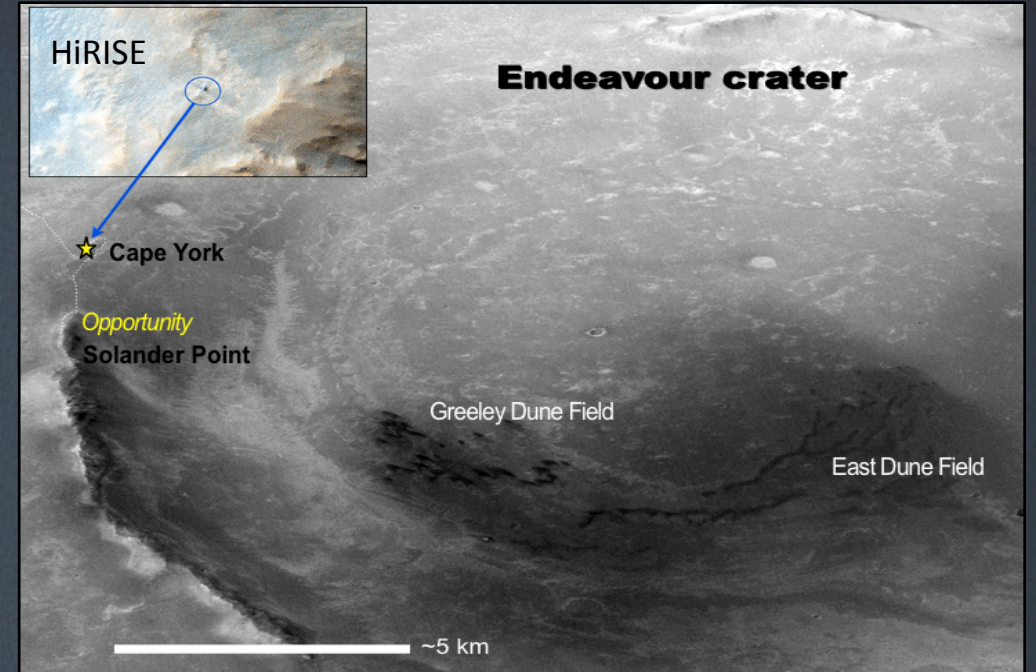


# Persistent aeolian activity at Endeavour crater, Meridiani Planum, Mars; New observations from orbit and the surface

## Opportunity Pancam: Super-Resolution



Southeastward surface view of the Endeavour crater interior and the "Greeley Dune Field". The Opportunity rover detected evidence for near- and far-field aeolian-driven activity, with observations of spherules/sand movement in the rover workspace, shifting dark streaks, and dust-lifting events.



A CTX northward prospective view of the Endeavour crater, showing two dune fields and the location of the Opportunity rover (gold star) during the investigation.

## Highlights

- New detections of aeolian-driven surface change at multiple temporal- and spatial-scales are presented.
- Dome dunes possess the highest migration rates and volumetric sand fluxes reported yet for Mars.
- Dune construction times are significantly shorter than obliquity cycles, implying morphologies formed under current climatic conditions.
- The Opportunity rover detected evidence for near- and far-field aeolian-driven activity.
- Endeavour crater dunes have been persistently active for over a decade.

ESP\_028815\_1780  
MY31 L<sub>s</sub> 174°

ESP\_034208\_1775  
MY32 L<sub>s</sub> 49°

10 m

100 m

Dome dunes in the eastern dune field rapidly migrated (4–12 m/Mars year) between these HiRISE images in just two Martian seasons. These examples are some of the fastest translating Martian dunes detected to date.