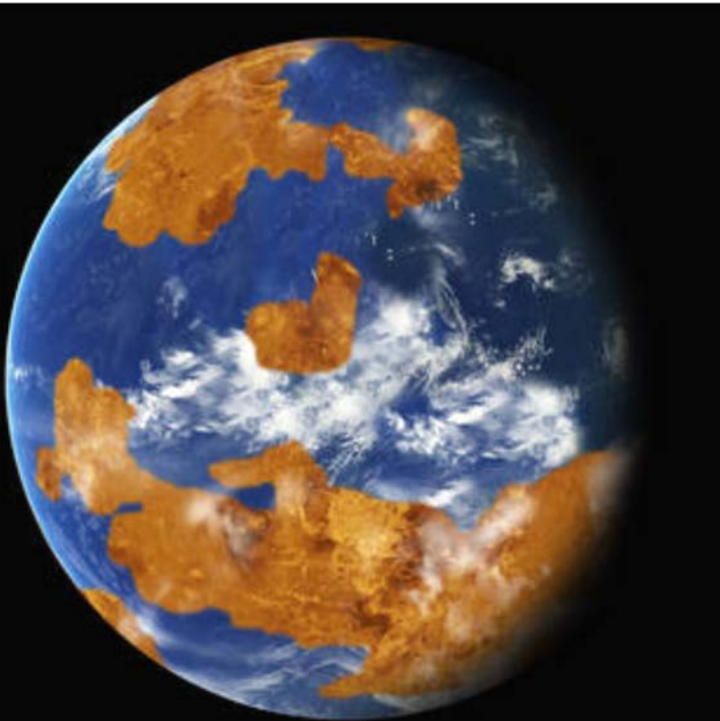


Was Ancient Venus A Habitable World?

Way, Del Genio, Kiang, Sohl, Grinspoon, Aleinov, Kelley, Clune, 2016, GRL "Was Venus the first habitable world of our solar system?"

- Venus may have had a shallow water ocean and habitable climate for up to 2 billion years in its early history
- 3-D climate model simulations assume an Earth-like atmosphere, Venus' current 117 day solar day, a shallow ocean based on Pioneer spacecraft data, topography from the Magellan mission, and 30% dimmer ancient sun
- Slow rotation produces clouds on the day-side of Venus keeping the surface as cool as present day Earth, while Venus received 40% stronger sunlight 3 billion years ago than Earth today



Left: Artist representation of habitable paleo-Venus

Right: Cloud cover (white) plays a decisive role in shielding the side of the planet facing the sun by reflecting much of the incident sunlight to space so it does not reach the surface and heat it up

An early habitable Venus expands the potential environments for the origins of life in the Solar System and exoplanet targets in the search for life elsewhere

