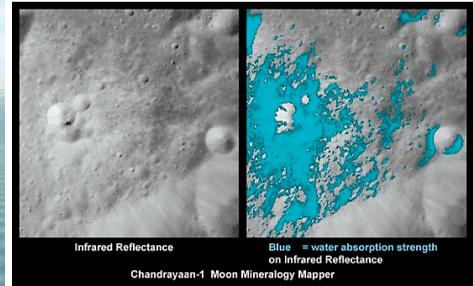


science



A TURNING POINT AT LAST?

Carbon emissions may have decreased in 2020, as smog-producing methods of transportation ground to a halt, but that still wasn't enough drop to meet goals set by the Paris climate accord. As a result of global warming, unusually harsh weather conditions continued, with destructive heat waves, wildfires, flooding and hurricanes. But in the first weeks of his presidency, Joe Biden began making good on his campaign promises, signing a number of positive climate-change directives and calling the current direction of climate change an "existential threat" to civilization. *Shutterstock*



THE SEARCH FOR LIFE CONTINUES

On February 18, 2021, NASA successfully landed a new robotic rover on the surface of Mars. The rover, named Perseverance, was equipped with tools to undertake scientific research into the search for ancient life on the red planet. Its cameras, lasers and radars will allow Perseverance to find potential fossils of microbial life that some theorize may have lived on Mars when water flowed on the planet. NASA will also attempt to fly a small helicopter, dubbed Ingenuity, in the Martian atmosphere. Such a flight has never before been attempted and, if successful, could significantly broaden the space agency's search capabilities. *Courtesy NASA*

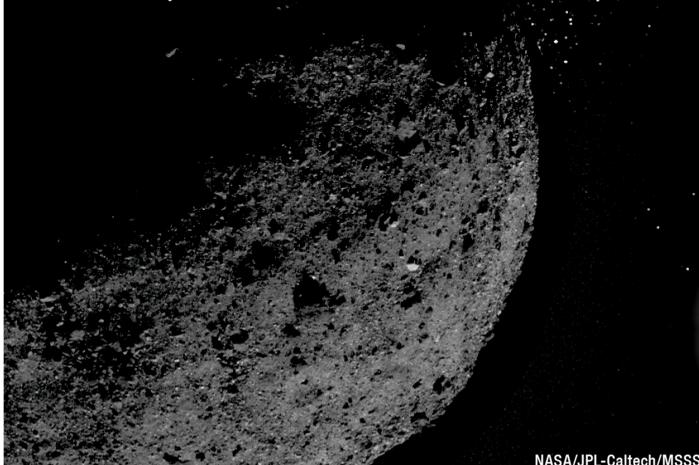
THE TRUTH IS WAY OUT THERE

The theory that our solar system was recently visited by alien intelligence regained prominence in January 2021 when Harvard astrophysicist Avi Loeb released a book theorizing the space object 'Oumuamua may have been of alien origin. Astronomers sighted 'Oumuamua, the first interstellar object ever seen passing through our solar system—albeit 21 million miles from Earth when first spotted—in 2017. Named for a Hawaiian word meaning "scout," the object was first estimated to be 400 meters long though there is little consensus in this area. Whether 'Oumuamua is made of ice or rock, and whether its surface is flat or round, remain to be seen. Unfortunately for Loeb, support for his theory that it is an alien craft is not widespread. *ESO/M. Kornmesser*



NASA REACHES OUT

NASA's OSIRIS-REx spacecraft reached out a robotic arm to the asteroid known as Bennu in October, collecting dust and pebbles for analysis. It was the first time NASA has touched an asteroid. Bennu is about 500 yards in diameter and was more than 200 million miles from Earth when the samples were taken. It is hoped that the samples, which won't make it back to Earth until 2023, can offer a window into the formation of the solar system as it was taking shape billions of years ago. *Courtesy NASA*



NASA/JPL-Caltech/MSSS

Zhang Yuwei/Xinhua via ZUMA Press



FULL SPEED AHEAD

Initial wisdom on the safety of a quickly produced COVID vaccine was mixed. Would the public have confidence in a fast result? Could its long-term side effects be predicted? How long would its effectiveness last? In the U.S., the federal government initiated Operation Warp Speed, a \$10 billion public-private partnership to support companies in quickly developing effective vaccines. Two firms, Pfizer and Moderna, both announced vaccines with effective rates of around 95%—a number much higher than had been expected. Vaccinations began in December, though rollout has been slower than was hoped. In February, it was predicted that, at current vaccination rates, it would take 5 years for the world to reach 75% inoculation.