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.