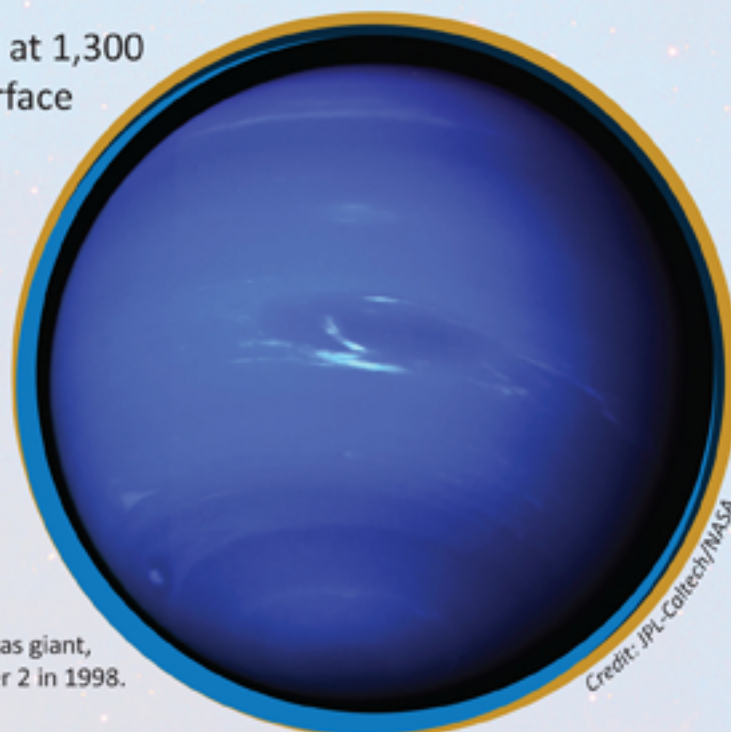


Daily Planetary Report: Windy with a Chance of Diamond Rain

Weather, weather everywhere

You wouldn't want to visit Neptune. Winds there whip around at 1,300 mph. Venus' atmosphere would crush you because it has a surface pressure 90 times that of Earth and a surface temperature of 840° F.

Each planet has a different average temperature, a different type of atmosphere, and a distinct type of weather. The next time you complain about the weather on Earth, be happy you're not on Mercury where it can be 800° F during the day and -300° F at night.



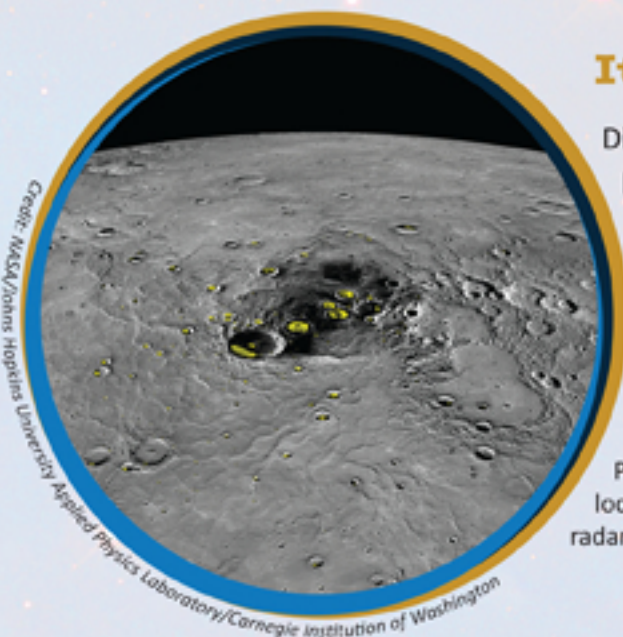
This whole-planet image of Neptune, a gas giant, was taken by Voyager 2 in 1998.

Credit: JPL-Caltech/NASA

It rains diamonds on giant planets

Diamonds form in Earth's crust when carbon comes under intense heat and tremendous pressure. These conditions exist on the giant gas planets in our Solar System. The planet's atmosphere provides the pressure and soot-producing lightning provides the carbon. As the soot falls, scientists think that it's crushed to diamonds, literally raining down through the atmosphere.

This image from MESSENGER provides a look at Mercury's North Polar Region. The yellow regions in many of the craters mark locations that show evidence for water ice, as detected by Earth-based radar observations from Arecibo Observatory in Puerto Rico.

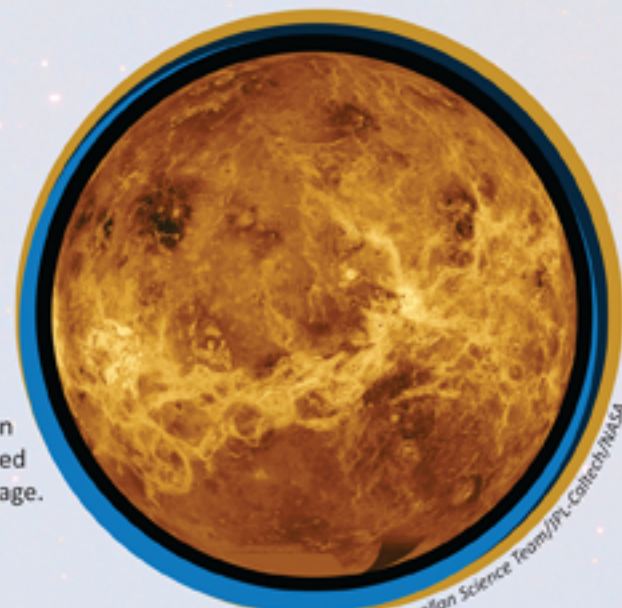


Credit: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington

Got Atmosphere?

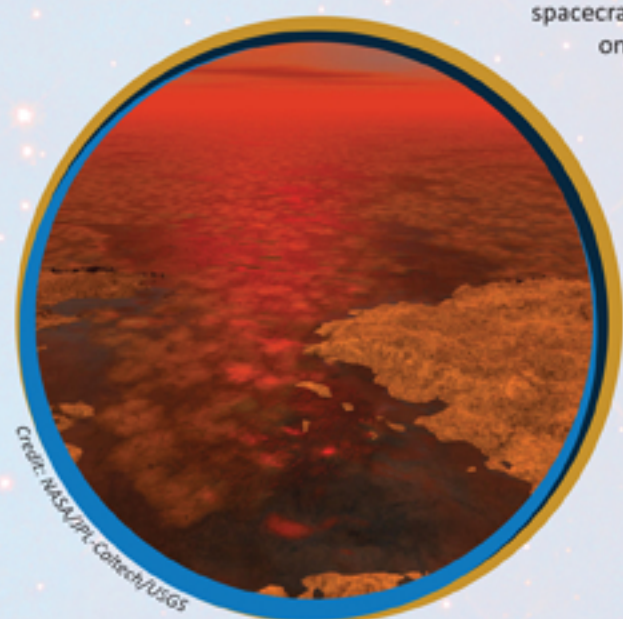
Venus' thick atmosphere traps the Sun's heat, making Venus very, very hot. In contrast, Mars' thin atmosphere lets the Sun's heat escape making it very cold at night (-100° F at the equator).

This global view of the surface of Venus is from the Magellan spacecraft. Synthetic aperture radar mosaics were mapped onto a computer-simulated globe to create this image.



Credit: Magellan Science Team/JPL-Caltech/NASA

Can a moon have weather? Titan, Saturn's largest moon, does. But the liquid that falls from the sky when it rains isn't water, it's methane. This artist's concept envisions what hydrocarbon ice forming on a liquid hydrocarbon sea of Saturn's moon Titan might look like.



Credit: NASA/JPL-Caltech/USGS