

## **A Nautilus Planetary Travel Advisory: Mars**

On Halloween night, 1938, thousands took to the streets and hid in subway tunnels convinced by the radio show *War of the Worlds* that Martians had invaded Earth.

Whether we dream of Martians' as invaders or canal-building humanoids funneling water to save their dehydrating world, we believe in life on Mars. For 200 years, Scientists have known that Mars has an atmosphere. For almost a hundred years, people thought that Martian canals irrigated a variety of plants and that teeming life lived along the banks of these waterways.

The reality is both less frightening and more mysterious. Beyond the delicate clouds that waft on the thin breeze in the dusky pink sky of Mars, sinuous valleys and carved cliffs speak in silence of a watery past. But this planet is a desert more desolate than any found on Earth. Even the the Atacama desert sees more water. Although scientists have tested the soil and looked on the surface for signs of life, none has been found in the red, iron-rich soil or seen in the rocky waste.

It has not always been this way. Evidence of ancient streams, muds, and seas still exists on the sunbaked sand of Mars. Sinuous gorges resemble water-carved canyons and arroyos of the American Southwest. Scientists still ponder how and why the water disappeared and whether life could have existed in the wet areas of an older Mars.

Still it is that dream of finding footprints from life long dead, that makes Mars a planet well worth exploring and drives nations to mount multi-billion-dollar expeditions to the Red Planet. The questions are still coming. Could there be fossils in the rocks telling of bacteria that once lived in the Martian ocean? Perhaps life exists underground or in the icy poles?

The savvy traveller on Mars should exercise caution. Its mostly carbon dioxide atmosphere is only one tenth as dense as the thick, moist air we breathe on Earth. Dress warmly. Temperatures at the Martian poles can drop as low as 97 degrees below zero Celsius (200 degrees below zero Fahrenheit) while along the Martian equator temperatures can soar to a still chilly 17 degrees Celsius (63 degrees Fahrenheit). It is easy to get lost in this frigid waste. Do not rely upon your compass; the weak (near non-existent) magnetic field is not enough to steer by.

However, Mars does not lack for landmarks. In the north, Mars is home to the largest mountain in the solar system, Olympus Mons, which towers three times higher than Everest. Olympus Mons itself is only one of four volcanos that rise from the Tharsis Plateau at the equator.

Traveling east, the tourist will find an enormous rift valley called Valles Marineris. Crossing the uneven terrain of the valley will lead you to a canyon three times as deep as Arizonas Grand Canyon and so long that it would span the United States from coast to coast.

A plethora of craters pockmark the surface of the southern hemisphere. Large circular basins can also be found in this area. The southern hemisphere is at a higher elevation than the plains of the northern hemisphere.

Visitors to Mars can look forward to frequent views of Mars two moons, Phobos and Deimos. These two potato shaped moons orbit the planet rapidly: Phobos every seven hours and 40 minutes and Deimos every 30 hours.

Large sections of Mars are covered with fine dust that moves with the winds, erodes and carves rocks, forms dunes, and collects in crater bottoms. Dust storms lasting 50 to 100 days originate in Hellespontus, Noachis, and Solis Lacus, three elevated plateaus in the southern hemisphere. It is this dust that colors the Martian sky its characteristic salmon pink.

Did life ever stretch toward the Martian sky nourished by the tumultuous floods of Valles Marineris? No one knows. Not even a single microorganism burrowed into the soil could be found by NASA's Viking Mars Explorers. Still, hope springs eternal in the hearts of those who look to the desert planet for proof that we are not alone in the universe.