

EUROPEAN QUADRANGLE MAPPING OF MERCURY: STATUS REPORT. V. Galluzzi¹, D. A. Rothery², L. Giacomini¹, L. Guzzetta¹, M. El Yazidi³, L. Ferranti^{4,1}, A. R. Lennox², C. Malliband², B. Man², M. Massironi⁵, P. Palumbo^{6,1}, D. L. Pegg², G. Tognon³, and J. Wright² ¹INAF, Istituto di Astrofisica e Planetologia Spaziali (IAPS), Rome, Italy, ²School of Physical Sciences, The Open University, Milton Keynes, MK7 6AA, UK, ³Centro di Ateneo di Studi e Attività Spaziali (CISAS), Università degli Studi di Padova, Padua, Italy, ⁴Dipartimento di Scienze della Terra dell’Ambiente e delle Risorse, Università degli Studi di Napoli “Federico II”, Naples, Italy, ⁵Dipartimento di Geoscienze, Università degli Studi di Padova, Padua, Italy, ⁶Dipartimento 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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H-01 - Borealis Borea				
H-05 - Hokusai Apolonia	H-04 - Radiladi Liguria	H-03 - Shakespeare Caduceus	H-02 - Victoria Aurora	
H-10 - Derain Pleria	H-09 - Eminescu Sollido Criophori	H-08 - Tolstoj Phosphoritas	H-07 - Beethoven Sollido Lycaonis	H-06 - Kuiper Therena
H-14 - Debussy Cyllene	H-13 - Neruda Sollido Persephones	H-12 - Michelangelo Sollido Promethei	H-11 - Discovery Sollido Hermae Transegipti	
H-15 - Bach Australia				

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.