Downloaded from https://www.ipe.muni.cz/opendata/gravity1

**Švancara J., Meurers B., Bielik M. and Špaček P., 2021: Gravity maps of the contact region of the Bohemian Massif, Eastern Alps, Vienna Basin and Western Carpathians. DOI: XXXX**

The maps are based on the gravity data compiled by J. Švancara in 2002 within the ACORN project and re-compiled in 2020. From the corrected and merged database of irregular point measurements[[1]](#footnote-1), a grid of complete Bouguer anomalies was created with a step size of 1 x 1 km for a reduction density of 2.67 g/cm3 (451 x 272 nodes). All maps are projected in the Gauss-Krüger (S-42), 3rd 6-degree zone coordinate system (see parameter file S42.prj). The lower left and the upper right corner of data extent in S-42 coordinates is [3349, 5265] and [3794, 5523], respectively.

Maps of Bouguer gravity anomalies, horizontal gravity gradient and residual gravity anomalies are provided in 3 zip files:

**BM\_EA\_WC\_Bouguer\_gravity.zip** contains:

**BM\_EA\_WC\_Bouguer\_gravity.tif**Complete Bouguer gravity anomaly map; values classified in 21-colour scheme (Geosoft), colour bar enclosed as an independent tif. (4690 x 2822 px; geotiff format)

**BM\_EA\_WC\_isolines.zip**5 mGal isolines for the above in ESRI \*.shp format, including projection file.

**BM\_EA\_WC\_Bouguer\_shaded.tif**Map of complete Bouguer gravity anomalies, shaded by horizontal gradient, colors stretched using Geosoft color ramp. (6743 x 4153 px; geotiff format; TFW world file enclosed)

**BM\_EA\_WC\_Bouguer\_shaded+5mGalContours.tif**Same as above with thin 5 mGal isolines added (for those who can not use the shapefile).

**BM\_EA\_WC\_Bouguer\_shaded+5mGalContoursLabeled.tif**Same as above with isoline labels added.

**BM\_EA\_WC\_Bouguer.jpg; BM\_EA\_WC\_Bouguer\_shaded.jpg**Maps with the above specified raster layers, graticules, legend and basic topography (cities, state borders).

**BM\_EA\_WC\_Horizontal\_gradient.zip** contains:

**BM\_EA\_WC\_HorizontalGradient.tif**Map of horizontal gradient of gravity field, colors stretched using Geosoft color ramp. (6743 x 4153 px; geotiff format; TFW world file enclosed)

**BM\_EA\_WC\_HorizontalGradient\_shaded.tif**Same as above shaded (illumination from W).

**BM\_EA\_WC\_Gradient\_shaded.jpg**Maps with the above specified raster layer, graticules, legend and basic topography (cities, state borders).

**BM\_EA\_WC\_Residual\_gravity.zip:**

Two residual gravity anomaly maps were calculated by Butterworth filtering with 2-45 km and 2-100 km bandpass, respectively. The third residual gravity anomaly map is a difference of upward continuation of gravity field to 1 km and 5 km levels. The residual gravity maps for the cutoff wavelengths λ0 = 45 km and λ0 = 100 km can be expected to show the effects of geological structures to depths of approximately 7-8 km and 16 km, respectively.

**BM\_EA\_WC\_ Residual\_gravity\_45\_km.tif**Residual gravity anomaly map for λ0 = 45 km. (5620 x 3297 px; geotiff format; TFW world file enclosed)

**BM\_EA\_WC\_Residual\_gravity\_100\_km.tif**Residual gravity anomaly map for λ0 = 100 km. Colour bar enclosed as an independent tif. (4690 x 2822 px; geotiff format)

**BM\_EA\_WC\_Residual\_gravity\_up\_1\_5\_km.tif**Map ofdifference of upward continuation of gravity field to 1 km and 5 km levels. (5620 x 3297 px; geotiff format; TFW world file enclosed)

**BM\_EA\_WC\_Residual\_100\_km.jpg, BM\_EA\_WC\_Residual\_45\_km.jpg, BM\_EA\_WC\_Residual\_ up\_1\_5\_km.jpg**Maps with the above specified raster layers, graticules, legend and basic topography (cities, state borders).

1. For Czech and Slovak territories the data come from gravimetric mapping at 1:200 000 scale, 1957-1960. The average density of the input gravity point measurements is 1 per 2.5 km2 (gravimetric mapping at 1:200 000 scale, 1957-1960). For Austrian territory the average density of the input gravity point measurements is 1 per 5 km2. [↑](#footnote-ref-1)