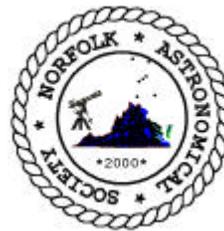




NORFOLK SKIES



The Official Newsletter of the new Norfolk Astronomical Society

Glendon L. Howell, Editor

Volume I; Number 5

May 2001

Meetings And Events For May 2001

Date	Activity
Sat., Apr. 28	NASA Langley Research Center Open House , 9 AM to 4 PM. Tour the research facilities of NASA Langley and learn about the Center's varied missions.
Sun., Apr. 29	National Astronomy Day (rescheduled) , noon until ? at The Waterside in Norfolk.
Tues., May 1	ALCON 2001 Preregistration Deadline . The Astronomical League national convention will be held July 25-28 in Fredrick, MD. Preregistration saves you \$25 per adult registration. For more info, visit the ALCON 2001 website at http://alcon2001.homestead.com/alcon2001.html .
Tues., May 1	Challenges and Opportunities in Aeronautical Design, Engineering and Manufacturing , free Sigma Series lecture given by Professor Earl Murman, 7:30 PM at the Virginia Air & Space Center, Hampton.
Thu., May 3	Regular Meeting , 6:30 PM, at the Pizza Hut across from Chesapeake Square Mall.
Fri., May 18	ECSP Messier Marathon , at Hampton Lodge Family Campground, Coinjock, NC. Observing, cookout, and nice door prizes. \$15 registration reimburses HLFC and sponsor Kent Blackwell for their expenses (see article).
Fri., May 25	ECSP Messier Marathon (rain date)

NASA Langley Research Center Open House – April 28

For the first time in 4 years, NASA Langley Research Center in Hampton will open its doors to the public on Saturday, April 28, from 9 AM to 4 PM. Ever wonder what NASA "rocket scientists" do? Come find out! Free parking on the facility will be provided, with shuttle busses taking you to the various participating facilities. Souvenirs available from the NASA Exchange Shop, and food/beverages at the NASA cafeteria.

Plan to come and see where special spacecraft and aircraft materials are developed and tested. Learn what Langley is doing to make airports and airplanes better neighbors, and improve safety. See the crash test facility. Tour wind tunnels. Design and build your own planes. See how models are built in the machine shop. See how materials are stress tested. See what NASA learns from studies of the atmosphere and more!

For more information, visit the **NASA Langley Open House** web page at

<http://openhouse.larc.nasa.gov/>

National Astronomy Day Rescheduled to April 29

National Astronomy Day is Saturday, April 28, with National Astronomy Week the week of April 23-29. With a conflict on Saturday with the NASA Langley Open House, plans are to reschedule our celebration to **Sunday, April 29, from noon until dusk**. Tentative site is The Waterside in Norfolk. Please let Glen know (485-4242) if you can come and help out. Theme for this year's event is how the Sun affects our world. The moon will be First Quarter, providing an alternate target.

East Coast Star Party / Messier Marathon
Kent Blackwell, Organizer/Sponsor

The 2001 EAST COAST STAR PARTY is set to be held May 18-19 with raindate weekend of May 25-26. The location will be Hampton Lodge Family Campground, near Coinjock, NC (Tel. 252-453-2732). The site lies approximately 45 miles south of Norfolk/Virginia Beach, VA area.

DIRECTIONS.

From Tidewater: Travel south on Route 168 (Battlefield Blvd.) to North Carolina, then to US 158 heading towards Nags Head. Driving south on US 158, cross the Joseph Palmer Knapp Bridge at Coinjock. Turn left at foot of bridge. Waterlilly exit. Follow signs.

Driving north on US 158, take Waterlilly exit before crossing the Joseph Palmer Knapp Bridge at Coinjock. Follow signs.

Observing site is inside the cegar grove 100 feet to the left after the campground entrance. Just follow the signs.

PLEASE OBEY CAMPGROUND 10 MPH SPEED LIMIT.

REGISTRATION:

1 PERSON \$15

2 PERSONS (SPOUSE OR SIGNIFICANT OTHER) \$25

FAMILY OF 3 OR MORE \$35

Registration applicable to all participants and includes one or two nights camping if you wish to do so. You may camp near your telescope. The campground gate will remain open all night for those wishing to leave early. Make check payable to Kent Blackwell.

Hotels in the area for those not wishing to camp:

Rivera Motel - Coinjock, NC 252-453-2141 - Approximately 15 miles from Campground

Sea Oats Motel - Powells Point, NC 252-491-8455 - Approximately 20 miles from Campground

Note: Approximately 30 miles south is Nags Head NC, an ocean resort town with hundreds of hotels

Itinerary:

Friday:

12:00 (noon) – Registration begins.

6:00 pm - Casual Stargazing begins.

Saturday:

10:00 am – Registration begins.

5:30 pm – Cookout at Kent Blackwell's Trailer Lot#29 (Kent will supply hamburgers, hotdogs, softdrinks. You are welcome to bring a side-dish if you wish).

6:30 pm – Door Prize Drawings.

Dusk until dawn – Observing.

Door Prizes:

Assorted Gag Giveaways VALUE ????

Wide-Tred Step Ladder, donated by Kent - \$30

Orion Deep Map 600, donated by Orion Telescope Center - \$14

Orion Large Aluminum Eyepiece Case - \$50

Televue 20mm Plossl Eyepiece, donated by Al & Judi Nagler - \$85

David H. Levy's Guide To the Stars 16" Planisphere, donated by Ken Press - \$20

Book, Video Astronomy by Masasey, Dobbins & Douglass, donated by Sky Publishing Corp. - \$29.95

8.8mm Meade 82-degree Ultra-Wide Series 4000 Eyepiece, donated by Meade Instruments - \$240

1 raffle ticket included with registration, extra tickets \$1.00 each. You must be registered to be eligible for door prizes.

Let's hope for clear skies. If possible call (757-495-4663) or email Kent Blackwell (kent@exis.net) to confirm a day or so before the event, it helps me know how much food to buy. Hope to see you there.

Local Planetarium Shows

IN THE MOON'S SHADOW will be shown **Thursdays, May 3, 10, 17, 24, and 31**, from 8 to 9 PM at the Chesapeake Planetarium, 300 Cedar Road. The program takes you on solar eclipse excursions around the world to catch just minutes within the Moon's shadow. Telescope outing immediately after the show, weather permitting. Admission free. For reservations call 547-0153.

Carl Sagan's COSMOS will be shown weekdays at 2:30 PM, and at 11 AM, 1:30 PM, and 3:30 PM Saturday, and at 1:30 PM and 3:30 PM Sundays at the Virginia Living Museum Planetarium, 524 N. J.Clyde Morris Blvd, in Newport News. The program is based upon the TV series by Carl Sagan of decades ago. Admission \$3.00. For information call 595-1900.

Events Of The April Meeting

Last month's meeting was held Thursday, April 5, 2001 at the Old Country Buffet, across from Greenbrier Mall. In attendance were members Glen Howell, Dave Kratz, Barry Ferrell and Shelton Williams. Shelton talked about his trip down to Florida where he viewed a Space Shuttle launch. Dave brought to our attention the open house at NASA. Afterward, Barry and Glen joined Kent Blackwell over at the Chesapeake Planetarium.

Color Astrophotography

By Preston Scott Justis & Sean Walker



OBJECT : NGC 6720 / M 57 (Ring Nebula)
 TYPE : Planetary in Lyra
 EXPOSURE: LRGB (luminance-red-green-blue) digital composite of 6 exposures (a 20 and 30-minute exposure on Kodak Elite 200 slide by Sean Walker is sandwiched with 4, 5, 9, and 10 minute exposures on Tech Pan 2415). Sean used a Celestron 8 SCT while Scott used his 10-inch f/6 Newtonian.

Visit Scott's Web Site at

<http://home.earthlink.net/~psjustis/Astrophotos.htm>

This photo is copyrighted and appears in this issue by written permission of Preston S. Justis.

Shuttle Launch Vehicle Pass Requests Being Accepted Once Again

KSC Release No: 10 - 01

Editors Note: The following information is furnished courtesy of member Mark G. Gibson

Written requests for vehicle passes to view Space Shuttle launches within the restricted perimeter of Kennedy Space Center (KSC) are once again being accepted. These passes grant visitors permission to drive through several designated guard stations to a public viewing site on the causeway between KSC and Cape Canaveral Air Force Station without the requirement of an escort.

Anyone is welcome to make a request, including members of the general public worldwide, educators, and representatives from groups or organizations wishing to attend the launch together. Only requests for passes for the following Space Shuttle missions currently targeted for launch in the year 2001 are being accepted:

STS-102 (March)
 STS-100 (April)
 STS-104 (May)
 STS-105 (June)
 STS-107 (Aug.)
 STS-108 (Oct.)
 STS-109 (Nov.)

Specific Space Shuttle mission launch assessment dates can be found on the World Wide Web at

<http://www-pao.ksc.nasa.gov/kscpao/schedule/schedule.htm>.

Since the number of vehicle passes is limited, requests will be accepted on a first come first served basis. All requests should be submitted in writing to:

Car Pass Request
 PA-PASS
 Kennedy Space Center, FL 32899

Letter and postcard requests are allowed. No e-mail or telephone requests will be accepted. The request must be for one mission only. The mission must be specified in the request letter. The request must also specify which of the following category of vehicle pass is required: car, motor home, bus, or disabled.

Only those selected will be notified by mail. The passes will then be mailed to the recipient's address approximately three weeks prior to the launch. Only one request per person will be honored. Only one pass will be issued per request.

Because of the limited number of passes available, only one (1) request per household or address will be honored each calendar year. This policy will apply to all future Space Shuttle missions. Requests for passes for missions launching after the year 2001 will not be honored at this time.

For more information, visit the following Web site:

<http://www-pao.ksc.nasa.gov/kscpao/carpass/carpass.htm>

Norfolk Skies is published monthly by a national award winning Editor Glendon L. Howell (Astronomical League Mabel Sterns Award for 2000). Annual dues are only \$12.00 and fund primarily production and distribution of this newsletter. Members are entitled to reduced rates on *Astronomy* and *Sky & Telescope* magazines among other benefits. For more information, visit our web site at

<http://groups.hamptonroads.com/NAS/>

Observing The May Sky

By Kent Blackwell

I thought this month I'd discuss scanning the skies with binoculars. For beginners they are wonderful instruments to learn the sky. On the other hand, they're also necessary tools for the seasoned observer. I highly recommend anyone interested in observational astronomy spend as much as possible on a quality pair of binoculars. Don't think you have to shell out \$1100 to obtain really fine binoculars. I find the Orion Telescope & Binocular Center a great source of binoculars of any type. Call 1-800-447-1001 to obtain one of their most informative catalogs.

Let's begin our binocular tour of the spring sky with Leo. Leo the Lion lies overhead at a convenient hour this month, and a good starting point would be with Leo's brightest star, Regulus. Look for its 8th magnitude companion just 3' away. The two make a beautiful sight.

There are also many galaxies in this constellation, but only two will easily show in binoculars, M65 and M66. Both are spirals, and can be seen as faint smudges in the same field as Theta Leonis. If you have large binoculars and a dark sky you might try locating M95, M96 and M105 situated in the hind quarters of Leo. These lie at a distance of 29 million light years, and will appear as tiny smudges in 10x glasses.

Also riding high overhead is Ursa Major, better know as The Big Dipper. Oddly, this well-known constellation contains no star brighter than 1st magnitude, but the familiar pattern makes it infamous. Funny, only in America is it regarded as the Big Dipper. The English astronomer Patrick Moore says it's a plough. Love that British spelling, why can't they speak English? The most celebrated binocular object in Ursa Major is Mizar, located at the bend in the handle of the dipper. Its 4th magnitude companion is easily visible to the naked eye, and a real beauty in 7x binoculars. Mizar is a close double again, but this pair is visible only telescopically. Try to see a third star which forms a triangle with Mizar and Alcor named Sidus Ludovicianum . Though difficult, even at 7x it's fun to try seeing it. The astronomer Sidus claimed to have seen it naked eye back in 1723. It's been suggested to be a variable star, and has been further suggested that the Arab's test of splitting Alcor and Mizar naked eye was not that pair at all, but actually Mizar and Ludovicianum.

What about deep sky objects in Ursa Major? Well, they're all quite difficult for binoculars. You might have luck finding M81 and M82. While not easy star hopping to this pair, give it a try. They are glorious in my 20x120, and almost equally impressive in 10x50.

The fine binocular constellation of Coma Berenices, or Berenices' Hair, lies between Leo and Ursa Major. To the naked eye it only appears as a soft glow, but even 7x show the area very rich in stars. In this small constellation lies M53, a fine example of a globular cluster. Globulars are generally reserved for telescopes, with the exception of M53, M3, M13 and Omega Centaurus. It is plainly visible in binoculars, though only as a dim blur. I have never been able to resolve it with anything less than a telescope. There is also the bright galaxy M64, better known as "The Black-Eye". I've detected it at 7x, but at that magnification its size appears only slightly larger than stellar.

Now move just under the handle of the Big Dipper to Canes Venatici. The "dogs" were originally named Asterion and Chara. The brightest star is only 2.9 magnitude. With the next brightest star only being 4.3 magnitude it is indeed difficult to see the constellation naked eye in city lights. Certainly the most famous object in Canes Venatici is M51, the Whirlpool Galaxy. I have most certainly seen it with 20x120 binoculars, and suspected it with 10x50. Can you spot it with smaller binoculars? Let me know if you are successful.

During this season the sky is crowded with many galaxies, most of which deserve to be viewed with telescopes. One goal you could try is locating as many Messier objects as possible, as almost all should be visible, though faint, with binoculars. Instead, I suggest just finding a comfortable place to lay back, relax and sweep the star fields. There are few instruments which can offer more splendid wide-field views. I have the same pair of binocular I had when I started in this hobby almost four decades ago, and they're still capable of delivering an enjoyment of deep sky observing even a monster Dobsonian telescope cannot approach.

Messier Marathon: Navigating The Virgo Cluster

By Glendon L. Howell

One of the most daunting areas for Messier observing is the Virgo Cluster of objects, due primarily to its large number of galaxies, and lack of bright reference stars to hop from. This is one area where it really pays to know the true field of view (FOV) of your observing eyepiece and finder, as well as the proper cardinal directions to pull your tube along. This is complicated today by today's popularity of the Dobsonian style of alt-azimuth mounting.

Knowing the FOV of your finder and/or ocular allows you to use that knowledge as a measurement offset tool. The FOV of most 8x50 finders is somewhere around 8 degrees, and for a low power telescope view can be a degree or less. You must determine your own system's FOV. A large scale star atlas such as Tirion's *Sky Atlas 2000* can easily be used with a clear piece of acetate to create an overlay giving the same FOV. This overlay can become quite a useful tool in your observing arsenal.

In the sky, northward is always reckoned as a motion toward the north celestial pole (very near Polaris). For an equatorially mounted telescope this translates to moving northward in declination. For alt-azimuth mountings, however, the pull toward the north celestial pole is more complicated, except in the instance of the object under observation being near the meridian in which case the motion translates easily into a change in altitude. The Virgo Cluster lies roughly at RA 12 hours 30 minutes, so the best time for use of Dobsonians to use this method is near 12:30 Local Sidereal Time. For this year's ECSP, this occurs near 9:45 pm EDT for May 19.

In either case, it is best to orient the crosshairs of your telescopes finder with its axes of motion. For an equatorial mount, this makes the crosshairs correspond with the RA/DEC grid lines on star charts. Again, this becomes true of alt-azimuth mounts also only when the object is near the meridian.

Armed with this knowledge, we can now think seriously about tackling the Messiers within the Virgo Cluster of galaxies. A description of each galaxy will also help. I highly recommend the book **The Messier Album** by Mallas and Kreimer, which not only gives descriptions of the objects but finder charts, drawings, and photographs. Other books worth considering are **The Year-Round Messier Marathon Field Guide** by Harvard Pennington, and **Messier's Nebulae & Star Clusters** by Kenneth Glyn Jones.

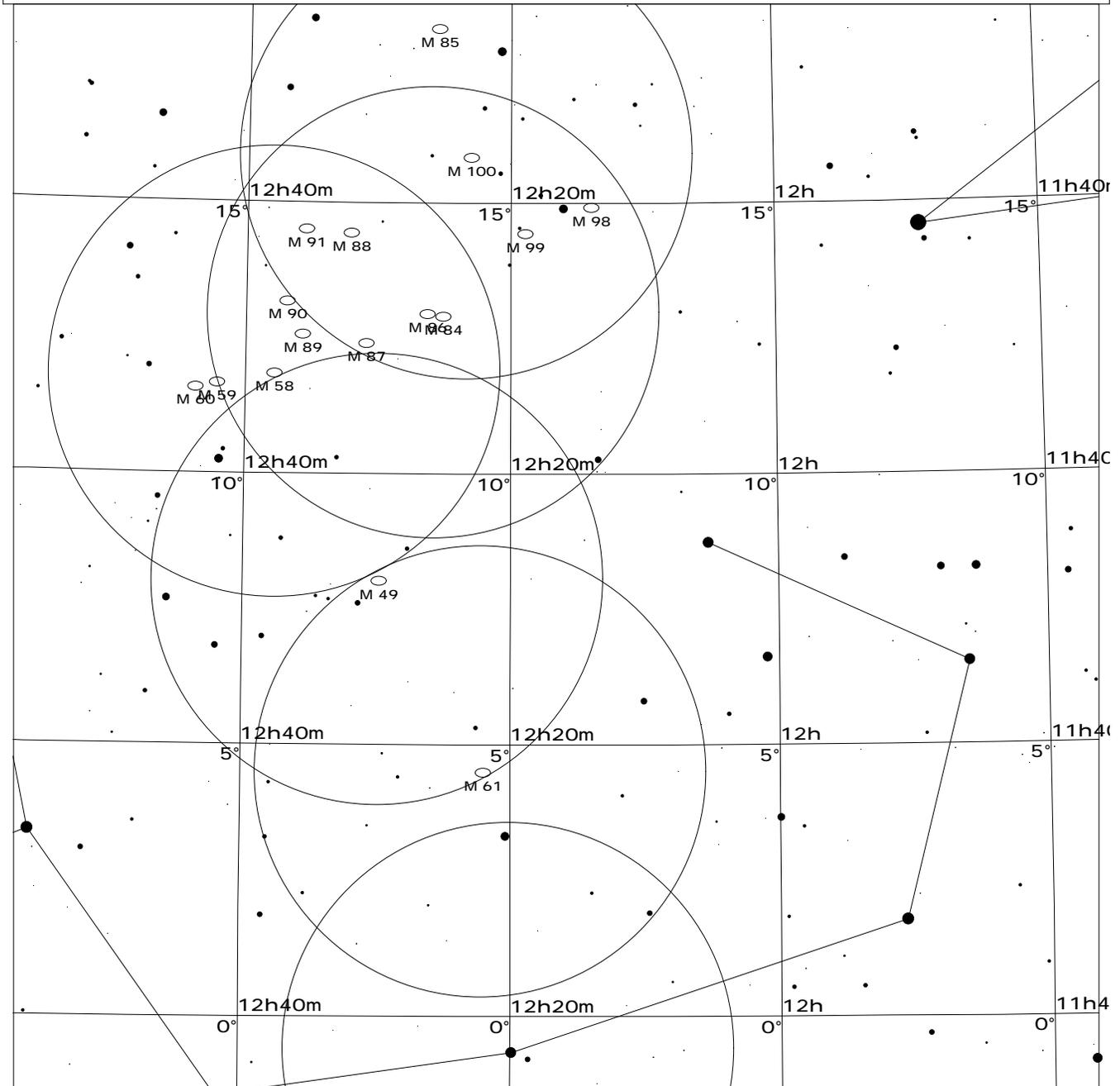
Assuming our finder is aligned to the telescope, we next need a starting point for our search to begin. Arbitrarily I always start at the +4.0 magnitude star (15) Eta Virginis (RA 12h 20m Dec $-0^{\circ} 40'$). Referring to the chart on page 5 of this issue, you will note the FOV of 8 degrees around that star. Almost due north and barely withing that field is the +5.1 magnitude star 16 Virginis, and by centering next on that star and then pulling a little more north and slightly eastward we should locate our first quarry M61, a low surface brightness 5 arcsecond spiral. Next, placing M61 on our crosshairs, a +6.2 magnitude star and M49 should lie on the enge of the field; move northeastward to center and observe M49, a bright elliptical galaxy. Continuing along this same line about the same distance brings us to M58, one of the brightest spirals in the area. From there, pulling nearly due eastward we should find two ellipticals, M59 and M60 further out.

Returning westward to M58, pull northwestward to find elliptical M89, then roughly westward to bright elliptical M87, and continue on to find M86 and M84 (the area of M84-M86 is really spectacular as I have personally observed as many as 9 galaxies all visible within the same low power view!).

Backtracking again to M58, now we move northwestward again to locate elliptical M89 and spiral M90. Continuing north, we pick up barred spiral M91 and visually rewarding spiral M88. To the west lies tight spiral M99, elongated spiral M98, and another impressive spiral M100. Note how the description of the objects in the books help you to easilt identify your quarry. I will stop with the bright elliptical M85 to the north of M100, which also lies next to a nice barred spiral NGC4394.

Congratulations if you successfully located all of these Messiers. It takes some practice, but the challenge is well worth the reward. Perhaps in a future installment I shall discuss the second hardest area of the Messier list to tackle ... the region of Sagittarius, Scorpius, and Ophiuchus.

MESSIER MARATHON: Navigating the Virgo Cluster of Galaxies by Glendon L. Howell



<p>STARS</p> <p>● <2 · 7 ● 3 · >8 ● 4 · 5 · 6</p>	<p>SYMBOLS</p> <p>☄ Comet ☿ Asteroid ○ Galaxy ○ Open Cluster □ Bright Nebula</p> <p>⊕ Globular Cluster ⊕ Planetary Nebula ⊕ Quasar ○ Other Object</p>	<p>(1) Pull northward from 15 Virginis (Zaniah) to 16 Virginis and then slightly NE to find spiral galaxy M61. (2) Pull NE 1/2 FOV to elliptical galaxy M49. (3) Pull NE 1/2 FOV to bright spiral galaxy M58. (4) Pull E 1/4 FOV to M59 and M60 then return to M58. (5) Pull NNW to view M89 and M90. (6) Move E from M89 to M87, then ENE to M84-M86.</p>
----------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Local Time: 00:00:00 16-Apr-2001 UTC: 03:59:59 16-Apr-2001 Sidereal Time: 12:32:04
 Location: 36° 48' 0" N 76° 21' 0" WRA: 12h16m36s Dec: +8° 40' Field: 20.0° Julian Day: 2452015.6667

Norfolk Astronomical Society Astronomical Calendar

April 2001							May 2001							June 2001						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	1	2	3	4	5				1	2				
8	9	10	11	12	13	14	6	7	8	9	10	11	12	3	4	5	6	7	8	9
15	16	17	18	19	20	21	13	14	15	16	17	18	19	10	11	12	13	14	15	16
22	23	24	25	26	27	28	20	21	22	23	24	25	26	17	18	19	20	21	22	23
29	30						27	28	29	30	31			24	25	26	27	28	29	30

All times are EDT

<http://groups.hamptonroads.com/NAS/>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	1	2	3	4	5
		12:00 PM ALCON pre-registration deadline 7:30 PM Sigma Series lecture at VASC	12:00 AM Moon perigee	6:30 PM Regular meeting at Pizza Hut at Chesapeake Square mall.	2:00 PM Venus reaches greatest brilliancy 7:00 PM Eta Aquarid Meteor Shower (zhr=20)	
6	7	8	9	10	11	12
	9:52 AM Full Moon			3:00 PM Mars 1.9 degrees S. of Moon		
13	14	15	16	17	18	19
	9:00 PM Moon apogee	6:11 AM Last Quarter Moon			12:00 PM ECSP Messier Marathon registration begins	5:00 AM Venus 4 degrees N of Moon
20	21	22	23	24	25	26
		12:00 AM Mercury reaches greatest elongation (22 degrees E) 10:46 PM New Moon		3:00 AM Jupiter 1.3 degrees N of Moon 3:00 PM Mercury 3 degrees N of Moon	12:00 PM ECSP Messier Marathon (raindate)	
27	28	29	30	31	1	2
3:00 AM Moon perigee		6:09 PM First Quarter Moon				