

Polygonal Surface Patterns at the South Pole ESP_032487_0895



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Like Earth, Mars has concentrations of water ice at both poles. Because Mars is so much colder, however, the seasonal ice that gets deposited at high latitudes in the winter and is removed in the spring (generally analogous to winter-time snow on Earth) is actually carbon-dioxide ice. Around the South Pole there are areas of this carbon dioxide ice that do not disappear every spring, but rather survive winter after winter. This persistent carbon-dioxide ice is called the "South Polar residual cap." The white portions of this observation are part of that residual ice cap, and the sunlight is coming from roughly the bottom of this non-map projected image. It is made of solid, frozen carbon dioxide and is very bright relative to the background. This is despite the background terrain having a very high water-ice content, which is darkened by very fine rocky particles, or dust.