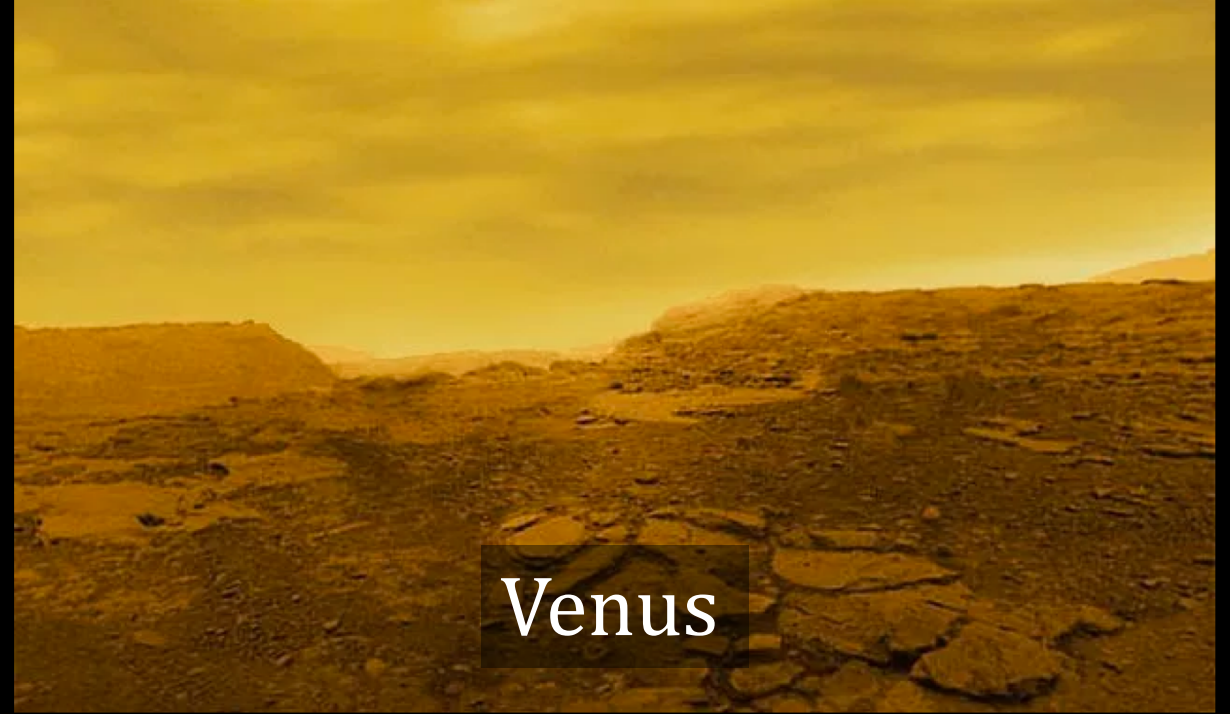
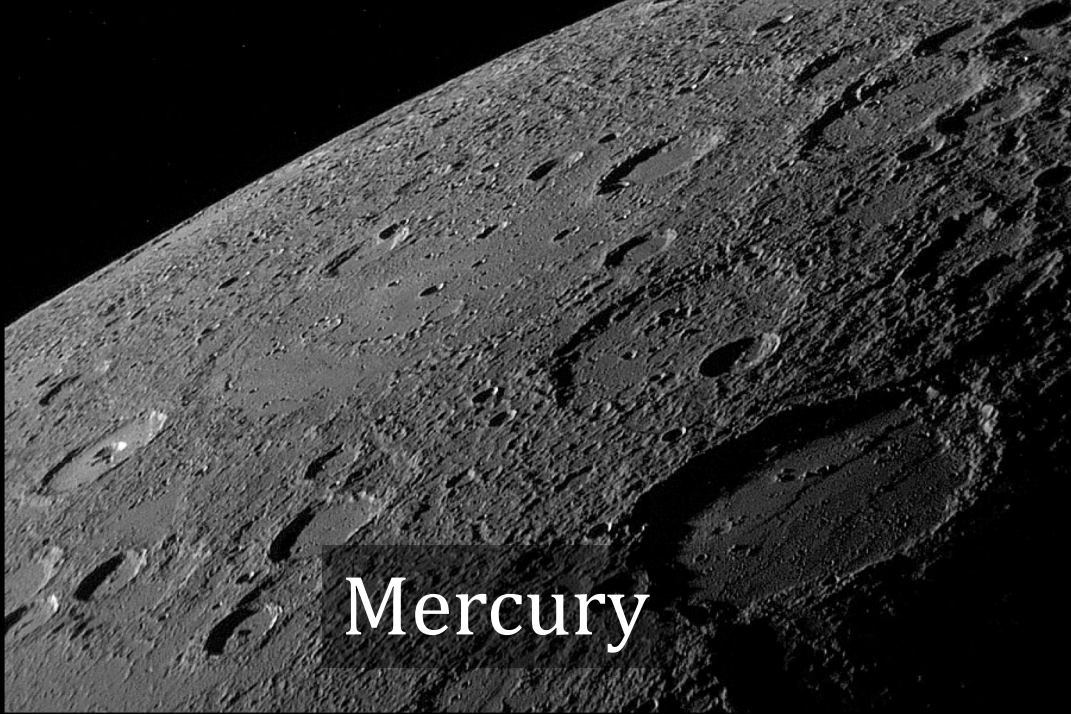
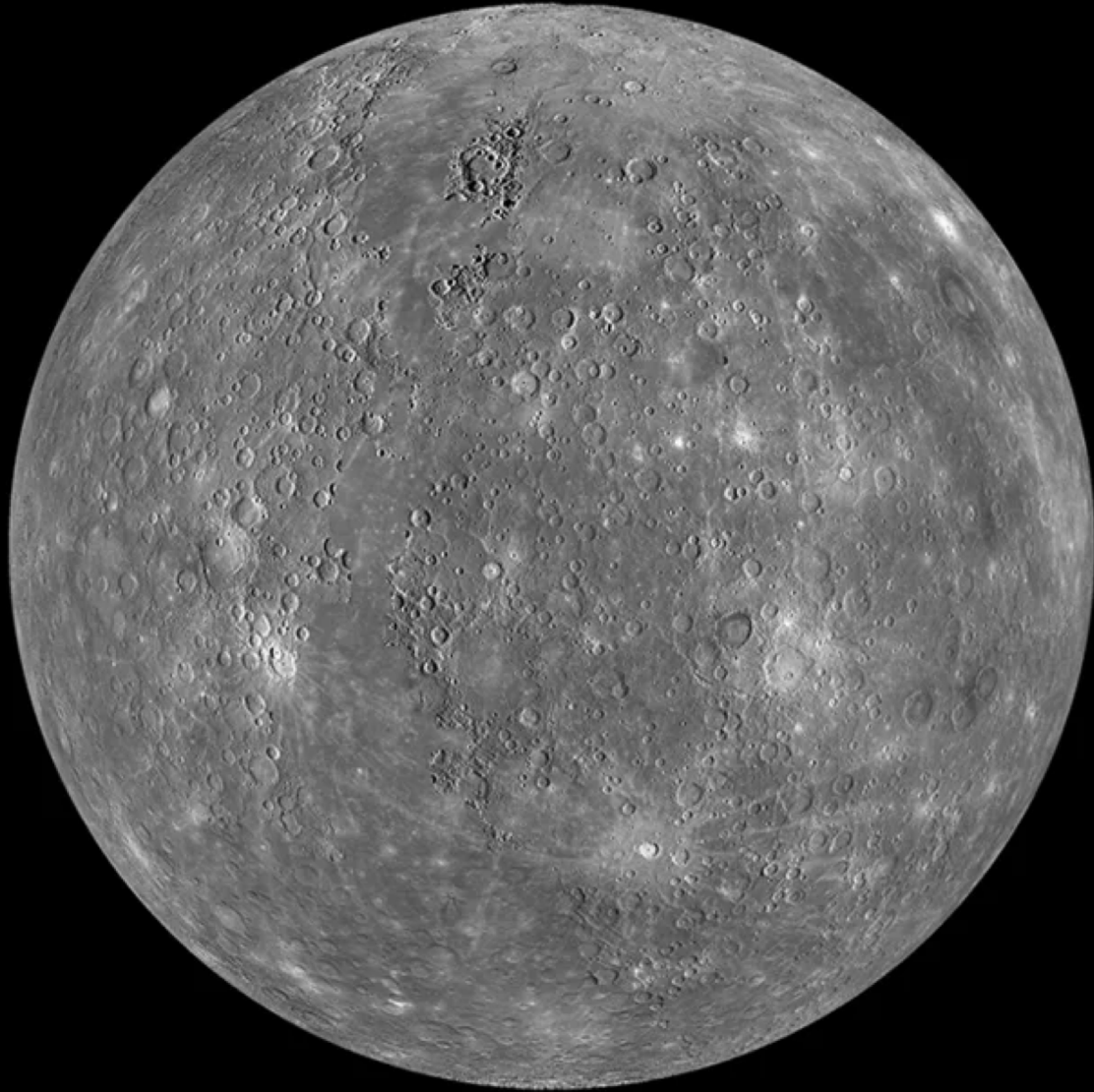


Introduction to the Geology of the Terrestrial Planets



Planet Type Comparison	Terrestrial	Jovian
mass	low	high
radius	small	large
density	high	low
elements/molecules	heavy	light
atmosphere	thin	very thick
proximity to the sun	close	far

Mercury



Location: 0.39 AU

Size: ~1/3 the diameter of Earth

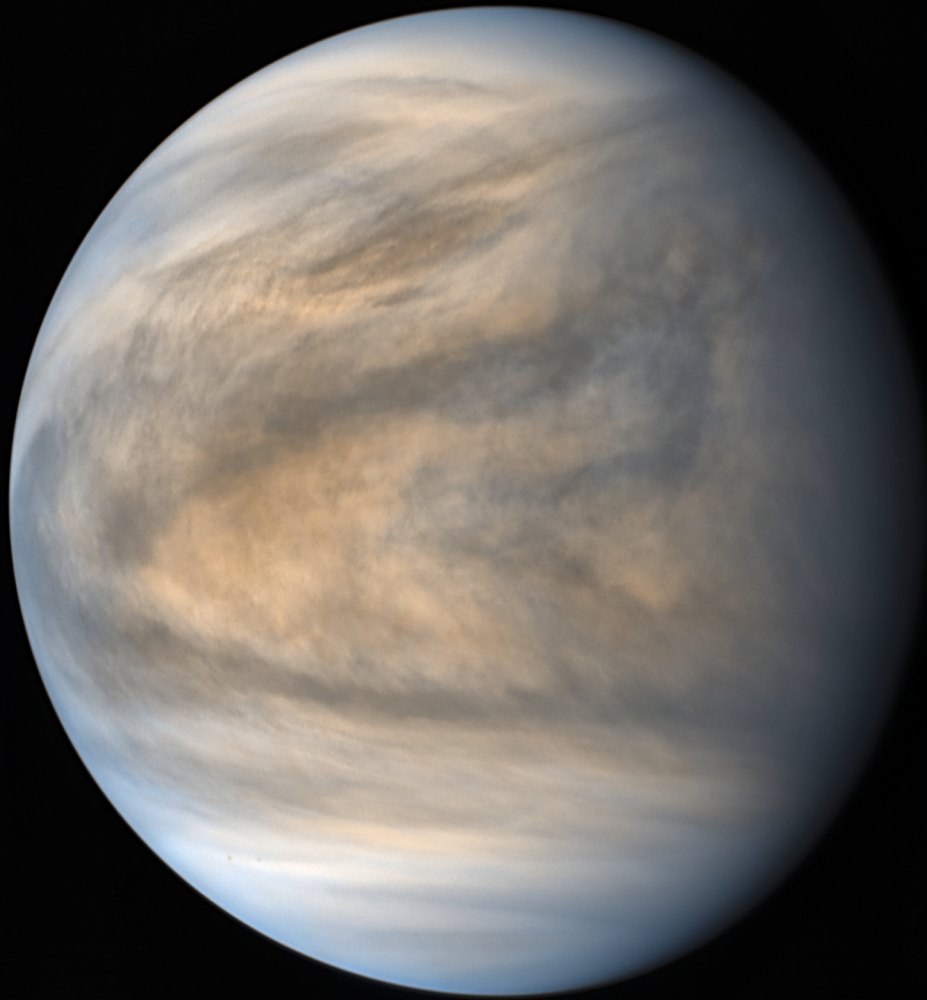
Atmosphere: (almost) none

Temperature: -300° F to 800° F

Volcanoes: none (compression folds, though)

Water: none

Venus



Location: 0.72 AU

Size: ~the diameter of Earth

Atmosphere: very thick — 90X that of Earth at its surface (too thick for strong wind at the surface)! Mostly CO₂ and covered in sulfuric acid clouds.

Temperature: ~900° F

Volcanoes: many (no tectonic plates though)

Water: probably none (maybe in the past)

Earth



Location: 1 AU

Size: ~12,800 km (8,000 mi) in diameter

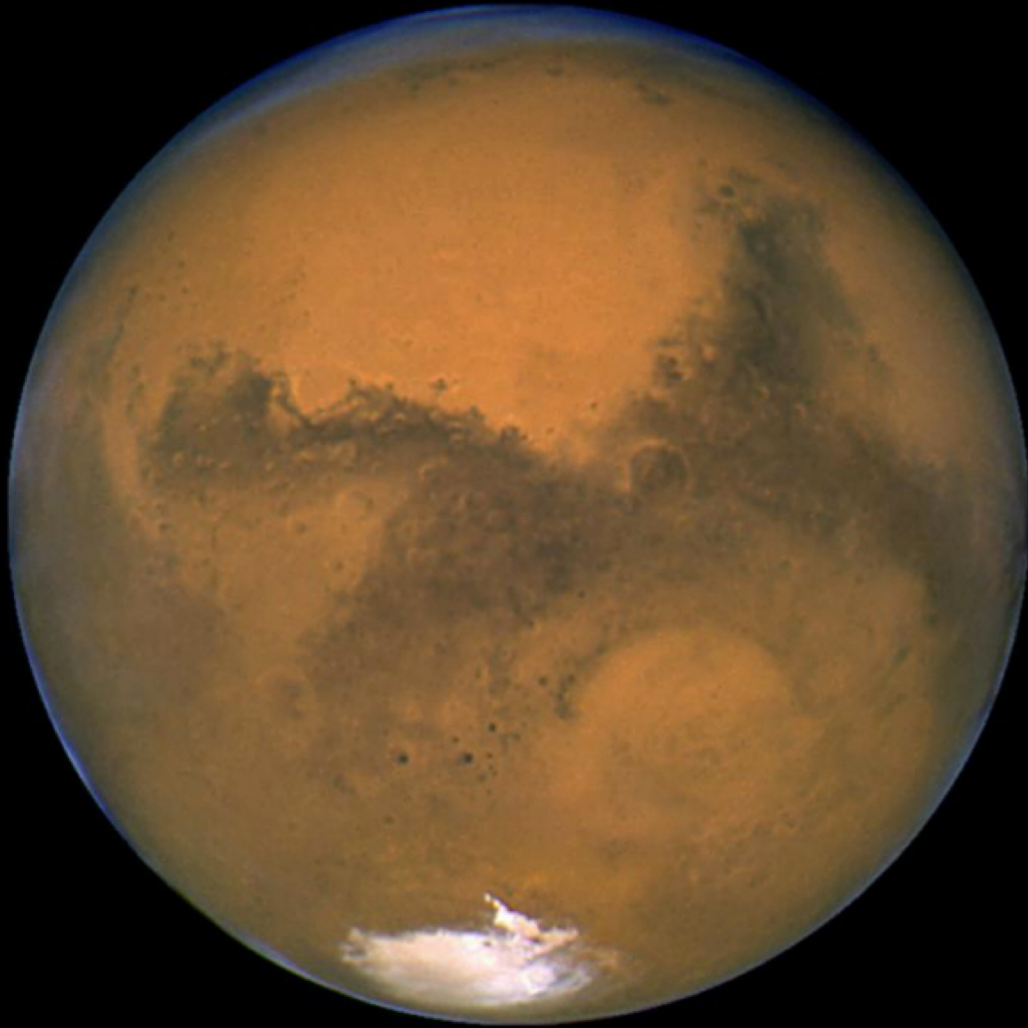
Atmosphere: moderate — mostly N_2 , some O_2 , a little CO_2 , liquid + solid H_2O

Temperature: $-128.6^{\circ}F$ to $134^{\circ}F$ ($57^{\circ}F$ av.)

Volcanoes: many — tectonic plates too

Water: duh — 70% of the surface

Mars



Location: 1.52 AU

Size: ~1/2 diameter of Earth

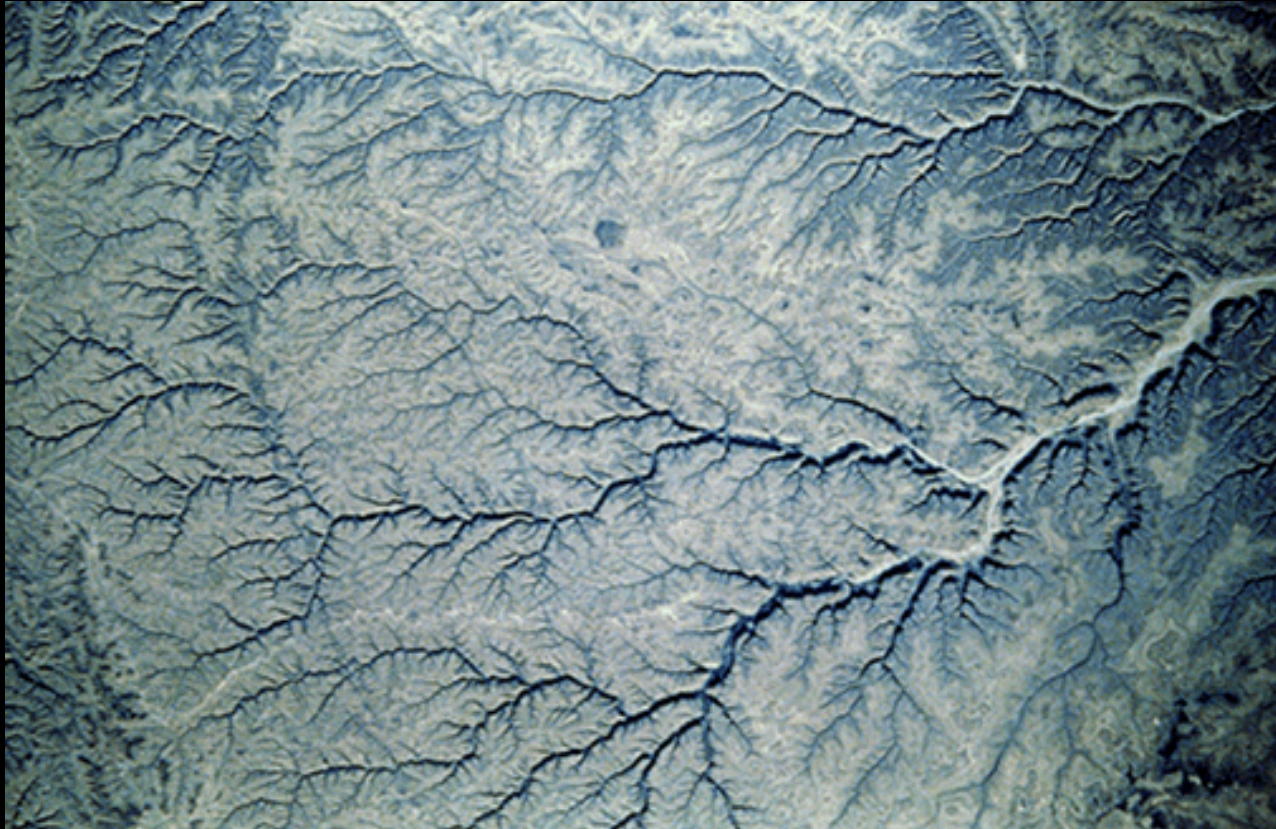
Atmosphere: thin — 1% that of Earth at the surface. Mostly CO₂, occasional H₂O ice clouds, & wind erosion effects.

Temperature: -220° F to 70° F (-60° F av.)

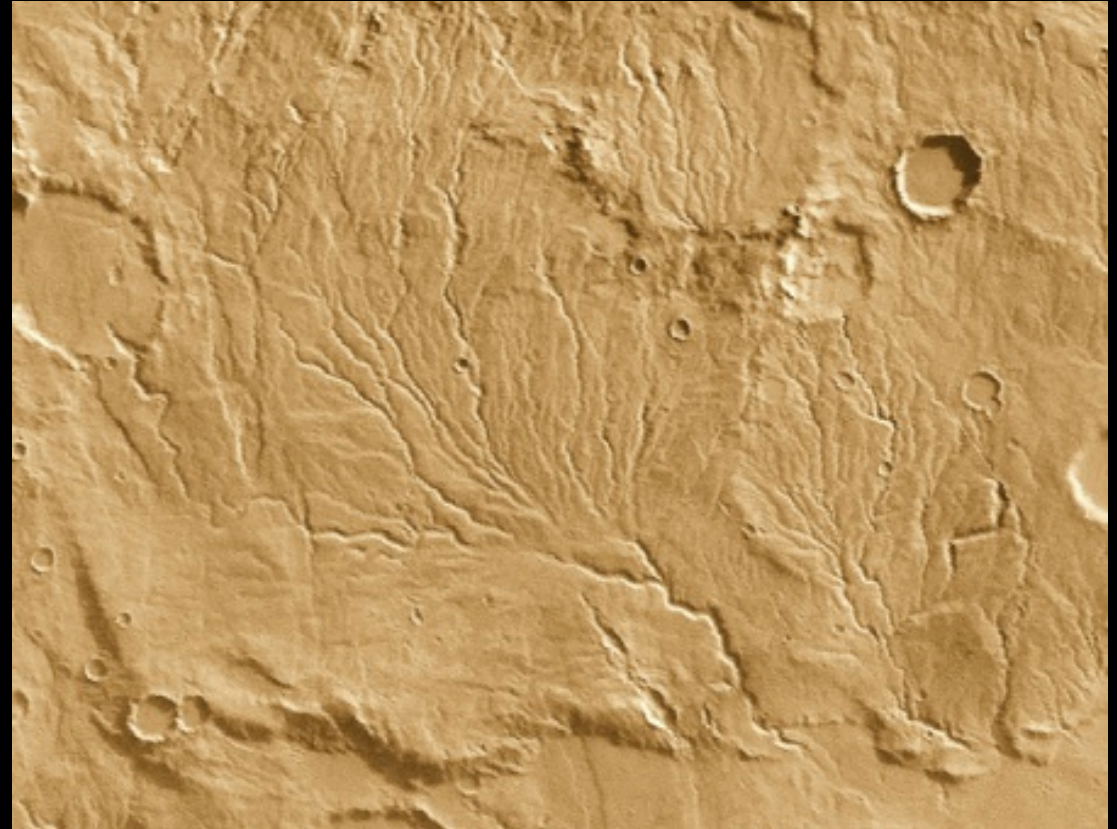
Volcanoes: some, but old & extinct

Water: probably very little, only as ice. Likely had liquid oceans in the past.

Signs of Water



dry river bed in Yemen (Earth)



dry river bed in Warrego Valles (Mars)