

Society News

AGM - August 2014

Yes I know it's boring, but we are heading towards AGM time again! At a quick hand-show recently, most of the committee agreed to stand again which is very good news - we will however need a Secretary for 2014/15 and if anyone fancies a go at editing/producing NZ..... I could do with a break ;)

We need help to keep VAS going, so please consider standing. There's a nomination form attached to this issue of NZ.

Electrician?

Some recent exploring at the observatory has revealed a few electrical "anomalies". If you are a qualified electrician or know one, could you please let me know as we need to get a few things properly and safely sorted out.

External Lighting Survey

There's a quick external lighting survey at the back of NZ this month. We need to get a lot of responses to this to help with the Dark Sky Project so please complete the form and hand it to a member of committee or send it to me.

We are hoping to get something similar published in the County Press in the near future

Brian Curd

Events - Help Request

I have received a request for VAS to attend a quite large astronomy events to be held in 2014:

- **National Trust Mottistone**
Weds 27th Aug - Start time 1930
VAS will be one of 5 activities around the garden including bats, moths, birds and hedgehogs

The event is in a dark sky area and should be a good evening. VAS raise considerable funds through events like these so please, if you can help at Mottistone, I'd really like to hear from you. It would be good to get about 10 telescopes at the event if we can.

VAS Website: www.wightastronomy.org

Submissions or letters to New Zenith are always welcome and should be sent to:

The Editor New Zenith
35 Forest Road
Winford
Sandown PO36 0JY

Tel: 01983 864303 or email: editor@wightastronomy.org

Material for the next issue by the 6th of the month please.

VAS Registered Office

35 Forest Road, Winford, Isle of Wight, PO36 0JY

The Vectis Astronomical Society and the Editor of the New Zenith accept no responsibility for advice, information or opinion expressed by contributors.

Registered Charity No 1046091

Observatory Diary

Monday, 19.30hrs	Members Only by arrangement Telescope and night sky training. Contact Barry Bates 01983 872979
Thursday, 19.30hrs	Members and Public. Informal meeting and observing.

Contents this Month

<i>Society News</i>	1
<i>Monthly Meeting Calendar 2014</i>	2
<i>June 2014 Sky Map</i>	3
<i>June 2014 Night Sky</i>	4
<i>'Blood Moon' over Texas Bluebonnets</i>	5
<i>If you go down to the observatory</i>	6
<i>What's Up?</i>	7
<i>The Back Page?</i>	8
<i>Nominations Form 2014/15</i>	9
<i>VAS External Lighting Survey 2014</i>	10

Monthly Meeting Calendar 2014

Check the website for up to the minute information.
All details correct at time of publication.

Date	Subject	Speaker
23 May	Dark Matter	Dr Thomas Kitching
27 June	The Radio Sky	Paul Hyde BAA
25 Jul	Exoplanets and How We Find Them	Jakub Bochinski, Chairman OU Astronomy Club
22 Aug	TBA and AGM	
26 Sep	Mysteries of the Solar System	Dr Stuart Eves Astrium
24 Oct	Asteroids, Comets, Impacts. Should we worry?	Robin Catchpole
28 Nov	TBA	David Waltham

Telescope Training

Members wanting training on the observatory Meade LX200 should contact:

Barry Bates on 872979

Observatory Visits Booked

Tues 10th June 17.45-19.45	Shanklin Beaver Scouts
It would be appreciated if members could avoid using the observatory at these times.	

Members using the observatory outside normal Thursday meetings MUST enter a line or two in the Observatory Log Book.

On several recent occasions, lights, heaters and the Meade LX200 have been left on!

When you leave the observatory please ensure it is secure and all lights, heaters and telescopes are TURNED OFF.

VAS Contacts 2013/14

President	Barry Bates president@wightastronomy.org
Chairman	Bryn Davis chairman@wightastronomy.org
Secretary	Rebecca Mitchelmore secretary@wightastronomy.org
Treasurer	David Kitching treasurer@wightastronomy.org
Observatory Director	Brian Curd director@wightastronomy.org
Programme Organiser	Elaine Spear & Chris Wood progorg@wightastronomy.org
NZ Editor	Brian Curd editor@wightastronomy.org
Membership Secretary	Norman Osborn members@wightastronomy.org
NZ Distribution	Brian Bond distribution@wightastronomy.org
Others	Mark Williams Nigel Lee

Island Planetarium @Fort Victoria

The Island's Telescope Professionals

New and Used Meade Celestron Telescopes
New dealers in Skywatcher & Vixen in 2013

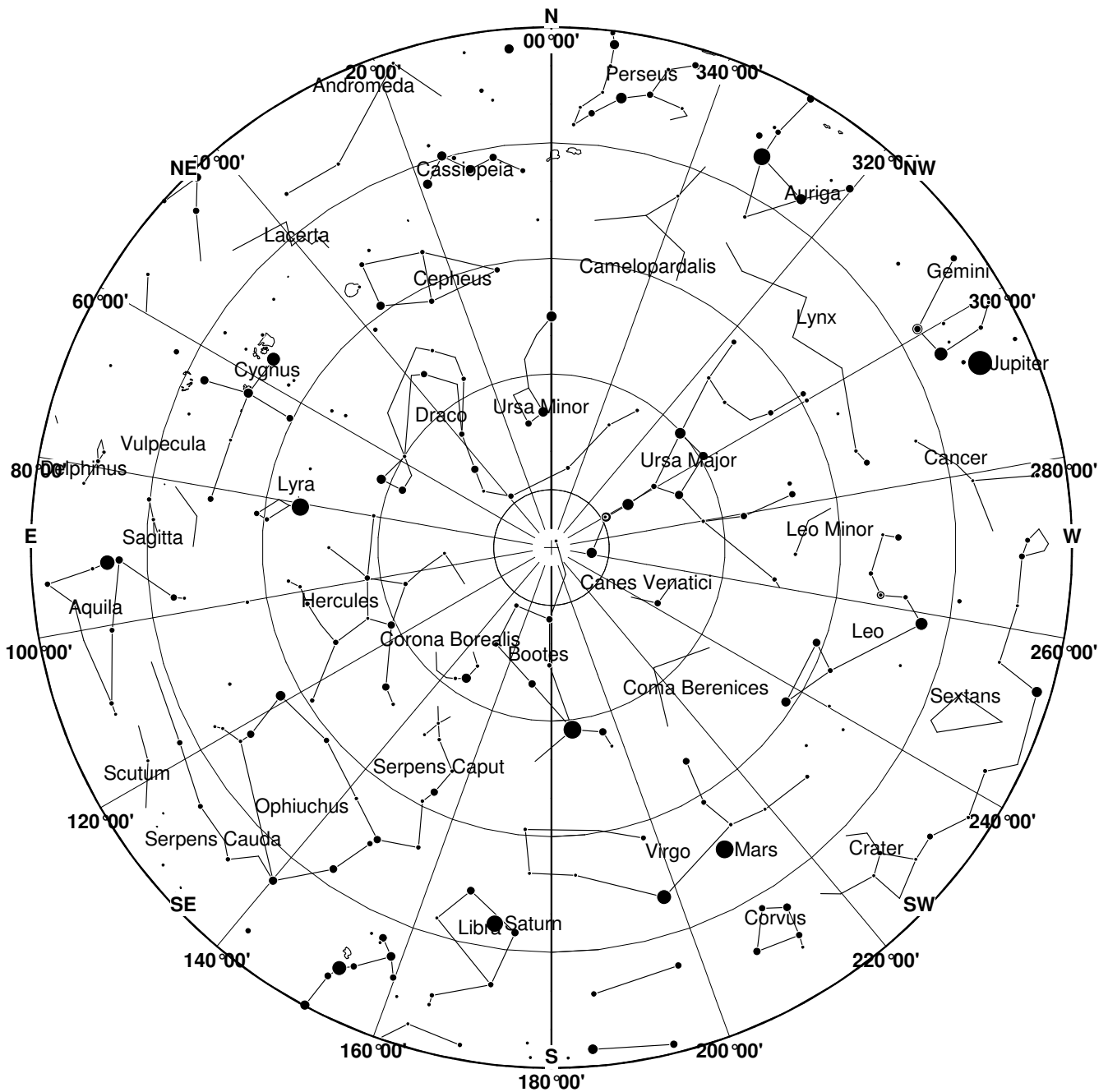
Used equipment in stock

TAL 200mm Newtonian Reflector
Skywatcher 180mm Maksutov Cassegrain
Celestron 150mm Reflector (NEW)
Celestron 120mm Refractor
Skywatcher 120mm Refractor
Various starter scopes and accessories

Discounts and deals for VAS members

Call Paul England – VAS Member
on 761555 - leave your number
if I am not there and I'll call you back
also - enquiry @islandastronomy.co.uk

June 2014 Sky Map



View from Newchurch Isle of Wight UK - 2200hrs - 15 June 2014

Globular Clusters

A globular cluster is a spherical collection of stars that orbits a galactic core as a satellite. Globular clusters are very tightly bound by gravity, which gives them their spherical shapes and relatively high stellar densities toward their centers. The name of this category of star cluster is derived from the Latin globulus—a small sphere. A globular cluster is sometimes known more simply as a globular.

Although it appears that globular clusters contain some of the first stars to be produced in the galaxy, their origins and their role in galactic evolution are still unclear. It does appear clear that globular clusters are significantly different from dwarf elliptical galaxies and were formed as part of the star formation of the parent galaxy rather than as a separate galaxy. However, recent conjectures by astronomers suggest that globular clusters and dwarf spheroidals may not be clearly separate and distinct types of objects.

*This article is licensed under the [GNU Free Documentation License](https://www.gnu.org/licenses/old-licenses/fdl-1.0.html).
It uses material from the Wikipedia article "[Globular Cluster](https://en.wikipedia.org/wiki/Globular_Cluster)"*

June 2014 Night Sky

The Summer Solstice, the point at which the Sun is at its most northerly point in the sky occurs this year on June 21 at 05:36 UT.

Moon Phases

New	1 st Qtr	Full	Last Qtr
27th Apr	5th	13th	19th

Planets

Mercury

Having made an appearance in the evening sky last month Mercury is now passing between us and the Sun, so is not visible this month.

Venus

While Venus is only about 10° above the Eastern horizon at sunrise, it is so bright that it can be easily seen against the very bright dawn sky. It is now well on the other side of the Sun and through a telescope shows a distinctly gibbous phase, but being so low down on the horizon the atmospheric turbulence will severely distort the view.

Mars

Mars is now past its best and will, by the end of the month, be noticeably fainter and through a telescope noticeably smaller. It is still worth observing and watching how quickly it changes in size gives a good feel for how quickly things are moving around the solar system. Look for the bright ruddy hued object in the south south western sky as darkness falls.

Jupiter

Jupiter can still be seen low down in the north western sky at twilight, but is now too low down to be considered as a favourable object for observation.

Saturn

Saturn is now just past opposition and well placed for observing. Look for it in south as the sky darkens; it will be available for a few hours before it gets too low down for stable viewing.

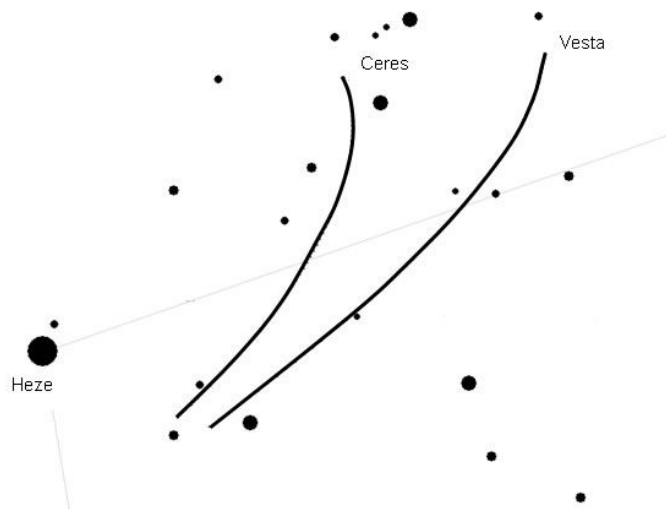
Uranus & Neptune

Both the outer Ice Giants are lost in the glare of the rising sun until later in the summer.

Asteroids Vesta & Ceres

The two bright asteroids Vesta and Ceres come close to each other in the constellation of Virgo. As the month progresses they get closer and closer to each other such

that as the month closes they are within a moon diameter of each other. The finder chart shows the stars of Virgo around the bright star Heze down to magnitude 8, Vesta is a little below magnitude 6 and Ceres magnitude 7.



Finder Chart for Asteroids Vesta and Ceres in Virgo During June 2014

Deep Sky

M4 The Cat's Eye, Globular Cluster RA 16h 24m Dec -26° 33' mag 7.5

At about 7200 light years this 10,000 million year old cluster may be the closest globular cluster to our solar system. This core of this cluster is rather looser than most globulars with a distinct chain of stars running across its centre.

M5 Globular Cluster RA 15h 19' Dec 2° 5' mag 5.6

This globular cluster contains what is believed to be some of the oldest stars in the universe at about 13,000,000,000 years old. To find this group of old timers look the width of a good hand span from the bright yellow star Arcturus towards the red Antares. It is in an area of sky rather devoid of bright guide stars but can be picked out in binoculars as a fuzzy star. Although Messier was certain that the nebula contained no stars, any reasonably good modern telescope should be able to resolve about 200 stars surrounding the tightly packed core.

M12 Globular Cluster RA 16h 47' Dec -1° 57' mag 8.0

M12 is located in the centre of the constellation of Ophiuchus a rather large constellation next to the summer Milky way who's outline is made up from 2nd and 3rd magnitude stars. In most clusters the smaller stars are those with the greatest numbers, they live longer and outlast the larger members that either explode as supernovae or become white dwarves at the end of their lives. M12 appears to have a surplus of large stars and it is thought that it has lost its smaller members through interactions with the Milky way and by the time the Sun comes to the end of its life this globular will have been completely shredded.

Peter Burgess



'Blood Moon' over Texas Bluebonnets

Mike Mezeul - "I had been planning this shot for about two weeks before Tuesday morning's lunar eclipse. With every lunar eclipse that occurs, my social media feeds blow up with tight shots of the moon, which are great for detail, but I've always felt they lacked "life."

With that said, I knew that I wanted to create a composition that not only showed the amazing eclipse, but tied in an incredible foreground as well. I mean, why not include the Earth? We are kind of the reason for the lunar eclipse, right?

With the spring wildflowers popping up around Texas, I really narrowed down a search for a large bluebonnet field. I loved the idea of a big blue field contrasting with the red moon. After some tips via Facebook, I found a field in Ennis, Texas - a southeastern suburb of Dallas - that would be perfect for my composition.

It faced south, was far enough from the Dallas city lights that light pollution wouldn't be an issue, and it was acres of bluebonnets.

I set out around 11 p.m. with fellow photographer friend James Langford and spent the next 7 hours shooting moon transitions. I shot the images with my Nikon D800 and a 24-70mm lens and a Nikon 70-200mm lens.

At around 4 a.m., I was standing out in the middle of this bluebonnet field, freezing my tail off, staring at the moon wondering, 'What in the heck am I doing here?'

I was so cold and the transition of the eclipse was taking so long, that I started to have doubts the shot I had imagined wouldn't be worth the effort.

But, I shot the transitions every 10 minutes to make sure that I would have a complete set of transitions to use.

Once the eclipse was over, I combined all the phases with the landscape image to create the final composition."

The morning after the photo was posted on Facebook, the image had been shared more than 43,000 times.

Mike Mezeul II is a self-taught photographer based out of Allen, Texas. He specializes in severe weather, commercial, landscape, and sports photography, and was an Eddie Adams Workshop attendee. He teaches photography and post-processing workshops around the nation and spends his free time travelling to national parks documenting landscapes and the night.

More info at: <http://www.mikemezphotography.com>

Thanks to Reg Barry for sending this in to NZ

If you go down to the observatory today, your sure of a big surprise...

There's usually quite a buzz these Thursdays down at the Observatory. With some gradual internal improvements and continual adjustments, along with additional choice in portable 'scopes including refurb solarscope, you can now find the place often almost full to the brim with members chattering about all kinds of astronomy-related things. Who'd've thought!



Dr Guy, Dudley, John and others have been seen discussing various aspects of radio astronomy. Not just theory or cosmology, but talking through various options for trying to develop practical radio astronomy at the observatory. With the advancement in electronics these days and micro-packaged devices offered from far-eastern places, you can just about build a sophisticated radio telescope inside a napkin packet, let alone draw a schematic on the back of one. So Radio Astronomy looks like an area where things could well happen in VAS soon. Handily, Paul Hyde BAA is returning on Friday June 27th in the Parish Hall talk to inspire again on Radio Astronomy.



up, can be left anywhere to do its measurements for months on end with no direct connection, just hook in a

In another corner of the observatory you will often find those of us doing the Dark Skies Initiative discussing progress and equipment. Recently Brian found a new type of Sky Quality Meter (SQM) - a "SQM-LU-DL" - this one has its own on-board power and memory and, once set

USB download when required. IW National Trust already have one and will have more around their areas soon. Our IW/VAS/WIGHT-AONB Island-wide SQM network is growing fast.



One of the most interesting groups often found at the observatory are based around some extraordinary and beautiful achievements in astro-photography. Lee, Martyn and Simon can often be found feverishly discussing methods and results.

You may be aware of Simon Plumley's professional quality results already. If not, there's now a fascinating display of them at the observatory and I recommend you get down there to inspect them, they are wonderful to behold. Martyn and Lee have also produced exceptional results. I was stunned one Thursday to see the phenomenal results Lee had achieved with the simplest of X-Box web cams - I would not have believed Mars could be so well defined with such a simple set-up. Who needs Hubble with results achieved by Lee, Martyn and Simon!



Finally, the range of portable scopes and other observing devices at the observatory continues to give many satisfying observing nights. On a clear night several member's 'scopes can also be seen there and sampled, astro-imagers equipment too. Newchurch may not have skies as exacting as the remotest desert, but we have seen some incredible sightings of deep sky objects even with a 10inch Dobsonian.

So, I recommend you get down to the observatory soon and often - you are sure of a big surprise!

Chris Wood

What's Up?

International Space Station

The table below shows June's visible passes (for the IW) of the ISS.

Date	Start			End			Start			End		
	Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
01 Jun	00:44:03	40°	SW	00:48:19	10°	ENE	02:18:24	10°	W	02:25:04	10°	E
	03:55:09	10°	WNW	04:01:48	10°	ESE	23:54:03	22°	SW	23:59:06	10°	E
02 Jun	01:29:11	10°	W	01:35:51	10°	E	03:05:57	10°	WNW	03:12:38	10°	ESE
	23:03:44	10°	SW	23:09:48	10°	E						
03 Jun	00:39:56	10°	W	00:46:37	10°	ENE	02:16:43	10°	W	02:23:24	10°	E
	03:53:29	10°	W	03:59:47	10°	SE	22:14:58	10°	SSW	22:20:21	10°	E
	23:50:41	10°	WSW	23:57:21	10°	ENE						
04 Jun	01:27:26	10°	W	01:34:06	10°	E	03:04:10	10°	WNW	03:10:43	10°	SE
	23:01:28	10°	WSW	23:08:03	10°	ENE						
05 Jun	00:38:07	10°	W	00:44:47	10°	E	02:14:52	10°	WNW	02:21:31	10°	ESE
	03:51:55	10°	W	03:57:06	10°	SSE	22:12:19	10°	SW	22:18:40	10°	E
	23:48:45	10°	W	23:55:25	10°	E	01:25:31	10°	WNW	01:32:12	10°	ESE
06 Jun	03:02:21	10°	W	03:08:19	10°	SSE	22:59:22	10°	WSW	23:06:03	10°	ENE
07 Jun	00:36:09	10°	W	00:42:49	10°	E	02:12:53	10°	W	02:19:15	10°	SE
	22:10:00	10°	WSW	22:16:39	10°	ENE	23:46:43	10°	W	23:53:23	10°	E
08 Jun	01:23:27	10°	WNW	01:28:24	26°	SE	03:00:49	10°	W	03:01:07	11°	WSW
	22:57:15	10°	W	23:03:55	10°	E						
09 Jun	00:34:00	10°	WNW	00:39:31	20°	ESE	02:10:58	10°	W	02:12:17	18°	WSW
	22:07:45	10°	W	22:14:26	10°	E	23:44:31	10°	WNW	23:51:04	11°	E
10 Jun	01:21:19	10°	W	01:23:50	32°	SW	22:55:00	10°	W	23:01:41	10°	E
11 Jun	00:31:44	10°	W	00:35:34	42°	S	22:05:26	10°	W	22:12:06	10°	E
	23:42:10	10°	WNW	23:47:23	23°	ESE						
12 Jun	01:19:22	10°	W	01:20:10	14°	WSW	22:52:35	10°	WNW	22:59:14	10°	ESE
13 Jun	00:29:28	10°	W	00:32:01	26°	SW	22:02:58	10°	W	22:09:39	10°	E
	23:39:43	10°	W	23:43:55	29°	SSE						
14 Jun	22:50:01	10°	WNW	22:55:49	15°	SE						
15 Jun	00:27:40	10°	WSW	00:28:36	13°	WSW	23:37:24	10°	W	23:40:32	19°	SSW
16 Jun	22:47:25	10°	W	22:52:27	16°	SSE						
18 Jun	22:45:08	10°	WSW	22:49:09	10°	S						

Iridium Flares



Something else to look out for are the flares from Iridium satellites. These devices have large, flat, shiny, door-size antenna arrays (three per spacecraft) which periodically reflect sunlight toward the ground, causing brief (seconds-long) but brilliant flares that can momentarily reach an apparent magnitude of -8 - outshining the planet Venus.

See more at: <http://www.heavens-above.com>

ISS Visible Passes and *Iridium Flares*

Note: The two links given are already set to give timings and predictions for the IW

THE BACK PAGE

LINKS, COMMENTS AND OBSERVATIONS

Did you know?

Many members will be familiar with PTFE (poly-tetra-fluoro-ethylene) as the wonder weapon at the heart of Dobsonian telescope bearings because of its very low coefficient of friction. As a useless snippet of information I have recently discovered that it is, apparently, the only solid material in the world a gecko cannot cling to!

The things you learn in the VAS!

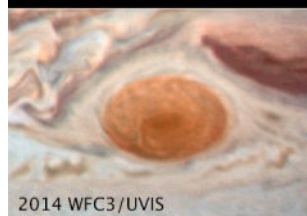
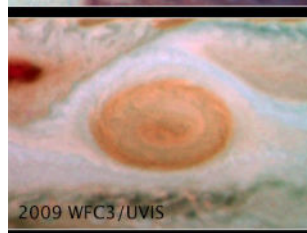
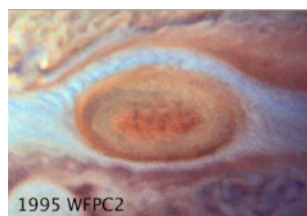
Richard Flux

Isle of Wight Milky Way

Island photographer Chad Powell is an enthusiastic supporter of our Dark Skies project and has recently revamped his website. As well as displaying his stunning night sky pictures of the Island, the new site displays his nationwide media coverage. Take a look, the pictures really are amazing.

More at: <http://www.isleofwightmilkyway.com>

Jupiter's Great Red Spot is smaller than ever seen before



Jupiter's trademark Great Red Spot -- a swirling anticyclonic storm feature larger than Earth -- has shrunk to the smallest size ever measured. Astronomers have followed this downsizing since the 1930s. Jupiter's Great Red Spot is a churning anticyclonic storm.

“Recent Hubble Space Telescope observations confirm that the Great Red Spot (GRS) is now approximately 10,250 miles across, the smallest diameter we've ever measured,” said Amy Simon of NASA's Goddard Space Flight Center in Greenbelt, Maryland. Historic observations as far back as the late 1800s gauged the GRS to be as big as 25,500 miles on its long axis. The NASA Voyager 1 and Voyager 2 flybys of Jupiter in 1979 measured the GRS to be 14,500 miles across.

Starting in 2012, amateur observations revealed a noticeable increase in the spot's shrinkage rate. The GRS's “waistline” is getting smaller by 580 miles per year. The shape of the GRS has changed from an oval to a circle. The cause behind the shrinking has yet to

be explained.

“In our new observations it is apparent that very small eddies are feeding into the storm,” said Simon. “We hypothesized that these may be responsible for the sudden change by altering the internal dynamics and energy of the Great Red Spot.”

More at: <http://www.sciencedaily.com>

Observatory

For your own safety, when visiting the VAS observatory, please bring a torch. Also, please make sure you close and lock the car park gate if you are the last to leave - if you need the combination to the lock, please contact a member of the committee.

Articles Needed

New Zenith needs letters, articles or pictures related to all aspects of astronomy. Contributions to the Editor please at the email or postal address on the front page.

*“I don't believe in astrology;
I'm a Sagittarius
and we're skeptical”*
Arthur C. Clarke

“All generalizations are false, including this one”
Mark Twain

“Without deviation from the norm, progress is not possible”
Frank Zappa

“The farther the experiment is from theory, the closer it is to the Nobel Prize”
Joliet-Curie

“A witty saying proves nothing”
Voltaire

VAS Officers and Committee Nominations 2014/15

For those wishing to stand for election at the AGM of the Society to be held on Friday 22Nd August 2014 at 7.00pm.

Name and Address of Nominee:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Standing for

- Chairman
- Treasurer
- Secretary
- Observatory Director
- Membership Secretary
- Programme Organiser
- Committee

Proposed by:

Seconded by:

Signature of Nominee:.....

Notes

1. No person can be elected to more than one position.
2. Only adult fully paid-up members may stand for election (or propose or second).
3. All completed nomination forms to be received by the Secretary in writing at least 7 days before the AGM.
4. The Committee consists of not less than six members.

VAS External Lighting Survey 2014

As part of our Dark Sky project we are about to distribute an external lighting survey to as many households on the IW as we can. We are hoping for a large response so would like to use NZ and VAS members as a test before the final survey is released. Could you please spend a few minutes auditing your own property?

Type of Light	How Many?	Does any light spill upwards? (Yes or No)	How do they operate? (Manual/Timer/PIR)	Are they on all night? (Yes or No)	What is the typical wattage?	Is it energy saving? (Yes or No)
Security						
Ornamental						
Flood						
Round or Globe						
Bollard						
Fluorescent						
Up-Lighter						
Strip LED						
Ceiling						
Sidewall						
Downlight						

Does your neighbour have intrusive lighting which affects your property?

Yes/No (delete as appropriate)

Postcode?.....