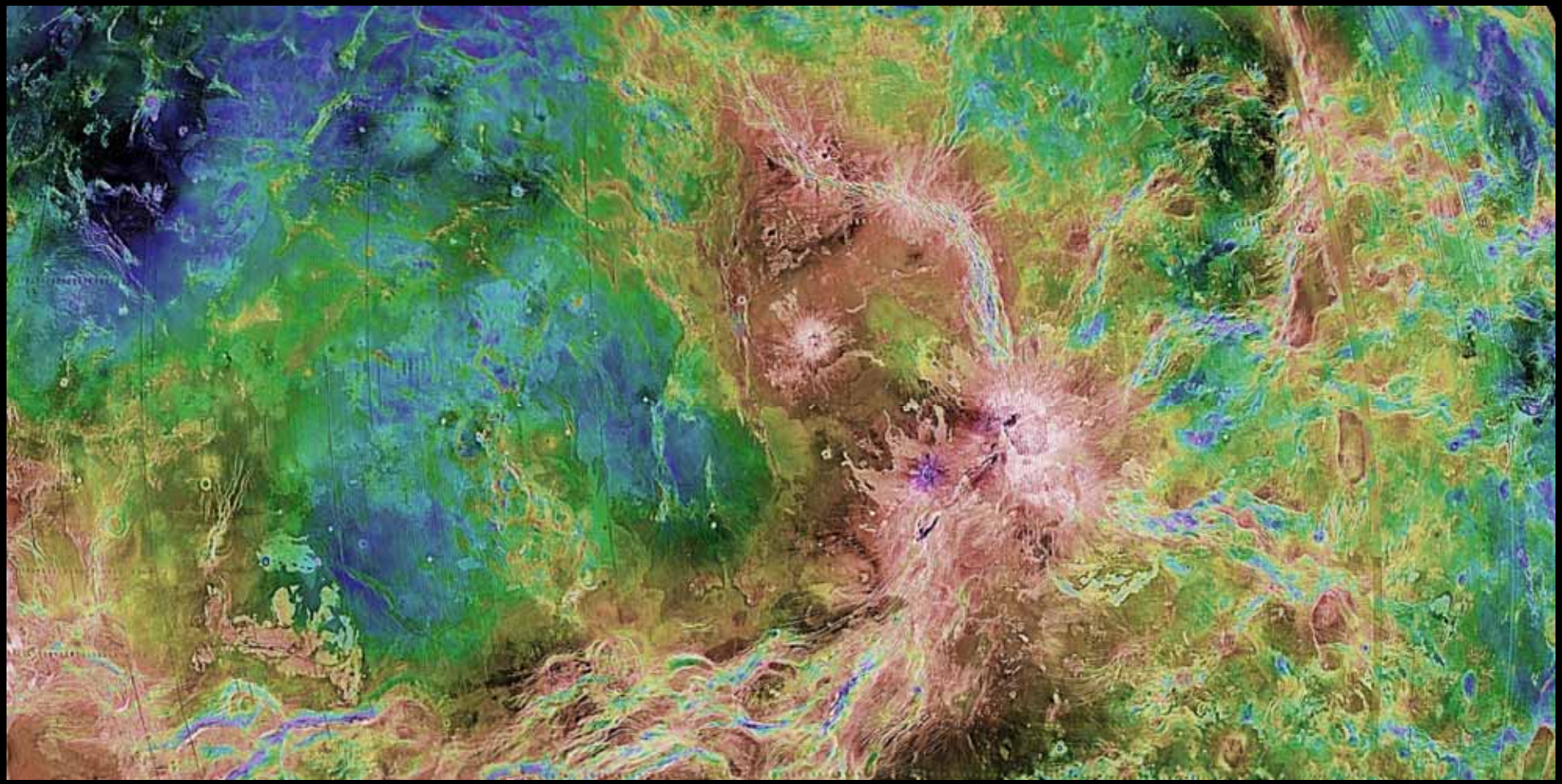
ART & THE COSMIC CONNECTION

The Elements of Art & Planetary Image Analysis



A VISION OF DISCOVERY NASA Educator Workshop

Monica Aiello, Planetary Artists & Educator

Saturday, March 10, 2012 - Pasadena, California

SCIENCE INSPIRES ART

MONICA & TYLER AIELLO

CREDIT: NASA/JPL

GANYMEDE

CREDIT: NASA/JPL

DENVER MUSUM OF NATURE & SCIENCE: Gates Planetarium

ART INSPIRES SCIENCE EDUCATION

ART ASSOCIATION OF JACKSON HOLE: Summer Camp 2012

ART & THE COSMIC CONNECTION

A K-12 Educational Program & Art Activity

PROGRAM HIGHLIGHTS

- PowerPoint Lecture
- Easy to follow lecture script and scientific notes
- Correlates with current and recent missions
- Scalable for K-12 students…and beyond
- Art Activity to reinforce concepts
- Beautiful NASA image prints
-1 day or 2 day program
- In-depth Teacher Training Guide
- Works in both art & science class
- Proven success with both youth and adults

OUR SPACE COMMUNITY

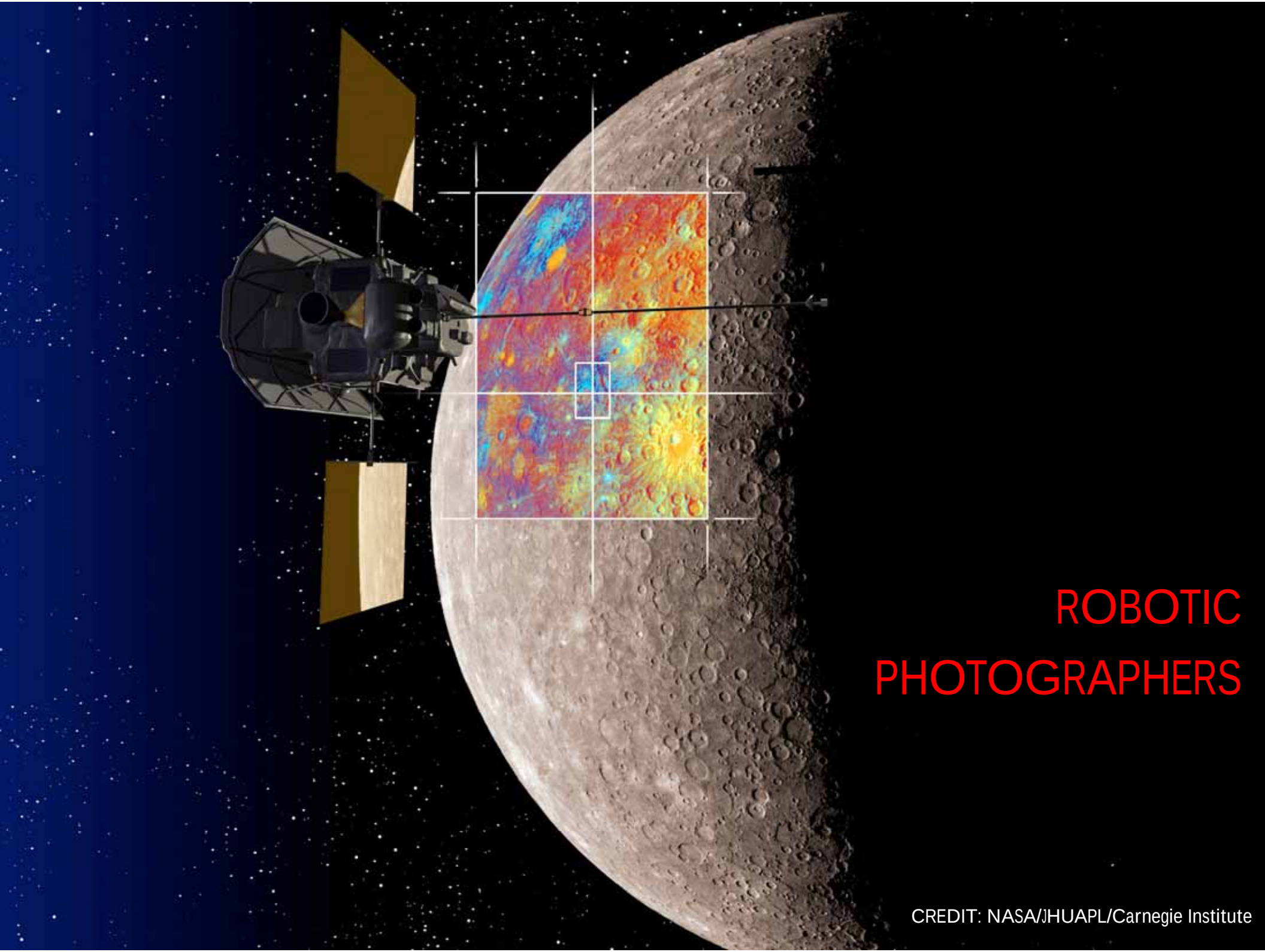
What do you know about the solar system?

SMALL BODIES: Moons

CREDIT: NASA/JPL

ROBOTIC PHOTOGRAPHERS

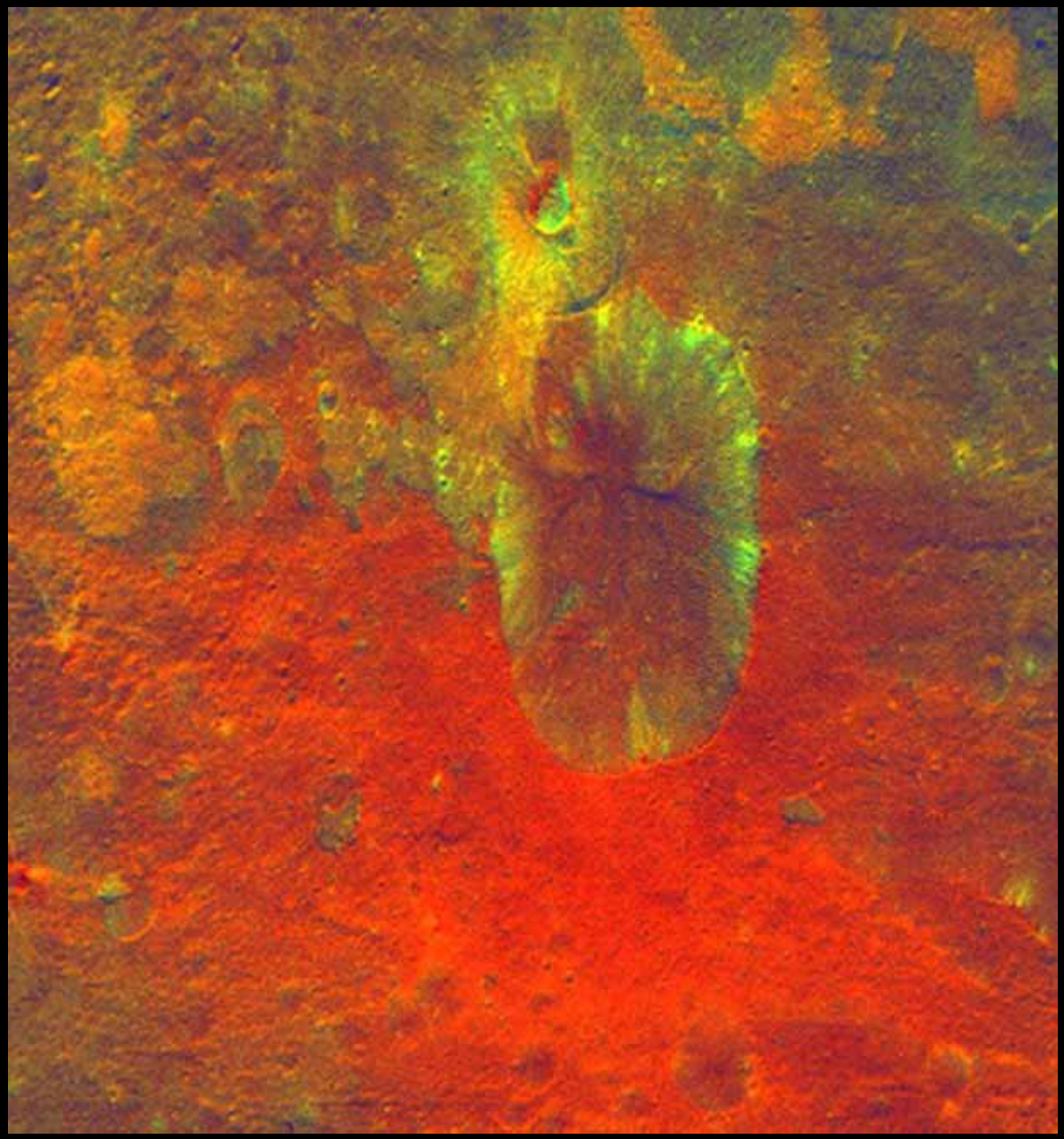
CREDIT: NASA/JPL



ROBOTIC PHOTOGRAPHERS

CREDIT: NASA/JHUAPL/Carnegie Institute

ELEMENTS OF ART & IMAGE ANALYSIS



-LINE

-SHAPE

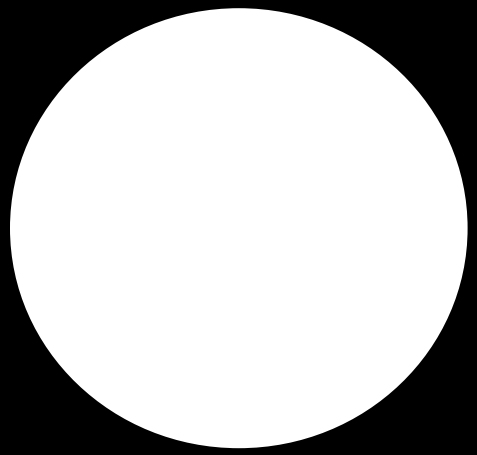
-COLOR

-VALUE

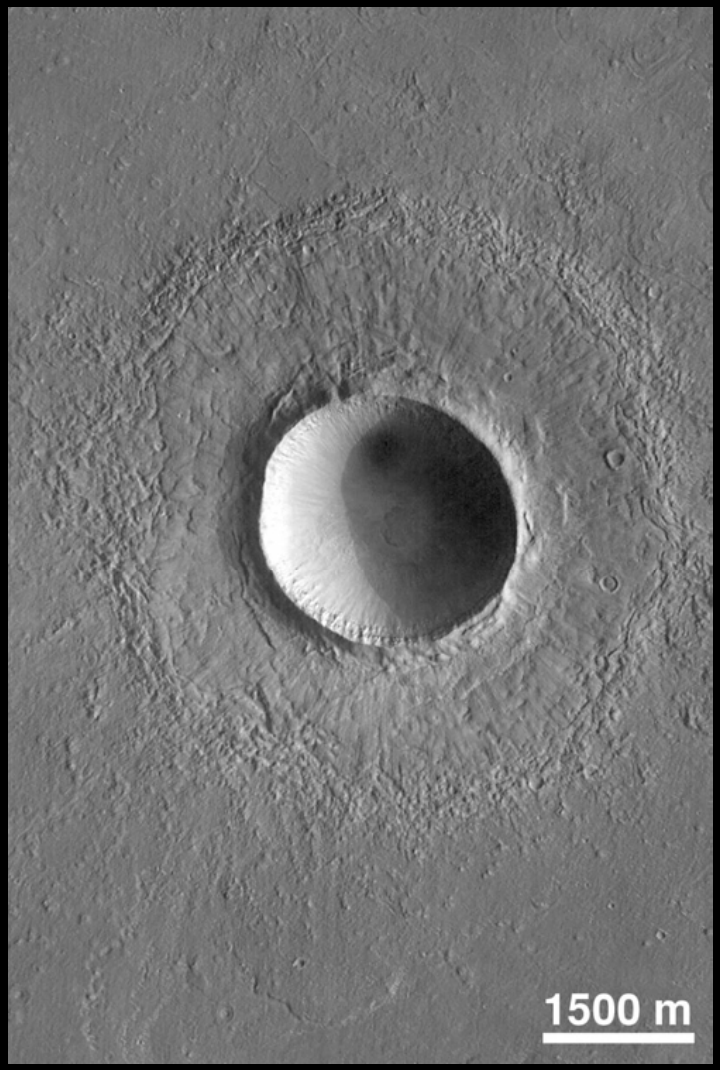
-TEXTURE

CREDIT: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

SHAPE

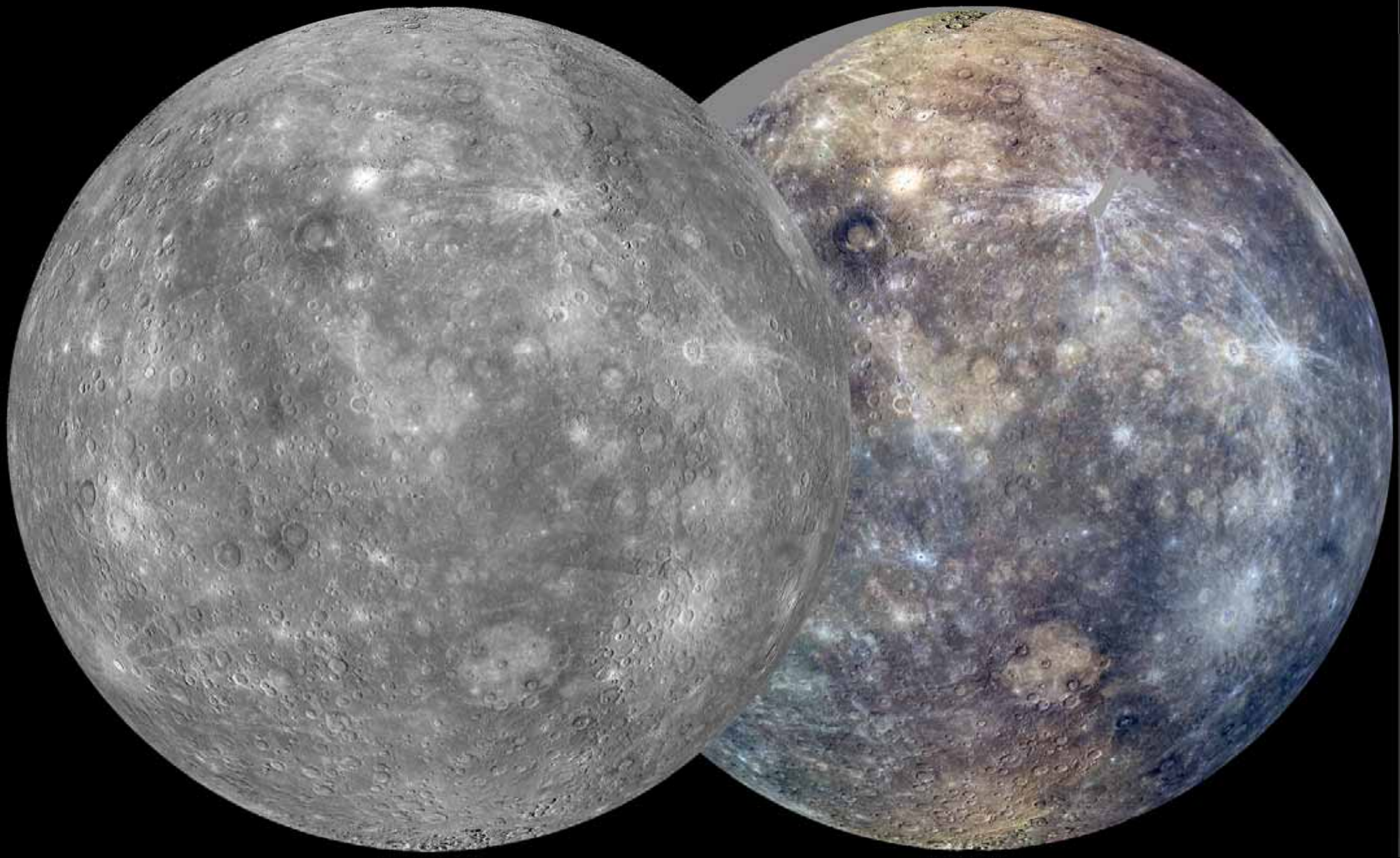


Circle - Craters



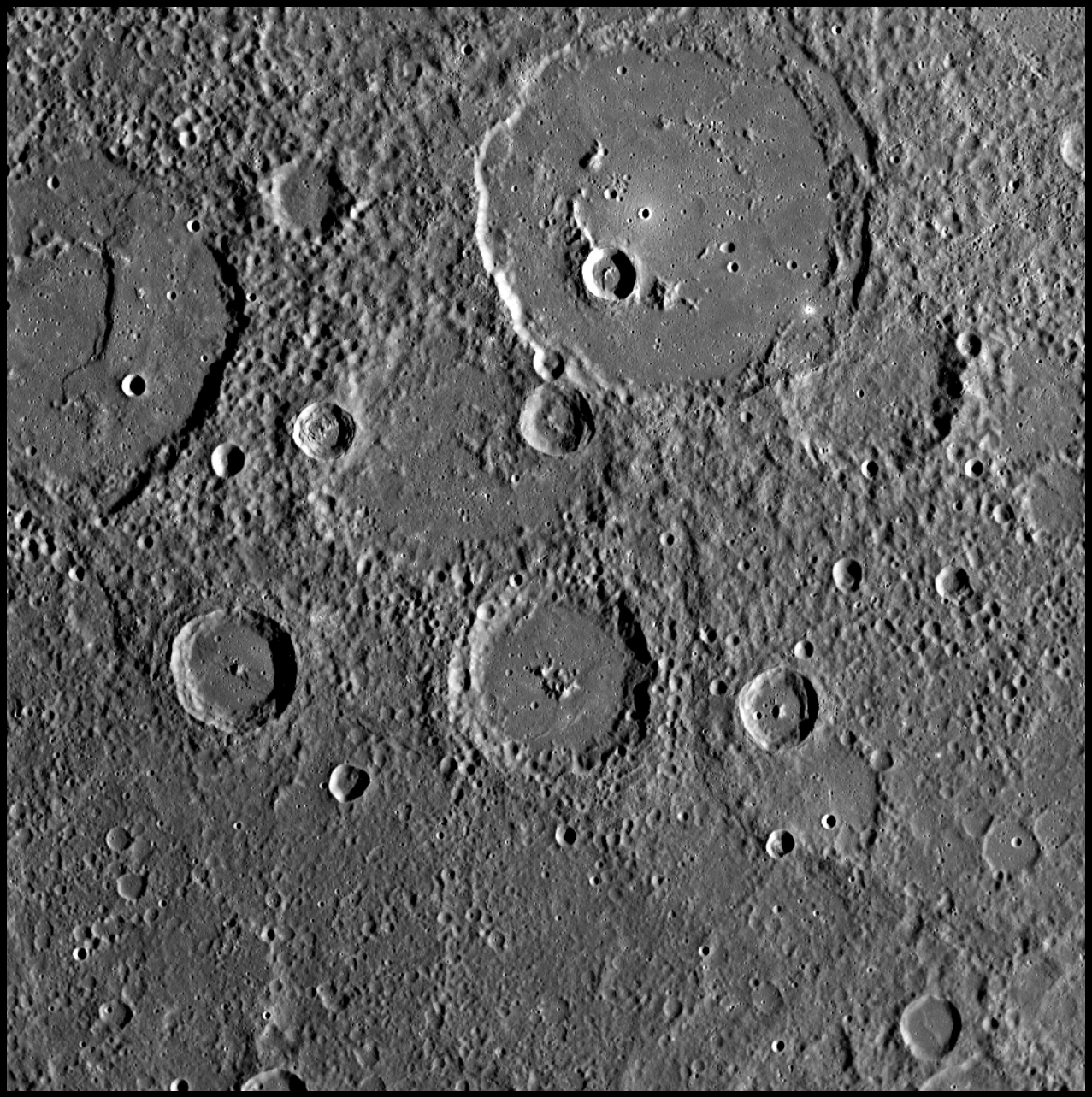
CREDIT: NASA/JPL

MERCURY



CREDIT: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington

MERCURY



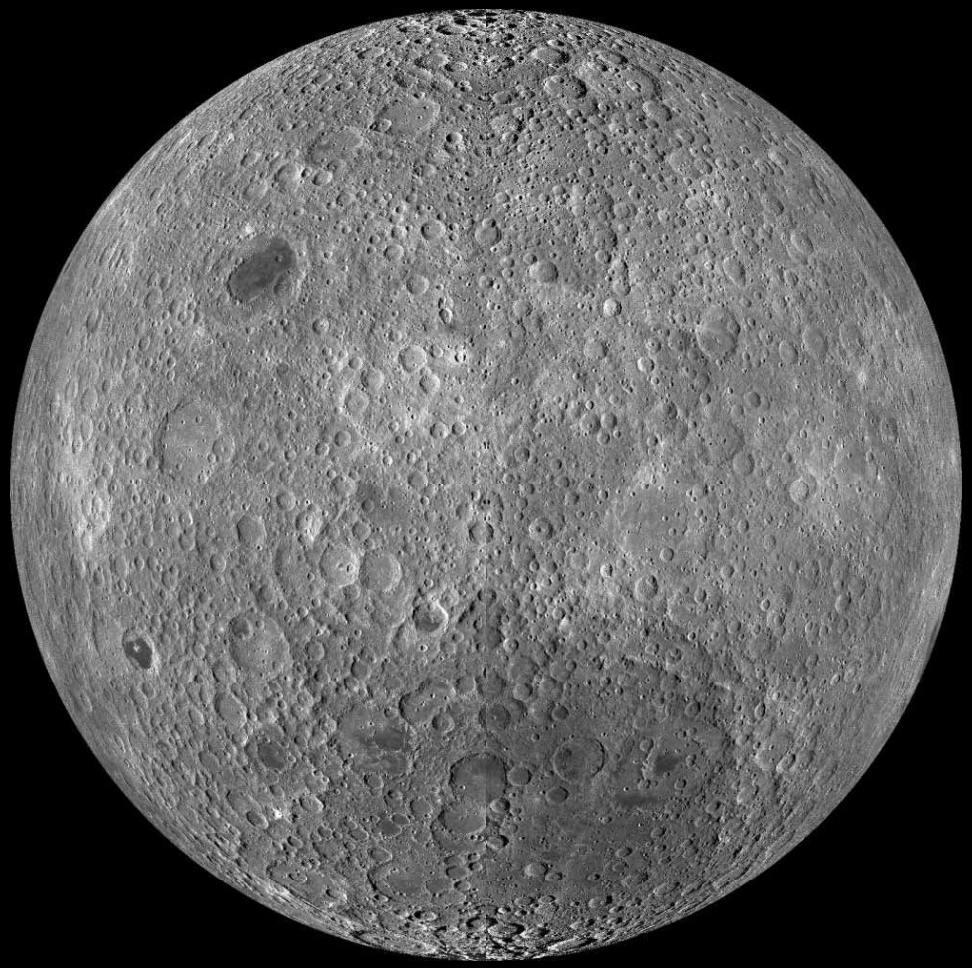
CREDIT: NASA/Johns Hopkins University Applied Physics Laboratory/Carnegie Institution of Washington

MANY TYPES OF CRATERS: Venus vs. Ganymede

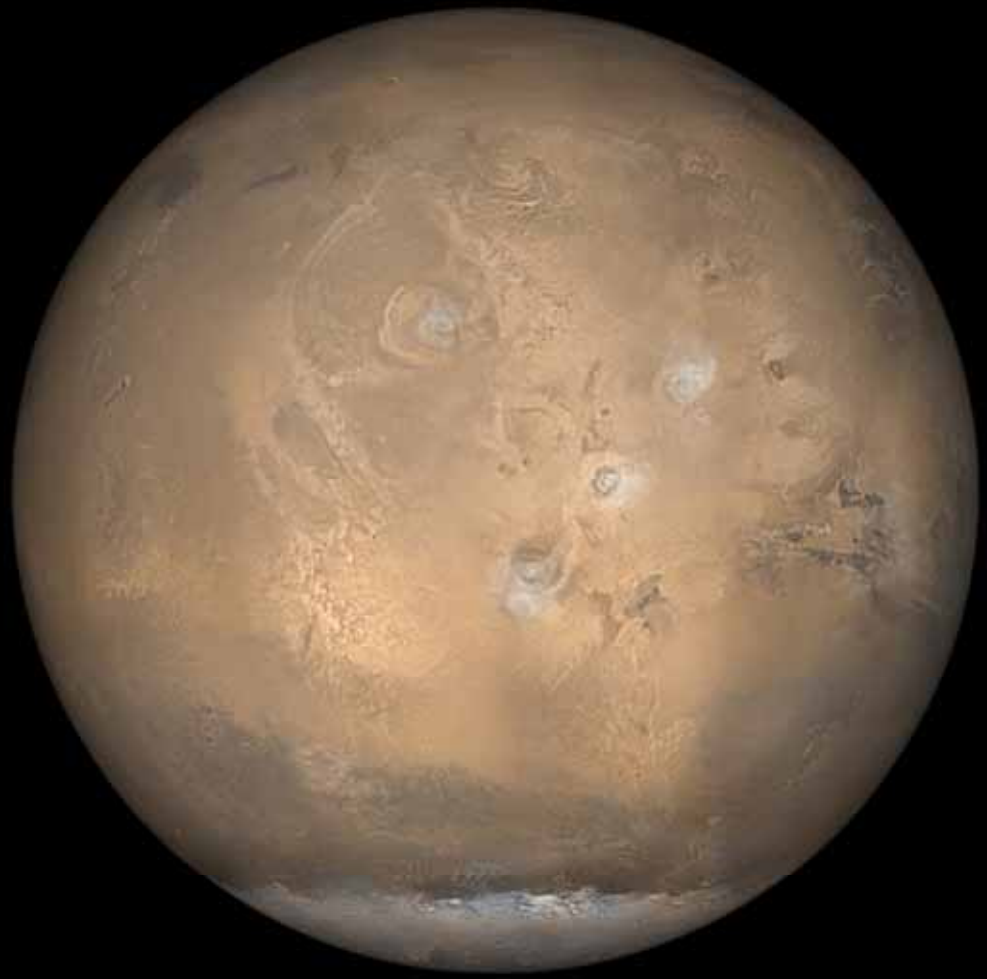
VENUS's DICKINSON CRATER: CREDIT NASA/JPL

JUPITER's MOON, GANYMEDE:
CREDIT NASA/JPL/USGS

COUNTING CRATERS: The Moon vs. Mars



CREDIT: NASA/GSFC/Arizona State University

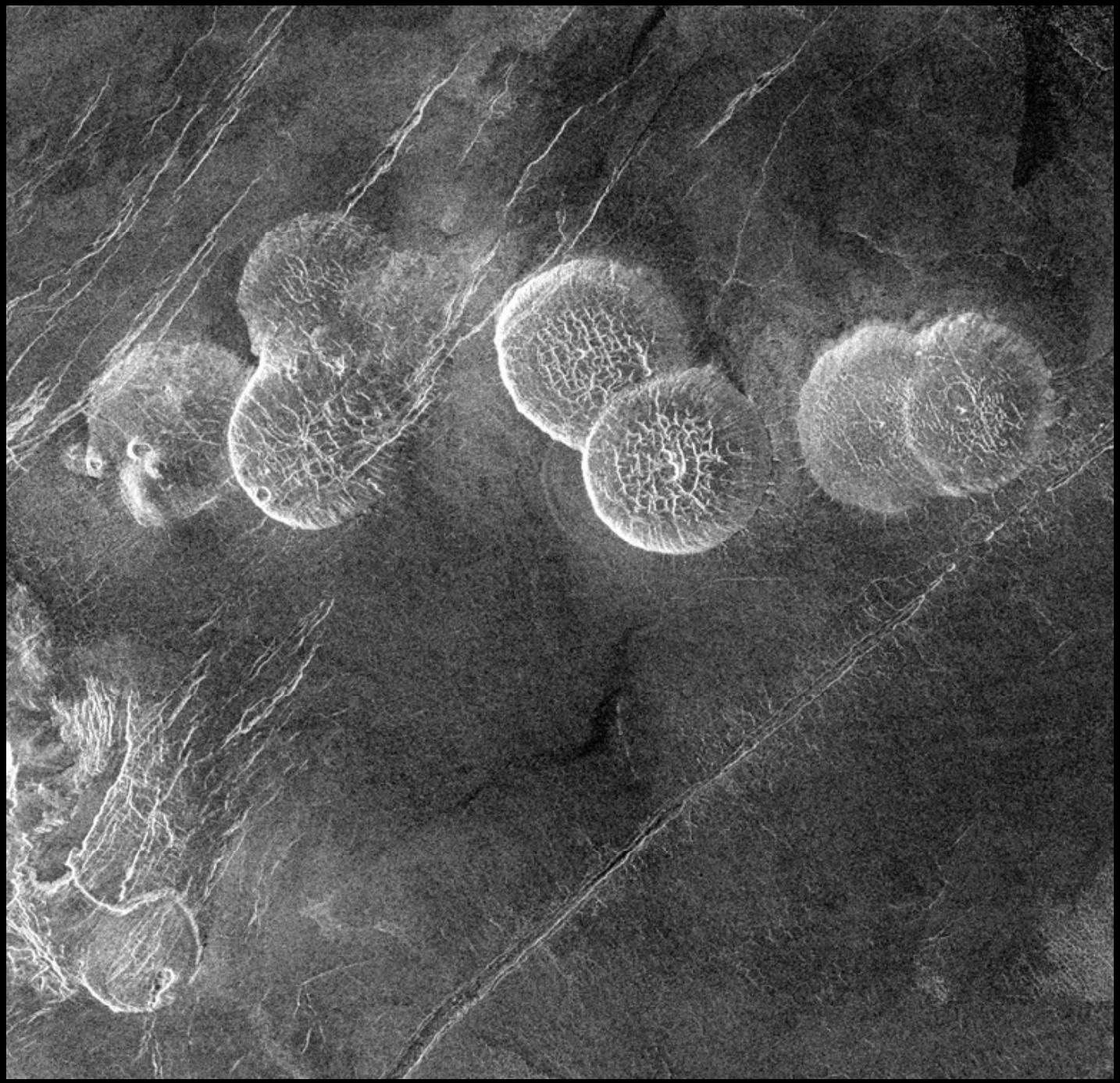


CREDIT: NASA/JPL/Malin Space Science Systems

GIANT ASTEROID VESTA

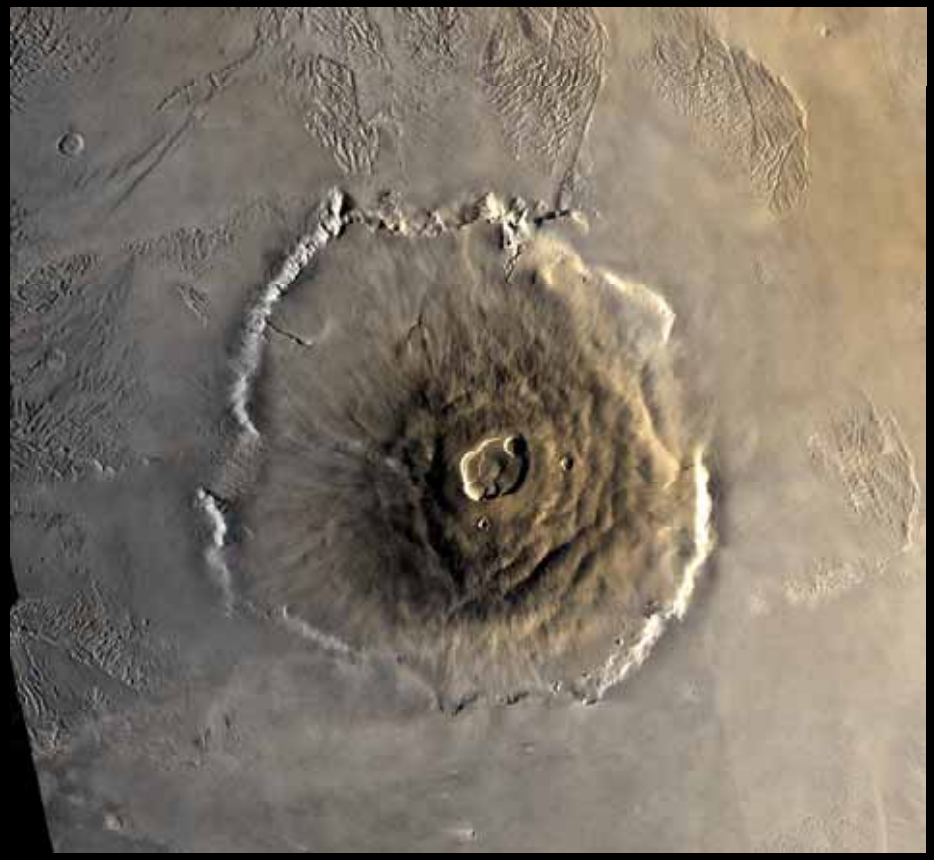
CREDIT: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

VENUS



CREDIT: NASA/JPL

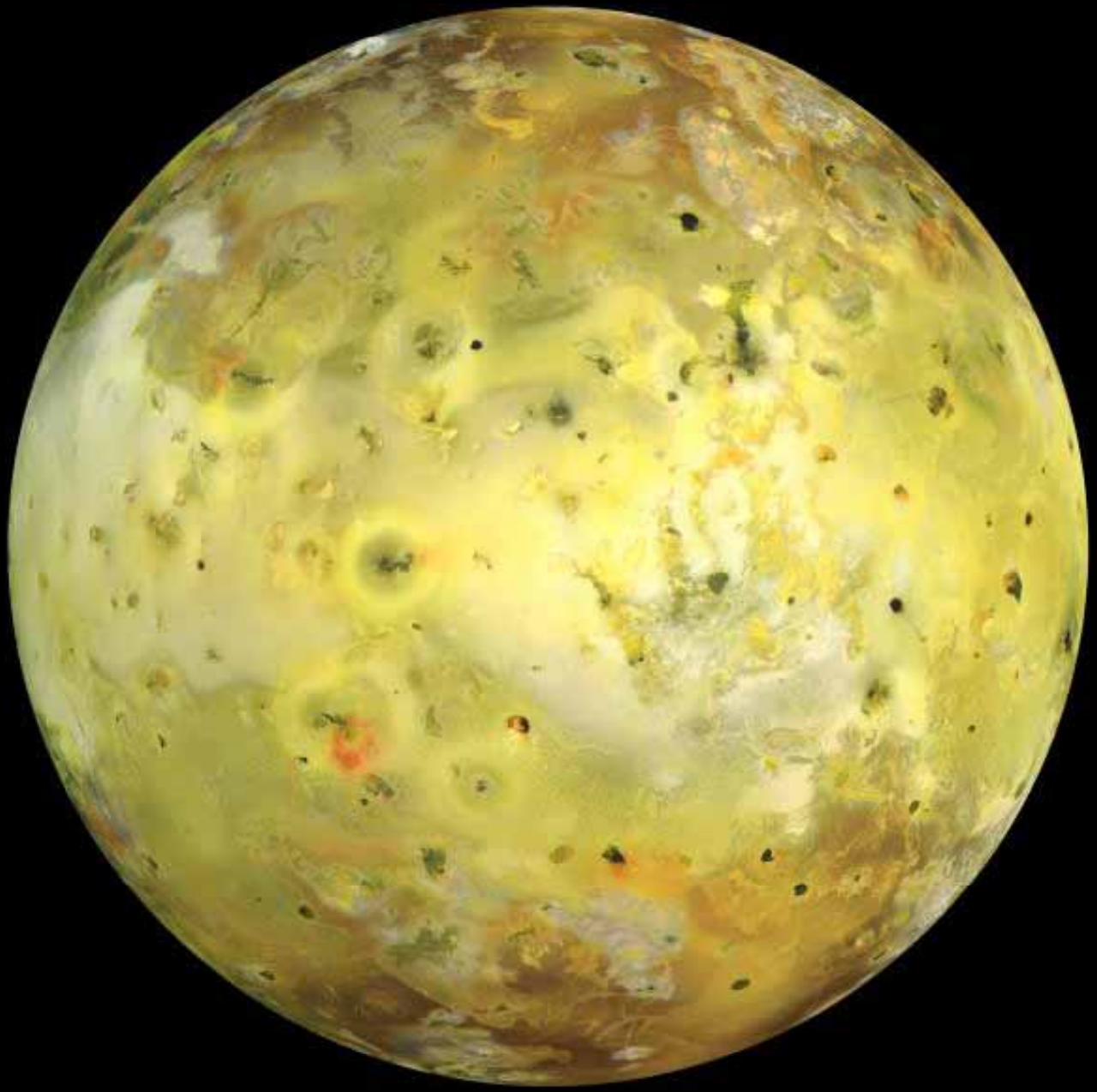
SHAPE



Blobs – Volcanoes (or Lakes)

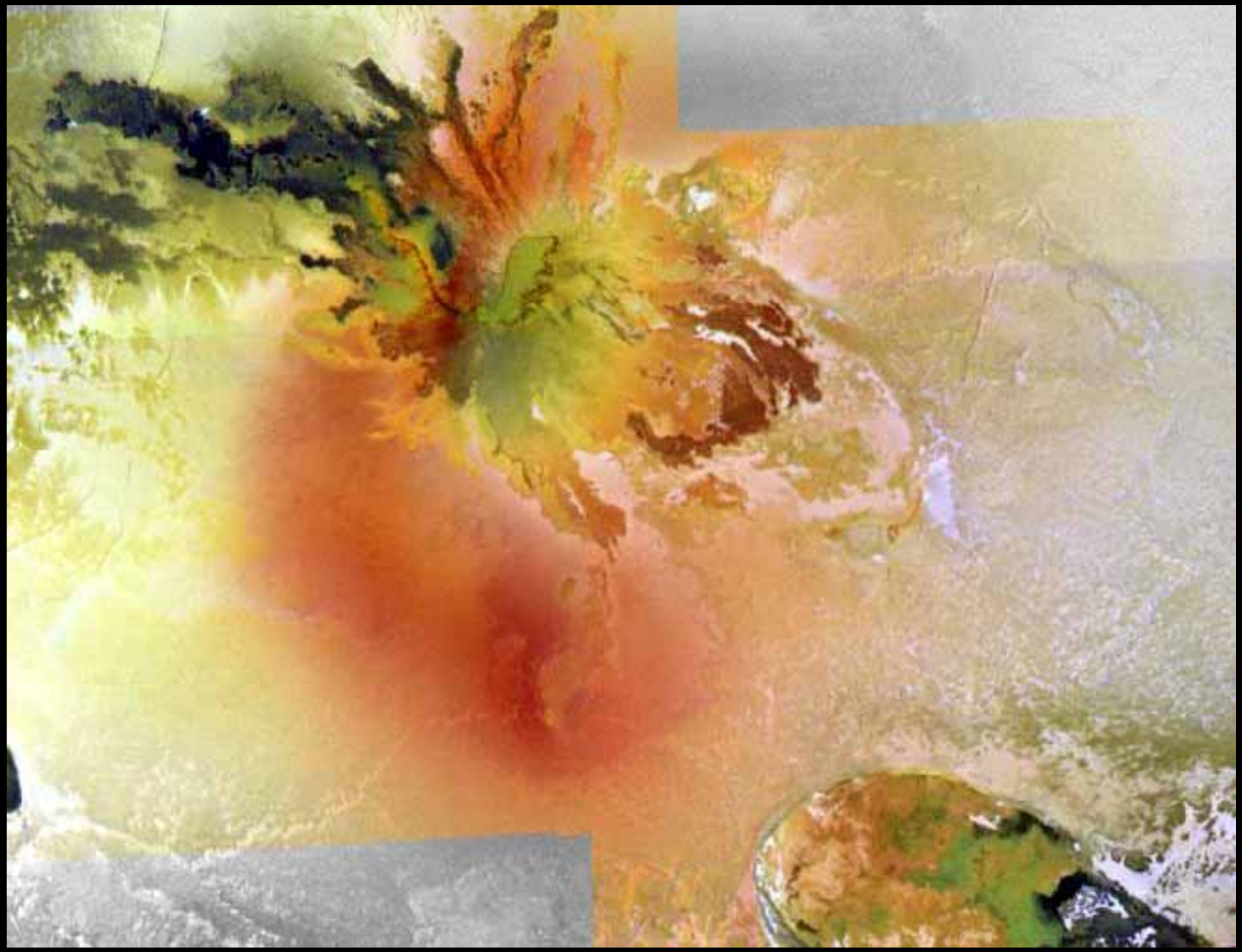
CREDIT: NASA/JPL

IO



CREDIT: NASA/JPL/University of Arizona

IO…a closer look

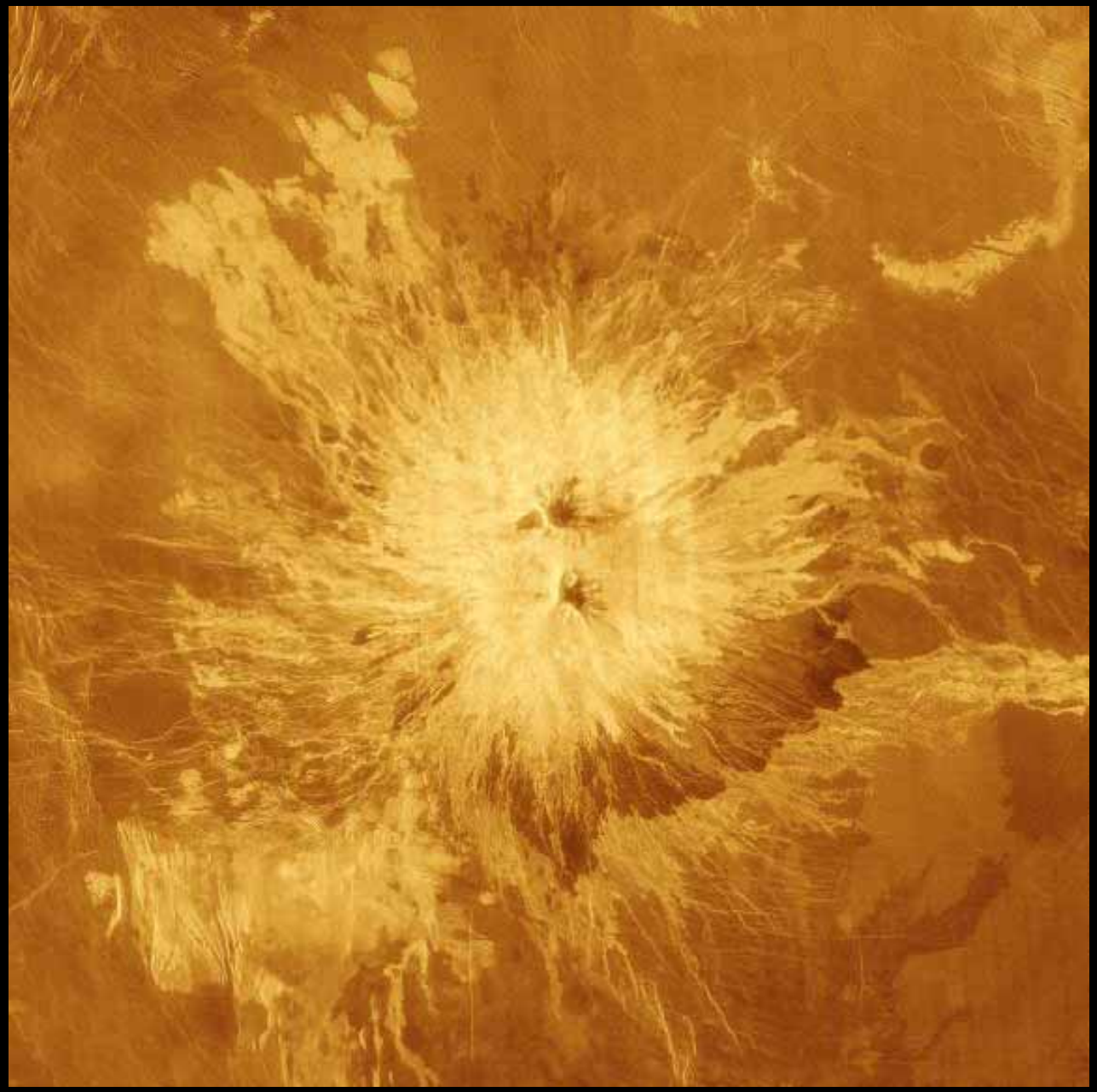


CREDIT: NASA/JPL/University of Arizona

VENUS

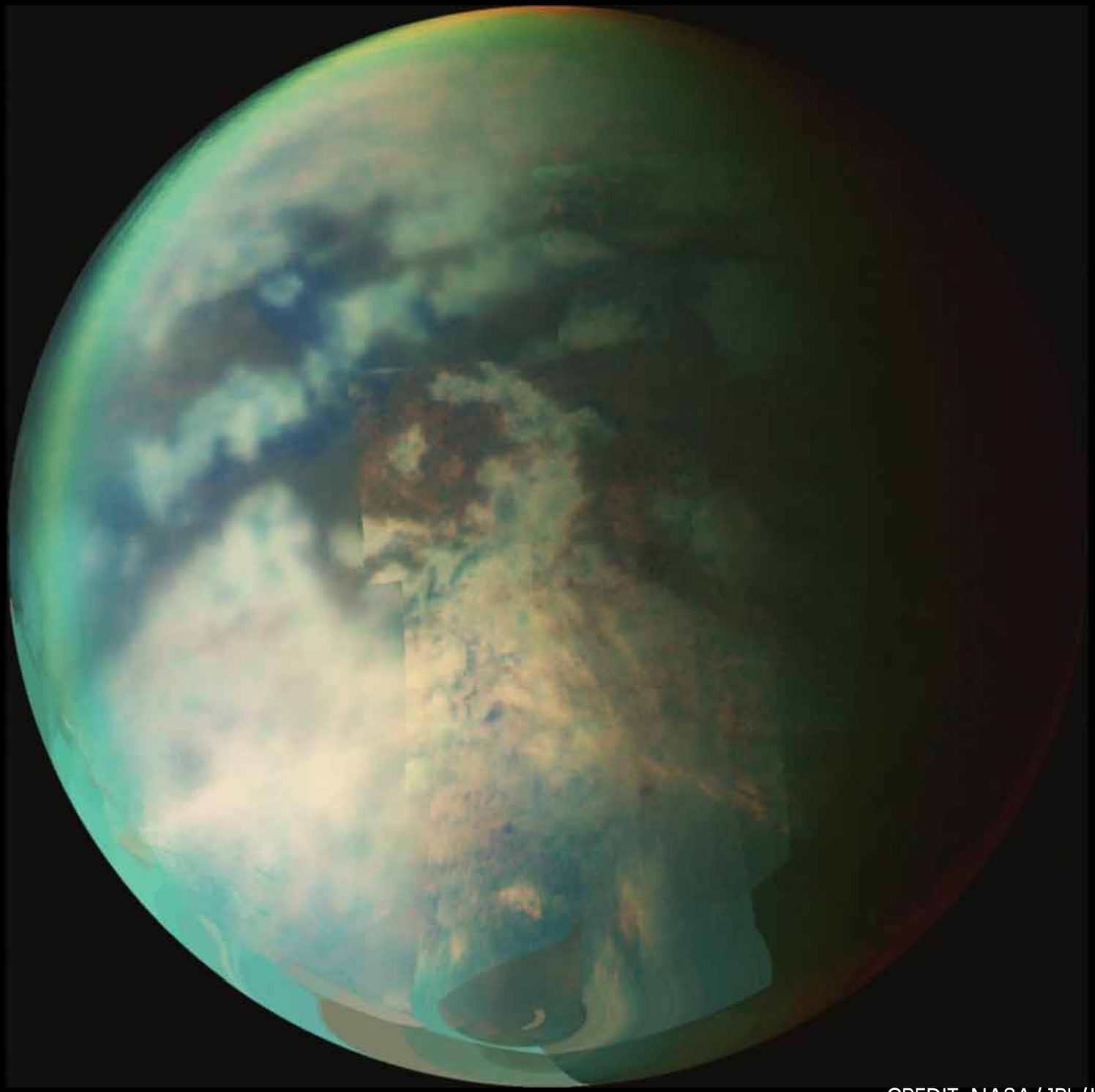
CREDIT: NASA/JPL

VENUS: Sapas Mons



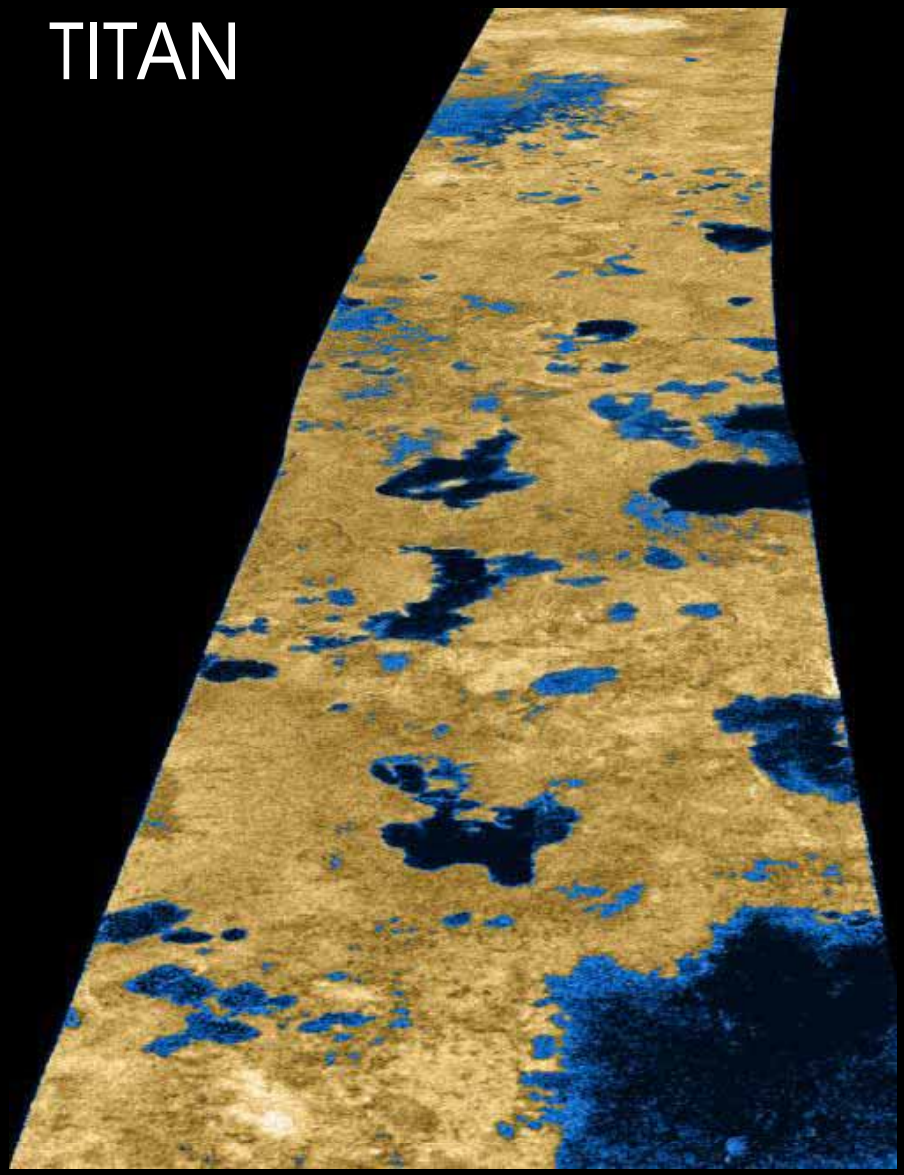
CREDIT: NASA/JPL

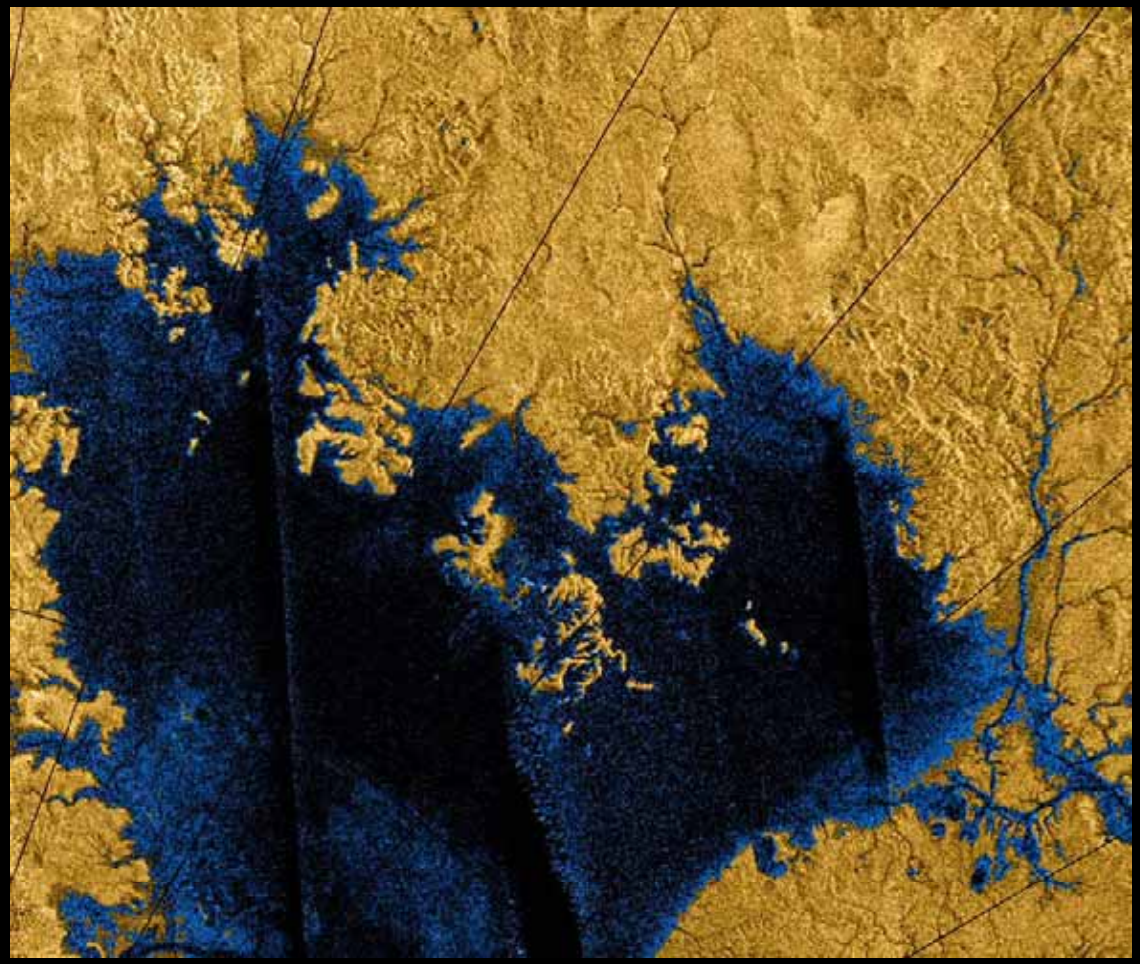
TITAN



CREDIT: NASA/JPL/University of Arizona

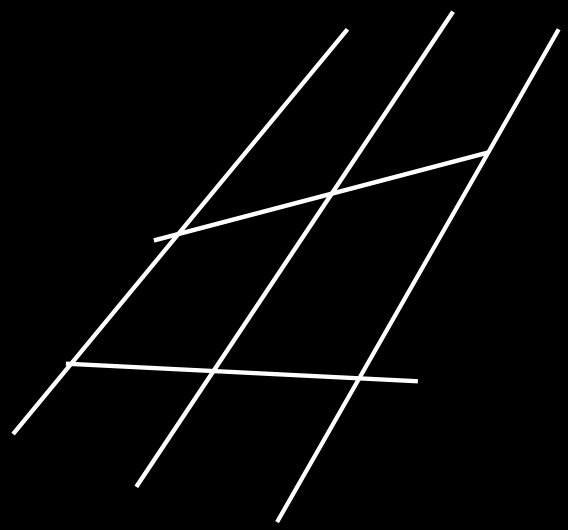
TITAN





CREDIT: NASA/JPL-Caltech/USGS

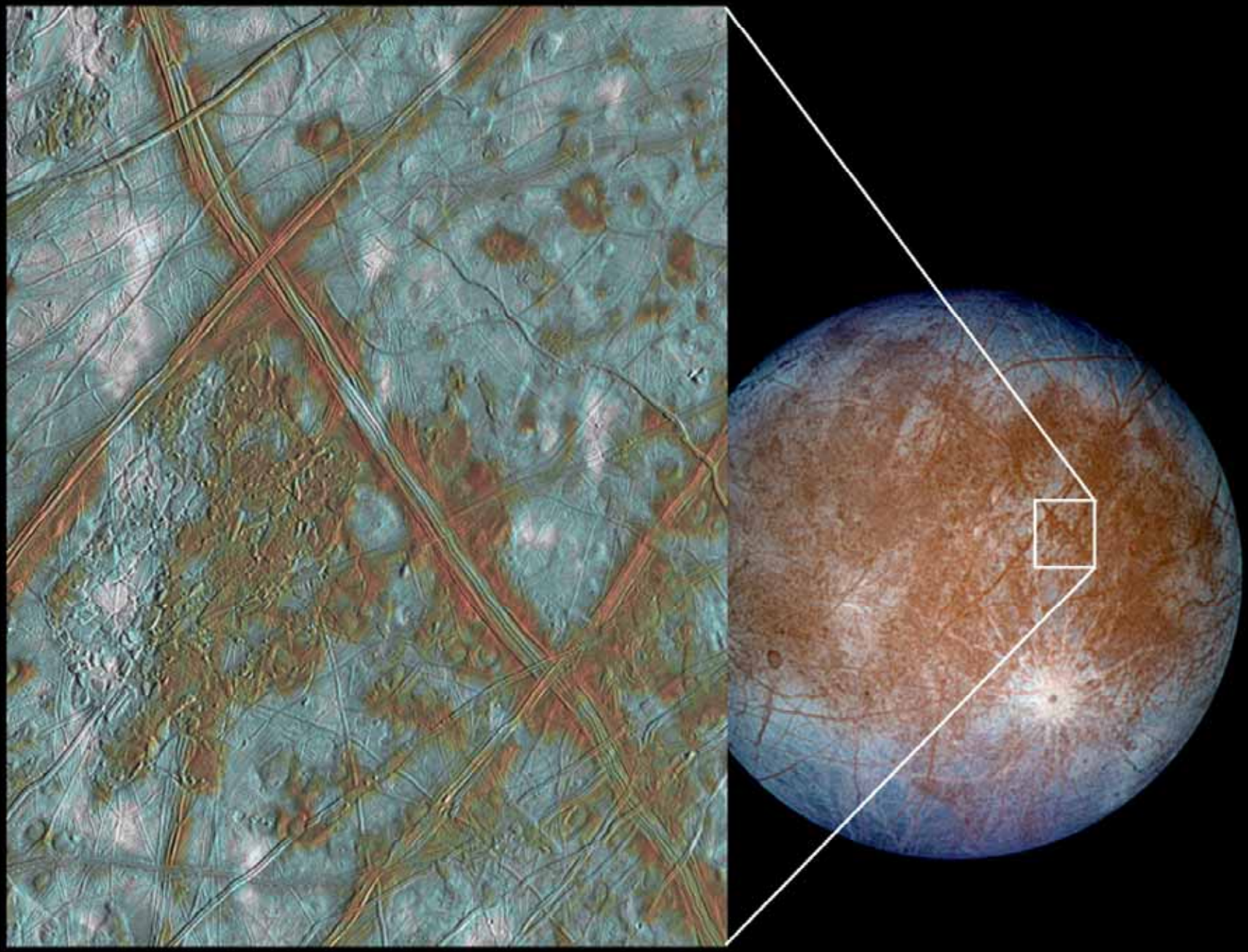
LINE



Straight lines - tectonics activity

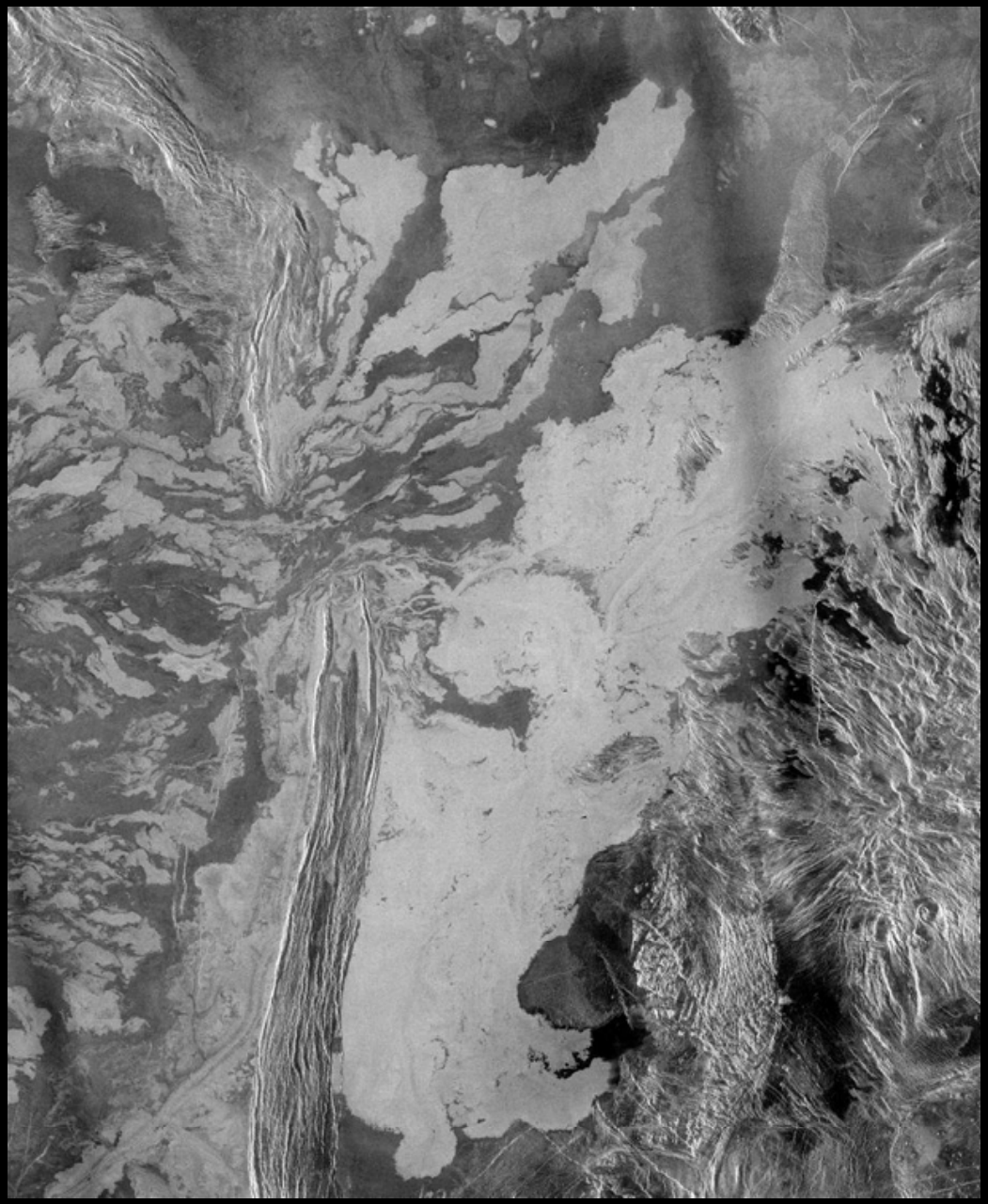
CREDIT: NASA/JPL

EUROPA



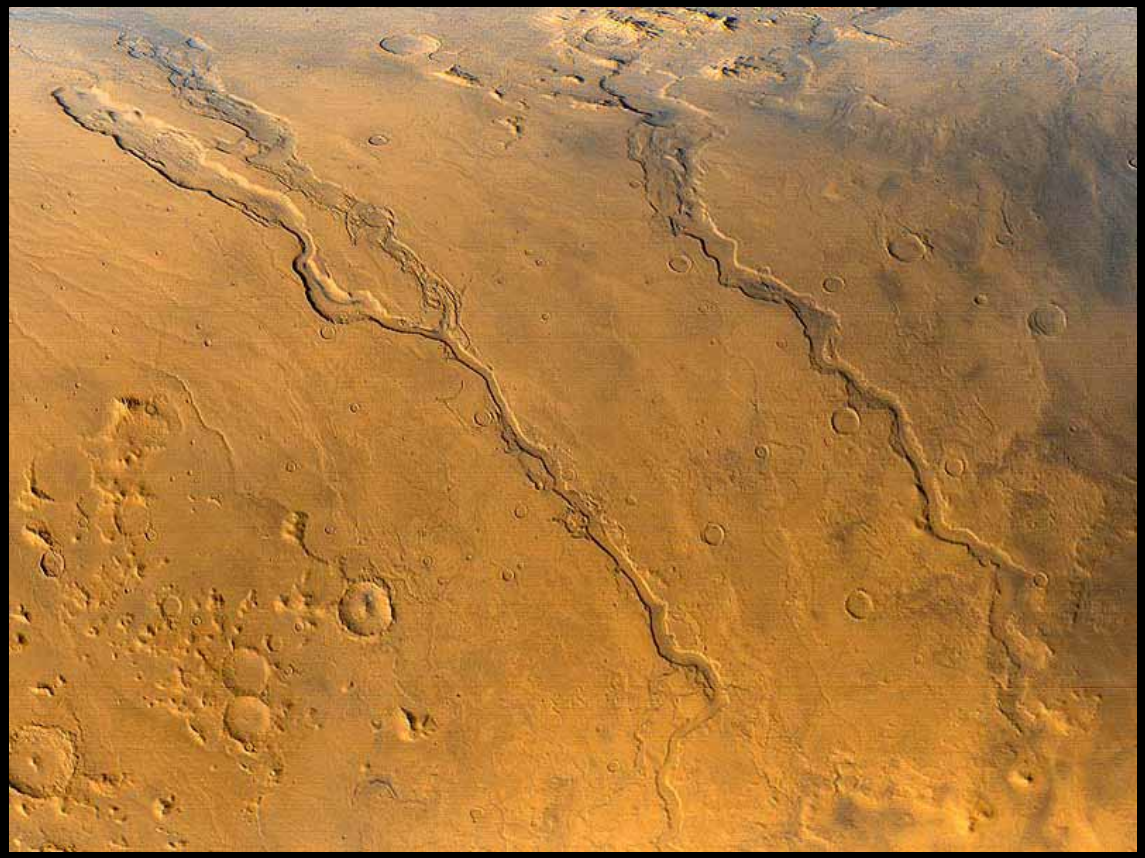
CREDIT: NASA/JPL/University of Arizona

VENUS: Geology & Storytelling



CREDIT: NASA/JPL

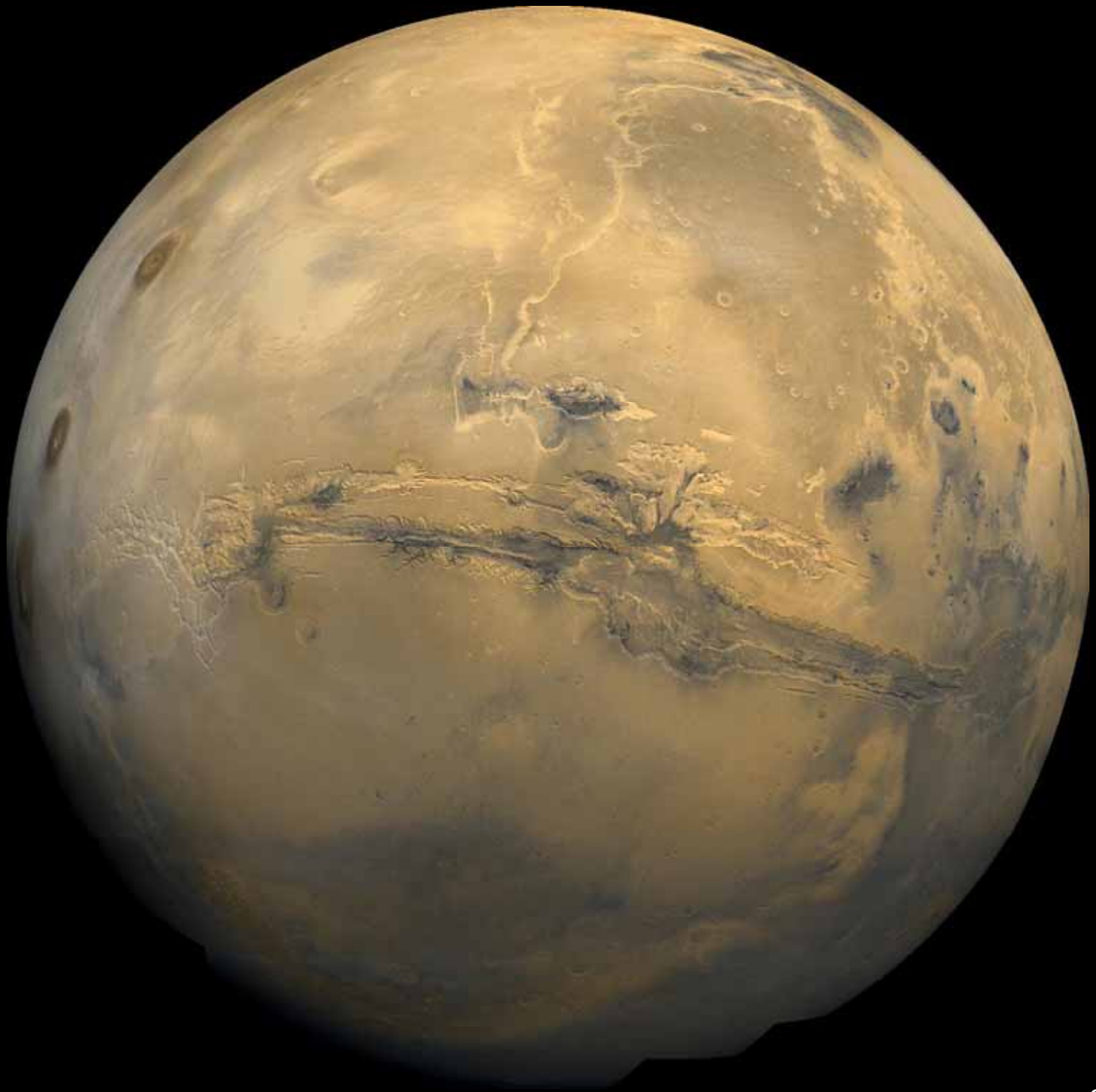
LINE



Squiggly lines - erosion (liquid & wind)

CREDIT: NASA/JPL

MARS



CREDIT: NASA/JPL

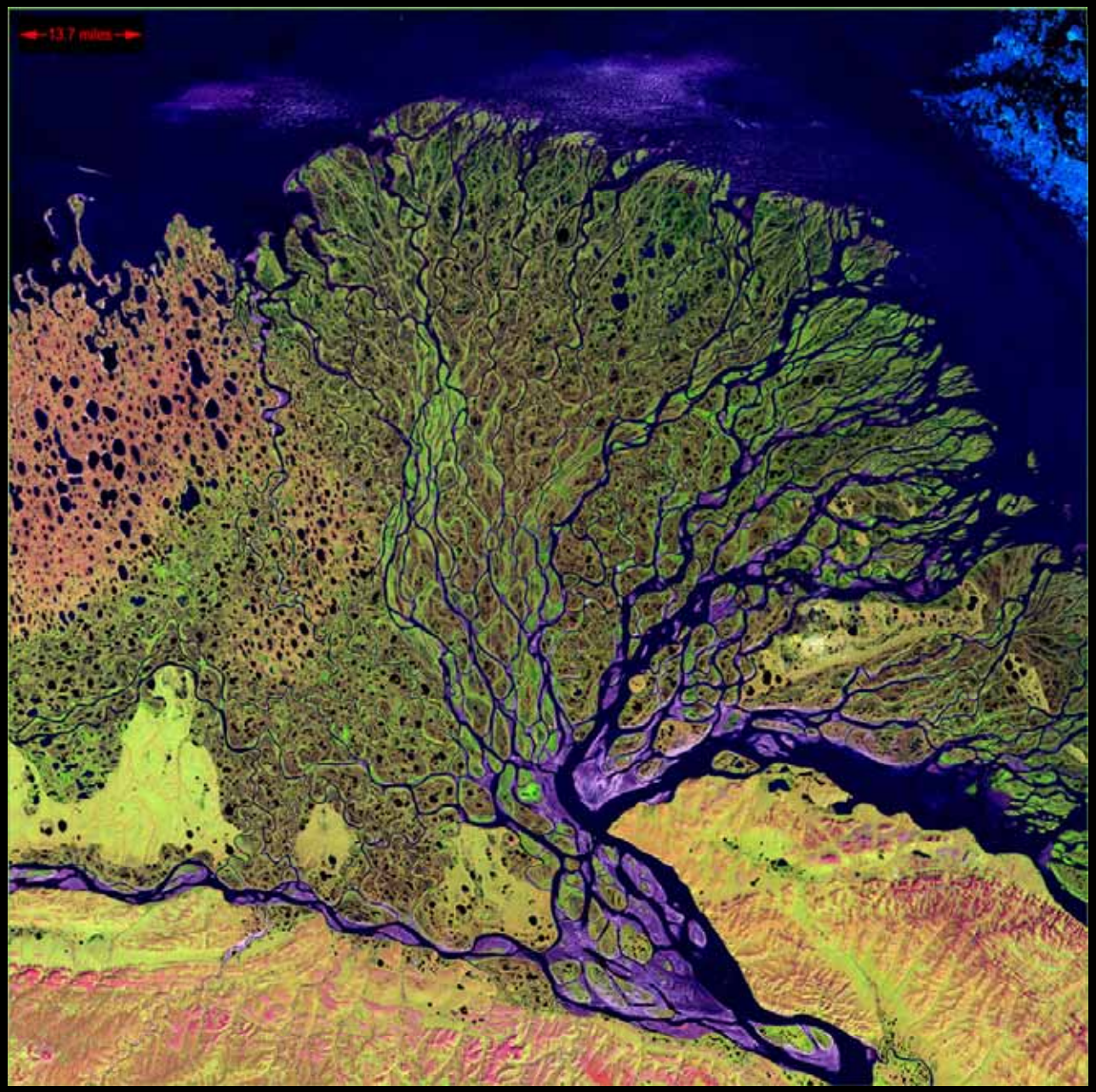
MARS

CREDIT: NASA/JPL-Caltech/University of Arizona

STORIES ON MARS: Victoria Crater

CREDIT: NASA/JPL-Caltech/University of Arizona/Cornell/Ohio State University

EARTH



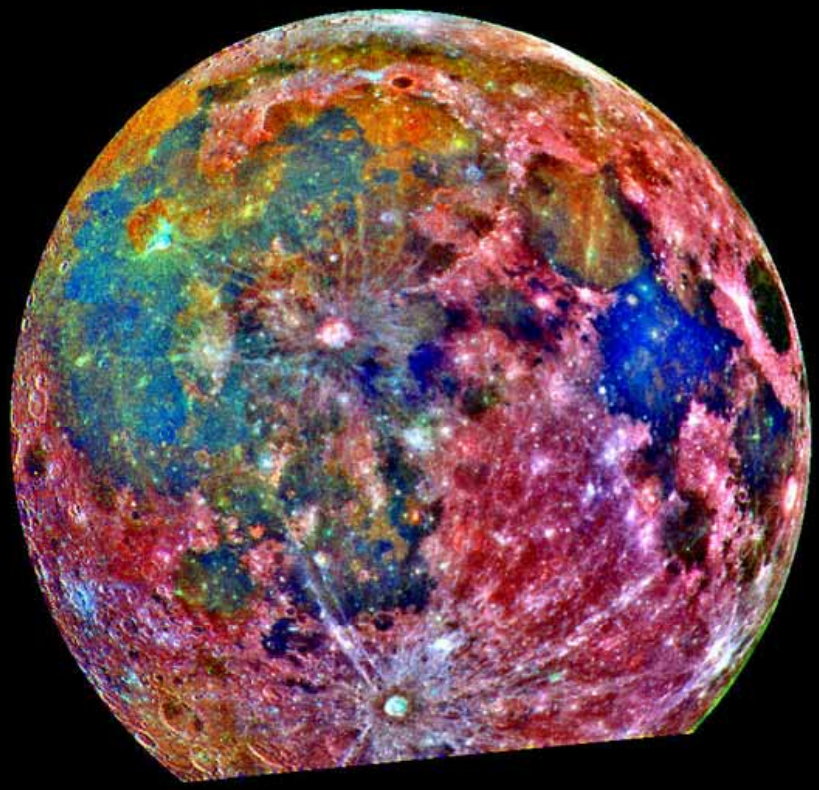
CREDIT: NASA Earth Observatory

EARTH

CREDIT: NASA Earth Observatory

COLOR

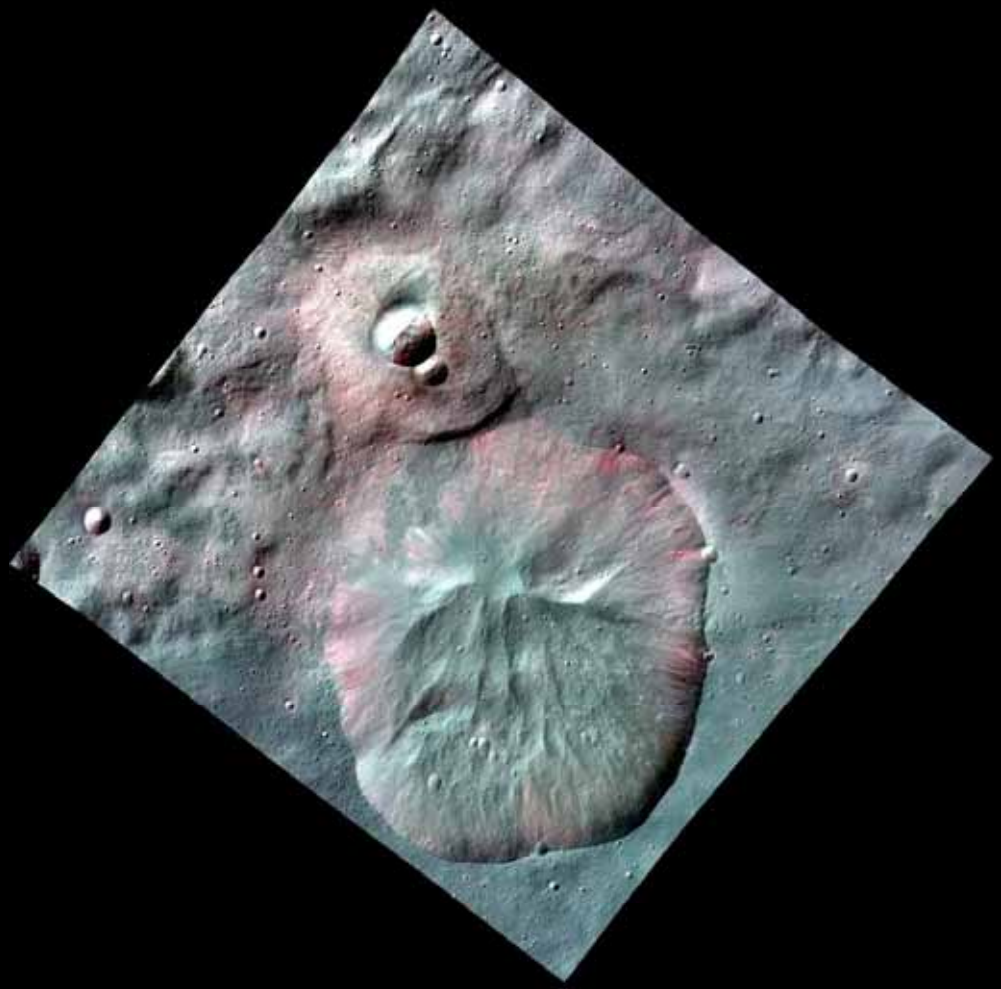
MOON

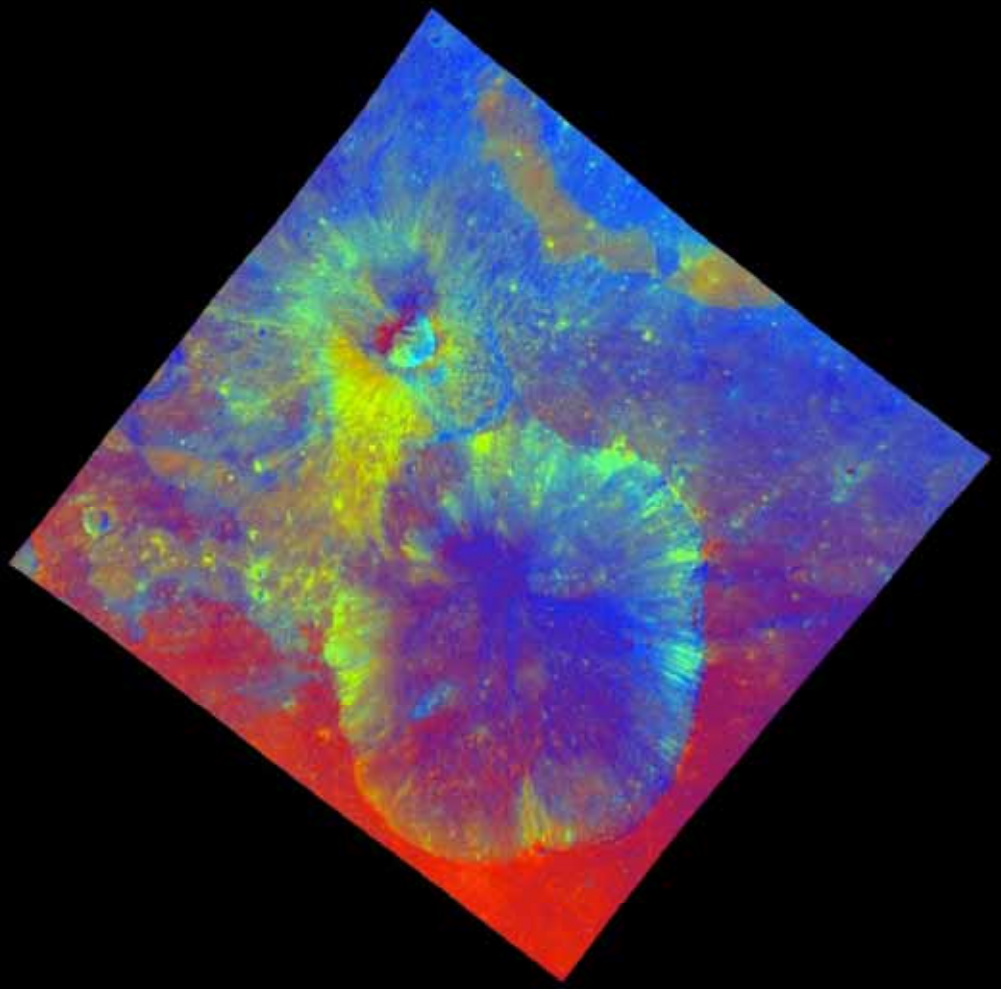


Color – true and added

CREDIT: NASA/JPL

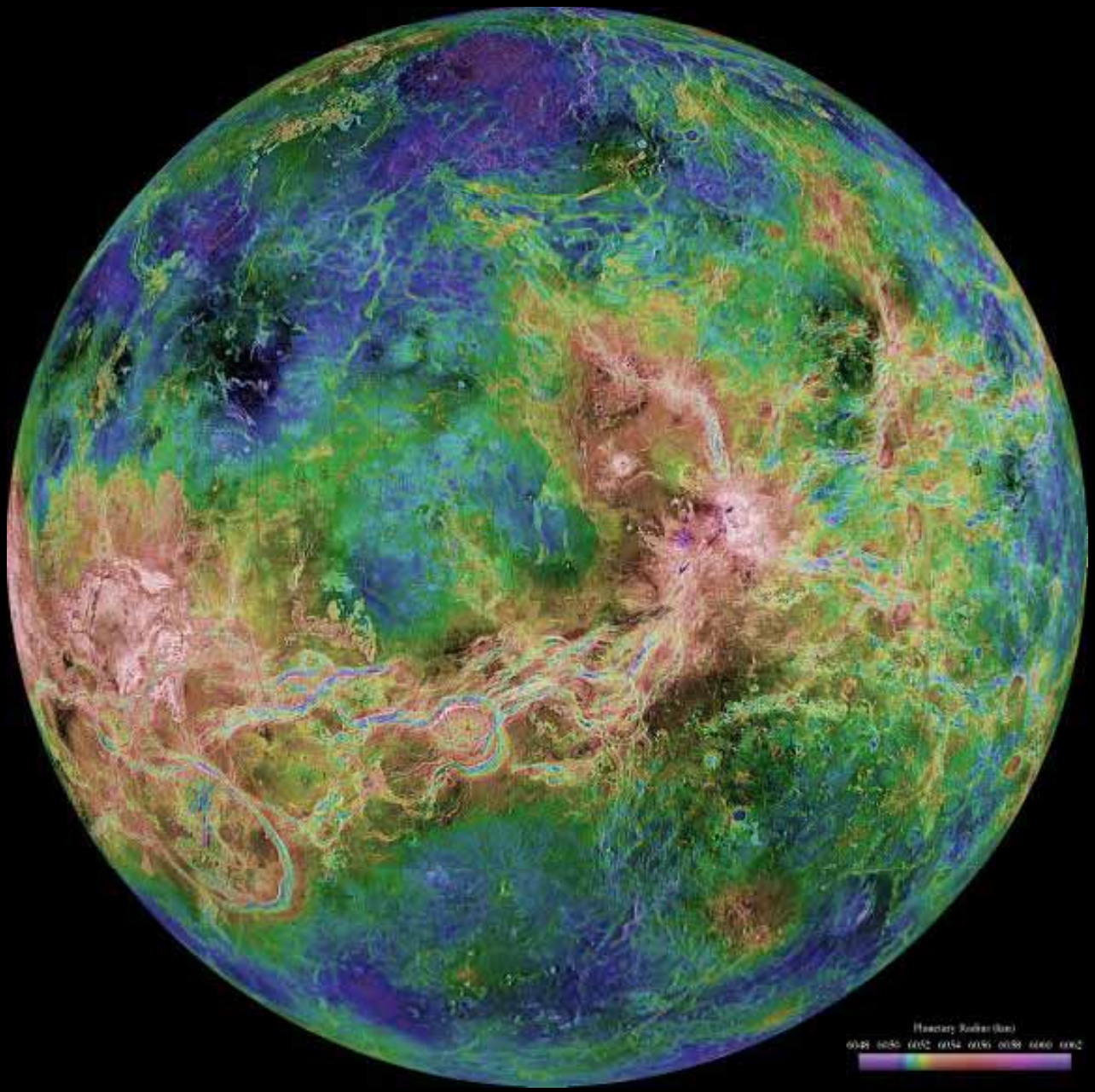
VESTA





CREDIT: NASA/JPL-Caltech/UCLA/MPS/DLR/IDA

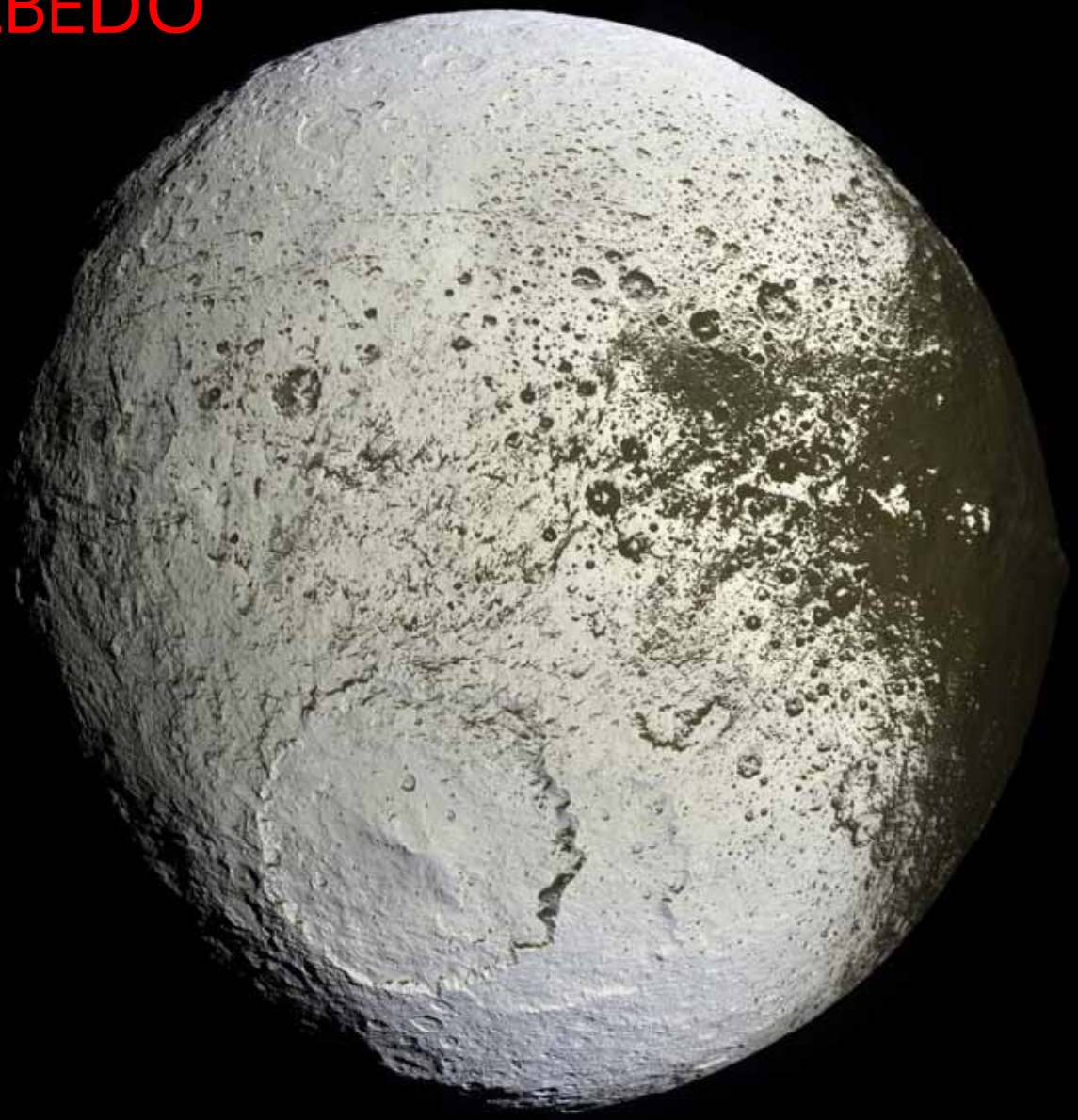
VENUS



CREDIT: NASA/JPL/USGS

VALUE / ALBEDO

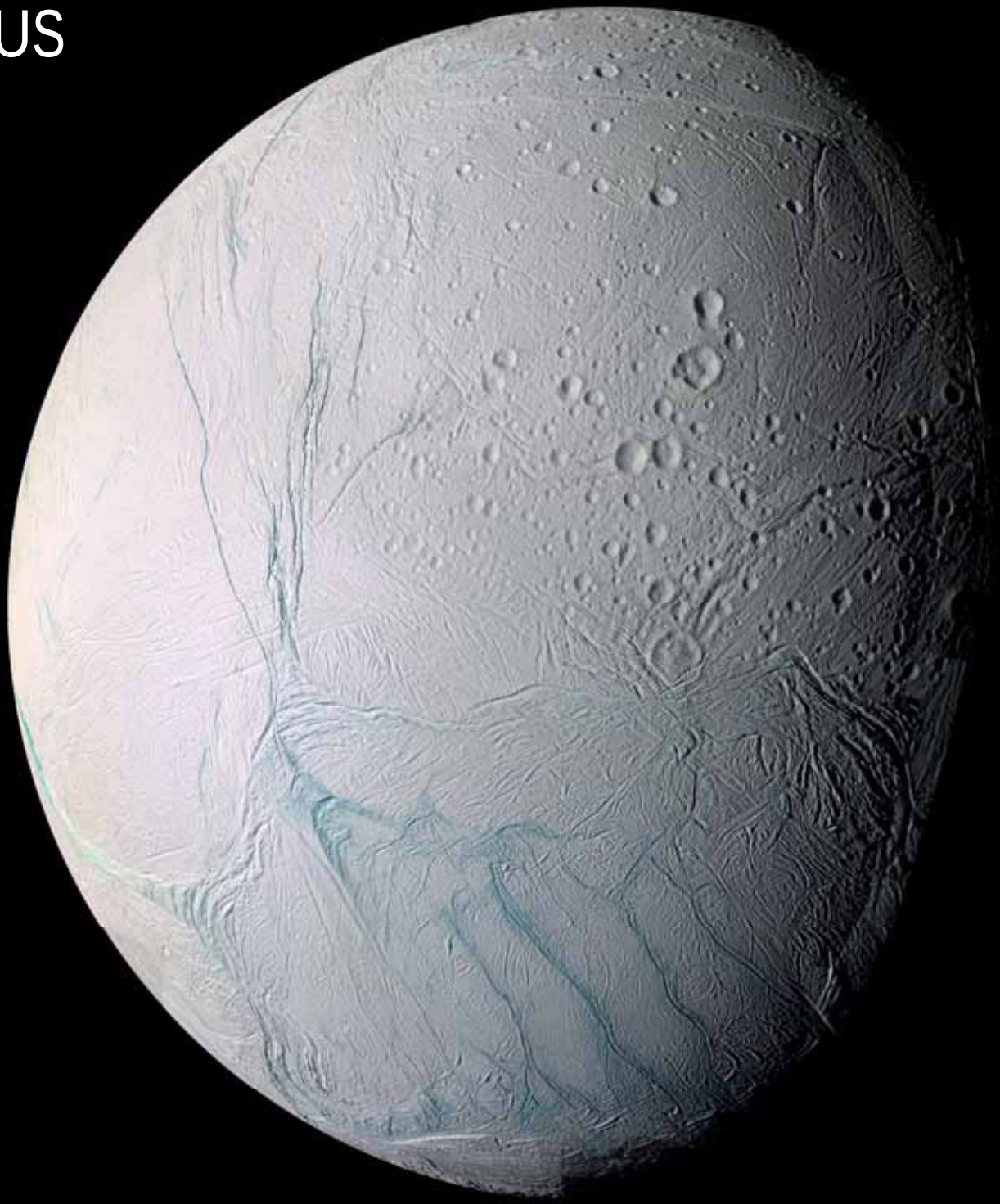
IAPETUS



Value – light and dark, shade and highlight

CREDIT: NASA / JPL / Space Science Institute

ENCELADUS



CREDIT: NASA/JPL/Space Science Institute

THE MAN ON MARS?

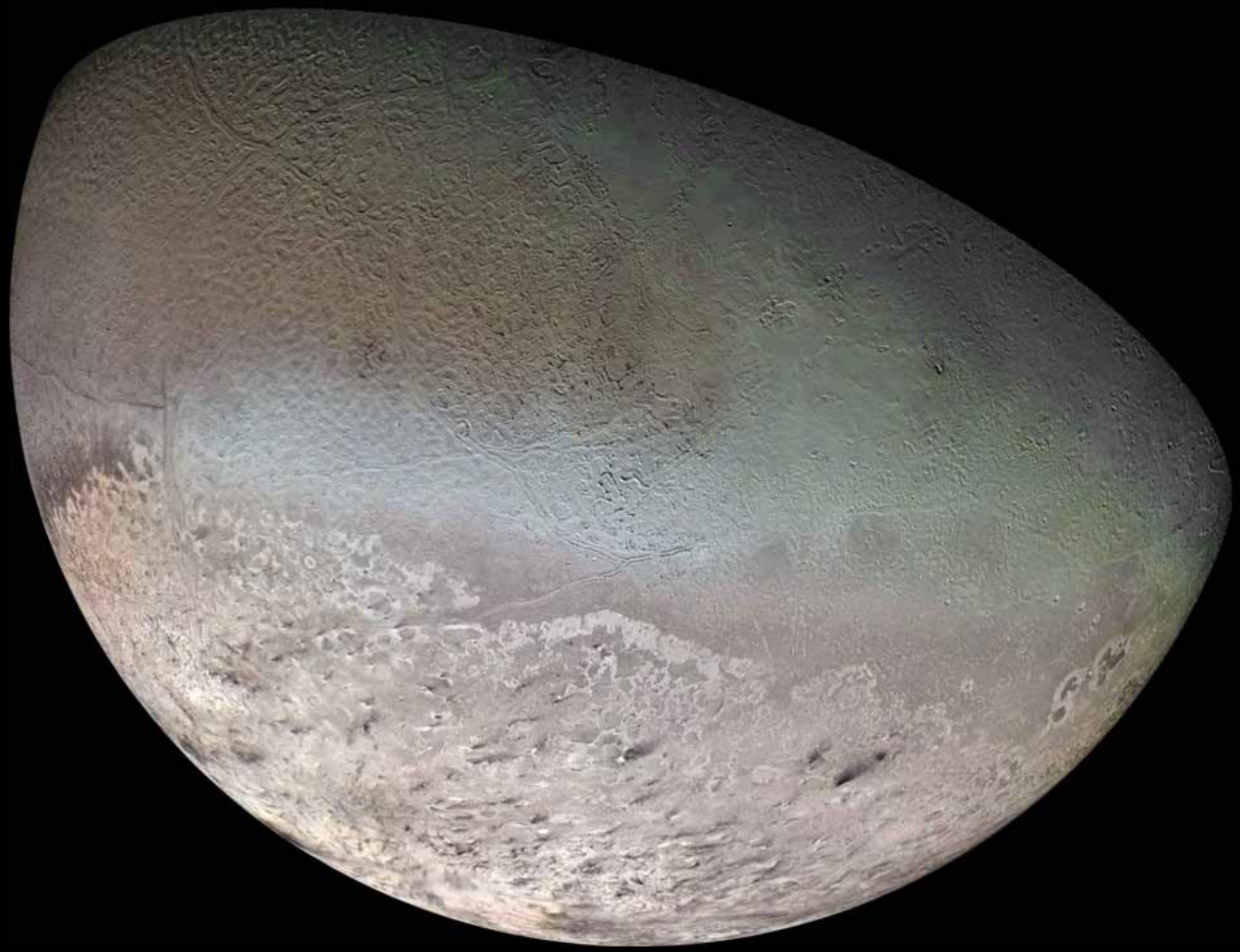
CREDIT: NASA/JPL

THE REAL MARS

CREDIT: NASA/JPL

TEXTURE

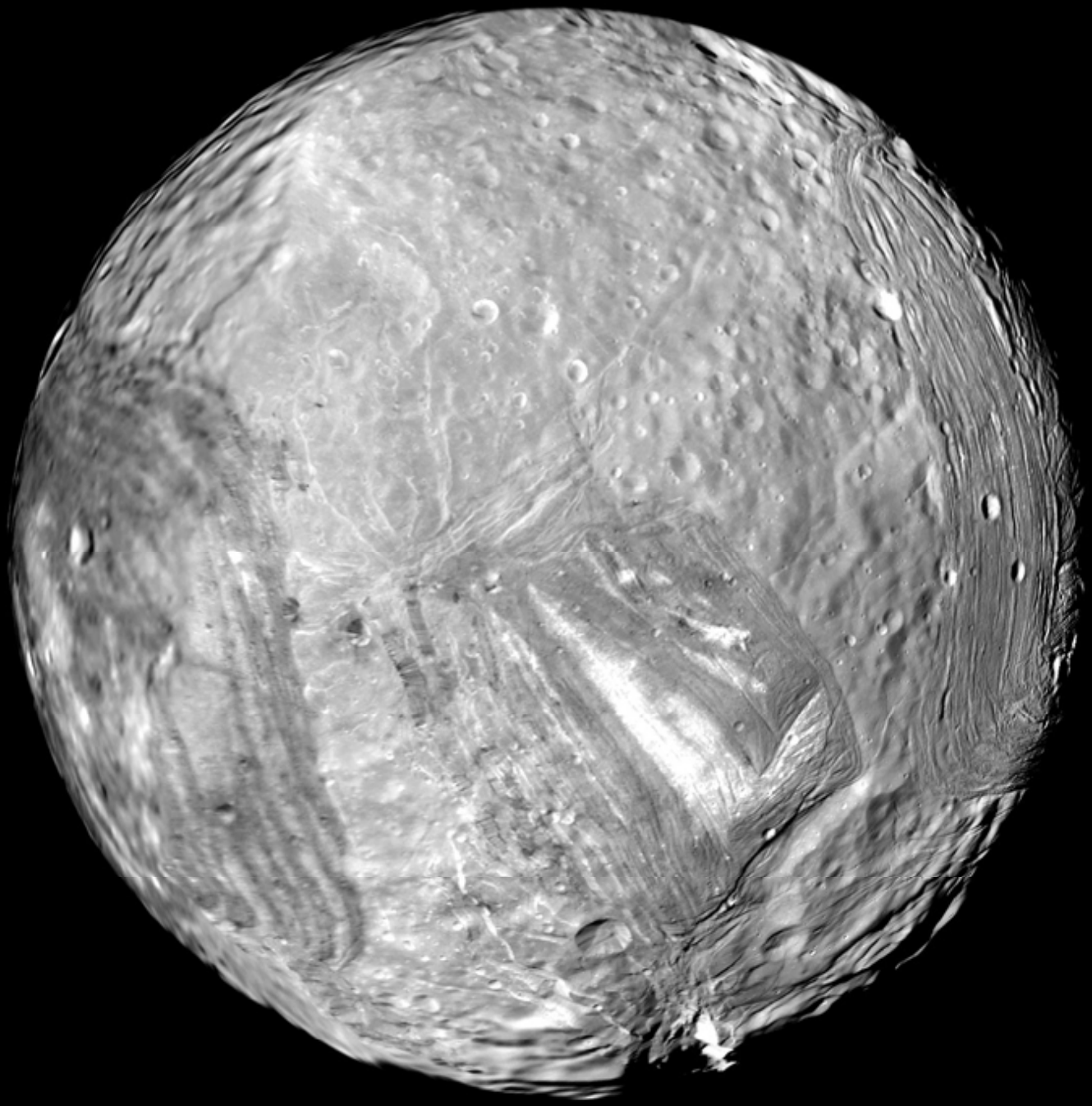
TRITON



Texture – the quality of the surface

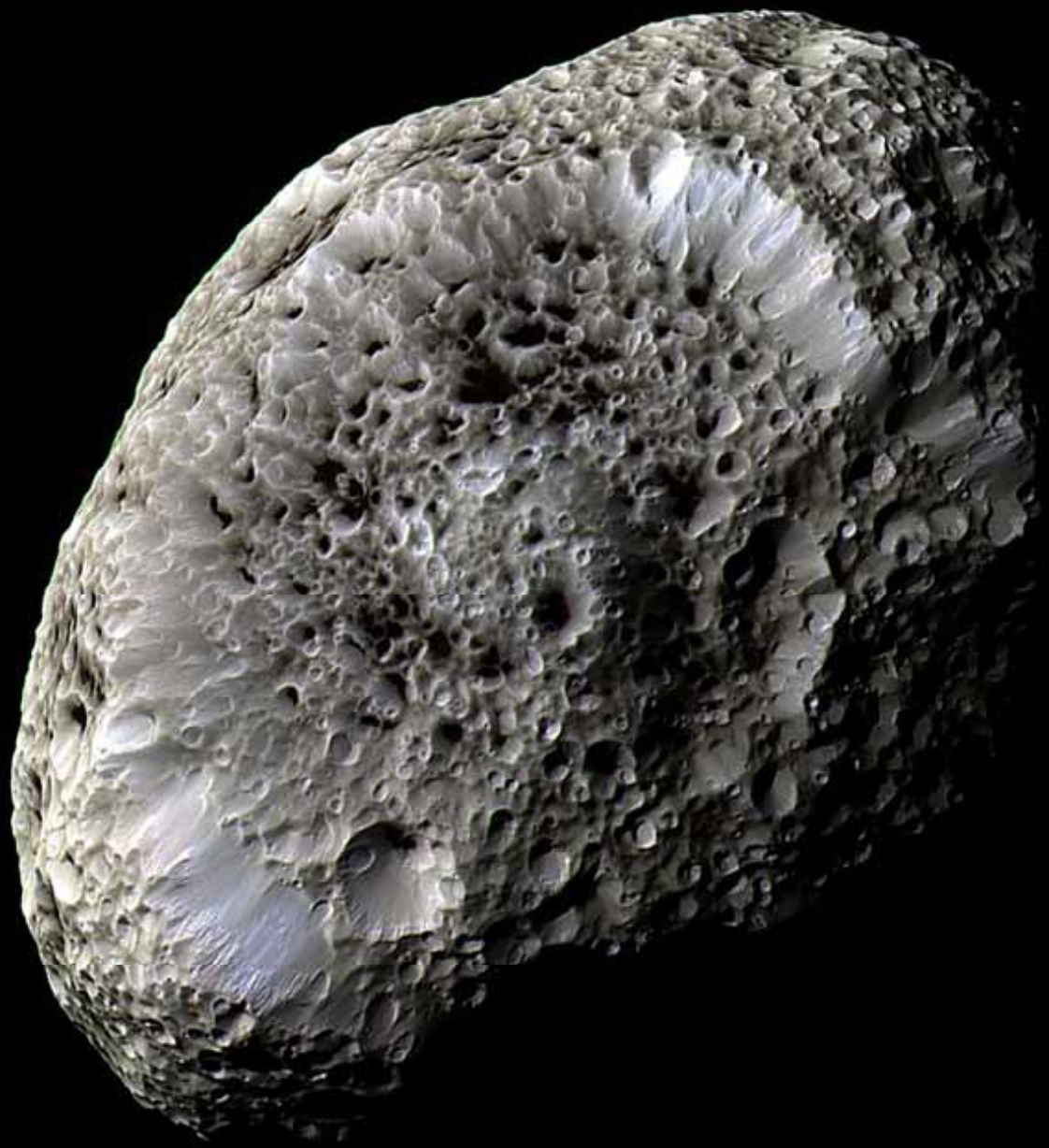
CREDIT: NASA/JPL/USGS

MIRANDA



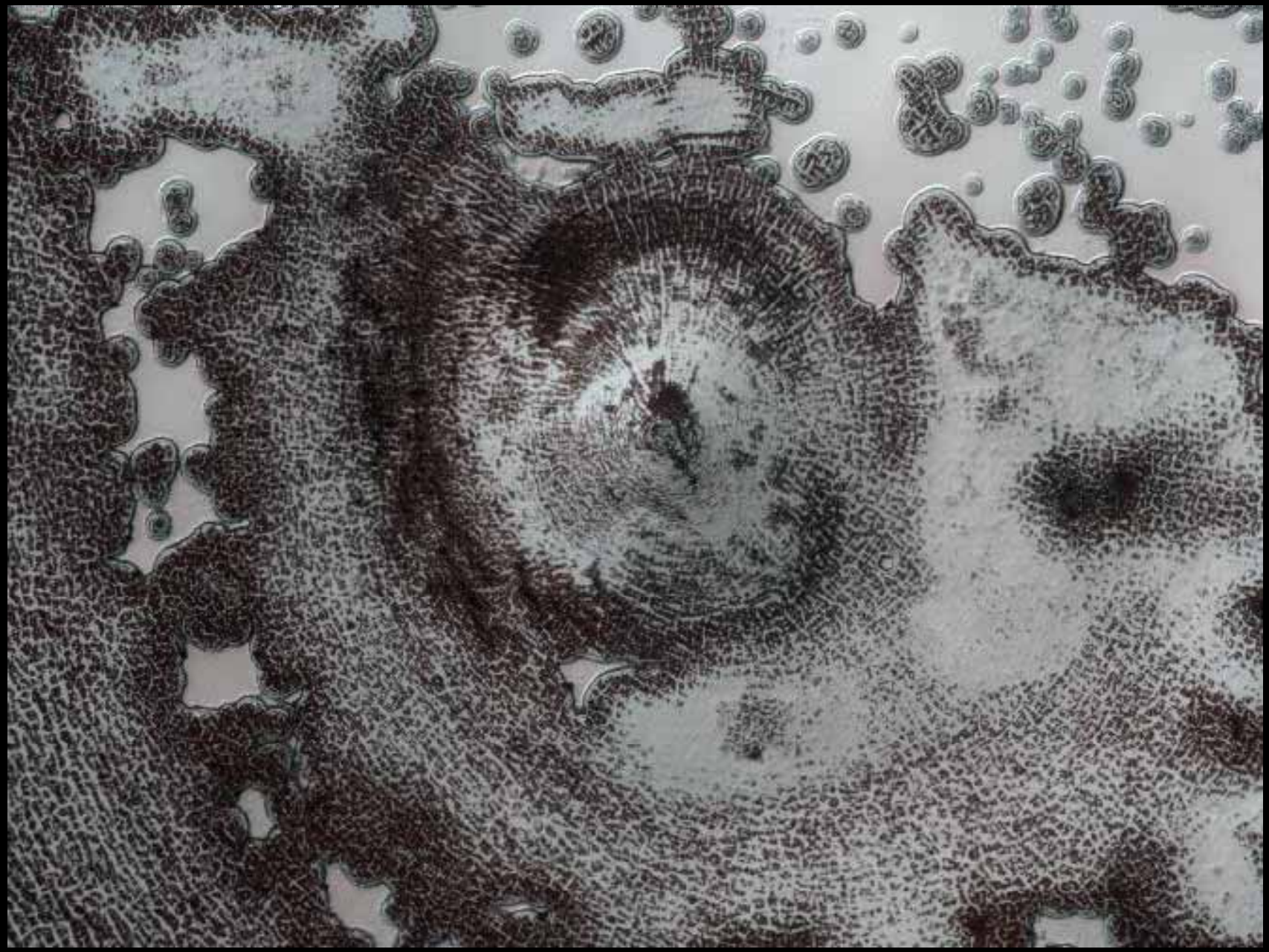
NASA/JPL-Caltech/University of Arizona

HYPERION



CREDIT: NASA/JPL/Space Science Institute

INQUIRY INSPIRES INVESTIGATION: Martian Mystery?



NASA/JPL-Caltech/University of Arizona