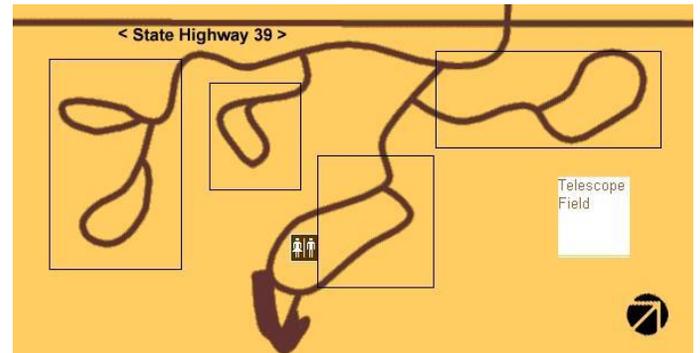
With summer heating up it's time to start thinking about our premier activity of the year, the family camp out and star party at Monte Cristo. For those not familiar with this activity it will be held Friday and Saturday July 29th and 30th and September 2nd and 3rd at the Monte Cristo campground. We have several people go earlier in the week and some who just come up for the evening and don't camp, whatever will fit your interest and schedule.

To get there from Ogden, go East on Highway 39 about 40 miles up Ogden Canyon to the top of the mountain, you will be about 9000 ft. elevation when you get there. We try to get in loop E, to get there just keep turning left after you enter the campground. Monte Cristo is a National Forest campground, they don't take reservations. They have paved roads with tables and fire pits at each camp site, a restroom with flush toilets and a few water taps located around the loop. Last year the fee was \$20.00 per night.

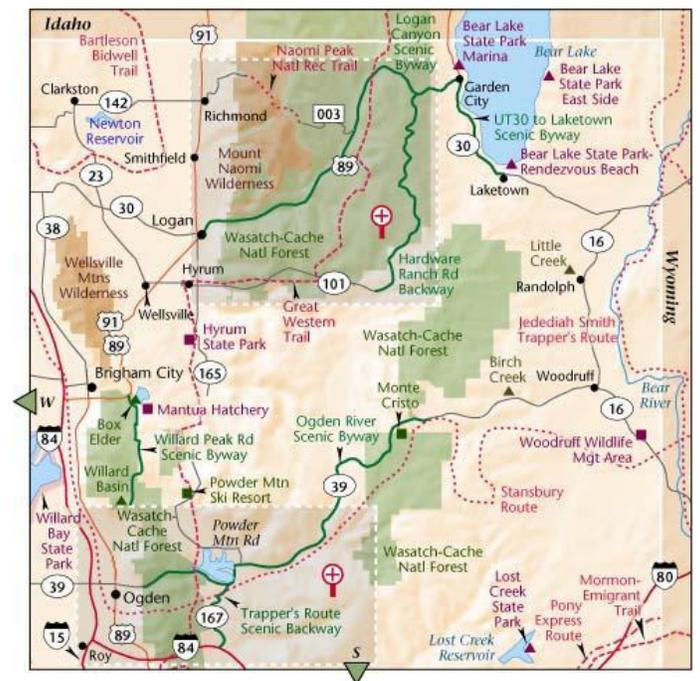
We set up telescopes in a field northeast of the campground and have permission from the Forest Service to drive out there. Day time activities include Tea parties in late morning on Friday and Saturday location to be determined. These are informal gatherings bring your own beverage, if you have a snack to share bring it, we always have plenty so come and enjoy. We also have pot luck dinners Friday and Saturday evening at 6:00; bring your own something to BBQ and a dish to share. We have a few BBQ grills set up for everyone to use, if you have a portable grill we could use them.

If you have any questions contact anyone on the Executive Committee.

Lee Priest



Map of Monte Cristo campground. There are more restrooms than noted. You want to try to get in the small loop by the Telescope field. The other loop near the field is also close.



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Hubble's bubble lights up the interstellar rubble

By Ethan Siegel

When isolated stars like our Sun reach the end of their lives, they're expected to blow off their outer layers in a roughly spherical configuration: a planetary nebula. But the most spectacular bubbles don't come from gas-and-plasma getting expelled into otherwise empty space, but from young, hot stars whose radiation pushes against the gaseous nebulae in which they were born. While most of our Sun's energy is found in the visible part of the spectrum, more massive stars burn at hotter temperatures, producing more ionizing, ultraviolet light, and also at higher luminosities. A star some 40-45 times the mass of the Sun, for example, might emit energy at a rate hundreds of thousands of times as great as our own star.

The Bubble Nebula, discovered in 1787 by William Herschel, is perhaps the classic example of this phenomenon. At a distance of 7,100 light years away in the constellation of Cassiopeia, a molecular gas cloud is actively forming stars, including the massive O-class star BD+60 2522, which itself is a magnitude +8.7 star despite its great distance and its presence in a dusty region of space. Shining with a temperature of 37,500 K and a luminosity nearly 400,000 times that of our Sun, it ionizes and evaporates off all the molecular material within a sphere 7 light years in diameter. The bubble structure itself, when viewed from a dark sky location, can be seen through an amateur telescope with an aperture as small as 8" (20 cm).

As viewed by Hubble, the thickness of the bubble wall is both apparent and spectacular. A star as massive as the one creating this bubble emits stellar winds at approximately 1700 km/s, or 0.6% the speed of light. As those winds slam into the material in the interstellar medium, they push it outwards. The bubble itself appears off-center from the star due to the asymmetry of the surrounding interstellar medium with a greater density of cold gas on the "short" side than on the longer one. The blue color is due to the emission from partially ionized oxygen atoms, while the cooler yellow color highlights the dual presence of hydrogen (red) and nitrogen (green).

The star itself at the core of the nebula is currently fusing helium at its center. It is expected to live only another 10 million years or so before dying in a spectacular Type II supernova explosion.



Image credit: NASA, ESA, and the Hubble Heritage Team (STScI/AURA), of the Bubble Nebula as imaged 229 years after its discovery by William Herschel.