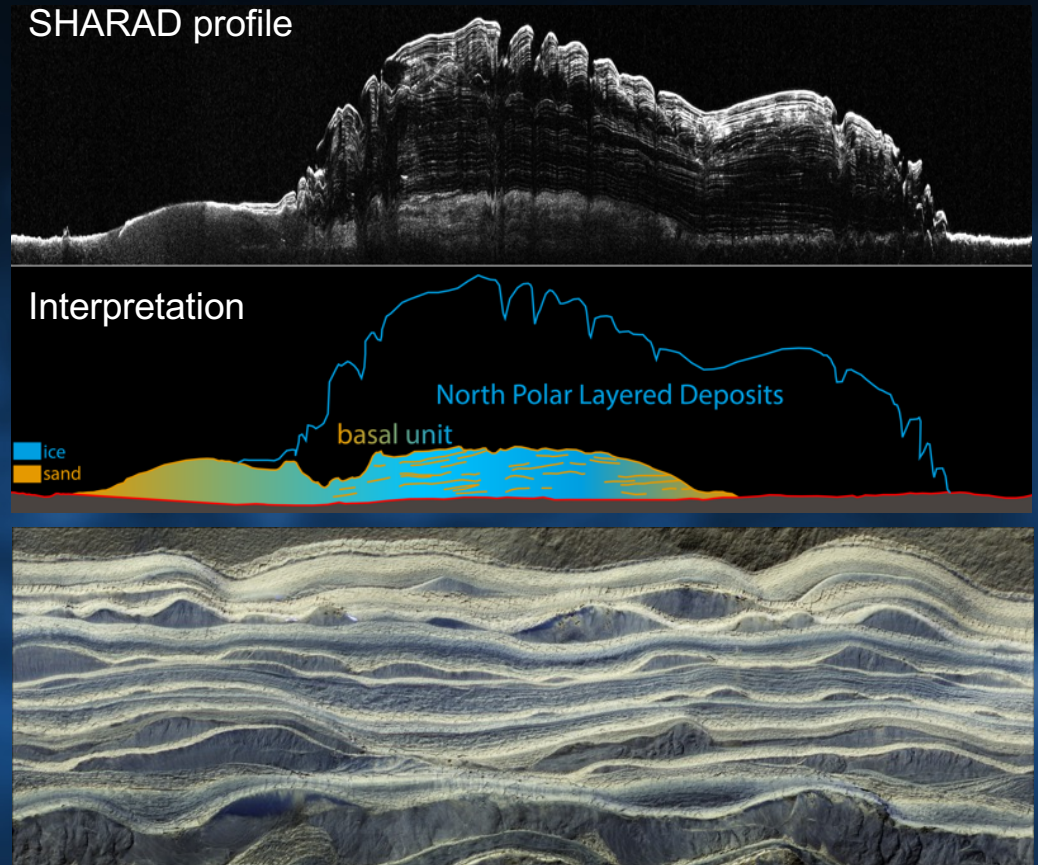


Ancient Remnants of Mars' Northern Ice Caps Revealed by Orbital Sounding Radar

The Shallow Radar (SHARAD) instrument on Mars Reconnaissance Orbiter reveals multiple former ice caps buried within sand under the northern ice cap of Mars.

- These massive ice remnants represent the waxing and waning of polar ice on Mars due to changing orbital parameters.
- Ice contained in these layers is the third largest known water reservoir on Mars after the two polar caps, equal in volume to a global water layer 1.5 m deep. This water sequestration at the pole likely impacted global climate and habitability near the equator.
- An independent study based on gravity data obtained from multiple NASA missions corroborates the radar observation of massive ice buried within sand.



SHARAD profile (top) and HiRISE image (bottom) showcasing the ice and sand sheets buried under Mars' north pole.