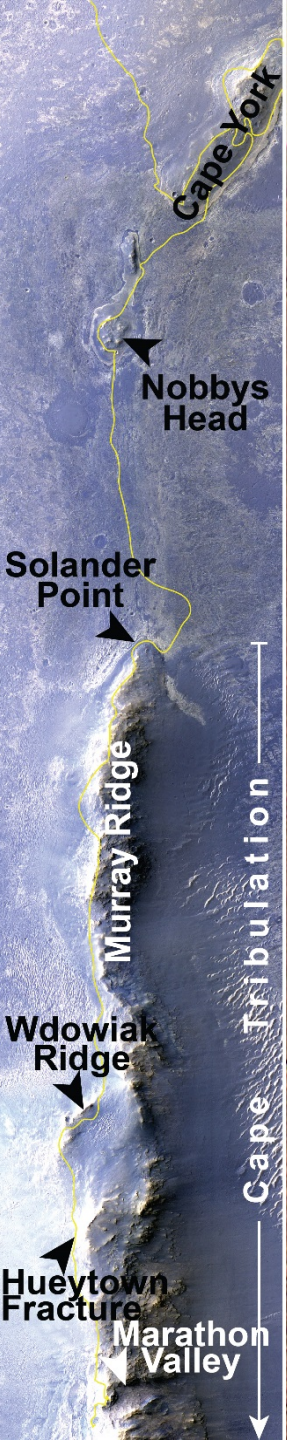
Endeavour Crater Eroded by Water in Distant Past



- The "marriage" of HiRISE and rover-based data sets identifies key morphologies that permit characterization of impact and degradation morphology at Endeavour Crater and provide a new tool for measuring the amount and processes of degradation of large, ancient (Noachian) complex craters.
- Results demonstrate that Endeavour's original rim averaged 410 m ±200 m in elevation, of which ejecta comprised the upper 250-275 m (±50-60 m). The current form of Endeavour indicates ~100-200 m Noachian rim lowering by mostly fluvial processes variably stripped the ejecta with later embayment by plains rocks, of which a ~100-200 m section remains. Thicker deposits of plains rocks occur inside the crater: the original crater depth was ~1.5 km to 2.2 km.
- Characterization of key morphology around other, widely occurring, ancient complex craters can help map of where, when, and how much water-driven vs. alternate degradation occurred on Mars, thereby contributing to our understanding of the distribution and duration of past habitable settings.

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