

Volcanic deposits may aid lunar outposts

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A U.S. study of radar images of the moon suggests deposits from early lunar volcanoes might be useful to astronauts at lunar stations.

Bruce Campbell and associates at the National Air and Space Museum said ancient volcanic eruptions on the Moon produced deposits of fine-grained, often glass-rich, pyroclastic material. In some places, such as at the Aristarchus Plateau, the deposits can be up to nearly 100 feet thick.

Campbell said the pyroclastics are of interest as possible sources of materials for lunar outposts.

The scientists used longer wavelength radar images from Earth-based radio telescopes that penetrate the mantling layers to "see" underlying terrain and details of the geologic events, including the extent of lava flows that shaped the plateau.

When struck by relatively small meteorites, the lava flows are broken into rocks and mixed into the fine-grained layers above, the researchers said, noting such abundant rocks might complicate the use of the pyroclastics as a resource for future lunar explorers.

The new radar data can be used to identify thick, rock-poor areas of the pyroclastic deposits best suited for resource recovery.

The study is reported in the journal *Geology*.

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