

Abstract Submitted  
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**Literary Analysis of Titan's Atmosphere in Particular Tholin Formation** BRANDON LEETS, University of Nevada, Reno — Saturn's moon, Titan, has been an intriguing area of study to the astronomical community since its discovery. Titan has a thick atmosphere unlike any other moon in the solar system. One of the biggest discoveries in Titan's atmosphere was the presence of large particles known as Tholins. The production of these larger particles begins in the upper atmosphere and as they accumulate mass they descend down to the surface of Titan. This precipitation causes a haze layer to form over the moon, making it difficult to see and understand the surface. This process is believed to be similar to what may have happened in Earth's early atmosphere. This haze layer has a greenhouse and anti-greenhouse effect. It has been found that seasonal changes in wind and temperature affects the rate of production and type of Tholins. Also strong winds along the equator prevent molecules from mixing in the polar regions of Titan. These winds can reach upwards of 70 m/s and occur mostly during seasonal changes. By carefully adjusting models to include current knowledge regarding C/N ratios. Pressure, temperature, and ignition sources it will be possible to gain a better understanding of Titan's atmosphere and in turn the evolution of Earth's atmosphere.

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