

## Global Albedo Map of Mars using MSM data from Mars Orbiter Mission

The albedo of the surface is defined as the fraction of incident solar radiation reflected by the surface. The magnitude and spatial distribution of Martian surface albedo are important inputs for characterization of Martian surface and Atmospheric circulation. Global Short Wave Infra-Red (SWIR) albedo map in wavelength band 1.64-1.66  $\mu\text{m}$  has been derived using Mars Orbiter Mission -Methane Sensor for Mars (MOM-MSM) data for the surface of Mars. Five months of MSM radiance data for reference channel are converted to the top of atmosphere reflectance normalised to sun-sensor viewing geometry. The global view of MSM derived Martian SWIR albedo has been averaged at  $\sim 50$  km spatial resolution.

The bright regions (albedo greater than 0.4) are mainly localized over the Tharsis plateau, Arabia Terra and Elysium Planitia regions of Mars. The low albedo regions (less than 0.15) are mainly localized in Syrtis Major and Southern highlands, although low albedo regions such as Acidalia (less than 0.17) are also identified in Northern hemisphere. In general low albedo values are associated with darker surface on Mars having volcanic rock basalt as surface exposures. Higher albedo values represent surface covered by Dust. The area shown in blue colour indicates the presence of basaltic composition while red indicates the dust covered regions of Mars.

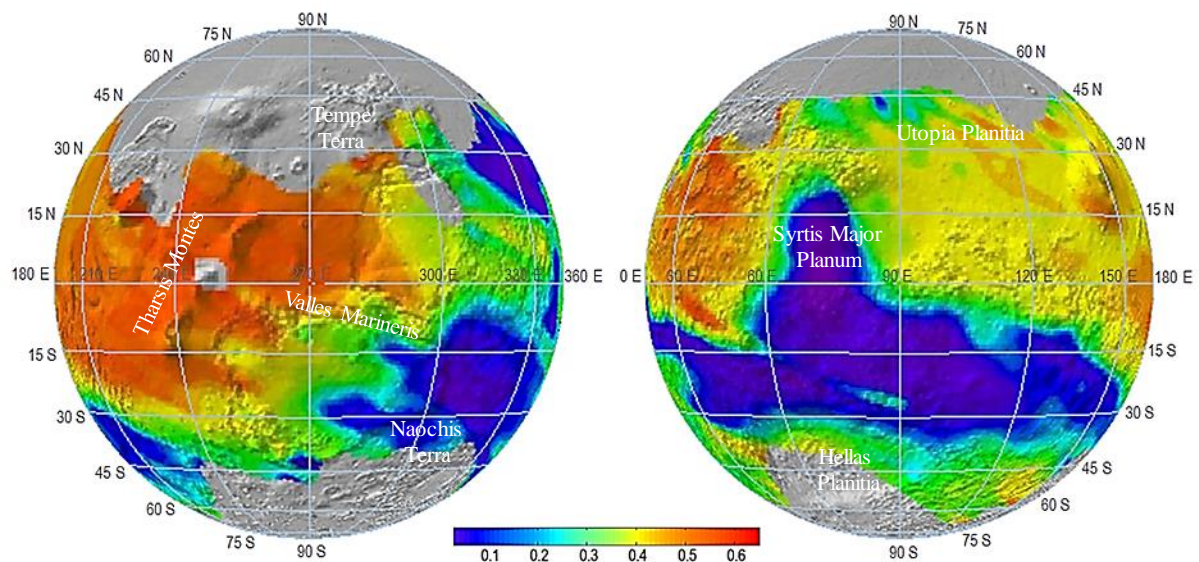


Figure: The Global MSM SWIR (1.65 $\mu\text{m}$ ) band albedo map of Mars using Mars Orbiter Mission (MOM) data.