



**Earth/Mars
Comparisons
and an
Introduction to MSIP**



Arizona State University has played a major role in the exploration of Mars

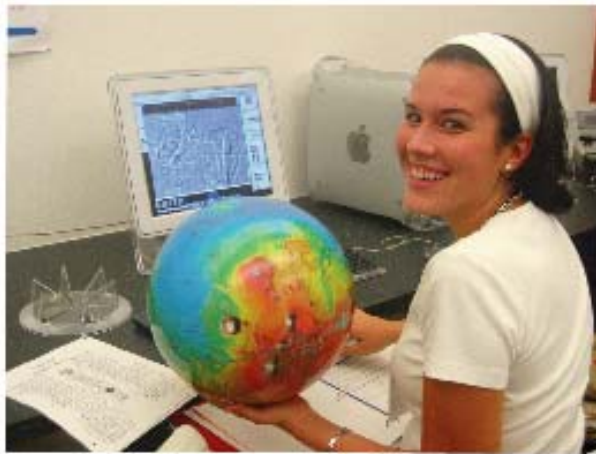


YOU have now joined the adventure!

EXPLORE MARS...FOR REAL!

Mars Student Imaging Project

<http://msip.asu.edu>



ARIZONA STATE
UNIVERSITY

Inspiring the Next Generation of Explorers
...as only NASA can!



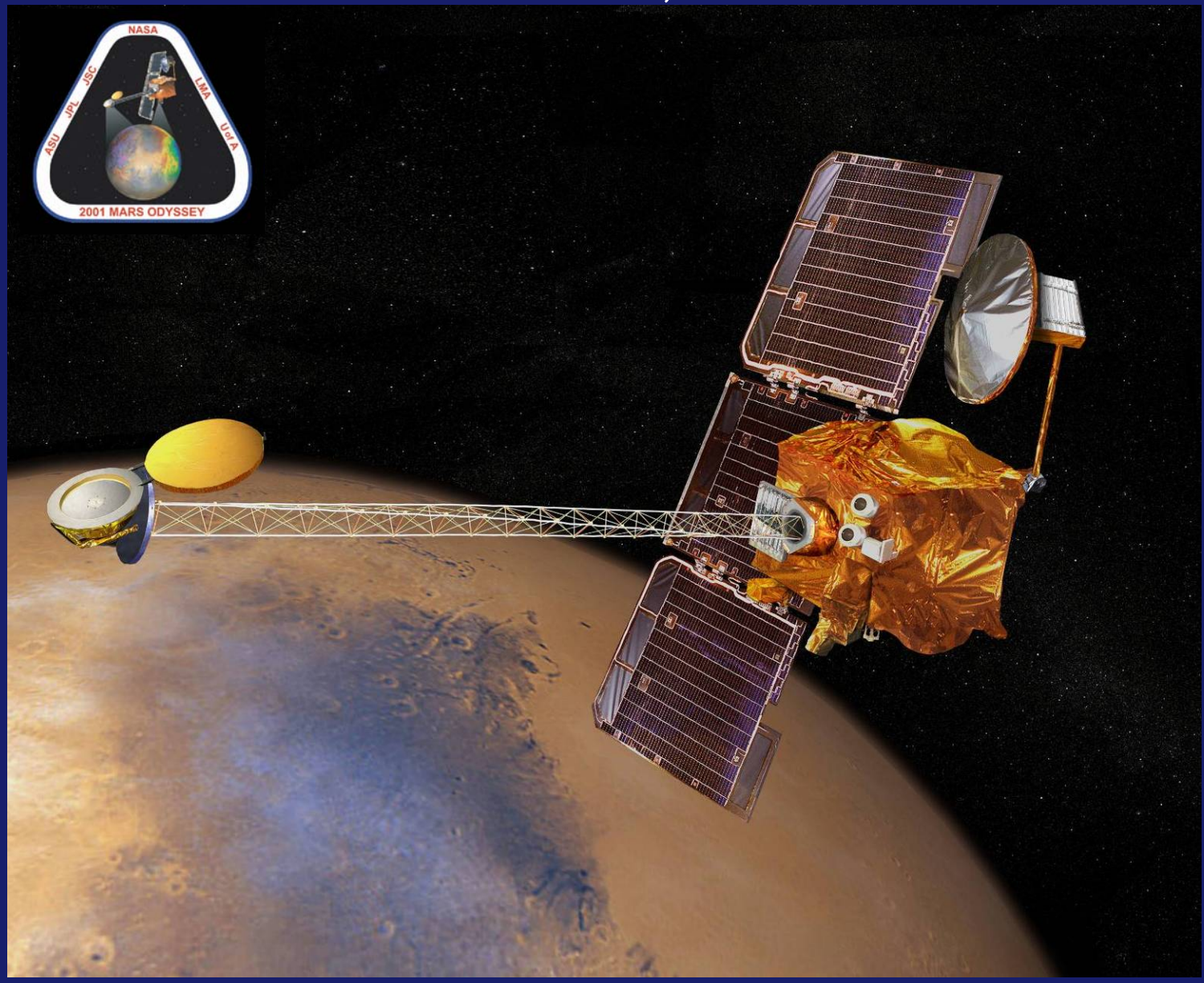
The Science Process

- Idea / Topic / Question
- Preliminary Observations and Hypothesis Development
- Experiment Design
- Proposal Development
- Competition (for use of THEMIS camera)
- Gathering, Analyzing and Interpretating Data
- Write-up (Science Report or Paper)
- Future Work



MARS ODYSSEY

October 24, 2001





Thermal Emission Imaging System (THEMIS)



00-02-058

Visible Imaging

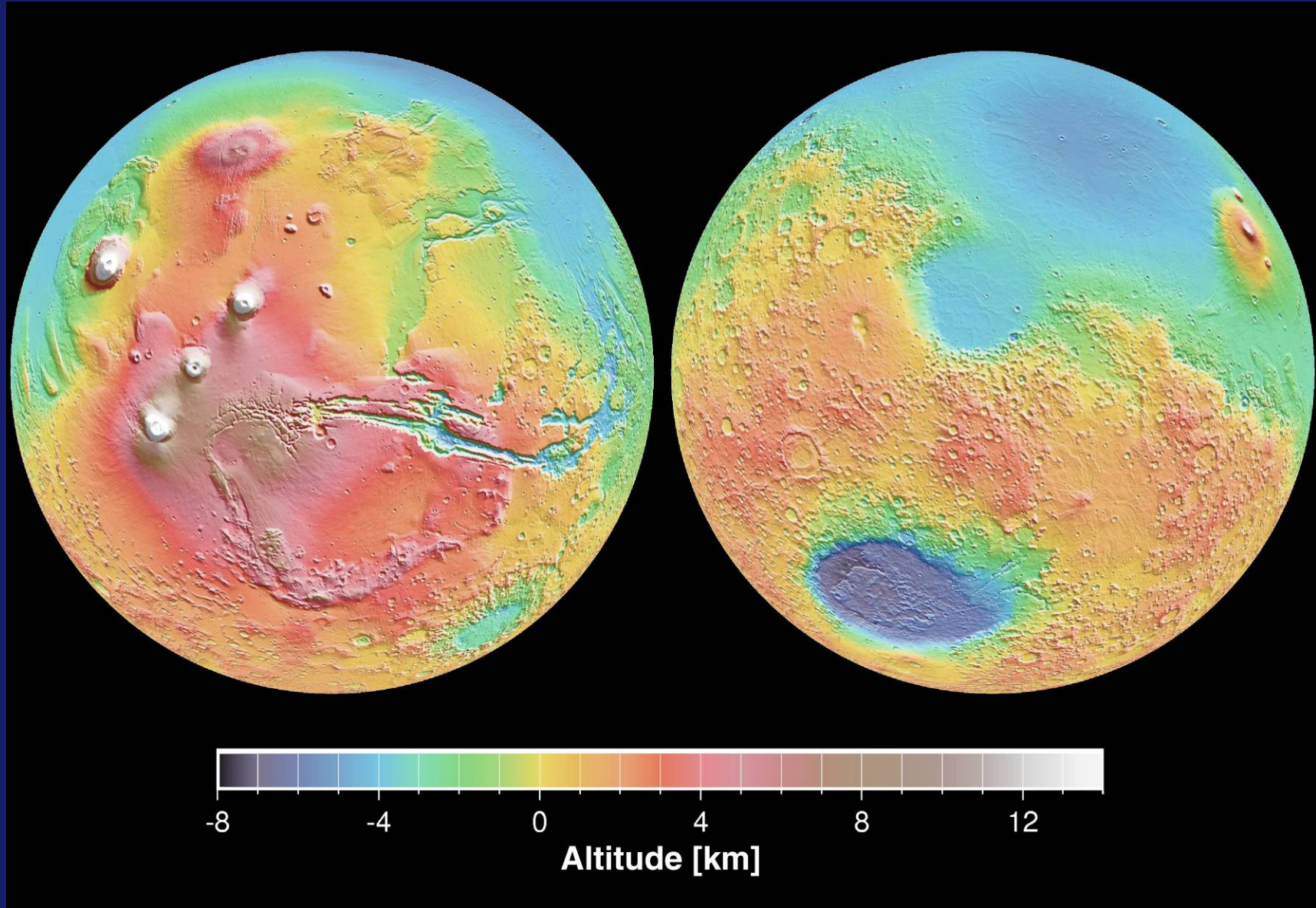
- 18 meters per pixel resolution
- Images show the morphology or shape of the surface (geologic features)

Infrared Imaging

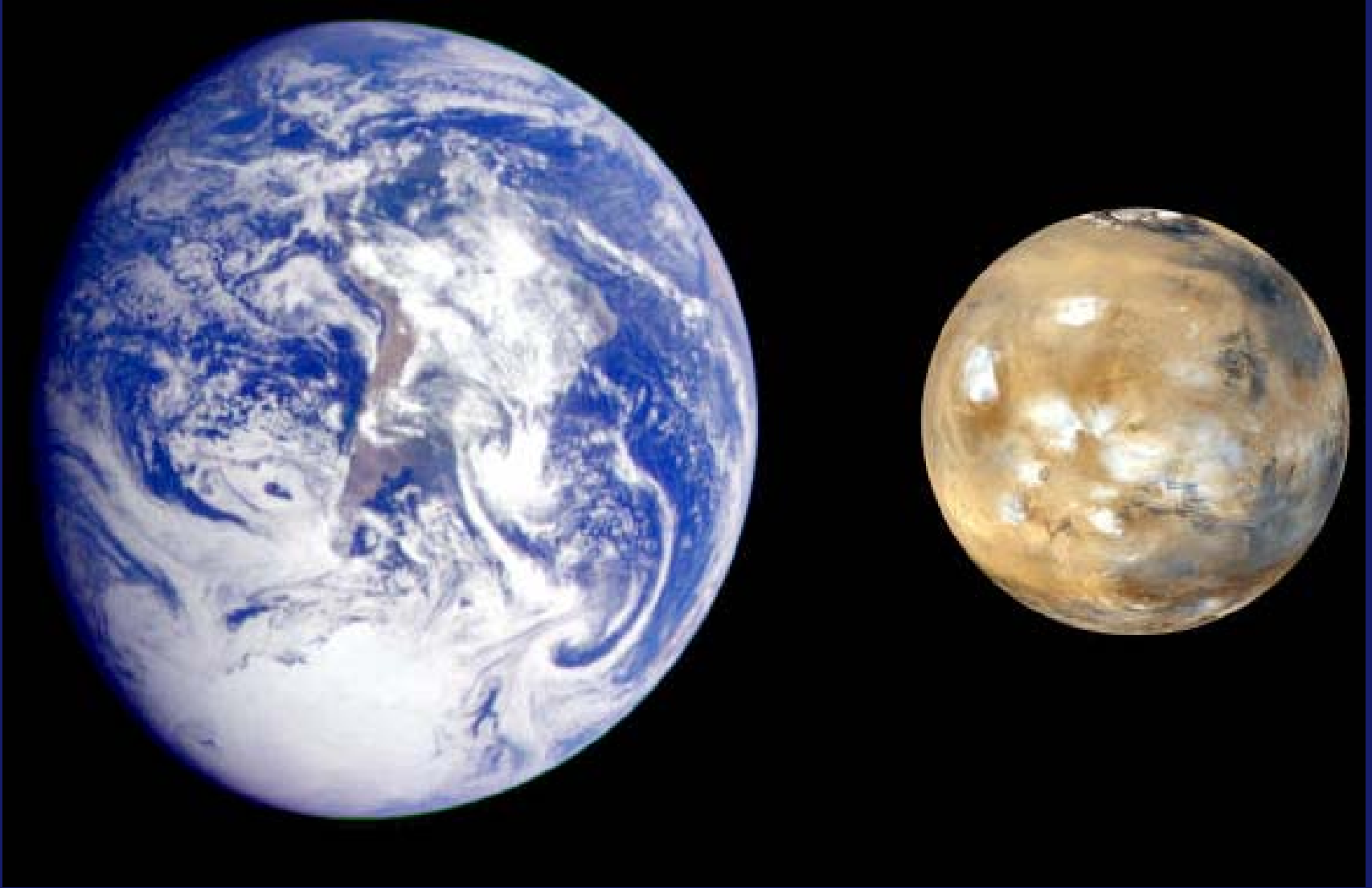
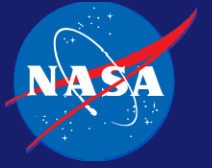
- 100 meters per pixel resolution
- Daytime IR images also show the morphology of the surface



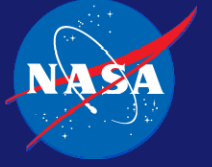
Mars Orbiter Laser Altimeter (MOLA) Map



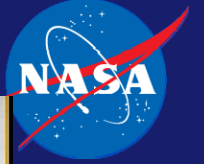
MARS EDUCATION PROGRAM



MARS EDUCATION PROGRAM



MARS EDUCATION PROGRAM



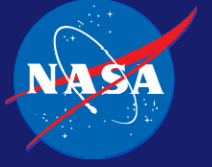
MARS EDUCATION PROGRAM



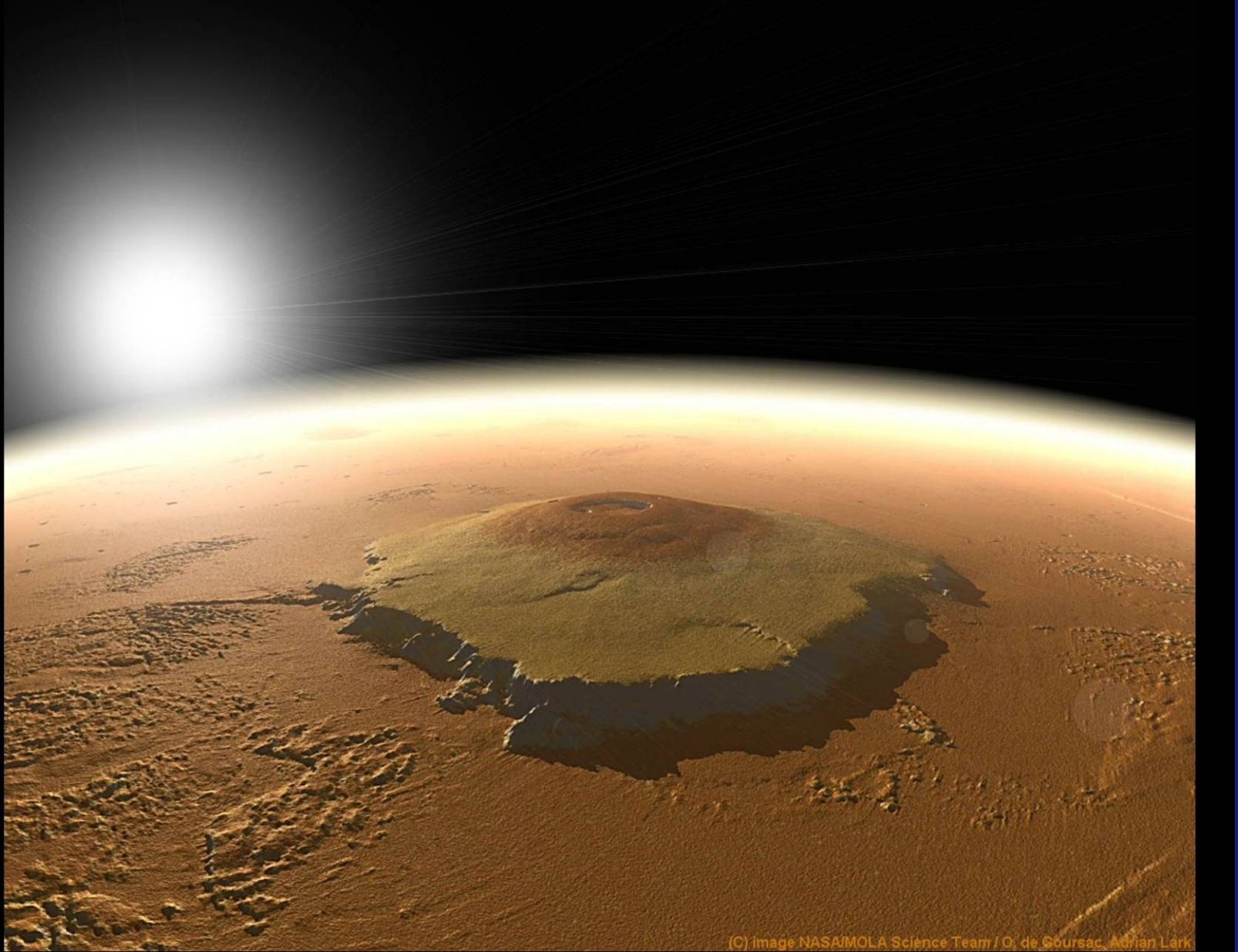
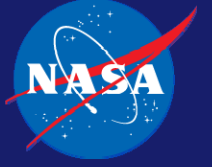


Mountains, Volcanoes and Volcanic Features

MARS EDUCATION PROGRAM

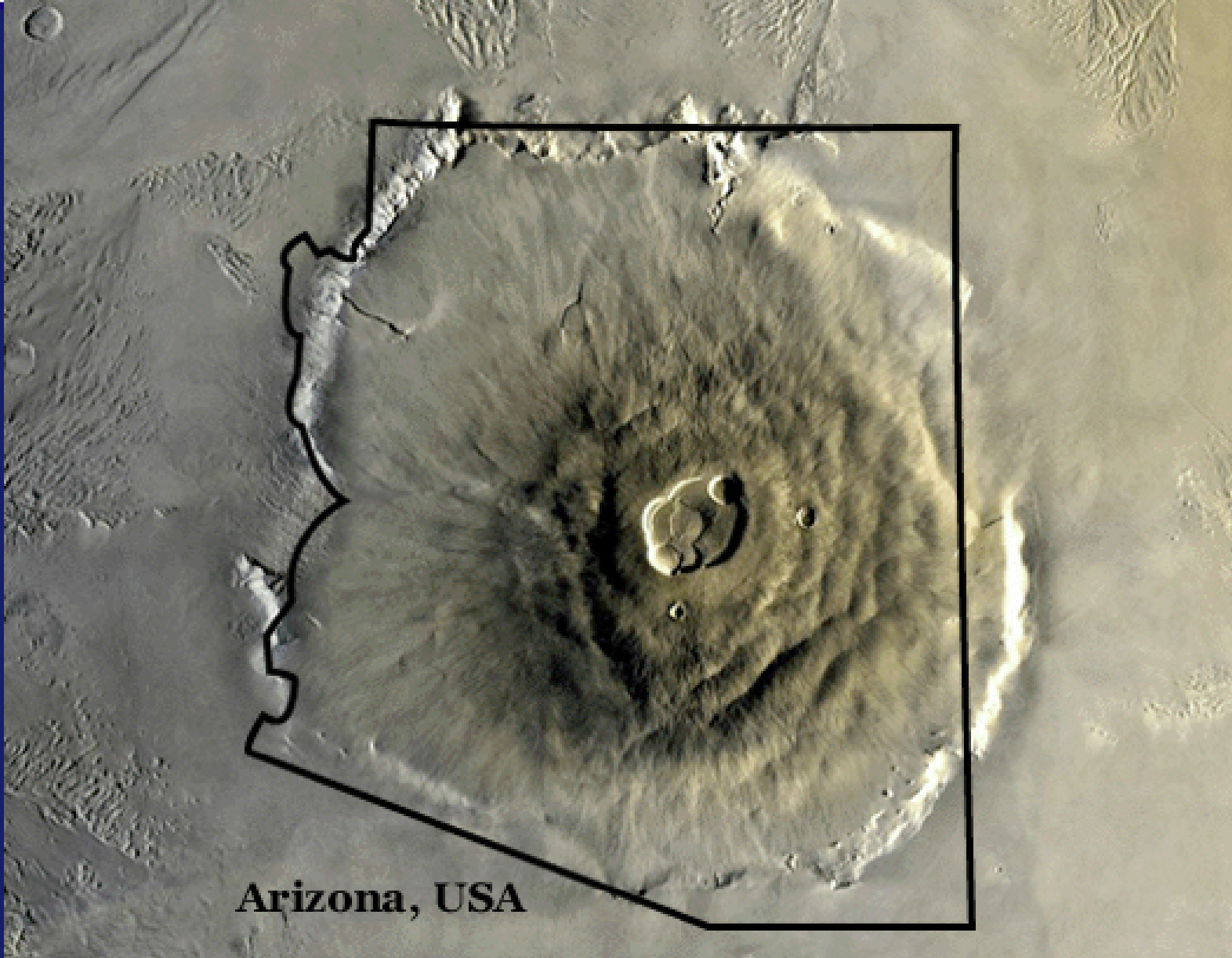


MARS EDUCATION PROGRAM

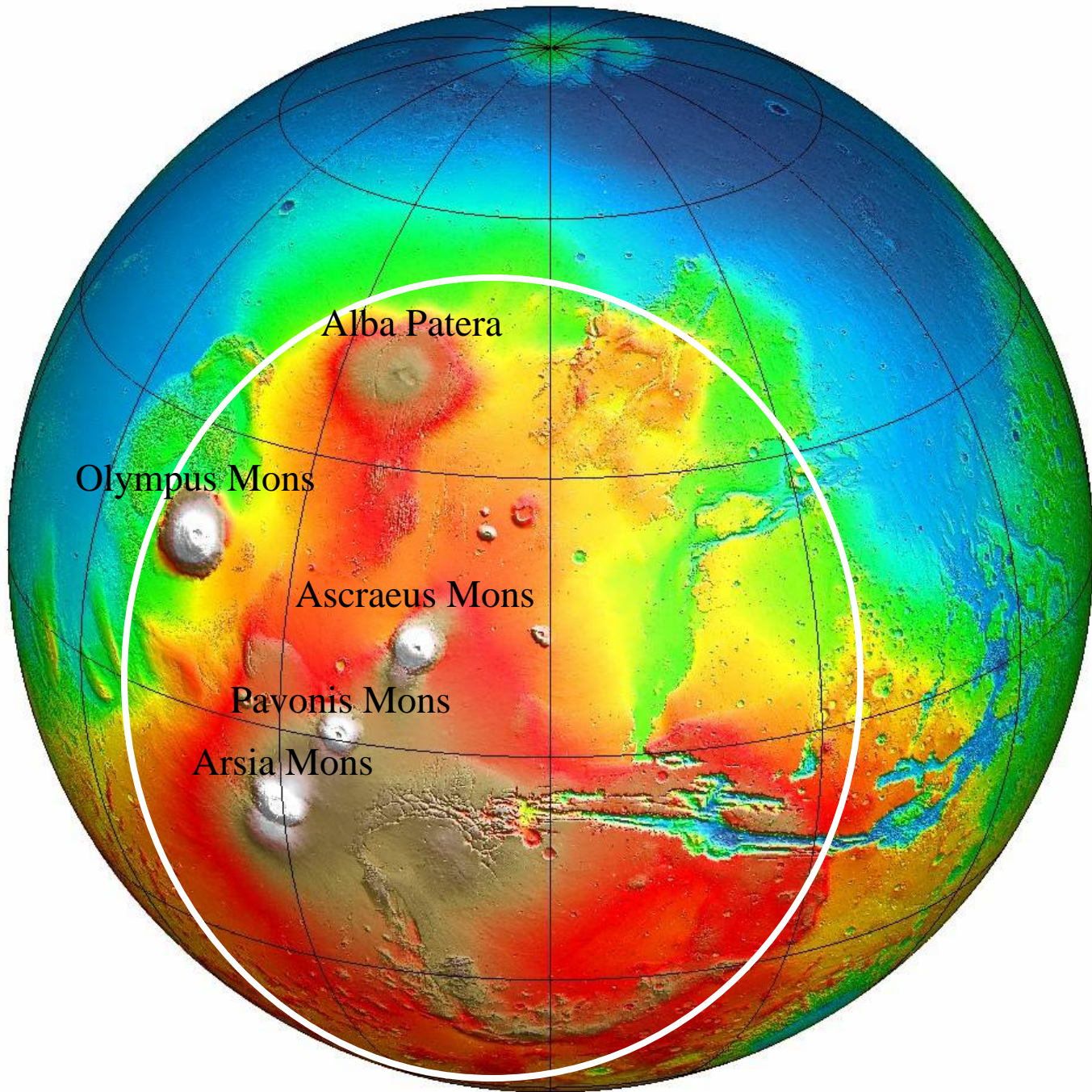


(C) image NASA/MOLA Science Team / O. de Goursac, Adrian Lark

MARS EDUCATION PROGRAM

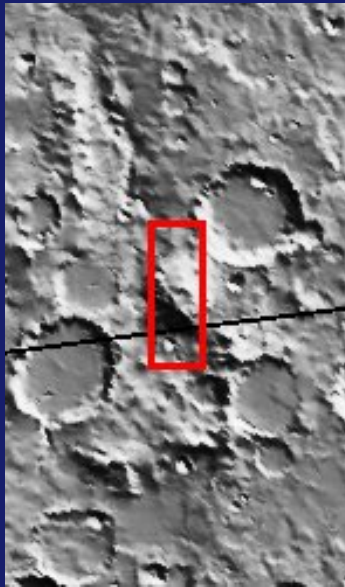


Arizona, USA





THEMIS Visible Image

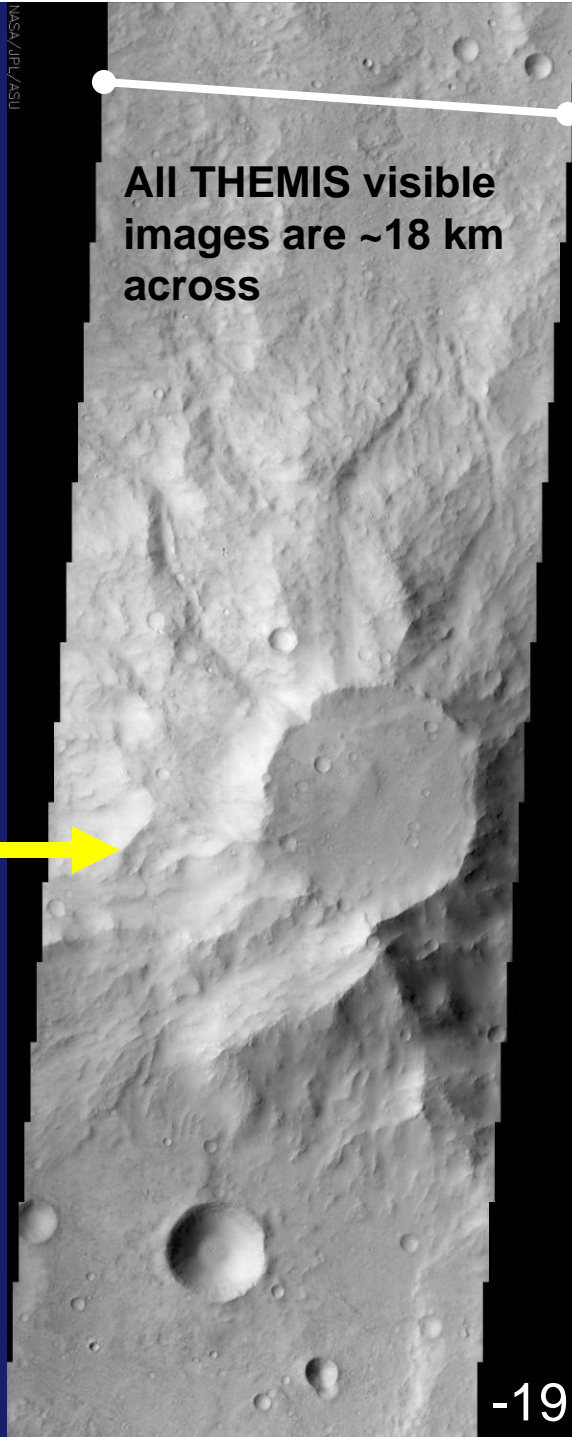


Context Image
MOLA Shaded Relief



THEMIS images are taken during the afternoon and the sun is shining from the left

NASA/JPL/ASU



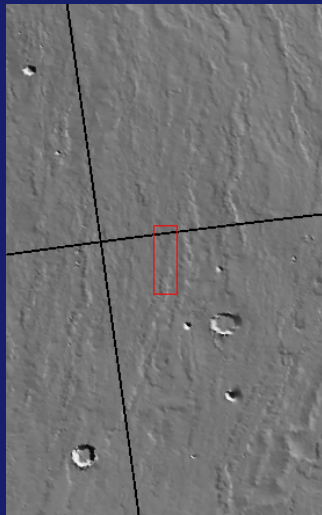
All THEMIS visible images are ~18 km across



-19N, 173E



THEMIS Visible Image



Context Image

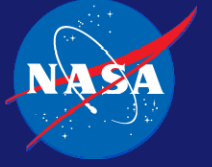


-20N, 240E

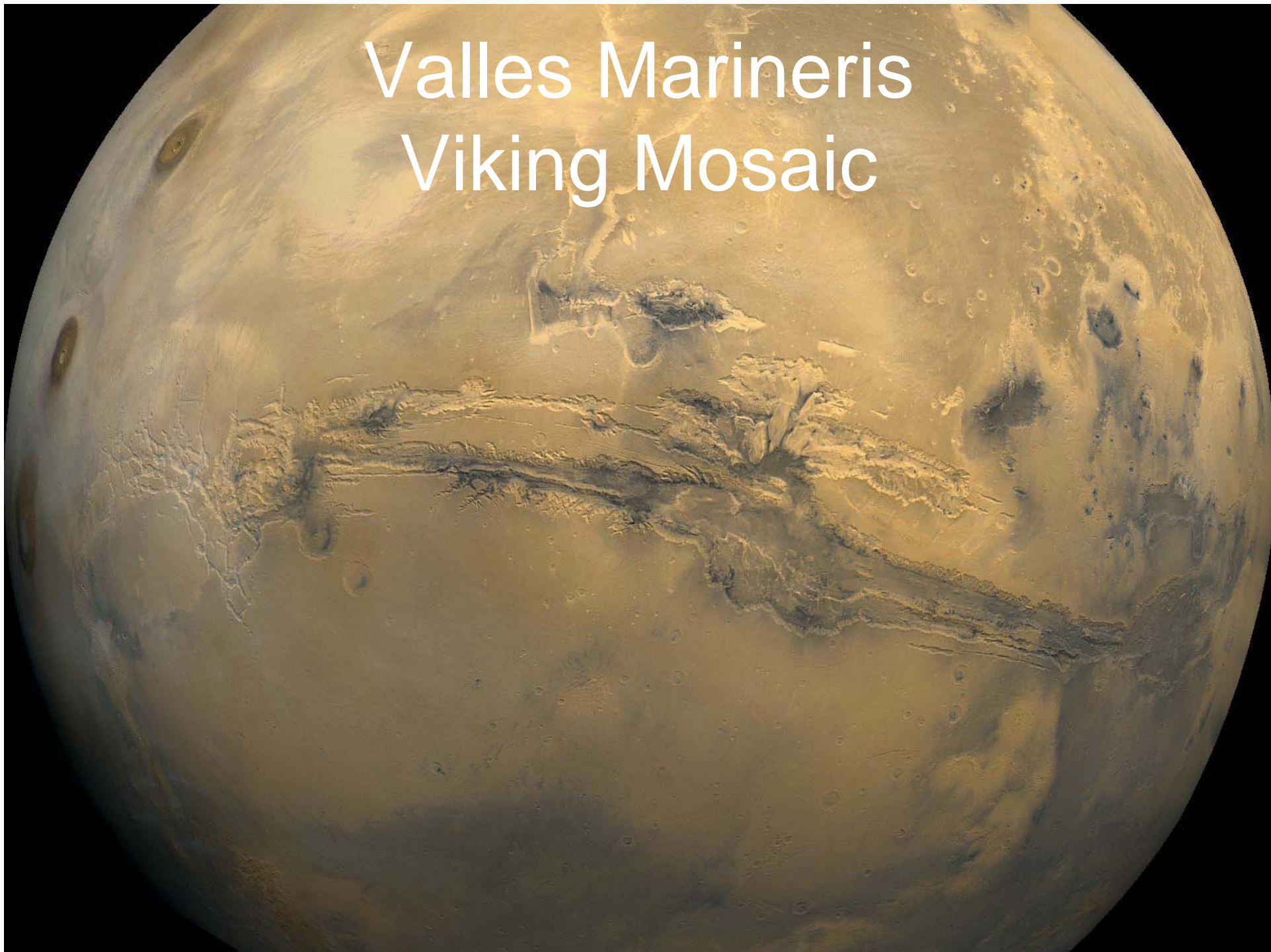


Canyons and Canyon Features

MARS EDUCATION PROGRAM



Valles Marineris Viking Mosaic

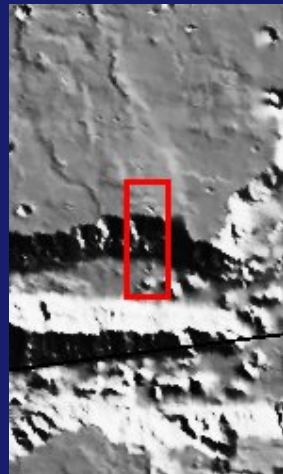


MARS EDUCATION PROGRAM

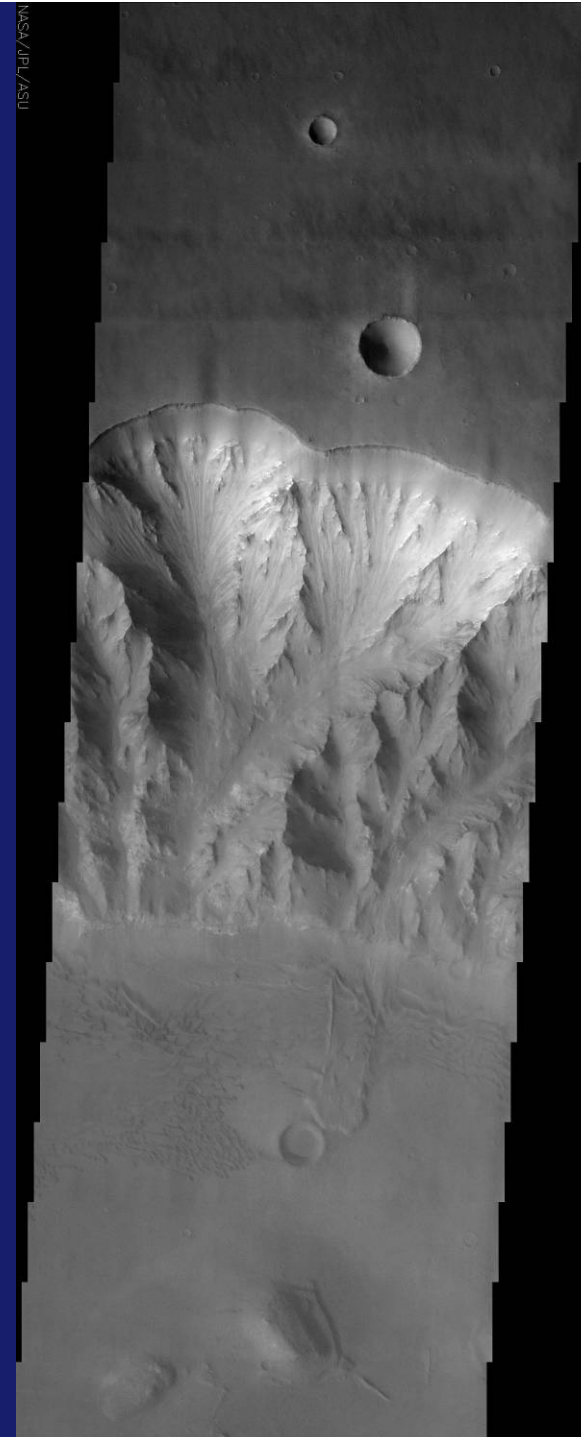




THEMIS Visible Image



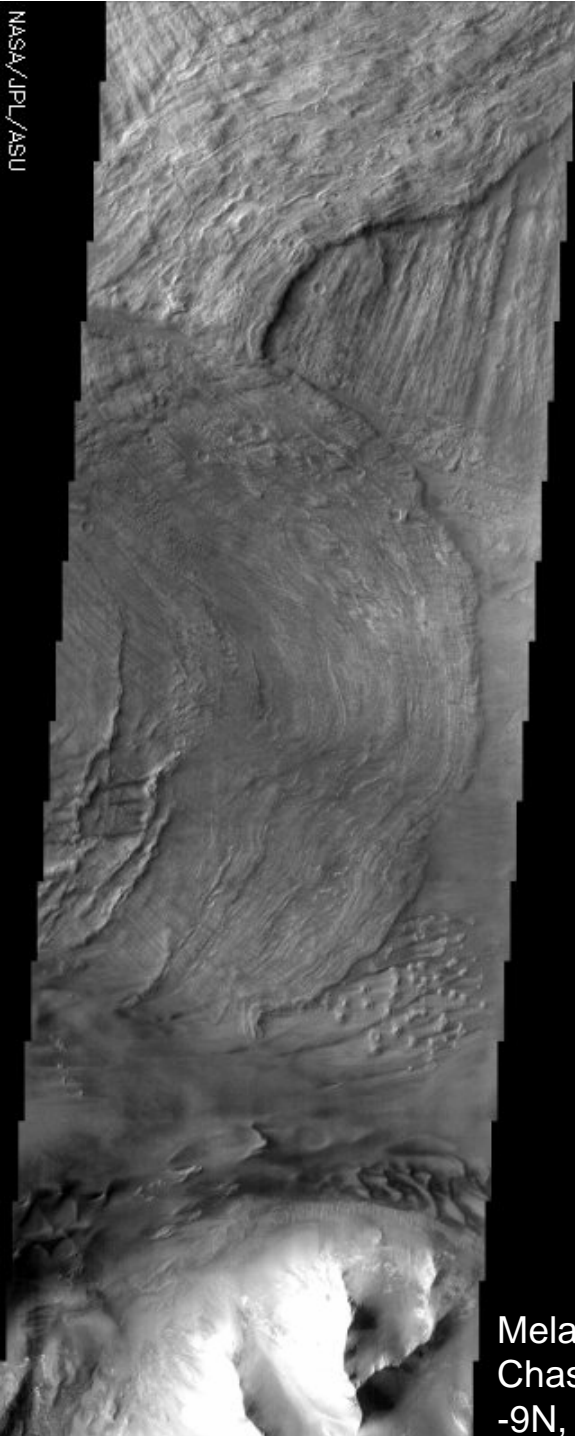
Context Image



NASA/JPL/ASU



-14N, 307E



Melas
Chasma
-9N, 282E



Ius Chasma
-7N, 275E

Landslides

THEMIS visible
images

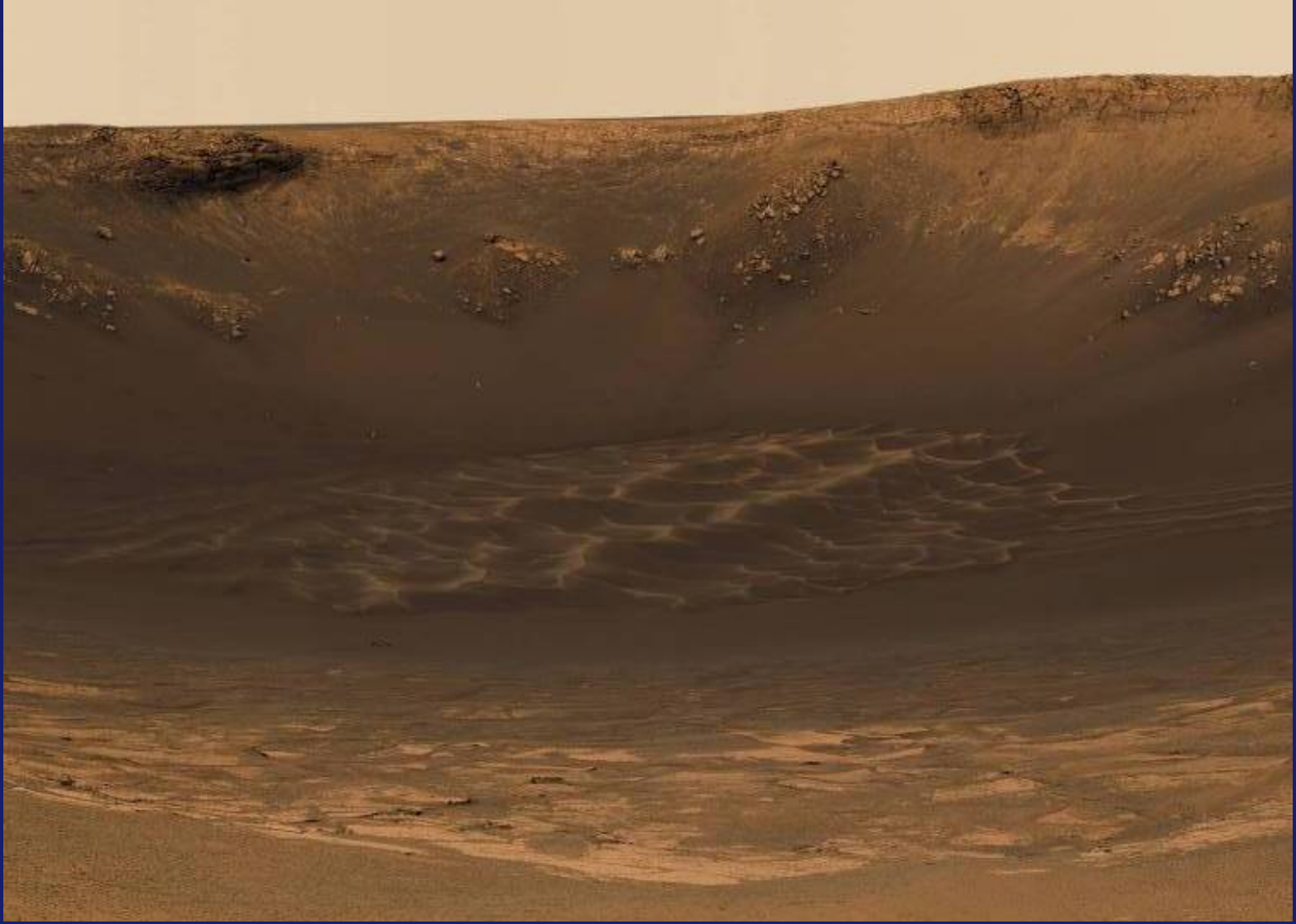
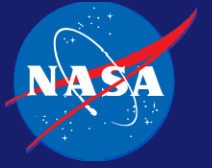


Aeolian Features (Wind Related)

MARS EDUCATION PROGRAM

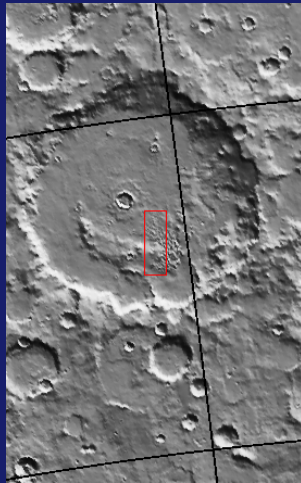


MARS EDUCATION PROGRAM



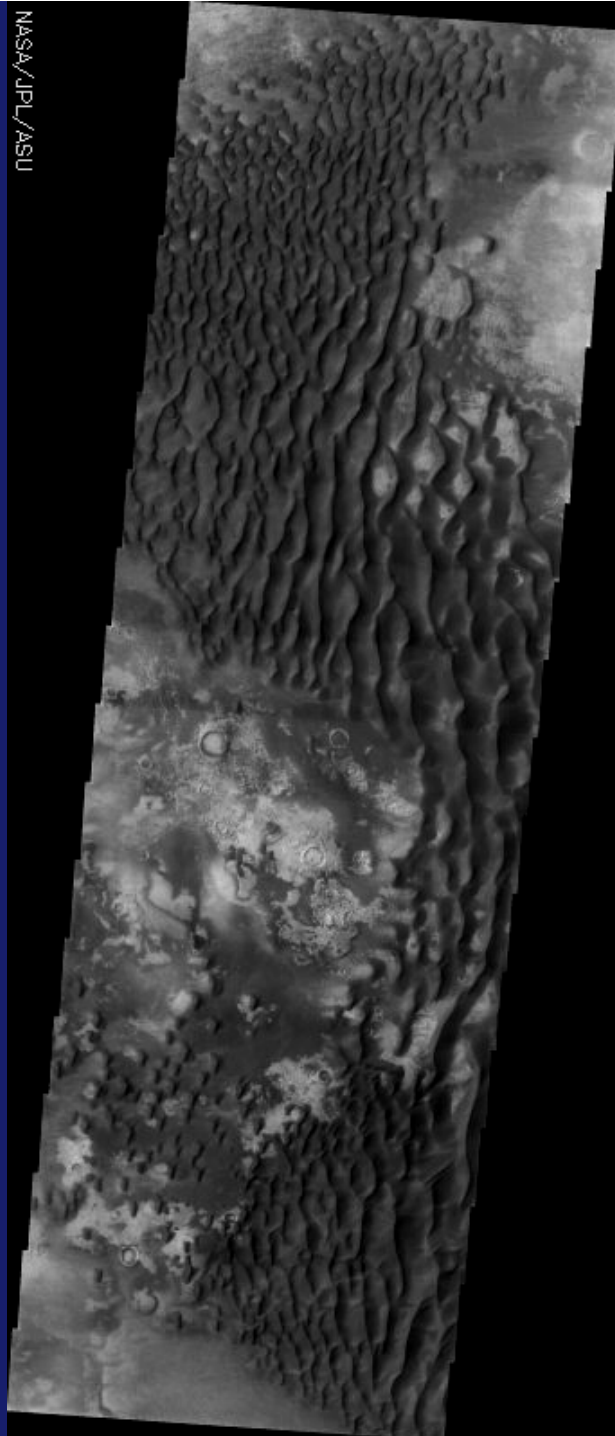


THEMIS Visible Image



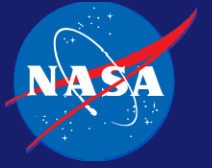
Context Image

NASA/JPL/ASU

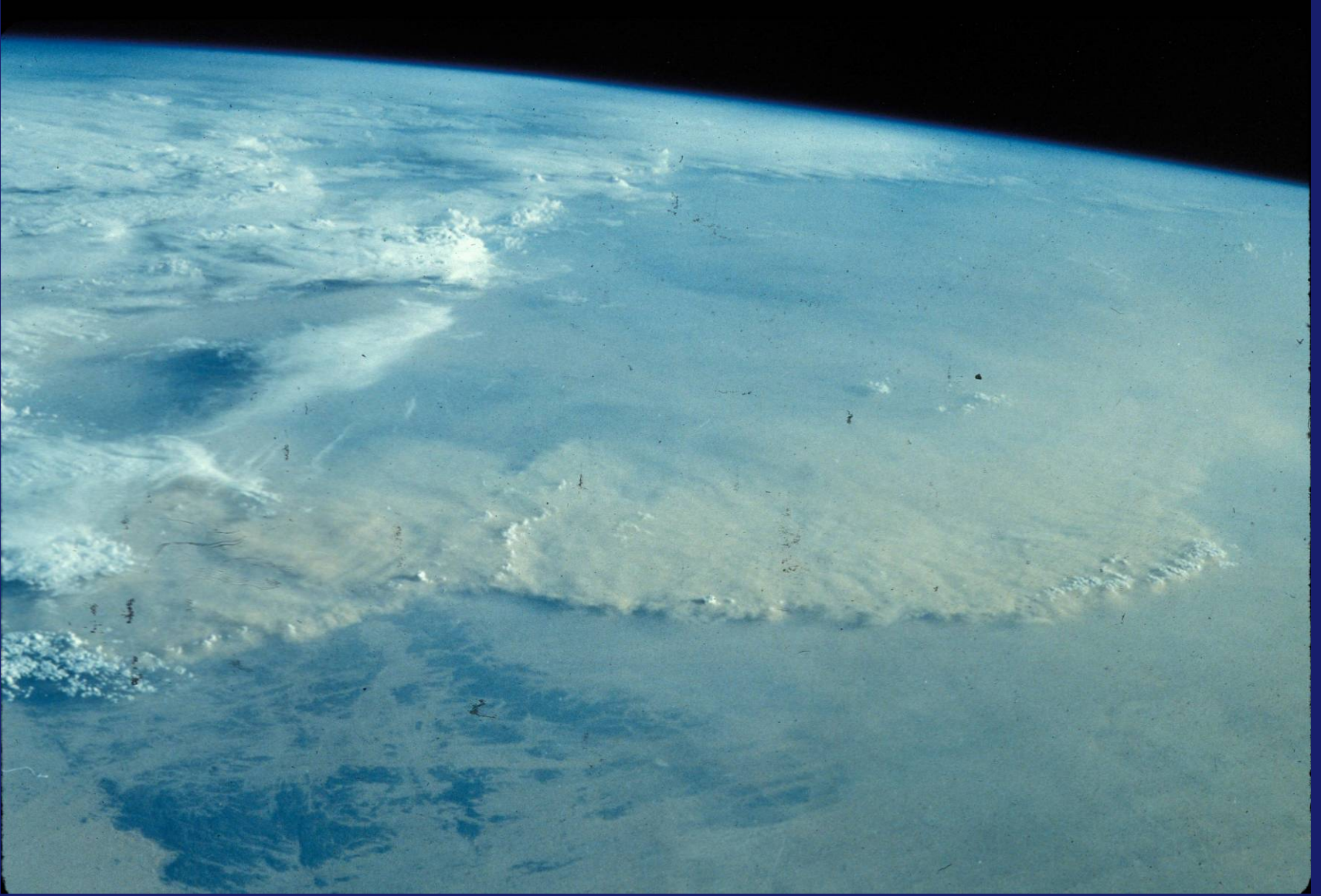
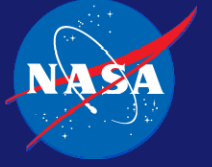


-47N, 19E

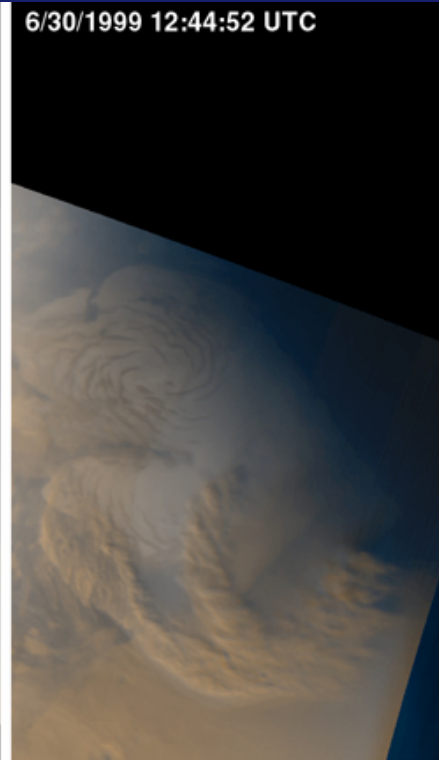
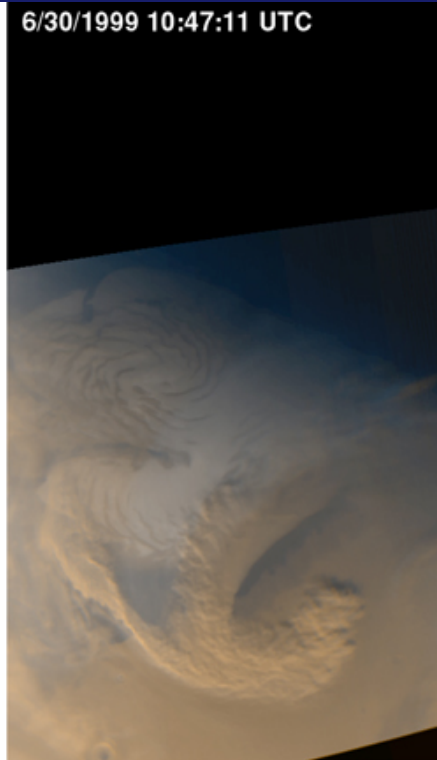
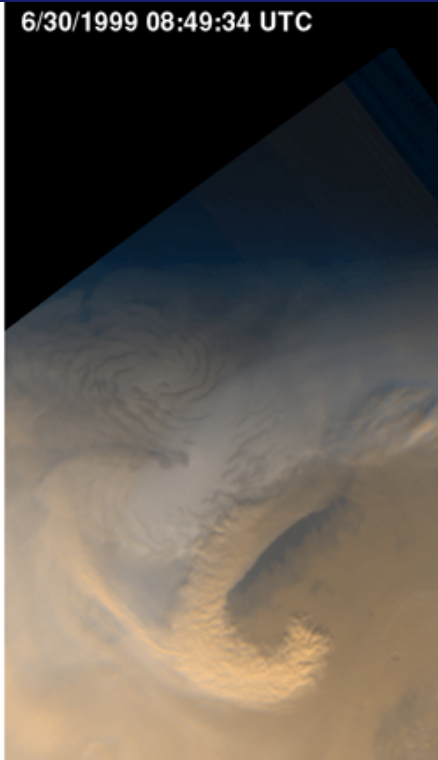
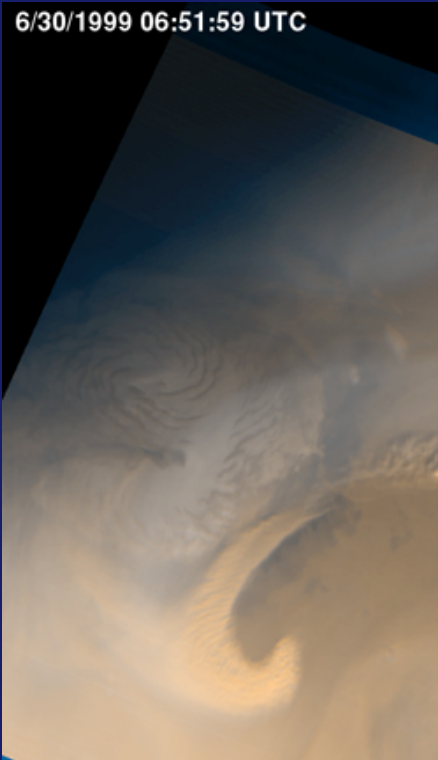
MARS EDUCATION PROGRAM



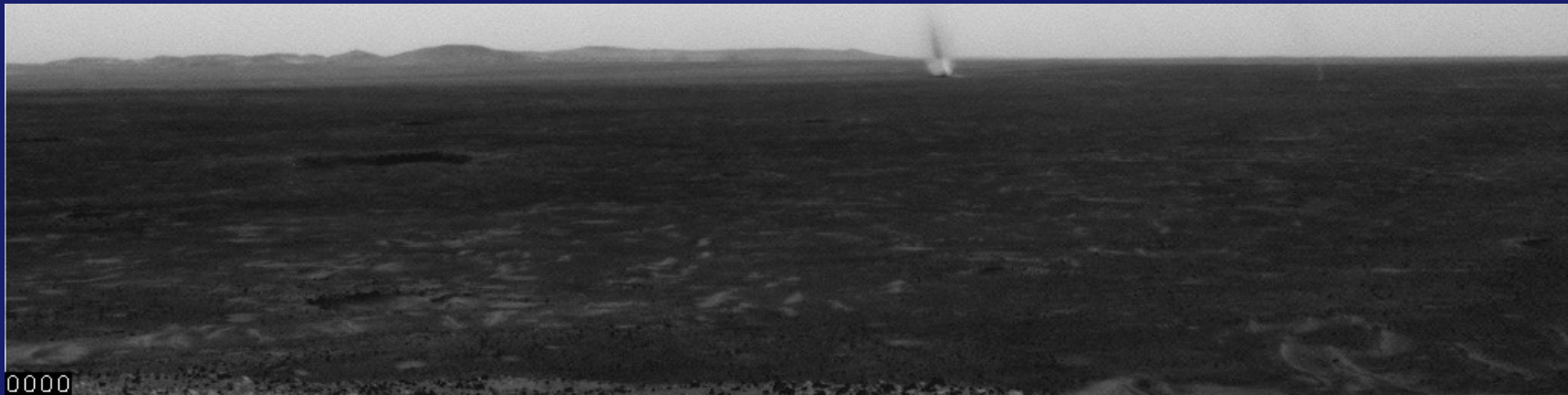
MARS EDUCATION PROGRAM



MARS EDUCATION PROGRAM

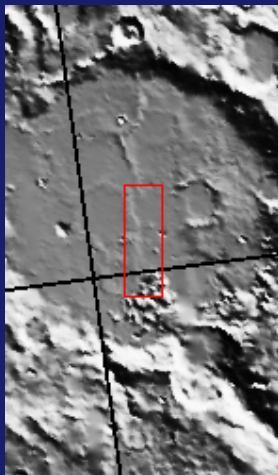


MARS EDUCATION PROGRAM

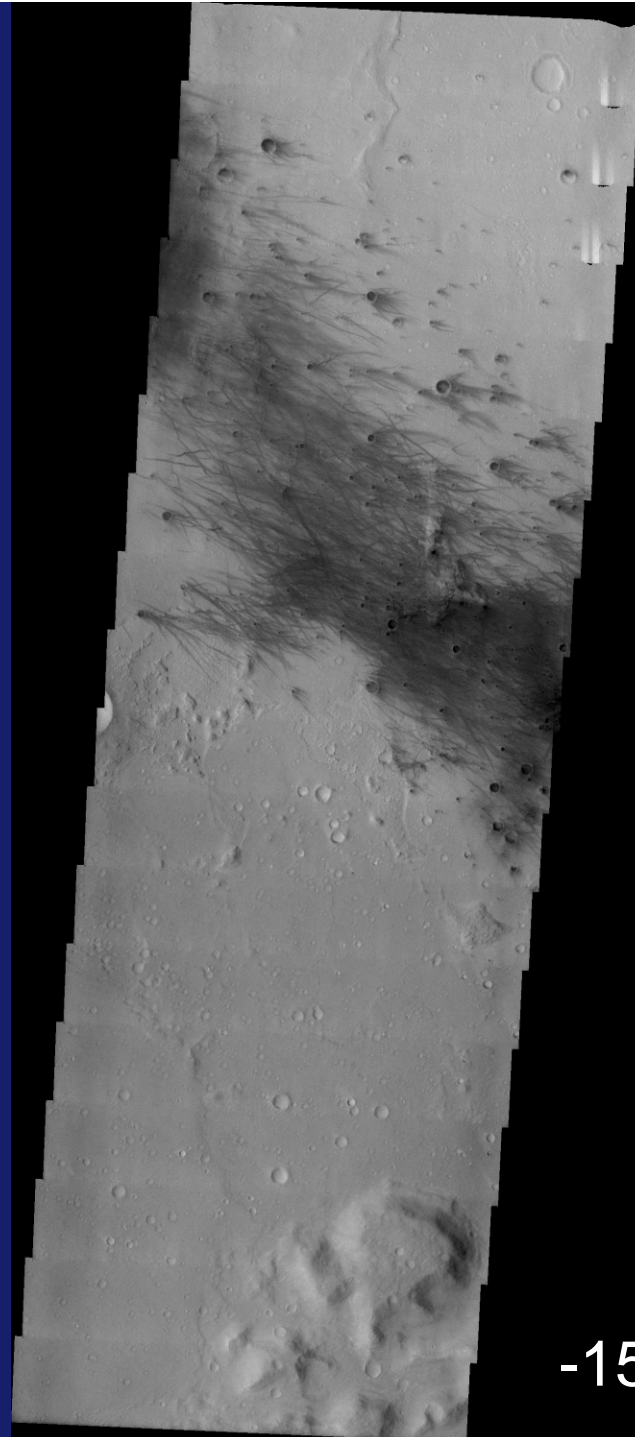




THEMIS Visible Image



Context Image



-15N, 175E





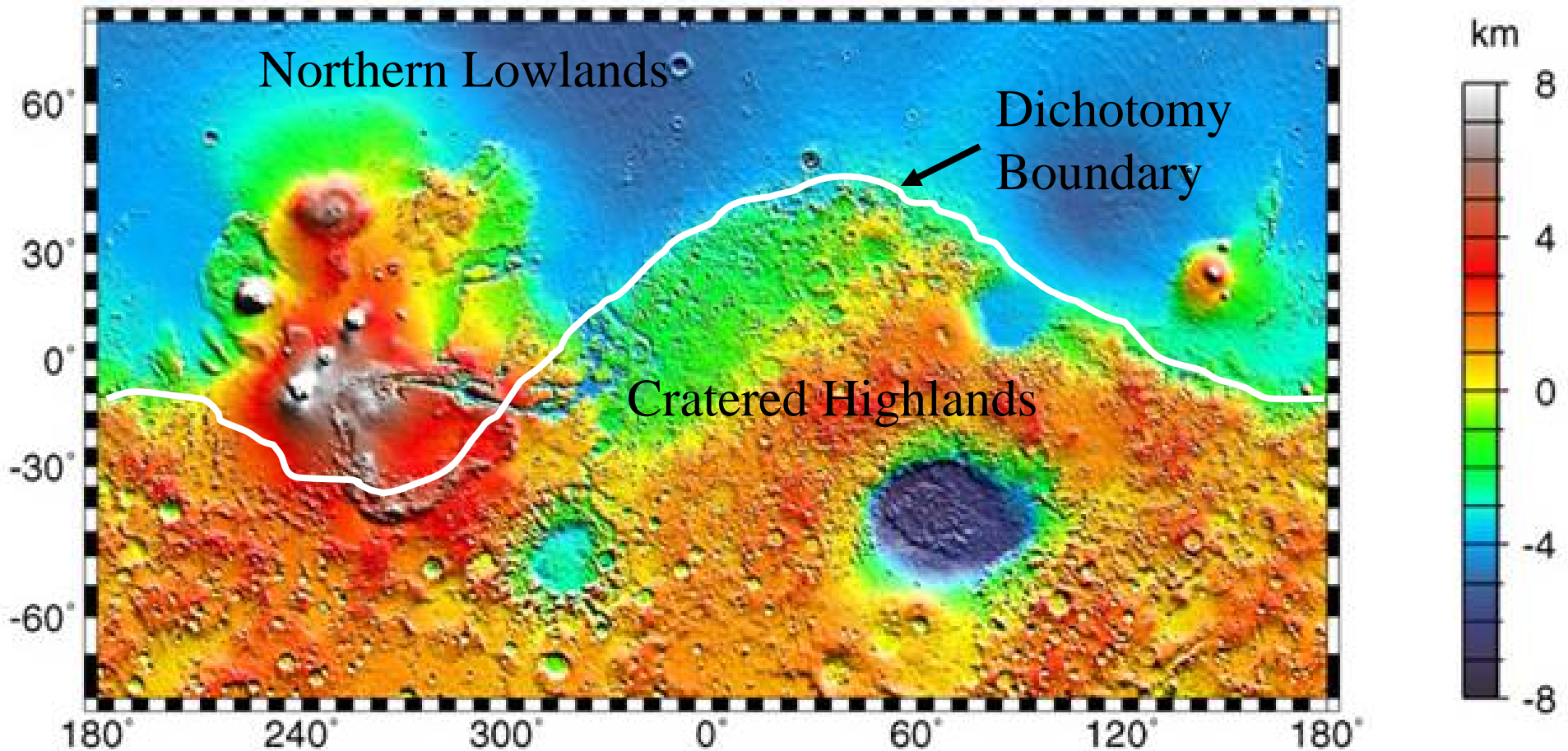
Craters and Crater Features

MARS EDUCATION PROGRAM



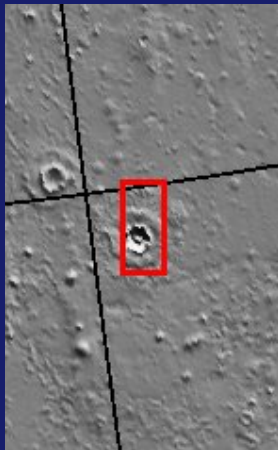


Mars' Dichotomy



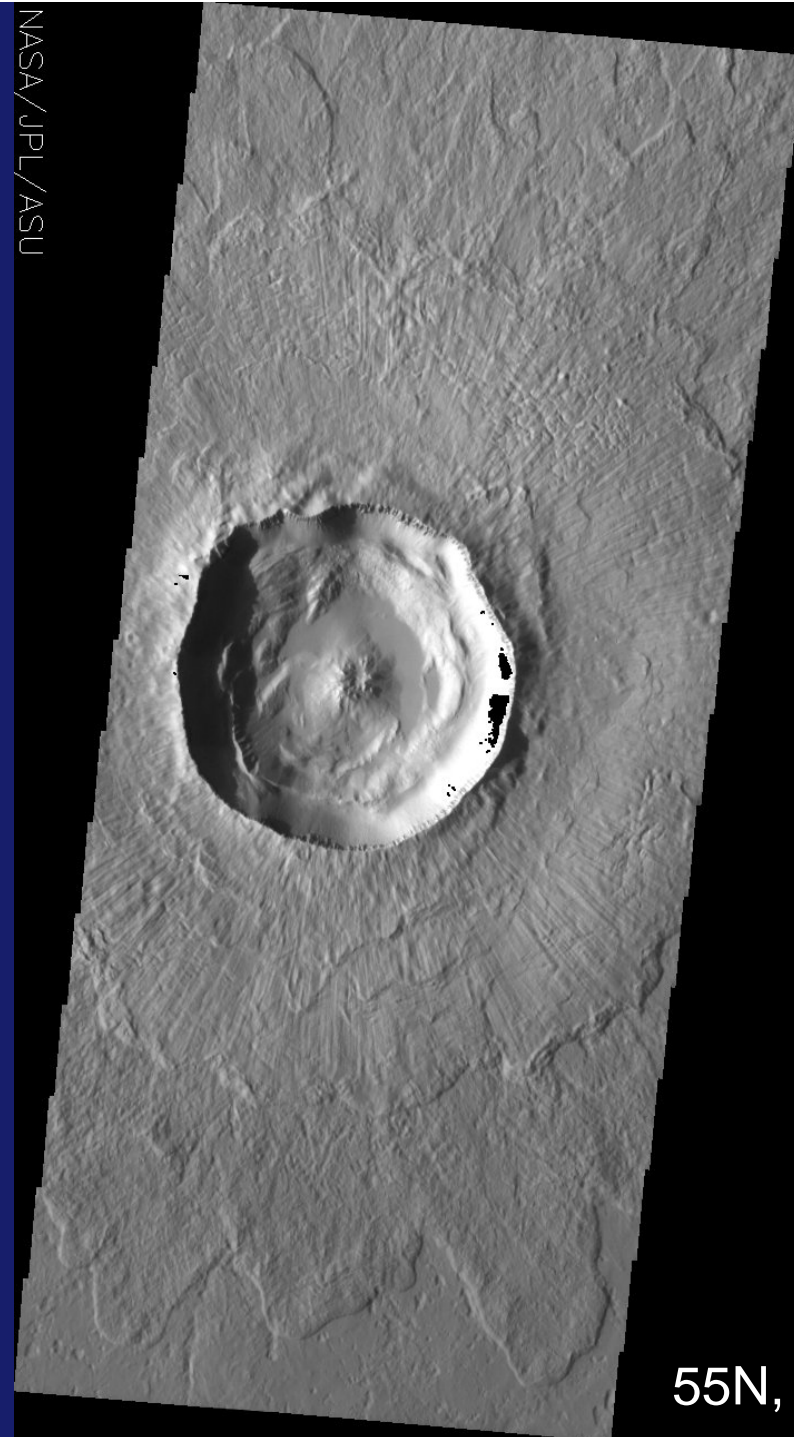


THEMIS Visible Image



Context Image

NASA/JPL/ASU

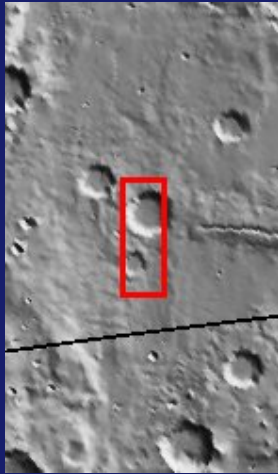


55N, 190E





THEMIS Visible Image



Context Image

NASA/JPL/ASU



-34N, 308E

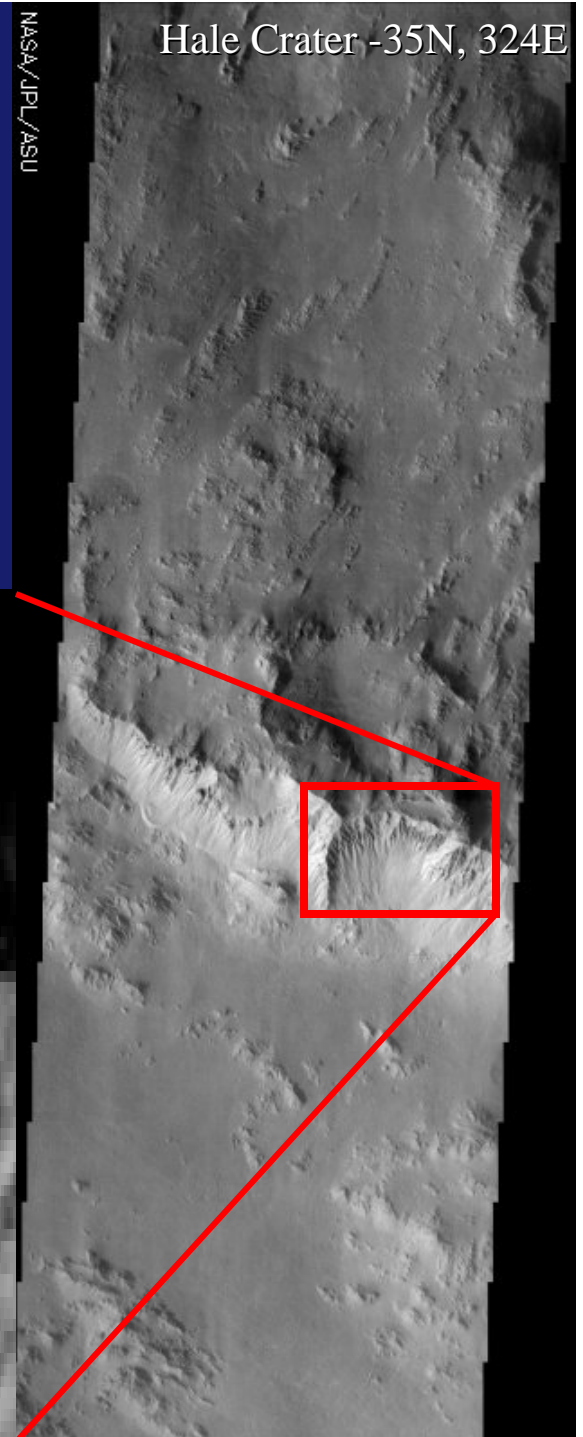
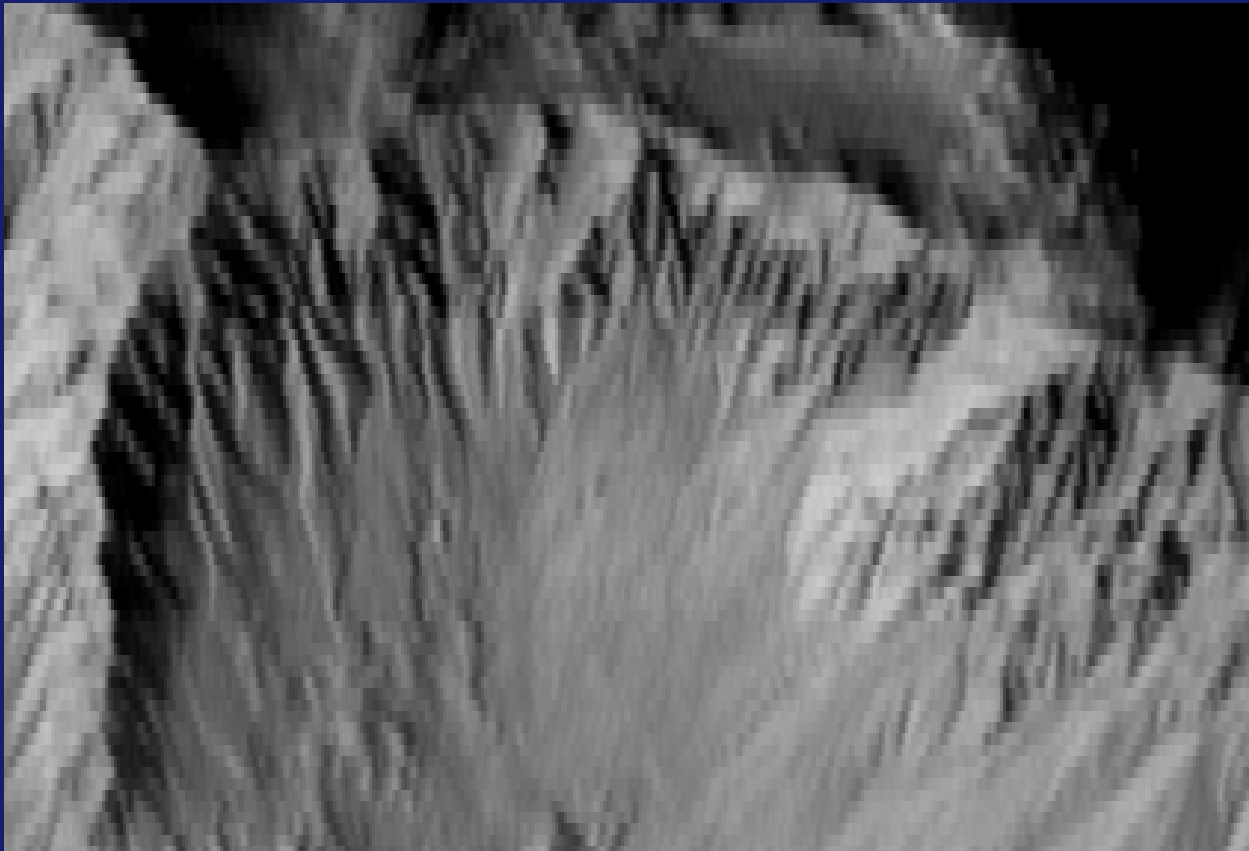




Gullies found in crater walls

NASA/JPL/ASU

Hale Crater -35N, 324E



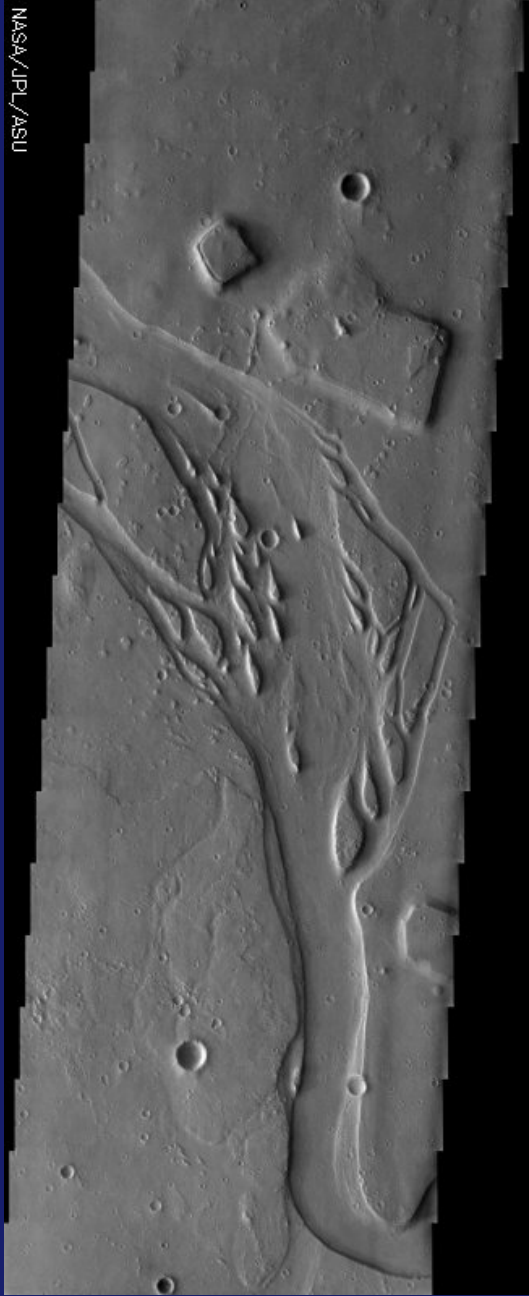


Water Related Features

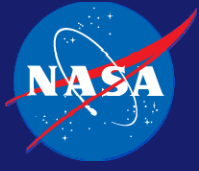
MARS EDUCATION PROGRAM



MARS EDUCATION PROGRAM

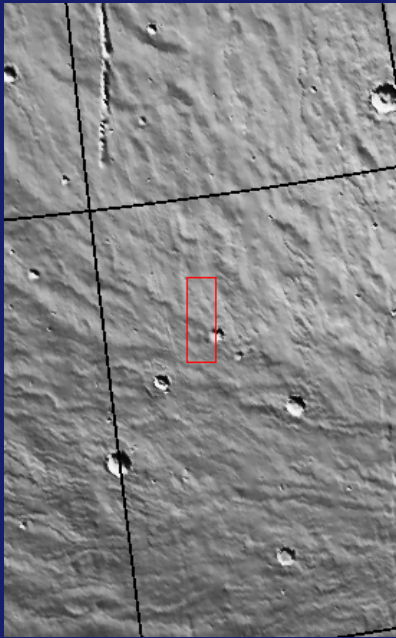


NASA/JPL/ASU





THEMIS Visible Image



Context Image

NASA/JPL/ASU



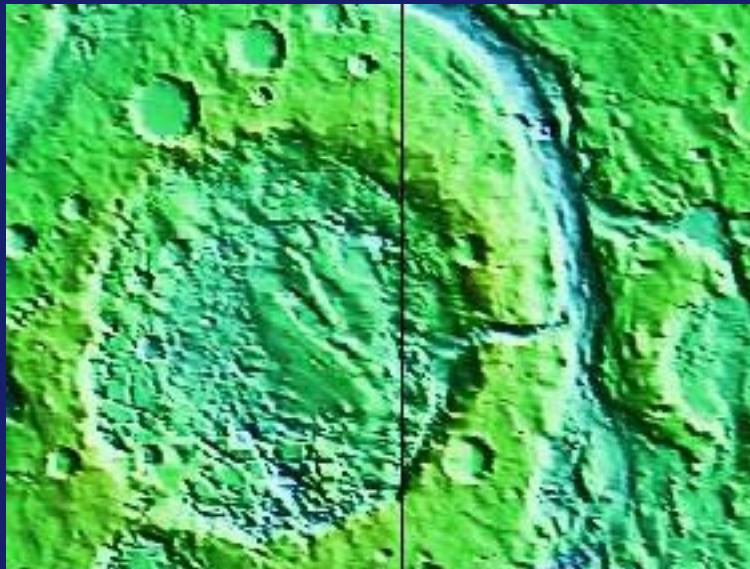
44N, 242E





Chaos Terrain

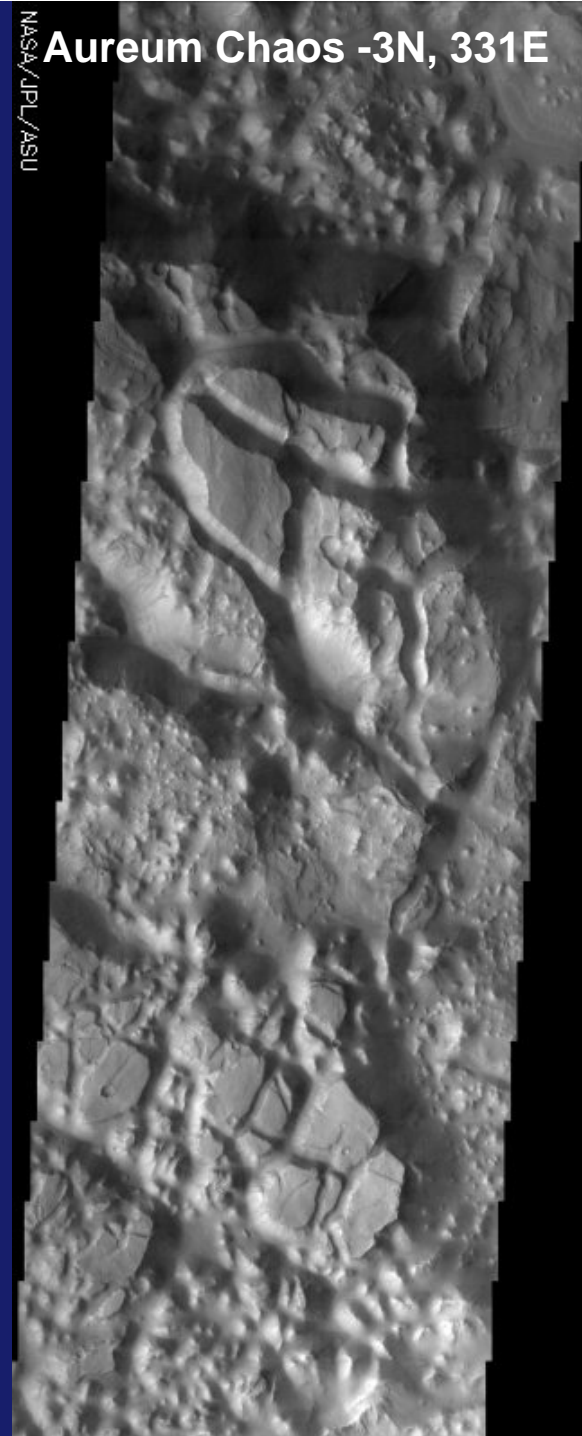
Oftentimes found at the head of outflow channels



MOLA: Aram Chaos

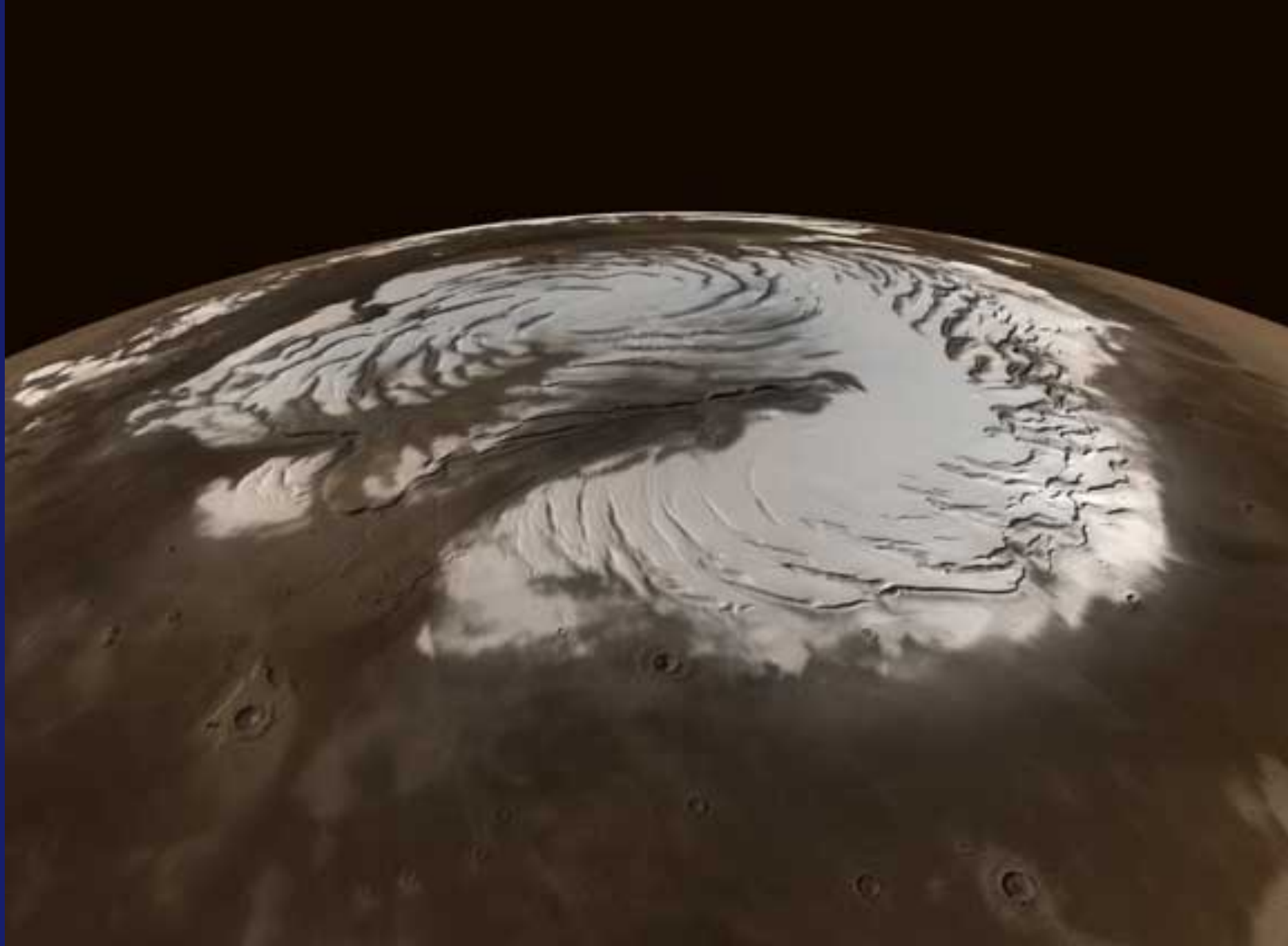
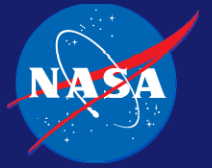
THEMIS
visible
image

NASA/JPL/ASU
Aureum Chaos -3N, 331E





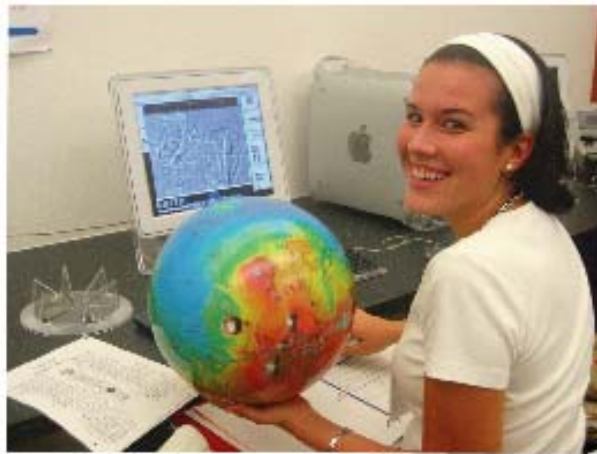
Ice Caps



EXPLORE MARS...FOR REAL!

Mars Student Imaging Project

<http://msip.asu.edu>



ARIZONA STATE
UNIVERSITY

Inspiring the Next Generation of Explorers
...as only NASA can!