

Event Horizon

Summer 2005

Volume 12 Issue 9

Chair's Report

by Glenn Muller



Hello Phil, my name is Glenn, I said offering my hand to the tall, lean, fellow with hair like brown steel wool. We were on the deck beside the meeting room of the Wolk Observatory where I'd just given a presentation to some attendees of Rochestarfest. Having the event's guest speaker, Phil Harrington, take a seat just after I'd started was a delightful surprise.

As author of more than a hundred magazine articles and several books, most notably "Touring The Universe With Binoculars" and "Star Ware", Phil's name is familiar to most amateur astronomers. Knowing his penchant for homemade binocular mounts I invited him back to where Gail and I had set up camp for a look at my binocular box. I could tell by the way he quickly figured out how it assembled, then fetched a camera from his car, that it had peaked his interest. We spoke of other mounts, then of binoculars. He field-tested my Carton Adlerblinks and proclaimed them a good purchase, and I got him to sign my copy of his binocular book, which just happened to be handy.

Like many of the "luminaries" I have met this way, Phil was just regular folk and even though, after 20 min-

utes, I offered him an exit line he was content to stay and chat, and later joined our table for the BBQ dinner. Once we'd covered star parties, camping equipment, car maintenance, and dogs, we discussed jobs, homes, and local clubs – Phil's were all on Long Island, NY.

That same night, Gail and I had another unique luminary encounter through a 20" reflector owned by a member of the host club. SN 2005cs, a recently discovered supernova in M51, was a tiny pinpoint of light in the murky halo of the galaxy. This was our very first visual sighting of such a phenomenon, and to see one star shining at the same relative magnitude as the galaxy's core was quite impressive.

I also had a meeting, of sorts, early in July with Jim Douglas who is the Manager of Operations for the Binbrook Conservation Area. Being fairly new at his post, Jim just wanted to touch base over the phone to make sure we were on the same page. I agreed to his request for advance notice of our using the park, and he agreed to extinguish the exterior light by the washrooms.

I asked about "the gate" and, by the time you read this, there will likely be a permanent barrier in place – our routine of replacing their key lock with our combination lock should remain the same. Jim also offered to announce any events we have at the park on their website so I told him about the upcoming Perseid Party on August 12th. One concern I did have was that the park might be turned into a campground but Jim's reply was that site building and maintenance was cost prohibitive, and not likely to happen in the near future.

And there you have it – This is a great time of year for new experiences, and for making new friends, and I hope your summer is as fruitful as mine has been so far.

Clear Skies!

Glenn invites your comments on these topics or any aspect of the club. He can be reached via chair@amateurastronomy.org



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Domain Name and Web hosting for the Hamilton Amateur
Astronomy club supplied by
Axess Communications
Corporate and Residential DSL and Web Hosting
<http://www.axess.com>
support@axess.com

Email Reminder notice

We send email reminders before each meeting which describes the location, time and topic of the general meeting.

If you're not on the list, make sure that you receive your reminder by sending a note to: publicity@amateurastronomy.org

Subscription Offer for Members

Members of the club are eligible for a discount on Sky & Telescope Magazine subscriptions.

The regular annual rate is \$49.95 (U.S.). HAA members pay only \$39.95 (U.S.).

Contact Ann Tekatch for information on how to sign up; tekatch@sympatico.ca 905-575-5433

An Offer

Thinking of buying your first telescope but wondering what kind to get? Before you buy, consider this offer from Mike Spicer: a "loaner" 5 inch telescope with electronic alt-az controls. The scopes are lightweight, easy to set up and very easy to use. Mike is offering newer members of our club one of these telescopes to try out for a month or so. Interested? You can reach Mike by email at deBeneEsse2001@AOL.com or by phone at (905) 388-0602.



Event Horizon is a publication of the Hamilton Amateur Astronomers (HAA).

The HAA is an amateur astronomy club dedicated to the promotion and enjoyment of astronomy for people of all ages and experience levels.

The cost of the subscription is included in the \$25 individual or \$30 family membership fee for the year. Event Horizon is published a minimum of 10 times a year.

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Submissions to the web site or newsletter are welcome. Submissions may be edited for size & content.

Observing Notes by Mike Spicer and Glenn Muller**ASTRONOMY IS ALIVE AND WELL IN BRANTFORD**

June 12 by Mike Spicer

Eight of us joined Tim Philp and Clyde Miller in Brantford on Saturday evening 11 June. HAA was holding a public expo, rain or shine! The City's Tourism Centre gave us free use of its beautiful meeting room and grounds. The Expositor, local radio and TV stations promoted the event. Moisture-laden air threatened rain. Regardless, so many Brantfordians came out that the event was mentioned at the next City Council meeting!

We started at 7:30 with a scope demo and A-V show inside the Centre. A welcome table displayed our HAA banner with club brochures, copies of Event Horizon and Astronomy magazine laid out to take home. Glenn & Gail, Clyde, Tim and I had telescopes set up in the meeting room. Even before we started the demonstration, several people asked me how much cash I wanted for my scope... so the evening was like preaching to the converted! By 8 pm we had an overflow crowd with people standing out in the foyer, craning to see and hear.

The public heard in turn about dobs, electronic alt-az, GEM mounted and go-to telescopes. Glenn talked about our club, observing at Binbrook and summer star parties using photos displayed on the wall-screen. A monitor ran video of Jupiter and Saturn taken through my telescope. Tim impressed the crowd with his ETX125 and easy banter... over half had read his astro-column in the day's Expositor. Clyde awed people with some of his outstanding DSI galaxy photos... "taken through this \$700 orange telescope set-up".

The local TV station filmed the well-attended event. A number of people were interviewed about the local astronomy scene. At 9 pm we moved the scopes outside... it wasn't dark or really clear but long lines formed to view the moon and Jupiter. Kids were well-behaved and sharp-eyed at the eyepiece. Mothers asked if joining the HAA would help in learning to use a telescope. Men asked how much it really costs to be well-equipped for the hobby.

We could not have asked for a balmy evening or a better crowd! They went home wanting more. Several expressed appreciation for our invitation to come to Hamilton but added, "You'll be coming here again soon, right?"

All ten HAA members went home satisfied with a well-spent Saturday evening. Thanks to Mike, Ray, Bob, Sandy and Darrell in addition to those I already have mentioned. Hamilton Amateur Astronomers sure has an enthusiastic group of members! It's an active club that's really going places! Perhaps we should do this kind of outreach in other nearby communities. What do you think?

SUMMER'S HERE WITH FABULOUS OBSERVING

June 25 by Mike Spicer

Monday and Tuesday 20-21 June were glorious nights for observing. Pay no attention to the weatherman's "30% chance of a Thundershower" prediction! You may have noted

all the daytime cloud and given up on making plans for evening observing —BIG MISTAKE! During the hot summer days, water evaporates into the air and a lot of cloud builds up - with rain possible in the afternoon. But come 8:30 pm, the clouds can disappear completely, leaving a clear night sky that has had pollution washed away! That happened on both Monday and Tuesday night this week.

What great opportunity! The air was fresh and cleaner than usual, great for observing and better than usual for imaging. The steadiness of the air, astronomers call "seeing", can be measured in arc-seconds. Just observe a rather close double star like Epsilon Lyrae high in the East. If you can split the doubles then the seeing is better than 2 arc-seconds. More black separation means steadier air and better seeing. Good seeing is important for observing detail (less "shimmer" on the moon and planets, for example) and for getting well-focused images, too.

So nice to be out in the evening with only shirt sleeves or a light jacket... only a month ago we were wearing coats to observe, many nights. Let's get out observing, whether at Binbrook, at another member's home or at your own observing spot!

WHAT A GREAT WEEKEND! June 20 by Mike Spicer

After two weeks of cloud, a weekend of observing! Friday evening I joined a couple of scope jockeys at a lakeside amusement park. They were peeking through the clouds at Jupiter and the moon under the watchful eyes of several policemen. A few members of the public looked, too.

Saturday night I was able to dodge clouds to get some images with the DSI. Imaging at f/2 with a large telescope, it is remarkably easy to put the image on the CCD chip without having to buy one of those new, large-array image cameras. The DSI is more than adequate to provide a 30' diameter image of the sky, and a 1.25" Lumicon UHC filter fits right in front of the chip to eliminate pollution..

Sunday the clouds finally disappeared at 7:30 pm and stayed away all night. The seeing was unusually good and I was able to image some rather faint deep sky objects such as NGC 7479, a galaxy in Pegasus, and NGC 7006, a faint globular cluster in Delphinus. Mars is rising in the east much earlier than last month as it increases in apparent diameter approaching opposition late this fall.

The sky clock forecasts a clear night tonight (Monday)... any takers for Binbrook?

WE'RE LINING UP OUR DUCKS... 1, 2, 3...4

June 25 by Mike Spicer

Wednesday 22 June - a full moon. I was invited to Brantford to observe with Clyde and Tim. I packed a new 8" Newtonian on the back seat with a 3.5" refractor, put a mount in the trunk and was off... When you are going somewhere to observe, it's good to have a case to hold your eyepieces and accessories. In the lid of the case you might put a checklist, so you don't set up in a field and then notice you forgot something essential, like your go-to controller or power source.

Clyde is a dedicated astronomer and I love to observe

with him. I always learn something new when I observe with Clyde. His wife bakes great peanutbutter cookies, too. We set up in his front yard, where the sky is as dark as Binbrook, but with trees obscuring the NE. His sky to the north is darker than at Binbrook. Tim joined us to catch faint galaxies with the 8" reflector, which was possible because at our location the moon was completely blocked out. Leo was falling into the West so Tim started observing by bagging M65 and 66. Lesson: Don't give up on observing just because there is a moon in the sky!

I love observing in the summer. Shirt sleeves or a light jacket and a chance to observe in comfort all night. Clyde was imaging with the DSI and got some very good digital images even with the moonlight spread through a little haze. Later, we talked about lining up our ducks... a talk we were asked to give on imaging with the DSI. Clyde thought showing "pretty pictures" was no help to anyone, and I agreed. We want to show how the \$299 camera and its software work, how raw images are collected and processed to obtain the final product. I think that will be of interest to a lot of members, come October or November.

Thanks for inviting me out there, Clyde. And thanks for joining us, Tim. With active, friendly and knowledgeable observers like you two, the Hamilton Amateur Astronomers is really a great club to belong to!

WHAT A GREAT WEEKEND!

June 27 by Mike Spicer

Hot, hot hot! It's swimming pool weather by day, but the nights are so comfortable for observing, I am sure you could not resist setting up a scope Friday the 24th, Saturday the 25th or Sunday the 26th. We have a great club and you are always welcome to join us under the dark skies of the Binbrook Conservation Area. As you drive in, be careful not to run aground on the new "island" installed in the main entrance.

Transparency was poor as it often is during summer - lots of water vapor in the air means there won't be a lot of stars in the grey naked-eye night sky. Of course, that's why you have binoculars or a telescope - to see the faint things that elude the naked eye. With all the heat build-up during these sunny days, the evenings have a lot of air currents and rather poor seeing - this weekend the seeing averaged 3 arc-seconds and stars showed a lot of scintillation. So what can you look at in your shirt sleeves under those conditions?

Jupiter, rapidly falling in the west closer to the sun each day, is still a spectacular sight. This weekend at dusk you might also have noticed Venus, Mercury and Saturn in a little triangle low in the north-west - you won't see that again for many years! If you are a late-night observer, the last quarter moon gave some wonderful views of hard-to see rills, faults and lunar domes, and of course Mars is 9 arc-seconds and growing larger each week - the south polar cap is very prominent now.

Double stars are always fun to look at, and I took the "go-to tour", something I have not done for years with my Nexstar. I caught a lot of interesting double stars of con-

trasting brightness and colours in the space of half an hour. Variable star brightness is interesting to gauge - your accuracy improves with practice and your estimates if sent in to AAVSO web site helps the collection of scientifically-valuable data. (you do not have to be a paid member of AAVSO to contribute).

Some people like to photograph constellations. You don't need a fancy digital camera to do this, as Bob Christmas has often demonstrated to effect. I spent Sunday night taking photos of the sky with an SLR film camera (remember them?) using a 135mm telephoto lens and mounted on my telescope in place of the finder so I would not get any "star trails". A long-exposure photo shows faint stars and nebulae that cannot be easily seen even in a telescope. Using an Ultrablock filter to eliminate light pollution, I was able to take 12 to 15 minute exposures... we'll see how that turns out. Later on, I mounted an electronic eyepiece on the telescope and quickly reorded a "video tour" of the last quarter moon, showing rills, faults, lunar domes and the complex interior of some of the craters we do not see around first quarter moon! I finished off with some video of Mars to compare with the video I shot early Saturday morning. Yes, the seeing made Mars look wobbly but there's a lot you can do to improve the images later.... but more on that when Clyde and I give our imaging talk this fall !

OBSERVING REPORT

Saturday July 2, 2005 by Glenn Muller

It turned out to be a globular night as eight of us clustered beneath a transparent sky on the observing hill at Binbrook. Gail and I were met at the "gate" by John Gauvreau and Ron, then as I coralled the bins back into place, Darrell and Sandy Maude rolled in. We convoyed to the chosen spot to find Dean Randall already set-up with his big Meade reflector and, before long, Greg Emery would also join our group. The evening was starting off well!

The Clear Sky Clock had displayed so much dark blue I'd wondered if it was broken, but the warm, dry, air heralded a spectacular night that would begin with naked eye views of Venus and Mercury hanging above the still waters of the reservoir. Our first telescopic sight, though, would be Jupiter with its symmetrical grouping of moons. Almost on the same horizontal plane as Spica, I was hoping it would help triangulate the position of Comet Tempel.

Collectively we'd brought an assortment of dob/newts ranging from 5" to 12", and a pair of nice refractors. While they cooled, and we waited for true darkness, I also set up my computer. The previously mentioned USB light, clipped to the top of the monitor, worked like a charm. Now I no longer had to rely on half-blind fingers to find the right keys and was able to spend more time viewing and less time backspacing.

Dominating my entries are a list of globulars. With little effort we found and compared M3, M4, M10, M12, M13, M14, M28, M54, and M69. Also plentiful were open clusters and we trained our scopes and binos on M6, M7, M11, M22, as well as those wrapped in stunning nebulosity like M8 and M20.

One sight inspired another and as OTA's either slewed or were pushed toward targets, like M57 The Ring Nebula or M27 Dumbell Nebula, we also caught glimpses of The Veil and The North American Nebula. Dean even bagged a lovely little bluish-green planetary in Ophiuchus (NGC 6372?). Eyepieces were traded, comparisons made and observations discussed. Or lack of observation, as in, "anybody find Comet Tempel?". Despite several scans of the comet's expected position we all came up blank. Either we missed it or it was too dim for the skies of Binbrook. I'm going with the latter which leads me to believe that Deep Impact is going to have to smack it pretty hard to make this worth looking at in a small scope.

Throughout the night we'd be serenaded by coyotes, a band that seemed to consist of only a singer and drummer, and a few mosquitoes. By midnight, the Milky Way would steam from the "Teapot's spout" up through Cygnus into Cassiopeia. We saw several satellites and even a few false meteors as fireflies streaked through the trees. Overall, it was a fine session and I hope the next one happens soon.

USB Astro Light

by Glenn Muller

For those of you who use computers in the field, I came across this neat gadget on The Source/Circuit City website (aka Radio Shack):

<http://www.thesourcecc.com/estore/Product.aspx?language=en-CA&catalog=Online&category=Notebook+Accessories&product=2608068>

With some red cellophane this can solve the problem of not being able to see what you're typing.

EyeCandy

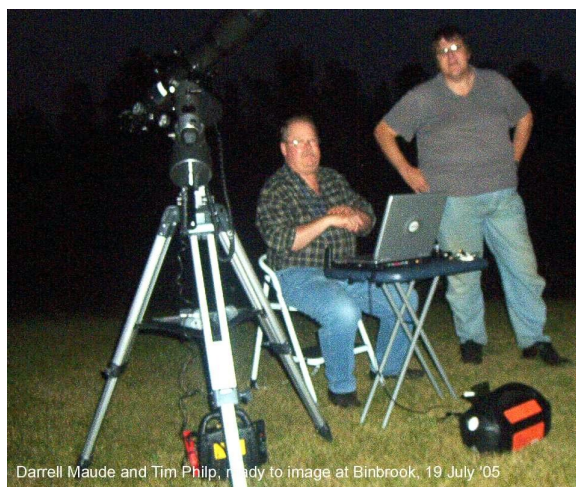


Photo by Clyde Miller of M57 and Satellite Pass on 2005-07-03 with a Nexstar 11 telescope using a Meade DSI camera. This is a stack of 52 x 30sec images.

Photos by Mike Spicer of a few of the guys at Binbrook's observing session July 19, 2005.



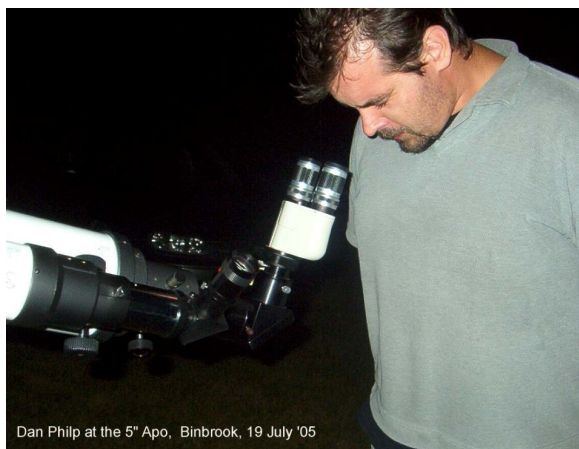
Brian Chire and a 5" loaner EC scope at Binbrook, 19 July '05



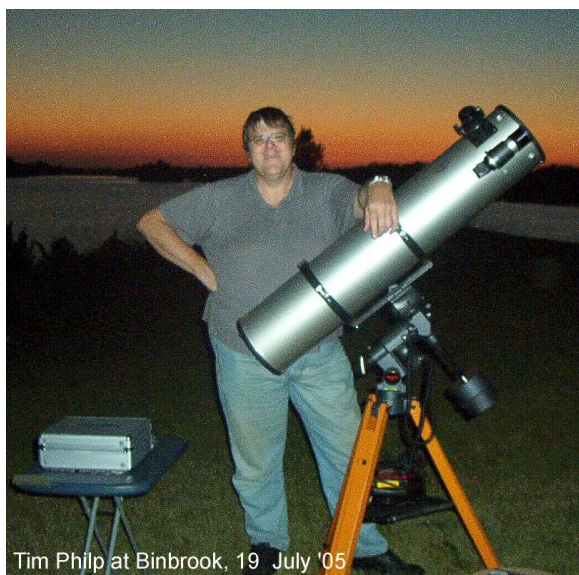
Darrell Maude and Tim Philp, ready to image at Binbrook, 19 July '05



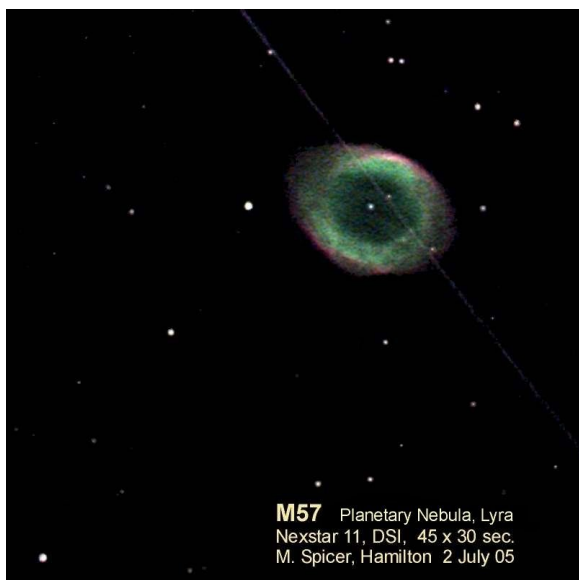
Steve Kinsella and the 8" Mak, Binbrook 19 July '05



Dan Philp at the 5" Apo, Binbrook, 19 July '05



Tim Philp at Binbrook, 19 July '05



M57 Planetary Nebula, Lyra
Nexstar 11, DSI, 45 x 30 sec.
M. Spicer, Hamilton 2 July 05

Phot0 by Mike Spicer processed to show the "scalloping" in the nebula itself.

Polar alignment

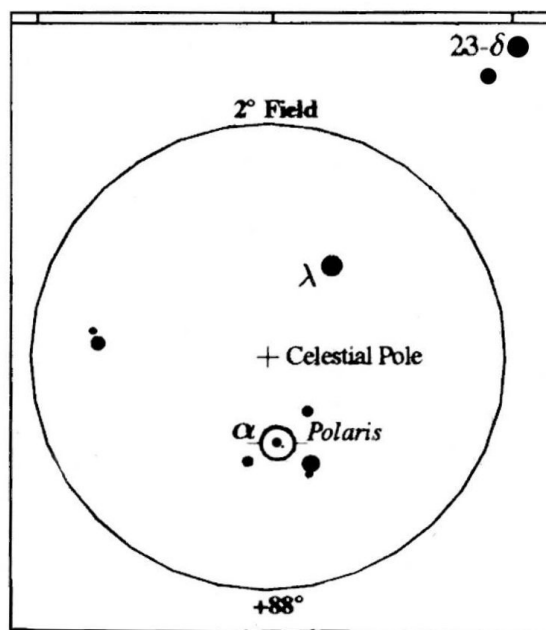
I put a Meade DSI on Steve Kinsella's scope the other evening. He has a beautiful 8" Mak on a TAL german equatorial mount. Now the TAL has an RA clock drive (it's not a go-to) and is designed for visual observing.

Steve thought we could try imaging with the scope, as it has great optics. I put the DSI on it and ran an initial test on a bright star. After a good polar alignment, we wondered if the star's image would drift (up or down, to indicate the polar alignment was too far E or W).

Instead, we watched as the star moved up and down through 60" of arc over a period of 8 minutes - obviously we were measuring the periodic error of his RA drive! I found it quite exciting that such a detailed measurement could be made - it indicated that his polar alignment was almost perfect and his mount was really quite good.

Polar alignment has always been difficult for GEM owners and the use of a polar alignment scope isn't necessary if you can set your telescope accurately to 90° declination. Steve has a little finder map that should let any observer get his polar alignment accurate to about 5' of arc.

Polar Alignment Chart



The map shows Polaris and 6th magnitude Lambda. You will get excellent polar alignment orienting a GEM on the crosshair mark midway between these 2 stars!

Web Watch

Submitted by Doug Welch

Title: Join the Fast Moving Object Spacewatch

Description: If you have an interest in asteroid hunting, then you can join the hunt for FMOs (Fast Moving Object Spacewatch) Click here to find out more.

Site: http://fmo.lpl.arizona.edu/FMO_home/how_to_become_member.cfm

Title: Googles maps of the Moon and the Earth

Description: I especially recommend the latter at the highest zoom.

Site: <http://earth.google.com/>

Site: <http://moon.google.com/>

Title: AAS science booklet

Description: The American Astronomical Society has put together this booklet on how astronomers know that the universe has been around a very long time (instead of 6000 years!).

Site: <http://www.aas.org/education/publications/AncientUniverseWeb.pdf>

Title: Clyde Miller Photo

Description: Congratulations to Clyde Miller for having his photo of M13 chosen as the SkyNews photo of the week.

Site: <http://www.skynews.ca/pow/pow188.html>

Submitted by: Glenn Muller

Telescope for sale



I have an Efton Science 4.5" Newstar Reflector telescope for sale. It is 3 years old, in excellent condition and includes an elliptical mount, tripod, 10mm and 25 mm lens, 2x barlow, finder scope and Telrad finder.

I am asking \$289 for the package.

Fred Bush

Thorold, ON

Fbush@sympatico.ca

Tel: 905-680-8843

Upcoming Events

Event: Manitoulin Star Party

Date: August 11th to August 14th

Location: Gordon's Park, Manitoulin Island

Details: www.gordonspark.com/astronomy.html

Event: NYAA Starfest

Date: August 4th - 7th

Details: www.nyaa-starfest.com/starfest

Event: Perseid Meteor Watch

Date: August 12th

Admission: Free

Location: Binbrook Conservation Area

Event: HAA General Meeting

Date: Friday September 9, 2005 7:30pm

Topic: TBA

Location: Teamsters Local 879

460 Parkdale Ave. N.

Hamilton

(rear entrance)

Details: www.amateurastronomy.org/



Newest Weather Sentry Takes Up Watch

by Patrick L. Barry

Today, we've become accustomed to seeing images of the Earth's swirling atmosphere from space every night on the evening news.

Before 1960, no one had ever seen such images.

The first-ever weather satellite was launched that year, kicking off a long line of weather satellites that have kept a continuous watch on our planet's fickle atmosphere—45 years and counting! The high-quality, extended weather forecasts that these satellites make possible have become an indispensable part of our modern society, helping commercial aircraft, recreational boaters, and even military operations avoid unnecessary risk from hazardous weather.

But satellites don't last forever. Parts wear out, radiation takes its toll, and atmospheric drag slowly pulls the satellite out of orbit. Many weather satellites have a design life of only 2 years, though often they can last 5 or 10 years, or more. A steady schedule of new satellite launches is needed to keep the weather report on the news each night.

In May 2005, NASA successfully launched the latest in this long line of weather satellites. Dubbed NOAA-N at launch and renamed NOAA-18 once it reached orbit, this satellite will take over for the older satellite NOAA-16, which was launched in September 2000.

"NOAA always keeps at least two satellites in low-Earth orbit, circling the poles 14 times each day," explains Wilfred E. Mazur, Polar Satellite Acquisition Manager, NOAA/NESDIS. "As Earth rotates, these satellites end up covering Earth's entire surface each day. In fact, with two satellites in orbit, NOAA covers each spot on the Earth four times each day, twice during the day and twice at night," Mazur says.

By orbiting close to Earth (NOAA-18 is only 870 km above the ground), these "low-Earth orbit" satellites provide a detailed view of the weather. The other type of weather satellite, "geosynchronous," orbits much farther out at 35,786 km. At that altitude, geosynchronous satellites can keep a constant watch on whole continents, but without the kind of detail that NOAA-18 can provide.

In particular, low-Earth orbiting satellites have the ability to use microwave radiometers to measure temperature and moisture in the atmosphere—two key measurements used for weather prediction that, for technical reasons, cannot be sensed by distant geosynchronous satellites.

With NOAA-18 successfully placed in orbit, the 45-year legacy of high-tech weather forecasts that we're accustomed to will go on.

Find out more about NOAA-18 and the history of polar-orbiting weather satellites at <http://goespoes.gsfc.nasa.gov/poes>. For kids and anyone else curious about the concept, the difference between polar and geosynchronous orbits is explained at http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml.



NOAA-18, the newest in a long line of weather and environmental satellites, launched May 20, 2005.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Council meetings

All club members are welcome to attend the council meetings. Contact info@amateurastronomy.org for details.