

“Intelligence is the ability to adapt to change.” Stephen Hawking



# Astro

Volume 13, Issue 11

July 1, 2020

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### Massive Star Just Disappeared!

An unstable massive star has suddenly vanished from view, and astronomers aren't sure if it collapsed into a black hole or is playing peek-a-boo behind galactic dust. The star was too far away to spot on its own, but it showed up in the spectrum, or light signature, of the Kinman Dwarf galaxy, which is some 75 million light-years away from Earth. The spectrum showed that the distant galaxy contained a late-stage blue variable star that is 2.5 million times brighter than the sun. Stars of this type are known to be temperamental, with dramatic shifts in their spectra and luminosity.

Space.com



### Come on Explorers! NASA Needs a Lunar Loo!

NASA is calling on the global community for their novel design concepts for compact toilets that can operate in both microgravity and lunar gravity. These designs may be adapted for use in the Artemis lunar landers that take us back to the Moon. Although space toilets already exist and are in use (at the International Space Station, for example), they are designed for microgravity only. NASA is looking for a next-generation device that is smaller, more efficient, and capable of working in both microgravity and lunar gravity. Submissions to this Challenge must be received by midnight EEST, Aug. 18, 2020.

Technology.org

## Habitat Mars: Learning to Live Sustainably on the Red Planet



To live sustainably on the red planet, humanity needs to develop the necessary strategies for sustainable living in hostile environments and enclosed spaces.

To prepare humans for this kind of experience, groups like Habitat Marte (Mars Habitat) and others are dedicated to conducting simulated missions in analog environments. The lessons learned will not only prepare people to live and work in space but foster ideas for sustainable living here on Earth.

*Phys.org*

## NASA Extends Deep Space Atomic Clock Mission

As the time when NASA will begin sending humans back to the Moon draws closer, crewed trips to Mars are an enticing next step. But future space explorers will need new tools when traveling to such distant destinations.

The Deep Space Atomic Clock mission is testing a new navigation technology that could be used by both human and robotic explorers making their way around the Red Planet and other deep space destinations.



*SpaceDaily.com*

## When the Sky Exploded: Remembering Tunguska



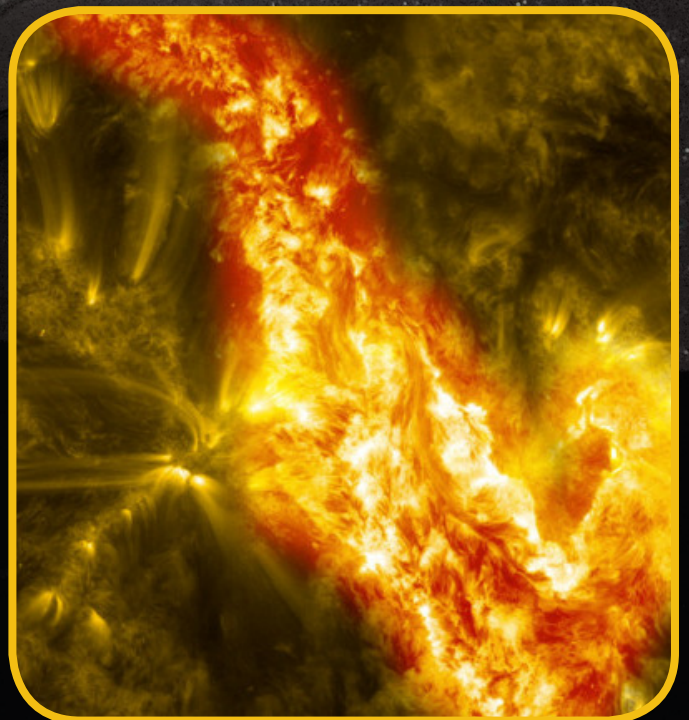
On the morning of June 30, 1908, the largest asteroid impact in recorded history occurred in a remote part of Siberia, Russia. The explosion happened over the sparsely populated Eastern Siberian taiga, above Siberia's Podkamennaya Tunguska River in what is now Krasnoyarsk Krai. The blast flattened an estimated 80 million trees over an area of 830 square miles (2,150 square km) of forest. We now celebrate Asteroid Day each year on the anniversary of what is now known as the Tunguska event.

*EarthSky.org*

## 10 Years in the Life of the Sun

If you're feeling like you could use something new and different to watch to take your mind off the state of the world, consider the Sun. NASA has released a video, that shows it in a way you probably have never seen, and maybe never even imagined.

The video is a time-lapse consisting of one high-resolution photo taken every hour of every day by the Solar Dynamics Observatory between June 2, 2010 and June 1 of this year. It condenses those 10 years into just 61 minutes.



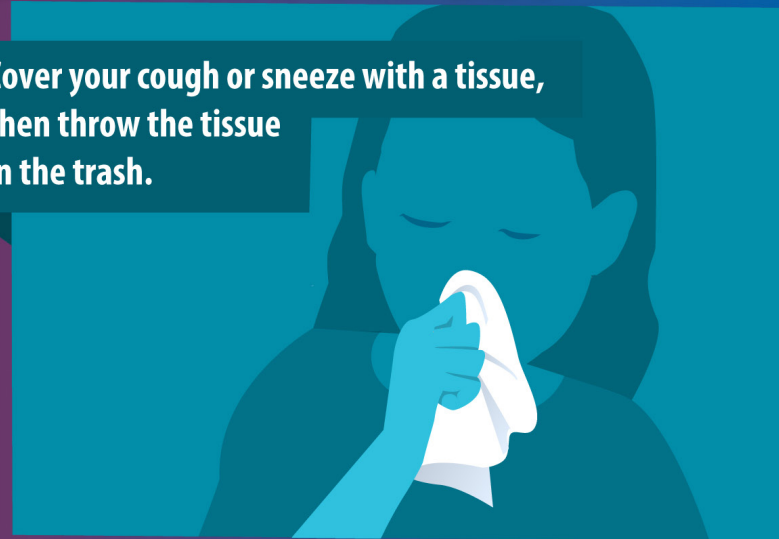
*Astronomy.com*

## How to Protect Ourselves?

Avoid close contact with people who are sick.



Cover your cough or sneeze with a tissue, then throw the tissue in the trash.



Avoid touching your eyes, nose, and mouth.



Clean and disinfect frequently touched objects and surfaces.



Stay home when you are sick, except to get medical care.



Wash your hands often with soap and water for at least 20 seconds.





## Astronomy Picture of the Day

### **Bright Planetary Nebula NGC 7027 from Hubble**

**Image Credit & Copyright:** NASA, ESA, Joel Kastner (RIT), Alyssa Pagan (STScI)

What created this unusual planetary nebula? NGC 7027 is one of the smallest, brightest, and most unusually shaped planetary nebulas known. Given its expansion rate, NGC 7027 first started expanding, as visible from Earth, about 600 years ago. For much of its history, the planetary nebula has been expelling shells, as seen in blue in the featured image. In modern times, though, for reasons unknown, it began ejecting gas and dust (seen in red) in specific directions that created a new pattern that seems to have four corners. These shells and patterns have been mapped in impressive detail by recent images from the Wide Field Camera 3 onboard the Hubble Space Telescope. What lies at the nebula's center is unknown, with one hypothesis holding it to be a close binary star system where one star sheds gas onto an erratic disk orbiting the other star. NGC 7027, about 3,000 light years away, was first discovered in 1878 and can be seen with a standard backyard telescope toward the constellation of the Swan (Cygnus).

[apod.nasa.gov](http://apod.nasa.gov)



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