Jupiter: King of the Planets

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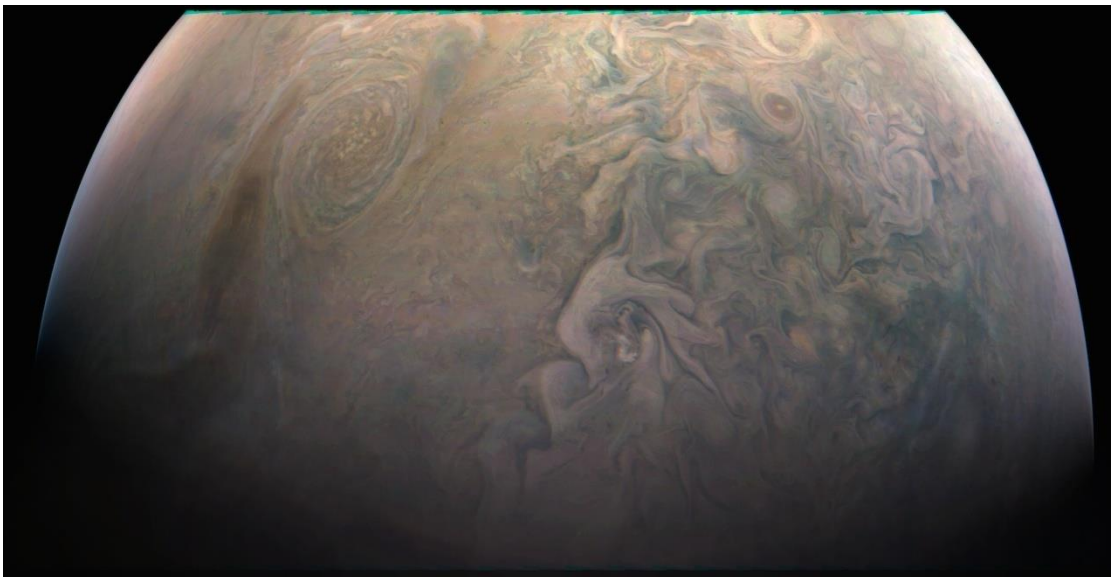

Jupiter is the fifth planet from our sun and the largest planet in the solar system. Jupiter's stripes and swirls are cold, windy clouds of ammonia and water. The atmosphere is mostly hydrogen and helium, and its iconic Great Red Spot is a giant storm bigger than Earth that has raged for hundreds of years.

Jupiter is surrounded by 53 confirmed moons, as well as 14 provisional ones — for a possible total of 67 moons. Scientists are most interested in the "Galilean satellites" — the four largest moons discovered by Galileo Galilei in 1610: Europa, Calisto, Ganymede and Io. Jupiter also has three rings, but they are very hard to see and not nearly as intricate as Saturn’s. Jupiter is named for the king of ancient Roman gods. With a radius of 43,440.7 miles (69,911 kilometers), Jupiter is 11 times wider than Earth. If Earth were the size of a nickel, Jupiter would be about as big as a basketball. Jupiter has the shortest day in the solar system. One day on Jupiter takes only about 10 hours (the time it takes for Jupiter to rotate or spin around once), and Jupiter makes a complete orbit around the sun (a year in Jovian time) in about 12 Earth years (4,333 Earth days). As a gas giant, Jupiter doesn't have a true surface. The planet is mostly swirling gases and liquids. While a spacecraft would have nowhere to land on Jupiter, it wouldn't be able to fly through unscathed either. The extreme pressures and temperatures deep inside the planet crush melt and vaporize spacecraft trying to fly into the planet. Jupiter's environment is probably not conducive to life as we know it. The temperatures, pressures and materials that characterize this planet are most likely too extreme and volatile for organisms to adapt to. Pioneer 10 and 11 and Voyager 1 and 2 were the first to fly by Jupiter in the 1970s, and since then we've sent Galileo to orbit the gas giant and drop a probe into its atmosphere. Cassini took detailed photos of Jupiter on its way to neighboring Saturn, as did New Horizons on its quest for Pluto and the Kuiper Belt. The next mission is Juno, which arrived in the Jovian system in July 2016.