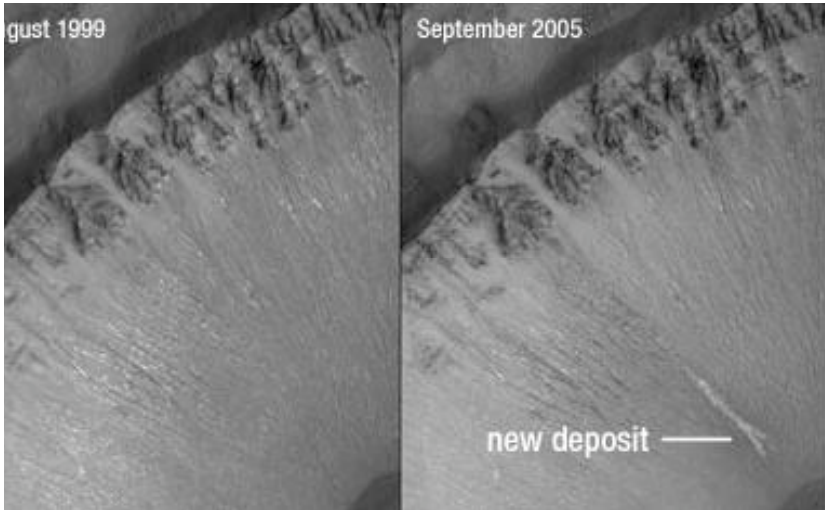


Life on Mars

Ben Woodbury & Katie O'Donnell



Evidence of a possible water channel on Mars

Timeline of the Theory

2000- evidence for water currently under the surface of Mars was discovered in the form of flood-like gullies

2004- NASA announced that its rover Opportunity had discovered evidence that Mars was, in the ancient past, a wet planet.

2006- NASA showed images taken by the Mars Global Surveyor that suggested that water occasionally flows on the surface of Mars. (above)

Why is water essential for life to exist?

- chemicals dissolve in water allowing them to mix and react.
- Liquid water is the right temperature for chemical reactions to occur.
- The chemicals have parts that are attracted and repelled by water.

- Mars is the planet in our Solar System that is most similar to the Earth
- Primitive life could survive around hydrothermal vents near the planet's surface
- Nowadays it may be too cold for life to exist there. But organisms may have thrived in the past
- It has a similar temperature
At present, it's too cold for liquid water to exist on the surface. But the planet may have been warmer in the past.
- It has an atmosphere
The atmosphere is much thinner than on Earth. Plus there's not much ozone to protect the planet from the Sun's harmful UV rays. But the atmosphere may have been thicker millions of years ago.
- It has a rocky surface
This makes it easier for life to get a foothold. On rocky planets, all the necessary chemicals for life can collect in one place, rather than floating freely through a gassy atmosphere.
- It has polar ice caps
These expand and contract with the planet's seasons. Although the ice is mostly frozen carbon dioxide, there is probably water there too. So like the Earth, Mars could also have a water cycle.

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<http://www.msss.com/http/ps/life/life.html>

<http://www.technologyreview.com/Biotech/18408/>