

**EUROPEAN QUADRANGLE MAPPING OF MERCURY: STATUS REPORT.** V. Galluzzi<sup>1</sup>, D. A. Rothery<sup>2</sup>, L. Giacomini<sup>1</sup>, L. Guzzetta<sup>1</sup>, M. El Yazidi<sup>3</sup>, L. Ferranti<sup>4+1</sup>, A. R. Lennox<sup>2</sup>, C. Malliband<sup>2</sup>, B. Man<sup>2</sup>, M. Massironi<sup>5</sup>, P. Palumbo<sup>6-1</sup>, D. L. Pegg<sup>2</sup>, G. Tognon<sup>3</sup>, and J. Wright<sup>2</sup> <sup>1</sup>INAF, Istituto di Astrofisica e Planetologia Spaziali (IAPS), Rome, Italy, <sup>2</sup>School of Physical Sciences, The Open University, Milton Keynes, MK7 6AA, UK, <sup>3</sup>Centro di Ateneo di Studi e Attività Spaziali (CISAS), Università degli Studi di Padova, Padua, Italy, <sup>4</sup>Dipartimento di Scienze della Terra dell'Ambiente e delle Risorse, Università degli Studi di Napoli "Federico II", Naples, Italy, <sup>5</sup>Dipartimento di Geoscienze, Università degli Studi di Padova, Padua, Italy, <sup>6</sup>Dipartimento di Scienze e Tecnologie, Università degli Studi di Napoli "Parthenope", Naples, Italy.

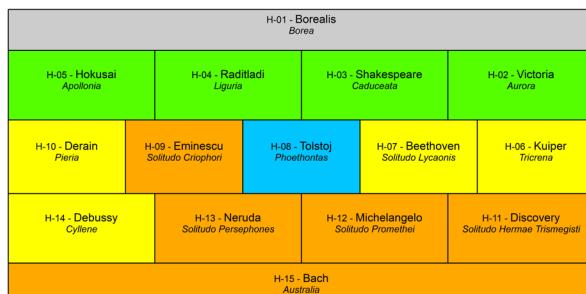
**Introduction:** A complete global series of 1:3M-scale maps of Mercury is being prepared in preparation for the forthcoming ESA/JAXA BepiColombo mission to aid selection of scientific targets and to provide context for interpretation of new data [1].

**Mapping status:** This coordinated global geological mapping of Mercury plan exploits NASA MESSENGER Mercury Dual Imaging System (MDIS) images at the best resolution available (i.e., global average resolution of 166 m/pixel). Our mapping protocols follow the mapping standards document of the Planmap project [2], which are modelled closely on the USGS equivalent. Maps from H02 to H05 have already been published [3-6] and others are in progress [e.g., 6-10] or scheduled except H01. Quadrangles H10 and H14 are completed and available in the Planmap repository [12, 13] (Fig. 1). We merge the produced geologic maps together by adjusting mismatches along the quadrangle boundaries. The global merged output will be used as a digital full-scale product, which will permit detailed global or regional analyses of Mercury's surface. This project will lead to a fuller grasp of the planet's stratigraphy and surface history.

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**References:** [1] Rothery D. A. et al. (2020) Space Sci. Rev., 216, 66. [2] <https://wiki.planmap.eu/pages/viewpage.action?pageId=4980741>

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**Figure 1.** Status of the European coordinated quadrangle mapping of Mercury: green, completed and published; yellow, completed; orange, in progress; blue, scheduled; grey, not scheduled.