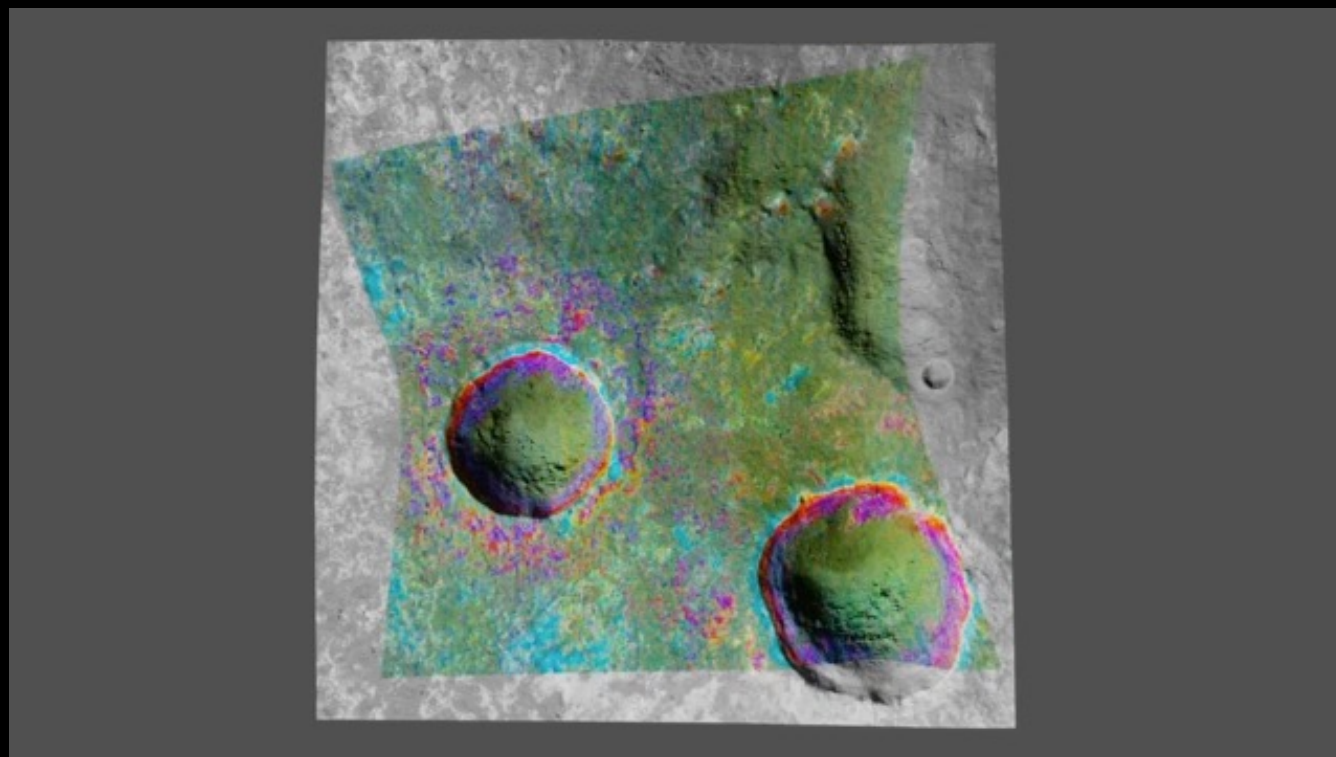




Thousands of Massive, Ancient Volcanic Eruptions Confirmed in Arabia Terra on Mars



- Goddard and APL scientists found evidence that Arabia Terra in northern Mars experienced thousands of "super eruptions," the biggest volcanic eruptions known, over a 500-million-year period about 4 billion years ago.
- Each eruption would have had a significant climate impact.
- Dates come from Mars Reconnaissance Orbiter's spectrometer and cameras
- Team identified volcanic minerals in the walls of canyons and craters downwind of volcanic calderas and noted the shape of the deposits.
- Layering the mineral data over topographic maps of the region, they found that layers of ash were well-preserved and thinned away from volcanic calderas as predicted.



An animated view of features once thought to be impact craters, but are more likely caldera caused by explosive volcanism.

Whelley et al. (2021) Geophysical Research Letter, Vol. 48, 15,
<https://doi.org/10.1029/2021GL094109>