



VBAS Highlights for March

Public Programs for March

Our next member's meeting will be held on Friday, March 21st at 7 p.m. Wesley Swift will present his lecture *Observing Lunar Impact Flashes at the MSFC Automated Lunar and Meteor Observatory*. VBAS Member Meetings are held on the 3rd Friday of each month at 7 p.m.; they're open to the public and are free.

Regular planetarium programs start at 7:30 PM. This month, we continue a year-long series on the planets and other bodies of our Solar System with three family-friendly shows on Earth, on March 8th, 22nd, and 29th. Dr. Jonathan Campbell will present his *Impact Imperative* talk about methods of protecting Earth from cosmic impacts on the 15th. Admission to planetarium shows is free for VBAS Members, \$5.00 for Adults, \$3.00 for Students, and free for children under 6. Observation of the night sky through various telescopes normally follows each planetarium program, weather permitting.

Lunar Eclipse Report

Richard Norman used the club's new Sky Quality Meter during the recent lunar eclipse, and gives a complete report with data on page 5.

Dark Sky Park Tour

On page 6, Richard Norman tells us about astronomer Tyler Nordgren's tour of nine parks so far, with three more to go.

Star Hunt Report

On page 6, Richard Norman describes how he gathered data for the Globe at Night World-Wide Hunt for Stars.

Telescope Mount for Sale

John Miele has a nice little equatorial mount for sale. See page 6.

A Very Early Easter

On page 7, Rick Laws explains why this early Easter is more special than most of us realize.

Program Committee Report

On page 7, John Young tells us the committee's latest ideas for upcoming member meeting programs.

VBAS' Nominating Committee needs you!

We need volunteers! John Young gives details on page 7.

Steve Sloan
 Via Stellaris Editor
steve@sloan3d.com



In This Issue:

VBAS Highlights for March..... 1

Calendar of Events..... 2

The Night Sky for March..... 4

Lunar Eclipse Report..... 5

Dark Sky Tour..... 6

Star Hunt Report..... 6

Telescope Mount for Sale..... 6

A Very Early Easter..... 7

Program Committee Report..7

VBAS' Nominating Committee needs you!..... 7

VBAS Calendar of Events

Monday, February 25th through Saturday, March 8th, 2008

GLOBE Worldwide Star Count

Another chance to help measure and document the scope of the light pollution problem. Participation will qualify VBAS for a chance to win a sky-brightness meter. To learn more about the star count, and to record your observations, visit the [GLOBE web site](#).

Saturday, March 1st, 2008

Membership Renewal Fees Due

Please send in your membership renewal fees by this date, to remain a member in good standing.

Saturday, March 8th, 22nd, and 29th, 2008, 7:30 PM

Planetarium Show: *Earth: Home Sweet Home*

As we explore and peer further into the universe, we have a tendency to forget our special home the planet Earth. This month we will explore some of its unique attributes needed for life. Earth is protected from the ravages of space by three shields. What are they and how do they work? We will investigate the mysterious properties of a special compound that makes the conditions right to support life on Earth. There will be many hands-on demonstrations that will include the whole family. Come and rediscover the planet Earth, our Home Sweet Home.



This iconic photo looking back at Earth was taken during the Apollo 17 mission to the Moon. (Image credit: Apollo 17 crew, NASA)

Friday, March 21st, 2008, 7 PM

Regular Monthly Meeting

After a short pizza social and marketplace swap meet, we'll discuss pertinent society business. Visitors are welcome. For the program, Wesley Swift will present his lecture entitled *Observing Lunar Impact Flashes at the MSFC Automated Lunar and Meteor Observatory*.

Abstract:

Lunar meteoroid impact flashes provide a method to estimate the large meteoroid flux, and thus their hazard to spacecraft. Although meteoroid impacts on the Moon have occasionally been detected using video methods for over a decade, the difficulty of manually searching hours of video for the rare, extremely brief impact flashes has, until recently, discouraged the technique's systematic implementation.

A system has been developed for the purpose of automatically searching Lunar video records for impact flashes. The system is comprised of two telescopes located in Huntsville, a third telescope in Chickamauga, GA, many terabytes of video storage, and a pair of computer programs for detection and measurement. These observations are within the capability of many serious amateurs, so software has been made available for video flash detection, and participation is invited.

Application of the system to more than a year's worth of Lunar observations is discussed, along with examples of impact flashes, as well as several classes of false impact flashes.

Saturday, March 15th, 2008, 7:30 PM

Planetarium Show: *The Impact Imperative: Protecting the Earth from Hazardous Asteroids, Meteoroids, and Comets*

Presented by Dr. Jonathan Campbell

Lunar meteoroid impact observations and computational fluid dynamics simulations have shown that relatively small objects (asteroids, meteoroids, comets) impacting the Earth at hypervelocity may cause large scale disasters. From fossil records and other supporting evidence, impacts and associated disasters have occurred several times in the Earth's past. Detection capabilities are improving gradually; however, we are still years away from finding and cataloging all large PHOs. Given the length of time necessary to develop capabilities in space, it is imperative that we begin immediately to build a multi-layered infrastructure to protect the Earth against impact. This challenge to our global civilization's continued existence must be met. This is the IMPACT IMPERATIVE.

Saturday, March 29th, 2008, 8-9 PM

Lights Out America Event

Wherever in the world you are on Saturday, March, 29th, join Americans as they turn off nonessential lights in their hometowns between 8-9 p.m. This is an event of [Lights Out America](#) supported by IDA.

Saturday, April 5th, 12th, and 26th, 2008, 7:30 PM

Planetarium Show: *Mars*

Our year-long exploration of the Solar System continues with a family-friendly show on Mars.



Volcanic bumpy boulder on Mars. (Image credit: Mars Exploration Rover Mission, Cornell, JPL, NASA)

Friday, April 18th, 2008, 7 PM

Regular Monthly Meeting

After a short pizza social and marketplace swap meet, we'll discuss pertinent society business. Visitors are welcome. April's program is **Member's Choice**:

1. NASA physicist Rob Preece has offered to speak on Quantum Gravity.
2. Founding/early members panel – VBAS' history and its ties to early space exploration from Ted Paludan, Dave Christensen, Gert Schmitz, Skeet Vaughan, and Otis Henderson.
3. Teleconference with planetary astronomer and Huntsville native, Michael Brown.

See page 7 for details.

Saturday, April 19th, 2008, 9 AM to 4 PM

Earth Day Event

Location: Hayes Preserve

VBAS will again be supporting the Hayes Preserve's Earth Day event this year. If you would like to help out for an hour or two, just let Melissa, Gena, or Richard know, and they will add you to the schedule. They are working on some new exhibits. The Hayes Preserve is a pleasant place to spend a spring day. Should be a lot of fun.

Saturday, April 19th, 2008, 7:30 PM

Planetarium Show: *Technical Program to be Announced*

Friday, May 2nd, 2008, After Dark

Spring Messier Marathon

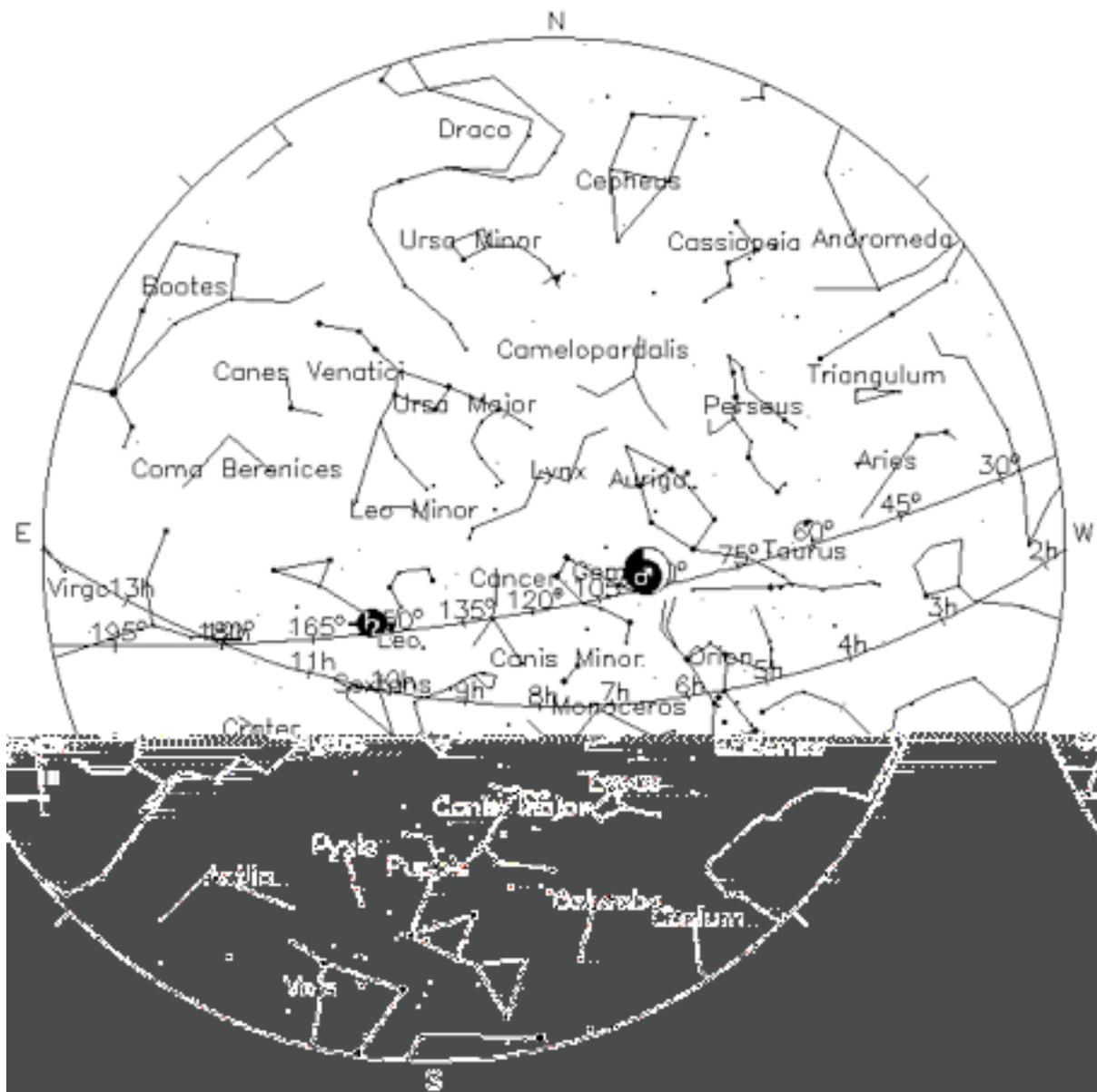


...And as always, for the most up-to-date information about VBAS events, be sure to check the web site at vbas.org.

The Night Sky for March, 2008

Here is the view at 9 PM in mid March, 2008, at 34° N Latitude, 86° W Longitude. Mars, the spear-and-shield symbol, will be close to the Moon and almost straight overhead, between Gemini and Auriga. Jupiter, the “h”-like symbol, will be in Leo.

Map courtesy of John Walker and YourSky (<http://www.fourmilab.to/yoursky/>).



Lunar Eclipse Report

by *Richard Norman*

Six of our members and about 12 visitors, including three from Brazil, braved the cold, damp, cloudy weather to catch a glimpse of the eclipse. Even though our skies were cloudy, the fast-moving clouds did offer a few glimpses of the eclipse, and one nice, clear, but brief view of totality. To me, it looked like totality was between a 3 and 4 on the Danjon scale, but I'm not an expert on that scale, nor did we have long to study the eclipse from the observing fields south of the Swanson Observatory.

Lat: 34 deg 44 min 57.9228 sec North, Long: -86 deg 32 min 27.0672 sec West.

Von Braun Astronomical Society got our new Sky Quality Meter (serial# 2163) just in time to try it out on the Lunar Eclipse. The SQM was won during the Night Sky Network telecon on dark sky awareness. The meter measures sky brightness over a large area near the zenith to give an indication of the level of light pollution. Of course, the full moon provides natural sky brightness, in addition to the sky glow from artificial light pollution. The eclipse gave us a good practice session with the new SQM, to see if we could measure the light drop during the total eclipse. The meter has a non-linear range from 16, which is typical of a full moon, to around 22, which is a really dark site about 250 times dimmer than a full moon. We plan to get a lot of good data with the SQM during the upcoming Globe at Night event, which you can take part in as well (<http://www.globe.gov/GaN/>).

At first, I didn't think the data would show much, due to the heavy, rapidly-changing cloud conditions. Averaging multiple readings allowed the meter to give a pretty clear trend. Although we had quite a bit of sky glow from the city lights off of the clouds, the moon still contributes a significant amount, and the altitude of the moon makes a difference. The dimming caused by the eclipse was also easily detected by the human eye despite the clouds and sky glow. The meter shows a difference of between 2 and 2.5 magnitude/square arc-second, which indicates the sky dimmed by about a factor of 10 during totality. Unfortunately, I did not get a data point for P₄ when the moon cleared the pe-

numbra and was at full strength. Here is the rest of the data:

Time (CST)	Mag/SqArcSec	°C
6:53 PM	16.23	16.0
7:00 PM	16.17	14.0
7:15 PM	16.16	9.0
7:50 PM	16.57	7.0
8:05 PM	16.69	7.0
8:19 PM	16.98	8.0
8:28 PM	17.27	8.0
8:42 PM	17.55	6.0
8:55 PM	18.04	7.5
9:01 PM	18.18	7.5
9:04 PM	18.40	6.0
9:07 PM	17.39	5.0
10:09 PM	16.97	11.0
11:10 PM	15.60	14.0

Notes: The 9:04 data point was taken during the only significant opening in the clouds: 80% cloud cover, while the rest were during high 90's to 100% cloud cover. The meter warmed up due to me taking the meter inside during a break to warm up myself.

Stellar Skies,
Richard Norman
VBAS Dark Sky Rep

Dark Sky Park Tour

by Richard Norman

"Astronomer and physics professor Tyler Nordgren is taking a journey across the American landscape, exploring the connections between the parks and the wonders of the night sky. He will visit twelve parks in twelve months..."

So begins the Planetary Society's web site chronicling Tyler's journey:

http://www.planetary.org/explore/topics/how_it_works/planetary_analogs/parks.html

He has visited nine parks so far, three more to go. National Parks not only preserve the landscape, but they are also preserving the lightscapes with the International Dark Sky Park program by the NPS and IDA. Your help and support of the IDSP program is needed if it is to succeed.

Star Hunt Report

by Richard Norman

As part of the public planetarium show on March 1, VBAS included a segment on light pollution, and how folks could participate in the Globe at Night World-Wide Hunt for Stars. Afterward we used the new Sky Quality Meter in the observing field to measure the brightness of the sky, and then we had the participants compare our view of Orion to the Globe at Night star charts. We encouraged them to repeat the Orion observation at home and other locations, and to report the results to the GAN web site. The sky conditions were not optimum. Although we didn't have many clouds the transparency was not good and the sky only faded to gray near the zenith. Even so, the stars in Orion shown through at an average of LM 5 based on the GAN charts. The Sky Quality Meter average reading was 19.36 Mags/SqArcSec, which is the average brightness of the sky background to 40 degrees to either side of the zenith. After the meeting, I took the meter to a

suburb due north of VBAS and measured 19.5 M/SAS. Farther to the northeast, in the Gurley and Brownsboro area, I measured 20.03 M/SAS, and could tell a noticeable difference in darkness at the Zenith. Also, Orion had greater clarity, but was still only an LM 5 at these locations.

Based on a calculator at the following web site, <http://members.csolutions.net/fisherka/astronote/plan/tlmmelm/html/NELM2BCalc.html>, the Sky Quality Meter readings of Mag/SqArcSec can be converted to naked eye limiting magnitude (NELM):

19.36	= 5.0427 NELM
19.5	= 5.1447
20.03	= 5.5143

All of which are in agreement with visual observations. Our observations were filed on the Globe at Night web site and the Night Sky Network event log.

For Sale:

A Very Early Easter

by Rick Laws

Easter is always the 1st Sunday after the 1st full moon after the Spring Equinox (which is March 20). This dating of Easter is based on the lunar calendar that Hebrew people used to identify Passover, which is why it moves around on our Roman calendar.

Based on the above, Easter can actually be one day earlier (March 22) than it will be this year (2008) but that is pretty rare.

This year is the earliest Easter any of us will ever see the rest of our lives! And only the most elderly of our population have ever seen it this early previously (95

years old or above!) And none of us have ever, or will ever, see it a day earlier! Here are the facts:

1. The next time Easter will be this early (March 23) will be the year 2160 (152 years from now). The last time it was this early was 1913 (so if you're 95 or older, you are the only ones that were around for that!).
2. The next time it will be a day earlier, March 22, will be in the year 2285 (277 years from now). The last time it was on March 22 was 1818.

So, no one alive today has or will ever see it any earlier than this year!

VBAS Program Committee Report

by John Young, VBAS President-Elect.

VBAS' Nominating Committee needs you!

by John Young, VBAS President-Elect.

Our May annual member's meeting will be here before we know it and one of the key tasks is to present our slate of officers for the 2008-2009 year through the annual elections. Accordingly, and in keeping with the VBAS Bylaws, a nominating committee has been formed and is charged with seeking and nominating

Contributions to Via Stellaris

We welcome contributions to our newsletter that may be of interest to the astronomical community. Contributions are best sent by email to Steve Sloan at editor1@vbas.org. If you don't have access to email, you can send articles in either Word or ASCII format to Steve at 2110 Vilaret Dr, Huntsville, AL 35803.

Membership and Renewal

The VBAS currently has four categories of membership. All four include free admission to the planetarium shows; subscription to this newsletter; membership in the Astronomical League; and use of VBAS library and equipment. The four categories of membership, and the dues for each, are: REGULAR at \$24.00 per year, FAMILY at \$36.00 per year, STUDENT (must be full-time student) at \$12.00 per year, and LIFE at \$500.00. Newsletter Only is also available for \$12.00 per year. Membership renewal occurs for all members annually on March 1st.

All VBAS memberships came up for renewal on March 1, 2008. If you have questions regarding membership, please contact Gerry Conrad.

Please send your renewal to the Membership Secretary at VBAS, P.O. Box 1142, Huntsville, AL 35807. Make checks payable to the Von Braun Astronomical Society. If your mailing or email address changes, please report the new address promptly to the Membership Secretary, Gerry Conrad, at conrad1908@knology.net or 722-8212, to avoid missing issues of *Via Stellaris*.

Reprints

Permission is hereby granted to any non-profit astronomical association to reprint, in whole or in part, any article in this or past *Via Stellaris*. We ask that credit be given to the *Via Stellaris*, Von Braun Astronomical Society, date of issue, and author of article used.

VIA STELLARIS



A Publication of the
Von Braun Astronomical Society
A Member of the Astronomical League
P. O. Box 1142
Huntsville, AL 35807-1142

Address Service Requested

We are trying to limit the paper copies we generate, to save costs, clutter, and a lot of work for everyone. If you would like to receive your newsletter electronically, please send your email address to editor1@vbas.org, and let me know.

Steve Sloan, Via Stellaris editor