

YOUNG VOLCANOES ON THE MOON

Back in 1971, Apollo 15 astronauts orbiting the Moon photographed something very odd.

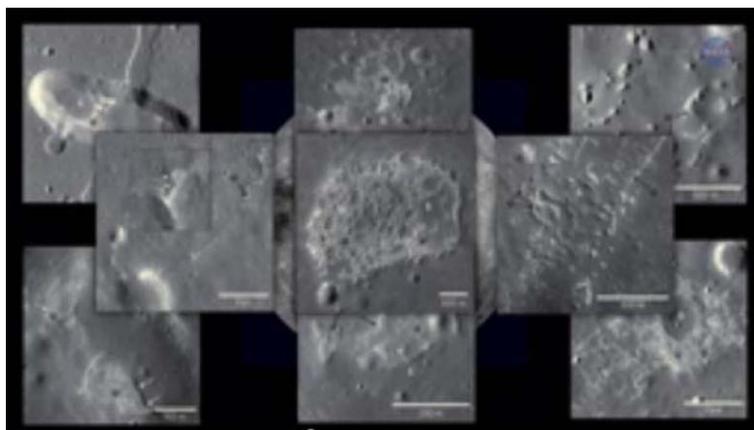
Researchers called it "Ina," and it looked like the aftermath of a volcanic eruption. There's nothing odd about volcanoes on the Moon, per se. Much of the Moon's ancient surface is covered with hardened lava. **The main features of the "Man in the Moon," in fact, are old basaltic flows deposited billions of years ago when the Moon was wracked by violent eruptions.** The strange thing about Ina was its age. Planetary scientists have long thought that lunar volcanism came to an end about a billion years ago, and little has changed since. **Yet Ina looked remarkably fresh. For more than 30 years Ina remained a mystery, a "one-off oddity" that no one could explain.**

Turns out, the mystery is bigger than anyone imagined. Using NASA's Lunar Reconnaissance Orbiter, a team of researchers led by Sarah Braden of Arizona State University **has found 70 landscapes similar to Ina. They call them "Irregular Mare Patches" or IMPs for short.** The irregular mare patches look much different to more common lunar features like impact craters, impact melt, and highlands material, and once you are familiar with these features they really jump out at you when looking at high-resolution images.

On the Moon it is possible to estimate the age of a landscape by counting its craters. The Moon is pelted by a slow drizzle of meteoroids that pepper its surface with impact scars. The older a landscape, the more craters it contains. IMPs are very lightly cratered, suggesting that they are no more than 100 million years old. A hundred million years may sound like a long time, but in geological terms it's just a blink of an eye. The volcanic craters LRO found may have been erupting during the Cretaceous period on Earth--the heyday of dinosaurs. **Some of the volcanic features may be even younger, 50 million years old, a time when mammals were replacing dinosaurs as dominant lifeforms.** IMPs are too small to be seen from Earth, averaging less than a third of a mile (500 meters) across in their largest dimension. That's why, other than Ina, they haven't been found before. Nevertheless, they appear to be widespread around the nearside of the Moon.

This is the kind of science that is literally going to make geologists rewrite the textbooks about the Moon. The interior of the Moon is perhaps hotter than previously thought and the Moon may not as dead as it looks. There may even be future eruptions. Wouldn't it be nice to carry out seismology study there. After all, with today's technology the Moon is only three days away!

Young volcanoes have turned up the heat on the Moon's allure!
From NASA Notes AK



Age of our Moon, Red is the age of the dinosaur 100 million years ago



impact craters, impact melt, and highlands material