

To see Mars, visit Australia

March 19 2010



Craters on Martian highlands (image courtesy NASA)

(PhysOrg.com) -- Ever wondered what it would be like on the planet Mars? You can see the next best thing right here on Earth in Australia's vast and ancient desert regions, according to a new scientific study.

The red-brown weathered rocky gibber plains of the Strzelecki and Sturt Stony Deserts, for example, bear a striking resemblance to the panoramas produced by several <u>Mars</u> landers, says a team of Australian researchers writing in the journal *Planetary and Space Science*.

Many features common to Australia's desert regions have also been identified in images taken from Mars orbit.



Yet few scientists have explored the potential of Australia's quintessential desert landforms as research analogues for the surface of Mars, notes the team, which includes several researchers from the UNSW Australian Centre for Astrobiology (ACA).

Evidence of surface <u>water</u> movements on the red planet - once imagined to be "canals" and therefore signs of civilisation - are seen in channels that resemble the flood outs formed where the ephemeral Finke and Todd rivers of central Australia terminate in the desert sands.

Likewise, Australia's massive dunefields - contained in seven interconnected deserts, most dunes are longitudinal and are up to 300km long, 10 to 35m high and spaced 16 to 200m apart - have shapes and surface crusts that may shed light on their equivalents on Mars.

"Australia's arid climate, general flatness, geological stability and ancient basement rocks have also left it with one of the best-preserved records of impact craters anywhere in the world," says the ACA Director, Professor Malcolm Walter.

"The wide range of crater types and ages in arid <u>Australia</u> provides plenty of scope for analogue studies of the impact cratering and weathering processes that also happen on Mars, the Moon and other parts of the Solar System."





Martian surface channels (image courtesy NASA)

The remarkable rock formation known as Gosses Bluff, in the Northern Territory, served just such a role in association with the US Apollo space program. What appears to be a lone circular structure in an otherwise flat <u>desert</u> plain is in fact the eroded remnant of a massive crater that was once 24 km in diameter.

Extensive studies by US Geological Survey scientists in the 1960s paved the way for understanding the lunar craters encountered on Apollo



voyages.

Among other features worth further investigation are Australia's hydrothermal springs, artesian water resources, eroded landscape patterns, salt and acid lakes and ancient volcanic remains.

More information: www.sciencedirect.com/science/journal/00320633

Provided by University of New South Wales

Citation: To see Mars, visit Australia (2010, March 19) retrieved 28 April 2024 from <u>https://phys.org/news/2010-03-mars-australia.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.