

## **Further Investigations of the Martian Surface: 2001 Lander and Rover**

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In early 2002, a lander and rover will explore a new region of the Martian surface, extending our knowledge of Mars to a site with ancient crustal materials. This paper describes detailed studies of proposed landing zones in the Martian equatorial region using high resolution images, mineral maps and topographic information from MGS. The Mars surveyor Program 2001 mission will build on what we have learned from Pathfinder and Mars Global Surveyor. The 2001 lander and rover carry a highly integrated suite of instruments capable of determining the mineralogy and composition of surface materials. The lander also includes a set of investigations that will determine the suitability of the Martian environment for future human and robotic exploration. The science investigations will include a set of campaigns that coordinate the Mars Descent Imager, Athena Precursor Experiment, Mars Environmental Compatibility Assessment, Mars In-Situ Propellant Precursor Experiment, and Mars Radiation Environment Experiment to meet payload measurement objectives and maximize scientific synergy. A Surface Soils Campaign will determine physical properties and mineralogy of surface soils. The Deep Hole Campaign determines properties of soil, sediment, and small rocks as a function of depth. The Rock Campaign performs detailed examination of nearby rocks. The Atmosphere-Surface Dynamics Campaign will quantify dynamics of atmosphere-surface interactions. Mars Surveyor Program 2001 is a NASA/JPL Mission.