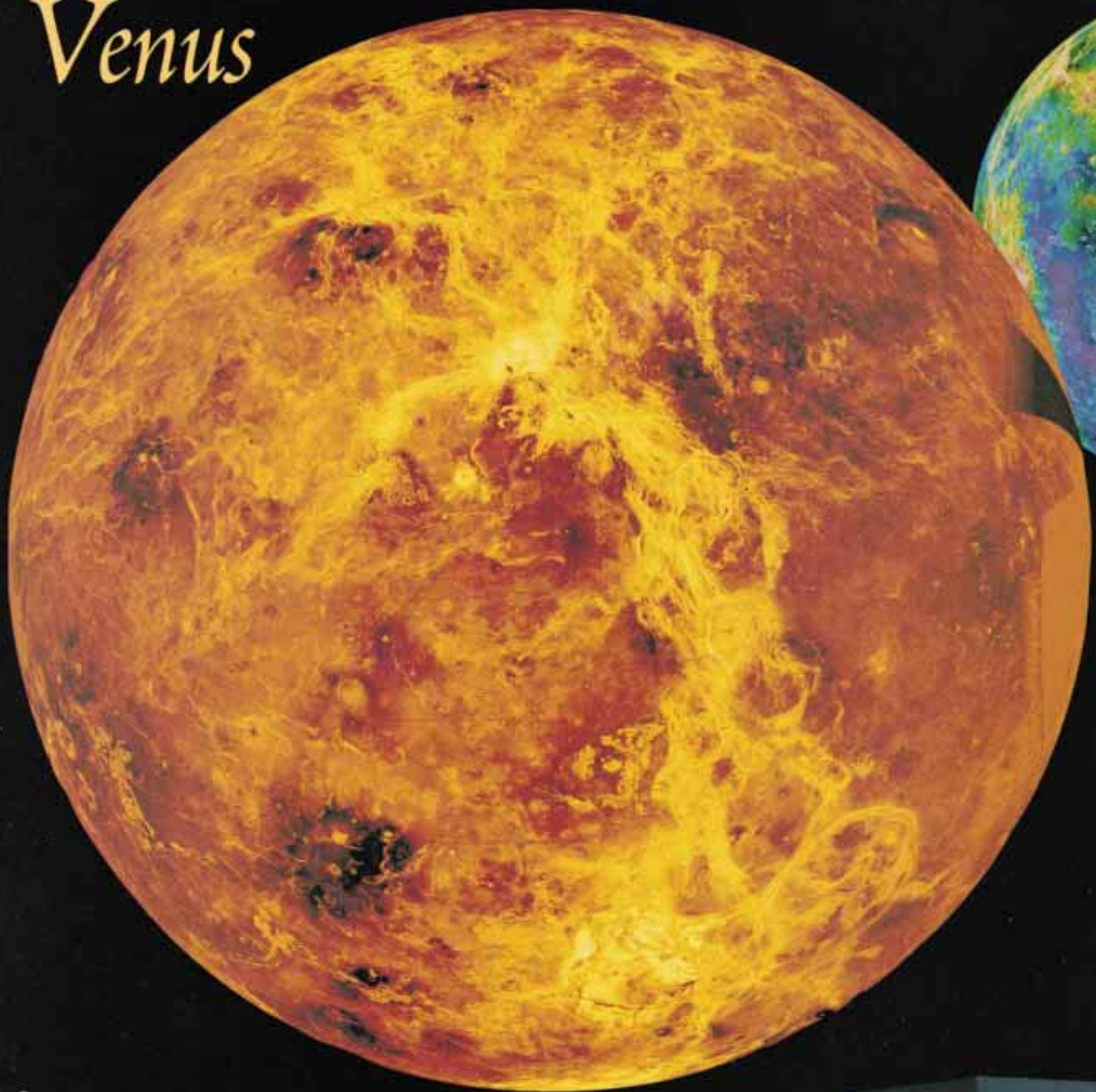
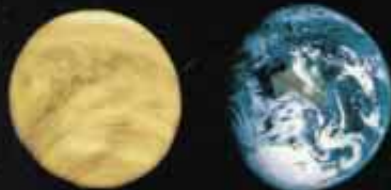


Venus

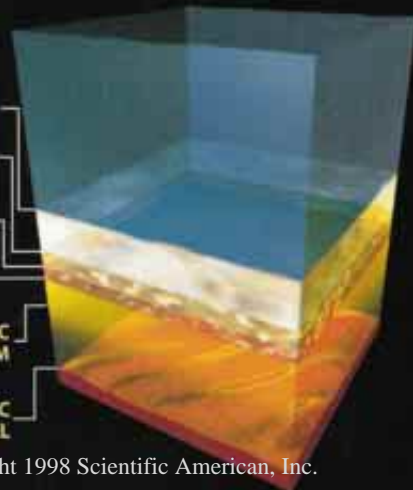


SIZE COMPARED WITH EARTH

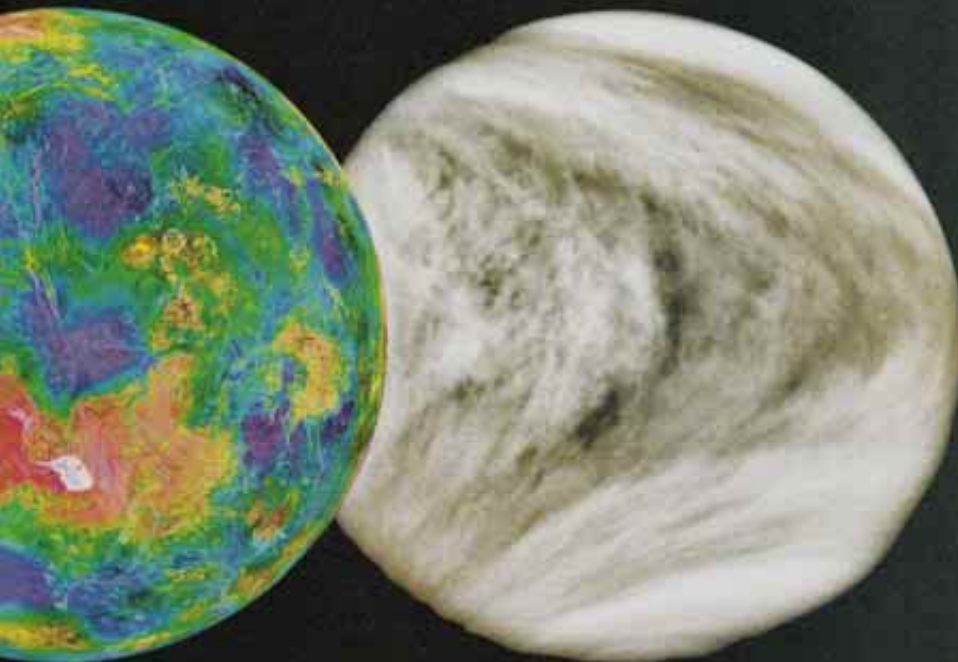


THICK CARBON DIOXIDE ATMOSPHERE of Venus is opaque to infrared radiation, so it traps heat at the surface. Three decks of clouds are a by-product of a complex meteorological cycle in which sulfur goes through a series of reactions to form sulfuric acid droplets at altitudes above about 70 kilometers.

-43° C (-45° F)
 68 KM (42 MILES)
 15° C
 55 KM
 73° C
 50 KM
 91° C
 48 KM
 220° C
 31 KM
 470° C
 GROUND LEVEL



JPL/CALTECH/NASA (top); NASA (bottom left); SOFI FILMS (bottom right)



VENUS UNVEILED,

through the use of radar, was seen in a global view for the first time in an image produced using data from the Magellan orbiter in 1991 (far left). More recently, the U.S. Geological Survey used the Magellan data to produce topographic maps of the surface (above, left), which is normally obscured by clouds (above, right).

JPL/CALTECH/MASA (top left); NASA (top right and inset); DAVID P. ANDERSON/ Southern Methodist University (bottom)

Though named for the goddess of love, Venus is more like Earth's ugly sister. The two planets formed from the same general region of the solar nebula, suggesting that their compositions are basically similar. They are of roughly the same size, mass and density, and Venus orbits the sun at an average distance about 70 percent that of Earth's.

But where Earth has temperatures and conditions conducive to life, a variety of environments and a robust magnetic field, Venus is a dry, hellish, high-pressure furnace whose magnetic field is not even strong enough to keep the solar wind from stripping away the upper atmosphere. Below ever present clouds of sulfuric acid and a thick carbon dioxide atmosphere, the Venusian surface hits temperatures up to 450 degrees Celsius (842 degrees Fahrenheit).

One of the fundamental mysteries about Venus is its relative scarcity of craters. This paucity suggests that the surface of the planet may be a mere 600 million years old. A convincing explanation eludes planetary scientists, although most agree that it must somehow involve volcanism and tectonics.



VENUSIAN SURFACE

(above) was photographed by the Soviet Venera 13 lander in March 1982. The lander survived on the planet's surface for 127 minutes. The orange color detected in the Venera images was later added to radar images of the planet, such as the large one at the far left and the landscape at the right.

ENORMOUS VOLCANO

known as Maat Mons was imaged from radar data collected by the Magellan orbiter. The data were processed to create this perspective, a view from a distance of about 550 kilometers and an altitude of 1.7 kilometers. The volcano itself is about six kilometers tall.

