

# Geological map of the Hokusai Quadrangle (H05), Mercury

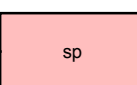
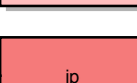

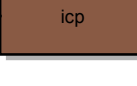

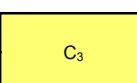
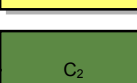
Wright J. <sup>1</sup>, Rothery D. A. <sup>1</sup>, Balme M. R. <sup>1</sup>, Conway S. J. <sup>2</sup>

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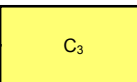
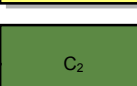


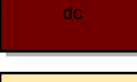
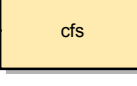
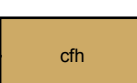






<sup>2</sup>CNRS, Laboratoire de Planétologie et Géodynamique, Université de Nantes, France

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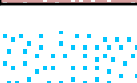




## Geological units

	Smooth plains
	Sparsely cratered plains. Probably volcanic where areally extensive. Small patches perched within impact crater terraces/ejecta probably impact melt.
	Intermediate plains
	Patches of smooth material confined by high-standing plains intermediate in roughness between smooth and intercrater plains.
	Probably intercrater plains that has been partially inundated by smooth material of volcanic/impact origin.
	Intercrater plains
	Heavily cratered plains with a rough, hummocky texture.

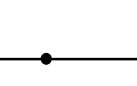





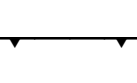
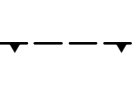
## Crater materials (three degradation classes)

	C <sub>3</sub> crater—well preserved
	Fresh craters with sharp rims and internal peaks. Textured ejecta blankets. Albedo rays may be present.
	C <sub>2</sub> crater—degraded
	Craters with somewhat subdued rims, peaks and ejecta blanket textures. No albedo rays.
	C <sub>1</sub> crater—heavily degraded
	Craters with heavily subdued/incomplete rims and no ejecta.
	Degraded catenae
	Rims of smooth-floored secondary crater chains within intermediate plains.
	Smooth crater floor
	Smooth, sparsely cratered material confined to craters. Probably impact melt in C <sub>3</sub> /C <sub>2</sub> craters. Probably volcanic in C <sub>1</sub> craters.
	Hummocky crater floor
	Rough or cratered material confined within craters.
	Probably original crater floor texture in C <sub>3</sub> craters. Probably degraded wall and floor material in C <sub>2</sub> /C <sub>1</sub> craters.

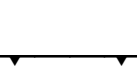
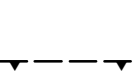
## Surface features

	Crater rays
	Hollows
	Catenae
	Secondary impact crater chains
	Bright, diffuse red spots
	Putative pyroclastic deposits

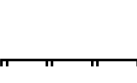
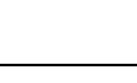
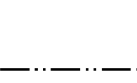
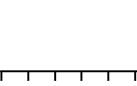

## Structures

	Graben
	Found within volcanic crater fills
	Ridge
	Found within volcanic crater fills
	Wrinkle ridge
	Contractional landform common within smooth plains
	Wrinkle ridge ring
	Contractional landform located above buried impact crater


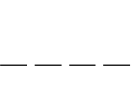
## Faults

	Thrust—confident identification
	Thrust—uncertain identification

## Crater rims

	Rim crest of crater (diam. ≥ 20 km)
	Rim crest of crater (5 < diam. < 20 km)
	Rim crest of subdued or buried crater
	Irregular pit
	Putative volcanic vent

## Geological contacts

	Certain—confident location
	Approximate—uncertain location

## Coordinate system

Projection: Lambert Conformal Conic  
Central meridian: 45°E  
Standard parallel 1: 30°N  
Standard parallel 2: 58°N  
Sphere radius: 2440 km

## Nomenclature

From the Gazetteer of Planetary Nomenclature  
International Astronomical Union (IAU) Working Group for Planetary System Nomenclature (WGPSN)  
Source: <http://planetarynames.wr.usgs.gov/Page/MERCURY/target> (14/01/2019)

## Alternative crater classification

An alternative version of this map is available with five crater degradation classes compatible with those of the MESSENGER global geological map of Mercury (Prockter et al. 2016; Kinczyk et al. 2016, 2018)

## Basemaps

Main map: MESSENGER MDIS map projected Basemap Reduced Data Record (BDR)  
Resolution: 256 pixels per degree (~166 metres/pixel)  
Data source: [https://pds-imaging.jpl.nasa.gov/data/messenger/mgsrmds\\_4001/BDR/H05/](https://pds-imaging.jpl.nasa.gov/data/messenger/mgsrmds_4001/BDR/H05/)

Mercury globe: MESSENGER MDIS Enhanced Color Global Mosaic  
Resolution: 64 pixels per degree (~665 metres per pixel)  
Data source: [https://astrogeology.usgs.gov/search/map/Mercury/Messenger/Global/Mercury\\_MESSENGER\\_MDIS\\_Basemap\\_EnhancedColor\\_Mosaic\\_Global\\_665m](https://astrogeology.usgs.gov/search/map/Mercury/Messenger/Global/Mercury_MESSENGER_MDIS_Basemap_EnhancedColor_Mosaic_Global_665m)

Basemap credits: NASA/Johns Hopkins University Applied Physical Laboratory/Carnegie Institute of Washington

