METEOR is the official publication of the Greenbelt Astronomy Club and is distributed monthly as a privilege of membership. Articles and other contributions are welcome. Membership in the Greenbelt Astronomy Club is open to anyone interested in astronomy. The club meets on the last non-holiday Thursday of the month at 7:30 pm EST at the H.B. Owens Science Center. The Editor's address is: G.W. Gliba, 58-D Crescent Road, Greenbelt, Maryland 20770.

Greenbelt Astronomy Club

The monthly meeting was held December 30th at the H.B. Owens Science Center at 7:30 pm EST. President Doug Love talked about Astronomy Day again, which is to be held on April 12th at the H.B. Owens Science Center. We'll have displays on light pollution, telescopes, and meteorites. Also, talks on astronomy, and a planetarium show. At the next meeting, February 27th, Tom Trunk and George Gliba will give talks. Family dues were raised to $18. Star Party dates were set:

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<tr>
<th>March 23rd</th>
<th>Northway Fields</th>
<th>July 12th</th>
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<tr>
<td>April 12th</td>
<td>Owens Science Center</td>
<td>August 9th</td>
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<td>May 3rd</td>
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<td>June 7th</td>
<td>Northway Fields</td>
<td>October 4th</td>
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<td>November 1st</td>
<td>Northway Fields</td>
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Nominations for officers was held. The new office of Editor was added:

President - Tom Bridgman    Vice President - Doug Love
METEOR Editor - Matt Elliott Treasurer - Lynne Gilliland
Secretary - Eileen Campbell

Quadrantids Good - But Cloudy Here

Although it was very cloudy over most of the USA for the annual Quadrantid Meteor Shower, which occurred on the morning of January 2/3, it was seen by ace American meteor observer Norman McLeod in Florida. He said the best period was from 09:56-11:20 UT, when the rate increased very suddenly, with a LM of 6.0, he observed 86 Quadrantids. This translates to a ZHR of about 120 meteors for the peak, which occurred around 11:00 UT as predicted by the IMO.

My best results for the Quadrantids was back on January 2/3, 1989, when I saw about 60 ZHR meteors from the Northway Fields in Greenbelt, Maryland. It is hard to catch this shower at its peak because it is very sharp, lasting only a couple hours. Also, the rates are pretty low before and after the peak. In fact, in Norman McLeod's report on this year's shower, mentioned on the NAMN meteorobs network mentioned above, he notes that this is the first time that he has been able to nail the peak of the Quadrantid meteor shower since 1971! "This must be a once-in-a-generation event", he said.
One unlikely observation from the Northwestern U.S. was made by a poor woman who had spent the whole night on the roof of her car when it was caught by the flooding, according to a report on the CBS Evening News. When she described her ordeal, she explicitly mentioned the many shooting stars she saw! Unfortunately, no ZHR was mentioned in the report. I wonder how lucky she felt to see this meteor shower given the circumstances?

Source - NAMN meteorobs network

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Fireball Report on Internet from Australia

A report on the Internet of a brilliant fireball seen over Australia on the evening of January 4th was posted on the newsgroup sci.astro.amateur by member of the Western Sydney Amateur Astronomical Group. The bolide was reported to have at least -15th magnitude and was reported to fragment into several pieces while in flight. The color was reported to change from blue-green to yellow-orange. No reports of any sonic boom or meteorite finds were made.

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Fireball Report from RASC List - Richard Huzia

We have a report of a fireball seen to the west of Saskatoon on January 1, 20:30 CST. (Jan 17, 02:30 UT). This fireball was quite bright, showing blue green at the beginning. At the end, the head may have turned orange, but at least two fragments were ejected to the sides while the head travelled onward. It was visible for 2-3 seconds.

I've been told that fireballs that are seen to fragment are more likely to drop meteorites, as fragmentation shows that enough mass lasted to the lower atmosphere to become meteorites.

Source - NAMN meteorobs network

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Some Good Winter Open Clusters - by G.W. Gliba

Although this is the coldest season for observing the Sky, it is the best time to observe the fine open star clusters of the Winter Milky Way. With only a good pair of binoculars, many nice ones are visible. Of course, even a small telescope will increase the detail seen in most of these wonderful objects.

One well known open cluster is M41 in Canis Major. This object is visible with the naked-eye from a dark site, and can start to be resolved in a small pair of binoculars. The cluster is located just a few degrees to the south of the bright star Sirius. It is 5th magnitude and is located about 2500 light years away from the Solar System. It actually looks better at low power than at high power because it gets too diluted if spread out too much in a telescope, as it lacks fainter stars.

Moving up the Winter Milky Way is another fine open cluster in Gemini called M35. It can also be seen with the naked-eye on a clear dark night. It can just start to be resolved in 8x50 binoculars, but a telescope will be needed to reveal its true glory. M35 is located about 3000 light years away from us. Just next to M35 is another much more remote open star cluster NGC 2158. This cluster looks like a comet under low power, and has often been mistaken for one. When I first saw it in 1973 from Ohio with my C8, I thought that I had found a comet!
Another trio of fine open star clusters is located several degrees to the NW in Auriga. Called M37, M36, and M38, they can almost all be seen in the same low power binocular field when sweeping this region of the Winter Milky Way. The cluster M37 is rich in faint stars, and is best seen with a medium power telescope. Their V magnitudes are 6th, 6.5, and 7th respectively. They are all estimated to be about 4000 light years in distance. This region of the Winter Milky Way is beautiful in my 12x63 binoculars on a good clear night even from downtown Greenbelt.

As you sweep farther up the Winter Milky Way toward the North, several other nice open star clusters come into view in Perseus and Cassiopeia. Between these two constellations is the famous Double Cluster, NGC 869 and NGC 884, which are next to the open cluster called Stock-2. These objects are connected by a pre-star chain. In 8x50 binoculars, in a clear dark sky, these objects together are very beautiful; making a star field that is both stunning and impressive. The two clusters of the Double Cluster may look like they are next to each other, they are not. The cluster NGC 869 is about 1000 light years closer and five million years older than NGC 884, which is about 6.4 million years old and 8,000 light years distant. They are both visible to the naked-eye but binoculars or a telescope are needed to show their full glory.

Sources - The Observer's Sky Atlas - by E. Karkoschka 1990

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Clyde Tombaugh Dies [1906-1997]

The last living person to discover a planet in the Solar System passed away on January 17th, 1997. He would have been 91 years old on February 4th. He will forever be known as a friend to amateur astronomers everywhere. Even after he had retired many years ago, he still continued to observe from his backyard in Las Cruces, New Mexico, with his 9-inch f9, and 16-inch f10 Newtonian telescope. He was a gentle and kind human being and will be missed. Some of us were lucky to know him or meet him. His spirit will live on in the hearts of all lovers of the starry sky.

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Astronomy on the Internet - by Matt Elliott

Greenbelt Astronomy Club member Dr. Tom Bridgman will teach a free class about Astronomy on the World Wide Web. Dr. Bridgman works at the Goddard Space Flight Center on the Compton Gamma Ray Observatory. At last year's Astronomy day he did a similar demonstration, but this one promises to be better, as he will have new technology to utilize and more sites to reveal. In addition, Tom has promised to show us where on the Web to find information about Comet Hale-Bopp.

The class will be at the Greenbelt Library on Tuesday, February 18, and it will start at 7:00 pm. As indicated above, there is no charge for the class! The class is co-sponsored by the Library and the Greenbelt Internet Access Cooperative. GAC members Doug Love and Matt Elliott were instrumental in starting GIAC and continue to serve on its Board of Directors. Reservations are requested, but not required. If you wish to make reservations, please call GIAC President Dan Macy at (301) 982-7896.
Comet Hale-Bopp Looking Good

Observations of comet Hale-Bopp at the end of January indicate that it will put on a great show the next few months. As of January 26, it had a nice bent fan tail that was at least a degree long, and a bright, 4th mag. central condensation that appeared to have jet activity. It was also an easy naked-eye sight even from moderately light polluted skies. It looks like we are in for a real celestial treat with this comet.

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Some Interesting WWW Sites - from Tom Bridgman

http://riemann.usno.navy.mil/AA/ - Astronomical Almanac with good info on eclipses, occultations, etc.

http://lheawww.gsfc.nasa.gov/~bridgman/STELLAR/ - STELLAR project page that includes Astronomy Day information.

Here is another that I highly recommend [Ed]:

http://medicine.wustl.edu/~kronkg/index.html - A great site for information on Comets and Meteor Showers

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Telescope For Sale - C5 Plus with Tiffin tripod, 1.8x barlow, 25mm Kellner, SkyGlow LPR filter, piggyback camera mount, and carrying case. Like new. Asking $1000. Call Marge @301-565-2303.

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