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Relationship Between the Moon and the Tides

The purpose of this experiment was to determine if there is a significant difference in the high and low tides during the new moon and full moon in the month of September in southern part of the United States.

In order to test this question research was conducted through the US Naval Observation to see what days the new and full moon will or have fell on in the future or the past. The experimenter correlated the data with the Water Level and Tidal Predictions website to see on the full and new moon dates what the tide levels were. The team discovered that the tides during the 2011-2015 full moon continually rose. The data also demonstrated that in the last three years they surpassed the new moon high tides. Throughout the same years the new moon high tide steadily decreased in comparison to the full moon. In turn the full moon low tide had greatly decreased in the five years, while the new moon low tide continued to rise.

This data suggested that the full moon seemed to affect the Earth's tides more than the new moon, although it was a minimal difference. On the full moon the tides averaged 10.73 feet and surpassed 11 feet twice. On the new moon the high tides failed to break the 10 feet barrier three times. The full moon low tides reached negative numbers four times. After further research, the team examined the following questions: Will the full moon continue to have a minimal impact on the tides in comparison to the new moon, throughout the course of the seasons?

It was discovered from the data that the new moon seems to have more of an impact in the Fall compared to the other seasons on the full moon. The difference averaged 2 feet, while in the Spring the opposite was true with the full moon averaging a 2 foot difference. These findings are believed to be associated with the equinox, which occurs twice a year around the 20 of March and 22 of September. Summer and Winter followed the trend in my last research with the full moon normally having a bigger impact on the tides.