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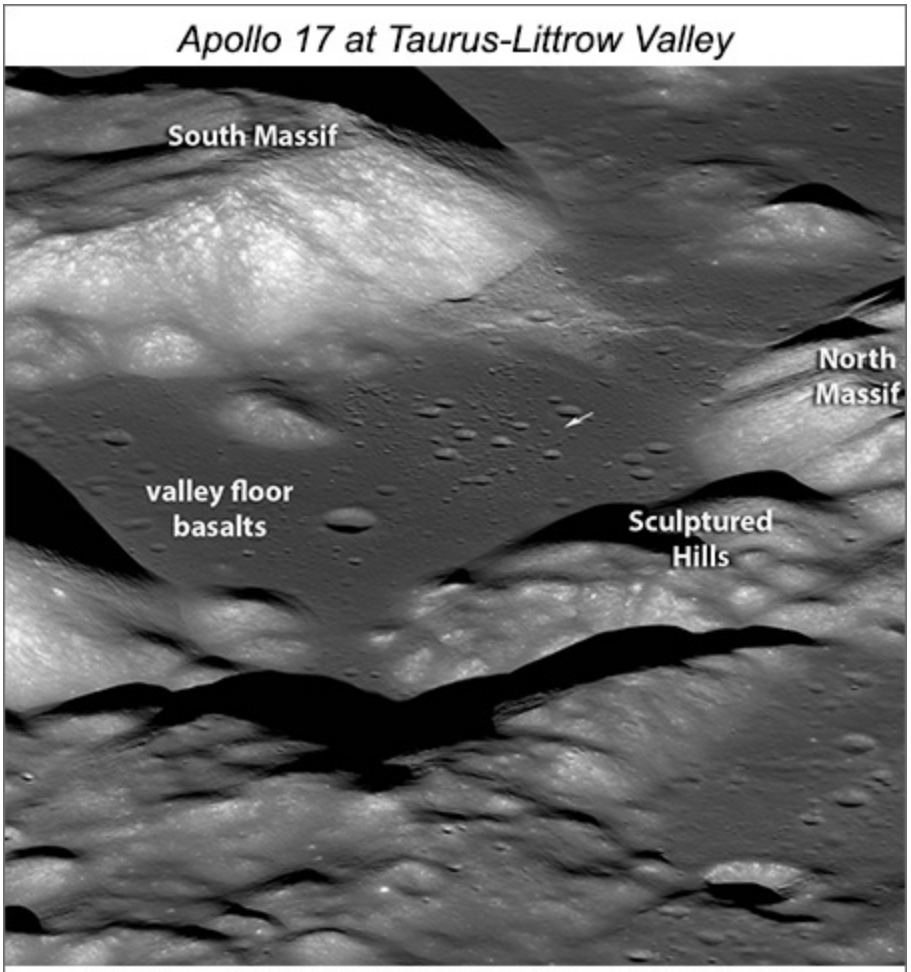
Apollo 17 at Taurus-Littrow: New Perspectives from the Geologist in situ

Taking the lead of a multi-dataset, comprehensive study of the geology of the lunar valley of Taurus-Littrow is the first geologist who worked there. Harrison H. Schmitt (University of Wisconsin-Madison and Apollo 17 Astronaut) with Noah Petro (NASA Goddard Space Flight Center), Ronald Wells (Tranquility Enterprises, VA), Mark Robinson (Arizona State University), Benjamin Weiss (MIT), and Cameron Mercer (Arizona State University) reviewed over 44 years of work and used new remote sensing data and sample analyses to further explore the Apollo 17 landing site.



The small arrow indicates the Apollo 17 landing site in the Taurus-Littrow Valley in this oblique view from the Lunar Reconnaissance Orbiter Camera–Narrow Angle Camera. Click for high-resolution version and more information from the LROC team.

The team integrated field observations and photographs by the Apollo 17 astronauts with analyses and recalculated isotopic ages of lunar samples, Lunar Reconnaissance Orbiter Camera images, Chandrayaan-1 Moon Mineralogy Mapper spectra, and Miniature Radio Frequency S-band radar images. Their work improves the geological context and age relationships of the observations and rock

samples collected by NASA's astronauts in December, 1972. For instance, Schmitt and coauthors find the Apollo 17 data support the relative sequence of basins–from oldest to youngest–as Crisium, Serenitatis, then Imbrium. Whatsmore, the team determined for the first time the *in situ* 3-D orientation of an impact glass, lunar sample 70019 [data link from NASA's ***Lunar Sample Compendium***], making it available for new studies of paleomagnetic-field orientation—important to understanding the lunar dynamo. With new data and analysis techniques, never stop exploring.

See Reference:
· Schmitt, H. H., Petro, N. E., Wells, R. A., Robinson, M. S., Weiss, B. P., and Mercer, C. M. (2017) Revisiting the Field Geology of Taurus-Littrow, *Icarus,* doi: 10.1016/j.icarus.2016.11.042. [***view abstract***]

See also:
· ***Apollo Image Atlas***
· ***Apollo 17 Multimedia Image Library***
· Martel, L. M. V. (June 2016) Rock and Roll at the Apollo 17 Site. *Planetary Science Research Discoveries.* ***http://www.psrd.hawaii.edu/ June16/ImpactMeltBreccias-Apollo17.html***

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