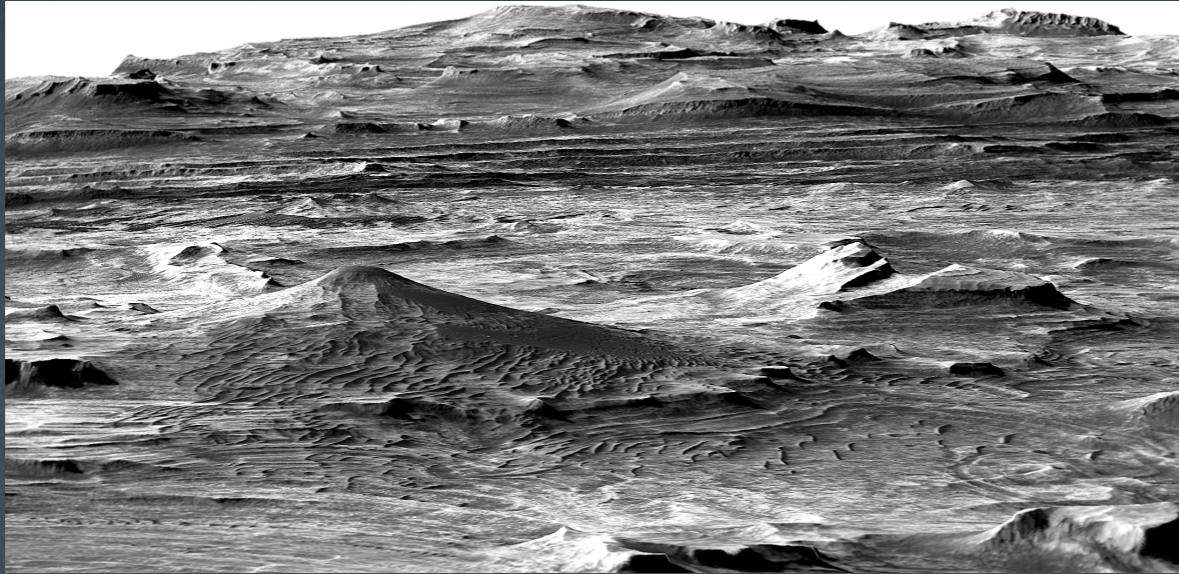
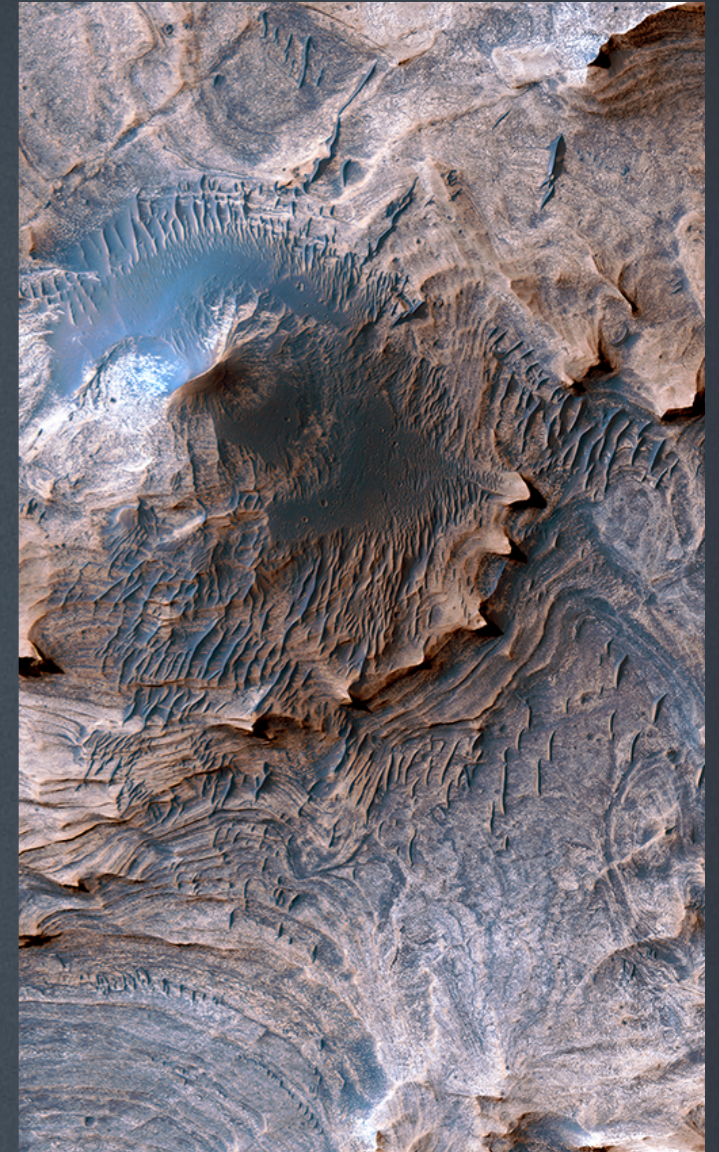


# Marsquakes and Water-Lain Sediments in Candor Chasma



Perspective view of the Candor Colles region of west Candor Chasma, Mars. HiRISE image PSP\_001641\_1735

- Unprecedented high-resolution geologic and structural mapping using HiRISE data has revealed evidence of past marsquakes and water-lain sediments in the west Candor Chasma region of Valles Marineris.
- Orientations of the sediment layers indicate that these rocks formed as sand and dust was blown in by the wind and became trapped in shallow playa lakes.
- Injectite megapipes are also observed. These features formed by underground movement of the water-lain sediments in response to ground shaking (marsquakes) from several large fault zones in the area.
- These injectites served as reservoirs for groundwater and thereby would have hosted potentially habitable environments in the Martian subsurface approximately 3 to 3.5 billion years ago.
- Results published in Okubo, C.H., 2014, Bedrock geologic and structural map through the western Candor Colles region of Mars: U.S. Geological Survey SIM 3309, scale 1:18,000, <http://dx.doi.org/10.3133/sim3309>.



An injectite megapipe (conical hill). Image is ~1 km across. HiRISE image PSP\_001641\_1735