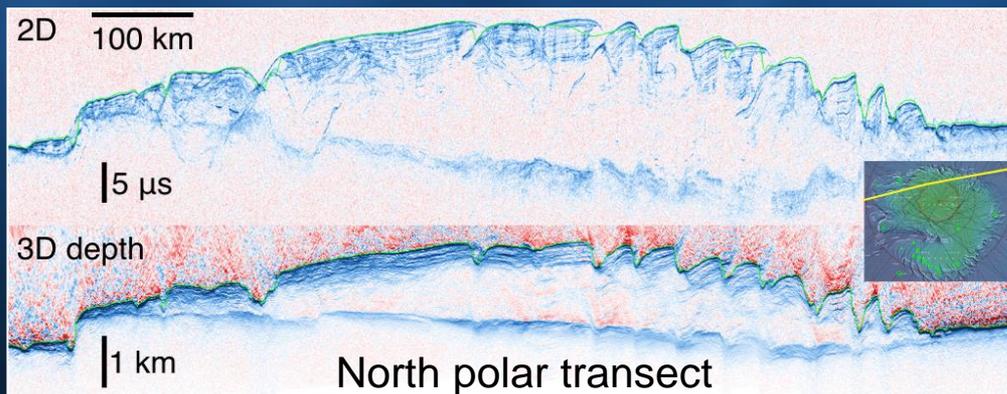


3-D Imaging of Martian Polar-Cap Interiors Sheds New Light on Climate History

Source: The Shallow Radar (SHARAD) experiment aboard the Mars Reconnaissance Orbiter

- **3-D Volumes:** Using SHARAD data from more than 2000 2-D orbit passes over each pole, the team created 3-D images of the interior of both polar caps. *Each volume covers more than 600 times the area of Earth's largest 3-D seismic survey.*
- **Findings:** Geometric corrections and summing provided by 3-D radar imaging have revealed layering and structures such as a volume of sequestered CO₂ ice larger than expected in the south, as well as likely buried impact craters in both caps.
- **Importance:** The climate history of Mars is recorded in polar-cap layering and CO₂ ice deposits. *Volumetric cratering records may be used to determine the age of each polar ice cap independently of climate models.*

Foss II, F.J. et al. 2017



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