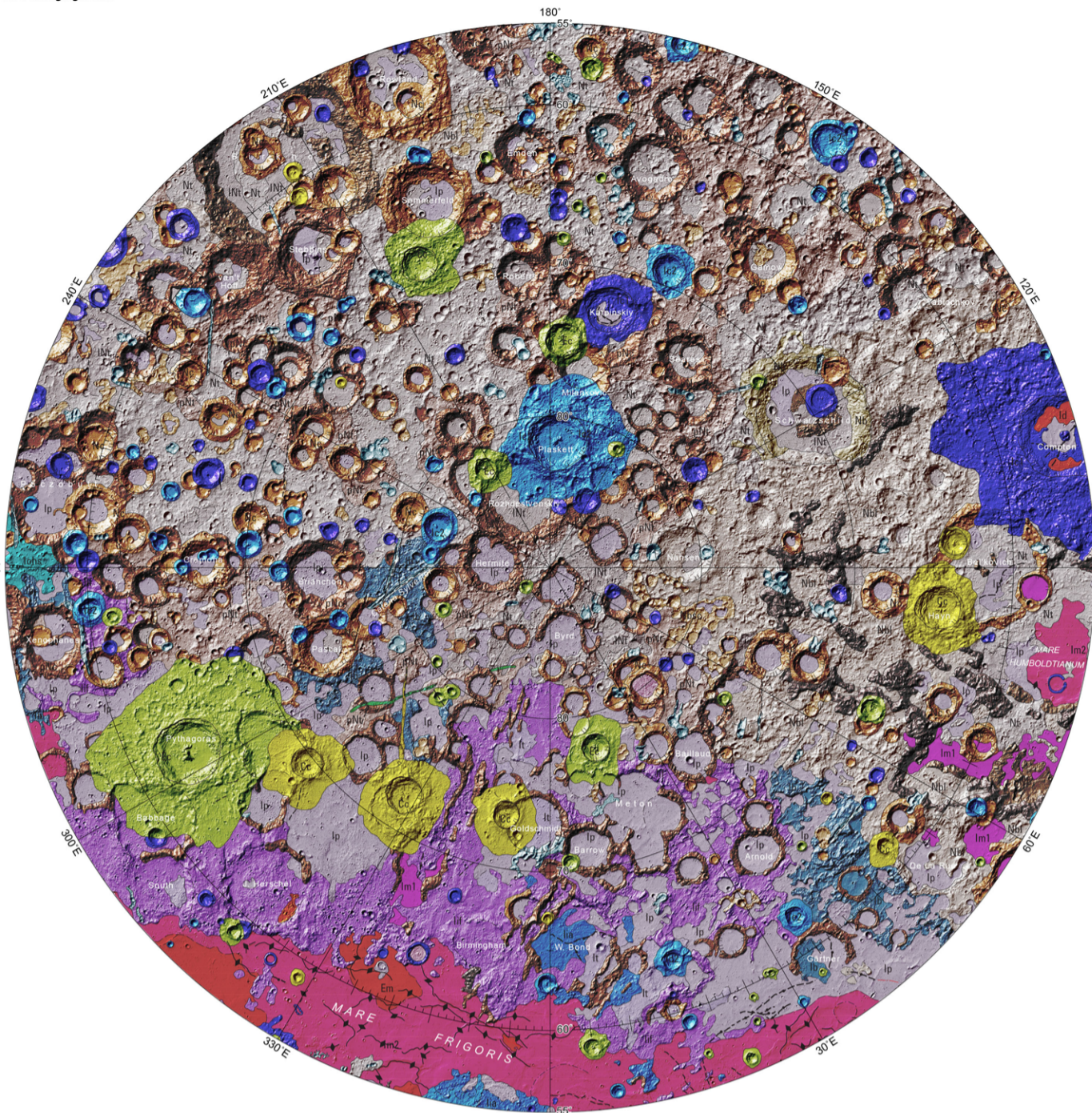
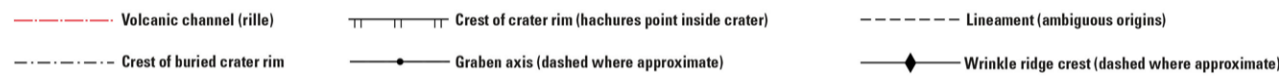
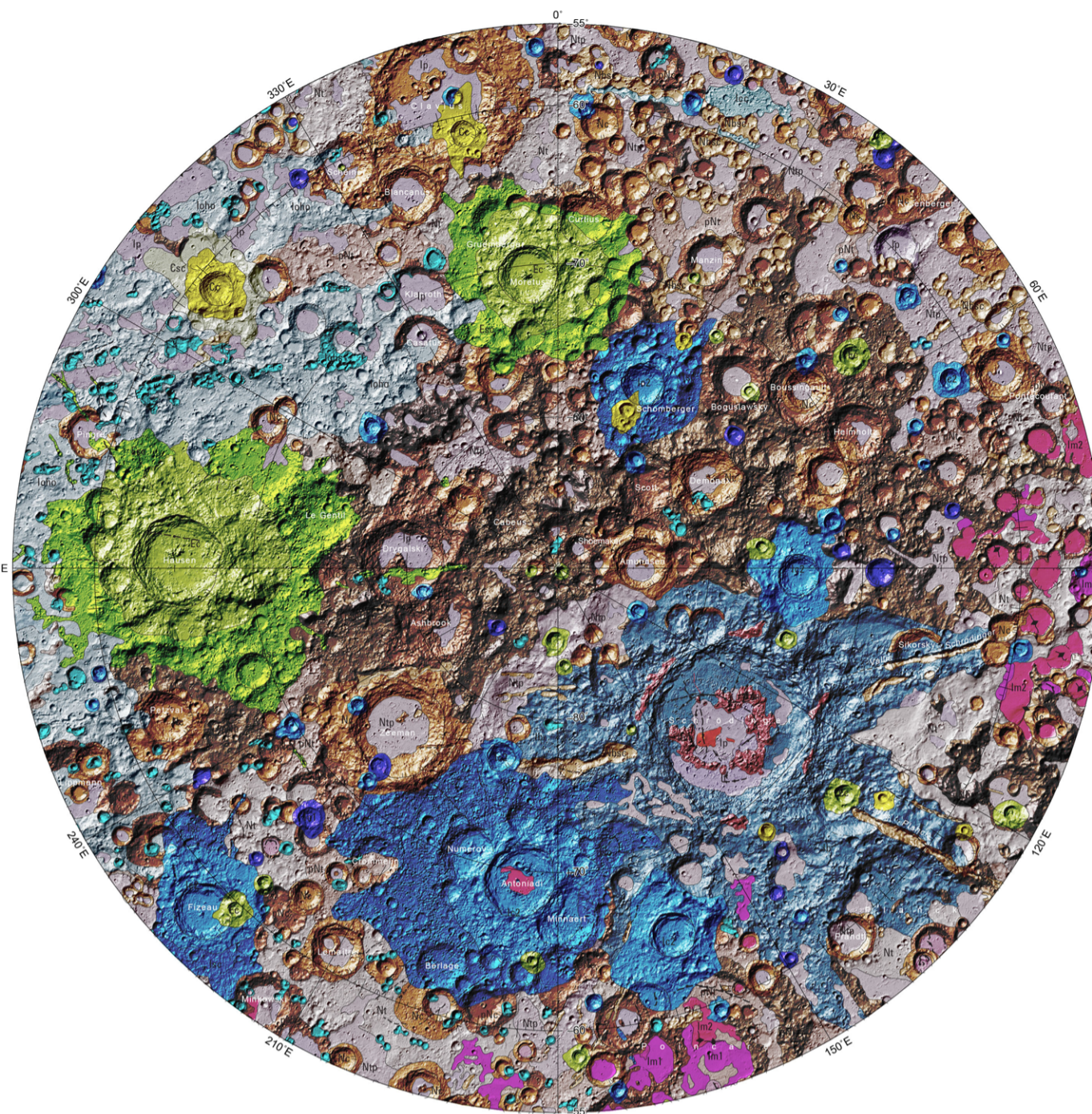


Brief Description of Map Units and Explanation of Map Symbols

<p>Cc Copernican Crater - Rim, wall and floor deposits of craters with sharp prominent rims, circular to polygonal outlines. High relative brightness and rays. Crater, Catena - Elongated linear clusters of overlapping circular to semi-circular.</p> <p>Ccc Copernican Crater, Secondary - Small to very small diameter craters, densely spaced near and/or on the ejecta blanket of craters. <i>Interpretation:</i> Impact crater forms derived from blocky material ejected from the primary impact.</p> <p>Ec Eratosthenian Crater - Non-rayed, circular craters with sharp to partially subdued crater rim crests, partial circumferential ejecta present, and lower albedo compared to unit Cc. <i>Interpretation:</i> Morphology and material from a primary impact event.</p> <p>Ecc Eratosthenian Crater, Catena - Elongated linear to elliptical clusters of circular to semi-circular depressions, often overlapping. <i>Interpretation:</i> Mostly impact craters derived ejecta from large, basin forming impacts. Possibly primary impacts.</p> <p>Esc Eratosthenian Secondary Crater - Small to very small diameter craters, densely spaced near and/or on the ejecta blanket of craters. <i>Interpretation:</i> Impact crater forms derived from blocky material ejected from the primary impact.</p> <p>Em Eratosthenian Mare - Low relative brightness plains with relatively few craters large enough to map, patches of small domes, sharp-crested ridges, observable flow fronts. <i>Interpretation:</i> Relatively thin, young volcanic flows or pyroclastic material.</p> <p>Elp Eratosthenian Imbrian Plateau - Forms high standing plateaus (relative to the mare surfaces in Oceanus Procellarum) with domes, cones, and dark mantling materials. <i>Interpretation:</i> Subdued topographic relief compared to younger impact features, generally less than 40 km in diameter, with broad flat floors, and little to no ejecta present. <i>Interpretation:</i> Subdued morphology and material from a primary impact event.</p> <p>Ic Imbrian Crater, Unidivided - Subdued topographic relief compared to younger impact features, generally less than 40 km in diameter, with broad flat floors, and little to no ejecta present. <i>Interpretation:</i> Subdued morphology and material from a primary impact event, younger than Orientale group materials but older than unit Im2.</p> <p>Icl1 Imbrian Crater, Lower - Similar description to unit Ic, craters mantled by materials of the Orientale group. <i>Interpretation:</i> Subdued morphology and material from a primary impact event, younger than Imbrium group materials but older than Orientale group materials.</p> <p>Icl2 Imbrian Crater, Upper - Similar description to unit Ic, craters superpose materials of the Orientale group. <i>Interpretation:</i> Subdued morphology and material from a primary impact event, younger than Orientale group materials but older than unit Im2.</p> <p>Icc Imbrian Crater, Catena - Subdued and mantled elongated linear to elliptical clusters of circular to semi-circular depressions, often overlapping. <i>Interpretation:</i> Impact crater clusters derived ejecta from large, basin forming impacts. Possibly primary impacts.</p> <p>Ibc Imbrian Crater, Secondary - Small diameter craters, densely spaced near and/or on the ejecta blanket of craters. <i>Interpretation:</i> Impact crater forms derived from blocky material ejected from the primary impact.</p> <p>Icf Imbrian Crater, Fracture Floor - Crater floors typically domed, with furrows and/or linear to curvilinear fractures with variable widths and depths. Blocks and material between the fractures sometimes reoriented. <i>Interpretation:</i> Brittle materials uplifted and extended.</p> <p>Ib Imbrian Basin, Unidivided - Gently rolling to hilly terrain containing aggregates of subdued irregular to circular craters. Also forms outer basin and ejecta of crater Schrödinger. <i>Interpretation:</i> Materials emplaced during the formation of multi-ringed impact basins.</p> <p>Ibm Imbrian Basin, Massif - Rugged blocks forming arcuate raised ridges within crater Schrödinger. <i>Interpretation:</i> Material uplifted during basin formation, representing the inner ring of a multi-ringed impact basin.</p> <p>Id Imbrian Dark Mantle - Some of the lowest albedo material mapped, generally occurs near the outer margins of larger basins. Scalloped, smooth textures with small craters. <i>Interpretation:</i> Pyroclastic material.</p> <p>Ig Imbrian Grooved - Covers craters and other terrain of pre-Nectarian through Imbrian age. Craters have radial grooves on rims and walls with some moats. <i>Interpretation:</i> Origin uncertain. Possibly Imbrium ejecta or result of seismic shaking.</p> <p>Iia Imbrian Imbrium Alpes Formation - Angular blocky and knobby with smooth, mantled surface. Closely spaced hills and hummocks, ~2.5 km in diameter. <i>Interpretation:</i> Possibly eroded ejecta, structurally deformed bedrock, or both.</p> <p>Iiap Imbrian Imbrium Apenninus Formation - Coarse blocks of material parallel to scarp bordering Imbrium basin. Smooth to undulating interblock materials. <i>Interpretation:</i> Intensely fractured bedrock with interstitial Imbrium ejecta.</p> <p>Iic Imbrian Imbrium Crater - Individual craters <25 km diam., clusters and chains of craters <10 km diam. radial to Imbrium. Moderately subdued topographic features. <i>Interpretation:</i> Secondaries and crater chains emplaced during Imbrium basin formation.</p> <p>Iif Imbrian Imbrium Fra Mauro Formation - Sinuous, curvilinear, and straight ridges draping the surface below. Surface texture locally hummocky. <i>Interpretation:</i> Ejecta from Imbrium basin and materials of the substrate.</p> <p>Im1 Imbrian Mare, Lower - Forms flat, smooth surfaces. Relatively higher albedo compared to unit Im2 but lower albedo than unit Ip. High density of superposed craters. <i>Interpretation:</i> Old basaltic lava, perhaps as old as Orientale basin.</p> <p>Im2 Imbrian Mare, Upper - Forms flat, smooth surfaces. Lower albedo and crater density than unit Im1. Numerous ridges. Difficult to distinguish from unit Id. <i>Interpretation:</i> Basaltic lava flows.</p> <p>Imd Imbrian Mare, Dome - Steeply sloping, high-relief, rough domical or conical shaped edifices, sometimes with pitted summits. <i>Interpretation:</i> Volcanic edifices or laccoliths.</p>	<p>Iohi Imbrian Orientale Hevelius Formation, Inner Facies - Curvilinear to swirly ridges and troughs mostly radial and subradial to Orientale basin. <i>Interpretation:</i> Continuous ejecta blanket emplaced during outward flow of hot, turbulent, mobile materials.</p> <p>Ioho Imbrian Orientale Hevelius Formation, Outer Facies - Swirly, linedate, hummocky and smooth materials forming a discontinuous and irregular boundary. <i>Interpretation:</i> Thinning distal margins of Orientale basin ejecta.</p> <p>Ios Imbrian Orientale Hevelius Formation, Secondary Crater Facies - Overlapping crater chains and clusters radial and peripheral to the basin. <i>Interpretation:</i> Secondary impact craters formed by ejected blocks.</p> <p>Iom Imbrian Orientale Maander Formation - Smooth to rolling, intensely fractured plains with broad linear ridges and smooth domes. <i>Interpretation:</i> Mostly impact melt. Ridges and domes likely original floor material modified through compression.</p> <p>Iork Imbrian Orientale Montes Rook Formation, Knobby Facies - Knobby, hummocky, rolling and chaotic materials with interstitial regular grooves and depressions. <i>Interpretation:</i> Uppermost part of overturned flap of the ejecta sequence of Orientale basin.</p> <p>Iorm Imbrian Orientale Montes Rook Formation, Massif Facies - High-relief, smooth blocks marking the second and third rings of the basin. <i>Interpretation:</i> Structurally uplifted bedrock, thickly veneered with late arriving ejecta.</p> <p>Iip Imbrian Plains - Smooth, flat to undulatory terrain of intermediate albedo occurring mostly in topographic lows and crater floors of Imbrian and older age. <i>Interpretation:</i> Ambiguous origin, likely Orientale and other large impact crater ejecta.</p> <p>Iit Imbrian Terra - Low relief, low crater density, moderate to high albedo, moderately smooth surface. <i>Interpretation:</i> Complex mixture of local erosional debris and crater and basin ejecta; megaregolith.</p> <p>Ild Imbrian Terra, Dome - Outlines and characteristics similar to main-sequence craters, with smooth inner flanks, paucity of ejecta, inner terracing, secondary cratering events, younger than Imbrium group materials but older than Orientale basin.</p> <p>Ilnp Imbrian Nectarian Plains - Smooth, flat to undulating surface, moderate to high density of superposed craters. <i>Interpretation:</i> Possibly materials emplaced by the formation of Imbrian and Nectarian basins.</p> <p>Iln Imbrian Nectarian Terra - Gently rolling terrain, moderate to high density of craters. <i>Interpretation:</i> Complex mixture of local erosional debris and crater and basin ejecta; megaregolith.</p> <p>Nc Nectarian Crater - Considerably muted topographic relief compared to younger impact features, with broad flat floors typically another unit, and very little to no ejecta present. <i>Interpretation:</i> Muted morphology and material from a primary impact event.</p> <p>Nb Nectarian Basin, Unidivided - Material of raised walls and slumped blocks of basins, as well as aggregates of closely spaced subdued hills and ridges. <i>Interpretation:</i> Impact related structures and ejecta material.</p> <p>Nbl Nectarian Basin, Linedate - Sharp, raised ridges, intervening flat areas or deep troughs and smooth hills with narrow grooves. <i>Interpretation:</i> Bedrock pervasively faulted by Imbrium impact.</p> <p>Nbm Nectarian Basin, Massif - Rugged blocks most commonly 10 to 30 km across, forms highest and most rugged parts of arcuate raised ridges. <i>Interpretation:</i> Uplifted bedrock during the formation of Nectarian basins.</p> <p>Nbnc Nectarian Basin, Secondary Crater - Grouped in clusters, chains and groove-like chains, mostly peripheral and approximately radial to Nectarian basins. <i>Interpretation:</i> Secondary impact craters of Nectarian basins.</p> <p>Nnj Nectarian Nectaria Janssen Formation - Rolling subdued terrain having numerous linear features including ridges, scarps, and grooves radial to Nectarian basins. <i>Interpretation:</i> Nectarian basin ejecta equivalent to, but more degraded than, units Ii, Iohi, and Ioho.</p> <p>Np Nectarian Plains - Generally flat, moderate albedo terrain with dense population of large, old craters. <i>Interpretation:</i> Ambiguous origin, possible ejecta from large impacts and basin forming events.</p> <p>Nt Nectarian Terra - Moderately rough surface, rolling to moderately rugged overall relief, with diverse ages of superposed and buried craters. <i>Interpretation:</i> Complex mixture of local erosional debris and crater and basin ejecta; megaregolith.</p> <p>Ntp Nectarian Terra-Mantling and Plains - Light colored, wavy or rolling surfaces more heavily cratered than unit Ip. <i>Interpretation:</i> Primary and secondary ejecta of Nectarian basins and large craters equivalent to units Ioho and Ii, with more erosional degradation.</p> <p>pnb pre-Nectarian Basin - Subdued, eroded mountain rings and arcuate segments of rings, rim, walls, and inner-ring materials. <i>Interpretation:</i> Eroitionally degraded impact related structures and ejecta materials.</p> <p>pnbm pre-Nectarian Basin Massif - Large mountainous landforms commonly lying along arc, both continuous and discontinuous, gradational with generally linear-scale topography. <i>Interpretation:</i> Uplifted bedrock during the formation of basins.</p> <p>pnc pre-Nectarian Crater - Discontinuous, subdued rim crests and rounded, curved or straight rim remnants. <i>Interpretation:</i> Eroitionally degraded morphology and material from a primary impact event.</p> <p>pnt pre-Nectarian Terra - Rugged, diverse terrain, degraded partial crater rims, gradational with smoother unit Nc, and rougher units pnbm and pnc. <i>Interpretation:</i> Complex mixture of local erosional debris and crater and basin ejecta; megaregolith.</p>
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SCALE 1:6 078 883 (1 mm = 6.078883 km) AT 90° LATITUDE
POLAR STEREOGRAPHIC PROJECTION
NORTH POLAR REGION



SCALE 1:6 078 883 (1 mm = 6.078883 km) AT 90° LATITUDE
POLAR STEREOGRAPHIC PROJECTION
SOUTH POLAR REGION



SCALE 1:10 000 000 (1 mm = 10 km) AT 0° LATITUDE
MERCATOR PROJECTION