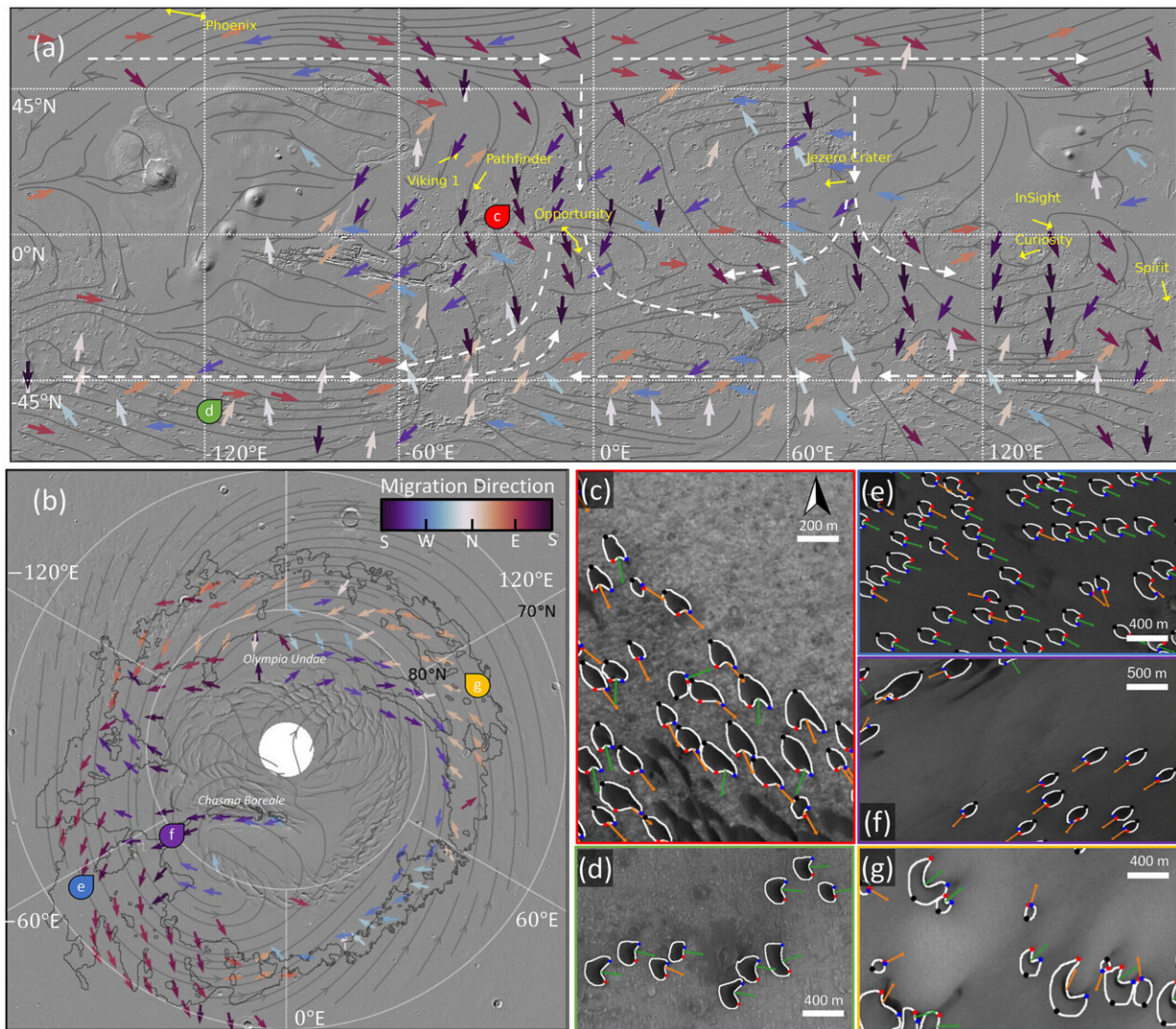


Sand dunes reveal atmospheric wind patterns on Mars

September 25 2023, by Hannah Bird



Barchan dune field maps on Mars produced by machine learning, with inferred dune migration and wind directions. Credit: *Geophysical Research Letters* (2023). DOI: 10.1029/2022GL102610

Mars is one of the most explored components of the solar system, yet there are always more discoveries to unveil on Earth's planetary neighbor. On Earth we are able to take direct measurements to understand our planet's meteorological activities, but on Mars scientists must use evidence in the landscape to discern this information instead.

One such feature of the red planet's [landscape](#) are barchan dunes in [deserts](#), crescent-shaped sand dunes formed by wind patterns predominantly in one direction in areas with a limited supply of sand. Such aeolian-derived dunes are significantly impacted by the [atmospheric circulation](#) on the planet's surface, with [new research](#) published in *Geophysical Research Letters* finding that localized [topography](#) at scales

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