

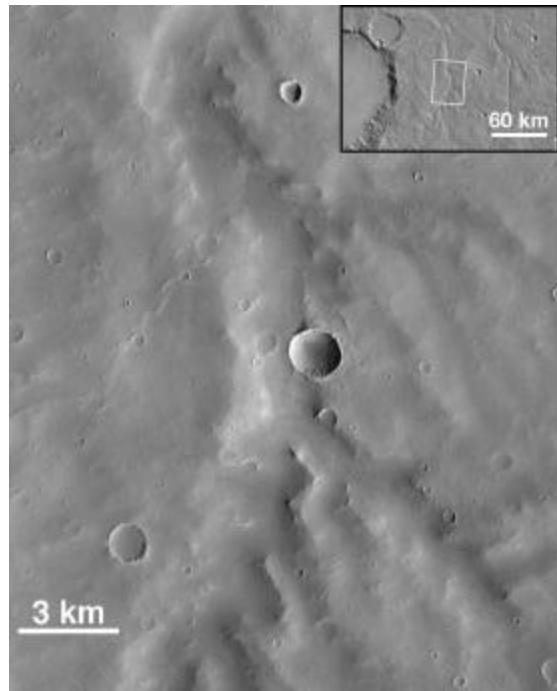


Water on Mars

Water channels

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While there is no running water on Mars today, there is plenty of evidence that it once existed on the surface. Most of this evidence is in the form of dry channels in the ground that were formed by running water. Water existed on the surface of Mars several billion years ago, when the atmosphere of the planet was thicker and the temperature was warmer.



Water channels on Mars. NASA/JPL.

There are two kinds of channels on Mars that have been left by water flows: runoff channels and outflow channels. Runoff channels are the equivalent of dry river beds on Mars. They are a series of meandering, connecting pathways that are found only

in the southern highlands. They, like the southern highlands, are thought to be about 4 billion years old.

Outflow channels are channels that were created during enormous flash floods on Mars. After the time of free flowing water, when the runoff channels were formed, the climate on Mars became very cold and much of the water froze into ice caps or permafrost just below the surface. About one billion years later, volcanoes became active on the planet and melted much of the water. The melting water cascaded to lower elevations in huge flash floods, carving outflow channels as it went. Many teardrop shaped “islands” were also formed in the outflow channels. When the volcanism ended, the water refroze into the conditions that exist today.



Water channels on Mars. NASA/JPL.



Water channels on Mars. NASA/JPL.



Water channels on Mars. NASA/JPL.

The Benchmark Lessons were developed with the help of the following sources:

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