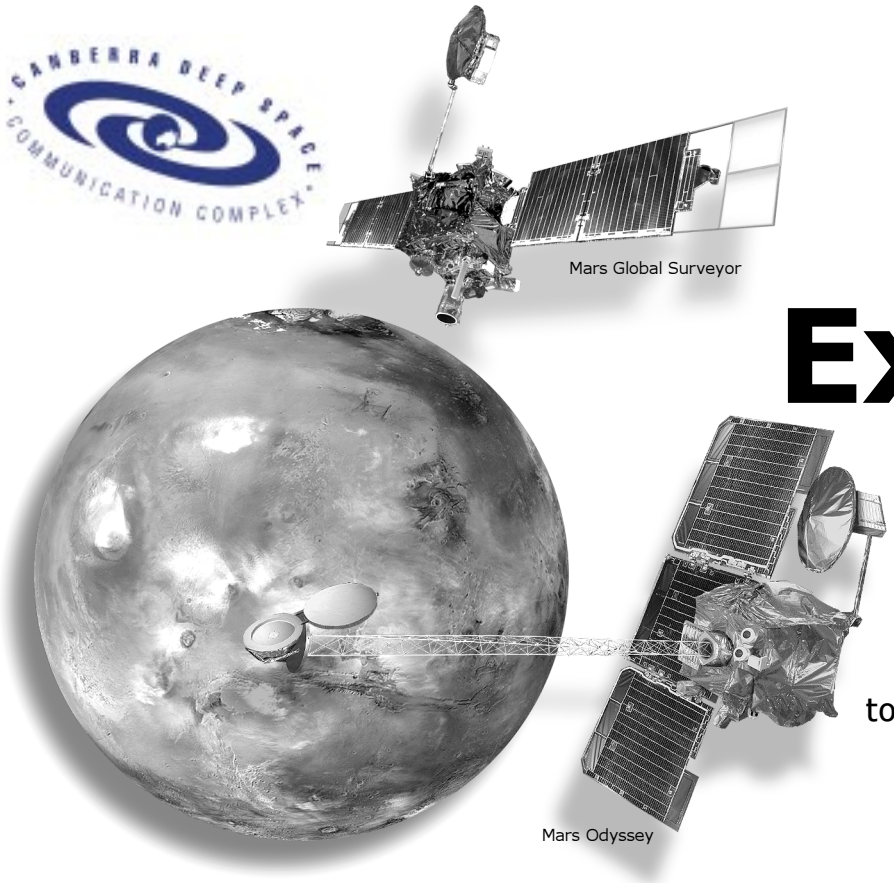
Canberra Space Centre

FACT SHEET

www.cdscc.nasa.gov

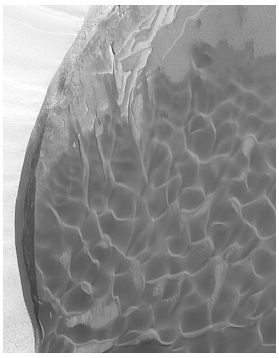


Exploring Mars

Two spacecraft in orbit around the red planet, continue to reveal an amazing world of towering volcanoes, deep canyons, and evidence of water that once flowed across the surface.

Mars Global Surveyor

The first successful mission to the red planet in nearly two decades, the spacecraft was launched November 7, 1996, and entered Martian orbit on September 12, 1997.



Sand dunes and erosion evidence on Mars

Observing the planet from a low-altitude, nearly polar orbit over the course of one complete Martian year, the equivalent of nearly two Earth years, the spacecraft completed its primary mission on January 31, 2001. Surveyor is now in an extended mission phase continuing to send back valuable data.

The mission has studied the entire Martian surface, atmosphere, and interior, and has returned more data about the red planet than all previous Mars missions combined.

Global Surveyor has taken pictures of gullies and debris flow features that suggest there may be current sources of liquid water, at or near the surface of the planet. Data from the spacecraft's laser altimeter have given scientists their first 3-D views of Mars' north polar ice cap.

Further information on the Mars Global Surveyor mission can be found on the Internet at:

http://mars.jpl.nasa.gov/mgs/

Mars Odyssey

Launched on April 7 2001, and arriving at Mars October 24 2001, this orbiting spacecraft is designed to determine the composition of the Martian surface, detect water and shallow buried ice, and to study the radiation environment.

Gullies possibly once carved by water on Mars

The surface of Mars has long been thought to consist of a mixture of rock, soil and icy material. However, the exact composition of these materials is largely unknown. Odyssey is collecting images that are being used to identify the minerals present in the soils and rocks on the surface and to study small-scale geologic processes and landing site characteristics.

By measuring the amount of hydrogen in the upper metre of soil across the whole planet, the spacecraft is helping us understand how much water may be available for future exploration.

The orbiter will also collect data on the radiation environment to help assess potential risks to any future human explorers, and can act as a communications relay for future Mars landers.

Further information on the 2001 Mars Odyssey mission can be found on the Internet at:

http://mars.jpl.nasa.gov/odyssey/

For information on past and future Mars missions: **http://mars.jpl.nasa.gov**

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