MARS

On 27 August 2003 Mars will be at its closest to the Earth for 60,000 years

Mars, the fourth planet out from the Sun, is just over half the size of the Earth, with a rotation period similar to the Earth's. Although Mars is very cold, with a thin and unbreathable atmosphere, it is the only planet in the Solar System that is in any way like the Earth. It has rocky deserts with sand dunes, and icy polar caps. Huge canyons suggest that water may once have flowed across its surface, when it was warmer and wetter several billion years ago. Primitive life may have arisen on Mars in the remote past, and it might survive today, hidden in Mars' soil.

Four views of Mars showing a complete rotation, imaged by the Hubble Space Telescope in 1999, when the north polar cap was tilted towards us. Mars' southern polar cap will be tilted towards us in 2003.

Compare the view above with the telescopic observation shown below left. Image credit: NASA / STScI.

National Astronomy Week 23-30 August 2003

National Astronomy Week 2003 is sponsored by the BAA, BC&F, FAS, Faulkes Telescope, PPARC, RAS, SPA, Venturescopes, and co-ordinated by the Observatory Science Centre, Herstmonceux.

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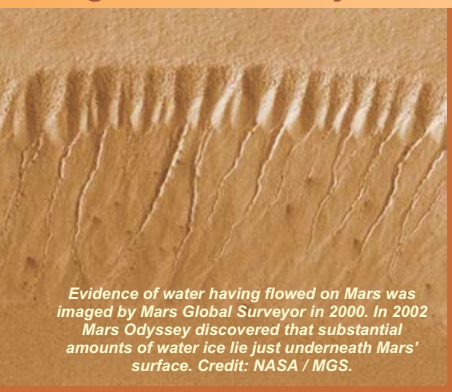


Evidence of water having flowed on Mars was imaged by Mars Global Surveyor in 2000. In 2002 Mars Odyssey discovered that substantial amounts of water ice lie just underneath Mars' surface. Credit: NASA / MGS.

Is there life on Mars?

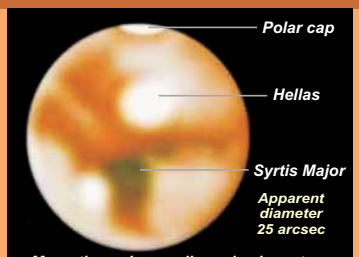
In August 1996 NASA announced that possible fossilised bacteria had been found in Martian meteorite ALH84001. The Beagle 2 project, headed by Professor Colin Pillinger of the Open University, is a British led effort to land on Mars. The project is part of the European Space Agency's Mars Express Mission, launched in June 2003. The probe will analyse the Martian rocks and soil in a search for telltale traces of life.

Artist's impression of the Beagle 2 probe on Mars as it tests the surface for signs of life. All rights reserved Beagle 2

Find out more about the Beagle 2 Mars mission at www.beagle2.com and www.sci.esa.int/marsexpress. Information about NASA's Mars missions past, present and future—including the Viking and Pathfinder landers, Mars Global Surveyor and 2001 Mars Odyssey—can be found at mars.jpl.nasa.gov

Observing Mars

Through a small telescope you'll see a small orange disk with several dusky desert features and a bright south polar ice cap. The view at right shows Mars as it will appear at midnight during National Astronomy Week. The V-shaped plain of Syrtis Major will be clearly seen, along with a bright area to its south called Hellas, an asteroid impact basin. Some astronomers in the 19th and early 20th century imagined that they had seen a network of straight lines on Mars, and speculated that these might be canals built by a civilization of intelligent beings!



Mars, through a medium-sized amateur telescope. It will be 25 arcseconds across during National Astronomy Week—1/60 the apparent diameter of the Full Moon. This drawing has south at top, as shown through astronomical telescopes.

National Astronomy Week, 23-30 August

On 27 August, Mars approaches Earth to within 56 million kilometres—the closest it has been for nearly 60,000 years! Mars will be the brightest object in the night sky at the time. NAW events are being organised across the UK to celebrate this close approach, bringing you your chance to view Mars through a telescope, and the opportunity to learn more about Mars at exhibitions and at talks by astronomers. For a complete list of NAW events, see the NAW website at:

www.astronomyweek.org.uk

or phone the NAW hotline on: **01323 831972**

Other astronomical highlights of 2003

- ★ Transit of Mercury across the face of the Sun, 7 May.
- ★ Total lunar eclipses, 16 May and 9 November.
- ★ Annular eclipse of the Sun, 31 May.
- ★ Moon occults Zubenelgenubi (Alpha Librae) 11 June.
- ★ Leonid meteors at maximum, 18 November.

National Astronomy Week website www.astronomyweek.org.uk