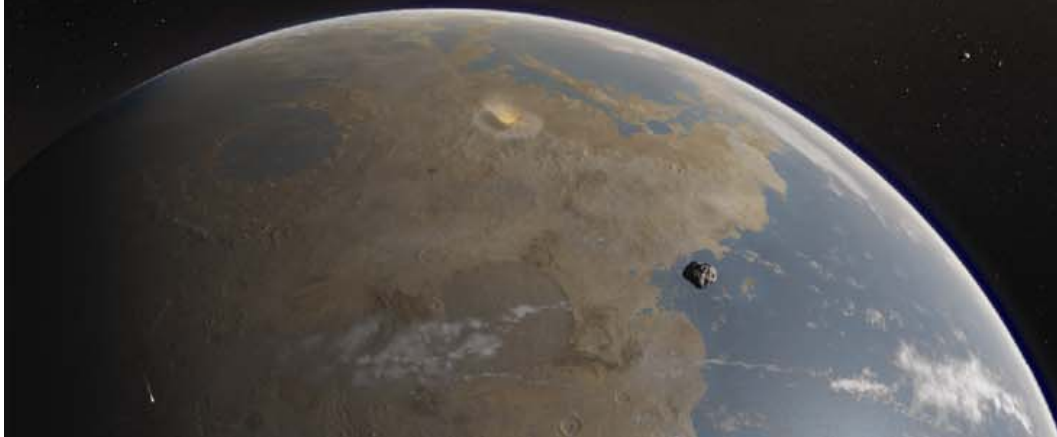


The Moon: The Best Place in the Solar System to...

- Test the impact cataclysm hypothesis,
- Determine its possible role in the origin of life on Earth, and
- Explore its implications for the evolution of planets throughout the solar system



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The Basin-Forming Epoch in the Earth-Moon System

The Earth and the Moon share a dramatic past filled with impacting asteroids and comets that reshaped their surfaces.

Studies of the Moon suggest the Earth was severely bombarded about 3.8 to 4.0 billion years ago, immediately before the first isotopic evidence of life on Earth. Scientists are trying to determine if that impact cataclysm affected the origin and early evolution of life on Earth. Because the ancient geologic record is mostly erased from the Earth's surface, the Moon is the best place to test those ideas.

The Moon is also the best witness of the early bombardment that affected the entire inner Solar System, including the processes that shaped Mars. Furthermore, the hypothesized bombardment is already hinting that it may have been caused by a shift in the orbit of Jupiter. Thus, the Moon is beginning to reveal new secrets about the origin and evolution of the outer Solar System too.

The art on the preceding panel was developed by Dr. Daniel D. Durda (© 2010) based on ideas being developed by Dr. David A. Kring's Center for Lunar Science and Exploration.

The Moon is the best and most accessible place in the Solar System to explore the fundamental principles of our origins.

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