Caves as Planetary Analogs for GPS Denied, Low-Light Mapping and Navigation in Rugged Environments.

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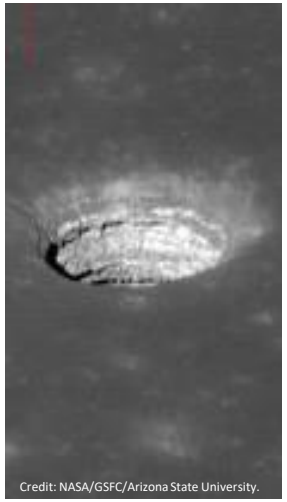
The Kinematic Navigation and Cartography Knapsack (KNaCK) team is leveraging caves as a proving ground to refine technology for mapping and navigation on other worlds.

Mobile LiDAR is:

- Agnostic to illumination conditions
- Does not require GPS
- Enables rapid survey
- Captures phenomenal detail
- Compatible with EVA suits and exploration vehicles

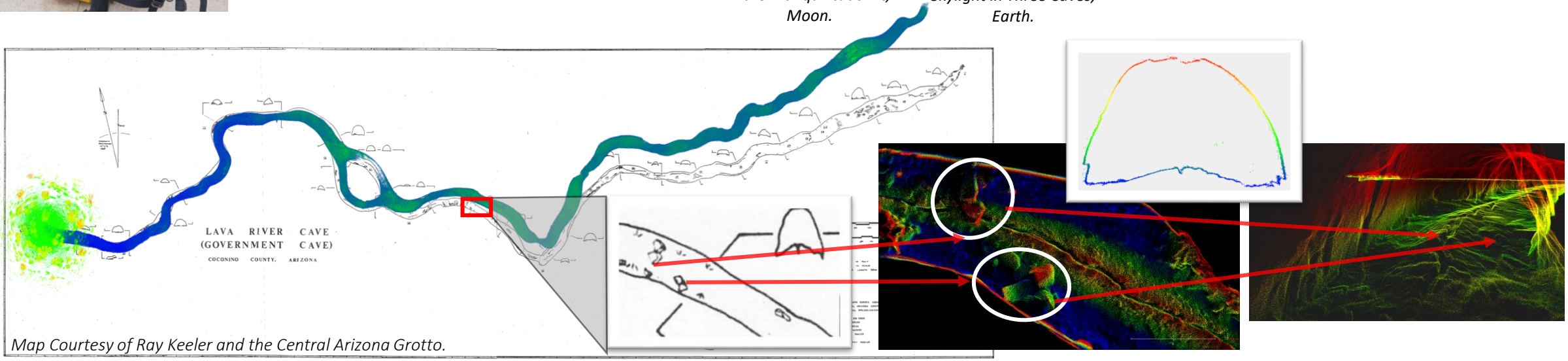


Mare Tranquilitatis Pit, Moon.

Skylight in Three Caves, Earth.

Cave environments provide:

- GPS denial
- Highly rugged and irregular terrain
- Challenging illumination conditions
- A size and mass constrained environment



Map Courtesy of Ray Keeler and the Central Arizona Grotto.

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