

Introduction to the special section: The Mars Global Surveyor mission

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Since the launch of Mars Global Surveyor (MGS) in November 1996, it has returned more information about Mars than all previous missions combined. The scientific impact of MGS has been extraordinary. In many ways we now know Mars to be a very different planet than when MGS arrived in 1997. MGS has provided daily global and high resolution images, a global topographic model better than for Earth, a corresponding gravity model, and a magnetic field model, has mapped the surface composition, and has monitored the atmosphere. Understanding the roles of surface water, ground ice, sapping, channel formation, and aeolian processes has been greatly enhanced.

This special section provides a summary of the results through the first year in the mapping orbit at Mars. Currently, we have completed the second year in the mapping orbit and will be continuing mapping observations into April 2002.

On behalf of all the authors I want to acknowledge the efforts of all the individuals on the engineering and science teams who have made this issue possible. Many of them started in the early years of Mars Observer, returned for the development of MGS, and stayed on for all the challenges of the aerobraking periods; many are still with the mission or have moved on to other Mars missions.

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