

Sky News

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GALACTIC ANTICENTER

The center of the Milky Way galaxy lies in the direction of Sagittarius (the Archer) in our summer sky. The center lies off the tip of the spout of the “Teapot” shape that marks the brightest stars in Sagittarius.

Opposite of that in our winter sky is a star in the constellation of Taurus (the Bull), which is visible in our sky now. Find the V-shape face of Taurus, and follow the northern horn to its tip. The star is called Elnath, sometimes called Alnath. Elnath is the second brightest star in Taurus, so it is called Beta Tauri. Elnath is a blue-white star. Elnath lies in the direction of the Milky Way’s **galactic anticenter**. **Anticenter** means opposite of the center. The galactic anticenter lies just 3° above Elnath, in Auriga (the Charioteer). Elnath is also used when drawing the shape of Auriga.

ASTRONAUT CHRISTINA KOCH

NASA astronaut Christina Koch returned from her first spaceflight to the International Space Station (ISS) on Thursday, February 6, 2020. She set many records on her first trip into space.

Koch spent 328 days in space, the longest duration for a woman. The previous record for a woman was 289 days set by Peggy Wilson in 2017. Koch had 6 EVAs or spacewalks that totaled 42 hours and 15 minutes. Koch set another record with astronaut Jessica Meir as the first all-women spacewalk team.

While in space, Koch orbited Earth 5,248 times and traveled 139 million miles. That’s equivalent to 291 trips to the Moon and back.

This edition of the
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was written by
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EARTH’S SHADOW

Earth’s shadow extends about 870,000 miles into space. The shadow extends far enough to reach the Moon, allowing Earth to have lunar eclipses. During a lunar eclipse, the moon moves into the shadow of Earth. We can see Earth’s shadow darkening the face of the moon. There are other times we can see Earth’s shadow from Earth’s surface, at dawn and dusk. In fact, at night, we are in the shadow of Earth.

Earth’s shadow is a deep blue-grey color, darker than the blue of the twilight sky. It is curved because Earth is a sphere. The pink band above it is called the Belt of Venus.

As the Sun sets in the west, look to the east. The dark band above the horizon is Earth’s shadow. The pink band of Venus lies above it. After the Sun sets in the west and descends beyond the horizon, Earth’s shadow ascends or rises higher in the eastern sky.

See the shadow in the west before the Sun rises in the east in the morning. As the Sun rises in the east, the shadow gets smaller or lower in the west. The Belt of Venus follows the shadow downward toward the horizon.

BETELGUESE IS FAINTING

Betelguese is the bright red star on the shoulder of the constellation Orion (the Hunter). It’s visible in our evening sky for the next few months.

Betelguese is a red supergiant star. As it uses up its fuel, the outer layer expands making it a supergiant-sized star. It was about 900 times wider than the Sun. Fainting of a star means dimming. The next stage in Betelguese’s ‘life’ cycle is when the fuel is used up and the outer layer collapses back toward the core. A tremendous explosion occurs, called a supernova.

MARCH PLANETS

Venus can be seen rising high in the western sky after sunset moving through the constellation Pisces (the Fish). Venus is visible for about 3 hours before it sets. Venus is the only evening planet this month. Venus looks like a very bright white star.

Mars can be seen about 3:30 a.m. rising in the eastern sky in the constellation Sagittarius (the Archer). Mars rises a little later every morning, and appears lower in the eastern sky throughout the month. Mars passes Jupiter and is next to Saturn by the end of March. Mars looks like a dull, ruddy-colored star.

Jupiter can be seen rising about 4:00 a.m. in the southeastern sky in the constellation Sagittarius (the Archer). Jupiter rises earlier every night and can be seen until dawn. Jupiter looks like a very bright, yellow-colored star.

Saturn can be seen rising about a half hour after Jupiter in the southeastern sky in the constellation Sagittarius (the Archer). Saturn rises a little earlier every night and can be seen until dawn. Saturn is still close to the horizon at dawn. Saturn looks like a bright, amber-colored star.

Mercury can be seen rising in the eastern sky for a short time before dawn. Mercury reaches its highest point in the eastern sky on the 23rd. Mercury looks like a small white star.

MARCH SUNRISE AND SUNSET (times are for mid-month)

sunrise: 6:01 a.m.

sunset: 5:56 p.m.

length of daylight: 11 hours, 55 minutes

length of darkness: 12 hours, 5 minutes

The following sources were used

for this issue of Sky News:

www.nasa.gov, www.astropixels.com,

<https://earthsky.org>, www.SpaceWeather.com,

www.physics.valpo.edu, www.casonline.org,

Astronomy, and Sky and Telescope.

SKY DATES

March

- 2 - Moon passes 3.3° N of Aldebaran
- First quarter moon at 1:57 p.m.
- 5 - Moon passes 5.2° S of Pollux
- 6 - Moon passes 1.1° N of Beehive Cluster
- 8 - **Daylight Saving Time** begins at 2:00 a.m.; set clocks ahead one hour
- Moon passes 3.8° S of Regulus
- Neptune in conjunction
- 9 - **Full moon** called Sap, Crow, Worm, Fish, or Lenten Moon at 12:48 p.m.
- 10 - Moon at perigee (closest point from Earth) at 221,416 miles at 1:33 a.m.
- 16 - Last quarter moon at 4:34 a.m.
- 18 - Moon occults Mars
- Moon passes 1.5° S of Jupiter
- Moon passes 2.1° S of Saturn
- 19 - Vernal equinox at 9:50 p.m.
- Venus at perihelion at 10 p.m.
- 20 - VU Observatory FREE viewing 8:30 p.m.
- 21 - Moon passes 3.6° S of Mercury
- 23 - Mercury at greatest western elongation at 27.8° W; highest point in eastern sky
- 24 - New moon at 4:28 a.m.
- Moon at apogee (farthest point from Earth) at 252,148 miles at 10:23 a.m.
- Venus at greatest eastern elongation at 46.1° E; highest point in western sky
- 26 - Mercury at aphelion
- 29 - Moon passes 3.6° N of Aldebaran

AURORAL DUNES

Finnish photographers have discovered a new type of aurora, or northern lights. The green-tinged aurora looks like evenly spaced waves, resembling dunes formed by wave action along a shoreline.

The scientific community has acknowledged the new category of northern light shapes. After studying this new form, scientists believe they can only occur when gravity waves rise from the Earth. They interact between the mesopause and an underlying layer called the inversion layer. A wave channel is formed. The gravity waves surge through the auroral stream, forming wavy, dune-like shapes.