

Comments to the TC1 model

The file contains a 5 deg x 5 deg interpolation of the global thermal model for the continental lithosphere (constrained on a 1° x 1° grid)

I. Format of the file:

columns 1 & 2:	lat & lon
column 3-7:	temperatures (in deg C) at a depth of 40, 50, 100, 150, and 200 km (see comments below)
columns 8-10:	depth (in km) to a certain isotherm (550, 900, and 1300 deg C) (see comments below)
column 10	gives the lithosphere thermal thickness as defined by 1300 deg C

II. PLEASE READ: Important comments to the Thermal model

1. Thermal constraints have a ca. 25% uncertainty for the lithospheric thickness. The uncertainty for temperatures in the uppermost mantle is ca. 100 deg C and up to 150 deg C below 150 km!

2. The global thermal model is constrained on a 1 deg x 1 deg regular grid. This file provides a smoothed version of the model, in which all thermal parameters are interpolated with a 5 deg x 5 deg radius. Thus, some off-shore regions can be included as well.

3. Since both lithospheric thickness and temperatures have been interpolated (except for Antarctica), locations with the same thickness may have slightly different values of temperatures at the same depth. This is the case, in particular, for the regions with a strong gradient in lithospheric thickness since temperature gradient in such regions is weaker than gradient in thickness.

4. Sublithospheric mantle was assigned temperature of 1300 deg C.

5. At present, the crustal structure is not incorporated into the model. That's why temperatures at 40 and 50 km depths are given as a proxy for Moho temperatures (note that global average for thickness of the continental crust is 42 km, while there are also many places where the crust is thicker than 50 km). Together with data on lithospheric thickness and temperature gradient in the lithospheric mantle, they can be used to calculate temperature at any depth within the subcrustal lithosphere.

6. For a convenience of comparisons of temperatures with the "magnetic" crust and thickness of elastic lithosphere, I also provide the depths to 550 deg and 900 deg isotherms.

III. General comments

1. The coordinates refer to the centers of the cells.

2. Some off-shore regions or regions with oceanic crust (e.g. the Red Sea, the central part of the Peri-Caspian Basin) are included for interpolation purposes.

3. There can be some discrepancies between the published maps (the paper has been in press since July, 2005) and the data-base in its present form (continuously updated).

I would be grateful if you can report to me any errors/inconsistencies in the model.

IV. Citation

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