

Mountaineer Skies

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<http://www.as.wvu.edu/~planet/index.html>

Jan - March 2008

From the Editor's Desk

On the night of February 20-21 there will be a **total lunar eclipse** visible throughout the U.S. The partial eclipse begins at 8:43 P.M. The total eclipse begins at 10:00 P.M. and concludes at 10:52 P.M. with the maximum at 10:26. The partial eclipse ends at 01:17 A.M.

The **Quadrantid meteor shower**, one of the best to view, peaks on the night of January 3-4. Look low in the northeast after midnight.

Daylight Saving time begins on Sunday, March 9. Set your clocks ahead one hour. It ends on the first Sunday in November. This year (2008) it will be on November 2.

The **Vernal Equinox** or the first day of Spring occurs on March 20. The **Summer Solstice** happens on June 20 this year. This is the longest day of the year or the day with the longest period of daylight.

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In The Sky This Month

Visible Planets in the Night Sky

Beginning of January, 2008

	Const	Rise	Transit	Set	Mag
Sun		07:38	12:23	17:08	-26.8
Mercury	Sgr	08:25	13:02	17:41	- 0.9
Venus	Sco	04:40	09:40	14:40	- 4.1
Mars	Tau	15:48	23:32	07:16	- 1.5
Jupiter	Sgr	07:05	11:47	16:32	- 1.8
Saturn	Leo	21:39	04:16	10:54	0.5

Beginning of February, 2008

	Const	Rise	Transit	Set	Mag
Sun		07:24	12:33	17:41	-26.8
Mercury	Cap	07:38	13:10	18:34	2.3
Venus	Sgr	05:34	10:20	15:05	- 4.0
Mars	Tau	13:23	21:06	04:49	- 0.6
Jupiter	Sgr	05:32	10:15	15:01	- 1.9
Saturn	Leo	19:29	02:09	08:49	0.3

Beginning of March, 2008

	Const	Rise	Transit	Set	Mag
Sun		06:48	12:32	18:14	-26.8
Mercury	Cap	05:39	10:47	15:56	0.2
Venus	Cap	05:47	10:56	16:03	- 3.9
Mars	Tau	11:51	19:35	03:34	0.2
Jupiter	Sgr	04:00	08:45	13:34	- 2.0
Saturn	Leo	17:24	00:06	06:49	0.2

Sgr	Sagittarius, The Archer
Sco	Scorpius, The Scorpion
Tau	Taurus, The Bull
Leo	Leo, The Lion
Cap	Capricornus, The Goat

About: What has NASA done for me lately?

The other night after a planetarium show a woman asked me would it not be better to spend tax money on other things than NASA and the space program. That is a valid question.

Although NASA's budget is considerably less than it used to be, it is still substantial. For those of us who have adventure in our hearts, the money is less important than where in the Solar System we have been. However, there are those who are more pragmatic, though perhaps less adventuresome, who routinely ask, "What has NASA done for me lately?" Among these are members of the U. S. Congress who, as early as 1958, wanted to know specifically what NASA was doing with the money it was receiving. From this came *Spinoff* magazine.

If you want to subscribe to this journal, go to http://www.sti.nasa.gov/tto/spin_order_form.html. It is free.

Here are just a few of the results of NASA's continuing scientific research.

One of the more commonly used devices that NASA has given us is the Ear Thermometer which is faster and more convenient to use than the old mercury filled device that used to be inserted under the tongue, underarm, or less comfortable parts of our bodies.

Firefighters now wear a protective suit made of the same fire resistant material that NASA uses in space suits.

Originally, firemen had to carry a 33 pound air cylinder on their back into fires. NASA developed a lightweight air tank that now weighs 1/3 less so that firemen can move more easily and without as much fatigue.

Cordless tools were originally developed by NASA to enable astronauts to drill for rock and soil samples on the Moon. Now just about any power tool comes in cordless form.

Using NASA's CCD (Charge Coupled Device) chips in a device for imaging breast tissue, technicians can determine the difference between benign and malignant tumors, so that the patient does not need to undergo a biopsy, thus saving cost and recovery time.

A NASA developed chemical process that removes waste chemicals from the blood was used as the basis of a very efficient kidney dialysis machine.

Writing with a pen in a weightless environment can be difficult. NASA developed, with a company later to be called The Fisher Space Pen Company, a pen that could write in any physical attitude and in reduced gravity. This pen continues to be in production. On a bit of a humorous note, the Soviet Union simply used a pencil to write in space which took no development time at all and seems to work quite well.

NASA scientists developed a water treatment system for underdeveloped nations that uses iodine instead of chlorine as the antibacterial agent to ensure the purity of water. Contaminated water is one of the greatest transmitters of disease among third world countries.

Improved shock absorption and stability in running shoes comes from the same material that was used to construct the boots that astronauts used on the Moon.

Sensors that detect unbreathable gases have been used in space vehicles since SkyLab in 1973. Today, they are used in the majority of homes to warn occupants of smoke that often precedes open flames.

Having up to three times the absorption capacity of normal football helmets, Tempur foam, used in astronauts' helmets, has added significantly to the safety of the wearer.

These are just a few of the many ways in which NASA's spinoffs have helped all of us in our daily lives. There are many more.

2008 Planetarium Shows



January 11 & 25, 2008 <i>Oceans in Space</i>	February 8 & 22, 2008 <i>Oceans in Space</i>	March 14 & 28, 2008 <i>Oceans in Space</i>
April 11 & 25, 2008 <i>Oceans in Space</i>	May 9 & 23, 2008 <i>Oceans in Space</i>	June 13, 2008 <i>Oceans in Space</i>
	July 2008 Closed	

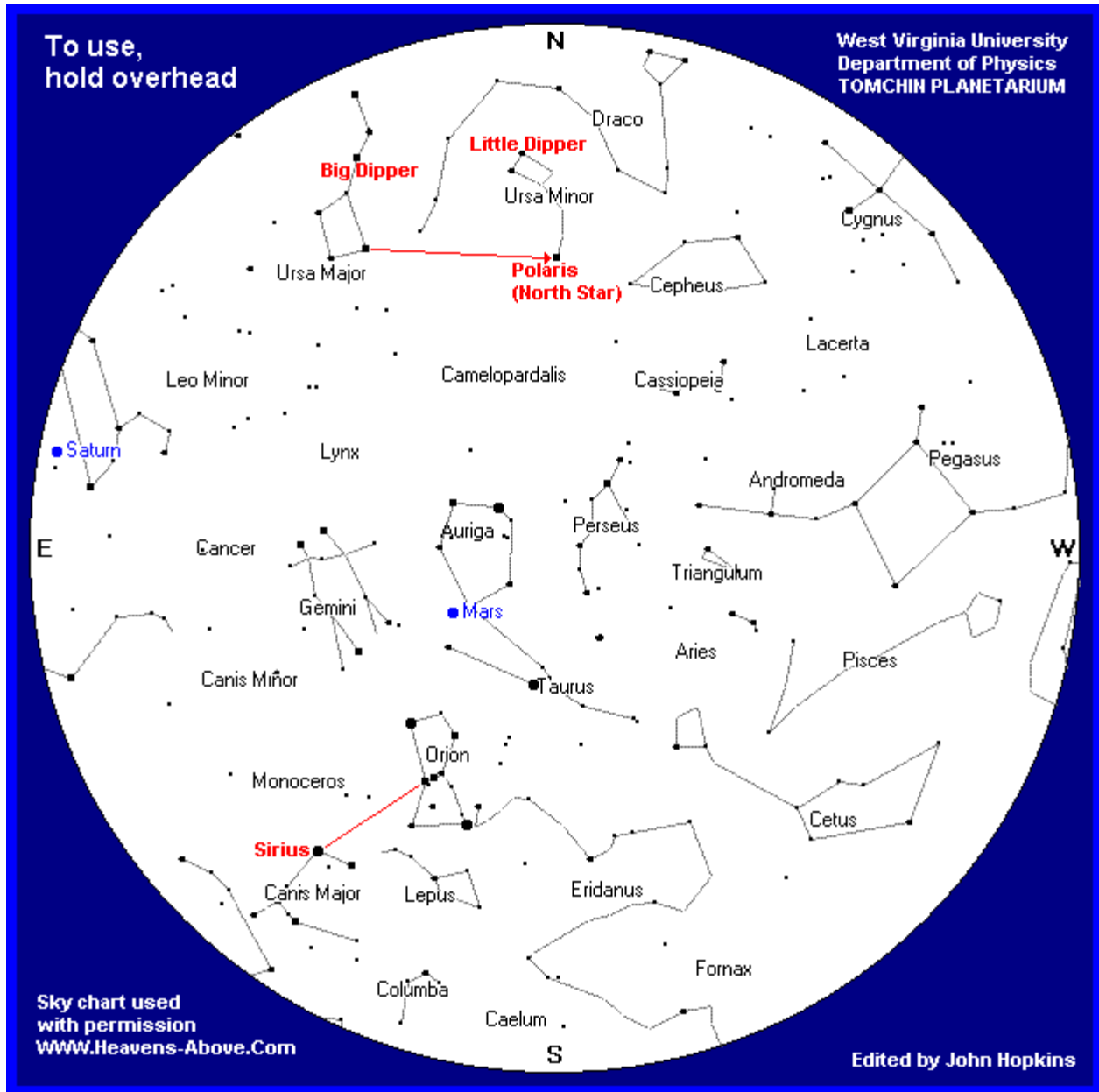
For those who are interested in bringing a group, such as schools or scouts, during the day, please call for more information. These shows are usually given on Tuesday or Thursday mornings.

For further information or reservations, please call John Hopkins at (304)293-3422, extension 1443 or by email at: jhopkins@mail.wvu.edu

Selected Sunrise/Sunset and Moon Rise/Moon Set Times

Date	Sunrise	Sunset	Moon Rise	Moon Set	Moon Phase
Jan 8	7:40	17:11	8:05	17:21	New Moon
Jan 15	7:38	17:18	11:18	0:12	First Qtr
Jan 22	7:35	17:26	17:43	7:49	Full Moon
Jan 30	7:29	17:35	1:18	11:11	Last Qtr
Feb 6	7:23	17:43	7:13	17:23	New Moon
Feb 13	7:15	17:52	10:25	0:31	First Qtr
Feb 20	7:06	18:00	17:46	6:50	Full Moon
Feb 28	6:55	18:09	1:07	10:17	Last Qtr
Mar 7	6:43	18:17	6:34	18:35	New Moon
Mar 14	7:32	19:25	11:53	2:58	First Qtr
Mar 21	7:21	19:32	19:46	7:03	Full Moon
Mar 29	7:08	19:40	2:43	11:37	Last Qtr

January, 2008 Sky Chart* for:
10:00 P.M at the beginning of the month
9:00 P.M in the middle of the month
8:00 P.M at the end of the month



*Sky Chart used with the kind permission of **Heavens-Above** at <http://www.heavens-above.com/>

The TOMCHIN PLANETARIUM is named in honor of the late Harold Tomchin, of Princeton, W.Va., who made a generous donation to ensure its continuing operation, and whose family continues to support the planetarium for the educational benefit of WVU students, staff, and faculty members, as well as the local community. Contributions can be made in support of the planetarium through the **WVU Planetarium Project** at the **WVU Foundation, Inc.**, phone (304)284-4000. **Thank You.**



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