

CADAS

Night Sky 2017- July

Venus Rises	Sunrise	Sunset	Mercury Sets
1 st – 2:43am	1 st – 5:01am	1 st – 9:29pm	1 st – 10:17pm
10 th – 2:34am	10 th – 5:08am	10 th – 9:24pm	10 th – 10:25pm
20 th – 2:30am	20 th – 5:20am	20 th – 9:14pm	20 th – 10:11pm
30 th – 2:32am	30 th – 5:34am	30 th – 9:00pm	30 th – 9:43pm
Moon Rises New-Full	Moon Sets New-Full	Moon Rises Full-New	Moon Sets Full-New
1 st – 1:48pm(FQ)	1 st – 1:11am(FQ)	10 th – 10:03pm	10 th – 6:28am
2 nd – 2:53pm	2 nd – 1:34am	11 th – 10:36pm	11 th – 7:29am
3 rd – 3:57pm	3 rd – 1:57am	12 th – 11:05pm	12 th – 8:34am
4 th – 5:00pm	4 th – 2:22am	13 th – 11:32pm	13 th – 9:41am
5 th – 6:00pm	5 th – 2:50am	14 th – 11:57pm	14 th – 10:50am
6 th – 6:58pm	6 th – 3:22am	15 th – (NoMR)	15 th – 12:00 Midday
7 th – 7:53pm	7 th – 4:00am	16 th – 12:22am(LQ)	16 th – 1:13pm(LQ)
8 th – 8:42pm	8 th – 4:43am	17 th – 12:48am	17 th – 2:27pm
9 th – 9:25pm(Full)	9 th – 5:33am(Full)	18 th – 1:17am	18 th – 3:43pm
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24 th – 6:41am	24 th – 9:47pm	20 th – 2:31am	20 th – 6:13pm
25 th – 7:56am	25 th – 10:20pm	21 st – 3:20am	21 st – 7:21pm
26 th – 9:11am	26 th – 10:48pm	22 nd – 4:19am	22 nd – 8:19pm
27 th – 10:23am	27 th – 11:14pm	23 rd – 5:27am(New)	23 rd – 9:08pm(New)
28 th – 11:33am	28 th – 11:37pm		
29 th – 12:40pm	29 th – (NoMS)		
30 th – 1:45pm(FQ)	30 th – 12:01am(FQ)		
31 st – 2:49pm	31 st – 12:26am		

On the 1st at 11:00pm Jupiter will be 9 degrees to the lower right of the Moon.

There is a planned launch from **Wenchang, China** on the **2nd**. Its payload is **Shijian-18**.

Comet C/2015 V2 Johnson is just **2½ degrees** to the lower left of the **Moon** on the **2nd**. It was at magnitude 7.5 on the 17th June.

At **11:00pm** on the **3rd**, **Comet C/2015 V2 Johnson** is **9½ degrees** to the lower right of the **Moon**.

Saturn is 15 degrees to the lower left of the **Moon** on the **5th**.

On the **6th**, **Saturn** is just **3 degrees** to the lower left of the **Moon**.

Saturn is 9 degrees to the right of the **Moon** on the **7th**.

Pluto is at opposition on the **10th** and is in the constellation of **Sagittarius**.

At midnight on the **12th**, **Neptune** is 10 degrees to the left of the **Moon**.

Neptune is just 3 degrees to the upper right of the **Moon** at midnight on the **13th**.

On the **13th** there is an occultation of **Neptune** by the **Moon** which will only be visible from New Zealand and the southern oceans. Mid-occultation point is 1,200miles SSE of New Zealand.

On the 14th *there is a scheduled launch from **Baikonur of the Soyuz 2- 1A/Fregat**. Its payload are **Kanopus-V-IK, Zond, Zvezda** and **SatByul (4)**.

There is a planned launch from **Xichang, China** on the **15th**. Its payload are **Beidou-3M1 & 3M2**.

On the **16th** at 1:30am **Uranus** is 15 degrees to the left of the **Moon** low in the south east.

Uranus is just **4 ½ degrees** above the **Moon** at 4:00am the **17th**.

On the **19th** there is an occultation of the bright star **Aldebaran** in **Taurus** by the **Moon**. It will only be visible from central **Asia** from 5:42pm. Mid-occultation point is over **Yemen**.

On the **20th** at 4:00am, **Venus** will be 5 degrees to the left of the crescent **Moon**.

Venus is 9 degrees to the upper right of the crescent **Moon** on the **21st** at 4:00am.

On the **22nd** there is a planned launch from **Vandenberg, California**. The **Falcon 9** rocket's payload is **FORMOSAT 5**.

A very thin crescent **Moon** may be seen on the **22nd** at around **4:45am** low in the ENE.

At **9:30pm** on the **24th**, **Mercury** is **7degrees** to the upper left of a very thin **Crescent Moon** and just **5 degrees** above the horizon.

At **9:45pm** on the **25th**, **Mercury** is **5½ degrees** to the lower right of the crescent **Moon** and just **2 degrees** above the horizon.

On the **25th** there is an occultation of the star **Regulus** by the **Moon**. It will only be visible from West Indonesia.

On the **27th**, **Mars** will be in conjunction with the **Sun** and unable for viewing this month.

Mercury at **9:35pm** on the **27th** will be **2½ degrees** above the western horizon.

Jupiter is 13 degrees to the left of the **Moon** at **10:00pm** on the **27th**.

On the night of the **27th** the **Delta-Aquarid** meteor shower reaches its peak, so with the Moon well out of the way it should be worth watching.

There is a scheduled launch on the **28th** to the **International Space Station (ISS)**. **Expedition 52/53**. Crew members are **Randy Bresnik of NASA**, **Paolo Nespoli of European Space Agency (ESA)** and **Sergey Ryazanskiy of the Russian space agency Roscomos**.

Randy “Komrade” Bresnik was selected as an astronaut in 2004. During his military career, he became an F/A-18 Test Pilot and was eventually deployed to Kuwait to fly combat missions in support of Operation Iraqi Freedom. He has also trained as a Cave-a-naut with the ESA to test living deep beneath the Earth's surface as well as an Aquanaut for NASA's Extreme.

On the **28th** at **10:30pm**, Jupiter will be just 2 degrees to the lower left of the Moon low in the western sky.

Jupiter is 12 degrees to the lower right of the **Moon** at **11:00pm** on the **29th**.

On the **30th** **Mercury** reaches greatest eastern elongation (27.2 degrees) from the **Sun** and should be best at viewing during the evenings this month and the beginning of August.

ISS News (this months launch): In addition to studying the matter within neutron stars, the payload also includes a technology demonstration called the **Station Explorer for X-ray Timing and Navigation Technology (SEXTANT)**, which will help researchers to develop a pulsar-based, space navigation system. Pulsar navigation could work similarly to GPS on Earth, providing precise position for spacecraft throughout the solar system.

The new **Roll-Out Solar Array (ROSA)**, is a solar panel concept that is lighter and stores more compactly for launch than the rigid solar panels currently in use. It basically rolls out like a tape measure. There are intended to provide power to electric thrusters for use on NASA's future space vehicles for operations near the Moon and for missions to Mars and beyond. They might also be used to power future satellites in Earth orbit.

When people and animals spend extended periods of time in space, they experience bone density loss, osteoporosis. In-flight countermeasures, such as exercise, prevent it getting any worse, but there isn't a therapy on Earth or in space that can restore bone that is already lost. The **Systemic Therapy of NELL-1 for osteoporosis (Rodent Research-5)** investigation will test a new drug that can both rebuild bone and block further bone loss, improving health for crew members. The results from this National Laboratory-sponsored investigation built on previous research could lead to new drugs for treating bone density loss in millions of people on Earth.

Exposure to reduced gravity environments can result in cardiovascular changes such as fluid shifts, changes in total blood volume, heartbeat and heart rhythm irregularities. The **Fruit Fly Lab-02** study will use the fruit fly to better understand the underlying mechanisms responsible for the adverse effects of prolonged exposure to microgravity on the heart. This experiment will help to develop a microgravity heart model in the fruit fly. Such a model could significantly advance the study of spaceflight effects on

the cardiovascular system and facilitate the development of countermeasures to prevent the adverse effects of space travel on astronauts.

Fact: The **Great Comet of 1843** (also known as the **Great March Comet**) was a long-period comet which was discovered on February 5th and became very bright during March and was visible in the daytime very close to the Sun. It is a member of the **Kreuts Sungrazers**, a family of comets resulting from the breakup of a parent comet into multiple fragments in about 1106. These comets pass extremely close to the Sun, and often become very bright as a result. There is a painting in the **National Maritime Museum** that was created by astronomer **Charles Piazzi Smyth (1819-1900)**.

Notes: For a couple of nights last month I looked out for **Comet Johnson** as we had some clear skies. The first time I found it was on the 13th which was near the three stars in the enlarged star chart which I sent you. It was quite late during the evening when I observed it. At magnitude 7.5 it should have been visible with binoculars though I did see it with my telescope. The sky in the summer never gets as dark as during winter months as the Sun never gets lower than 18 degrees below the horizon. When the Sun does get lower than this you can be assured of clear dark skies (...especially away from light pollution!!!).

A useful site: www.heavens-above.co.uk