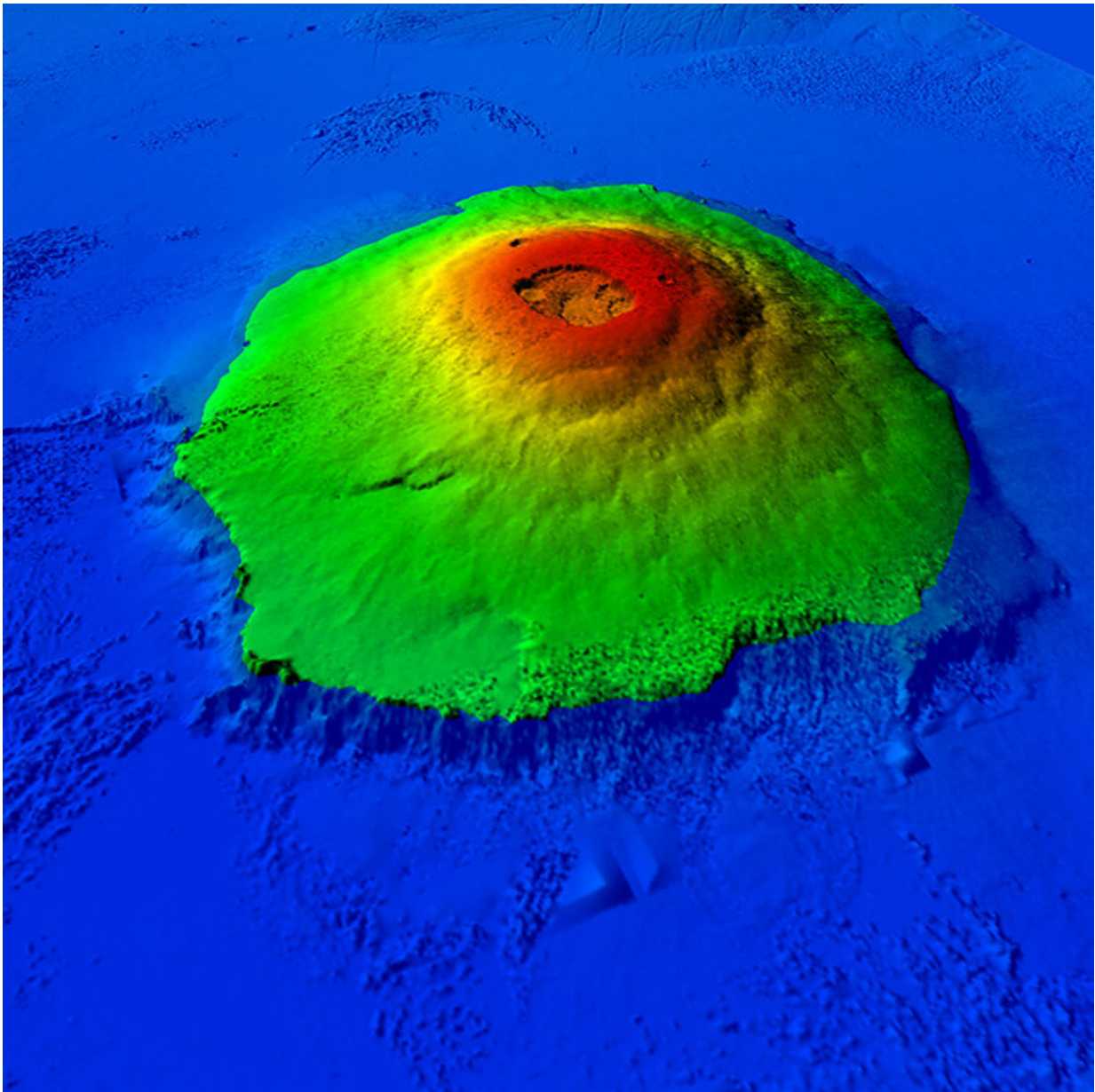


Mars: Was Olympus Mons once a giant volcanic island?

July 25 2023



Olympus Mons: a volcanic island in the middle of a vanished Martian ocean.
Credit: A.Hildenbrand/Geops/CNRS (produced from MOLA public data)

Imagine a volcanic island about the size of France and over 20,000 meters high. Such a landscape may once have existed on the planet Mars.

Published in the journal *Earth and Planetary Science Letters*, recent work led by a CNRS researcher shows that the giant Olympus Mons volcano on Mars shares morphological similarities with many active volcanic islands on Earth. Scientists believe they are the result of contact between liquid water and lava from the volcano.

Similar features on the northern flank of the Alba Mons volcano, located more than 1,500 km from Olympus Mons, also support the idea that a vast ocean of [liquid water](#) once occupied the Red Planet's northern lowlands. Precise dating of these volcanic rocks could provide a considerable amount of information about the climatic evolution of Mars.

More information: A. Hildenbrand et al, A giant volcanic island in an early Martian Ocean?, *Earth and Planetary Science Letters* (2023). [DOI: 10.1016/j.epsl.2023.118302](https://doi.org/10.1016/j.epsl.2023.118302)

Provided by CNRS

Citation: Mars: Was Olympus Mons once a giant volcanic island? (2023, July 25) retrieved 28 April 2024 from <https://phys.org/news/2023-07-mars-olympus-mons-giant-volcanic.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.