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U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

MOLA shaded-relief image of Mars showing geologic units in the northern hemisphere. Globe centered at lat 45° N., long 315° E. Grid lines at 30° interval.

MOLA shaded-relief image of Mars showing geologic units in the northern hemisphere. Globe centered at lat 45° N., long 135° E. Grid lines at 30° interval.

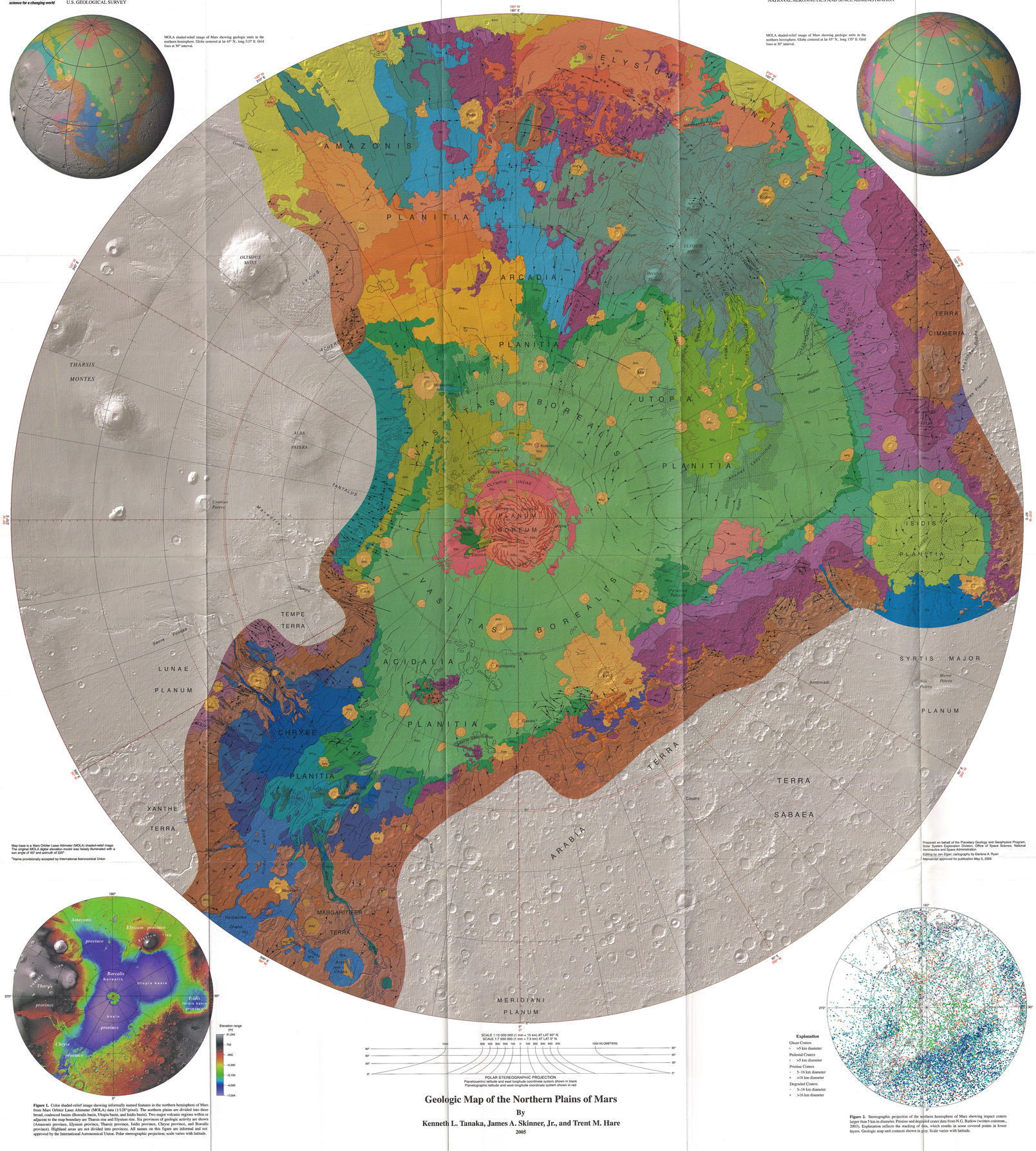

Figure 1. Color shaded-relief image showing informally named features in the northern hemisphere of Mars from Mars Orbiter Laser Altimeter (MOLA) data (1/128th/pixel). The northern plains are divided into three broad, circumpolar basins (Borealis basin, Utopia basin, and Isidis basin). Two major volcanic provinces within or adjacent to the map boundary are Tharsis rise and Elysium rise. Six provinces of geologic activity are shown (Amazonian province, Elysium province, Tharsis province, Isidis province, Chryse province, and Borealis province). Highland areas are not divided into provinces. All names on this figure are informal and not approved by the International Astronomical Union. Polar stereographic projection; scale varies with latitude.

Geologic Map of the Northern Plains of Mars

By

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Figure 2. Stereographic projection of the northern hemisphere of Mars showing impact craters larger than 5 km in diameter. Pristine and degraded craters mapped from N.G. Barlow (written commun., 2003). Explanation reflects the stacking of data, which results in some covered points in lower layers. Geologic map unit contacts shown in gray. Scale varies with latitude.

Explanation

Global Craters
- >5 km diameter

Pedestal Craters
- >5 km diameter

Pristine Craters
- 5–16 km diameter
- >16 km diameter

Degraded Craters
- 5–16 km diameter
- >16 km diameter

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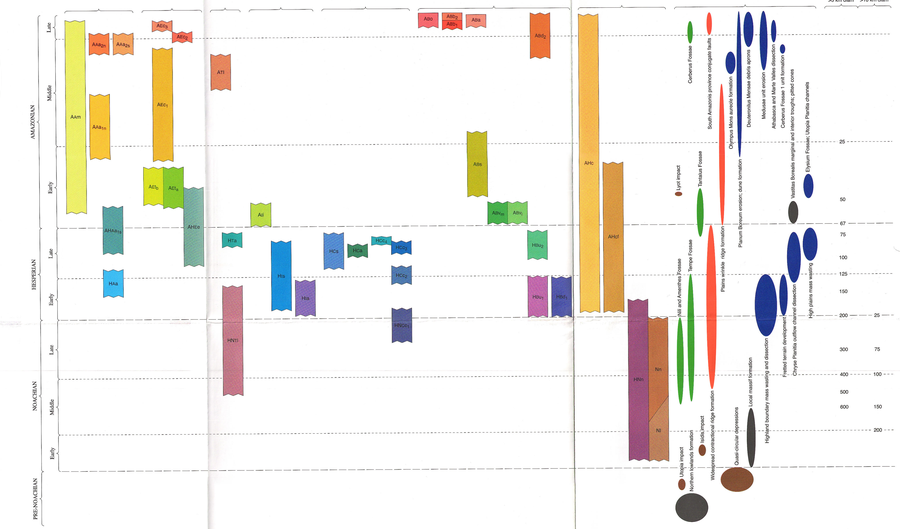
SCIENTIFIC INVESTIGATIONS MAP 2888
ATLAS OF MARS: NORTHERN PLAINS REGION
1:15,000,000 POLAR STEREOGRAPHIC PROJECTION
Pamphlet accompanies map

CORRELATION OF MAP UNITS
[Unit boxes that touch indicate closely related geologic materials]


PERIOD
EPOCH
AMAZONIAN
HESPERIAN
NOACHIAN
PRE-NOACHIAN
Late
Middle
Early
AMAZONIS PROVINCE
ELYSIUM PROVINCE
THARSIS PROVINCE
ISIDIS PROVINCE
CHRYSE PROVINCE
BOREALIS PROVINCE
WIDESPREAD MATERIALS
AHc
AHpf
Aam
AAHu
AAHs
AEu1
AEu2
AEs
AHEe
ATl
HNt1
HNt2
Aa1
HFs
HAs
HCs
HNc
HNu1
HNu2
HNu3
HNu4
Aa2
Aa3
Aa4
ABu1
ABu2
ABu3
ABu4
ABu5
ABu6
ABu7
ABu8
ABu9
AHf
HNh
Nn
Nl
Carthage Fossae
Cerberus Fossae
Tartarus Fossae
Tiu and Amazonis Fossae
Tempe Fossae
Simud Valles
Tiu Valles
Ares Valles
Kasei Valles
Maja Valles
Granicus Valles
Uzboi Vallis
Gigas Impact
Utopia Impact
Wrinkled contractional ridge formation
Plains-forming material
Olympus Mons aureole formation
Olympus Mons basal formation
Alba Mons formation
Ridged plains material
Plains-forming material
Plains-forming material
Plains-forming