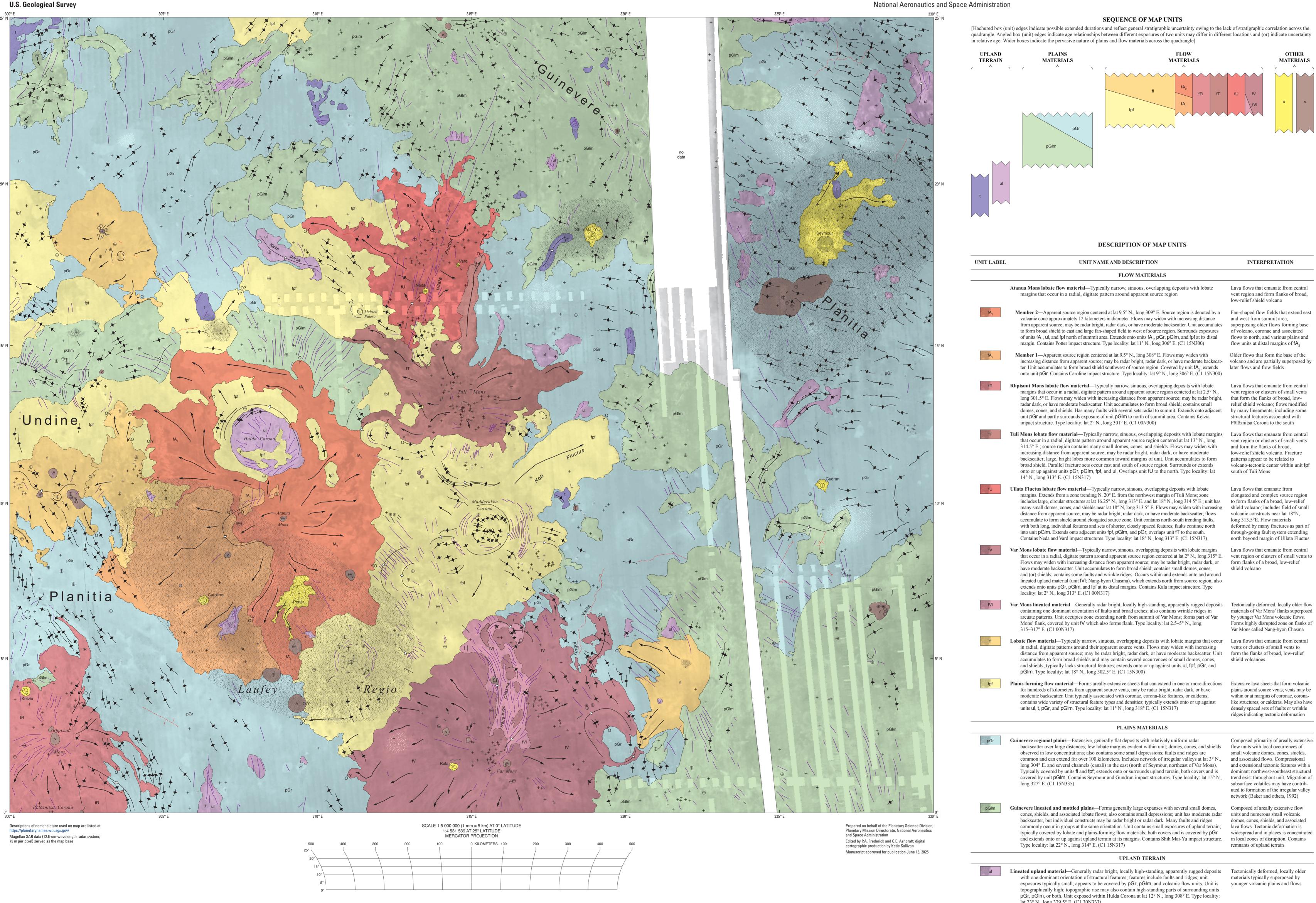
U.S. Department of the Interior



radar (SAR) image mosaic of the

wo sequences of lobate lava

flows. A volcanic cone (unit v)

marks the summit of the volcano

center. An earlier eruptive center,

offset to the west, is defined by a

proad arch (labeled a). Flows

extend south, embaying Potter

around Hulda Corona. Black zones

ndicate areas without SAR data.

Scene width is approximately 610

kilometers; centered near lat

10° N., long 309° E.

crater, and north, wrapping

and the most recent eruptive

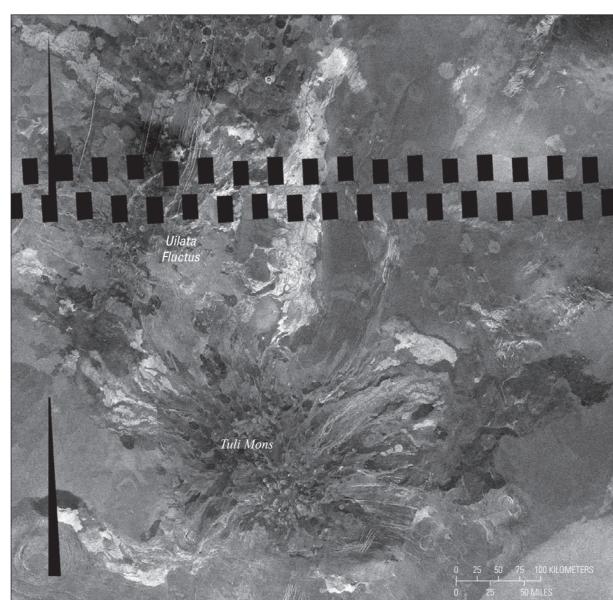
summit of Atanua Mons, showing



QUADRANGLE LOCATION

Globe location map showing location of map area (hachured area). Photomosaic from Magellan synthetic aperture radar.

An outline of 1:5,000,000-scale quadrangles is provided for reference.



Geologic Map of the Guinevere Planitia Quadrangle (V–30), Venus David A. Crown,¹ Ellen R. Stofan,² and Leslie F. Bleamaster III³ ¹Planetary Science Institute;

——— Contact—Solid where certain; long-dashed where approximately located; short-dashed where inferred. Superposition relationships between younger (Y) and older (O) units or at internal contacts shown with Y/O notation Rim of small volcanic crater—Hachures point downslope Crest of impact crater rim—Hachures point downslope

radar (SAR) image mosaic of the

summit of Tuli Mons, showing a

shield field at its summit and a

defining its flanks. Part of the

Uilata Fluctus flow field is visible

north of Tuli Mons. Black zones

indicate areas without SAR data.

Scene width is approximately 730

ilometers; centered near lat

15° N., long 315° E.

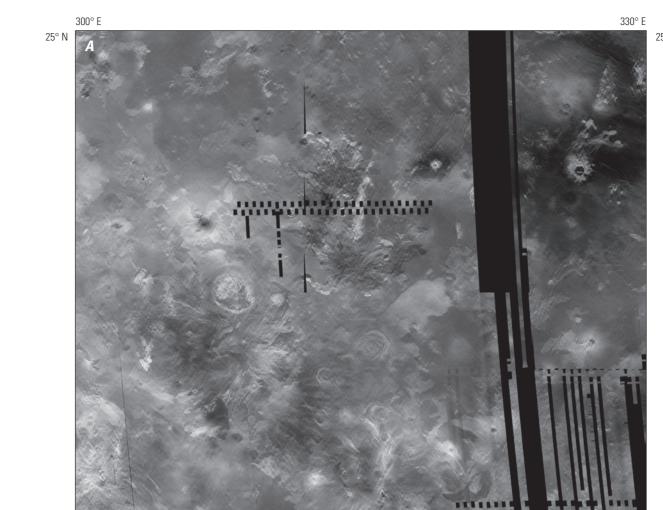
²Smithsonian Institute;

³Trinity University

large array of lobate flows

——— Trough ——— Fault—Includes nonpositive relief structural features and lineaments; sense of offset unknown or unspecified + Small shield ⊕ Small depression

and does not imply endorsement by the U.S. Government CO 80225, 1-888-ASK-USGS Digital files available at https://doi.org/10.3133/sim3539 ISSN 2329-1311 (print) ISSN 2329-132X (online) vere Planitia quadrangle (V–30), Venus: U.S. Geological Survey Scientific



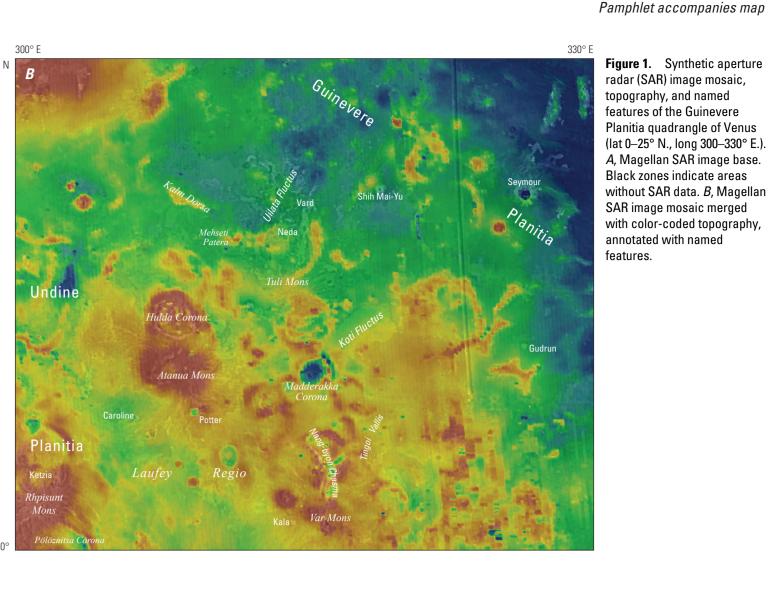


image mosaic of the northwestern part of the quadrangle, showing

tesserae (unit t), Guinevere regional plains (unit pGr), Guinevere lineated

and mottled plains (unit pGlm), and associated structural features.

gure 6. Synthetic aperture radar image mosaic showing radar bright

extending northeast from Madderakka

Corona. Zones of deformed material

are circumferential to Madderakka Corona, although areas northwest and

south of the corona are obscured by

centered near lat 11° N., long 317° E.

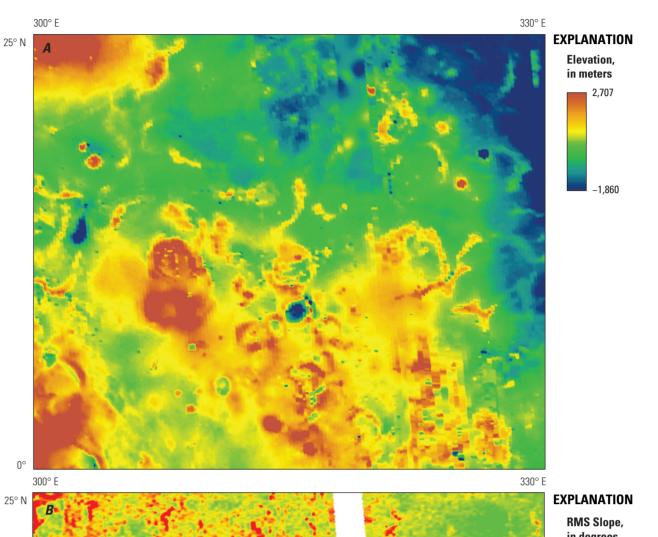
lava flows. Scene width is

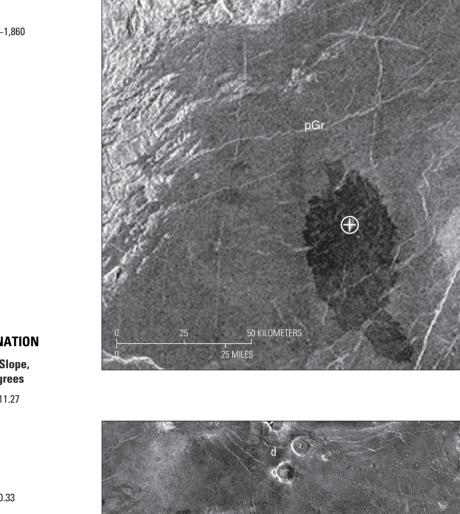
approximately 635 kilometers;

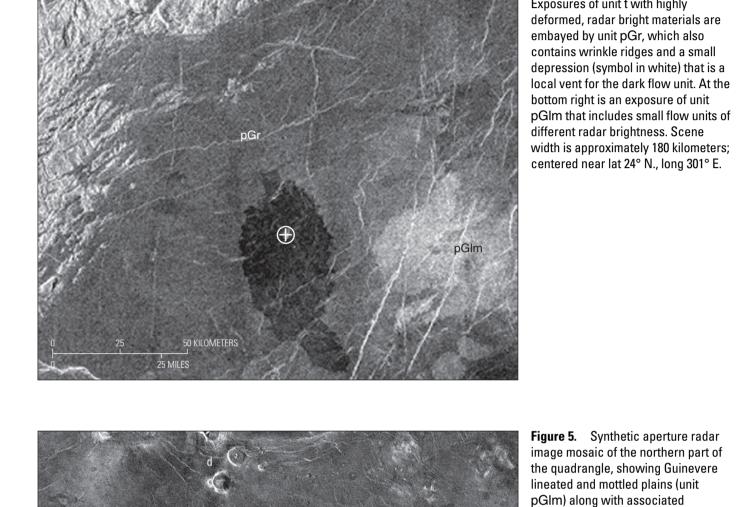
flows of Koti Fluctus (plains-

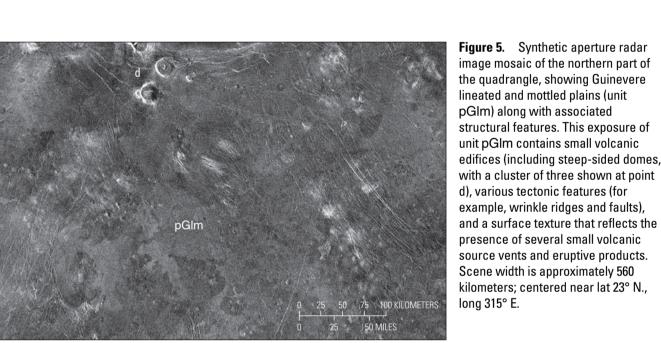
forming flow material; unit fpf)

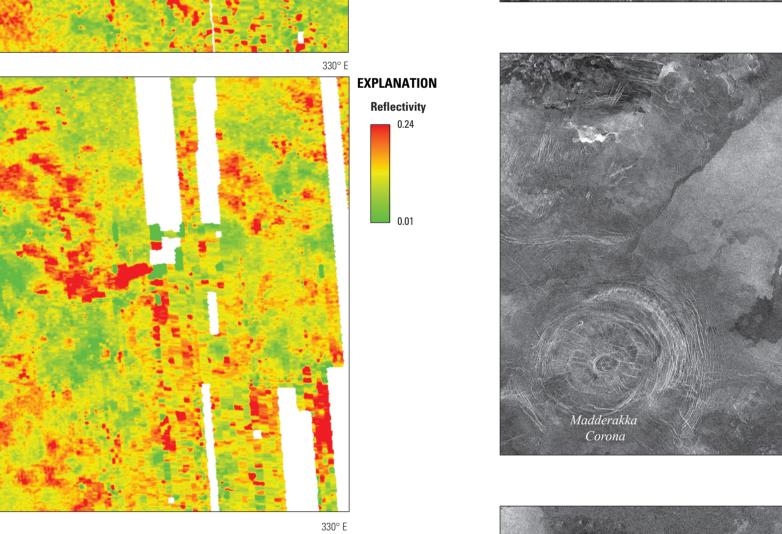
Exposures of unit t with highly

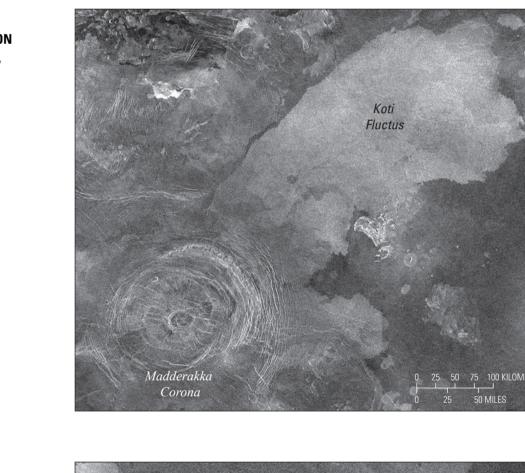


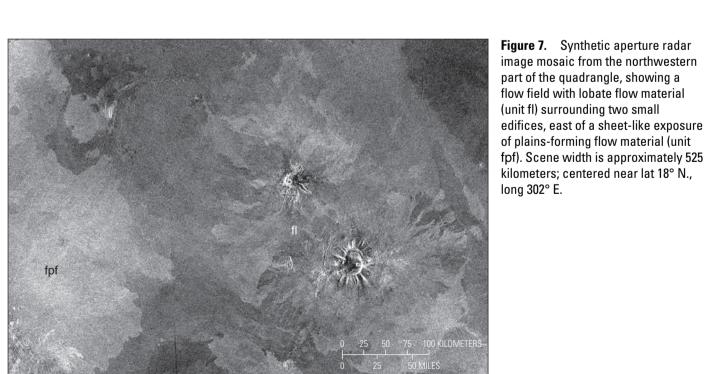












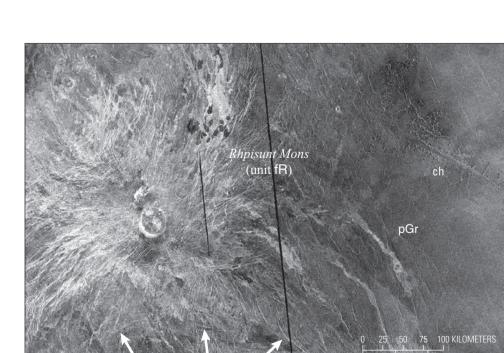
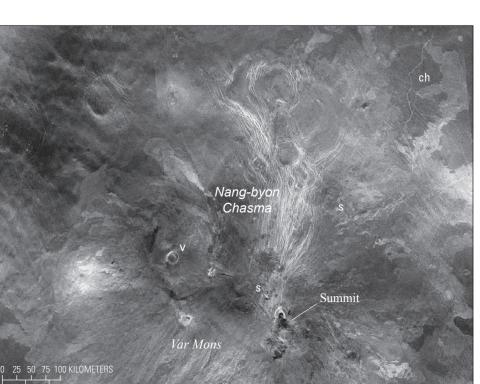


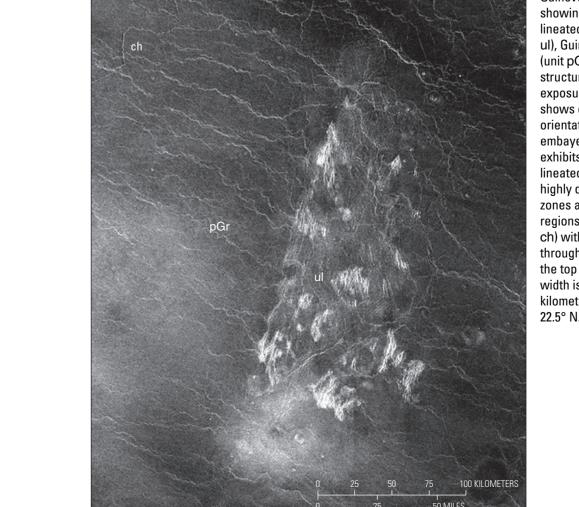
image mosaic of Rhpisunt Mons and the surrounding landscape. Rhpisunt Mons features volcanic domes in its summit region and deformed materials on its flanks. Concentric faults, associated with Pölöznitsa Corona to the south, are shown with arrows. Individual lobate lava flows extend east-southeast into Guinevere regional plains (unit pGr). Scalloped margins of linear channels (labeled ch) with high-angle tributaries are present in the northeastern part of the image. Narrow black zones indicate areas without SAR data. Scene width is approximately 560 kilometers; centered near lat 2.5° N., long 303° E

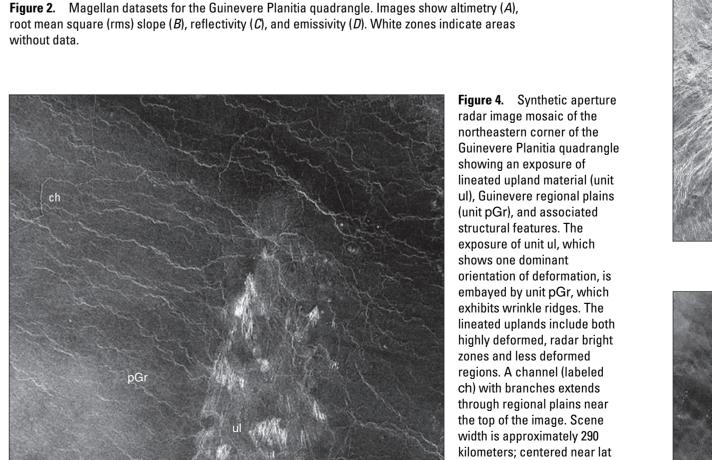
Figure 8. Synthetic aperture radar



subsurface volatiles may have contrib-

uted to formation of the irregular valley





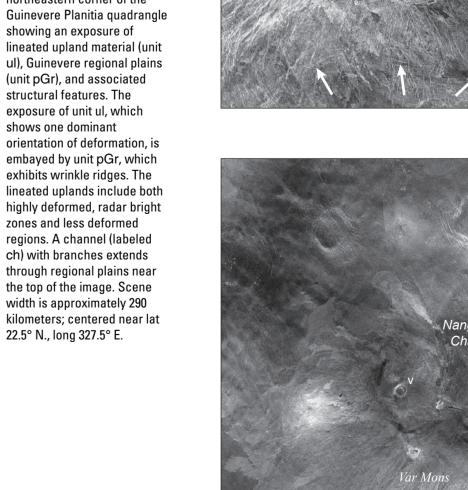
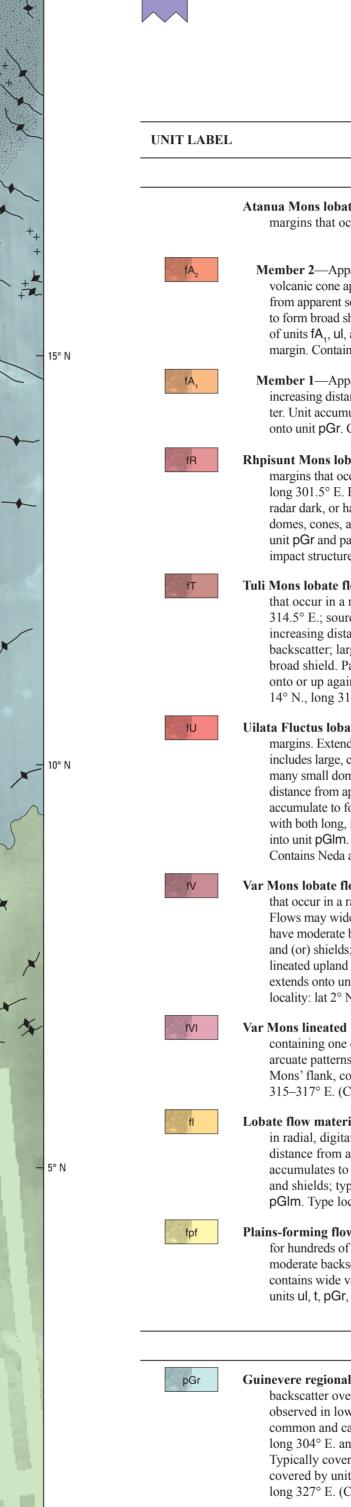


Figure 9. Synthetic aperture radar image mosaic of Var Mons and the surrounding landscape. Volcanic domes are visible in the summit region of Var Mons, along with a secondary eruptive center to the northwest (containing an exposure of unit v), clusters of small shields (labeled s), and lava flows extending in prominent radial patterns to the west, south, and east. Nang-byon Chasma, which consists of a highly deformed zone of Var Mons lineated material (unit fVI), extends north from the summit region. The bright channel (labeled ch) of Tingoi Vallis is in the northeast corner of the figure. Scene width is approximately 915 kilometers; centered near lat 1.5° N., long 316° E.



DESCRIPTION OF MAP UNITS UNIT NAME AND DESCRIPTION INTERPRETATION FLOW MATERIALS Atanua Mons lobate flow material—Typically narrow, sinuous, overlapping deposits with lobate Lava flows that emanate from central margins that occur in a radial, digitate pattern around apparent source region vent region and form flanks of broad, low-relief shield volcano Member 2—Apparent source region centered at lat 9.5° N., long 309° E. Source region is denoted by a Fan-shaped flow fields that extend east volcanic cone approximately 12 kilometers in diameter. Flows may widen with increasing distance and west from summit area, from apparent source; may be radar bright, radar dark, or have moderate backscatter. Unit accumulates superposing older flows forming base to form broad shield to east and large fan-shaped field to west of source region. Surrounds exposures of volcano, coronae and associated of units fA₁, ul, and fpf north of summit area. Extends onto units fA₁, pGr, pGlm, and fpf at its distal flows to north, and various plains and margin. Contains Potter impact structure. Type locality: lat 11° N., long 306° E. (C1 15N300) Member 1—Apparent source region centered at lat 9.5° N., long 308° E. Flows may widen with Older flows that form the base of the increasing distance from apparent source; may be radar bright, radar dark, or have moderate backscat-volcano and are partially superposed by ter. Unit accumulates to form broad shield southwest of source region. Covered by unit fA₂; extends later flows and flow fields onto unit pGr. Contains Caroline impact structure. Type locality: lat 9° N., long 306° E. (Č1 15N300) Rhpisunt Mons lobate flow material—Typically narrow, sinuous, overlapping deposits with lobate Lava flows that emanate from central margins that occur in a radial, digitate pattern around apparent source region centered at lat 2.5° N., vent region or clusters of small vents long 301.5° E. Flows may widen with increasing distance from apparent source; may be radar bright, that form the flanks of broad, lowradar dark, or have moderate backscatter. Unit accumulates to form broad shield; contains small relief shield volcano; flows modified domes, cones, and shields. Has many faults with several sets radial to summit. Extends onto adjacent by many lineaments, including some unit pGr and partly surrounds exposure of unit pGlm to north of summit area. Contains Ketzia structural features associated with impact structure. Type locality: lat 2° N., long 301° E. (C1 00N300) Pölöznitsa Corona to the south **Tuli Mons lobate flow material**—Typically narrow, sinuous, overlapping deposits with lobate margins

Lava flows that emanate from central that occur in a radial, digitate pattern around apparent source region centered at lat 13° N., long vent region or clusters of small vents 314.5° E.; source region contains many small domes, cones, and shields. Flows may widen with and form the flanks of broad, increasing distance from apparent source; may be radar bright, radar dark, or have moderate backscatter; large, bright lobes more common toward margins of unit. Unit accumulates to form patterns appear to be related to broad shield. Parallel fracture sets occur east and south of source region. Surrounds or extends volcano-tectonic center within unit fpf onto or up against units pGr, pGlm, fpf, and ul. Overlaps unit fU to the north. Type locality: lat south of Tuli Mons 14° N., long 313° E. (C1 15N317) Uilata Fluctus lobate flow material—Typically narrow, sinuous, overlapping deposits with lobate

Lava flows that emanate from margins. Extends from a zone trending N. 20° E. from the northwest margin of Tuli Mons; zone elongated and complex source region includes large, circular structures at lat 16.25° N., long 313° E. and lat 18° N., long 314.5° E.; unit has to form flanks of a broad, low-relief many small domes, cones, and shields near lat 18° N, long 313.5° E. Flows may widen with increasing shield volcano; includes field of small distance from apparent source; may be radar bright, radar dark, or have moderate backscatter; flows volcanic constructs near lat 18°N, accumulate to form shield around elongated source zone. Unit contains north-south trending faults, long 313.5°E. Flow materials with both long, individual features and sets of shorter, closely spaced features; faults continue north deformed by many fractures as part of into unit pGlm. Extends onto adjacent units fpf, pGlm, and pGr; overlaps unit fT to the south. through-going fault system extending Contains Neda and Vard impact structures. Type locality: lat 18° N., long 313° E. (C1 15N317) north beyond margin of Uilata Fluctus r Mons lobate flow material—Typically narrow, sinuous, overlapping deposits with lobate margins

Lava flows that emanate from central that occur in a radial, digitate pattern around apparent source region centered at lat 2° N., long 315° E. vent region or clusters of small vents to Flows may widen with increasing distance from apparent source; may be radar bright, radar dark, or form flanks of a broad, low-relief have moderate backscatter. Unit accumulates to form broad shield; contains small domes, cones, shield volcano and (or) shields; contains some faults and wrinkle ridges. Occurs within and extends onto and around lineated upland material (unit fVI; Nang-byon Chasma), which extends north from source region; also extends onto units pGr, pGlm, and fpf at its distal margins. Contains Kala impact structure. Type locality: lat 2° N., long 313° E. (C1 00N317) Var Mons lineated material—Generally radar bright, locally high-standing, apparently rugged deposits Tectonically deformed, locally older flow containing one dominant orientation of faults and broad arches; also contains wrinkle ridges in materials of Var Mons' flanks superposed arcuate patterns. Unit occupies zone extending north from summit of Var Mons; forms part of Var by younger Var Mons volcanic flows. Mons' flank, covered by unit fV which also forms flank. Type locality: lat 2.5–5° N., long Forms highly disrupted zone on flanks of 315–317° E. (C1 00N317) Var Mons called Nang-byon Chasma **Lobate flow material**—Typically narrow, sinuous, overlapping deposits with lobate margins that occur Lava flows that emanate from central in radial, digitate patterns around their apparent source vents. Flows may widen with increasing vents or clusters of small vents to distance from apparent source; may be radar bright, radar dark, or have moderate backscatter. Unit form the flanks of broad, low-relief accumulates to form broad shields and may contain several occurrences of small domes, cones, shield volcanoes and shields; typically lacks structural features; extends onto or up against units ul, fpf, pGr, and pGlm. Type locality: lat 18° N., long 302.5° E. (C1 15N300) Plains-forming flow material—Forms are ally extensive sheets that can extend in one or more directions

Extensive lava sheets that form volcanic for hundreds of kilometers from apparent source vents; may be radar bright, radar dark, or have plains around source vents; vents may be moderate backscatter. Unit typically associated with coronae, corona-like features, or calderas; within or at margins of coronae, coronacontains wide variety of structural feature types and densities; typically extends onto or up against like structures, or calderas. May also have units ul, t, pGr, and pGlm. Type locality: lat 11° N., long 318° E. (C1 15N317) densely spaced sets of faults or wrinkle ridges indicating tectonic deformation PLAINS MATERIALS

SEQUENCE OF MAP UNITS

MATERIALS

MATERIALS

MATERIALS

Guinevere regional plains—Extensive, generally flat deposits with relatively uniform radar backscatter over large distances; few lobate margins evident within unit; domes, cones, and shields flow units with local occurrences of observed in low concentrations; also contains some small depressions; faults and ridges are small volcanic domes, cones, shields, common and can extend for over 100 kilometers. Includes network of irregular valleys at lat 3° N., and associated flows. Compressional long 304° E. and several channels (canali) in the east (north of Seymour, northeast of Var Mons). and extensional tectonic features with a Typically covered by units fl and fpf; extends onto or surrounds upland terrain, both covers and is dominant northwest-southeast structural covered by unit pGlm. Contains Seymour and Gundrun impact structures. Type locality: lat 15° N., trend exist throughout unit. Migration of long 327° E. (C1 15N335)

network (Baker and others, 1992) Guinevere lineated and mottled plains—Forms generally large expanses with several small domes, Composed of areally extensive flow cones, shields, and associated lobate flows; also contains small depressions; unit has moderate radar units and numerous small volcanic backscatter, but individual constructs may be radar bright or radar dark. Many faults and ridges domes, cones, shields, and associated commonly occur in groups at the same orientation. Unit contains small exposures of upland terrain; lava flows. Tectonic deformation is typically covered by lobate and plains-forming flow materials; both covers and is covered by pGr widespread and in places is concentrated and extends onto or up against upland terrain at its margins. Contains Shih Mai-Yu impact structure. in local zones of disruption. Contains Type locality: lat 22° N., long 314° E. (C1 15N317

UPLAND TERRAIN

Lineated upland material—Generally radar bright, locally high-standing, apparently rugged deposits Tectonically deformed, locally older with one dominant orientation of structural features; features include faults and ridges; unit materials typically superposed by exposures typically small; appears to be covered by pGr, pGlm, and volcanic flow units. Unit is younger volcanic plains and flows topographically high; topographic rise may also contain high-standing parts of surrounding units pGr, pGlm, or both. Unit exposed within Hulda Corona at lat 12° N., long 308° E. Type locality:

lat 23° N., long 329.5° E. (C1 30N333) Tessera—Generally radar bright, locally high-standing, apparently rugged deposits with two or more orientations of structural features; features include faults and ridges; unit exposures typically small; older materials superposed by appears to be covered by pGr, pGlm, and volcanic flow units. Type locality: lat 22° N., long 310° E. younger volcanic plains and flows

Impact crater material—Generally radar bright deposits that form interior and exterior rims, ejecta

Plains, flow, and crustal materials blankets, central peaks (if present), and outflow deposits associated with impact structures. excavated and redistributed by impact Individual craters located within units pGr, pGlm, and volcanic flow units; possibly covered by units fR (Ketzia) and fA₂ (Potter). Type locality: lat 7° N., long 309° E. (C1 00N317)

EXPLANATION OF MAP SYMBOLS

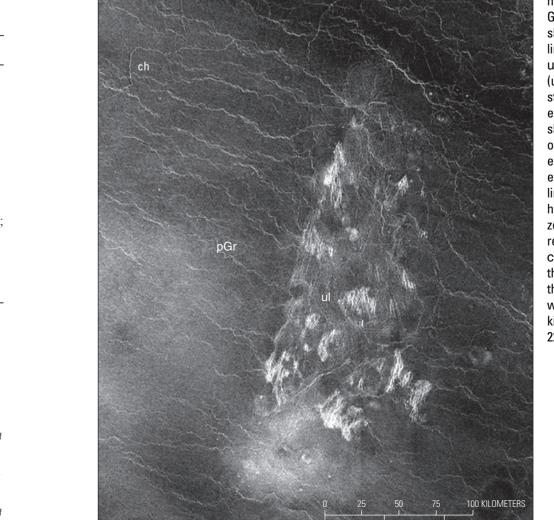
OTHER MATERIALS

Small volcanic edifice—Small, locally high-standing, circular to irregular landform; may be radar Volcanic materials, including lava bright, radar dark, or have moderate backscatter; radar backscatter generally uniform. May have flows and pyroclastic deposits, that surface lineaments and centrally located elevated or depressed zones; exposures found throughout have accumulated to form small map region. Type locality: lat 5.5° N., long 309° E. (C1 00N317) volcanic edifices

── Wrinkle ridge

── Flow direction

——♦— Crest of broad arch



without data.

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Investigations Map 3539, scale 1:5,000,000, pamphlet 15 p., https://doi.org/10.3133/sim3539.