

**Lithosphere mantle density of the North China Craton**

**Bing Xia**<sup>1,2</sup>, **Hans Thybo**<sup>1,3,4</sup>, **Irina M. Artemieva**<sup>1,5,6</sup>

1 State Key Laboratory of Geological Processes and Mineral Resources, School of Earth Science, China University of Geosciences, Wuhan, China

2 Geology Section, Department of Geosciences and Natural Resource Management, University of Copenhagen, Copenhagen, Denmark.

3 Eurasia Institute of Earth Sciences, Istanbul Technical University, Istanbul, Turkey.

4 Center for Earth Evolution and Dynamics, University of Oslo, Oslo, Norway.

5 Department of Geophysics, Stanford University, Stanford, California, USA

6 Section of Marine Geodynamics, GEOMAR Helmholtz Center for Ocean Research, Kiel, Germany

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**Introduction** Here, we provide detailed figures related to our calculation of crustal density of the NCC (Figure S1), xenoliths defined surface heat flow (Figure S2), Difference between the predicted and observed topography for our density model under the assumption of isostatic equilibrium (Figure S3).

**Figure S1.** Input parameters for gravity calculations. (a) Average density of the sedimentary cover; (b) Average density of the crust (including sediments). Density is based on a layer-by-layer conversion of Vp values from the NCcrust model (Xia et al., 2017).

**Figure S2.** Surface heat flow constrained by regional xenolith P-T arrays: a) Paleozoic xenoliths, b) Mesozoic xenoliths, c) Cenozoic xenoliths. See figure 3 for details. Color code is the same as in figure 2a.

**Figure S3.** Difference between the predicted and observed topography for our density model under the assumption of isostatic equilibrium.

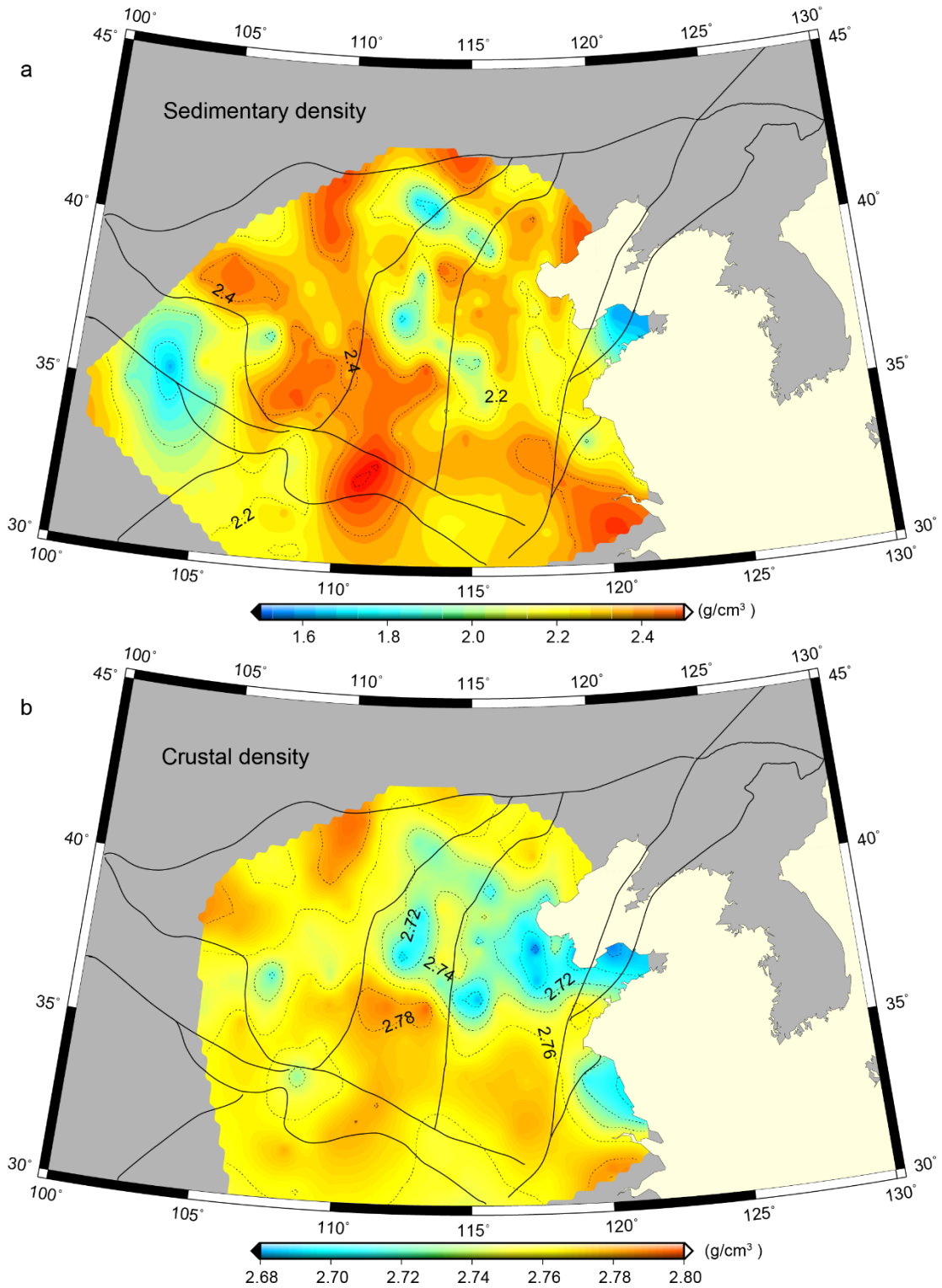
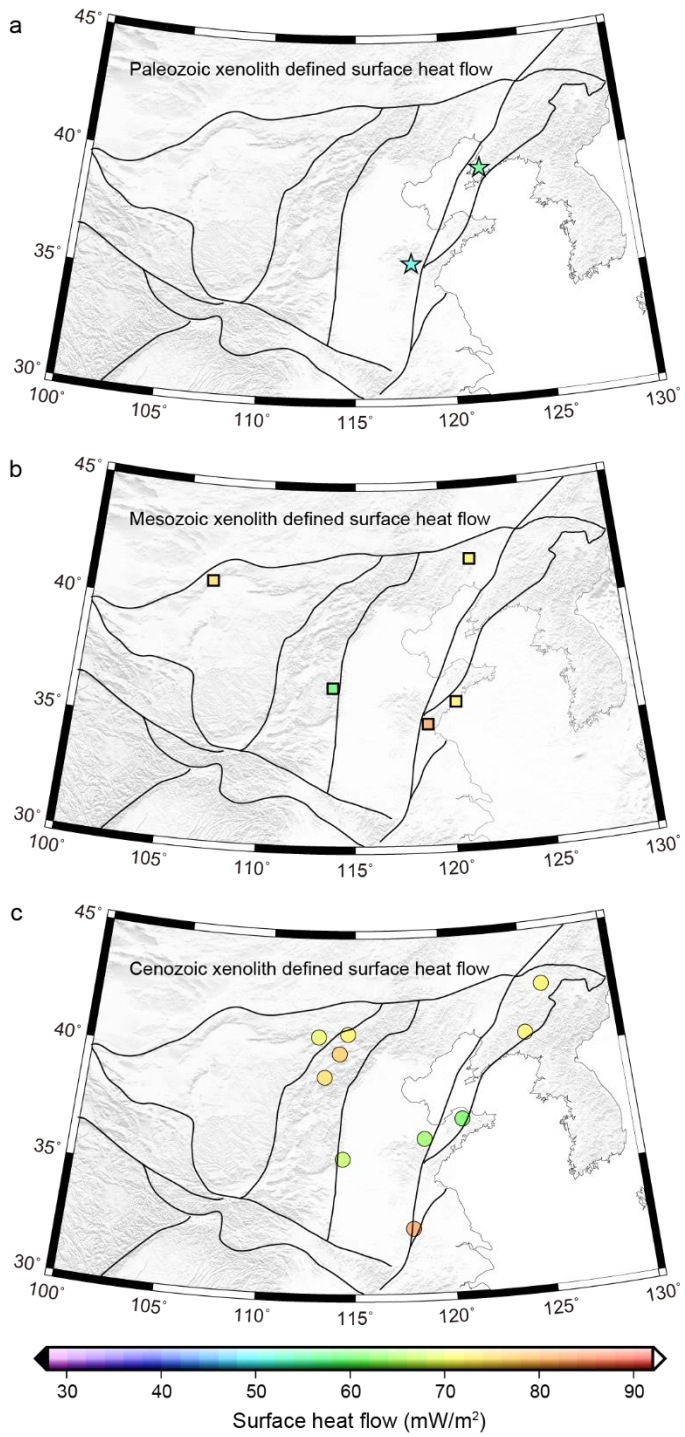
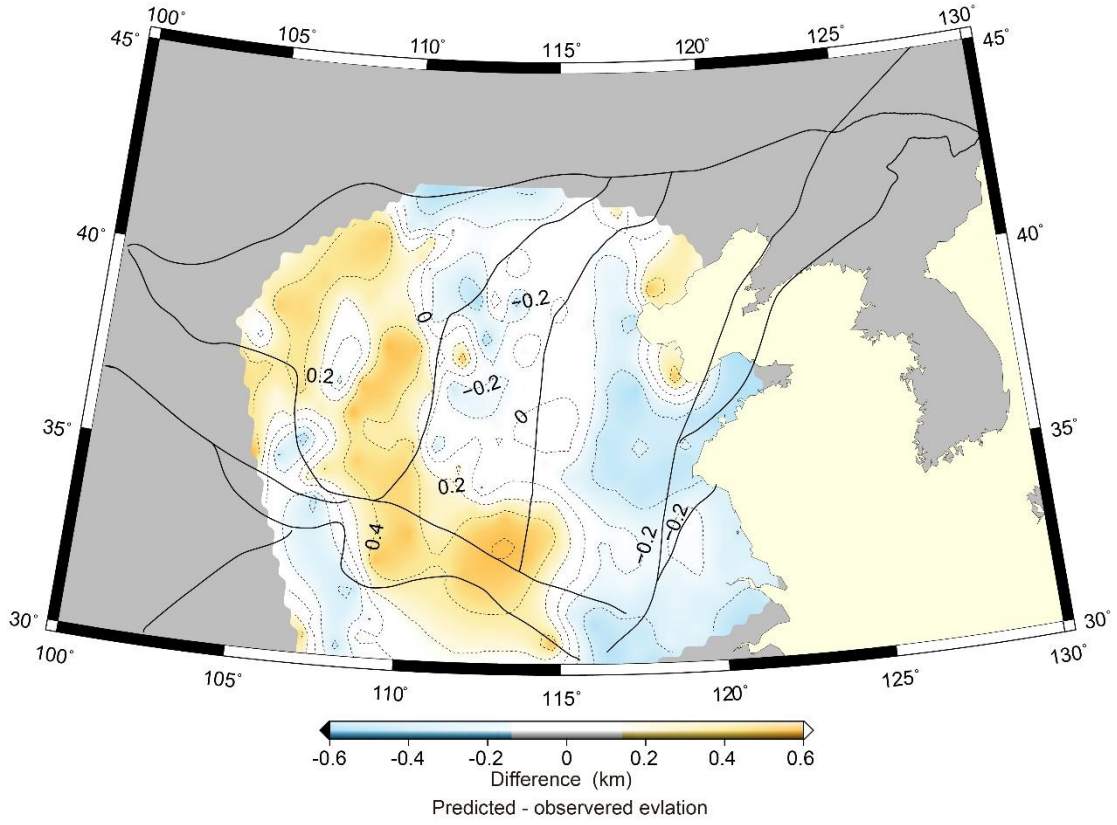


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