FEB 2025

WEYMOUTH ASTRONOMY

VOLUME 19 #7

SKYWATCHER NEWSLETTER

LATEST NEWS

January had several conjunctions, occultations and 'close encounters' with many familiar bright objects. Fortunately there were a few clear and crisp nights as well. 18 Jan was a stunner for Venus and Saturn 2 degrees apart as well as Jupiter shining bright in Taurus. A widefield image can be found on p. 4. When looking for the sky region in Stellarium-web.org it was shocking to see the armada of Starlink satellites crossing the feld! A snip from Stellarium (left) shows an example of what was crossing at that moment in time! Quite shocking and there are more launches from them and Competitors to come!

Until next month... SLK

Before and after pictures of replacement lighting at the 6th Street Bridge over the Los Angeles River. The second picture shows improvements in some aspects of light pollution, as light is not directed to the sides and upwards from the upgraded fixtures, reducing skyglow. However, it also shows the use of brighter, whiter LEDs, which is not generally ideal, along with increased light bounce back from the road. Image Credit: The City of Los Angeles

February Night Sky Notes: How Can You Help Curb Light Pollution?

By Dave Prosper
Updated by Kat Troche

Light pollution has long troubled astronomers, who generally shy away from deep sky observing under full Moon skies. The natural light from a bright Moon floods the sky and hides views of the Milky Way, dim galaxies and nebula, and shooting stars. In recent years, human-made light pollution has dramatically surpassed the interference of even a bright full Moon, and its effects are now noticeable to a great many people outside of the astronomical community. Harsh, bright white LED streetlights, while often more efficient and long-lasting, often create unexpected problems for communities replacing their older streetlamps. Some notable concerns are increased glare and light trespass, less restful sleep, and disturbed nocturnal wildlife patterns. There is increasing awareness of just how much light is too much light at night. You don't need to give in to despair over encroaching light pollution; you can join efforts to measure it, educate others, and even help stop or reduce the effects of light pollution in your community.

Amateur astronomers and potential citizen scientists around the globe are invited to participate in the Globe at Night (GaN) program to measure light pollution. Measurements are taken by volunteers on a few scheduled days every month and submitted to their database to help create a comprehensive map of light pollution and its change over time. GaN volunteers can take and submit measurements using multiple methods ranging from low-tech naked-eye observations to high-tech sensors and smartphone apps.

Globe at Night citizen scientists can use the following methods to measure light pollution and submit their results:

- Their own smartphone camera and dedicated app
- Manually measure light pollution using their own eyes and detailed charts of the constellations
- A dedicated light pollution measurement device called a Sky Quality Meter (SQM).
- The free GaN web app from any internet-connected device (which can also be used to submit their measurements from an SQM or printed-out star charts)

Night Sky Network members joined a telecon with Connie Walker of Globe at Night in 2014 and had a lively discussion about the program's history and how they can participate. The audio of the telecon, transcript, and links to additional resources can be found on their dedicated resource page.

Continued on page 2....

LOCAL EVENTS

19 Mar - FA - A Career in Astronomy. The Sky at Night, Voyager and Mariner Missions - Garry Hunt

28 Mar - FA - 19:00 - 06:00 Messier Challenge 2025 Abbots Well Carpark
Come and join us!

29 Mar - FA - 09:45 - 12:15 Partial Solar Eclipse Abbots Well Carpark
Right after the Messier Challenge!

1 April - WAS - Michael Foulkes – Uranus – Herschel's Planet (In Person)

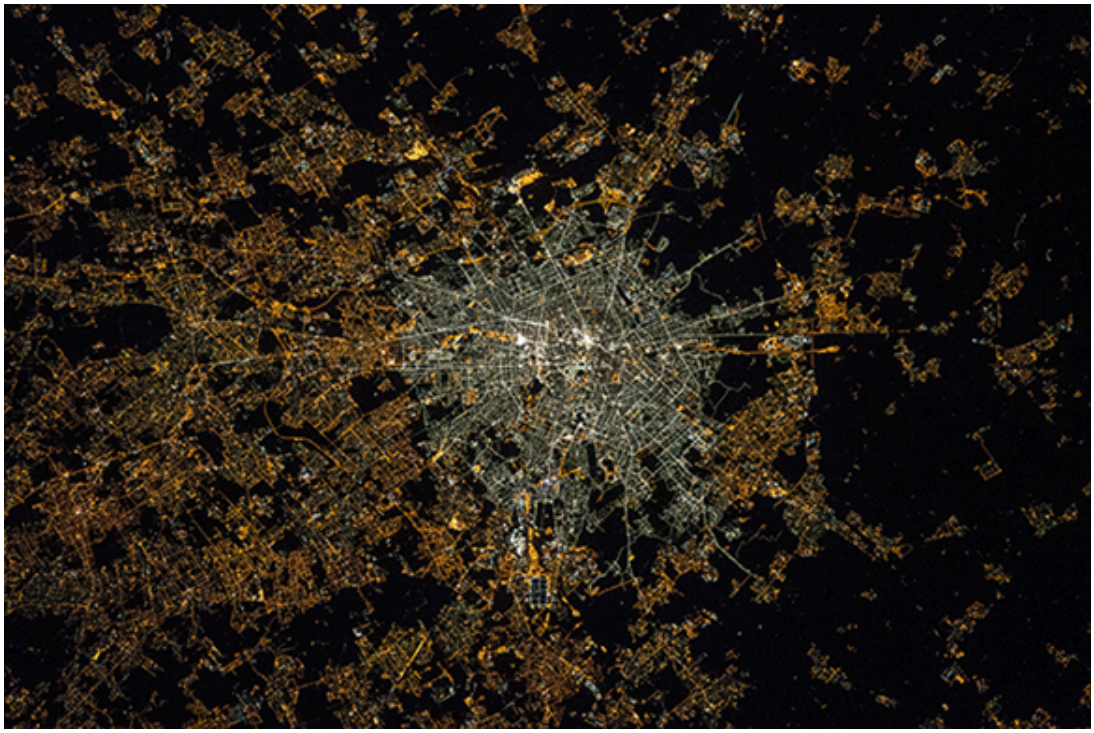
16 Apr - FA - 19:30 - 22:00 The Elm Tree
The UK Space Agency and its Missions

16 Apr - CADAS - Apr 16 Professor Chris Lintott

6 May - WAS - Prof. Brad Gibson – How the universe will end (In Person)

VISIT OUR WEBSITE FOR THE LATEST CLUB INFORMATION

Continued from page 1:



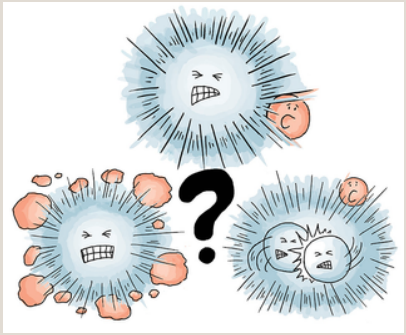
Light pollution has been visible from space for a long time, but new LED lights are bright enough that they stand out from older streetlights, even from orbit. Astronaut Samantha Cristoforetti took the above photo from the ISS cupola in 2015. The newly installed white LED lights in the center of the city of Milan are noticeably brighter than the lights in the surrounding neighborhoods. Image Credit: NASA/ESA

The International Dark-Sky Association (IDA)has long been a champion in the fight against light pollution and a proponent of smart lighting design and policy. Their website provides many resources for amateur astronomers and other like-minded people to help communities understand the negative impacts of light pollution and how smart lighting policies can not only help bring the stars back to their night skies but also make their streets safer by using smarter lighting with less glare. Communities and individuals find that their nighttime lighting choices can help save considerable sums of money when they decide to light their streets and homes "smarter, not brighter" with shielded, directional lighting, motion detectors, timers, and even choosing the proper "temperature" of new LED light replacements to avoid the harsh "pure white" glare that many new streetlamps possess. Their pages on community advocacy and on how to choose dark-sky-friendly lighting are extremely helpful and full of great information. There are even local chapters of the IDA in many communities made up of passionate advocates of dark skies.

The IDA has notably helped usher in "Dark Sky Places", areas around the world that are protected from light pollution. "Dark Sky Parks", in particular, provide visitors with incredible views of the Milky Way and are perfect places to spot the wonders of a meteor shower. These parks also perform a very important function, showing the public the wonders of a truly dark sky to many people who may have never before even seen a handful of stars in the sky, let alone the full glorious spread of the Milky Way.

More research into the negative effects of light pollution on the health of humans and the environment is being conducted than ever before. Watching the nighttime light slowly increase in your neighborhood, combined with reading so much bad news, can indeed be disheartening! However, as awareness of light pollution and its negative effects increases, more people are becoming aware of the problem and want to be part of the solution. There is even an episode of PBS Kid's SciGirls where the main characters help mitigate light pollution in their neighborhood!

Astronomy clubs are uniquely situated to help spread awareness of good lighting practices in their local communities to help mitigate light pollution. Take inspiration from Tucson, Arizona, and other dark sky-friendly communities that have adopted good lighting practices. Tucson even reduced its skyglow by 7% (as of 2018) after its own citywide lighting conversion, proof that communities can bring the stars back with smart lighting choices.



WAC Upcoming Events

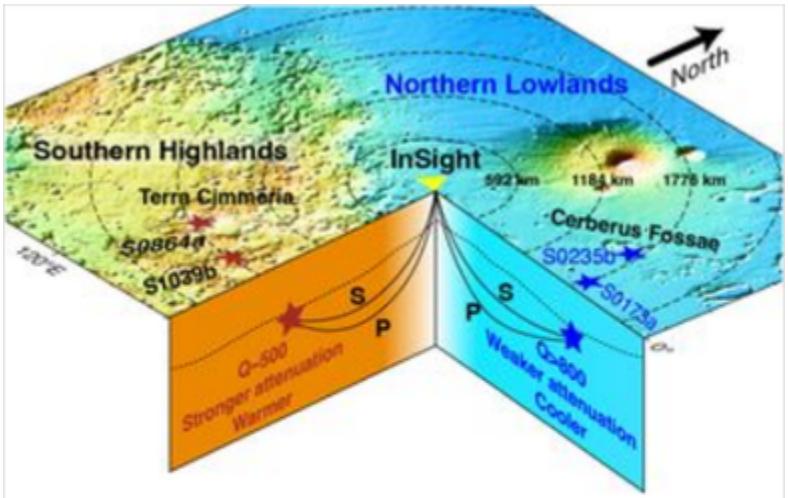
MAR 14 - JOE WILLIAMS (EXETER UNIVERSITY) EXOPLANETS.

APR 11 - HUGH ALLEN SPECTROSCOPY ‘CRACKING STARLIGHT’S HIDDEN CODE’

MAY 9 - AGM FOLLOWED BY TOM HINDE - OBSERVING (AND CONTROLLING) THE QUANTUM WORLD (IN-PERSON AND ZOOM)

JUNE 13 - MARY MCINTYRE - WOMEN IN ASTRONOMY (IN-PERSON AND ZOOM)

WEYMOUTH ASTRONOMY

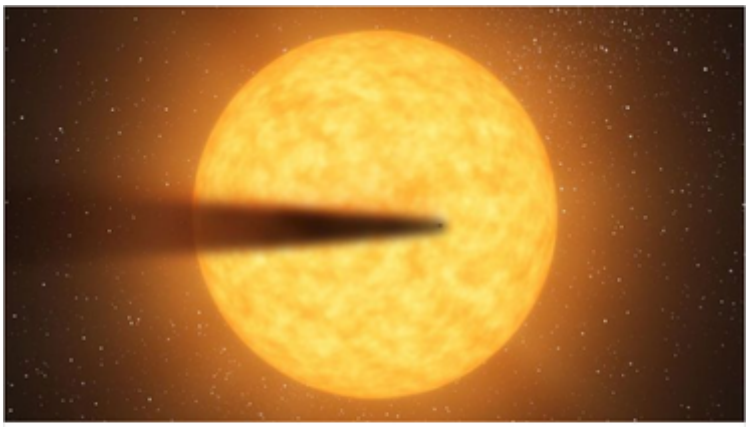


Mars's two distinct hemispheres caused by mantle convection not giant impacts, study claims

Mars has northern and southern hemispheres like Earth, but their defining characteristics are markedly different, a phenomenon known as Martian dichotomy. The Southern Highlands are older, higher in elevation ...

Phys.org / Jan 17

https://tinyurl.com/nptnfx52



Scientists Finally Get a Good Look at a Disintegrating Exoplanet

The James Webb Space Telescope offers astronomers a rare glimpse into the chemical composition of a rocky planet's interior—and the results are "very surprising."

Eos / Jan 28

https://tinyurl.com/yskvtx3y

Life's Building Blocks Found in Bennu Samples

The discovery of amino acids, abundant ammonia, and the bases of DNA and RNA on asteroid Bennu suggest that materials essential to life might be widespread throughout the solar system.

Eos / Jan 29

https://tinyurl.com/ycyjhexu

Our Moon Was Geologically Active Just a 'Hot Minute' Ago, Study Finds

Not as dead as we thought?

ScienceAlert / Jan 30

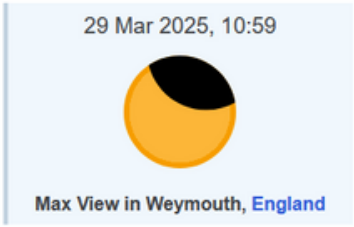
https://tinyurl.com/3e94uduc

WAC Members Corner

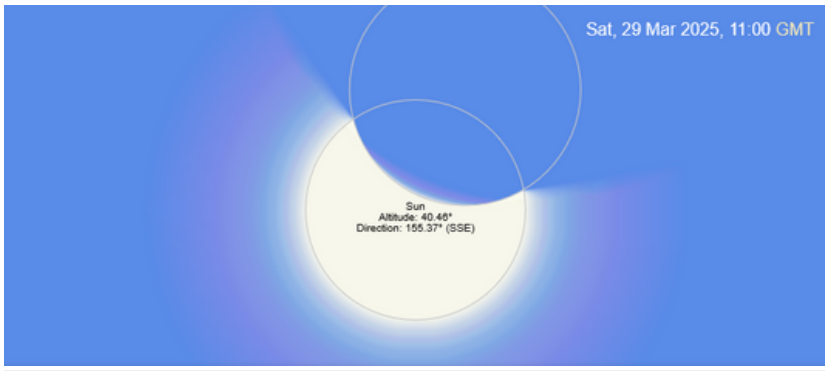
March 29, 2025 Partial Solar Eclipse in Weymouth, England, United Kingdom

Start time, end time, animation, and detailed viewing information for the upcoming eclipse in Weymouth, England, United Kingdom

timeanddate.com



Global Event:	Partial Solar Eclipse
Local Type:	Partial Solar Eclipse in Weymouth, England
Begins:	Sat, 29 Mar 2025, 10:02
Maximum:	Sat, 29 Mar 2025, 10:59 0.435 Magnitude
Ends:	Sat, 29 Mar 2025, 11:57
Duration:	1 hour, 55 minutes



Phase	Time	Event	Direction	Altitude
	10:02:54 Sat, 29 Mar	**Partial eclipse begins** The moment the edge of the Moon touches the edge of the Sun is called first contact.	138°	35.4°
	10:59:38 Sat, 29 Mar	**Maximum eclipse** The deepest point of the eclipse, with the Sun at its most hidden.	155°	40.4°
	11:57:59 Sat, 29 Mar	**Partial eclipse ends** The edge of the Moon leaves the edge of the Sun.	174°	42.8°

https://www.timeanddate.com/eclipse/in/uk/weymouth?iso=20250329

18 Jan widefield view of Jupiter in Taurus.
DSLR 10s at ISO 800 ~ SK

Skymaps.com—Feel free to download the full article directly each month.