

Mountaineer Skies

From the Editor's Desk –

Daylight Saving Time (DST) begins in the United States on the first Sunday in April. This year that will be on Sunday, April 3. You should set your clocks ahead by one hour. Daylight Saving Time will end on the last Sunday in October. This year that will be on Sunday, October 30. On this day you set your clocks back one hour.

The **Summer Solstice**, or the first day of summer, happens this year on Tuesday, June 24. This is called the longest day of the year. Of course, the day is not really longer; it just means that the sun is up longer than on any other day. The Autumnal Equinox is on September 22, and to finish out the year, the Winter Solstice occurs on December 21.

Launched on January 12 of this year, the **Deep Impact probe** is scheduled to crash into Comet Tempel 1 on July 4 with a 820 pound copper covered missile about two and a half feet in length and three feet in diameter to give us our first look below the surface of a comet. The resulting crater should be about the size of a football stadium.

Rise and Set Times

Beginning of April, 2005

	Const	Rise	Transit	Set	Mag
Sun		6:02	12:24	18:44	-26.8
Mercury	Psc	5:37	11:53	18:16	4.2
Venus	Psc	6:11	12:27	18:43	-3.9
Mars	Cap	3:27	8:24	13:21	0.9
Jupiter	Vir	18:44	00:32	6:20	-2.5
Saturn	Gem	11:43	19:07	2:27	2.2

Beginning of May, 2005

	Const	Rise	Transit	Set	Mag
Sun		6:19	13:17	20:14	-26.8
Mercury	Psc	5:27	11:41	17:55	0.2
Venus	Ari	6:47	13:50	20:53	-3.9
Mars	Aqr	3:33	8:52	14:13	0.6
Jupiter	Vir	17:28	23:21	05:13	-2.4
Saturn	Gem	10:51	18:15	01:34	2.3

Beginning of June, 2005

	Const	Rise	Transit	Set	Mag
Sun		5:54	13:18	20:42	-26.8
Mercury	Tau	5:48	13:09	20:33	-2.2
Venus	Tau	6:58	14:28	22:00	-3.9
Mars	Aqr	2:27	8:14	14:02	0.3
Jupiter	Vir	15:18	21:12	3:07	-2.3
Saturn	Gem	9:03	16:24	23:43	2.3

Ari	Aries, The Ram
Aqr	Aquarius, The Water Bearer
Cap	Capricornus, The Goat
Gem	Gemini, The Twins
Psc	Pisces, The Fishes
Tau	Taurus, The Bull
Vir	Virgo, The Maiden

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About: **What is the Aurora Borealis?**

Arguably the most beautiful phenomenon in the night sky is the **Aurora Borealis**, also known as **the northern lights**. (In the southern hemisphere they are known as the Aurora Australis or southern lights.) These beautiful scintillating curtains of colors are generally visible only in the northern states (in the northern hemisphere), and especially Alaska. However, on rare occasions they can be seen as far south as West Virginia.

Aurora Borealis

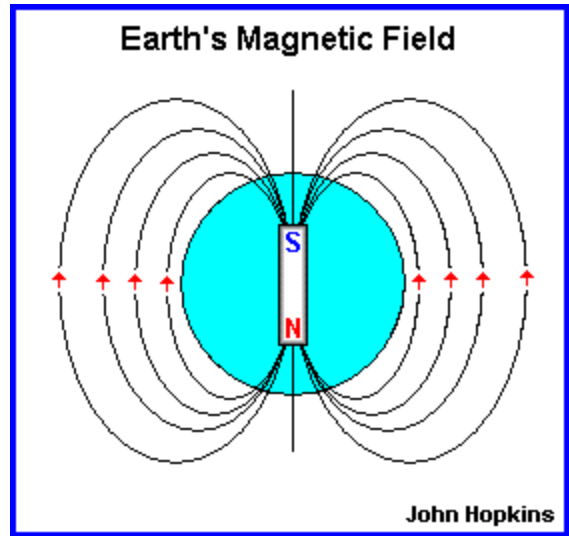


Photograph by Jan Curtis

<http://climate.gi.alaska.edu/Curtis/aurora/aurora.html>

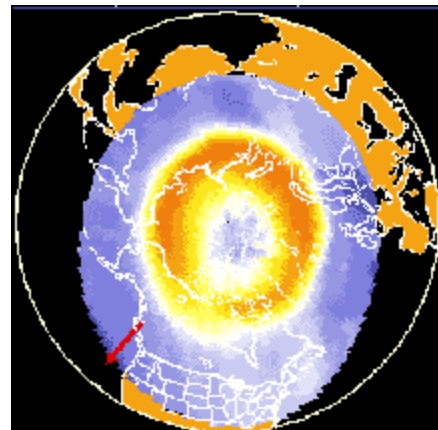
What causes this incredible animated display in the heavens? As was the case in last quarter's newsletter (January-February-March 2005) on why is the sky blue, we start at the Sun.

The Sun emits high-energy charged particles called **ions**. Ions are atoms which have a net charge, having lost or gained an electron. A group of these charged particles is called **plasma**. A stream of plasma from the Sun is known as the **solar wind** and travels somewhere between 200 and 600 miles per second taking from two to three days to reach us.



Once here the charged particles collide with gas molecules in our upper atmosphere causing them to become excited and glow. The colors that are produced depend on which gas is excited. **Nitrogen** (N_2), when in the excited state, produces **blue and violet** light while **Oxygen** (O_2) produces **red and green**.

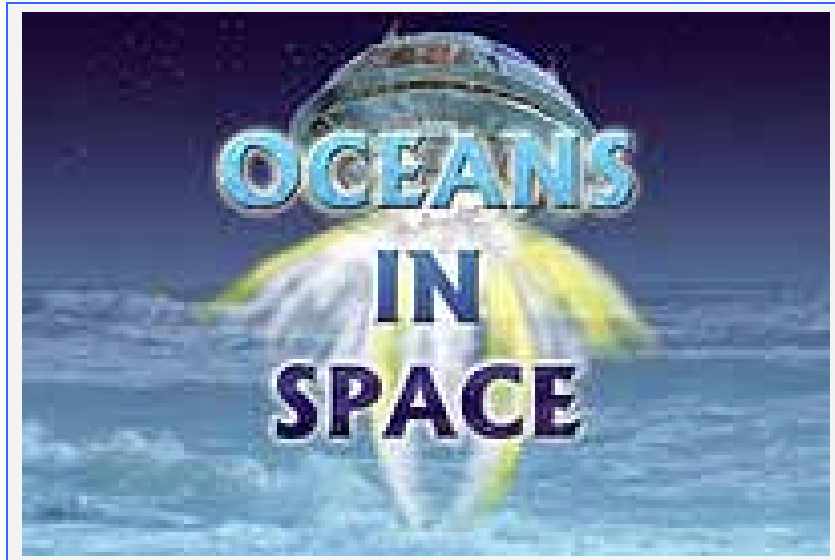
Here is an example of where the northern lights might be seen on a typical day.



Aurora Borealis (NOAA)

Interestingly, auroras can also be found on other bodies in our solar system provided that they have a magnetic field, an atmosphere, and access to the solar wind. Jupiter and Saturn are especially good examples of this.

2005 Planetarium Shows



Apr. 8 & 22, 2005	May 13 & 27, 2005	Jun. 10, 2005
<i>Oceans in Space</i>	<i>Oceans in Space</i>	<i>Oceans in Space</i>
	Jul. – Closed	

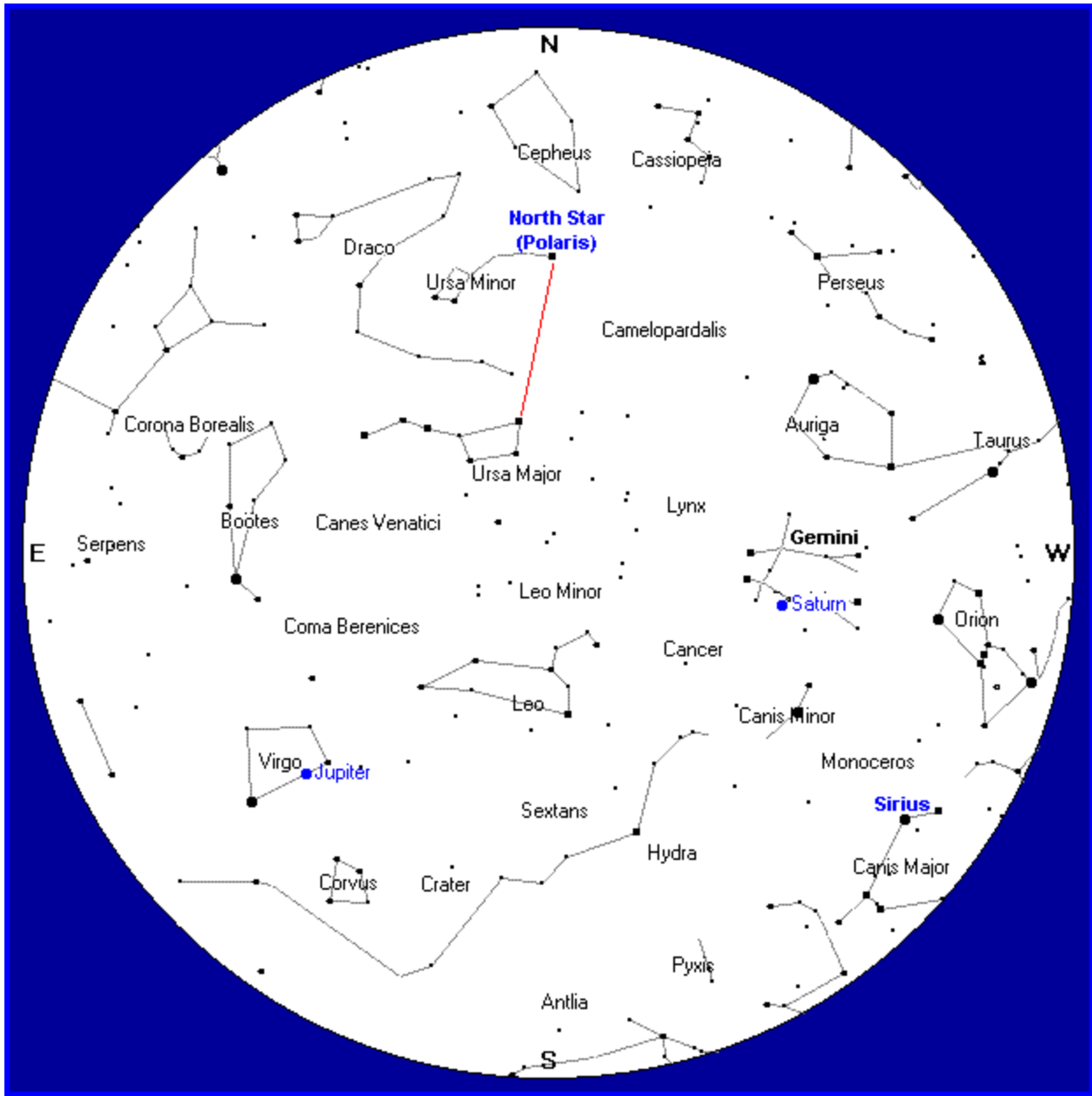
For those who are interested in bringing a group, such as schools or scouts, during the day, please call for more information. These shows are usually given on Tuesday or Thursday mornings.

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 (2005)

Date	Sunrise	Sunset	Moon Rise	Moon Set	Moon Phase
Apr 1	6:04 A.M.	6:42 P.M.	1:35 A.M.	10:23 A.M.	Last Qtr
Apr 8	6:53 A.M.	7:49 P.M.	6:48 A.M.	7:55 P.M.	New Moon
Apr 16	6:41 A.M.	7:57 P.M.	12:09 P.M.	3:02 A.M.	First Qtr
Apr 24	6:29 A.M.	8:05 P.M.	8:47 P.M.	6:28 A.M.	Full Moon
May 1	6:20 A.M.	8:12 P.M.	3:02 A.M.	12:53 P.M.	Last Qtr
May 8	6:12 A.M.	8:19 P.M.	6:08 A.M.	9:05 P.M.	New Moon
May 16	6:04 A.M.	8:27 P.M.	1:02 P.M.	2:36 A.M.	First Qtr
May 23	5:59 A.M.	8:33 P.M.	8:55 P.M.	5:29 A.M.	Full Moon
May 30	5:55 A.M.	8:39 P.M.	2:08 A.M.	1:11 P.M.	Last Qtr
June 6	5:52 A.M.	8:43 P.M.	5:17 A.M.	9:03 P.M.	New Moon
June 14	5:51 A.M.	8:48 P.M.	12:52 P.M.	1:24 A.M.	First Qtr
June 22	5:52 A.M.	8:50 P.M.	10:03 P.M.	5:51 A.M.	Full Moon
June 28	5:54 A.M.	8:51 P.M.	1:02 A.M.	1:22 P.M.	Last Qtr

April 2005 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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