Cover image: NGC1316 Galaxy. Hope you like weird-looking galaxies, as this one is certainly crazy looking. I found this to be a very challenging scene to process, with Pixinsight providing this colour combination. Lots of little interesting objects scattered around the field. By *Steve Mohr*

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

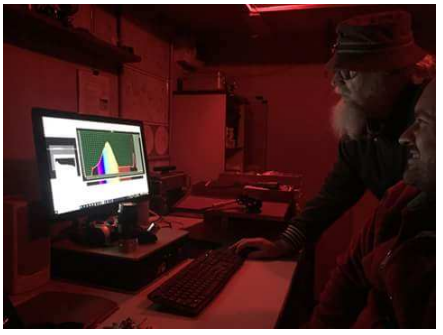
SOCIETY NEWS

Scout Viewing Night September 27th, 2017 - Last Friday evening saw our first combined Scout, Cubs and Guide viewing night. This is most suitable for smaller packs. We had 36 Rosebud Sea Scout/cubs and 1st Somerville Scout/cubs this time to hear the space badge-focused talk by Peter Skilton. Impressively, one keen-eyed young lad picked up an error in one shown planetary temperature on a slide from NASA, which was wrongly shown as being below absolute zero kelvin (or below -273.15 Celsius), which is of course physically impossible because atoms can't move more slowly than being stopped. Outside with telescopes on the Moon and Saturn, before the clouds encroached, were Sue and Dean Mathers, Phil Holt, Tony Nightingale, Mark Stephens, Peter Lowe, Jamie, Josh and Jasmine Pole, Greg Walton and Alois Dvornik. Unfortunately cloud occluded any hope of seeing either of the two ISS pass-overs during the evening, or of seeing Crux low in the south-west for telling the time. Regards, *Peter Skilton*

Public Night Friday 3rd November - Mark Stephens and Tony Nightingale arrived 6.30 to clean up and prepare for the night. There were some anxious moments as the public started arriving and there was no sign of the speaker. Fortunately, Trevor Hand arrived right on time and rescued us from having to deliver an impromptu presentation. 50 members of the public turned up including 2 teachers involved in the STEP program at Parkdale Secondary College and their families and 12 senior students from Rosebud Secondary College. Mark did a sterling job checking off the door list and looking after the cash by torchlight and managed to sign up a family membership. The Meade and refractor telescopes were started up and the Sky Drover and Sky Venture moved outside. Trevor explains his presentation: My talk was titled "Robots in Space" and it basically cover many of the "electronic" missions to the solar system. Starting with Sputnik, then Russia's and America's missions to Venus (the failures and successes). Russia's sample return mission from the Moon shortly after the first Apollo landing, which very few people are aware of, particularly the naysayers. Pioneer 10, 11 and Voyager 1 and 2 and the planets they visited. Viking, Sojourner, Spirit and Opportunity landings on Mars. Giotto's mission to Halley, Galileo to Jupiter and Cassini to Saturn. The LRO around the Moon, with pictures of the Apollo 11 landing site. Dawn's mission to Vesta and Ceres, highlighting the use of "ion drive" instead of conventional rockets. Rosetta to 67P. New Horizon's flyby of Pluto and its next target. Juno mission to Jupiter, with a closeup of the poles of Jupiter. OSIRIS-Rex sample return to Bennu. Finishing off with the Mars 2020, Parker Solar Probe and the Transiting Exoplanet Survey Satellite (TESS) upcoming missions. After the talk, everyone moved down to the observatory where they were able to view Saturn as it set behind low cloud. The sky became clear and people were able to view Neptune and Uranus as Mark entertained the students with a running commentary. The refractor was focused on the full Moon, but people were more interested in seeing Saturn and the diminutive Neptune and Uranus through the Meade. Fred Crump assisted in the observatory, Bob had set up his telescope and Rohan was taking images of the moon with Jamie's borrowed lens. About 11 o'clock, Mark and I looked around and noticed that everyone had gone, so we closed up and left Bob still showing a member of the public how to set up their telescope. *Tony Nightingale*

Taken on Friday (Public Viewing Night) 3-Nov-2017 at The Briars. Canon 600D with Sigma 150-500mm @ 500mm (thanks Jamie) & 2× teleconverter, so 1000mm FL in total. 1/1600 sec, f13, iso-800. Cropped and sharpened a touch. *By Rohan Baumann*

November 11th Saturday night a few of us headed down to the Briars to use the observatory for an initial foray into Spectroscopy. Present were Alois, Anders Hamilton, Andrew Nilssen, Bob Heale, and myself. Pictured is Anders and Alois analysing some basic spectra using a demo version of the RSpec software - target was Canopus (it was big, bright and obvious, so we could find it easily!). Lots of mistakes were made, and lessons learned ... Thank-you all for your input and assistance - we're hoping this is the start of the data acquisition for the Parkdale STEP program we're planning to run next year.... watch this space. *Jamie Pole*



Society Meeting November 15th at the Briars - saw 20 members in attendance. Greg Walton (VP) chaired the meeting. Our speaker Dr Russell Cockman, VP Astronomical Society of Victoria, presented the recent solar eclipse in the USA. Russell spoke of how the sky was clear enabling him to get some stunning images, which he showed on the night. Russell also talked about the record-breaking traffic jams, resulting in a return trip of 12 hours back to his hotel. Then I did sky for the month, showed images of the green flash taken from Broome & updated members on recent events, after which members chatted over coffee. The observatory was open briefly only to demonstrate the telescopes. *Greg Walton*

Green flash story on pages 15 & 16

November 18th Members' BBQ - saw about 20 members in attendance under a partly cloudy sky. After the BBQ, Helmuth did a short presentation on basic editing of astronomical images taken with a DSLR camera. By then the sky had cleared enough to open the observatory. We went through the start up operations of the telescopes with some of the newer members, then viewed various objects including Uranus, NGC2070, NGC104, M22, M45, Grus quartet & a few others. We finished up around 11:30. Photo at right, *By John Cleverdon*

Public Night Friday 1st December - Despite dire warnings of torrential rain and flooding, we had 13 hardy members of the public turn up at The Briars to hear Trevor Hand give a talk on meteorites and to look inside the observatory with its roof closed. Total cloud cover persisted all evening so telescopes could not be used, unfortunately. Nevertheless everyone had a good time and, with reduced attendance, it meant the chances of winning the Martian meteorite and lunar meteorite were greatly enhanced as one young lad discovered to his joy. Helping with running the show were Kathryn Hand, Pia Pedersen, Greg Walton, Peter Skilton, Peter Lowe, Jamie Pole, Tony Nightingale, John & Marj Cleverdon and a few other newer members who forgot to sign the observatory log on the night. Regards, *Peter Skilton*

Venture Scouts December 2nd - Due to bad weather a smaller than expected group of scouts attended the Briars. Simon Birch & Peter Skilton gave the talk, while members Jamie Pole, Phil Holt, Peter Lowe, Pia Pedersen & Greg Walton waited outside just in case the sky cleared; it did not. We did point a 8 inch Dobsonian at a distant street light to demonstrate how a Newtonian telescope works.

Xmas December 16th Members' BBQ - saw about 40 members in attendance. Most members brought along a plate of goodies & helped prepare the food. Jamie had the BBQ working overtime. Pia cooked a Xmas roost pork & ham with roast potatoes. Also had a large range of salads & desserts with plenty left overs. The weather was perfect, with some members setting up their telescopes. We also had 3 telescopes running in the observatory seeing many deep sky objects e.g. NGC55, 253, 104, 1365, 3372, M42,46 & Christmas tree cluster which did look like the lights on a Christmas tree in the 127mm refractor telescope. Last members left around midnight under a clear sky. Everyone had a great time. Thanks to all those who helped out & special thanks to Pearl Murray who got stuck with washing the dishes. I tried to get around to talk to as many as I could; sorry if I missed you. Also sorry to hear that long-time members Heinz Rummel & Inge Marcinkowski are moving to Queensland to live; we wish them all the best. Hope to see everyone in the new year, Merry Christmas VP Greg Walton

Photos by John Cleverdon

Keeping the MPAS site dark.

The Briars has installed a switch on the eco house, so the outside light can be turned off. The switch is located at the rear of the building above the air-conditioner units. Please remember to switch the lights back on before you leave.

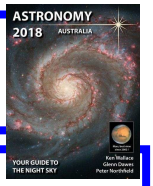
November 21st & 22nd - Pia and I spent two days building a new sales area just inside the big roller door in the big shed. Used up the left over yellow-tongue boards, white paint and screws, from the lining of the big shed. It's painted flat blue/grey on the outside to cut down unwanted light. It has 3 shelves 400mm deep, the centre shelf at the same height as the glass display cabinet and with a hole drilled through for the cash box. This will help with the flow of people in and out of the building and keep the coffee-making area free. On the public nights, visitors will clearly know where to front up to pay. This has been a bit uncertain in the past. Members will also be able to pay their annual membership fees on the public nights and society meetings. *VP Greg Walton*

We now have a sales cabinet at the Briars, stocked with red torches, glow sticks, MPAS beanies, MPAS visibility vests, drinks and the Astronomy 2018 almanac.

You will be able to purchase items on public nights, society meetings & members BBQ

We are looking for items which MPAS can sell. Please if you have any good ideas let us know.

We now have the ASTRONOMY 2018 books in stock. Members can purchase their copies for $25 each at the Society Meetings, Public Nights & Members BBQs.



You can now renew your membership online. See link below. Click on Members then JOIN NOW at the bottom of the page. Then just fill in your detail on Try-booking.
http://www.mpas.asn.au/members.html

PUBLIC NIGHT THANK-YOU

Recent public viewing nights and school viewing nights have continued to be very well received by the attendees. It is no coincidence that this is due to the efforts put in by the members that help out at these events. To everyone that has helped out over the past months, a very big thank-you goes to you all. Your efforts are very much appreciated, and are being very well received.

MPAS SUBSCRIPTIONS 2018

The ticking over of the New Year also means that Society fees are now due to be paid. The committee has worked hard to ensure that 2018 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 2018 fees is:

SOCIETY FEES

$50 – Full Member
$45 – Pensioner Member
$65 – Family Membership
$60 – Family Pensioner Membership

Subscriptions can be paid in a number of ways:

- **Cash payments to a committee member**
- **Send a cheque, made out to "Mornington Peninsula Astronomical Society", to MPAS. P O Box 596, Frankston 3199**
- **Make a direct electronic payment into the society working bank account.**

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.

Click on the link for further information - https://drive.google.com/file/d/0ByvkxzZGI9g_NXZ4cWxHbERTdEE/view?usp=sharing

JOIN NOW

Full Member	$50
Pensioner	$45
Family	$65
Family Pensioner	$60

Scorpius editing team.

Members please write a story about your astronomy experiences and add some pictures.

Send them to: Greg Walton
gwmpas@gmail.com
Peter Lowe & Bruce Renowden

CALENDAR — January / 2018

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	New Year Day 1 Mars & Jupiter only 3 degrees apart at dawn	2 **Full Moon** Moon @ 356,602 km	3	4	5 **Public Night 8pm**	6 **MPAS Observatory open to members**
7 Mars & Jupiter only 0.25 degree apart at dawn	8	9 **Last Quarter**	10	11 Mercury & Saturn 3 degrees apart at dawn	12 **Public Night 8pm**	13 **MPAS Observatory open to members** Mercury & Saturn 0.8 deg apart at dawn
14	15 Crescent Moon, Saturn & Mercury in a line at dawn	16	17 **Society Meeting 8pm** **New Moon**	18	19 **Public Night 8pm**	20 **Members Night BBQ 6pm**
21 **Neptune 1.6 degrees N of the Moon**	22	23	24	25 **First Quarter**	26 Australia Day	27 **MPAS Observatory open to members**
28	29	30 Moon @ 358,994 km	31 **Full Blue Moon** **Total Lunar eclipse Starts @ 11pm**	**Please - Note that the Society Meeting will be at the Briars 8pm**		

Monthly Events

Public Nights - 8pm start on the 5th, 12th & 19th @ the Briars
Society Meeting - 8pm to 10pm on the 17th @ the Briars
Members Night BBQ - 6pm on the 20th @ the Briars also
Observatory & Telescope Training Day - 8pm to 10pm on the 20th @ the Briars
Starts after the Members' BBQ - Night Talk: Observatory Manager Anders Hamilton

Total Lunar eclipse @ 11pm on the 31st
2 Full Moons this month
4 Planets in the dawn sky this month

CALENDAR — February / 2018

Red Days indicate School Holidays

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No Full Moon this month? **Meteor Shower - Alpha-Centaurids, peaks on the 8th**				1	2 **Public Night 8pm**	3 **MPAS Observatory open to members**
4	5 Comet Panstarrs 2.7 degrees E of the Pleiades M45	6	7	8 **Last Quarter** Jupiter right of the Moon in dawn	9 Mars right of the Moon at dawn	10 **MPAS Observatory open to members** **APW walk & shoot?**
11 Moon @ 405,700 km	12 Saturn above a crescent Moon at dawn	13	14 ASV Meeting	15	16 **New Moon**	17 **MPAS Observatory open to members**
18	19	20 Uranus 5 degrees N of the Moon	21 **Society Meeting 8pm**	22 **Scorpius deadline**	23 **First Quarter**	24 **Members Night BBQ - TLD**
25	26	27	28 Committee meeting Moon @ 363,933 km	**Please - Note that the Society Meeting will be at the Briars 8pm**		

Monthly Events

Southern Comets website - http://members.westnet.com.au/mmatti/sc.htm

Public nights - 8pm start on the 2nd @ the Briars
Society Meeting - 8pm to 10pm on the 21st @ the Briars
Members Night BBQ - 6pm on the 24th @ the Briars - (Bring Your Telescopes)
Telescope Learning Day Day starts at 4PM followed by a BBQ at 6pm. **This is a Public event.**

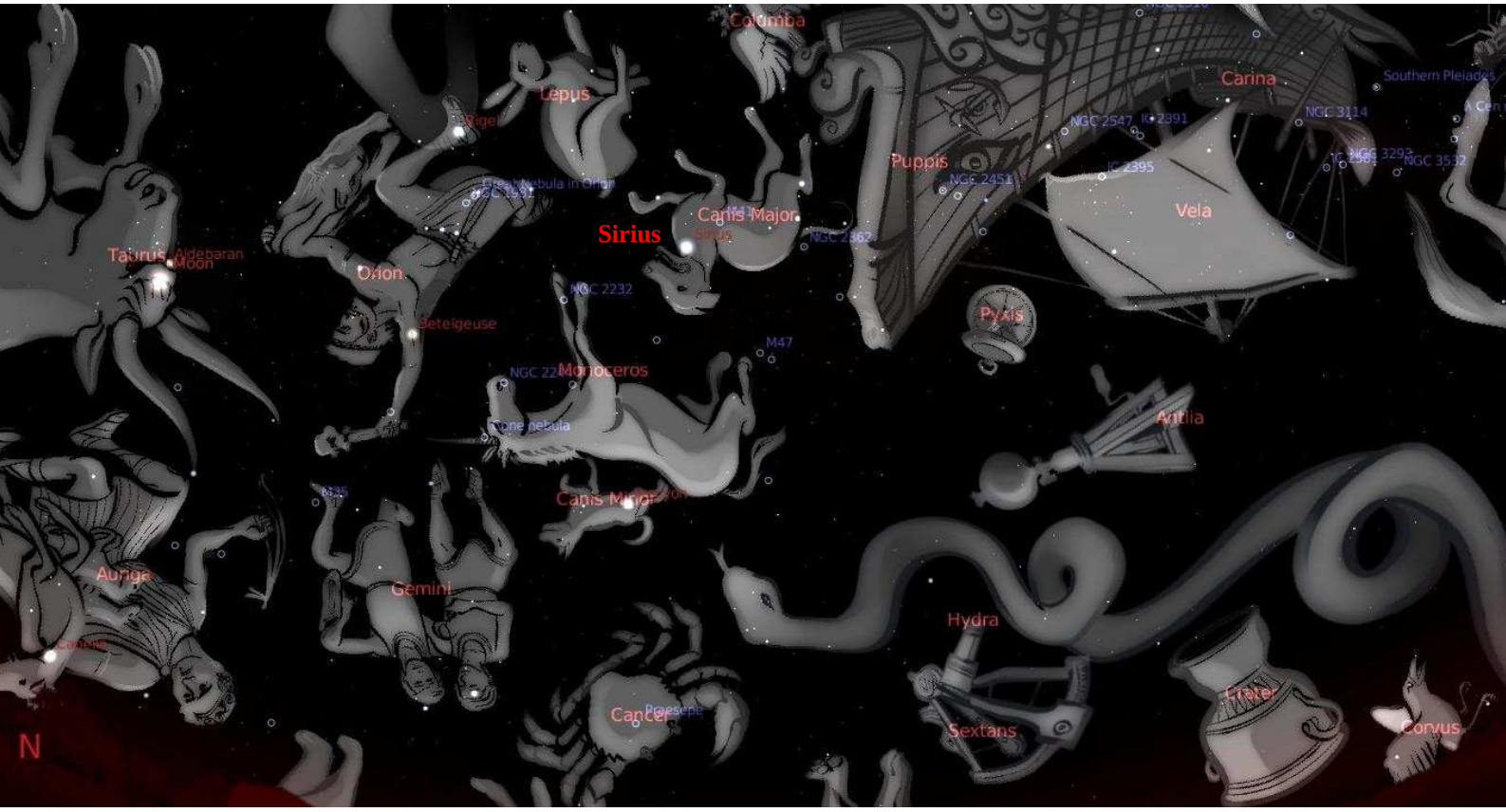
Please… we need helpers to keep the MPAS Observatory open to members on all Saturday nights.
If you can help, contact Greg Walton on 0415172503 or email - gwmpas@gmail.com

THE BRIARS SKY

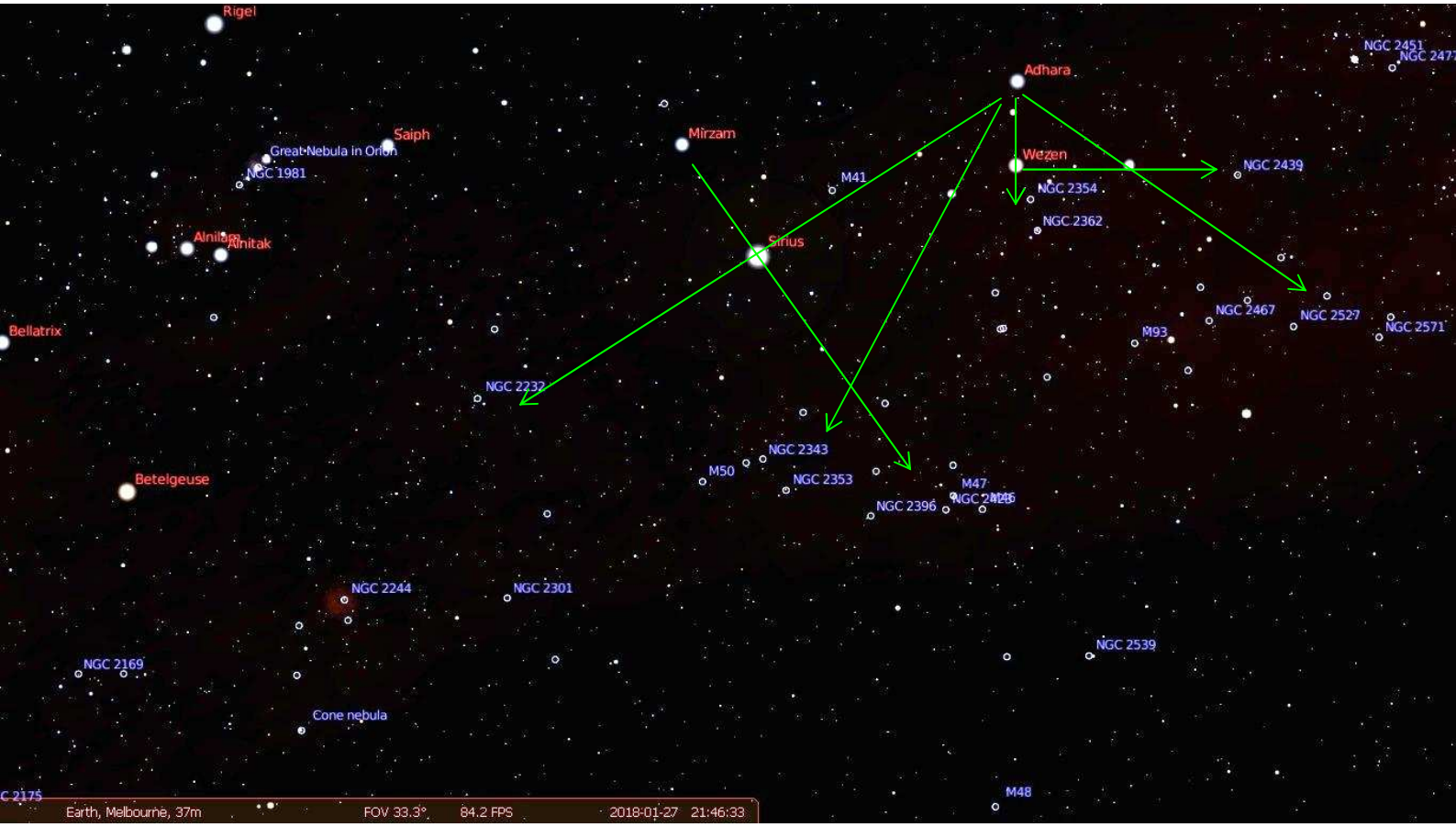
By Greg Walton

Mornington Peninsula Astronomical Society

Midsummer sees "Sirius" the brightest star in the night sky, riding high in the east. Sirius is in the constellation Canis Major the dog. Note, most northern constellations look upside down from the Briars....



Sirius is a good starting point when looking for those brighter Messier & NGC objects. Most objects on the chart below are open clusters, suitable for beginners with smaller telescopes. If you draw lines through the bright stars of Canis Major, these stars will help point you to the right spot in the sky to point your telescope. M41 can be found about 1/3 of the way between Sirius & Adhara. So forget the GOTO, see if you can star hop; you may find more than you are looking for.



Produced on Stellarium *by Greg Walton* - You can download Stellarium for free @ http://www.stellarium.org/

Blue Moon Total Lunar Eclipse at the Briars on the 31st January 2018.

Let's get one thing sorted; 'blue moon' doesn't mean the Moon will be blue. It's just a term given to the second full moon in the same month. So the 1st one is the full moon & the 2nd is the blue moon. (*This is quite apart from when a full moon occurs at noon, making the Moon look the same for 2 nights in a row.)* In Jan. 2018 the first full moon occurs on the 2nd, making the full moon on the 31st the blue moon.

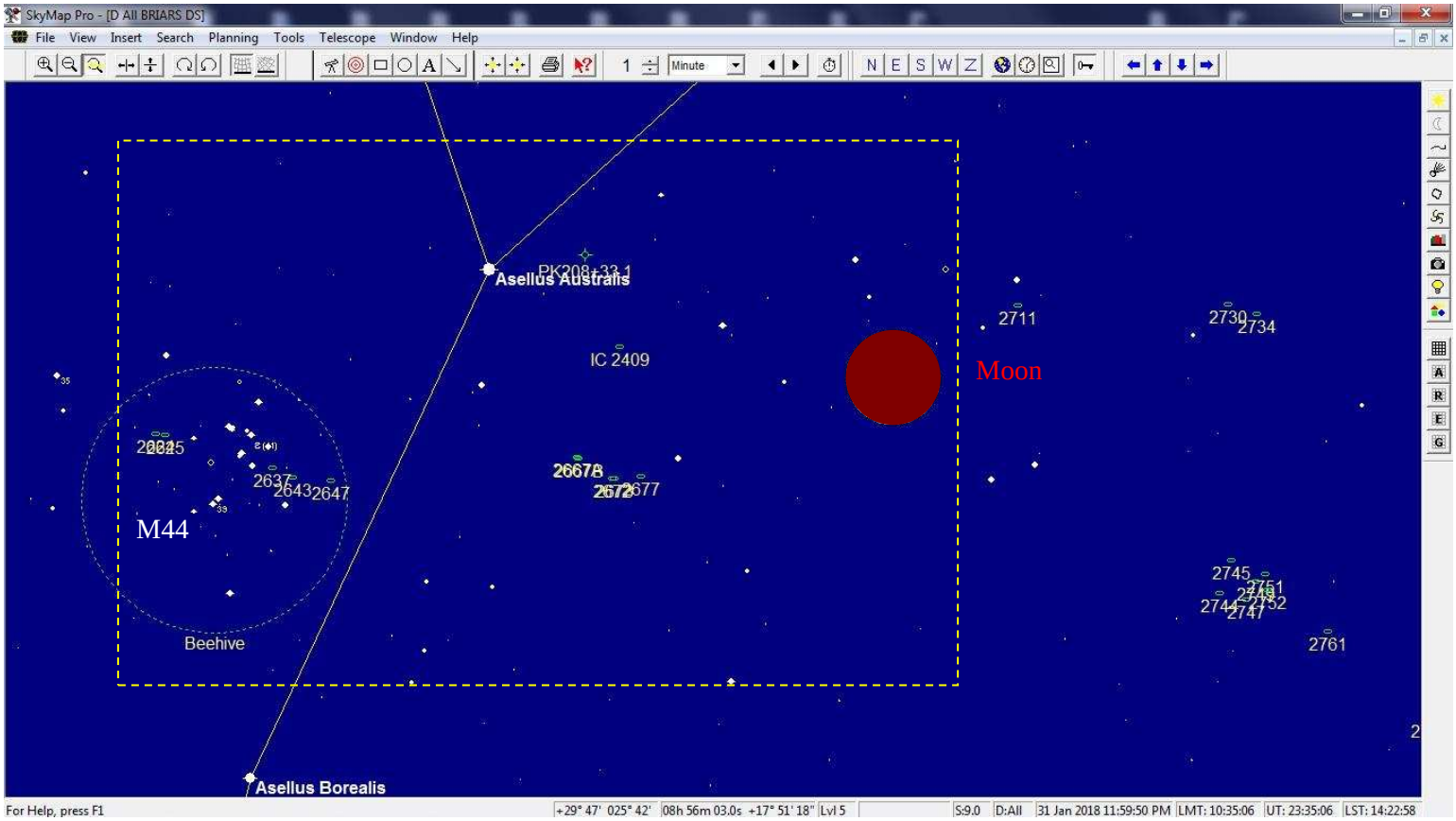
Lunar eclipses are great events, when the Earth goes between the Sun and the Moon, turning the Moon red. Sunlight striking the Earth's atmosphere bends around the Earth. Only the red light bends enough to reach the Moon, turning it different shades of red as time passes. A good eclipse only occurs every few years; this year we have two.

From the Briars this lunar eclipse starts at 10pm DST with a very slight darkening of the Moon, from the bottom right side, called the penumbra. **Then at 10:52pm the total eclipse begins & the Moon will start turning red over the next hour called the umbra. The Moon will stay red till 1:06pm** when the total eclipse ends; it will start losing its red colour over the next hour till 2:06am. The penumbra shadow will finish at 3:06am but most will not bother staying to watch, as it's only a very slight change in brightness.

One of the most interesting effects of a lunar eclipses is that the sky around the Moon becomes dark and sometimes stars are visible moving in and out of lunar mountains. You will need a telescope with 100x magnification to see these stars -in a part of the sky where theere're stars bright enough for us to see this. Also you will see stars disappearing on the RHS & reappearing on the LHS of the Moon.

You can see in the Sky Map below the lunar eclipse is only 4 degrees right of the Beehive M44 star cluster. This means we have a chance to get some interesting images. To get M44 & the Moon in the some frame, you will need a 300mm lens or shorter, to be mounted on a motorized equatorial mount. The yellow dotted rectangle is 5 deg. by 3 deg. about the frame size you would get with a 300mm lens on a 2/3 cropped sensor DSLR camera.

Warning these Lunar eclipses always attract the general public to the Briars!!!!!

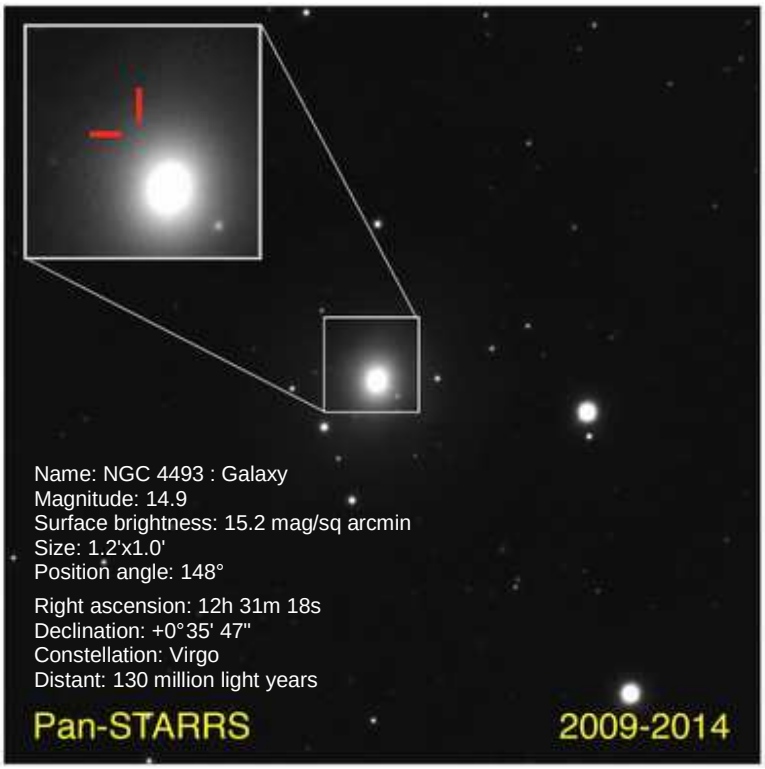


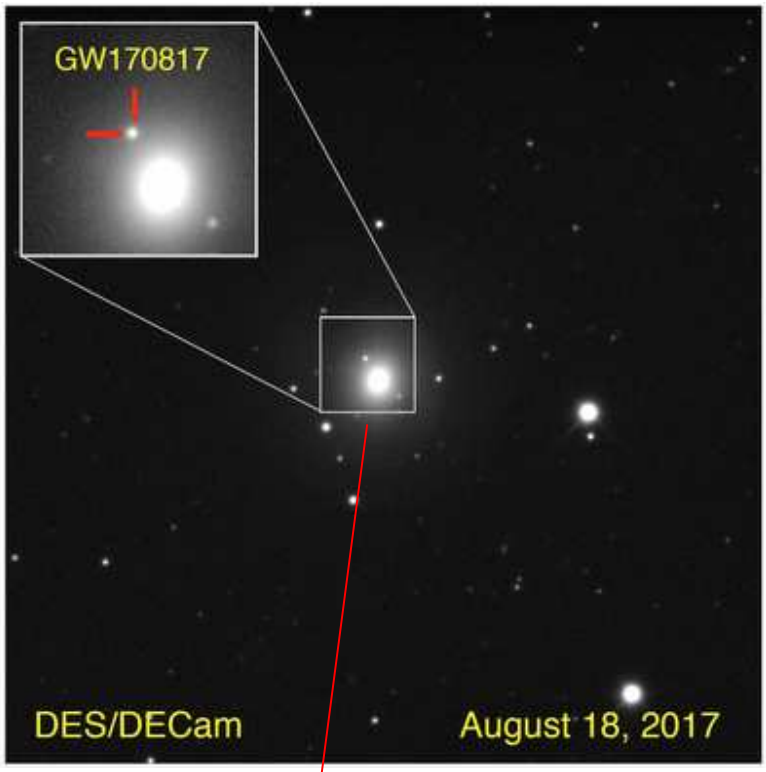
ASTRO NEWS

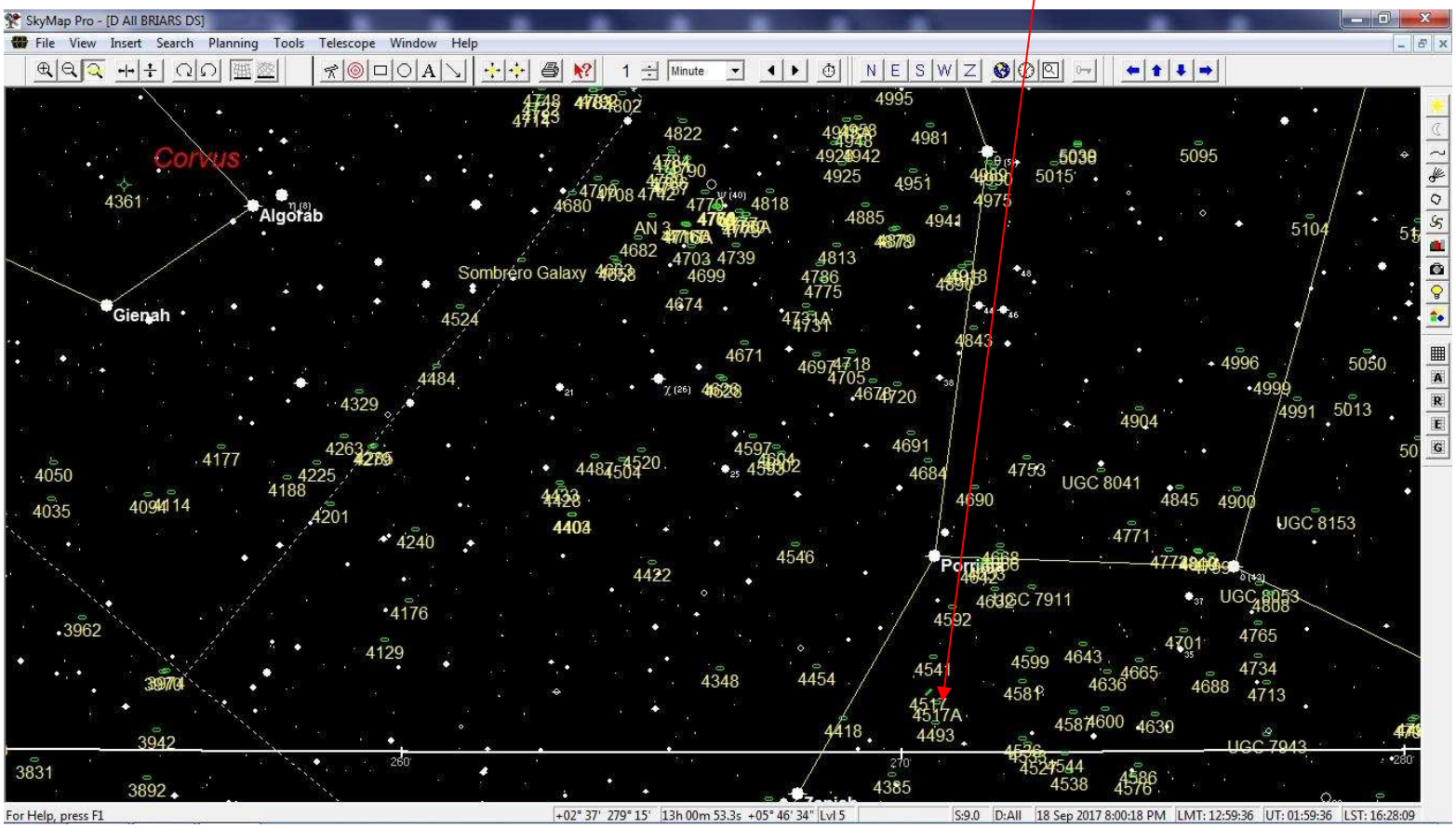
On 18th August 2017 gravitational waves were detected from the merger of 2 neutron stars, 130 million light years away &next to NGC4493 in the constellation Virgo, - first to be imaged by telescopes around the world.

Map below shows where NGC4493 - Magnitude:14.9 - Galaxy would have been at the time GW170817 was seen from the Briars location, about only one degree above the horizon, setting in the west at 8pm on the 18th August 2017.

If you wish to track down NGC4493 - The MPAS 350mm Meade telescope should be able to image NGC4493 by mid January. On the New Moon NGC4493 will be 30 degrees above the horizon in the east at 3am at the Briars.
So I will see you all there on the 17th January 2018 at 3am sharp! (Night of the MPAS society meeting)







Mornington Peninsula Astronomical Society - 2018 Calendar

Day	January	February	March	April	May	June	July	August	September	October	November	December	Day
1	M New Years Day	Th	Th	Su Daylight Saving Ends	T	F 8pm Public Night	Su	W	S	M	Th	S	1
2	T	F 8pm Public Night	F 8pm Public Night	M NACAA Easter	W	S	M	Th	Su Fathers Day	T	F 8pm Public Night	Su	2
3	W	S	S	T	Th	Su	T	F 8pm Public Night	M	W	S VicSouth	M	3
4	Th	Su	Su	W	F 8pm Public Night	M	W	S	T	Th	Su VicSouth	T	4
5	F 8pm Public Night	M	M	Th	S	T	Th	Su	W	F 8pm Public Night	M VicSouth	W	5
6	S	T	T	F 8pm Public Night	Su	W	F 8pm Public Night	M	Th	S	T Cup Day	Th	6
7	Su	W	W	S	M	Th	S	T	F 8pm Public Night	Su Daylight Savings Starts	W	F 8pm Public Night	7
8	M	Th	Th	Su	T	F	Su	W ASV	S APWS	M	Th	S	8
9	T	F	F	M	W ASV	S	M	Th AC	Su	T	F	Su	9
10	W	S	S	T	Th SPSP	Su	T	F	M	W ASV	S	M	10
11	Th	Su	Su	W ASV	F SPSP	M Queen's Birthday	W ASV	S	T	Th	Su Remembrance Day	T	11
12	F 8pm Public Night	M	M Labour Day	Th	S SPSP	T	Th AC	Su NSW	W ASV	F	M	W ASV	12
13	S	T	T	F	Su SPSP Mothers Day	W ASV	F	M NSW	Th AC	S	T	Th	13
14	Su	W ASV Valentines Day	W ASV	S	M	Th AC	S	T NSW	F	Su	W ASV	F	14
15	M	Th	Th	Su	T	F	Su	W MPAS Meeting 8pm	S	M	Th	S Members Xmas Party	15
16	T	F	F St Patricks day	M	W MPAS Meeting 8pm	S	M	Th NSW	Su	T	F	Su	16
17	W MPAS Meeting 8pm	S	S	T	Th	Su	T	F NSW 8pm Public Night	M	W MPAS Meeting 8pm	S	M	17
18	Th	Su	Su	W MPAS Meeting 8pm	F	M	W MPAS AGM 8pm	S 6pm Members	T	Th	Su	T	18
19	F 8pm Public Night	M	M	Th	S AC 6pm Members	T	Th	Su NSW	W MPAS Meeting 8pm	F	M	W Scorpius Deadline	19
20	S AC 6pm Members	T	T	F	Su	W MPAS Meeting 8pm	F	M	Th	S 6pm Society Dinner	T	Th	20
21	Su	W MPAS Meeting 8pm	W MPAS Meeting 8pm	S SA 6pm Members	M	Th	S 6pm Members	T	F	Su	W MPAS Meeting 8pm	F	21
22	M	Th	Th	Su	T	F	Su	W	S 6pm Members	M	Th	S	22
23	T	F SCAG	F	M	W	S 6pm Members	M	Th	Su	T	F	Su	23
24	W	S TLD 4pm Members	S SD 1pm Members	T ANZAC Day	Th	Su	T	F SCAG	M	W	S SS 6pm Members	M	24
25	Th	Su Scorpius Deadline	Su	W Committee	F SCAG	M	W Committee	S	T	Th Scorpius Deadline	Su	T Xmas Day	25
26	F Australia Day	M	M	Th Scorpius Deadline	S	T Scorpius Deadline	Th	Su	W Committee	F SCAG	M	W Boxing Day	26
27	S	T	T	F	Su	W Committee	F	M Scorpius Deadline	Th	S	T	Th	27
28	Su	W Committee	W	S	M	Th	S	T	F	Su	W Committee	F	28
29	M		Th	Su	T	F	Su	W	S	M	Th	S	29
30	T		F NACAA Good Friday	M	W	S	M	Th	Su	T	F	Su New Years Eve	30
31	W		S NACAA Easter		Th		T	F		W Halloween			31

Green Boxes - Public nights Friday @ the Briars 8pm
Yellow Boxes - MPAS Meeting @ the Briars 8pm to 10pm
Blue Boxes - Members BBQ nights (Saturday after the meeting) @ the Briars 6pm
Pink Boxes - Committee meetings @ the Briars 8pm to 10pm
Brown Boxes - ASV General Meeting @ the Herbarium Melbourne 8pm

TLD - Telescope Learning Day 24th February @ the Briars 4pm
SD - Solar Day on 24th March @ the Briars 1pm sharp
SA - Sky Atlas - How to use a Sky atlas 21st April @ the Briars 8pm
APWS - Astrophotography Workshop 8th September @ the Briars 1pm
SS - Summer Sky - Southern Objects 24th November @ the Briars 8pm
Society Dinner - 20th October @ the Briars 6pm

Version 2017-12-20

Autumn Equinox - March 20
Winter Solstice - June 21
Spring Equinox - September 23
Summer Solstice - December 22

Full Moon ○ New Moon ●

Bold Under lined Days - School Holidays
Grey Boxes - Weekends & Public Holidays
SCAG - Combined Scout, Cubs & Guides

Working Bees will be Noted in the calendar in Scorpius News Letter

AC - Astronomy classes Thursdays @ the Briars 8pm to 10pm
19th May, 14th June, 12th July, 9th August,13th September & 18th November
@ the Briars 8pm to 10pm

NACAA 2018 – Hosted by the Ballarat Astronomical Society 30th Mar - 2nd Apr
SPSP 2018 - South Pacific Star Party- Ilford NSW 10th - 13th May
National Science Week 12-20 August 2018 - Public Night will be 17th
VicSouth 2018 - Nhill Victoria 2nd to 6th November

MPAS Calendar 2018 - *by Greg Walton*

Link *http://www.mpas.asn.au/Calendar_2018.pdf*

New Victorian Public Holiday Grand Final Day 2018 - Some time in October

2018 Astronomy Classes

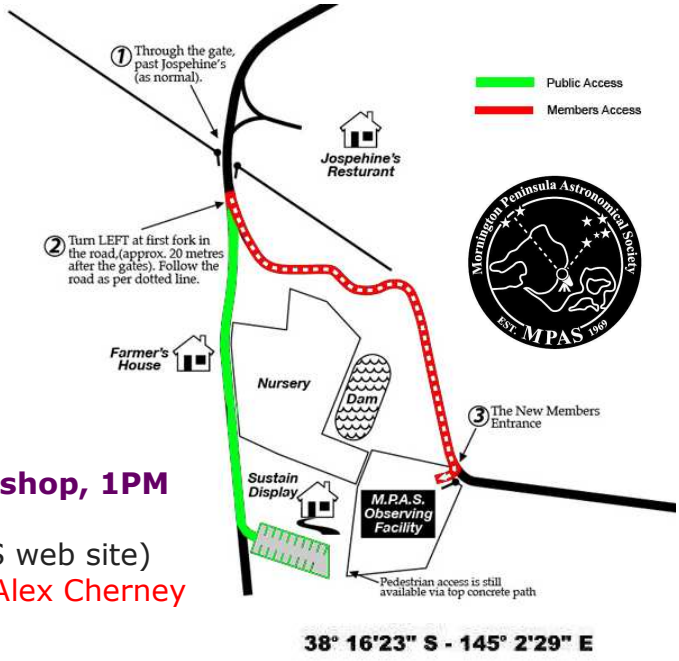
Saturday 20th January, 8PM - Observatory & Telescope Training Day
Starts after the Members' BBQ - Night Talk: Observatory Manager Anders Hamilton

Saturday 24th February, 4PM - Telescope Learning Day (Bring Your Telescopes)
Day starts at 4pm followed by a BBQ at 6pm. **This is a public event.**
Night Talk: Mark Stephens / Kevin Rossiter
What are Stars / Planets / Clusters / Galaxies & Nebulae
Telescopes & Mounts - How they work
Binocular Basics - What you will see through the eyepiece (field of views)

Saturday 24th March, 1PM sharp - Solar Day (Bring Your Telescopes)
Day starts at 1PM followed by a BBQ at 6pm.
Afternoon Talk: Ian Sullivan / Greg Walton
Making your own MPAS Sun Dials, Solar Viewing

Saturday 21st April, 8PM (Bring Your Telescopes)
Starts after the Members' BBQ - Night Talk: John Cleverdon
How Sky Atlas / Planispheres work - Winter Southern Hemisphere Objects

Saturday 19th May, 8PM
Starts after the Members' BBQ - Night Talk: Dave Rolfe
Astronomy Software & Photography



Thursday 14th June, 8PM
Peter Lowe's famous Winter Series, Part 1

Thursday 12th July, 8PM
Peter Lowe's famous Winter Series, Part 2

Thursday 9th August, 8PM
Peter Lowe's famous Winter Series, Part 3

Saturday 8th September, Astrophotography Workshop, 1PM
Day starts at 1PM followed by a BBQ at 6pm.
This is a Public event. Bookings Required. (See MPAS web site)
Afternoon Talk: David Rolfe, Greg Walton, Jamie Pole, Alex Cherney

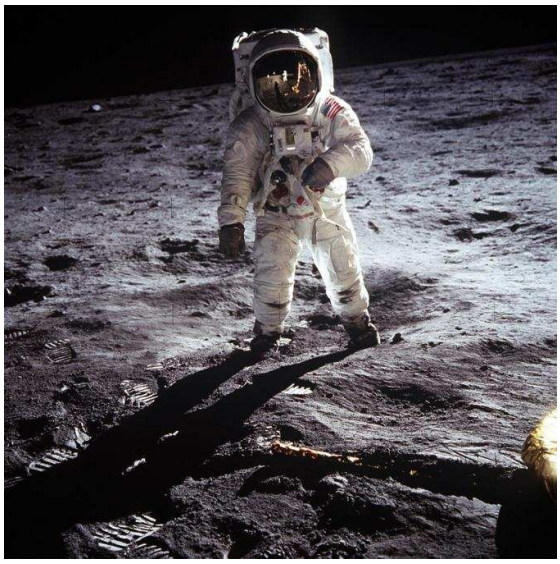
Thursday 13th September, 8PM
Peter Lowe's famous Winter Series, Part 4

Saturday 24th November, 8PM after BBQ (Bring Your Telescopes)
Starts after the Members' BBQ - Night Talk: Helmuth Schultes
Summer Sky (Southern Hemisphere Objects)

The Society can't run without the support from its members. Please, we need members to help out at all these events plus the monthly public nights and the many school viewing nights across the Mornington Peninsula and nearby.
This year we will be running 4 Friday viewing nights specially for Scout, Cubs & Guides (SCAG). Not to forget the many working bees at the MPAS Briars site.

The Mornington Peninsula Astronomical Society is Launched, *By Tony Nightingale*

The Mornington Peninsula Astronomical Society (MPAS) was founded in Frankston in July 1969 inspired directly by the historic first manned lunar landing that month. Originally formed as the Astronomical Society of Frankston, it has undergone several transformations whilst looking for a more permanent home.

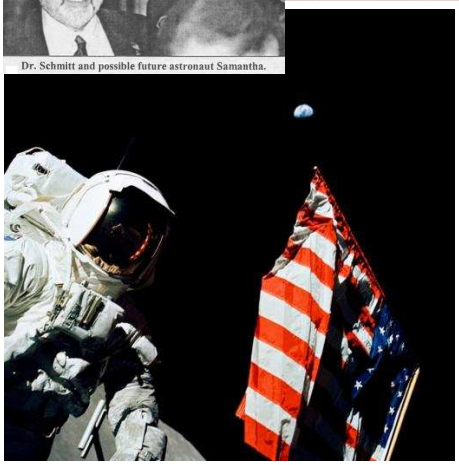


During the 1980's it operated the "Astronomy on the Move" programme to bring astronomy to the public using a special purpose caravan housing telescopes. Sited at parks around the Frankston region the caravan was used for public observing to show people what could be seen in our skies. In the early 1990's MPAS established a presence at The Briars, Mt Martha and now operates The Briars Astronomy Centre for the members' use.

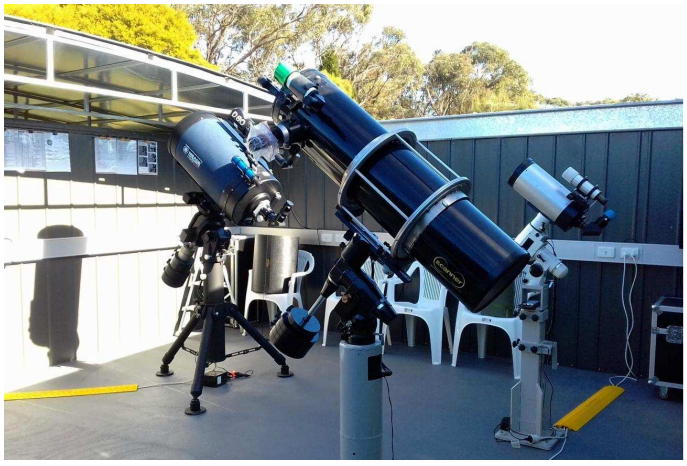
This site has been used for both public and members' viewing over nearly twenty years. During its history, the society has hosted three state astronomy conferences known as VASTROC and two national conventions known as NACAA establishing its place within the Australian amateur astronomy community. Today the Mornington Peninsula Astronomical Society is one of the major non-professional astronomical societies around Australia.

On July 17, 2002, the final man to set foot on the moon, Dr. Harrison Schmitt, visited the Mornington Peninsula. He was brought to Australia by the US-based Mars Society for their annual conference in Sydney. Several Nepean Rotary Clubs invited Dr. Schmitt to a charity dinner at the Mornington Racing Club to raise funds for the fight against polio during which $77,000 was raised. Seventy members of the Astronomical Society of Frankston attended. Dr. Schmitt, the only scientist ever to set foot on the moon, started his adventure on December 6, and concluded on December 19, 1972. He was accompanied on the voyage of the command module "America" and the lunar module "Challenger" by Eugene Cernan (spacecraft commander) and Ronald Evans (command module pilot). In manoeuvring "Challenger" to a landing at Taurus-Littrow, which is located on the southeast edge of Mare Serenitatis, Schmitt and Cernan activated a base of operations facilitating their completion of three days of exploration. This last Apollo mission to the moon for the United States broke several records set by previous flights before returning to earth and splashing down in the Pacific Ocean.

Dr. Schmitt and possible future astronaut Samantha.



MPAS (formerly the Astronomical Society of Frankston) was founded with the aim of fostering the study of Astronomy by amateurs and promoting the hobby of amateur Astronomy to the public. The Society holds a General Meeting each month for the exchange of ideas and information. Regular observing nights, both private and public, are arranged to observe currently available celestial objects. For decades, the Society has provided Astronomy on the Move educational presentations and observing nights for schools and community groups exclusively in the Peninsula and surrounding areas. Recently the Society has added a new purpose-built observatory to its Briars site to further its ability to perform its research and educational abilities.



The MPAS has a long history of introducing schools and community groups to the wonders of the night sky, and in recent years, has endeavoured to give the public the opportunity to view these same treasures at their monthly Star Gazing Nights. Held on the first Friday of each month at the MPAS Observation Centre, commencing at 8:00pm, these popular events are a great chance to view the Moon, planets like Venus, Mars, Jupiter and Saturn, interesting stars and clusters as well as bright satellite and Space Station passes, all with a wide array of telescopes supplied by our members. A variety of multimedia presentations are also shown and free light refreshments are supplied as well.

The Mornington Peninsula Astronomical Society prides itself on extending its facilities and services to the public, educational bodies, and other public societies. It has been actively associated with National Science Week since its inception, for over a decade. Being more than just a club, the Society aims to be a resource to the community and to its members. For school extra-curricular activities, the Mornington Peninsula Astronomical Society has numerous flexible solutions to bring astronomy to the people. They can provide interesting and informative presentations using in-house facilities, with Powerpoint being one of the preferred media. In addition to this, they have a group of dedicated members who will bring their telescopes to various locations. To date over 57,000 visitors have enjoyed the MPAS presentations and telescopes over the last 4 decades.

MPAS holds an Astrophotography workshop each year in September.
The day will have array of lectures given by experienced and acknowledged astro-photographers. Practical hands on sessions will be also held during the evening at their observatory.

Topics include; Introduction to Wide Field Astrophotography
Time Lapse Photography
Aurora Photography
Deep Sky Imaging
Image Processing

Weather permitting, attendees will be able to use some of the society premium equipment for some deep sky imaging.

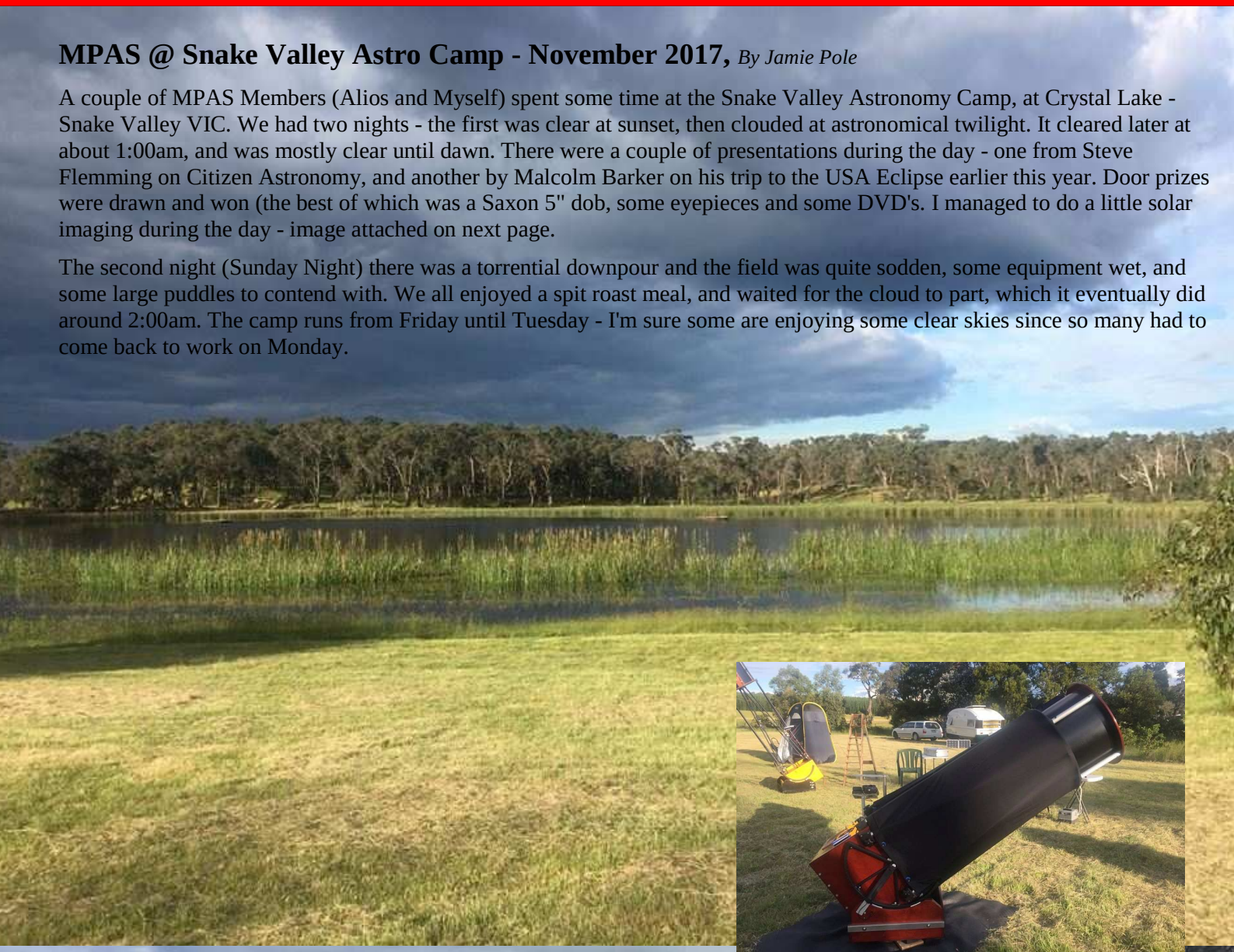
The Victorian Astronomy Convention, VASTROC, is a biennial conference for all amateur Astronomers in Victoria. It is hosted in odd years by the different astronomical societies around the State. MPAS is excited once again to be hosting VASTROC, with 2019 being the 17th since its inception. The next is set for the weekend of 20th & 21st of July 2019, aligning with the 50th Anniversary of the first Moon landing (and the Society's formation). It will be held at the regional Briars Astronomical Observatory and surrounding facilities in Mount Martha. This event will be open not only to members of astronomy groups, but also to other community groups with common interests and, indeed, to all members of the public with a fascination about the Universe. The convention will contain workshops, talks, displays and interactive forums in a social atmosphere. Its broad theme will be the Moon, and all things Apollo will be encouraged and celebrated.
Additionally, one of the session streams on the Saturday afternoon will be dedicated to an Astrophotography Workshop. This will be followed by the traditional VASTROC dinner. For more information go to the website: www.mpas.asn.au

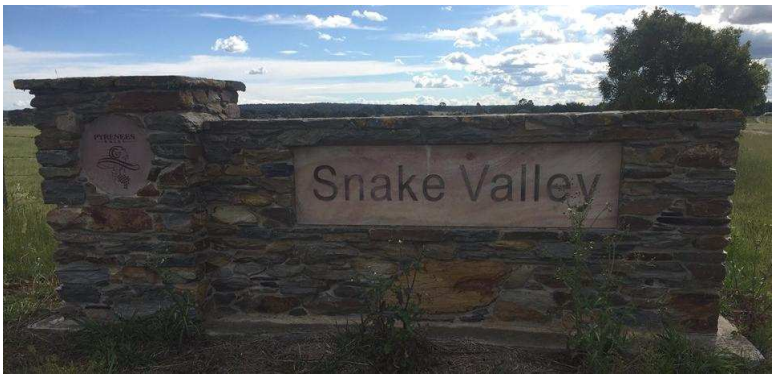
Acknowledgements:
Extracts from the article “Last Man on the Moon Comes to Mornington” by Dr Peter Skilton MPAS Members.
Information & extracts from MPAS website by David Rolfe.
History of Apollo 17 mission & images of astronauts by NASA.

MPAS @ Snake Valley Astro Camp - November 2017, *By Jamie Pole*

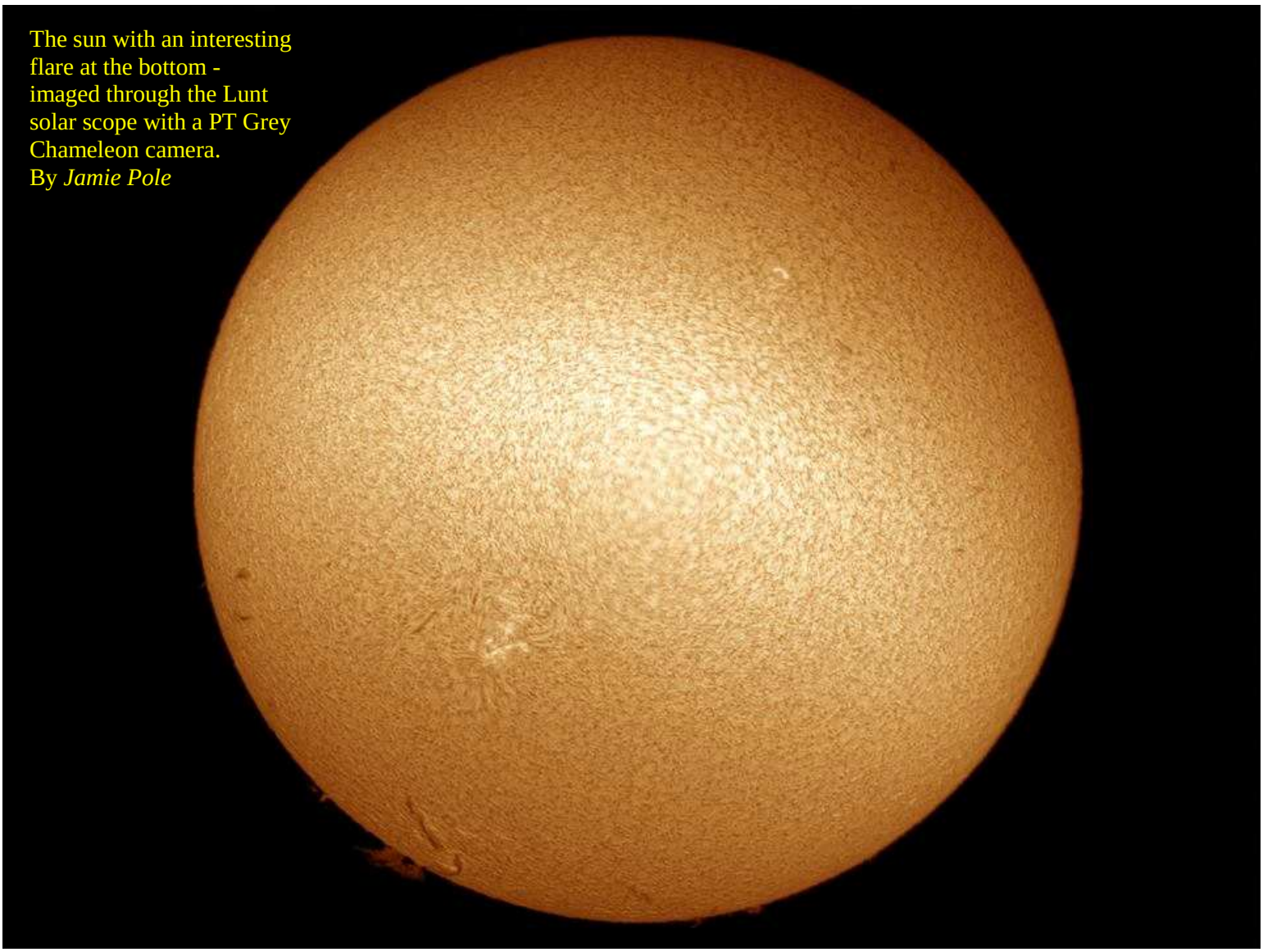
A couple of MPAS Members (Alios and Myself) spent some time at the Snake Valley Astronomy Camp, at Crystal Lake - Snake Valley VIC. We had two nights - the first was clear at sunset, then clouded at astronomical twilight. It cleared later at about 1:00am, and was mostly clear until dawn. There were a couple of presentations during the day - one from Steve Flemming on Citizen Astronomy, and another by Malcolm Barker on his trip to the USA Eclipse earlier this year. Door prizes were drawn and won (the best of which was a Saxon 5" dob, some eyepieces and some DVD's. I managed to do a little solar imaging during the day - image attached on next page.

The second night (Sunday Night) there was a torrential downpour and the field was quite sodden, some equipment wet, and some large puddles to contend with. We all enjoyed a spit roast meal, and waited for the cloud to part, which it eventually did around 2:00am. The camp runs from Friday until Tuesday - I'm sure some are enjoying some clear skies since so many had to come back to work on Monday.





The sun with an interesting flare at the bottom - imaged through the Lunt solar scope with a PT Grey Chameleon camera.
By *Jamie Pole*



The Green Flash, *By Greg Walton*

I was watching the movie "Pirates of the Caribbean". Their ship was trapped in the mirrored underworld. The only escape was when they could see the green flash at sunset, they would rock the ship till it turned upside down, freeing the ship from the underworld.

While in Broome I thought this could be an ideal time to see if I could catch the green flash, as the sky was clear & the day was warm. It does help if there are different layers of hot air near the horizon. This is why it's rare to see the green flash in the cooler morning sunrise. I fitted a 300mm lens to my DSLR camera, grabbed a tripod & headed to Cable Beach, which has a westerly outlook, where I waited till sunset. Once the sun touched the horizon I started taking photos every 5 seconds. The sun was 1/2 a degree in the sky & took only 2 minutes to disappear below the horizon. I could see the sun was being distorted into a mushroom shape. Could this be our lucky day? As the sun finally slipped from view I took photos every 1/2 second.

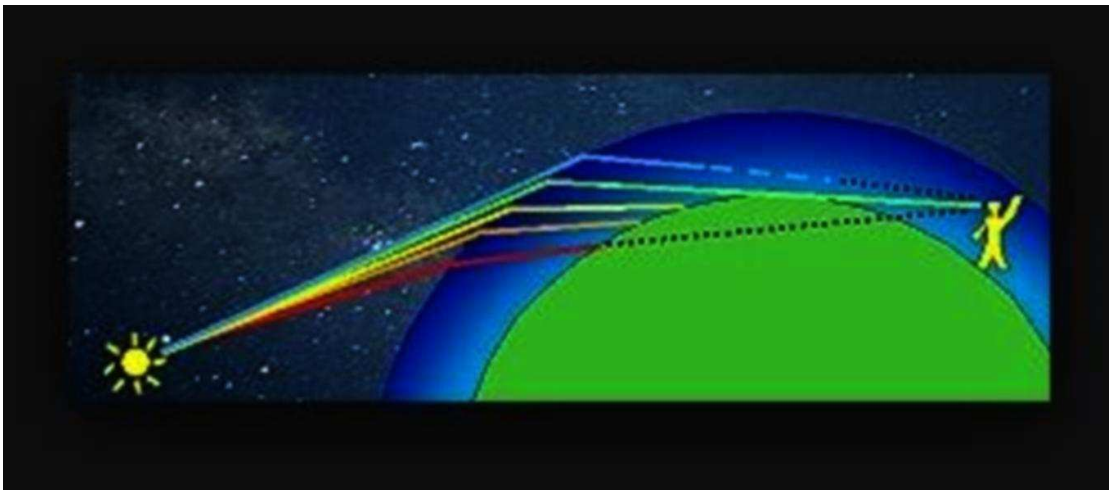
I did get something as you can see, more a yellow then a green. But this could be the exposure time, if the exposure time was a little less, it may have been a bit greener. I tried the following night but we saw nothing. Below is a sequence of images from the night: all have been cropped to 25% of their size.

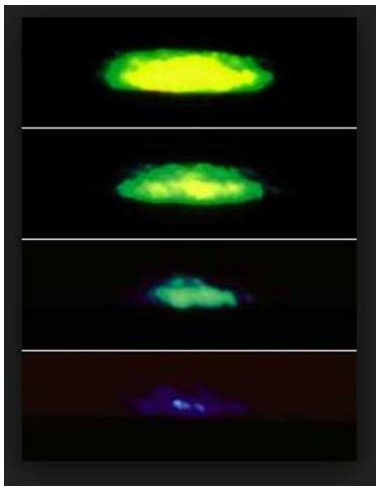
Green Flash taken from Broome with 300mm Lens 18 July 2015 By Greg Walton

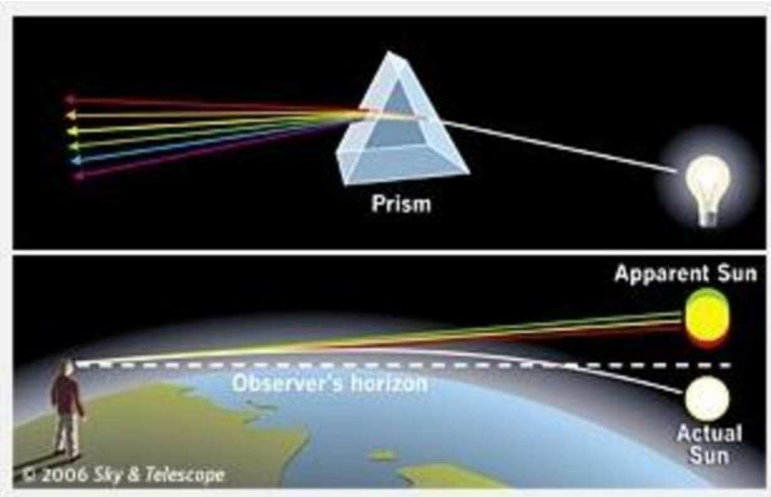
Cropped by 50%

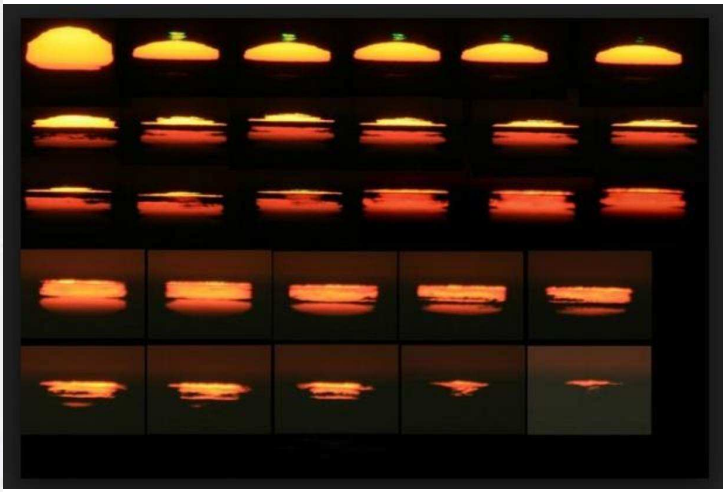
What causes the Green Flash?

White light is made up of all the colours of the rainbow. When light passes through a prism it's split into all the colours of the rainbow, with each colour bending a bit more. In the case of the green flash, as the sun dips below the horizon, the Earth's atmosphere acts like a prism, only allowing the green light to bend far enough to get over the horizon. On some very rare occasions a blue flash is seen as the blue light bends even further than the green light. See series of images from the web below, showing how the colours relate to each other.

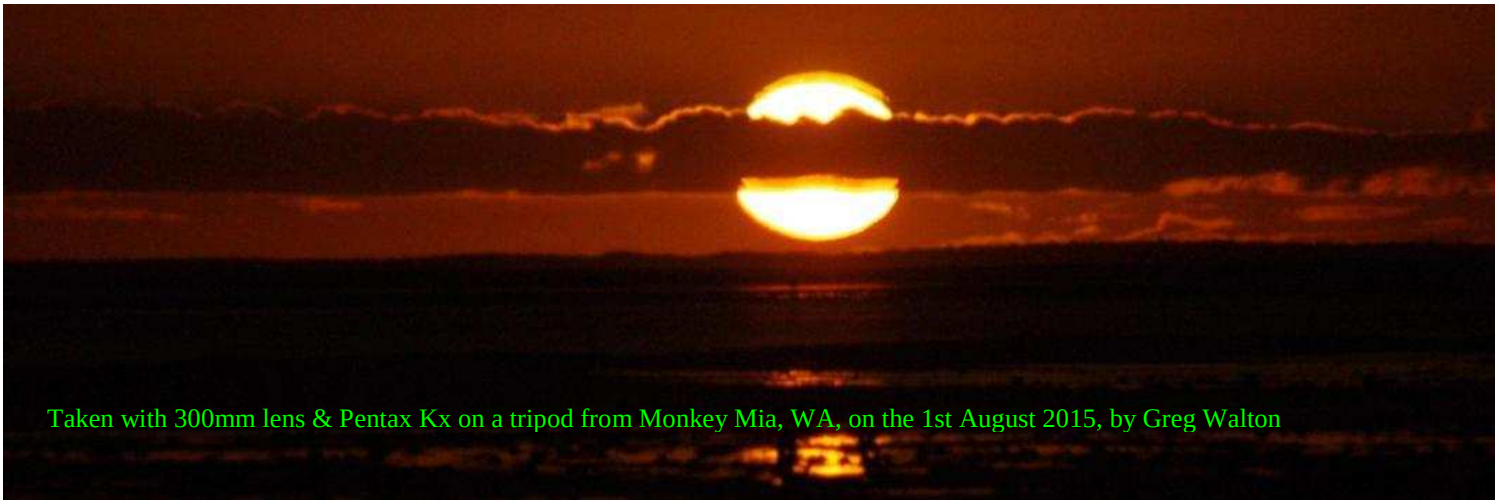








Can the same thing happen with the Moon? Yes, but even rarer. First you need a full moon at sunset. This is because the air on the horizon would still be hot enough and more likely to have hot layers; because if the Moon were to rise later in the night the air would have had time to cool, reducing any hot layers effect. Below - The image I took of the Moon rising in the east at Monkey Mia, WA, showing some layering. Not quite a green flash, but the atmosphere has split the light from the Moon.



Taken with 300mm lens & Pentax Kx on a tripod from Monkey Mia, WA, on the 1st August 2015, by Greg Walton

MPAS Briars Gallery, *By Greg Walton*

All images taken at the Briars

MPAS Briars Gallery, *By Tony Nightingale*

All images taken at the Briars

Lagoon Nebula M8 - Taken with 127mm Refractor at The Briars

Eta Carina NGC3372 - Taken with 127mm Refractor at The Briars.

By Tony Nightingale

NGC7599, NGC7590, NGC7582 Galaxies in Grus.

Taken on Meade at Briars, 19/11/17. *By Tony Nightingale*

Trifid Nebula M20 - Taken with 127mm Refractor at The Briars

By Tony Nightingale

Omega Centauri NGC5139 - Taken with 127mm Refractor at the Briars.

By Tony Nightingale

Embroidered MPAS merchandise

All Items will have the MPAS Moon phase logo on the left hand side.
Colours have been selected to minimize clash with logo.
(by The Uniform guys)

(A) Men's Micro Waffle Polo

- BIZ COOL™ 100% Breathable Polyester
- Micro waffle knit textured fabric
- Self fabric collar with concealed 2 button placket
- Matching self fabric cuff on sleeve
- Side splits
- Loose pocket included
- 170 GSM
- Modern Fit

Sizes : S,M,L,XL,2XL,3XL,5XL
Colours : Black, Navy, White
Price : $36

(B) Ladies Micro Waffle Polo

- BIZ COOL™ 100% Breathable Polyester
- Micro waffle knit textured fabric
- Self fabric collar with Zip
- Matching self fabric cuff on sleeve
- Side splits
- 170 GSM
- Modern Fit

Sizes : 8,10,12,14,16,18,20,22,24
Colours : Black, Navy, White
Price : $36

(C) Kids Botany Polo

- 160gm 100% Driwear polyester moisture removal
- DriWear Mini-waffle knit easy care fabric
- Self fabric collar
- 3 button placket
- 2 button placket on sizes 4, 6 & 8

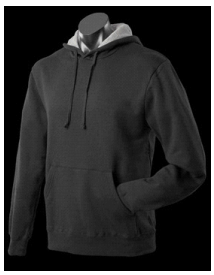
Sizes : 4,6,8,10,12,14,16
Colours : Black, Navy, White
Price : $25

(D) Adults Auto Winter Jacket

- Polyester/Polyamide (Nylon) shell
- Quilted satin lining
- Zip-through collar with snap closure wind panel
- Internal pockets
- Up to Size 3XL
- Black Only

Sizes : S,M,L,XL,2XL,3XL
Price : $70

(E) Hotham Hoodie



- 310gm blended 80% cotton/20% polyester
- Jersey knit fleece knit, low pill
- Grey marle hood liner and flat tie cord
- Sizes Small to 3XL

Sizes - Men : S,M,L,XL,2XL,3XL
Ladies : 8,10,12,14,16
Colours : Black, Navy, Charcoal
Price : $48

(F) Kids Full Zip Fleece Jacket

- 100% Polyester
- Black Only

Sizes : 4,6,8,10,12,14
Price : $30

(L) Adults Scarf

- 300g Anti-Pill Polar Fleece Scarf

Colours : Navy, Black, Bottle Green, Royal, Maroon
Price : $18

(G) Woolmix Corporate Pull Over Knit

- 50% Wool 50% Acrylic
- 'V' neck long sleeve plover
- Easy Fit

Sizes : XS,S,M,L,XL,2XL,3XL,5XL
Colours : Black, Navy, Charcoal
Price : $75

(M) Spirit Pole

- 100% Breathable Polyester

Colours : Black, Navy, White, Green
Sizes - Men : S,M,L,XL,2XL,3XL,5XL
Ladies : 6,8,10,12,14,16,18,20,24
Price : $25

(N) PVN Field Vest

- 100% Polyester
- Light Blue only

Sizes : S,M,L,XL,2XL,3XL,5XL
Price : $15

(J) Adults Acrylic Fleece Beanie

- One Size Fits All
- Stretch Beanie

Colours : Black, Charcoal, Navy, Pink, Royal, Purple
Price : $15

(K) Microfibre Structured Brim Hat

- Adjustable Band and Toggle

Sizes : Small / Large
Colours : Bottle Green, Royal Blue, Navy Blue
Price : $20

ORDER FORM

ITEM (letter) NAME SIZE COLOUR AMOUNT $

TOTAL $:

As this is a batch order, all orders need to be received and paid by the end of March 2018
Orders can also be emailed to d.rolfe@mpas.asn.au and payment to MPAS BSB:033272 A/C:162207

Orders are also taken on-line at https://www.trybooking.com/MFEJ

SOCIETY INFORMATION


Peter Lowe


Greg Walton


Peter Skilton


Jamie Pole


Tony Nightingale


Stewart Gangell


Anders Hamilton


Heath Lewis


Mark Stephens


Dave Rolfe

OFFICE BEARERS OF THE MORNINGTON PENINSULA ASTRONOMICAL SOCIETY

President: Peter Lowe
Vice President: Greg Walton
Committee: Tony Nightingale, Stewart Gangell, Mark Stephens, Heath Lewis, Anders Hamilton & Dave Rolfe

Secretary & Phone Contact : Peter Skilton
Treasurer: Jamie Pole
Web master: Dave Rolfe
Scorpius editor: Greg Walton
Library: Fiona Murray & Fred Crump

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

SOCIETY MEETINGS

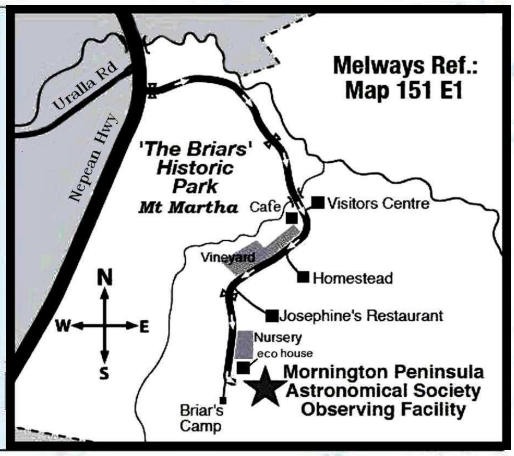
Meeting Venue: MPAS Astronomy Centre
The Briars, Nepean Hwy, Mt Martha
(Melways ref. 151/E1)
Society meetings: Don Leggett Astronomy Centre
8pm on the third Wednesday of the month
(*except December*)
(See map at right & Below)

Please Note - 2018 Society meetings will be at the Briars.

Mornington Peninsula Astronomical Society

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

Phone: 0419 253 252
Mail: PO Box 596, Frankston 3199, Victoria, Australia



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


Fiona Murray


Fred Crump

LIBRARY

The Society also has books & videos for loan from it's library, made available on most public & members nights at The Briars site, contact Fiona Murray or Fred Crump

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, to go: www.groups.yahoo.com/e-scorpius and sign up to Yahoo groups - you are required to sign up to Yahoo groups to join E-Scorpius. Once you have signed up at Yahoo groups, email welcome@mpas.asn.au say that you want to join E-Scorpius & you will be added to the E-Scorpius list.
Member forum : http://www.mpas.asn.au/members_forum.html

VIEWING NIGHTS - MEMBERS ONLY

Viewing Night - Members only
Any night, at The Briars, Nepean Hwy, Mt Martha, starting at dusk.
Members visiting The Briars for the first time must contact Greg Walton on 9776 2074 or 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.

Mornington Peninsula Astronomical Society

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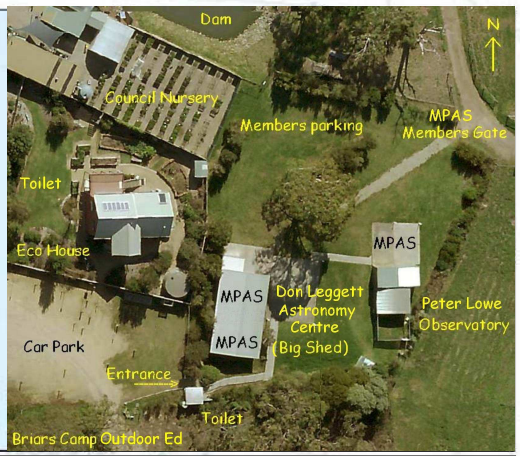

Members please write a story about your astronomy experiences and add some pictures.
Send them to the editor: Greg Walton gwmpas@gmail.com
MPAS Scorpius on face book - https://www.facebook.com/Scorpius-MPAS-1694951307446763/

SCORPIUS **The journal of the Mornington Peninsula Astronomical Society**