

## **Summer Sand Dunes**

Mars' permanent North Polar cap is ringed by sand dunes. In the winter and spring the dunes are covered by a seasonal cap of dry ice. Here we see the dark dunes in the summer, bare of seasonal frost. Two classic barchan dunes march across the rugged terrain. The long dark dune is crossing transverse aeolian ridges probably formed in a previous climate regime.



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## **Colorful Hargraves**

Hargraves Crater is located on the northwestern margin of Isidis Basin, a region that hosts many proposed future Mars landing sites such as nearby Jezero Crater and the Nili Fossae trough. This image covers the ejecta along the southern margin of Hargraves and shows an impressive variety of rock types, as indicated by the range in color diversity.





## Dramatic Shadows over a Fossil Glacier

This image was acquired near the Martian winter solstice, when the sun was low over the horizon at this location. The resulting illumination produces dramatic accentuation of subtle topography. The image is centered on a fossil glacial flow, no longer active. It formed on the south-facing slope of an impact crater in the southern middle latitudes.



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## Frosted Gully Slopes in Shadows

The bluish areas are covered by seasonal carbon dioxide frost. In fact, this frost is key to forming the gullies. A good deal of carbon dioxide condenses in the shallow subsurface, and when it warms up in the late winter, it produces pressurized gas. When this gas escapes it fluidizes loose rocky materials on these steep slopes forming debris flows.



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