Scientists are captivated by Jupiter’s gigantic storm, The Great Red Spot and NASA has taken a closer look as well. The storm is so big it is twice as wide as Earth. Some of the most powerful and epic hurricanes recorded on Earth have been as large as 1,000 miles across. These storms are in no comparison to the storm on Jupiter.

The Great Red Spot has been swirling at about 400 mph. Scientists say that the storm has been over Jupiter’s skies for maybe even longer than 150 years. The Great Red Spot is said to have perfect conditions due to it being trapped between two jet streams.

NASA states that, “The Great Red Spot is an anticyclone swirling around a center of high atmospheric pressure that makes it rotate in the opposite sense of hurricanes on Earth.” Scientists are captivated by the storm, and believe that some people stargazing through telescopes back in the 1600’s may have seen this same Great Red Spot. They still are unsure of what causes the red hues that swirl around in a marbleized pattern.

Jupiter is very complicated. The planet is over a thousand times as big as the Earth, and is mostly made up of gas. Surrounding Jupiter’s core is a liquid of hydrogen much like an ocean. The atmosphere is mostly comprised of mainly hydrogen and helium. These components make Jupiter have no solid ground like here on Earth. No solid ground also means the storms do not weaken. A lot of Jupiter’s clouds obstruct closer observations of it’s atmosphere and what lies below.

Amy Simon, expert in pantry atmospheres at NASA’s Goddard Space Flight Center in Greenbelt, Maryland, said that learning more about this massive storm can ultimately help scientists understand the weather system on Earth better. Simon goes on to explain that weather functions are very similar and under the same set of physics as Earth, just much farther from the sun. Simon also says these studies could help our understanding of places beyond our solar system.

Studies conducted so far predict that clouds around Jupiter’s upper atmosphere are filled with ammonia, ammonium hydrosulfide, and water. Scientists still ponder on whether the chemical reactions are what gives the Great Red Spot it’s red hues.

“We’re talking about something that only makes up a really tiny portion of the atmosphere. That’s what makes it so hard to figure out exactly what makes the colors that we see,” stated Simon.
Two other scientists at Goddard, Mark Loeffler and Reggie Hudson, have been performing studies with cosmic rays. They are investigating whether one type of radiation that hits the clouds of Jupiter can alter the chemical make up and comprise new compounds explaining the color variations found. Duplicating more realistic atmosphere’s like Jupiter’s, is the key and complications to getting better results.

NASA’s Planetary Atmospheres and Outer Planets programs are funding the scientists who are to appear in the journal Icarus later in the year. Nancy Chanover, an astronomer from New Mexico State University, will also take part in the studies.