

Cassini sheds light on Titan's second largest lake, Ligeia Mare

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Saturn's second largest moon, Titan, is known for its dense, planet-like atmosphere and large lakes most likely made of methane and ethane. It has been suggested that Titan's atmosphere and surface is a model of early Earth. Since the early 2000s, NASA's Cassini space probe has been unlocking secrets of the distant moon.

The most recent Cassini flyby of Titan on 23 May 2013 reveals new observations of Ligeia Mare, Titan's second largest lake, and offers insight into weather patterns and the [chemical makeup](#) of the surrounding terrain. Zebker et al. used radar data to determine that the surface of the lake is flat, ruling out the presence of waves or wind in the region. Other measurements, consistent with previous observations, suggest that Ligeia Mare is most likely composed of [liquid methane](#).

They also find that the surrounding solid terrain is most likely made of solid organic material and not water ice. The authors suggest that these findings not only help scientists to better understand Titan's surface dynamics, but also reveal best practices for how to infer features from remotely sensed data.

More information: Surface of Ligeia Mare, Titan, from Cassini altimeter and radiometer analysis, *Geophysical Research Letters*, [DOI: 10.1002/2013GL058877](#) , 2013.

Provided by American Geophysical Union

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