

Event Horizon

March 2005

Volume 12 Issue 5

Winter Star Party 2005

by Ollie and Lou Darcie

Perhaps it is the anticipation of going to a warmer climate, or the thought of just getting away for a while, or even the thrill of seeing new places and new faces. Whatever, it was great to be on the road again knowing that as long as we headed south, the temperature would surely rise. It was -4 C when we pulled out of our driveway, camper trailer in tow, and headed south along the Guelph Line to the 401. Although it was cold, the highway was dry, the sun shone, and three hours later we were crossing the Ambassador bridge at Detroit heading for I-75, the great southern winter route to Florida.

The first night we spent in a nice motel in the state of Ohio. Our plan is always to start anytime between 0930 and 1000, and terminate our travel for that day at 1700.

And so it was, on the first day, Wednesday, of our journey. Travelling on, as we approach each state, we visit their welcome station, where we not only refresh ourselves, but also pick up a state highway map as well as coupon booklets which point us to various accommodations along our route.

So here we go, Ohio, Kentucky, Tennessee, Georgia, and then in to Florida. This may come as a shock to some of you, but the orange juice given freely at the Florida welcome station is NOT FRESH SQUEEZED. They actually use frozen juice from a can mixed with a portion of water.

Anyway, after much travel, (Florida is a long state), we arrived outside the site of the Winter Star Party. We were number 38 in line along the shoulder or US1. Of course there is a lot of socializing as we greet folks whom we met last year, and meet new folks. Even out there on the shoulder, with cars and trucks whizzing by, we could not help but notice the dark skies. Folks had their telescopes set up and were totally hypnotized by the heavenly splendour.

After a fairly restless night, Monday morning arrived, and around 1100 the big RVs are allowed into the site. At noon, the gate is now open for the rest of us. It is quite a hustle to get to a spot that is your favourite. We were lucky, as Ollie ran on ahead to claim our bit of real estate, while I followed with the camper. What a great spot we got. Just like last year, a piece of beachfront property. Tippy D'Auria, the initiator of the Winter Star Party, was to have retired from his management position, but he still seems to be holding the reins. He and his group did a marvelous job as usual, in getting excellent speakers, oodles of door prizes, and just seeing that everything ran to form. And everything did.



The workshops were excellent, with a great slate of speakers: Tippy D'Auria, R. Scott Ireland, Jack Newton, Dr. Donald Parker, Richard Berry, Jim Burnell, Bryan Greer, Mike Reynolds, Dan Joyce, and Claire Oferman who took care of the children's activities. There were a lot of children this year, so they had their own activities as well as their own door prizes. The grand prize for them being a telescope.

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Upcoming Events

Event: Messier Hunt

Date: Saturday evening March 12, 2005

Location: Binbrook Conservation Area

Admission: Free. Everyone is welcome!

Event: The Lives of Bats

Presenter: Internationally renowned bat researcher Dr. M. Brock Fenton, Department of Biology, University of Western Ontario

Description: What bats do for a living and how they do it, including material about echolocation and the way it influences bats, the social systems of bats, and people's perception of them.

Date: Monday, 14 March 2005, at 8:00 PM

Location: Royal Botanical Gardens, 680 Plains Rd West, Burlington.

Visitors: are always welcome. Come early for social and refreshments.

Event: A public tour of our Moon and the moons of Saturn and Jupiter.

Date: Saturday evening March 19, 2005, from 7 - 10pm.

Location: Hamilton Bayfront Park parking lot

Admission: Free. Everyone is welcome!

Description: View Titan (where the Huygens probe landed) and other celestial sights through the powerful telescopes of club members.

More Info: For more information call 905-945-5050.

Event: HAA meeting

Date: Friday April 8, 2005 7:30PM

Location: The Spectator building.

Admission: Free. Everyone is welcome!

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HAMILTON AMATEUR ASTRONOMERS

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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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



Certificate of Appreciation

*The Space Place,
a NASA public education and outreach program,
recognizes*

Hamilton Amateur Astronomers

*for its valuable contributions to its community
in the areas of science and technology education and inspiration.*

Nancy Lee
Nancy Lee
Team Leader

January 2005

Diane K. Fisher
Diane K. Fisher
Lead Product Developer

Chair's Report

by Glenn Muller

Hi Folks! This month I have a lot to tell you so I'm just going to jump right in.

Two weeks ago, the Club became the recipient of a Certificate of Appreciation. This was from NASA's Space Place Team in recognition of our efforts to promote astronomy through public events, and for running the Space Place articles in the Event Horizon. I sent them a thank-you note stating that, while participation is its own reward, it is always nice to have our efforts recognized in this way.

A week later, I had a call from a gentleman who wanted to donate some back issues of "The Planetary" magazine. "They're a few years old," he said, "but there's lot's of good reading in them." So, I picked them up and they'll be on the back table at the meetings for anyone who wants them.

One way to make the winter pass quickly is to stay

busy, and to get you to Spring we have the following events on tap:

There is a Messier Hunt planned for March 12th at the Binbrook Conservation Area. This will be a good chance (weather permitting) to add a few M objects to your collection. What I would like to do is have everyone keep a log that they could send to me. Then, I will compile a list of how many different objects we were able to catch as a group.

March 19th has us down at Bayfront Park for another of our popular Public Viewing nights. There should be lots of bright targets including a waxing Moon close to Saturn, Jupiter and its moons rising by 8pm, and the Orion Nebula and star clusters to give attendees an eyeful.

Coming back inside, we have two science related functions. One is the BASEF competition starting on March 31st and, as usual, the HAA will sponsor a prize

for best astronomy-related exhibit by a student. The other function comes under the "Science In The City" banner. Our participation will likely involve building comets and making craters – you know, regular Martha Stewart stuff – but the date for this depends on when the organizers (not us) book a suitable location. The most likely date, right now, is April 16th which happens to coincide with Astronomy Day.

We are also into the last few weeks of our Student Scope Contest. Most of the entries received, so far, have scored quite high and the essays have been interesting. Next month we will determine the winners and award the prizes.

SkyNews magazine sent me an e-mail request for pictures of club activities. The pictures will be used in the magazine and, no doubt, provide our club with some publicity. With all of the events just mentioned, we should have no problem coming up with photo ops.

This next item concerns a change in the HAA Executive. Mike Spicer has decided to relinquish his title of councilor. I'll take this opportunity to thank him for the contributions he did make in that capacity, and to say we're happy to see him continue as a driving force in our observing sessions.

Finally, the Spectator Building is temporarily unavailable for our meetings. While I don't know when that will change I do know that the Teamster's Hall makes for an excellent alternate location. I'll do my best to let you know where all future meetings will be but you can also check for yourself just by visiting our website.

So there you have it, a veritable cornucopia of activity, and if that doesn't fill your plate – come back next month - we'll be sure to have more!

Clear skies!

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



Observing Notes

by Mike Spicer and Glenn Muller

Friday night 4 March, clear skies and no moon! by Mike Spicer

Hard to believe but at last we have a Friday with clear skies, no moon and bright planets to look at! Strangely, no one telephoned or emailed about going

to Binbrook, so I set up at dusk on the patio using an 11" SCT and 4" apo refractor.

Jupiter and Saturn are easy targets and for those of you without "go-to" scopes, this month is your chance to find the Eskimo Nebula, NGC 2392, without any trouble. It is one degree south of Saturn for the next 5 weeks. The Eskimo is a planetary nebula located just below an 8th magnitude star and looking like a fuzzy blue snowball. Well worth looking for and imaging, if you have the equipment. I was imaging Saturn in the evening and compared the results with images taken in 2001 - the rings are only half-tilted now...they will disappear completely in 2009.

On toward midnight I was taking images of Jupiter and in particular the Great Red Spot as it reached the planet's meridian. Noticeable changes in the colouring and size of the GRS are taking place as this great storm overtakes and swallows smaller "white spot" storms. You can take images of Jupiter with a monochrome electronic eyepiece connected to a TV or VCR - contact me if you'd like to try this.

Jupiter is moving W through Virgo, a constellation filled with galaxies. Throughout March Jupiter is only a fraction of a degree N of NGC 4941, a pretty little 11th magnitude spiral galaxy, and a fraction of a degree S of NGC 4915 a similar galaxy. By mid-April Jupiter will be so close to NGC 4691 that Callisto will appear further away from Jupiter than the galaxy!

Tomorrow night looks good for observing. Contact Greg Emery our Observing Director if you want to go out to Binbrook Conservation Area.

JUPITER ON MARCH 3RD by Mike Spicer

This week A.L.P.O.'s Jupiter section noted that taking pretty colour images is important but no less so than accurate measurement of the longitude of the Great Red Spot (or any other spots).

I was observing Jupiter this evening and noted the most peculiar arrangement... The planet is moving westward each day against the stars, with each moon moving around the planet, Io closest and fastest, then Europa, Ganymede and slowpoke Callisto.

Tonight, Io peeped out from behind Jupiter at 10 pm, moving eastward and trying to catch Ganymede, also east of the planet. Between the two satellites is a magnitude 9.7 star, TYC4963-335-1. As Jupiter moves west, Io (magnitude 5.3) and Ganymede (noticeably brighter at magnitude 4.9) move eastward, away from the planet. The star stays between them all night. It is amazing to think of the relative motions involved, something to do until the GRS transits in the early morning

hours.

Sunday February 06, by Glenn Muller

Last night's observing session was all a question of timing. Experience tells us that after a day of thawing temperatures, a windless evening should result in poor transparency. The clear skies at sundown, however, were too good to pass up and we unlocked Binbrook's gate at 7pm under the steadiest star-studded sky I have seen there for quite a while. To the South and East, that is. The North and West were a different story. In that direction, the transparency went from middling just below zenith to soup at the horizon. Still, Orion, Taurus, Canis Major, Gemini, Auriga were in the clear and there was lots to see.

To maximize our observing against the encroaching cloud we started with Comet Macholz (C2004 Q2), which was located quite simply by taking the line from Delta Cassiopeia through Epsilon and extending it about the same distance. This comet is still well-worth a look, even in binoculars. Through our 6" reflector at 57X the bluish coma was 15-20' wide, lighter on the outer regions and darker toward the center. The core, or nucleus, was a tiny bright white spot that not only appeared slightly elongated but was a few arc-minutes off-center. Unfortunately, the comet was near the leading edge of the cloud bank so only a slight hint of a tail was detected.

We decided to continue our comparison of binocular/scope views with M41; the open cluster below and to the right of Sirius. On this night, a 21mm Pentax eyepiece revealed about 6 dozen stars while 10x50 bins nicely separated about 9. If you want to do the math, you can figure out how many stars in the cluster are between 9th and 13th magnitude.

The Orion Nebula (M42) was next. Always a treat no matter how you look at it, tonight the telescope view was absolutely breathtaking. Wispy tendrils of the gas cloud extended beyond the 1.1° FOV of the eyepiece and the trapezium seemed to jump sharply into focus all by itself. Rarely have I seen it better.

With the clouds continuing to gobble up constellations we quickened our pace, and turned next to the Pleiades. This is a binocular object, and through the mirror of the binocular box, "The Warhorse" asterism was once again apparent. See this link for more details: home.interlynx.net/~mullers/asterism/

While the bins took in the Pleiades, the scope turned to Saturn. The rings are definitely "closing" but, for me, they have the perfect degree of tilt. Cassini's division is still a clear line and the planets shadow is

sharply defined on the rings. Most interesting, though, is that the globe now extends out of the rings. This effectively accentuates the 3D effect, as did the tan equatorial band that was so obvious last night. In attendance were the moons; Titan (aloof and off to one side), and Rhea, Tethys and Dione in a close semi-circle on the other side.

A short hop took us up to M35, one of my favourite open clusters with its cloud of mag. 10ish stars and a tiny copper highlight just off-center. Our session ended with a view of M1, the Crab Nebula. While this object will always be a dim target for small scopes, it's brightness on this night was a testament to the exceptional clarity in that part of the sky. Another testament to the evening was that for most of it I didn't need my gloves. It was also a pleasant surprise to find that the road and parking lot in the Conservation Area had either been plowed or packed down really well.

Although, by 8:30 pm fog was starting to cross the fields and we decided to pack it in, there was no doubt that it had been a short but really sweet session. The fog made the drive home interesting, too!

EyeCandy



A peregrine falcon in flight from down at the lift bridge.

It's been so cloudy here by the lake that there's almost never an opportunity to do astrophotography... just putting the glass to use doing something else.

Shot through the 500m Genesis with a 1.4x teleconverter. Focussing is done the old fashioned way. Nikon D70 digital camera.

Photo by Bob Botts

The Solar Disk in a Nexstar 11" GPS on 25 February 2005, 12h 20m UT

I'm oft advised the Sun wears spots
 Upon His yellow hide;
 Large, black and grey they are
 All say, and on His back they ride.
 A fortnight 'cross His disk so far
 They trek and swell or fade,
 But always do some freckles mar
 His golden face by day.
 In fact astronomers announce
 From time to time - no lies!
 That they see spots upon His disk
 With shielded naked eyes!
 Bespectacled I am and shy
 Of looking at Sol's rind;
 His radiant face effulgent so,
 Would in a trice me blind.
 But every theory needs a test
 For once the world was "flat".
 Though every other voice says "spots"
 I can't leave it at that.
 I have a mighty telescope
 Celestron (it's so quiet!)
 Resolved to test for solar spots
 I bought a filter - try it.
 The filter on my telescope
 Orangeified the sun
 So one can see those darkened spots
 And count them, one by one.
 -15 degrees it was
 When I watched Sol today
 At dawn as out of mist and cloud
 He rose in grand array.
 Take note: on February 25th
 2005 - today
 That not a single spot I saw,
 Not black, not even grey.
 A dozen eyepieces I used,
 A binoviewer too,
 The sun was beautiful, but bare
 A spotless orange-hue.
 I'm oft advised the Sun wears spots,
 I looked but didn't see them
 I wonder if such "spots" are just
 Small specks upon the eyepiece - dust!
 - Mike Spicer

Binocular Targets for March and April

by Greg Emory

Keeping with the theme for the month of March, this month's discussion of the night skies will focus on objects which are observable with binoculars. Astronomical sources on the web or in print will list certain objects as viewable with giant binoculars only, another source will say of the same object - viewable with 7x50. Whom do you trust? The easy answer is to try with your binoculars - if you can see it great, if you can't, oh well.

The moon is new on March 10th, full on the 24th and in the last quarter around April 1st. As the moon ages, follow the terminator across the face. Between the 12th and 18th of the month we can expect to see the terminator move across Mares Crisium, Tranquillitatis, Serenitatis, Fecunditatis, Nectaris and Vaporum. The terminator will also pass over the Taurus Mountains to the East of Mare Serenitatis and the Pyrenees Mountains between Mares Fecunditatis and Nectaris.

Saturn is high overhead in Gemini, while Jupiter gleams brightly in Virgo. The four Galilean Moons (Io, Europa, Ganymede and Callisto) dance around the king of planets in a cosmic ballet (that is a little too fluffy to be my own writing - I probably read it somewhere else). Around the 17th and 18th of March, and then again around the 27th and 28th you can find all four moons on one side of the planet. The first date places them off of the eastern limb, the next date places all four together on the other side.

Deep Sky Objects can easily be seen with a pair of Binoculars. In Orion we have M42 and M43. As well as these two fine nebulae we have the open clusters Collinder 65 and 69. These open clusters are often times overlooked by "one-eyed astronomers" as they can best be appreciated in a wide field of view, typical of binoculars. The multiple star θ , located on the sword of Orion is a wonderful multiple star for binoculars.

Also prominent in the skies are Gemini, Leo and Ursa Major. The constellation Gemini is marked by the twins Castor and Pollux. Castor, α geminorum, is a multiple star. Castor A and B are separated by about 6". The third star, C, is a dimmer companion to the first two and is about 73" from Castor A. Also in Gemini is the Eskimo Nebula (NGC 2392) as well as the open clusters M35 and NGC 2158.

In Ursa Major the targets M81, M82, M40 and M101 are overhead waiting to be seen. The multiple star system Mizar and Alcor are a nice starting place.

The constellations Leo and Virgo (as well as Canes Venatici and Coma Berenices) offer a huge number of galaxies to view. It is entirely possible to complete the Messier list with Binoculars. All the objects in these constellations are viewable given no moon, good dark skies and very good observing conditions.

Farewell Hans Bethe



Hans Bethe July 2, 1906 - March 6, 2005

Hans Bethe was a physics professor at Cornell University for much of his life, and was also a staunch opponent of the misuse of science for war. Bethe first refused to help develop the atomic bomb, then later accepted when he realised that the Nazi's might develop it first.

Bethe's contribution to astronomy is the explanation of how energy is produced in stars when hydrogen fuses to form helium. In 1967, he was awarded the Nobel prize in Physics for his discovery of stellar nucleosynthesis.

Most recently he signed a letter along with 47 other Nobel laureates endorsing John Kerry for president of the United States citing Bush's misuse of science.

Reference: Wikipedia.com

Winter Star Party

... cont from page 1

For those of you who have been to the WSP, you know what great viewing is to be had looking south. This year was even better. The skies just seemed darker.

We had three nights of EXCELLENT viewing, one night of really good and one night so-so. A storm passed through one night causing some considerable minor damage to equipment and accommodations, but nothing too serious. Many countries were represented: Canada, Italy, Germany, Denmark, Switzerland, USA.

We hooked up with our friends from the Columbus group, as well as our friend from Findlay, Ohio.

The array of telescopes was breathtaking to say the least. The big YARD scope was there attracting a crowd as usual, and we have to admit that although we look through it every year, the thrill of seeing the Horsehead Nebula never diminishes. There were many binocular arrays, one being the six inch.

Quite a formidable piece of hardware, two six inch reflector scopes through an ornate maze of optics brought out to two eyepieces. Another was a Newtonian reflector built on an equatorial platform.

Solar scopes were quite prominent, so there were many on display with the H-Alpha filters giving excellent views of the prominences of the sun.

The southern cross was spectacular, as was Eta Carinae and all the other good stuff that can only be seen from that latitude.

The vendors were in full swing, with enough merchandise to soothe every soul there. The food concession was better this year, with a better variety as well as larger quantities.

Ollie sold her XT-10 Orion dob at the swap table, and since I sold my LX-200, I had no need of a lot of peripherals, so I sold them also. So we returned home scopeless, although I have my new XT-10 Orion Intelliscope at home.

From our point of view, the WSP was again a resounding success, and we are already looking forward to next year, which by the way will be from February 20 - 25.

And so the WSP ended, and Ollie and I went to a local campground where we spent a week just lazing and fishing. I lazed, Ollie fished. Total catch: one shark, two parrot fish, one frog fish, one blow fish, umpteen snap-pers ranging from 9 to 15 inches. The over ten inch sizes we kept, filleted them and had them for breakfast or supper each day.

Did the normal touristy things like visiting Key West and the like, and then it was time to think of returning to Canada.

During our stay in the Keys, except for the one night of the storm, the weather was perfect, short sleeve shirts, short trousers, sandals, lots of sun. So we left the area on a good note.

On our return, we stopped at Hommassa Springs where we had an exciting day of Manatee watching. Up close. Really close.

From that point and as we travelled north, the weather started to change, not too drastically, but enough to make us realize that winter was still here. We stopped to see our astronomer friend in Findlay, then on to Cleveland, Ohio, where we encountered our first snow, to see another astronomer whom we met last year at Starfest, then on to Michigan to see my son and his family. Four inches of snow there, then on to good old Rockwood, where we had to use our snow blower to get in to the garage. But we arrived safe and sound and ready for another star party.

Of course, being retired gives us an edge over the working folks, but even if you do work, it is worth it just for your peace of mind to take the trip. The weather alone is worth it.

The Southern Cross Astronomical Society did a magnificent job this year and we certainly did congratulate them.

Ollie and Lou Darcie
Astronomaires Extraordinaire

Meeting space for the Hamilton Amateur Astronomy club provided by
Teamsters Local 879

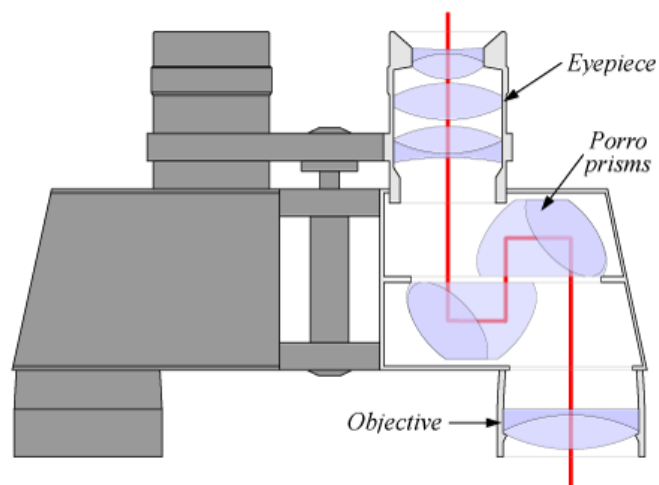
Subscription Offer for Members

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

Binocular bits

This month's meeting topic is "Double Vision - A Binocular Bonanza".



In case you were curious about the inside of binoculars but were afraid to take them apart, here's a pictorial of standard binoculars.

Picture courtesy of Wikipedia



An officer aboard the HMAS Melbourne (FFG 05) looks through the ship's binoculars (big eyes) while on bridge watch in Gulf of Oman, March 21, 2004.

Picture courtesy of Wikipedia



A Different Angle on Climate Change

by Patrick L. Barry

Look toward the horizon in almost any major city, and you'll clearly see the gray-brown layer of smog and air pollution. Yet when you look straight up, the sky can appear perfectly blue; you might think there's no smog at all!

The smog is overhead as well, but it's much harder to see. Why is there such a difference?

It comes down to viewing angles: A vertical line straight up through the atmosphere crosses much less air than a line angled toward the horizon. Less air means less smog, so the sky overhead looks blue. On the other hand, when you look toward the horizon, you're looking through a lot more air. The smog is easier to see.

A one-of-a-kind sensor aboard NASA's Terra satellite capitalizes on this angle effect to get a better view of how clouds and air pollutants scatter and absorb sunlight. By doing so, this sensor—called the Multi-angle Imaging SpectroRadiometer (MISR for short)—is helping scientists fill in a major piece of the climate change puzzle.

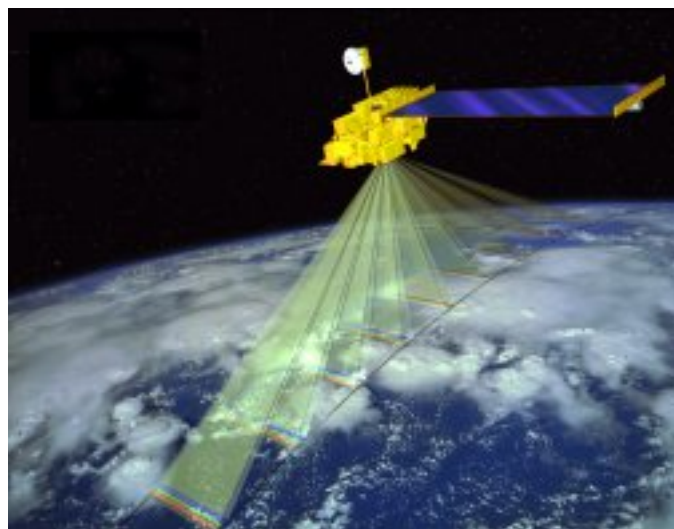
Most satellite instruments look only straight down at the Earth. Layers of airborne particles (called aerosols) and smog are harder to see with this vertical view, and clouds often appear only as two-dimensional sheets of white. Clouds and aerosols both can reflect incoming sunlight back out to space, thus cooling the planet. But they can also absorb sunlight and trap heat rising from below, thus helping warm the planet.

What is the net effect? MISR helps scientists figure this out by looking at the atmosphere at several angles—nine to be exact. Its nine cameras fan out across a range of angles from steeply looking forward (70.5 degrees from vertical), to straight down, to the same steep angle backwards. As the Terra satellite passes over a region, the cameras successively view the region at nine different angles.

From these data, scientists can construct a three-dimensional picture of the cloud cover, revealing much more about cloud dynamics than a flat image alone. They can also see light bouncing off aerosol pollution from nine different directions, thus getting a fuller picture of how aerosols scatter sunlight. And they can even spot thin layers of heat-trapping air pollutants that might go unnoticed by other satellites.

All this information comes just from looking at the atmosphere from a different angle.

For more information, see <http://www-misr.jpl.nasa.gov>. Kids can learn about MISR, see MISR images, and do an online MISR crossword at http://spaceplace.nasa.gov/en/kids/misr_xword/misr_xword2.shtml.



The MISR instrument on the Terra satellite views the atmosphere and Earth's surface from nine different angles.

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

Congrats

Congratulations to Rosa Assalone for being a runner-up on Daily Planet's Mindbender Contest! Rosa correctly answered three questions to win a Roots backpack full of goodies.

Rosa is a past HAA council member that produced the newsletter for many years and single handedly ran the junior astronomy group for a long time.

Council meetings

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

April 2005

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday																																										
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<p>For observing info, Rob Roy 692-3245, Greg Emery greg.emery@mohawkcollege.ca, http://amateurastronomy.org/events.php</p>																																																
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