

Mountaineer Skies

Volume 5, Issue 1

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

January- March 2005

Support the Tomchin Planetarium and Observatory...

Perhaps you have visited the Tomchin Planetarium just to escape your earthly bounds, or perhaps as part of a school visit or class assignment. Maybe you just enjoy receiving "Mountaineer Skies" so you can sit on your own back porch for a little bit of midnight star gazing.

No matter the reason, we are sure that the Tomchin Planetarium and Observatory have provided you with a greater understanding of our universe. Please help us share this experience with others by making a contribution today!

- ? Please make checks payable to:
WVU Foundation, Inc.
- ? Check's memo line please include:
WVU Tomchin Planetarium Project 2V363
- ? Mail your check to:
WVU Foundation, Inc.
PO Box 1650
Morgantown, WV 26507-1650
- ? Credit card donations can be made at:
<http://www.wvuf.wvnet.edu/give.htm>

? Maximize your gift by letting us know if your employer has a matching gift program.

Rise and Set Times

Beginning of January, 2005

	Const	Rise	Transit	Set	Mag
Sun		7:41	12:24	17:07	- 26.8
Mercury	Oph	6:02	10:49	15:35	- 0.3
Venus	Oph	6:08	10:52	15:35	- 3.9
Mars	Sco	4:56	9:45	14:35	1.6
Jupiter	Vir	00:54	6:37	12:24	- 2.0
Saturn	Gem	18:02	1:19	8:36	1.7

Beginning of February, 2005

	Const	Rise	Transit	Set	Mag
Sun		7:26	12:33	17:40	- 26.8
Mercury	Cap	7:11	12:06	16:49	- 0.8
Venus	Sgr	6:47	11:37	16:26	- 3.9
Mars	Sgr	4:37	9:15	13:55	1.4
Jupiter	Vir	22:59	4:41	10:23	- 2.2
Saturn	Gem	15:48	23:07	6:25	1.8

Beginning of March, 2005

	Const	Rise	Transit	Set	Mag
Sun		6:51	12:32	18:12	- 26.8
Mercury	Psc	7:26	13:21	19:16	- 1.2
Venus	Aqr	6:41	12:06	17:32	- 3.9
Mars	Sgr	4:11	8:52	13:33	1.2
Jupiter	Vir	21:03	2:46	8:30	- 2.4
Saturn	Gem	13:50	21:10	4:30	2.0

Oph	Ophiuchus, The Serpent Holder
Sco	Scorpius, The Scorpion
Vir	Virgo, The Maiden
Gem	Gemini, The Twins
Cap	Capricornus, The Goat
Sgr	Sagittarius, The Archer
Psc	Pisces, The Fishes
Aqr	Aquarius, The Water Bearer

INSIDE THIS ISSUE

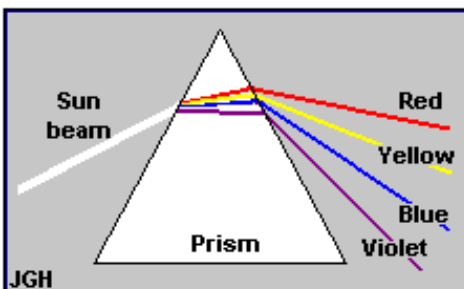
- 1 In The Sky This Month
- 2 About: **What makes the sky blue?**
- 3 Planetarium Show Schedule
- 3 Selected Sunrise/Sunset, Moon Rise/Moon Set Times
- 4 Monthly Sky Chart

About: **What makes the sky blue?**

If you have ever walked outside, looked up at the daytime sky, and wondered why on a clear day, it is blue, not yellow or red, you are not alone. (This assumes no smoke or dust in the atmosphere.)

Perhaps the simplest, but ultimately incorrect, answer was suggested some time ago. The idea was that the blue color of the sky was due to sunlight reflecting from the ocean. At first this seems reasonable, but upon closer examination it does not hold up. If the oceans were responsible for the sky being blue, then you would expect the sky to be blue in Maine or California, but not Montana. Having been to these states, I can verify that the sky looks blue everywhere. So we must look elsewhere for the correct explanation.

Sunlight, although appearing white, is made up of all the colors of the rainbow – red, orange, yellow, green, blue, indigo, and finally violet. Their order can be remembered by using the mnemonic “**Roy G. Biv**” where **R** stands for red, **o** for orange, and so on. These colors can be separated or extracted from sunlight by passing a sun beam through a prism.



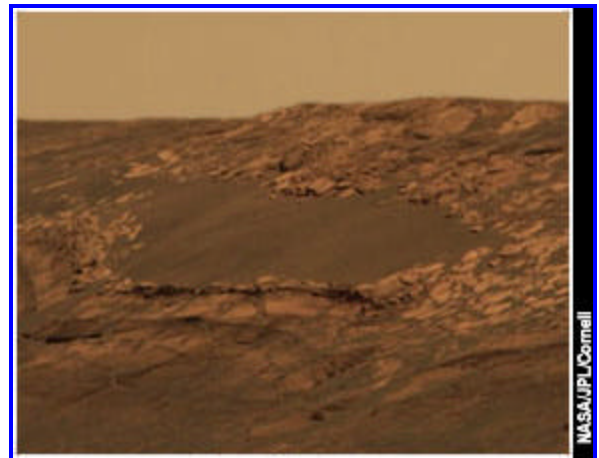
Each color has a different wavelength, with red having the longest wave length, followed by orange, yellow, green, and finally blue which has the shortest wavelength of all.

Our atmosphere is primarily made up of nitrogen, N_2 , (79%) and oxygen, O_2 , (21%) atoms.

When sunlight strikes our atmosphere it breaks up into its component colors, and these interact with the molecules in the atmosphere causing the colored beams to be scattered. Although all of the colors are scattered to some degree, it is blue that is scattered most significantly and, hence, that is how we see the sky.

Is the color of the Martian sky red?

Lately, we have seen photographs taken by the two Martian rovers, Opportunity and Spirit, showing the sky to be a dusty-red color.



Mars from NASA

The atmosphere of Mars, like that of Earth, is composed primarily of nitrogen, N_2 , (95%) atoms and therefore scatters blue more strongly than the other colors, so that we would expect the sky to be blue. However, you can see from the above photo that the sky is reddish-brown rather than blue. That is due to the large amount of reddish-brown dust in the atmosphere. On a normal day, that is one without dust storms, you can expect the sky to be blue.

2005 Planetarium Shows



Jan. 14 & 28, 2005 <i>Oceans in Space</i>	Feb. 11 & 25, 2005 <i>Oceans in Space</i>	Mar. 11 & 25, 2005 <i>Oceans in Space</i>
Apr. 8 & 22, 2005 <i>Oceans in Space</i>	May 13 & 27, 2005 <i>Oceans in Space</i>	Jun. 10, 2005 <i>Oceans in Space</i>
	Jul. – Closed	

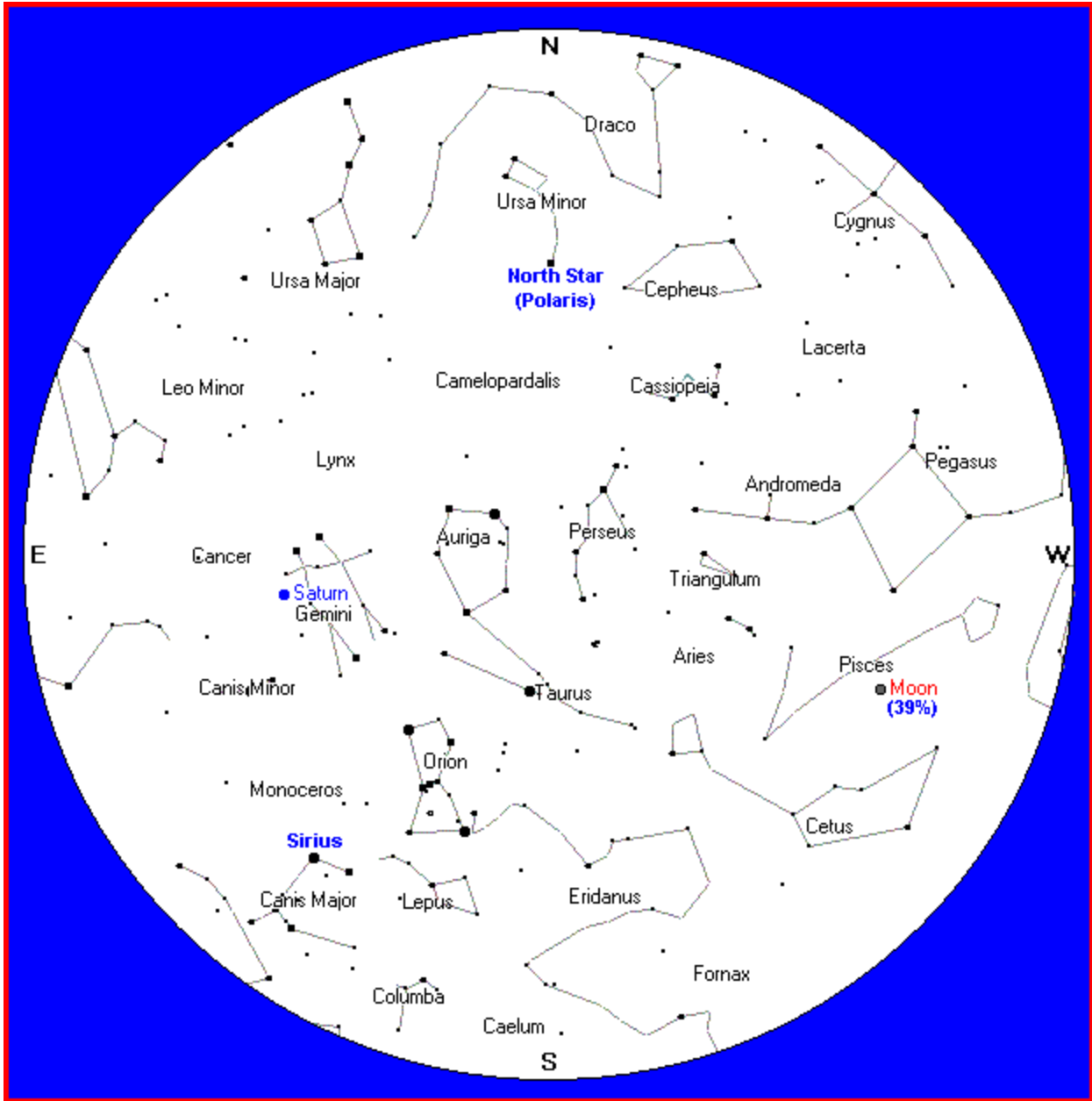
For those who are interested in bringing a group, such as schools or scouts, during the day, please call for more information. These shows are usually given on Tuesday or Thursday mornings.

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
Jan 3	7:40 A.M.	5:07 P.M.	None	12:02 P.M.	Last Qtr
Jan 10	7:40 A.M.	5:13 P.M.	8:13 A.M.	5:23 P.M.	New Moon
Jan 17	7:37 A.M.	5:21 P.M.	11:49 A.M.	12:46 A.M.	First Qtr
Jan 25	7:33 A.M.	5:30 P.M.	5:43 P.M.	8:05 A.M.	Full Moon
Feb 2	7:26 A.M.	5:39 P.M.	1:09 A.M.	11:22 A.M.	Last Qtr
Feb 8	7:20 A.M.	5:47 P.M.	7:32 A.M.	5:33 P.M.	New Moon
Feb 15	7:12 A.M.	5:55 P.M.	10:44 A.M.	12:44 A.M.	First Qtr
Feb 23	7:01 A.M.	6:04 P.M.	5:40 P.M.	7:05 A.M.	Full Moon
Mar 3	6:50 A.M.	6:13 P.M.	1:24 A.M.	10:37 A.M.	Last Qtr
Mar 10	6:39 A.M.	6:20 P.M.	7:00 A.M.	6:55 P.M.	New Moon
Mar 17	6:28 A.M.	6:27 P.M.	10:34 A.M.	1:41 A.M.	First Qtr
Mar 25	6:15 A.M.	6:35 P.M.	6:38 P.M.	6:17 A.M.	Full Moon

January 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.



Edited by John Hopkins
 (304)293-3422, extension 1443
 jhopkins@mail.wvu.edu

