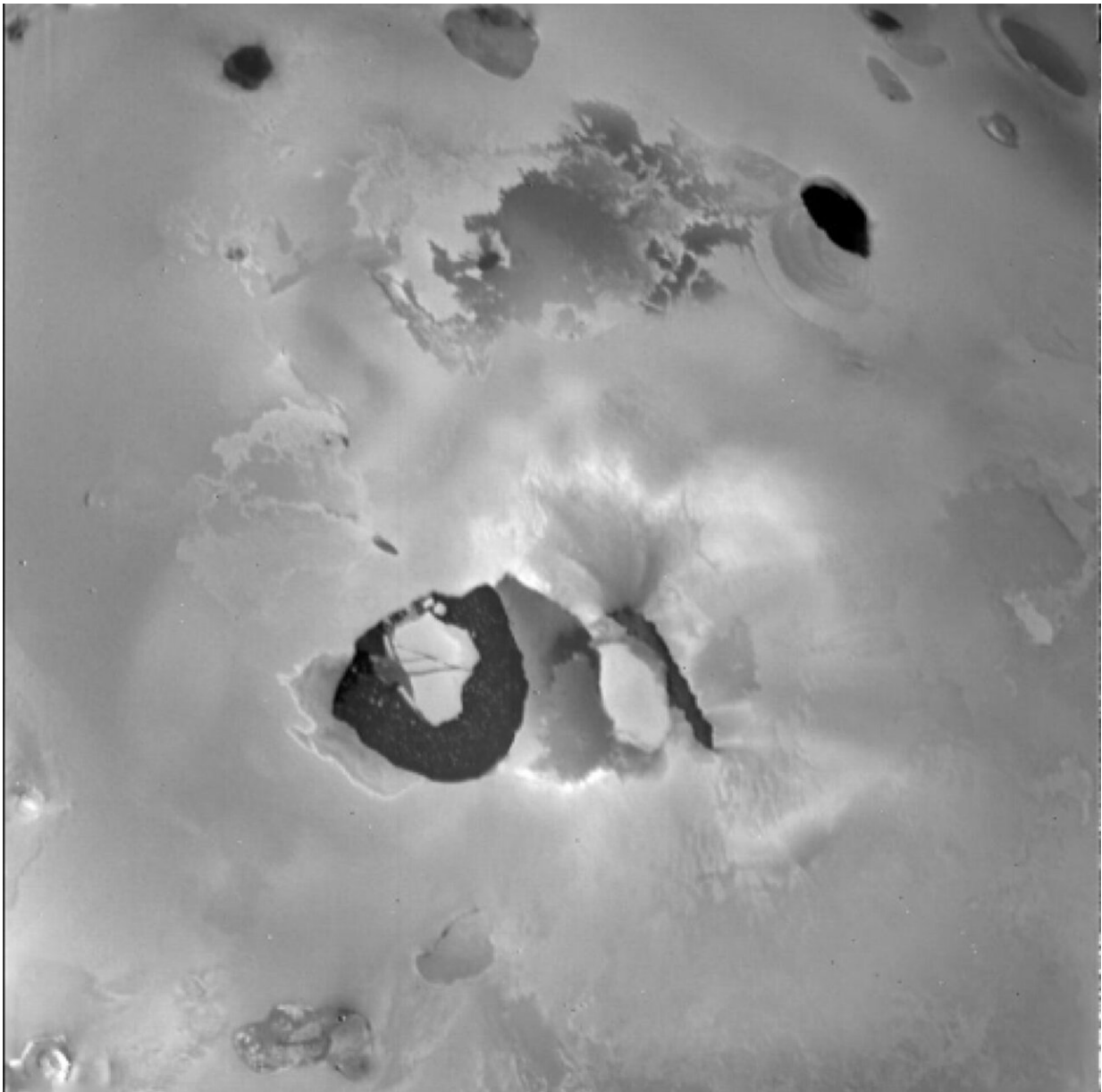


# Is huge volcano on Jupiter's moon Io about to erupt this month?

September 17 2019, by Julie Rathbun

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This picture from Voyager 1 shows the volcano Loki on Jupiter's moon Io. When this picture was taken, the main eruptive activity came from the lower left of the dark linear feature (perhaps a rift) in the center. Below is the "lava lake," a U-shaped dark area about 200 kilometers across. Credit: NASA

Volcanic eruptions are difficult to predict, but observations have shown the largest and most powerful volcano on Io, a large moon of Jupiter, has been erupting on a relatively regular schedule.

The [volcano](#) Loki is expected to erupt in mid-September 2019, according to a poster by Planetary Science Institute Senior Scientist Julie Rathbun presented today at the EPSC-DPS Joint Meeting 2019 in Geneva.

"Loki is the largest and most powerful volcano on Io, so bright in the infrared that we can detect it using telescopes on the Earth," Rathbun said. Based on more than 20 years of observations, Loki undergoes periodic brightenings when it erupts on a relatively regular [schedule](#). In 2002, Rathbun published a paper showing that the schedule had been approximately every 540 days during the 1990s. It currently appears to be approximately every 475 days.

"If this behavior remains the same, Loki should erupt in September 2019, around the same time as the EPSC-DPS Joint Meeting 2019. We correctly predicted that the last [eruption](#) would occur in May of 2018," said Rathbun.

"Volcanoes are so difficult to predict because they are so complicated. Many things influence [volcanic eruptions](#), including the rate of magma supply, the composition of the magma—particularly the presence of bubbles in the [magma](#), the type of rock the volcano sits in, the fracture

state of the rock, and many other issues," Rathbun said.

"We think that Loki could be predictable because it is so large. Because of its size, basic physics are likely to dominate when it erupts, so the small complications that affect smaller volcanoes are likely to not affect Loki as much," Rathbun said. "However, you have to be careful because Loki is named after a trickster god and the volcano has not been known to behave itself. In the early 2000s, once the 540 day pattern was detected, Loki's behavior changed and did not exhibit periodic [behavior](#) again until about 2013."

Provided by Europlanet

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