Cover image - Moon imaged with the MPAS 350mm Meade telescope,
by Chris Kostokanellis

SCORPIUS

THE JOURNAL OF THE
MORNINGTON PENINSULA ASTRONOMICAL SOCIETY INC.

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The Mornington Peninsula Astronomical Society (formerly the Astronomical Society of Frankston) was founded in 1969 with the aim of fostering the study and understanding of astronomy by amateurs and promoting the hobby of amateur astronomy to the general community at all levels.

The Society holds a focused general meeting each month for the exchange of ideas and information. Regular public and private observing nights are arranged to observe currently available celestial objects and phenomena. In addition, the Society encourages the service of its members for on-site or off-site educational presentations and observing nights for schools and community groups.

MPAS - https://www.facebook.com/mpas0/

MPAS Members - https://www.facebook.com/groups/MPAS1/

Scorpius MPAS - https://www.facebook.com/Scorpius-MPAS-1694951307446763/

Mornington Peninsula Astronomical Society

SOCIETY NEWS

Public Viewing Night September 5th - It was cloud, cloud and more cloud all evening at the September public night at the Briars, with Cloud Free Night predicting that it'd unfortunately only clear after 1am, and you'd need to be a night owl to stay for that.

Nevertheless, 56 visitors settled in from far and wide, as well as a flock of MPAS members. The talk indoors was given by Trevor Hand, who was approached afterwards by one of the visitors to say they'd gone to the wrong MPAS site originally. That caused a bit of a flutter and you could have knocked them over with a feather. Interestingly, there's a Mornington Peninsula Avicultural Society not far from us in Craigie Road, Mount Martha, and the visitors clearly must have implicitly trusted Google Maps to take them to the right "MPAS". Fortunately it wasn't far away from the Briars, as the crow flies. Tours of the observatory occurred after the talk, and no doubt we'll see some of the visitors migrate back at a later date.

Members spotted and counted during the evening included John Goodall, Sylvie Grandit, Jamie Pole, Leigh Hornsby, Peter Skilton, Pam Halsall, Guido Tack, Simon Hamm, Chris Kostokanellis, Mike Smith, Ingrid Pinkerton, Selissa Damor, Phil Peters, Edwin Ingles, Dave Rolfe, Ben Claringbold, and we were delighted to see plucky Alan Predjak and melodic Jason Heath returning after months away in the wild. Some of the members were even seen to be tagged.

During the evening, after Guido's return flight from JPL, the Society's new all-sky camera was hoisted aloft under cover of darkness and perched above the roll-off roof observatory for a bird's-eye view of the surrounds. This idea was hatched several years ago, and it's great to see it finally coming home to roost. More will be shared about this once the camera is fully ready to fly and any bugs are removed.

Regards, Peter Skilton

School viewing night September 9th - Tonight saw Our Lady Help of Christians Primary School on camp at the Briars, and 43 in attendance at the stargazing night. With predictions during the afternoon of imminent heavy low-level cloud within the hour, the outside telescope part was done up-front, with absolutely no cloud in sight. Saturn and the crescent moon gave a great view, as well as some deep sky objects. Then the group moved indoors to hear Katherine McCoy and Peter Skilton talk for about 45 minutes before they cut the many questions short and the kids left for a movie night back at the camp. And the skies were still confoundedly clear even then.

The other members helping with the smooth running of the evening were Ben Claringbold, Sylvie Grandit, Nerida Langcake, Chris Kostokanellis, Mark Stephens and Phil Peters. R*egards, Peter Skilton*

School viewing night September 10th - Forty three Year-7 girls and their teachers from Toorak College in Mountt Eliza attended the Briars tonight for some stargazing. This was the first of two groups this week from this school.

With about 5% of thin high-level cloud spread across the sky, and potentially more on the way, it was decided to start with the telescopes, and the nearly first quarter moon and Saturn were obvious targets. There was a prominent lunar halo as well. After about half an hour in quite mild, windless conditions, the group moved indoors to hear Katherine McCoy and Peter Skilton give the talk, and answer lots of probing questions about the Moon and Black Holes. About 9 pm, the visitors then boarded the coach to take them back to the school.

Members helping outside were Fred Crump, Sylvie Grandit, Phil Peters, Chris Kostokanellis and Mark Stephens. *Regards, Peter Skilton*

Scout viewing night September 11th - Wednesday evening saw 70 scouts and leaders from around the district attend the Briars for some stargazing towards their astronomy badge. Included were packs from 1st Frankston, Langwarrin, Baden Powell Park, Ballum Park, Seaford, and Carrum Downs; and this was the first time many of them had actually met each other. All were between 11 and 15 years of age. The proceedings started under 100% low-level cloud cover, such that even the first quarter moon couldn't be spotted, so the night began with the talk indoors and low expectations of any sky viewing outdoors. This talk was given by Katherine McCoy and Peter Skilton, and almost right away leapt onto the subject of Black Holes, and quickly diversified to Titanium drill bits and the colour of the Solar System. The questions came fast and furious all evening.

The visitors then moved outside just before going home and, abracadabra, the skies cleared to about 90% coverage of high- and middle-level cloud, though this was enough to see the Moon and Saturn with little difficulty before pick-up time. Members helping with the instruments outdoors were Chris Kostokanellis, Sylvie Grandit, Phil Peters and Fred Crump. *Regards, Peter Skilton*

School viewing night September 12th - Under almost complete cloud cover, 30 Year-7 girls and their teachers from Toorak College in Mount Eliza attended the Briars last night for stargazing. This group was a little quieter than the one on Tuesday, but nevertheless asked plenty of probing questions.

The evening started with the talk indoors by Katherine McCoy and Peter Skilton, then was paused while everyone moved outside to see the first quarter moon through the telescopes at about the same time as we were speaking about the Moon inside. Then it was back indoors when the clouds closed in again. A while later, Saturn appeared, with skies improving to be only about 90% cloud cover, so the talk was paused one more time, and the group once again moved out to the telescopes when the break in the cloud was strategically positioned and, indeed, one of the girls even managed to take a good image of the ringed planet on her smartphone and was proudly showing it to her friends. By chance, one of the girls had also attended the Scout night at the Briars yesterday, so was well versed and knowledgeable in the topics being discussed.

By 9 pm, the coach was ready to leave to return to the school. I heard that Phil Peters spoke to the coach driver during the evening, who was delighted that the new, wider bridge had opened this year, since the clearance on either side of the coach in past years was measured in centimetres, and not every time they crossed the original bridge was it without incident to the rear sides of the vehicle.

Also present and helping with the smooth running of the night were Sylvie Grandit, Fred Crump, Chris Kostokanellis and Greg Walton. Take a bow, everyone. The organising science teacher of the two nights told me during one of the intermissions outside what a superbly professional and informative job we all did with these evenings, and that they made a special point of also bringing their teachers along to learn more for their own professional development, as well as for the benefit of the girls naturally. *Regards, Peter Skilton*

The 2024 MPAS Astrophotography Workshop was held on Saturday 14th September.

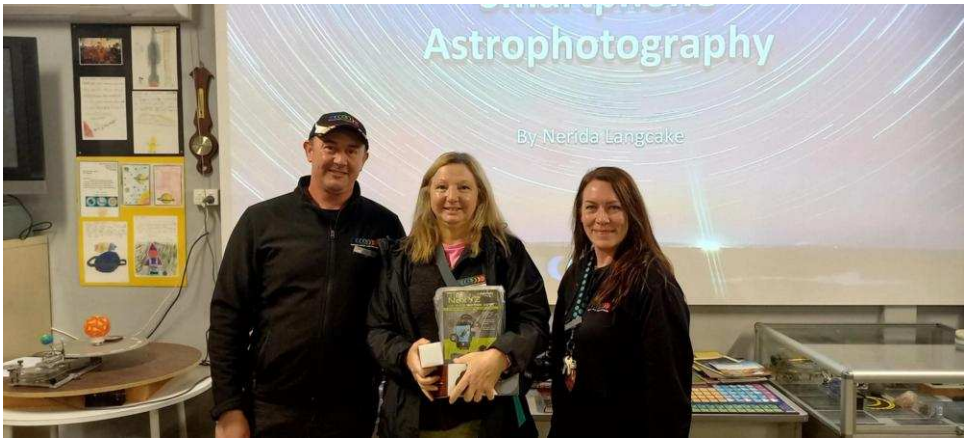
The event had been booked out several weeks in advance, with a substantial waiting list. Approximately 80 attendees, consisting of our members and the public, made their way to the MPAS Observatory for the workshop.

Although registration was at 12:00pm eager ticket holders began arriving earlier with their tripods and cameras in hand, and by 12:30, the Don Leggett Astronomy centre was standing room only.

The day's proceedings were set in motion by Chris Kostokanellis, welcoming the group to MPAS, followed by Jamie Pole, who gave a presentation on the basic, and more advanced points of Astrophotography. Guido Tack showed the crowd the various objects available to image, Alex Cherney spoke about Nightscape and Aurora photography, Greg Walton simplified the process of creating time lapses, and Nerida Langcake impressed the crowd with what is possible with smart phones. Chris Kostokanellis then spoke about capturing images of deep sky objects, Nik Axaris then demonstrated how to process those images, and Ben Claringbold demonstrated the ASIAir imaging computer.

Optics Central took up residence in our Marquee for the day, and generously supplied the door prize: a package consisting of a pair of Saxon Binoculars, a Celestron NexYZ Smart Phone holder, and an Astronomy red light torch. The prize bundle was presented to the bearer of the lucky ticket, MPAS Member Sylvia Koslow. Optics Central also had available for purchase a variety of equipment, including binoculars, smart phone adapters, moon filters, and astrophotography equipment.

Photos by John Cleverdon & Greg Walton



The Pizzas then arrived just in time to satisfy the hungry crowd. Despite the intermittent rain that was a feature throughout the day, the clouds partially parted for a few hours, providing gaps in the 60% cloud cover for the group to put into practice their newly acquired knowledge.

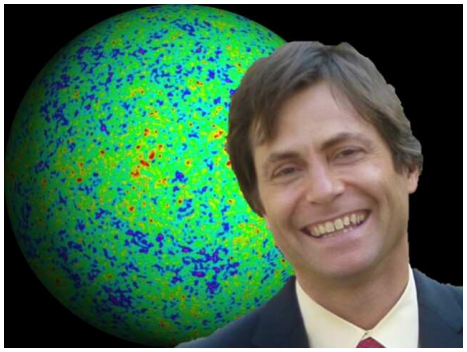
The MPAS concrete slabs were filled with camera tripods, taking photos of stars in the cloud gaps, especially Crux and Scorpius, and the MPAS telescopes were kept busy with cameras and smartphones taking photos of the 82% illuminated Moon, Saturn, Omega Centauri, 47 Tuc, M6, M7, and M8. MPAS members were kept very busy helping with camera settings, focusing cameras, and answering the steady flow of questions.

Thanks for the success of the event goes to the Astrophotography Workshop group, consisting of the presenters mentioned, and also to Phil Peters, Simon Hamm, David Rolfe, and John Cleverdon, who contributed in various ways in the preparation and running of the event by helping to plan and organise it, pick up supplies and food, and putting out the food, preparing the auditorium, setting up and taking down the marquee, assisting attendees with cameras, cleaning up and packing up at the end of the night. Other members present or assisting on the day were Dennis Cooke, Pam Bell, Daniels Smith, Sylvia Koslow, Peter Lowe, John Goodall, Sylvie Grandit, and Fred Crump. Well done to all involved for another successful Astrophotography Workshop.

Several people signed up as new members as well during the day. Their memberships will be ratified at the next Committee meeting, and we welcome them (provisionally for now) to MPAS.

Apologies if I've missed anyone. Please remember to sign the attendance book at events so that you are not left out.

Clear Skies! Chris Kostokanellis.



Society meeting September 17th - For those of you who are not yet subscribed (it's free) to the MPAS YouTube channel, the monthly meeting has been uploaded. The meeting features Swedish-American Prof. Max Tegmark of the Massachusetts Institute of Technology speaking about the thought-provoking idea of "Our Mathematical Universe".

Covered this month was Sky for the Month, and Astromopho with an indigenous focus.

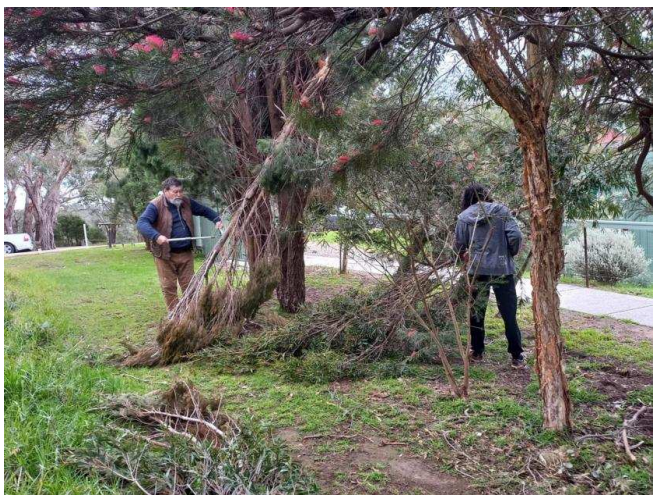
We close with a look at the history of our Solar System well before the Sun first switched on fusion, and then follow it forward in time to the end of the Universe.

You can also watch it here by clicking on this link and going to the most recent video on the channel: https://www.youtube.com/channel/UCm6XOkIcIflt4y0XRBXpXuw

or watch it on the MPAS site once it's refreshed for this month: https://www.mpas.asn.au/meeting-recordings/ *Regards, Peter Skilton*

Members Night BBQ and working bee September 20th - Saturday's working bee and BBQ turned out to be a very successful and rewarding day, with just over 20 members attending, and it came one day before the Spring Equinox, which is today!

This month we had Eden White's popular Cosmology group on the same day, starting earlier with also just over 20 members attending. Interestingly, as the group was settling in to begin, another group of about 6 people arrived who were actually just visiting and looking for the Briars chickens! Unknowingly, Eden began ushering them in for the talk, before I had to quickly explain they were just looking around! After a few giggles, I pointed them in the right direction, with MPAS brochures in hand.



At 4 pm the working bee started in earnest, with keen members chipping in to mow, whipper snip, cut branches and generally make the site look terrific. The grass was very long, as it is this time of year, and everyone joined in afterwards to rake it up. There was also quite a bit of soil left over from doing the new Eco Centre gate and path, and this was used to fill in any low spots. And a warm welcome to Daniel Smith, one of our new members who drove all the way from his property in Wonthaggi. Great to see you Daniel!

MPAS now has an All-Sky Camera! Guido Tack, our website manager, designed and built it himself, and made some final adjustments while I tried not to knock him off the ladder with the ride-on mower! Great job Guido! (See photos)

Down in the observatory, Greg Walton was joined by Manfred Berger to make some modifications to our Big Blue refractor telescope, shortening the legs to avoid people tripping over them, and also reducing the height so it fits easily through the doorway. They were kept company by Roland Knabe, busily working on the Sky Venture 18-inch Newtonian which had a faulty stepper motor controller.

With all the hive of activity outside, food was being prepared inside for dinner, with Mark Stephens and Peter Lowe cooking the BBQ, and an army of volunteers getting the salads and desserts ready while the tables and chairs were being organised. With everything ready, and the lawns finished just before the rain arrived, we all settled in for a well deserved meal and some really nice desserts, including a delicious trifle made by Kathleen van Leeuwen. I'd really like to mention all of you that helped on the day, but there are so many, so thank you all!

Next month we'll be skipping the working bee as we have the Telescope Learning Day with BBQ. I believe there are still a few spots left (you need to book), so hope to see you there!

Warm regards, Phil Peters - *Photos by Phil Peters*

Public Viewing Night October 2nd - With nearby storms and flashes of distant sheet lightning for much of the evening, 58 hopeful visitors nevertheless travelled to the October public night at the Briars.

There wasn't any rain during the evening, however, during initial opening up of the site, Simon Hamm got a little damp when there was a burst of intense local precipitation that seemed to follow him around exclusively. By the time everyone else turned up, he was soggy but the ground wasn't too damp, and the skies were very cloudy with mostly high- and middle-level cloud. Indoors, Trevor Hand gave the talk about Astronomical Phenomena, which could potentially have been timely, given that an auroral display had been predicted.

By the time the talk finished at 9 pm, the skies were about 80% clouded, with some areas quite dense and other areas with dispersed thin clouds. Views of Saturn were certainly had by all, with plenty of stars poking through, though the waxing crescent moon wasn't able to be seen in the west through the cloud. And distant lightning continued to entertain all evening during the telescope use.

Members helping and present were Sylvie Grandit, Leigh Hornsby, Ben Claringbold, Greg Walton, Phil Peters, John Goodall, Guido Tack, Wayne Redpath, Chris Kostokanellis, Leanne Downing, Peter Skilton, and Brian Finocchiaro and family. *Regards, Peter Skilton*

Society meeting October 16th - For those of you who are not yet subscribed (it's free) to the MPAS YouTube channel, the monthly meeting has been uploaded.

The meeting features Allysa Pagan and Joe DePasquale from the Visualisation team of the Space Telescope Science Institute speaking about "The Art and Science of the Webb Space Telescope Imagery".

Covered this month was also Astromopho and Sky for the Month, as well as a look at Googol, Googolplex, Pi and the size of the Universe, and (coming up to Halloween) calculating where your doppelgangers are in the Universe.

We close with a look at the Test Flight 5 of the SpaceX Starship with its chopsticks catch return to Earth.

If subscribed, you may be notified of this automatically by YouTube.

You can also watch it here by clicking on this link and going to the most recent video on the channel: https://www.youtube.com/channel/UCm6XOkIcIflt4y0XRBXpXuw

or watch it on the MPAS site once it's refreshed for this month: https://www.mpas.asn.au/meeting-recordings/

Regards, Peter Skilton

Telescope Learning Day Members & BBQ October 19th - The second Telescope Learning Day for 2024 was held at the MPAS Observatory on Saturday 19th October 2024.

Although this was a scheduled working bee and BBQ, there was no working bee on the day, yet miraculously, the MPAS site somehow still looked in pristine condition, thanks mostly to the efforts of Phil Peters.

Members and ticketed attendees began arriving well before the 4pm scheduled start, and the clear conditions at the time meant everybody was able to take in views of the Sun through our Lunt Ha Solar Telescope. Several prominences and sunspots (I counted about 6) were visible on the surface of the Sun.

For unknown reasons, about half of the committed bookings did not show up for the event. This meant that there were approximately 40 members and paying non-members in attendance, in addition to the helpers.

Right - Sylvie Grandit dispensing knowledge to a captive audience.


Photo by John Cleverdon

Guido Tack gave the presentation in the Don Leggett Astronomy Centre, delaying the start to give some stragglers a chance to take their seats. While the presentation was taking place, Jamie Pole and Ben Claringbold got busy turning sausages and flipping burgers, and were later joined by Dave Rolfe who took his turn with the BBQ tongs. Peter Skilton and Phil Peters buttered bread and prepared the condiments.

At the conclusion of Guido's first talk, dinner was served. We then tended to telescopes, deciphering hand controllers, aligning finder scopes, demonstrating polar alignment, and undertaking minor repairs on telescopes and tripods. Tours of the observatory were conducted, and much knowledge and information about the different types of scopes was metered out. Fortunately John Cleverdon was on hand with his camera to take photographic records of the day, while also busily assisting people with their telescopes.

Photo by John Cleverdon

Right - Guido Tack explaining the benefits of space based observatories.

Guido then gave a second presentation on the role large ground based and space based telescopes have to play, following which everyone once again came outside for the practical session. However a persistent 99% cloud cover ensured that no astronomical observations could be made, except for brief glimpses of Venus and Saturn in those 1% gaps.

Right - Peak Hour on the upper slab at MPAS, with several members providing advice to TLD attendees.


Photo by John Cleverdon

The evening concluded around 9:30 pm, with some very satisfied customers, despite the unfavourable weather, and possibly some new members.

Members assisting and present on the day, in addition to those mentioned above were Greg Walton, Mark Stephens, Simon Hamm, Sylvie Grandit, John Cleverdon, Fred Crump, Ben Claringbold, Peter Lowe, John Goodall, Chris Kostokanellis, Peter, Ros and Cass Skilton, Josh Spokes, Julie McErlain, Stephanie Ng, Jenny and Brian Thomas, Selissa Demor, Edwin Ingles, Greg and Isaac Markowsky, Alex Richardson, Charlotte Swart, and Janith Rupasinghe. If any members were present but not mentioned, please remember to sign the attendance book when you are on site.

By Chris Kostokanellis

School viewing night October 22nd - October 22nd saw the first of two visiting groups this week from Yarra Valley Grammar staying at the Briars camp. Following completion of their dinner, we welcomed excited 40 Year-4 pupils, plus 3 teachers, arriving for a stargazing evening.The talk indoors was given by Katherine McCoy and Peter Skilton, and there was a large number of questions and comments from the audience throughout the talk.

Outdoors, unfortunately, the sky was almost completely clouded over all evening, but the group was guided after the talk down to the observatory and the small dome, and was shown inside before returning to camp. Members helping outdoors were Greg Walton, Phil Peters, Sylvie Grandit, Mark Stephens, Fred Crump and Ben Claringbold. *Regards, Peter Skilton*

School viewing night October 23rd - October 23rd saw the second of two visiting groups this week from Yarra Valley Grammar staying at the Briars camp. This time the weather was looking quite clear about an hour before the event time, but then a solid bank of cloud rolled in from the west and provided light rain during much of the evening. This time we were visited by 41 Year-4 pupils, plus 3 teachers.

The talk indoors was given by Katherine McCoy and Peter Skilton, and there was an even bigger number of questions from this group than for the previous night, with some being very thought-provoking. Black Holes were definitely the objects of interest from the word go.

Outdoors, there was little prospect of telescope viewing so, after the talk, the group was guided down to the observatory and the small dome, and was shown inside before returning to camp. Members helping outdoors were Greg Walton, Phil Peters, Sylvie Grandit, Chris Kostokanellis, Fred Crump and Ben Claringbold. *Regards, Peter Skilton*

Scouts viewing night October 25th - The final scheduled Scouts, Cubs and Guides (SCAG) night for 2024 was held at the Briars last night under completely clear skies, making a nice change from the weather earlier in the week. There were 60 visitors from these troops from St Kilda, Somerville and Rosebud, and possibly others who didn't announce themselves as they weren't in uniform. Viewing of Venus occurred immediately through the telescopes, though Mercury was too low in the twilight to easily see.

The talk indoors then followed by Katherine McCoy and Peter Skilton. Midway through the talk, everyone moved outside in the hope of seeing the Tiangong space station pass over in the north-western sky but, alas, at magnitude -0.4 surprisingly it wasn't bright enough to be spotted, but it was worth a try. The talk then proceeded, before everyone came outside again to see the International Space Station pass over the south-western sky. This time it was easily spotted at magnitude -2.5 just above tree level. Then views of Saturn were aplenty in the telescopes, and all the other sky fare on offer then followed.

Members present and helping outside on the night were Simon Hamm, Fred Crump, Greg Walton, Ben Claringbold, Jamie Pole, Dave Rolfe, Chris Kostokanellis and Anders Hamilton. The excellent Quasar Astronomy 2025 sky almanacs for Australia had arrived, as had the ordered nametags and the clothing merchandise that some members ordered previously for this batch. *Regards, Peter Skilton*

MPAS SHOP

Mornington Peninsula Astronomical Society

The Astronomy 2025 almanac and MPAS calendar will be on sale soon. We also now have colourful night lights, along with our usual items, such as red torch, beanies, caps, meteorites, books, etc.

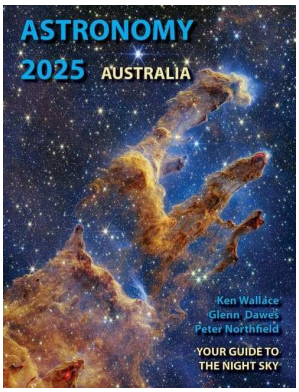


Photo - *Sylvie Grandit*

OBSERVATORY UPDATE

Hi everyone,

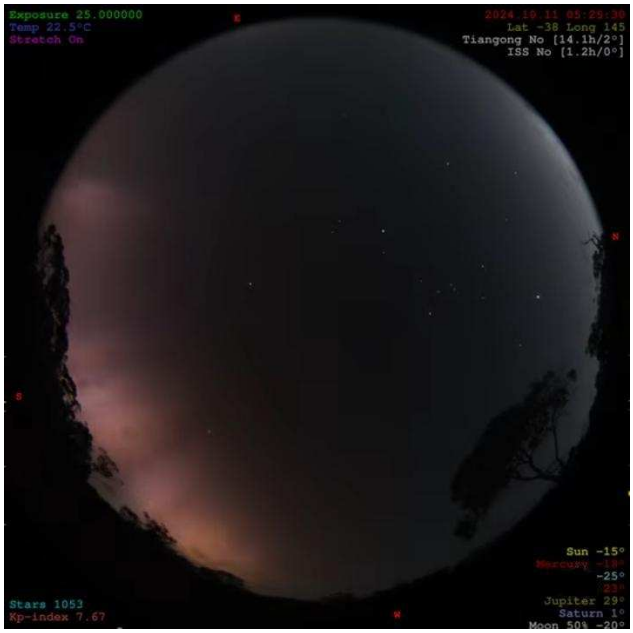
We now have an all-sky camera at the Briars: https://www.mpas.asn.au/mpas-all-sky-camera/

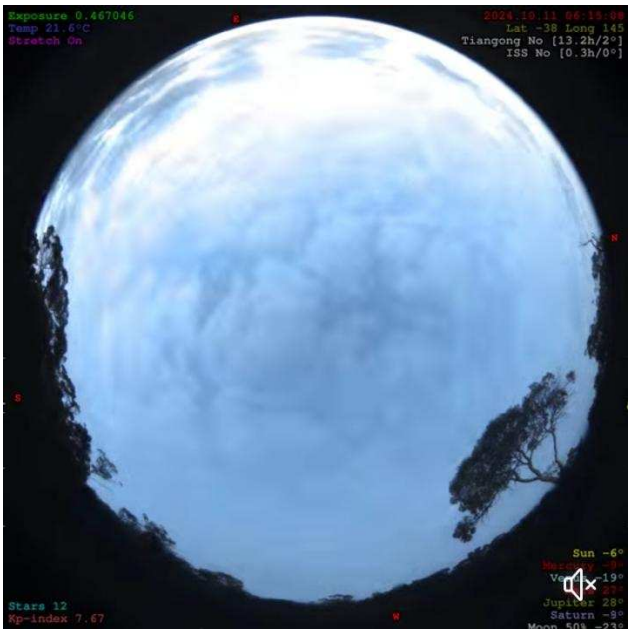
The camera sits on top of the observatory. It records an image every 30 seconds, and it creates a time-lapse video of all the night-time images every morning. To conserve storage space, we currently only upload the images to the website every 2 minutes. The time-lapse videos will be uploaded to YouTube from mid October (I'll post here again when they become available).

The camera software can also detect meteors, measure the sky quality, and create keograms and panoramas. Fingers crossed, perhaps we can capture some nice aurora activity soon. We may still need to fine-tune the camera a bit (e.g. proper focusing requires a clear night, and the cardinal directions may still be a few degrees off), and we'll try to make more features available on the MPAS website over the next few months.

Cheers, Guido Tack

Below - 2 images from the all sky camera at the Briars. Note the aurora in the left image from 11th October 2024.



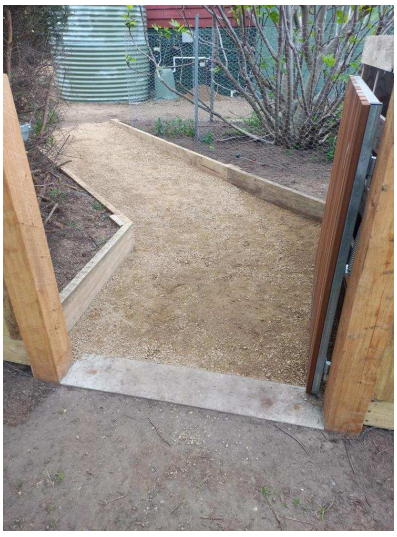


Our MPAS site manager Phil Peters has washed and repainted the floors in the kitchen and entrance area.

Then Phil dismantled the ride on mower as the mowing deck had broken some welds and was no longer cutting even and not usable. Greg Walton straightened, re-welded and strengthened the broken parts. Then Phil reassembled the mower and then cut all the lawns.

Phil also had time to finish the gravel path between the MPAS site and Eco Living Display Centre. This will make it much easier to access the Eco Centre's toilet.

Big thanks, Phil, we all appreciate everything you do.



WHAT'S ON

The 2024 timetable of Public events.

NOVEMBER
Friday 1st, 8pm Briars. Public stargazing night. Speaker Manfred Berger. 97 booked.
Thursday 7th, 7:30pm Briars. St. Michael's Primary. Speaker Katherine McCoy & Peter Skilton. 34 booked.

DECEMBER
Friday 6th, 8pm Briars. Public stargazing night. Speaker TBD. 91 booked.
Saturday 7th, 5pm Briars. Christmas Concert with Southern Peninsula Concert Band. MC Peter Skilton. 90 anticipated.

The 2025 timetable of Public events.

JANUARY
Friday 3rd, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 33 booked.
Saturday 4th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 50 booked.
Friday 10th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 16 booked.
Friday 17th, 8pm Briars. Public stargazing night. Speaker Trevor Hand. 90 booked.

FEBRUARY
Friday 7th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated.
Saturday 15th, 5pm Briars. Trivia Night with Cranbourne Lions Band. MC David Rolfe. 90 anticipated.
Sunday 23rd, all day. Bentleigh Street Festival, MPAS marquee at Centre Rd, Bentleigh. 6000+ public anticipated.

MARCH
Friday 7th, 8pm Briars. Public stargazing night. Speaker TBD. 90 anticipated.
Monday 10th (public holiday), all day. Somerville Family Day, MPAS marquee at Somerville footy oval. 6000 anticipated.
Saturday 22nd, Telescope Learning Day. Speakers various. Bookings yet to open.

To attend the school events and scout/girl guide events, these days you need to have a Working with Children Check done first. It takes about a fortnight from the time you apply online to when you get the card in the mail. For volunteers it is free. It's essentially a check of police and justice records over the decades that sees if there might be anything in the past that would preclude participating in these sorts of outreach events involving kids. Once you receive your card, let the Secretary know your card number and expiry details as we are required as an organisation to record them.

Regards, Peter Skilton

https://www.workingwithchildren.vic.gov.au/

Call for articles.

Members please write a story about your astronomy experiences, subject of interest, tips and tricks, how you got into astronomy, and also please add some pictures.

Send them to the editor: Greg Walton gwmpas@gmail.com

New Members Welcome

Mark Schapper
Tina Havill
Clementine Docherty
Michelle Sykes & family
Lingeswaran Sinnathurai & family
Krzysztof Szymanski & family
Daniel Smith
Fabian Purcell
Heidi Cannon
Nancy O'Brien & Tony Pinolo
Natalie Hampson & family
Susan Keirnan

MPAS SUBSCRIPTIONS 2024

Each ticking over of the New Year also means that Society fees are due to be paid. The committee has worked hard to ensure that 2024 fees are still the same as the previous many years' prices. So to assist the society in maintaining the facilities and services we provide and share, we appreciate your prompt payment for each and every year ahead.

As a reminder, the following structure of the 2024 fees is:

SOCIETY FEES

$50 – Full Member
$45 – Pensioner Member
$65 – Family Membership
$60 – Family Pensioner Membership
See more options on-line

Subscriptions can be paid in a number of ways:

- **On-line (preferred, see at right)**
- **Cash payments to a committee member**
- **Send a cheque, made out to "Mornington Peninsula Astronomical Society", to MPAS, The Briars, 450 Nepean Highway, Mount Martha VIC 3934 (The P.O. Box in Frankston is no longer used).**
- **Make a direct electronic payment into the society working bank account (state your name clearly).**

The account details are BSB 033-272 Account 162207. Remember to add your name and details to the transfer so we can identify the payment in the bank records. If you have any concerns please talk to a committee member.

JOIN NOW

You can renew your membership online using the link included in the annual mailout email, which is sent near the end of each year. Please ensure to renew before Feb 1. Any late renewals may be required to re-join as a new membership.

CALENDAR November / 2024

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	25th evening Eu shadow 10:18pm S Eu transit 10:56pm S				1 New Moon Public night 8pm LDSP	2 LDSP
3 LDSP Mercury below a thin crescent moon	4 LDSP Comet 333/P near NGC3423	5 Cup Day Venus below a thin crescent moon Io shadow 11:56pm S	6 Io transit 12:41am S Io shadow 2:05am F Io transit 2:51am F	7	8	9 First Quarter
10	11 Saturn above the Moon Remembrance Day	12 Comet C/2023 near IC4756	13 Io shadow 1:50am S Io transit 2:26am S Io shadow 4:00am F Io transit 4:35am F	14 Moon at 360,109km Comet 333/P near NGC3593	15	16 Full Moon Supermoon
17 Jupiter above the Moon Ga transit 11:44pm S Ga shadow 11:46pm F	18 Leonids meteor shower peak Ga transit 1:45am F Eu shadow 10:15pm F Eu transit 11:13pm F	19	20 Society Meeting 8pm Mars right of Moon	21 Io shadow 10:12pm S Io transit 10:37pm S	22 Io shadow 12:22am F Io transit 12:47am F	23 Working Bee 4pm BBQ 6pm Last Quarter
24	25 Ga shadow 1:40am S Ga transit 3:03am S Ga shadow 3:44pm F Ga transit 5:03am F	26 Moon at 405,314km Eu shadow 12:50am F Eu transit 1:27am F	27	28	29 Io shadow 12:06am S Io transit 12:20am S Io shadow 2:17am F Io transit 2:30am F	30 Comet 333/P near NGC4244

Monthly Events

Public night - 8pm to 10pm on the 1st @ The Briars
Little Desert Star Party - on the 1st to 4th @ Nhill (Booking required)
Society Meeting - 8pm to 10pm on the 20th @ The Briars (Public & members)
Working Bee - 4pm, **Members night BBQ** - 6pm on the 23rd @ The Briars
Watch your emails, as on any clear nights the Observatory may be opened for members-only viewing.

Jupiter Moon code
Io = Io
Eu = Europa
Ga = Ganymede
Ca = Callisto
S = start
F = finish

CALENDAR December / 2024

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1 New Moon	2	3 Eu shadow 12:54am S Eu transit 1:10am S Eu shadow 3:26am F Eu transit 3:41am F	4 Venus above a thin crescent moon	5 Venus below a thin crescent moon	6 Public night 8pm	7 Southern Peninsula Concert Band 5pm
8 Jupiter at Opposition Saturn above Moon Saturn Occultation by the Moon visible from Darwin	9 First Quarter	10 Eu transit 3:25am S Eu shadow 3:28am S	11	12 Moon at 365,361km	13 Io transit 3:47am S Io shadow 3:54am S	14 Xmas Dinner 6pm Jupiter above Moon
15 Full Moon Io shadow 12:24am F Io transit 12:35am F	16	17	18 Scorpius Deadline Mars above Moon	19	20	21 Io transit 11:57pm S
22 Io shadow 12:17am S Io transit 2:07am F Io shadow 2:29am F	23 Last Quarter	24 Moon at 404,485km	25 Xmas Day	26 Boxing Day	27 Io shadow 9:58pm S Io transit 11:31pm F	28 Io shadow 12:31am F
29 Mercury below a thin crescent moon	30 New Moon	31 New Year's Eve	6th morning Io shadow 2:00am S Io transit 2:03am S Io shadow 4:11am F Io transit 4:14am F	14th evening Io transit 10:13pm S Io shadow 10:23pm S	29th morning Io transit 1:42am S Io shadow 2:12am S Io transit 3:52am F Io shadow 4:24am F	30th evening Ga transit 9:30pm F Ga shadow 9:30pm S Io transit 10:20pm F Io shadow 10:52pm F Ga shadow 11:48pm F

Monthly Events

Southern Comets website - http://members.westnet.com.au/mmatti/sc.htm
Public night - 8pm to 10pm on the 4th @ The Briars
Christmas Concert with Southern Peninsula Concert Band - 5pm to 10pm on the 7th @ The Briars (Public event)
Xmas Members Night BBQ - 6pm on the 14th @ The Briars

Watch your emails, as on any clear nights the Observatory may be opened for members-only viewing.

THE BRIARS SKY

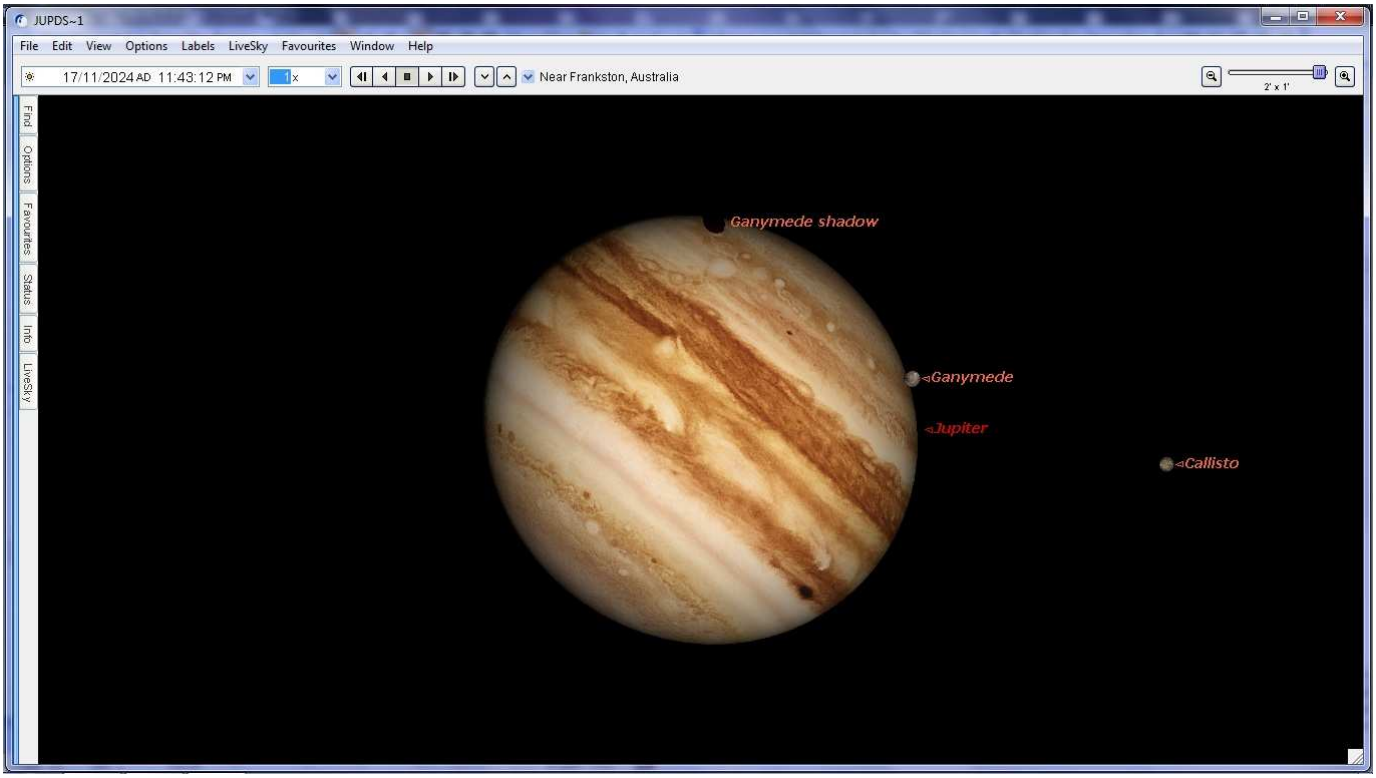
By Greg Walton

Jupiter is at opposition on the 8th December and rises at 8:35pm. *(Opposition means closest point to Earth)*

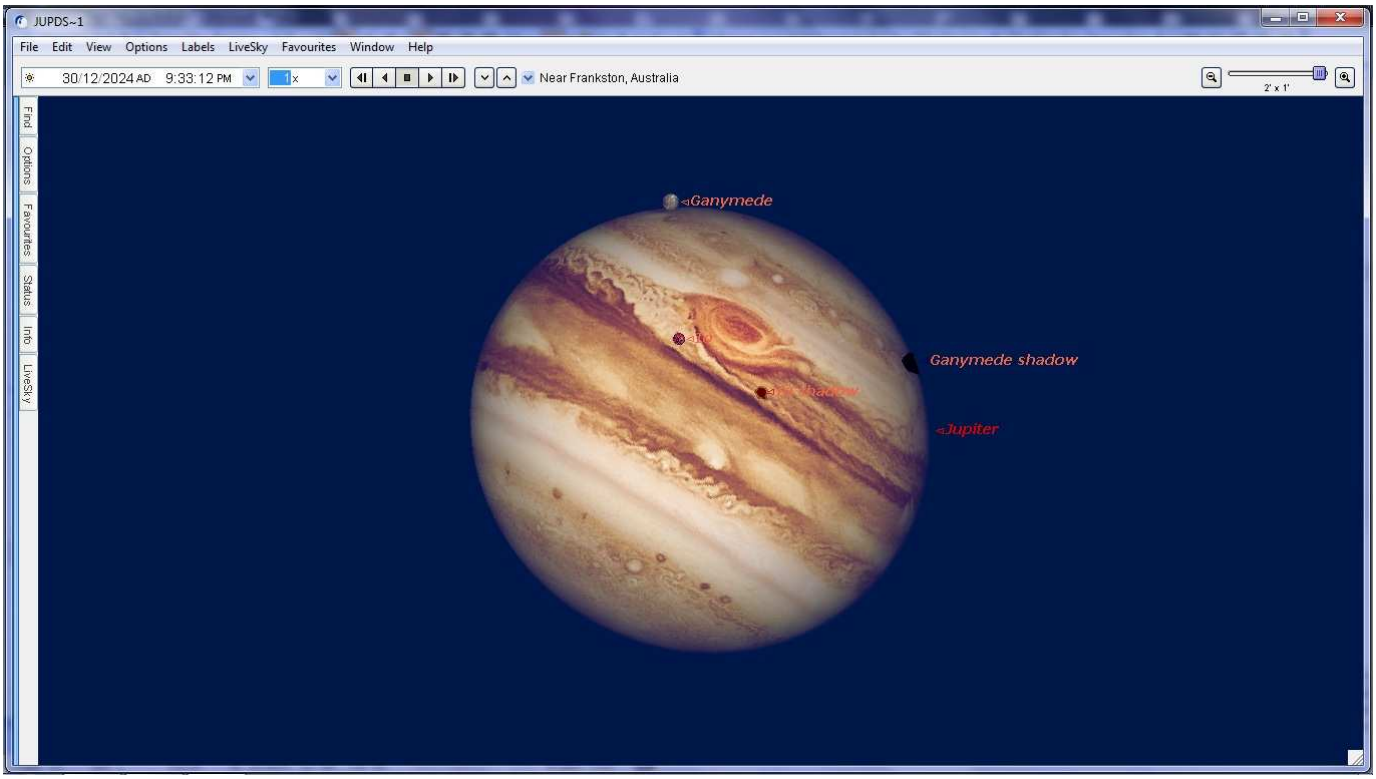
Most of the planet change their appearance slowly and little changes from day to day, whereas Jupiter can change from minute to minute, mainly because Jupiter rotates once every 10 hours. Features like the Great Red Spot will cross Jupiter's face at sometime during the night. Jupiter's moons are constantly changing their positions and often disappearing behind Jupiter and then reappearing an hour later. Also Jupiter's moons and the shadows they cast can often be seen cross its face. I have selected the best 2 below for the next 2 months.

In the top image you will see Ganymede's shadow transiting before Ganymede and in the bottom image you will see Ganymede crossing before its shadow. This occurs because the dates are either side of opposition.

On the 17th of November at 11:42pm Jupiter's largest moon, Ganymede will start to cross in front of Jupiter, while Ganymede's shadow transit will be finishing. Jupiter will be right of the Moon and best to start viewing around 11pm.



On the 30th of December at 9:33pm Ganymede will finish transiting across in front of Jupiter, while its shadow transit will be starting. Also at the same time, you will see Io and Io's shadow transiting across the centre of Jupiter.



ASTRO NEWS

By Nerida Langcake

Mornington Peninsula Astronomical Society

Meet Europa Clipper

Europa Clipper is NASA's mission to explore one of Jupiter's four large Galilean satellites. Europa has an icy outer crust that covers an ocean world. It holds twice as much water as Earth's oceans. So, Scientists want to know more about the habitability – the ability for some form of live to exist – on this large moon.
To get Europa Clipper from Earth to Jupiter in about 5 1/2 years, the trajectory has to take advantage of flybys in the solar system. Therefore, the mission had to launch between October 10 and Nov 5, 2024, due to planetary alignments. The first date, October 10, became a no-go after Hurricane Milton appeared on the scene, threatening Florida.
Following the successful launch on October 15, Europa Clipper will arrive at Jupiter in April 2030.

Europa Clipper is NASA's largest planetary exploration spacecraft yet. When the solar sails unfold, they'll be 30 metres tall. At launch, the spacecraft will weigh as much as an African elephant.

What will the mission do?

Europa Clipper carries nine instruments. Some of the instruments will look down at the moon and record what it observes. While others will sample the environment the spacecraft passes through. The space around Europa is bathed with intense radiation from Jupiter. But this region may also have plumes of water erupting from under the moon's icy crust.

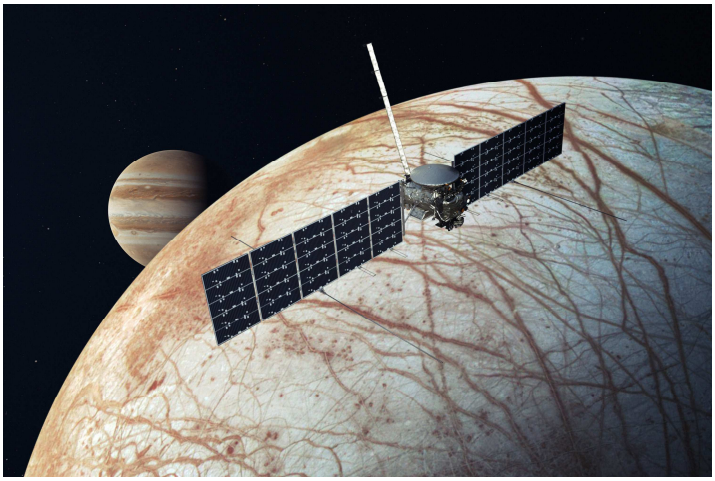
To protect the spacecraft, Europa Clipper will be orbiting Jupiter and not the moon itself. The spacecraft will only dip into Europa's environment during close flybys. The spacecraft will make 49 flybys, one every two to three weeks of its mission. Europa Clipper will get as close as 25 km from the moon's surface.

NASA said: The mission's three main science objectives are to understand the nature of the ice shell and the ocean beneath it, along with the moon's composition and geology. The mission's detailed exploration of Europa will help scientists better understand the astrobiological potential for habitable worlds beyond our planet.

Could Europa be habitable?

Could life exist in the oceans of Europa under the layers of ice? That's what scientists want to know. Plus, how is there liquid water under ice in such a cold place? As reported from the University of Reading, the water in Europa's ocean is kept liquid due to frictional heating. This heating occurs because Europa becomes stretched and then relaxed as it interacts with Jupiter's gravity on its orbital path around the giant planet. For Europa's ocean to be habitable, a steady supply of ingredients is needed to allow some form of chemosynthesis to take place.

If these ingredients exist, they could come from hydrothermal vents on Europa's rocky seafloor, like those on Earth, or from material seeping down through the icy crust, the 'sea ceiling' if you like. We do not yet know if these mechanisms are plausible, so we need more data from many different angles.
There is growing evidence that plumes of material are escaping from Europa's surface into space. If this material is from the ocean, measuring its composition would give us insights into the habitability of that ocean.



Artist's concept of Europa Clipper sweeping past Europa, one of the large, fascinating moons of giant Jupiter.
Image via NASA/ JPL-Caltech.

Space X Falcon Heavy Europa Clipper launched today at 12:06pm from Kennedy Space Center pad 39A carrying a dedicated mission to study Jupiter's moon Europa.
Remote pad camera for @earthskyscience

YOUR ASTRO QUESTIONS

Is it safe to look at the Moon?

At the MPAS public viewing nights, I'm often asked is it safe to look at the Moon through a telescope?

As there is no time to give a true scientific understanding I usually say, light from the moon isn't bright enough to do any long-term harm.

Though after looking at the Moon through a telescope. I have found it's a bit stressful not being able to see anything with one eye and I can see myself walking into something or someone.

If the moon is full, the surroundings will be lit by the Moon and if you have a few lights on as well then there is little risk.

A more risky situation is when the Moon is partially illuminated, but can still temporarily blind you in one eye. Also the Moon won't be bright enough to light the surroundings, and if there isn't any light on, you could easily get into a bit of bother and trip over something.

Children often think it's a bit funny and once temporary blinded in one eye, go running around which leads to them having a mishap and then they often want to do it all again.

I have heard many people say, **leave the moon till last**, as you won't be able to see anything in the other telescope. Which is a fair point.

Moon filter.

I try to minimise the risk by fitting a moon filter to the eyepiece, or by stopping the telescope down with an aperture mask, which means: place a cover over the front of the telescope with a smaller hole to reduce the amount of light entering the telescope. Most small Newtonian telescopes come with a front cover with a 50mm hole, for this purpose.

Be mindful of the magnification. When you double the magnification, you only have one quarter of the light. You may need to remove the moon filter or aperture mask as you increase the magnification. Be sure to remove the moon filter at the end of the night, otherwise the next time you use the telescope it won't perform very well when looking at deep sky objects. Something I've done myself.

The safety question?

The full moon has an apparent magnitude of −12.6 and the Sun has an apparent magnitude of −26.8.

26.8 minus 12.6 = 14.2 which is the number of magnitude difference in brightness between the Sun and the Moon.

Every step in magnitude is 2.5 times brighter, so doing the maths.

2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 × 2.5 = 372,529

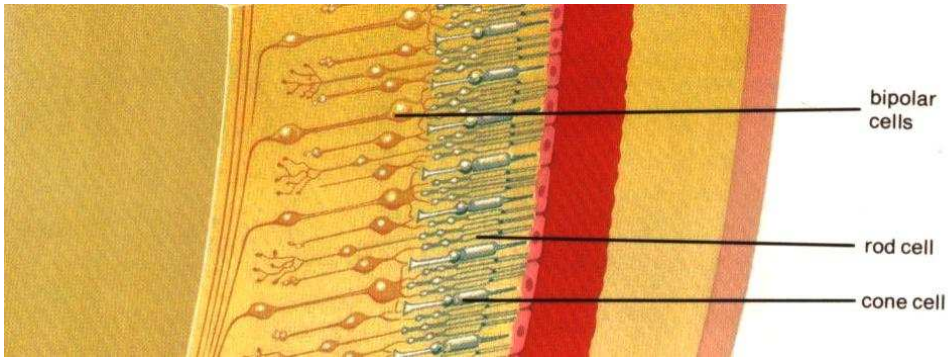
The Sun is about 370,000 times brighter then the full moon.

This means you would need a telescope with a surface area of 3,000,000,000 square mm to do the same sun-damage to your eyes. This is equal to a telescope with a 60 metres diameter.

Iris and Pupil

Your iris is connected to muscles which open and close the centre pupil. In a bright light situation, the muscles close your pupil to 2mm. In a low light situation the muscles relax and your pupil slowly opens to a maximum of 8mm. You can see this by looking into a mirror and turn the light on and off. The older you get, the smaller your Iris maximum opening becomes, making it more difficult to see faint object.

Cones and Rods.



The retina at the back of the eye has 2 different types of light detectors called cones and rods. The cones are used for daytime vision and collected 3 different colours, red, green and blue., whereas the rods are more sensitive for night-time vision and only collect white light, meaning you can only see a black and white image in very low light situations.

After looking at the Moon with one eye you will find, that one eye has a white after glow, meaning that the eye has switched to daytime mode, while the other eye is still in night vision mode. Your brain then has to deal with two conflicting streams of information.

Generally it takes 20 minutes for your eyes to completely switch to night vision mode and a further hour to achieve the best dark-adapted night vision. But it only takes an instant to switch back to day-vision mode. This is why astronomy clubs have very strict lighting rules, where only small red touches are allowed.

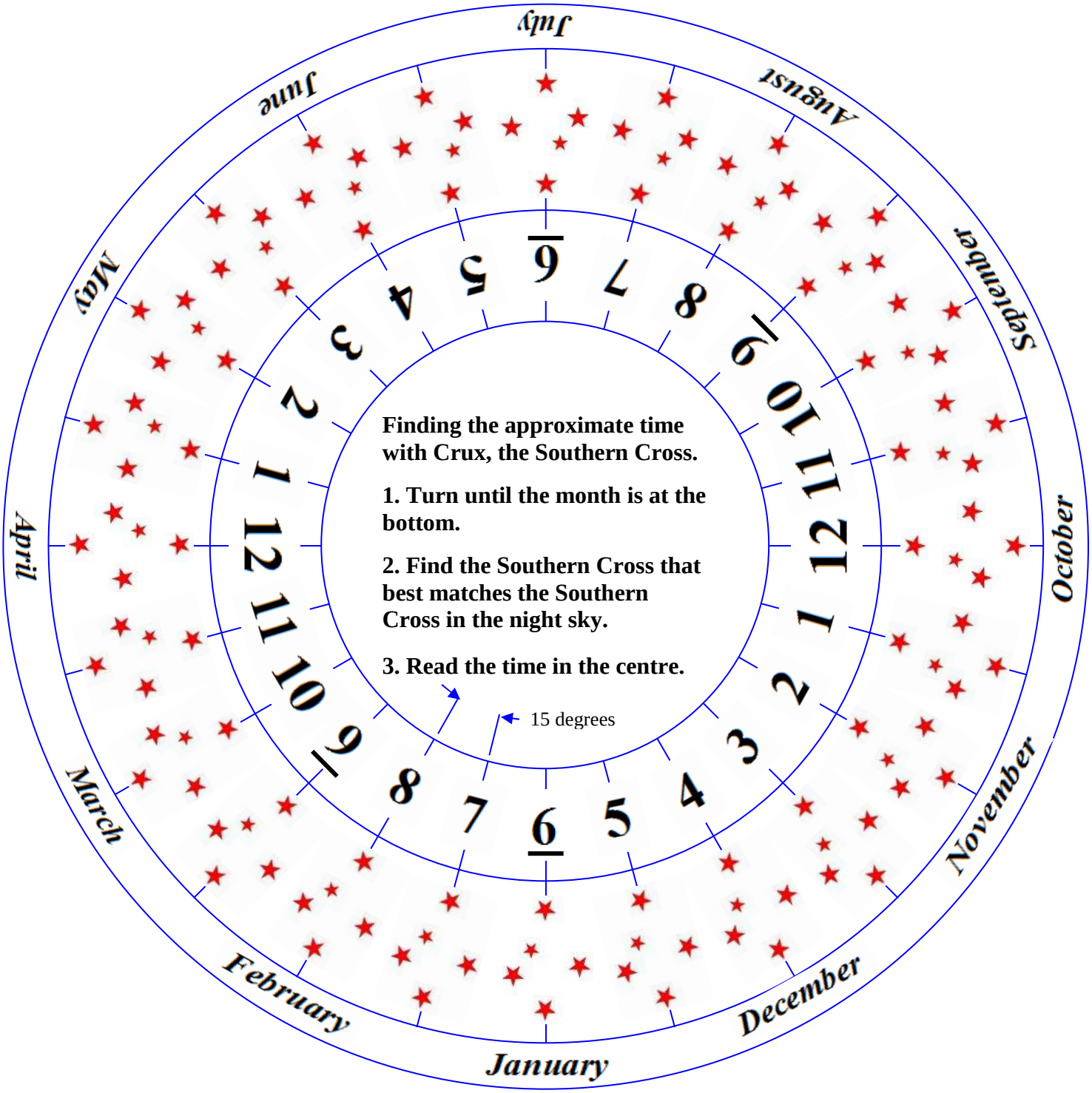
Finding the approximate time with Crux, the Southern Cross. *By Greg Walton*

1. Turn until the month is at the bottom.

2. Find the Southern Cross shape that best matches the orientation of the Southern Cross in the night sky.

3. Read the time in the centre. (Normal time not daylight savings)

For example - in January if the Southern Cross is at its lower point in the sky and upside down, the time will be 6 o'clock.



2024 Holiday to ACT and NSW - *John Cleverdon*

My brother and I did a 3-week holiday to Canberra, Sydney and regional NSW in February and March, with the main intention being to meet several relatives, some of whom I hadn't seen for several years.
However, it also provided an opportunity to visit a few places of astronomical interest, as described below.
Among the other highlights was hiking to the top of Mount Kosciuszko.

There wasn't enough room to include my telescope, so the only viewing done was through a solar scope at the Tamworth observatory.

More photos from the holiday can be found at:
https://www.flickr.com/photos/john_cleverdon/albums in the '2024' album.

CSIRO Discovery Centre, Canberra: https://www.csiro.au/en/education/Programs/Discovery-Centre

On a previous family holiday to Canberra when at uni, I visited Mount Stromlo Observatory and the Tidbinbilla Tracking Station, so didn't bother with those this time.
This is more for educational purposes but I decided to check it out anyway.
This included displays for space and astronomy.
While there, I noted a large whiteboard where students could put down questions for the staff to answer. When thinking aloud that something similar might be of interest for MPAS for the Briars viewing nights, I found that one of the staff there was moving to Mount Eliza.

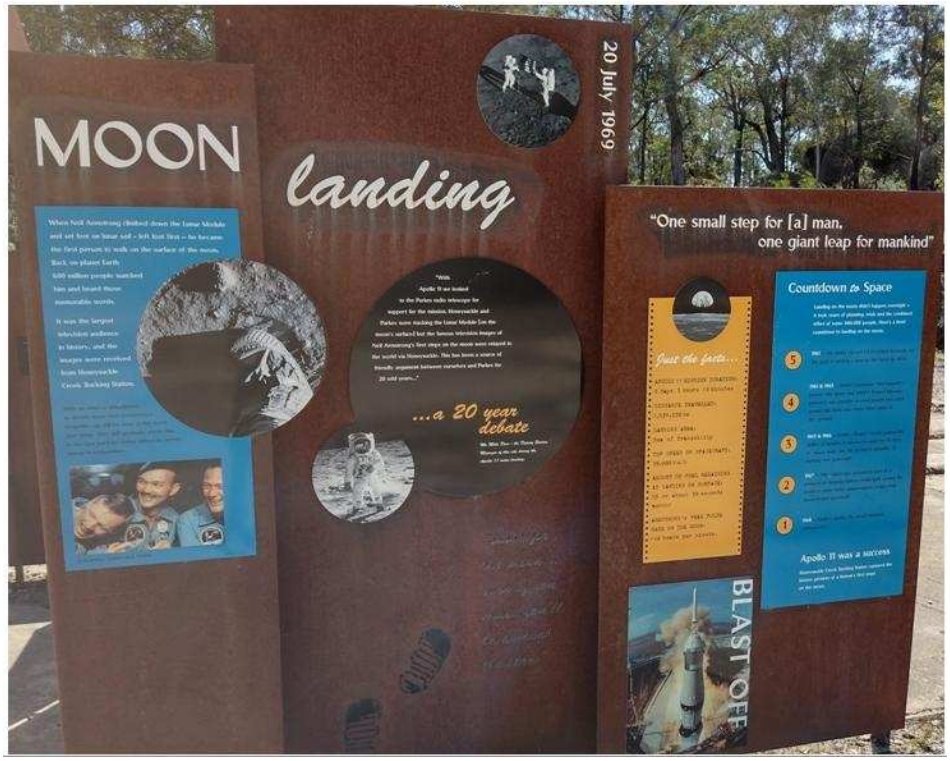
I gave him MPAS and my own cards and got his contact details. Unfortunately, I misplaced the notepaper with the contact details later, somewhere around Armidale (and never thought of adding it to my laptop, as I downloaded the photos and GPS tracks nearly every night).

Honeysuckle Creek Tracking Station site:
https://www.honeysucklecreek.net/

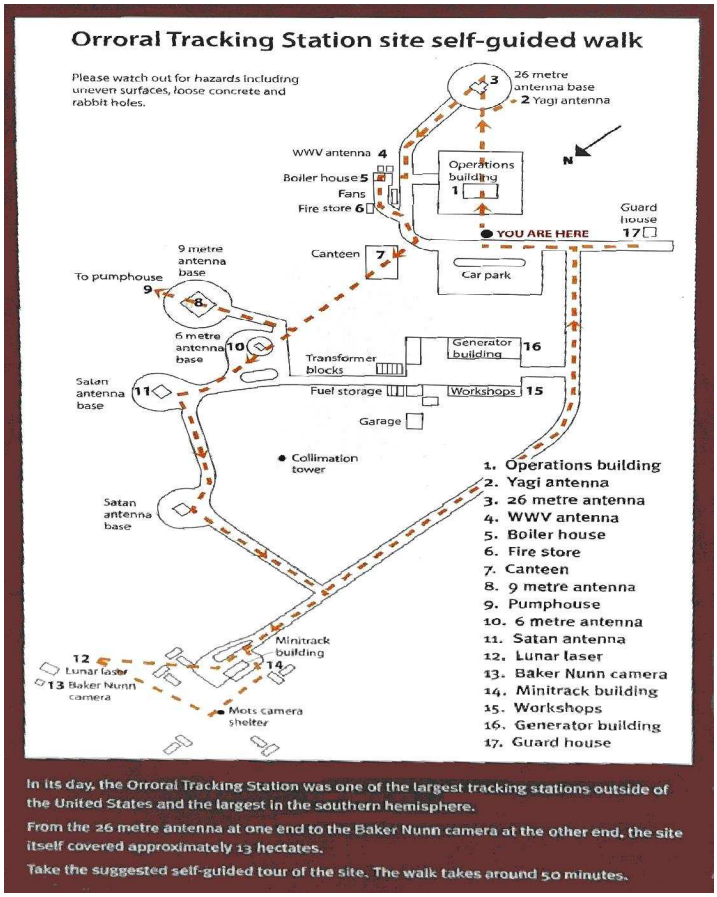
This was used for the Apollo missions – including Apollo 11 - but the dish was later moved to Tidbinbilla.

It is in a slightly hilly area with some windings in the road getting to it. There are some information boards at the now-vacant site.

I wondered how the trucks would have got to it and at either here or Orroral, there was a photo of a truck with a very tight fit crossing the Murrumbidgee River bridge at Tharwa.



Orroral Tracking Station site: https://www.honeysucklecreek.net/other_stations/orroral/index.html



Orroral was different in that it was in an open area and had multiple dishes, further south. It was the largest satellite tracking station in the southern hemisphere.

There were large mobs of kangaroos, maybe 50-100, and no doubt wondering why I was wandering about on such a warm day (thankfully no snakes sighted, given there was a bit of walking to cover the site – although I had packed the "snake gaiters", I didn't get around to wearing them).

The largest of the dishes was later moved to Tasmania (where my brother and I are planning a holiday next year).

The remoteness of Orroral meant in part it had to be self-contained, and so the site included such things as a boiler house, diesel generator & fuel supply, workshops and canteen.

Hoskinstown radio array:
https://spaceaustralia.com/feature/iconic-australian-telescope-upgraded-future-science

The Molonglo Cross is a cross-shaped radio interferometer / array near Hoskinstown, visible from roads on both the eastern and western sides (but of course no public access to the facility itself).
It was opened in the 1960's and after upgrades is still in use, each arm being around 1600 metres long.

Port Macquarie observatory: https://pmobservatory.org.au/

We spent more time at Port Macquarie than anticipated, due to getting a flat tyre earlier in the day at a lookout near Kendall (and this triggered another 3 flats later on the holiday). As a result, I noted that the observatory visited on the 2007 holiday was now a construction site. When checking up on this, I noted that in 2022, the society there had got a $4.8 million grant from state and federal governments to rebuild the observatory as the Port Macquarie Science and Astronomy Centre. It is due to open in the near future (there have been delays), while the dome from the old observatory was moved to their dark-sky site, roughly 20 km west of Wauchope.

Tamworth Science and Astronomy Centre:
https://www.tamworthastronomy.com.au/

This is only around 3 years old and consists of impressive facilities. Their roll-off roof observatory alone is around the size of the big shed at the Briars.

There are telescopes up to around 36 inches, both at the observatory and the industrial estate at nearby Kootingal.

The facilities at Tamworth also include a small planetarium, Hewitt camera, plenty of astronomy and science display cabinets (including one for fluorescent minerals) as well as historic Moon landing transmission equipment and UK Schmidt Telescope control equipment.

However, the club there has a lot smaller member base compared to MPAS.

Mount Kaputar

I had hoped to do this on the 2007 holiday but as luck would have it, Narrabri was one of the locations where we 'brought the rains with us', so seeing large rocks on the road back then made it clear there wasn't any point trying to get to the summit.

A sign at the peak indicated that the top of this mountain was initially considered as a possible location around 1957 for the observatory later to be built at Siding Spring; as it is around 350m higher. But of course the winding road would have made it more challenging for heavy vehicles to access the summit.

Siding Spring Observatory: https://www.sidingspringobservatory.com.au/ and https://www.coonabarabranstargazing.com.au/

Again, I had hoped to do this in 2007 but at that time, due to maintenance work, only the Exploratory was open, no tours of the Anglo-Australian Telescope (AAT) or other telescopes.

Most (nearly all?) of the observations at Siding Spring are done remotely now.
I found out that one of the men involved with the Exploratory Centre and tours had undergone training at the Balcombe army barracks, some buildings from which are now part at the Briars Education Camp.
The Exploratory is also to be upgraded for the 50th anniversary of Siding Spring later this year.

The tour included a look at the UK Schmidt telescope. Inside the dome for the AAT there are further displays.

For those who aren't afraid of heights, there is a walk around the external catwalk for the AAT dome – it provides spectacular views of the Warrumbungles range.

Mudgee Observatory: https://www.mudgeeobservatory.com.au/

This is a privately owned amateur observatory, established in 2005 to the west of the town. There are 4 domes at the site.
We only did a daytime visit, and not any viewing at night.

Later on that day, we passed around 3 km to the north of the ASNSW (Astronomical Society of NSW) 'Wiruna' observatory site near Ilford.

The Rock Regional Observatory: https://therockregionalobservatory.com/

When going out to walk to the top of The Rock (a similar feature to Hanging Rock, just west of the town of the same name), I noted an observatory there, so new it is not in *Astronomy 2024*. I wasn't able to visit as it is only open on Saturday evenings.

For the most part, the weather was dry on the holiday, but there had been plenty of rain in recent months (e.g. Lake George near Canberra was full and the direct road to Jenolan Caves was blocked by landslips). It may also have been the reason that some of the roads were in a poor condition.
As a result, a small number of places (such as the Glowworm Tunnel and Wombeyan Caves) had to be dropped off the itinerary due to delays with maintenance works on roads and walking tracks.

MEMBERS GALLERY

Right -

The stars in the clear sky above Lake Nillahcootie on our final night at the star party. Imaged with my Samsung Note20 Ultra smartphone leaning against my drink bottle and wedged in the sand. Single image taken at ISO1600 for 30 seconds, edited in Lightroom app on my phone.

By Nerida Langcake

Right -

Aurora from 11th October as seen from Seaford Beach.
Also, I took a few shots facing west, and found a bright beam just North of Venus, after the main show had died down. I'm wondering if this may have been a SAR phenomenon.

By Chris Kostokanellis

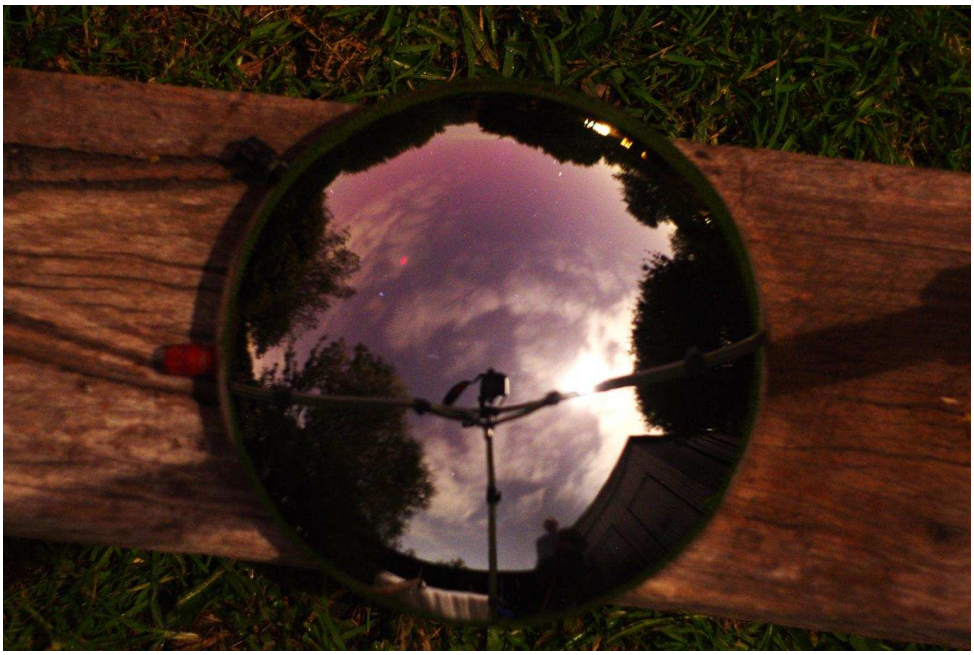
Right & below -

My aurora pics from Gunnamatta Beach at around 9 pm on 11th October, *by Steve Gercovich*

Right -

Aurora imaged on 11 October 2024

By Sylvie Grandit



Right -

Aurora from Mornington, on Oct 11, 21:49 AEDT. 10 sec, all-sky hub cap reflector, ISO1600. Taken just before the cloud came in. This shot shows the pink aurora reaching at least 40 degrees above the horizon. I checked the MPAS all-sky cam online at the time, and it didn't show any aurora. The exposure adjustment for the moon probably darkens the sky too much.

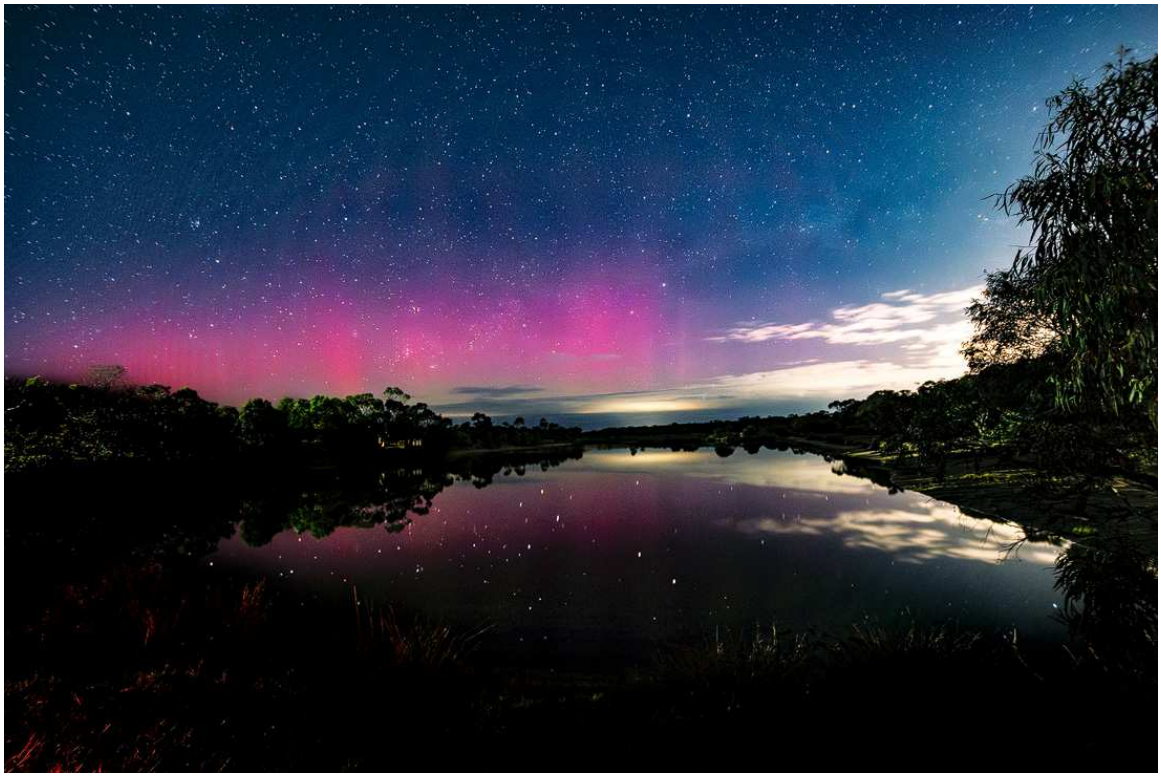
Regards Phil Holt

Below - Aurora from Mornington, August 12, 20:32 AEST. 15 sec at F3.5, 18mm, ISO1600.
The link to my short movie -https://flic.kr/p/2qnNFqk ,

Regards Phil Holt

Below - Aurora from Mornington, on October 11, 20:40 AEDT. 10 sec at f3.5, 18mm ISO1600. Some rays are visible.

Regards Phil Holt



Right -

Hi Guys, I finally worked out how to get to this subgroup wahoo lol.

The attached image was taken on 8-10-24 at Blind Bight at 10.48 pm when she started to dance again.
Nikon Z 7II , 10-24mm lens on adaptor
F3.5, 20sec, ISO 3200, 10mm.

The only editing I did was to darken the foreground as I didn't like the grass showing.

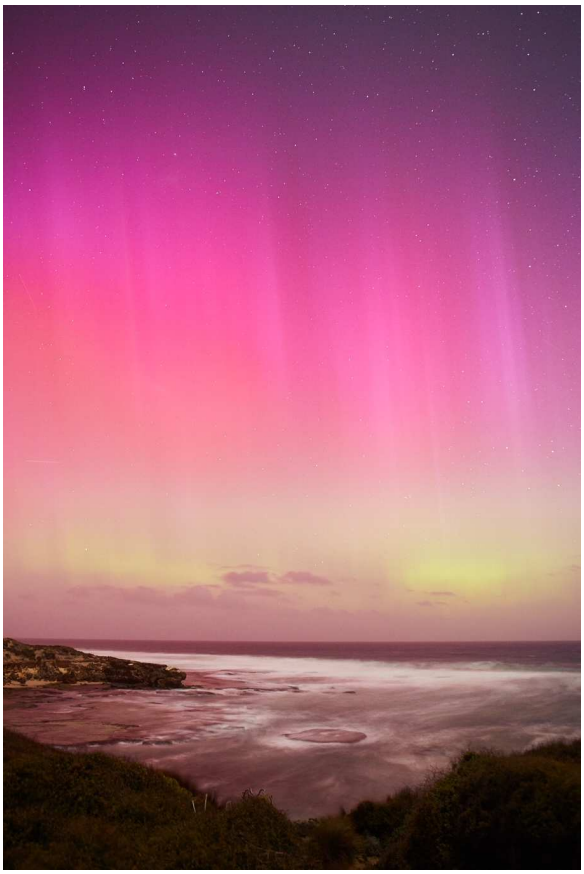
By Tina Havill

Right -

Caught without tripod* and my usual lens, but managed to catch some of the light show before dawn from Blairgowrie (*bean bag in frame at bottom).
The moving columns were clearly visible to the naked eye. Stunning

By Steve Wilkins

https://www.facebook.com/share/v/kPmuzve1sN3cya3T/?mibextid=oFDknk



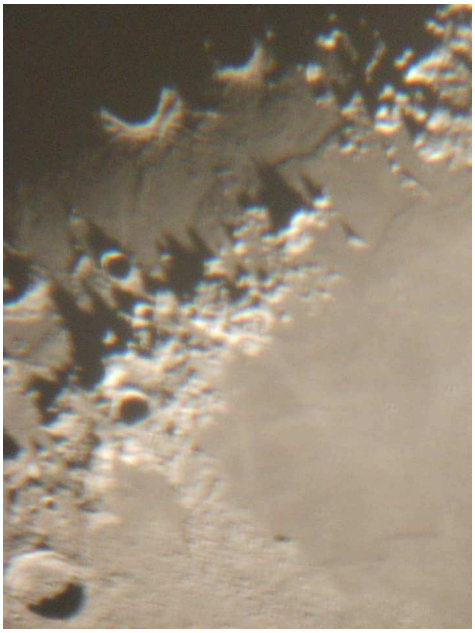
Left -

I was not motivated enough to drag myself out of bed at 3 am (but should have), but did head down the peninsula through the rain at sunset. Arrived just in time for it to kick off with a strong naked eye display including pinks and greens discernible.
Maybe 20 mins of superb viewing, only dampened by the half moon.
Kp was between 7 and 8 and then it all abruptly shutdown as I left.

Somewhat similar to May in intensity but ruined by the moon.

By Andrew Nelson

During tonight's school viewing night, we pointed the 350mm Meade at the waxing crescent moon. Despite the light cloud cover, the close-up views of the Moon's surface through this scope proved very popular to the students, prompting many Ooohs, aaaaahs, and wooows. These are using my phone on the eyepiece. *By Chris Kostokanellis*



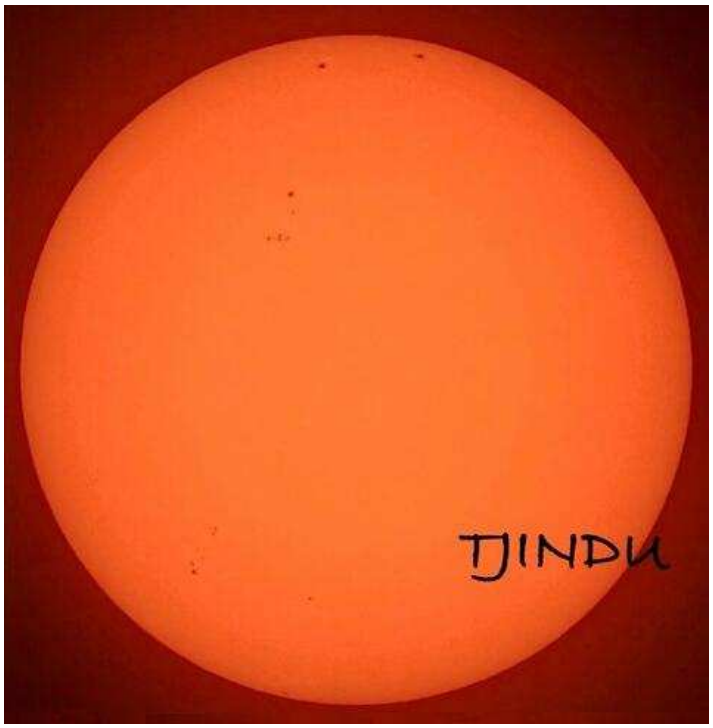
MO PHO CHALLENGE

Chris Kostokanellis

Mornington Peninsula Astronomical Society

Mo Pho # 17. Topic of the month is " AUSTRALIAN INDIGENOUS ASTRONOMY ".

Below - Sun and the Moon imaged with Seestar - *By Sylvie Grandit*



Right -

I was motivated today to reprocess some data from last year of NGC 6726 in Corona Australis. This is a total of 90 minutes of exposure with a UV/IR filter and Optolong L-Extreme through my 80mm refractor and ASI294MC PRO camera.
Corona Australis is the Indigenous constellation of Won, the Boomerang as I've previously mentioned.

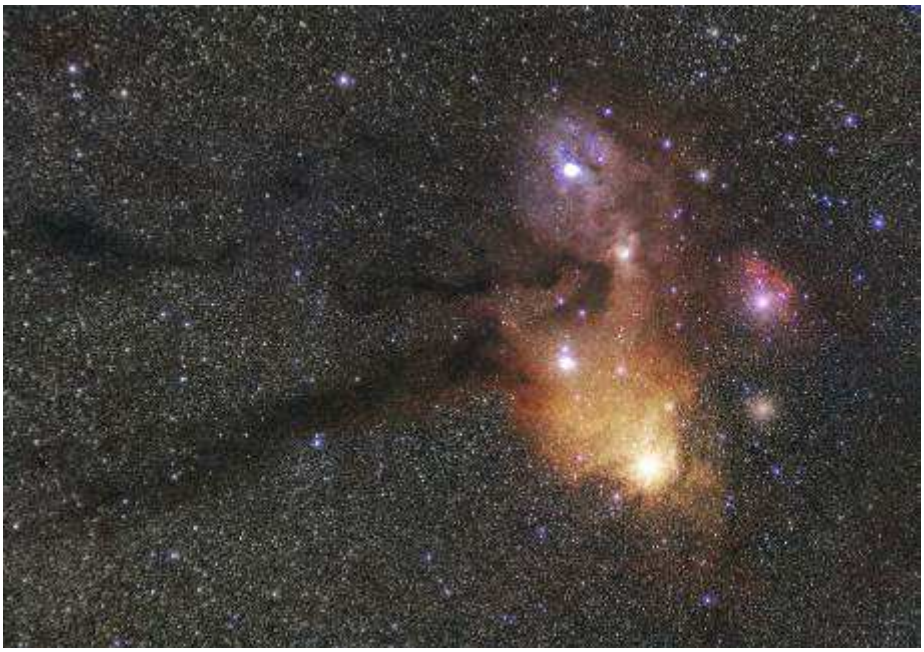
By Chris Kosterkanellis

Below -

Work in progress NGC 6723, this is less than 2 hours of data so more needed for extra detail. All I need are some clear moonless nights …. Loving this area for beautiful natural colours

By Steve Wilkins

Photos by Chris Kostokanellis.
Above- Left- Won, the Boomerang, aka Corona Australis. Right- Karik Karik, the Australian Kestrel in the tail of Scorpius.
Below- Druit, the Red Rumped Parrot. (Antares)



Right- Aurora Australis
By Leigh Hornsby

Mo Pho # 18. Topic of the month is " GALAXIES ".

Right -

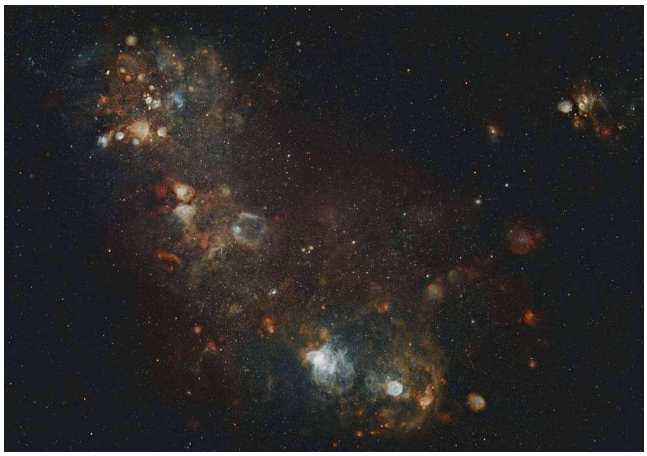
Small Magellanic Cloud from light polluted and hazy Melbourne
ASIAIR pro, 294mc Pro, 130APO
Optolong L-Ultimate and Askar S2o3 filters
3 hours on each filter of 3 minute subs Haze was awful last night
Pretty sure it is a satellite galaxy so qualifies for Astromopho

Below -

Astromopho: Centaurus A and NGC6744, *By Nik Axaris.*

Right - SMC

This is a combo shot in Astropixel processor then processed in Pixinsight and Photoshop. I used old wide field data with the close-up data from the other night. The wide field was taken with the FRA300 and the close-up with the TSOptics 130 APO. The APO component is bottom left. The Optolong L-Ultimate is the filter of choice. ASI 294mc Pro camera Slywatcher NEQ6 mount, Asiair. *By Nik Axaris.*



Left -

Atro Mo Pho. Large Magellanic Cloud, in particular the Tarantula Nebula, in HOO and then tweaked to use the HSO normalization tool in Pixinsight. Final tweaks in Photoshop.
This is a combination of many images (180 and 300 second subs) past and present to make a 14-hour (I have more subs coming) image.
TSOptics 130 APO reduced with 0.75 riccardi reducer.
ASIAIR, ZWO 294mc Pro, Optolong L-Ultimate and L-Extreme
Melbourne Australia.

By Nik Axaris.

Right -

Gabriella Mistral NGC 3324
HSO Process using one shot colour camera with Optolong L-Extreme Filter. Channel separation in Astropixel Processor using Mono HAO3 channel as the sulphur channel. Processed and recombined in Astropixel Processor and processed in Photoshop. The mono channel was synthesised as a sulphur channel and using Adam Block's new technique allowed for the lovely gold hues in the image. (HOO and S infused) in Pixinsight
6.4 hours acquisition time 600 sec subs
ASI294mc Pro
Optolong L-Ultimate filter
ASIAIR
TS-Optics photoline 130 APO.
Melbourne Australia

By Nik Axaris.

Right -

SMC
This is a combo shot in Astropixel processor then processed in Pixinsight and Photoshop. I used old wide field data with the close-up data from the other night. The wide field was taken with the FRA300 and the close-up with the TSOptics 130 APO. The APO component is bottom left. The Optolong L-Ultimate is the filter of choice. ASI 294mc Pro camera
Skywatcher NEQ6 mount
Asiair.

By Nik Axaris.

Right -

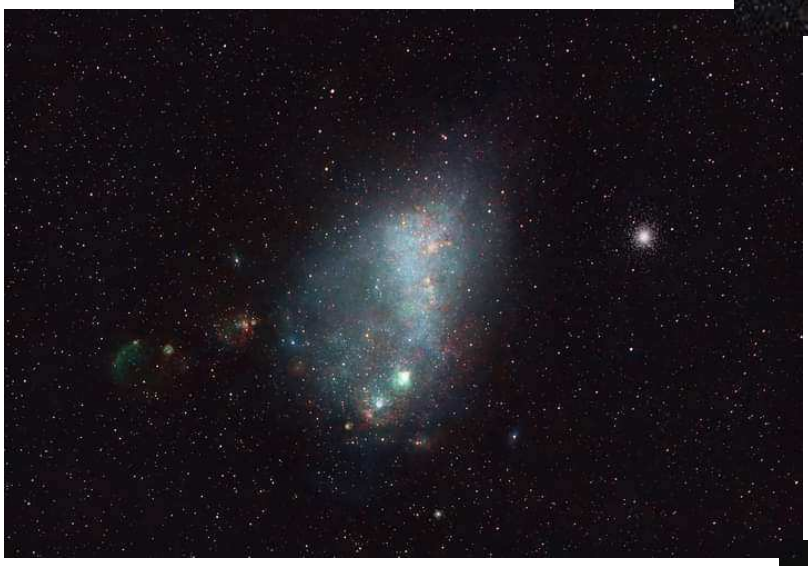
Astro Mo Pho.

Large Magellanic Cloud.

A Dwarf galaxy orbiting the Milky Way.

I imaged this Monday night while in Heathcote. This is with a Canon 75-300mm (edited) kit lens, Antila tri band filter and ASI 294MC Pro riding on a Skywatcher AZGTi mount. Around 270 mins of exposure.

By Chris Kosterkanellis



Right -

SMC imaged from LMDSS near Heathcote Victoria.

By Chris Kostokanellis

Right -

NGC 1365, known as the Fornax Propeller Galaxy, is about 75 million LY away.
This is 16x300 Sec exposures with my 8” Newtonian, Antila Tri Band Filter and ASI294MC Pro, on my AZEQ6.

By Chris Kostokanellis

Left- NGC 55, the String of Pearls Galaxy.
About 40 minutes each Ha, S2 & O3
By Dave Rolfe

Astro Mo Pho, using the SeeStar lately, because the opportunities to get out haven't been many and it’s go outside and work quickly between cloud breaks. These have all been taken in the last 3 weeks.

M31, M32 and M110 from Moranghurk, M33 from Moranghurk, M83 from Moranghurk, NGC300 from Moranghurk (not the SeeStar but the 107mm), Tarantula in LMC, NGC247, NGC253 and NGC1365.

If they've been taken with the SeeStar, they only represent about 15 minutes worth of imaging time, at best. *By Kelly Clitheroe*

M 31 - M32 - M110

M 33

M 83

NGC 300

NGC 2070

NGC 283

NGC 247

NGC 1365

Right -
NGC292. Just a quick imaging session last night, fighting with a quarter moon. Processed in PI and LR only. TS Optics 70mm scope with ASI533MM and 3nm narrowband Antlia filters.
By Kelly Clitheroe

Left - Astro Mo Pho
The LMC above Lake Nillahcootie on our final night at the star party. Imaged with my Samsung Note20 Ultra smartphone leaning against my drink bottle and wedged in the sand. Single image taken at ISO1600 for 30 seconds, edited in Lightroom app on my phone.

By Nerida Langcake

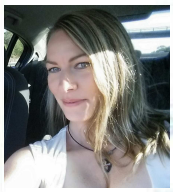
Above - Astro Mo Pho. NGC 55, the String of Pearls Galaxy. 85x300sec frames using my 10” Newtonian and AZ-EQ6 mount, ASI294MC Pro with Optolog L-Pro filter. Processed in PixInsight.
By Giudo Tack

The next Mo Pho challenge topic will be # 19. " COMETS " and will feature in the next newsletter.
Also all the images of comet C/2023 A3 Tsuchinshan–ATLAS captured in October will be in the next newsletter.

SOCIETY INFORMATION


Peter Skilton


Chris Kostokanellis


Nerida Langcake

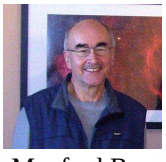

Jamie Pole


Trevor Hand


Guido Tack


Simon Hamm


Phil Peters


Manfred Berger


Greg Walton

OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY

President: Peter Skilton
Vice President: Chris Kostokanellis
Committee: Trevor Hand, Guido Tack, Simon Hamm, Phil Peters and Manfred Berger

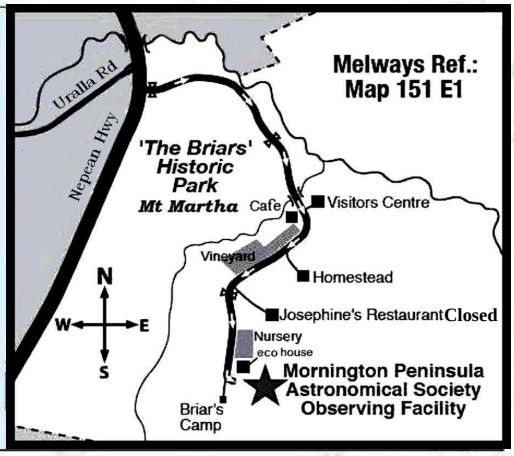
Secretary: Nerida Langcake
Treasurer: Jamie Pole
Web master: Guido Tack
Scorpius editor: Greg Walton
Librarian: Fred Crump & Lara Conway

SOCIETY MEETINGS

Meeting Venue: MPAS Astronomy Centre
The Briars, 450 Nepean Hwy, Mt Martha
(Melways ref. 151/E1)
Society meetings: Don Leggett Astronomy Centre
8pm on the third Wednesday of the month
(*except December*)
(See map at right & Below)

For addition details:
Internet: www.mpas.asn.au
email: welcome@mpas.asn.au

Phone: 0419 253 252
Mail: Mornington Peninsula Astronomical Society
450 Nepean Hwy, Mount Martha, Victoria, 3934



LIBRARY


Fred Crump

The Society also has books & videos for loan from its library, made available on most public & members nights at The Briars site. Contact Fred Crump or Lara Conway

E-SCORPIUS NEWSGROUP

M.P.A.S. main line of communication is the online newsgroup called E-Scorpius. Here you will be kept up to date with the latest M.P.A.S. news & events information as well as being able to join in discussions & ask questions with other members. To join, email welcome@mpas.asn.au say that you want to join E-Scorpius & you will be added to the E-Scorpius list.

facebook
MPAS members - https://www.facebook.com/groups/MPAS1/
MPAS public - https://www.facebook.com/mpas0/

VIEWING NIGHTS - MEMBERS ONLY

Members only Viewing Nights - any night at The Briars, 450 Nepean Hwy, Mt Martha. Members visiting The Briars for the first time must contact Greg Walton on 0415172503 if they need help getting to The Briars site. Upon arrival at the site, remember to sign the attendance book in the observatory building.

For additional details:
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450 Nepean Hwy, Mount Martha, Victoria, 3934

Members please write a story about your astronomy experiences and add some pictures.
Send them to the editor: Greg Walton gwmpas@gmail.com
MPAS newsletters online - https://drive.google.com/folderview?id=0ByvkxzZGI9g_SUNmZVhkZTFGWTA

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