

# WEYMOUTH ASTRONOMY

## Sky Watcher

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### Trips / Events

Ideas for trips and events  
always welcome!

[events@weymouthastronomy.co.uk](mailto:events@weymouthastronomy.co.uk)

Feb 20 CADAS—Astrobiology  
by Steve Hill

Mar 20 CADAS—Cassini at  
Saturn by Professor Carl Murray

Apr 2 WAS—Meteors - how to  
observe them and why you  
should bother by Steve Bosley

Apr 17 CADAS—Solar System  
Alphabet by Bob Mizon

May 7 WAS—Stellar Evolution  
by Dr Robin Catchpole

Programmes for many other UK  
Astronomical Societies will be  
available in the near future.  
Check their websites for more  
details.

The events for the British  
Astronomical Society (BAA) can  
be found at  
<https://britastro.org/meetings/2019>

Of particular interest to WAC  
members may be the BAA Win-  
chester Weekend on Friday,  
2019, April 5 - 19:00 The 2019  
Winchester weekend is at Spar-  
sholt College

If you are interested in giving a  
talk or workshop, let the organis-  
ers know. They like to offer new  
titles in their programme line-up.



### WAC News—

This month I came across a fascinating website called Accidental Optics  
[https://www.itp.uni-hannover.de/fileadmin/arbeitgruppen/zawischa/static\\_html/strange2.html#coloursonice](https://www.itp.uni-hannover.de/fileadmin/arbeitgruppen/zawischa/static_html/strange2.html#coloursonice)

It was featured due to a peculiar image of interference colours on ice as seen in Mika-Pekka Markkanen's self portrait on a frozen pond. The optical effect had stumped optics experts for some time but they think the physics can now be explained. Check out the website for the explanation as well as a tour of a variety of other unusual optical phenomenon that you too may have seen!



The days are finally getting longer and spring will be officially upon us soon. Keep a watch for aurora as the Equinox is well known for a prime viewing opportunity if the coronal holes play their part. The sun has been eerily quiet. Check out the story on p.2 for more on this.

Happy Spring Equinox! Until next month ~SK



### Springtime Planet Party

by David Prosper

March brings longer days for Northern Hemisphere observers, especially by the time of the equinox. Early risers are treated to the majority of the bright planets dancing in the morning skies, with the Moon passing between them at the beginning and end of the month.

The **vernal equinox** occurs on **March 20**, marking the official beginning of spring for the

Northern Hemisphere. Our Sun shines equally on the Northern and Southern Hemispheres during the moment of equinox, which is why the March and September equinoxes are the only times of the year when the Earth's north and south poles are simultaneously lit by sunlight. Exacting astronomers will note that the length of day and night on the equinox are not *precisely* equal; the date when they are closest to equal depends on your latitude, and may occur a few days earlier or later than the equinox itself. One complicating factor is that the Sun isn't a point light source, but a disc. Its edge is refracted by our atmosphere as it rises and sets, which adds several

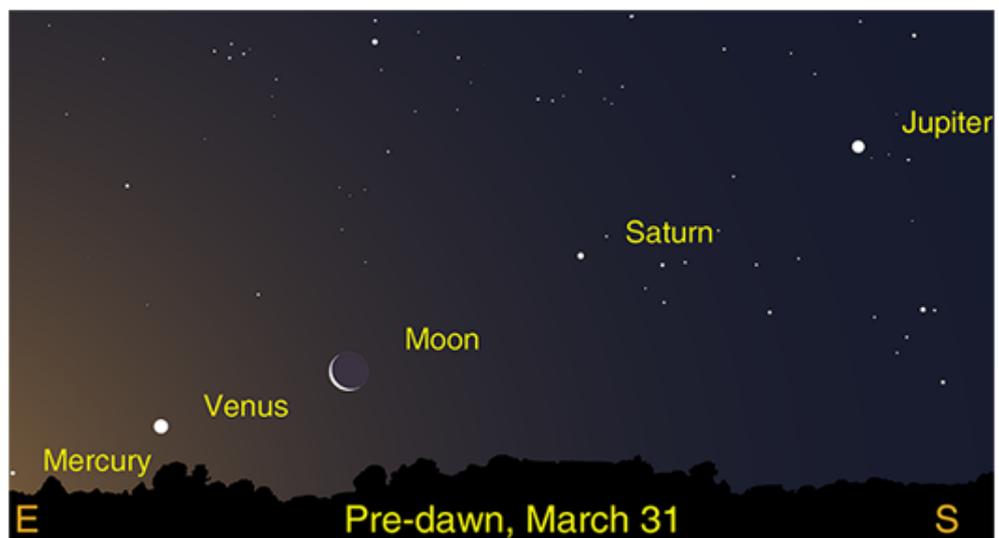
### WAC Upcoming Events:

April 12 Paul Spurr - Radio  
Astronomy

May 10 AGM + Bob Mizon  
- Craters of Europe

June 14 Ennio Tabone -  
Introduction to Telescopes  
and Observing

Why don't you volunteer to  
give a short talk? What part  
of astronomy inspires you?  
Pick a favourite object to  
speak on perhaps. Or a  
space mission? More to  
come!!



Caption: The morning planets on March 31. Image created with assistance from [Stellarium](http://Stellarium).



## Planet Party (more!)

minutes of light to every day. The Sun doesn't neatly wink on and off at sunrise and sunset like a light bulb, and so there isn't a perfect split of day and night on the equinox - but it's very close!

Ruddy **Mars** still shines in the west after sunset. Mars scoots across the early evening skies from Aries towards Taurus and meets the sparkling Pleiades star cluster by month's end.

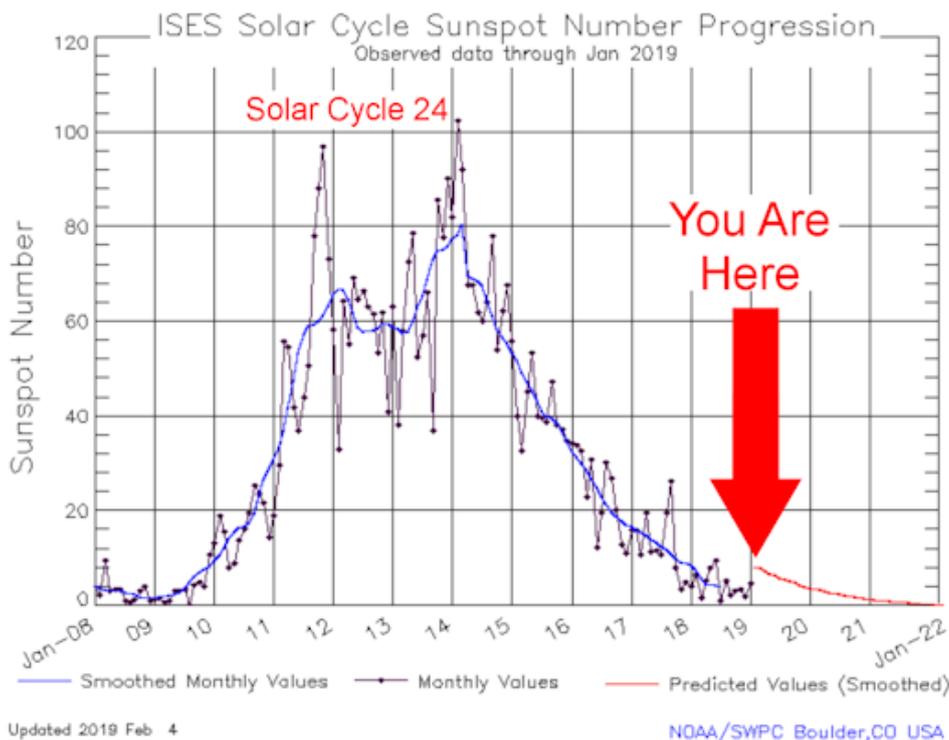
March opens with the morning planets of **Jupiter**, **Saturn**, and **Venus** spread out over the southeastern horizon before sunrise. A crescent **Moon** comes very close to Saturn on the 1<sup>st</sup> and occults the ringed planet during the daytime. Lucky observers may be able to spot **Mercury** by the end of the month. March 31 opens with a beautiful set of planets and a crescent Moon strung diagonally across the early morning sky. Start with bright Jupiter, almost due south shortly before dawn. Then slide down and east towards Saturn, prominent but not nearly as bright as Jupiter. Continue east to the Moon, and then towards the beacon that is Venus, its gleam piercing through the early morning light. End with a challenge: can you find elusive Mercury above the eastern horizon? Binoculars may be needed to spot the closest planet to the Sun as it will be low and obscured by dawn's encroaching glow. What a way to close out March!



## A Month Without Sunspots from Spaceweather.com on 2 March 2019

There are 28 days in February. This year, all 28 of them were spotless. The sun had no sunspots for the entire month of Feb. 2019. The last time a full calendar month passed without a sunspot was August 2008. At the time, the sun was in the deepest Solar Minimum of the Space Age. Now a new Solar Minimum is in progress and it is shaping up to be similarly deep. So far this year, the sun has been blank 73% of the time--the same as 2008.

Solar Minimum is a normal part of the solar cycle. Every ~11 years, sunspot counts drop toward zero. Dark cores that produce solar flares and CMEs vanish from the solar disk, leaving the sun blank for long stretches of time. These minima have been coming and going with regularity since the sunspot cycle was discovered in 1859. However, not all Solar Minima are alike. The last one in 2008-2009 surprised observers with its depth and side-effects. Sunspot counts dropped to a 100-year low; the sun dimmed by 0.1%; Earth's upper atmosphere collapsed, allowing space junk to accumulate; the pressure of the solar wind flagged while cosmic rays (normally repelled by solar wind) surged to Space Age highs. All these things are happening again.



How does this affect us on Earth? The biggest change may be cosmic rays. High energy particles from deep space penetrate the inner solar system with greater ease during periods of low solar activity. Indeed, NASA spacecraft and space weather balloons are detecting just such an increase in radiation. Cosmic rays can alter the flow of electricity through Earth's atmosphere, trigger lightning, potentially alter cloud cover, and dose commercial air travelers with extra "rads on a plane."

As February ended, March is beginning ... with no sunspots. Welcome to Solar Minimum!