**PAESTA Podcast Series- You asked, We Answered!**

**Episode 20-- Is there water on Mars?**

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For many years, we have been fascinated by the possibility of life on other planets. So it was shocking when it came out that scientists have found planets similar to Earth. However, that's not as jaw dropping as when the announcement made by NASA, the National Aeronautics and Space Administration, that they may be water on Mars. A University of Arizona student, Lujendra Ojha, rather surprisingly made the discovery by noticing dark lines on photos of Mars, taken by the High Resolution Imaging Science Experiment (HiRise). After bringing them to her professor’s attention, they soon realized that the lines were caused by running water. [1] The HiRise experiment involved using a high resolution imaging camera to take pictures of 1% of the Martian surface on Mars for a two year period. [3] Alfred McEwen, a planetary scientist at the University of Arizona, suggested that the lines are made by salt water because it is cable of staying in a liquid form at colder temperatures. [1] It still remains unclear as to where the source of the water comes from. Theories include deliquescence, melting subsurface ice or even a liquid-water aquifer that feeds the process. “Discovering what precisely is causing the phenomenon is a mystery for the next round of investigations”, said Michael Meyer, a lead scientist for NASA's [Mars Exploration](http://www.cnn.com/2013/10/21/world/mars-exploration-fast-facts/) Program. [6]

Ever since the groundbreaking discovery, scientists began to revisit the idea of life on Mars and started to study the planet more carefully. Mainly focusing in the ancient wet habitats of the planet and drier places where past Martian life may have existed. It is theorized that microbes, single cell organisms, may have adapted in these areas on the dry planet.[2] Additionally, NASA has found evidence that suggests that Mars may hold enough water to overtake the Arctic ocean by using ground observations and measuring water signatures on Mars or the Red Planet’s atmosphere. Scientists are still trying to find out where all the water has gone.[4] Additionally, a team of international scientists have made a new prediction about the history of water on mars. Their findings suggest that water may have flown for a longer period of time than previously suggested which would allow more life on mars to form. By removing Tharsis, a volcanic region on mars, from the model they found that the mars would allow rivers to flow in the same patterns regardless of Tharsis.Adding to the theory that the valleys could have formed earlier before Tharsis.[7] The discovery of water on Mars could help scientists better understand the hydrologic cycle, a storage and movement of water between the biosphere, atmosphere, lithosphere, and hydrosphere.[5]

(*This audio file was recorded by Tenowa Edwards on April 5,2016.*)

**Works Cited**

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