METEOR is the official publication of both the Greenbelt and Goddard Astronomy Clubs and is distributed monthly as a privilege of membership in one or both of these organizations. Articles and other contributions are welcome. Membership in the Greenbelt Astronomy Club is open to all, but membership in the Goddard club is only open to NASA civil servants and contractors. The Greenbelt club meets on the last non-holiday Thursday of the month at 7:30 pm EDT at the Owens Science Center. The Goddard Club meets on the second Tuesday of the month at the Goddard Space Flight Center at noon in Bldg.#21 Rm. #183. The address of the Editor is: 58-D Crescent Road, Greenbelt, Maryland 20770.

Goddard Astronomy Club

The Goddard Astronomy Club held its monthly meeting on Tuesday, April 12th at noon in Bldg. #21 Rm #183 at the GSFC. President, Don Haxton opened the meeting by thanking those who helped make the joint Star Party with the Hartford Astronomy Club a big success. He thanked Howard Dew, Bob Dutilly, and George Gilba, of the Goddard Club, and Lynne Gilliland of the Greenbelt Astronomy Club. Although the weather was mostly cloudy, we were able to split a few stars. The 16-inch B&C lost its Declination drive that night, and now needs fixing.

The members were reminded of the upcoming events for April: Astronomy Day on the 16th, Earth Day on the 22nd, and GSFC Daughter’s Day on the 28th. Dr. Wayne Warren accepted an invitation to talk again on Astronomy Day on Light Pollution. The Mason-Dixon Star Party is being held on the weekend of June 10th-12th.

About twenty members have still not paid their annual $5 dues. If you don’t pay Howard by next meeting, you will be dropped from the membership. Call him at x5713 if you aren’t sure if you’ve paid your dues or not.

Greenbelt Astronomy Club

The Greenbelt Astronomy Club had its monthly meeting on Thursday, April 29th. The success of Astronomy Day was mentioned. Lynne Gilliland gave us her treasurer’s report, which follows:

TREASURER’S REPORT - by Lynne Gilliland

The following members have paid their GAC dues for 1994: Don Gruitt, Doug Love, Nick Tascone, George Gilba, Lynne Gilliland and Sue Bassett. Dues are $10.00 and you can pay them at the meeting April 28.

Major expenditures from the treasury have been:

- Planetarium show for the Owens Science Center: 198.50
- Custodian for Owens Science Center Astronomy Day: 100.00
- Mylar eclipse glasses Astronomy Day: 28.00
- Planispheres Astronomy Day: 34.95
- Postage for Meteor (from 1/1993): 40.00

The balance of our treasury as of 4/26/94: $298.55.
Doug Love mentioned that there will be a partial (20%) Lunar eclipse on May 24th, two weeks after the annular Solar eclipse on May 10th. Dates were set for this year's Summer Star Parties at Northway Fields. The next one will be on MAY 14th at 8:00 pm EDT. The Labor Day Festival in Greenbelt was mentioned. We will at least have a table set-up with our Light Pollution display. Thanks go to Shalom Fisher, who brought some Clementine shots from NRL, and Doug Love for bringing cookies. President Russ Waugh gave an interesting talk on observing the Sun safely with various telescopes. The next meeting is on May 26th.

When it Rains it Pours - How Some Events Come in Groups

Editorial by G.W. Gliba

It is a common fact in statistics, that infrequent events can sometime appear to come in groups, followed by long lulls in activity. I believe this is called the Poisson distribution. It is an effect that is certainly known to all experienced meteor observers. It is also an effect that I have noticed before with comets, and of late with novae and supernovae.

In total, I have seen 45 comets in my 33 years of stargazing, but of the ten that were visible to the naked-eye, half of these were seen in the span of only eleven of those years, 1965 to 1976. Furthermore, three of these comets were great, and they had very long tails and bright comas. I’m referring to the Great Comet of 1965, Ike-Seki, comet Bennett 1970, and comet West 1976. No others, not even comet P/Halley, came close to their splendor, although the famous P/Halley is still the best comet I have seen for other reasons. So, we are probably overdue for a really bright comet or two. Also, although they were not particularly bright, I saw three telescopic comets in one night back in 1980, and two within a few minutes on two different occasions in 1985 and 1989 respectively.

As for novae and supernovae, I’ve seen 10 and 15 respectively, over the years. But, of the four naked-eye novae that I’ve observed, two have come in less than two years, namely Nova Cygni 1992, and Nova Cassiopeia 1993, which reached 4.5 magnitude and 5.3 5.3 magnitude respectively. Now we have two relatively bright supernovae that are visible at the same time in moderate telescopes. They are 1994D in NGC4526 in the Virgo Cluster, and 1994I in M51 in Canis Venatici. Although I saw two supernovae in 1991, one in M84 and NGC4527, seeing two on the same night, even within a few minutes of each other, is pretty darn rare.

In our galaxy, the Milky Way, the last naked-eye supernovae were seen in the years 1572 and 1604. As the supernova rate in the Milky Way is thought to be about once every fifty years or so, even accounting for the effects of interstellar extinction, we are overdue for a bright one, or two. Other known, naked-eye extragalactic supernovae are fairly rare too, but one was seen in the LMC in 1987, the famous 1987A, from the southern hemisphere. The last one seen from the northern sky was the one in M31, S Andromedae, that was seen by some keen eye observers like Swift and Barnard in September 1885, when it was 6.5 magn.

So, the point of this editorial is that, not only is "the more you look, the more that you will see" true, but also that sometimes "when it rains, it pours".

Astronomy Day, Earth Day, and Daughter's Day

Thanks to the many members of both the Greenbelt and Goddard Astronomy Clubs, this year's Astronomy Day was a big success. An estimated 300 people of all ages attend this event. Two free planetarium shows were given by the Owens Science Center's staff. Dr. Wayne Warren, of the NASA/Goddard Space Flight Center, gave his popular talk on "The Plague of Light Pollution" again this year to a planetarium packed full of people.

Besides the planetarium shows, and talk by Dr. Warren, there were exhibits on light pollution and the May 10th Annular Solar Eclipse. Special thanks to Doug Love and Lynne Gilliland for helping to get these displays together in time for this event.

Many excellent door prizes were also given away, including a 3-inch copyscope,
a pair of 8x42 binoculars donated by Ritz Camera, mars maps, solar eclipse glasses, and Edmund Scientific planispheres. Special thanks to president Russell Waugh for getting these prizes together and giving them out to the enthusiastic crowd.

Several fine telescopes were also there. Doug Love brought his homemade 6-inch f8, Howard Dew his Meade LX3 2080, Sue Bassett her 3.5-inch Questar, George Gliba his 4-inch f8 refractor, Bucky had a 2.4-inch refractor, Forrest Hamilton from STSCI had his excellent 6-inch reflector binoculars, and Joe Kraus of Company Seven brought a fine 5-inch Starfire refractor. People viewed the Moon, double stars, galaxies, star clusters, and Jupiter. A few nice meteors were also seen by some. Arrangements were made by the Owens Science Center to have the parking lights turned off for viewing; so we could see the stars fairly well considering our location.

Thanks also to everyone else who helped to make this years' Astronomy Day 1994 the big success that it was. Perhaps there are now a few more amateur astronomers that were bitten by the astronomy bug that night.

Earth Day was on April 22nd, and the Goddard Astronomy Club had the Light Pollution display, that belongs to both club's, on display at the Goddard Space Flight Center's Environmental Awareness Forum, which lasted from 11pm until 4pm EDT. An estimated 800 GSFC employees and friends attended this event. The focus was on the problems that light pollution causes for the environment, economy, safety, and astronomy. Special thanks to Goddard president Don Haxton for getting the display there and back for this event.

Goddard's Take Our Daughters to Work Day was a big success. Goddard Astronomy Club member Howard Dew set up his Meade 8-inch SCT to show the nearest star to over 100 young daughters of NASA employees and contractors. Goddard president, Don Haxton, gave tours of the Hubble Space Telescope Control Center to several large groups of daughters.

Notes from Greenbelt Astronomy Club President
by Russell Waugh

1) Speaker at May 26 meeting: all of us. Let's make this an open forum to share eclipse experiences. Bring photos, slides, videos, and stories to share. If we all get clouded out, bring photos and stories of past-eclipses.

2) e-mail addresses
   Russ Waugh rwaugh@yorick.umd.edu
   Larry Woods woods@stars.gsfc.nasa.gov
   Doug Love smd11@gibs.gsfc.nasa.gov
   Shalom Fisher Fisher@nrlfs1.nrl.navy.mil

3) Owens Science Center hosts Open House, Friday, May 6, from 6-9 pm. All exhibits, including live animals, planetarium, and Challenger Center will be open to the public. Free admission.

4) Astronomy Day Report
   Astronomy Day was April 16 but its greatest moment occurred on the 20th. That's when Patrick Martin, a seven year old resident of Lanham, stopped in at the Science Center to pick up the telescope he won as a door prize. The look of delight and excitement on his face was the best reward I got for the months of preparation that went into Astronomy Day. I wish you all could have been there to see it. How gratifying to think we may have started that young man on a lifelong road of learning and pleasure.

   We also gave away a pair of binoculars donated by Ritz Camera, several sets of posters from NASA-Goddard, over 100 Mars maps unexpectedly donated by two local entrepreneurs, eclipse glasses, and planispheres.

   Thanks to all who attended and brought their telescopes and enthusiasm to the event. At least one person (my principal) had her first ever look through a telescope and was thrilled. I'm sure there were many others.

5) Reminder! We're still seeking a logo for the club. I hereby extend the contest deadline. Winning entry to be selected at the May meeting.