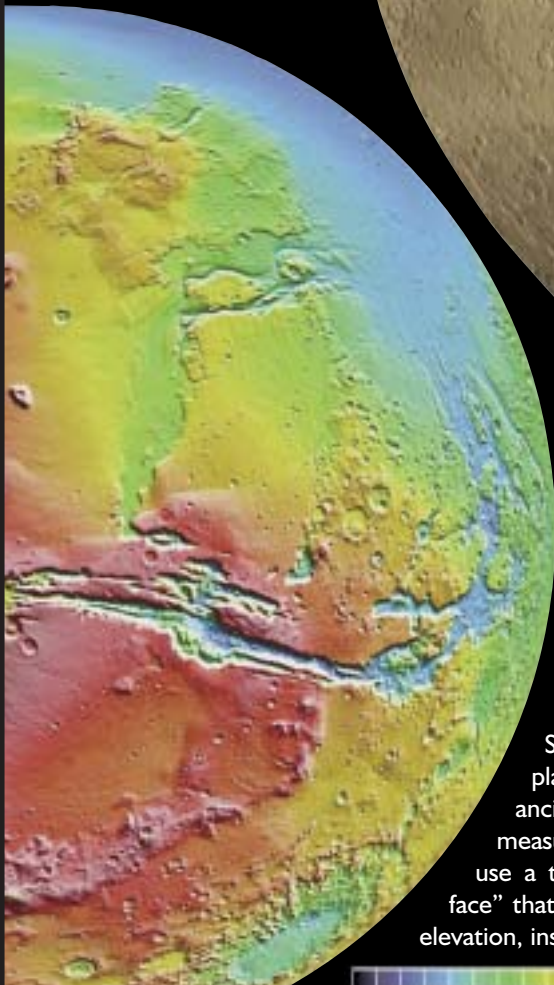
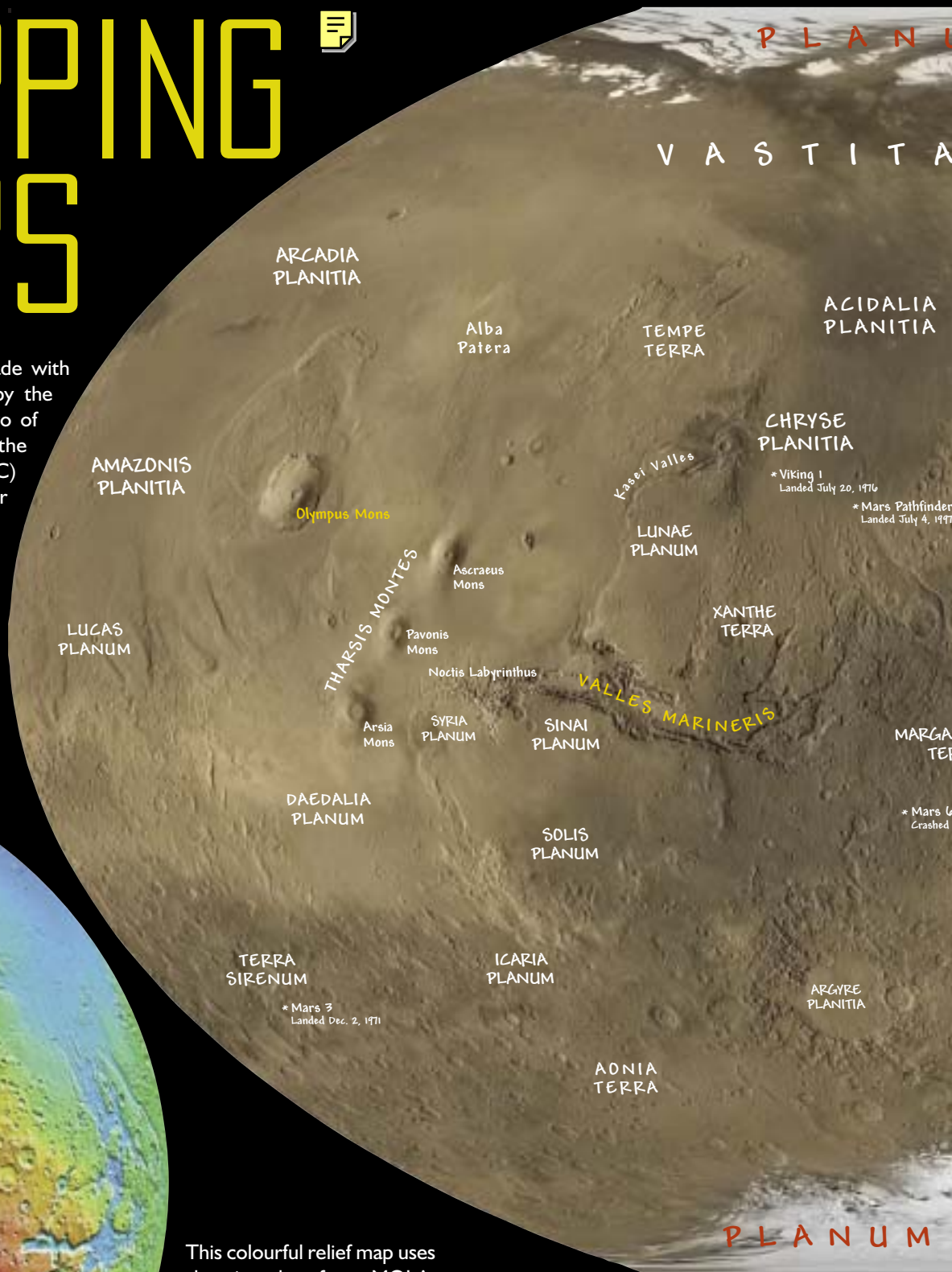


MAPPING MARS



This image of Mars was made with data and images provided by the Mars Global Surveyor and two of its scientific instruments: the Mars Orbiter Camera (MOC) and the Mars Orbiter Laser Altimeter (MOLA). The map, called a Winkel Tripel projection, uses more than 200 million laser altimeter measurements from MOLA and about a thousand wide-angle images from MOC.



This colourful relief map uses elevation data from MOLA. The blue area is Acidalia Planitia, a vast lowland plain. Scientists believe the northern plains could be the site of an ancient ocean of liquid water. To measure height or depth scientists use a term called "Mars datum surface" that refers to the planet's average elevation, instead of sea level.



VALLES MARINERIS (MARINER VALLEYS)

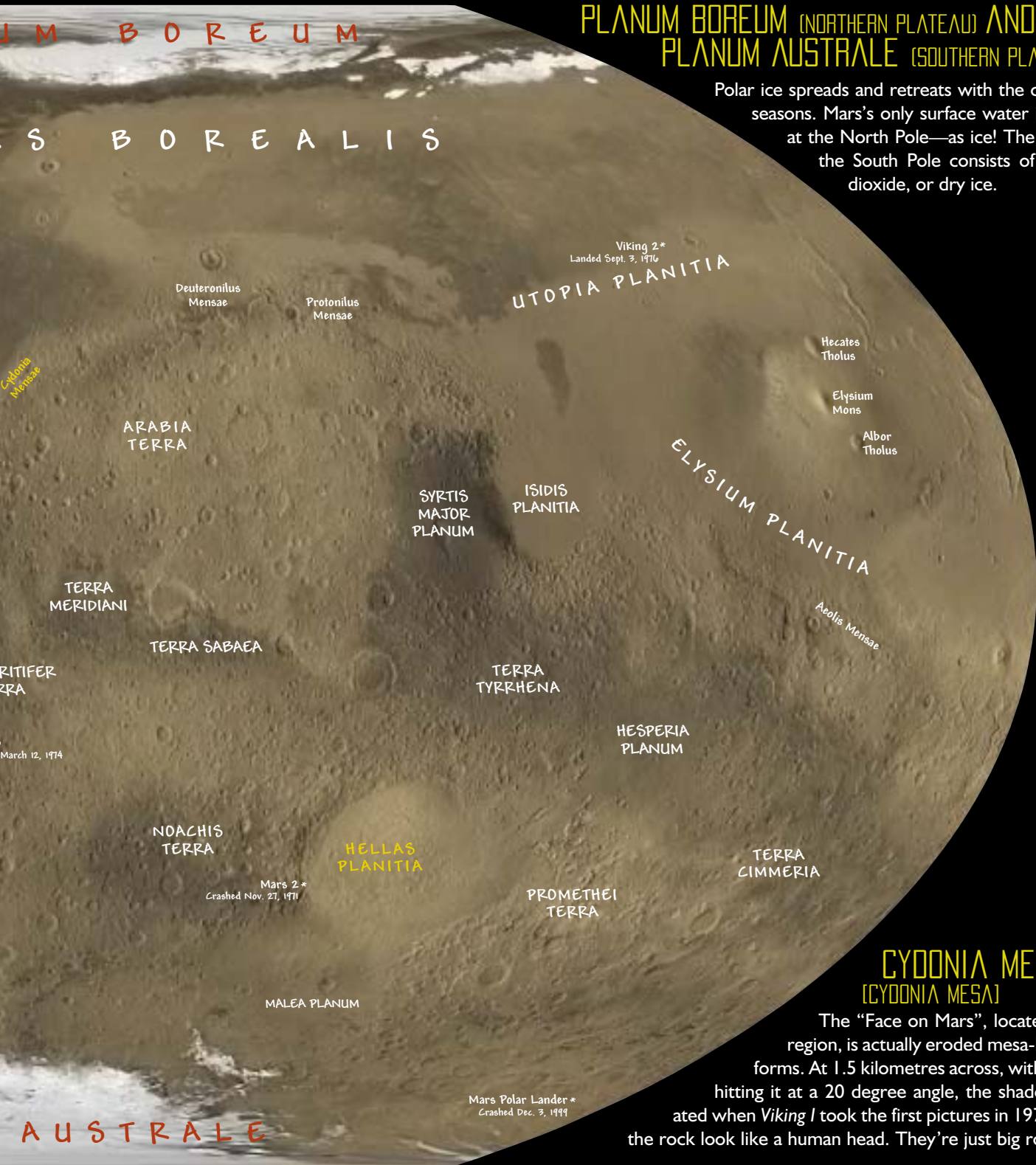
This huge canyon system stretches 4,000 kilometres along the Martian equator. (The distance between Quebec City and Calgary is 4,014 kilometres.) If you fell in, you would hit bottom after free falling for seven kilometres and it would hurt. Once, some of these bottom areas may have been covered by lakes or seas.

J M B O R E U M

S B O R E A L I S

PLANUM BOREUM (NORTHERN PLATEAU) AND PLANUM AUSTRALE (SOUTHERN PLATEAU)

Polar ice spreads and retreats with the changing seasons. Mars's only surface water is found at the North Pole—as ice! The frost at the South Pole consists of carbon dioxide, or dry ice.



Viking 2*
Landed Sept. 3, 1976

Deuteronilus Mensae
Protonilus Mensae

Hecates Tholus

ARABIA TERRA

Elysium Mons

Albor Tholus

SYRTIS MAJOR PLANUM
ISIDIS PLANITIA

ELYSIUM PLANITIA

Aeolis Mensae

TERRA MERIDIANI

TERRA SABAEA

TERRA TYRRHENA

HESPERIA PLANUM

CRATERA

NOACHIS TERRA

HELLAS PLANITIA

TERRA CIMMERIA

Mars 2*
Crashed Nov. 27, 1971

PROMETHEI TERRA

MALEA PLANUM

Mars Polar Lander*
Crashed Dec. 3, 1999

A U S T R A L E

CYDONIA MENSAR (CYDONIA MESA)

The “Face on Mars”, located in this region, is actually eroded mesa-like landforms. At 1.5 kilometres across, with the Sun hitting it at a 20 degree angle, the shadows created when *Viking 1* took the first pictures in 1976, made the rock look like a human head. They’re just big rocks!

OLYMPUS MONS (MOUNT OLYMPUS)

The highest volcano in the solar system, Olympus Mons is 25 kilometres high, with a 624 kilometre diameter and is extinct. (The distance from Toronto to Montreal is a mere 539 kilometres!) On Earth, the largest volcano is the nine-kilometre tall Mauna Loa on Hawaii (part of it is below water). The entire chain of Hawaiian islands would fit inside Olympus Mons.

The three large volcanoes next to Olympus Mons on the Tharsis Ridge are Arsia Mons, Pavonis Mons, and Ascraeus Mons.

HELLAS PLANITIA (HELLAS PLAIN)

Welcome to the lowest point on Mars! At about nine kilometres deep and 2,100 kilometres across (that’s the distance between Vancouver and Winnipeg!) Hellas Basin is a striking Martian feature. Scientists believe it was created when a huge meteorite crashed into Mars about four billion years ago.

Mars 2, the Soviet Union’s spacecraft, crashed on the western flank of the basin in 1971.

National Geographic Society, MOLA Science Team, MSS, JPL, NASA