

Supplementary material to:

**“Antarctic ice-mass balance 2002 to 2011: regional re-analysis of GRACE satellite gravimetry measurements with improved estimate of glacial-isostatic adjustment”**

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The supplementary material consists of two files that are:

(1) Spectrum\_of\_e\_for\_AGE1\_GRACE\_and\_GPS\_combined.sh: Fully normalized spherical-harmonic coefficients of the rate of geoid-height change in mm/yr for the GIA estimate AGE1 (GRACE & GPS comb.). The ASCII file has four columns; spherical-harmonic degree (column 1), spherical-harmonic order (column 2), coefficient of cosine term of spherical-harmonic expansion (column 3), coefficient of sine term of spherical-harmonic expansion (column 4). The cut-off degrees are 0 to 170.

(2) Spectrum\_of\_e\_for\_AGE1\_GPS\_only.sh: Fully normalized spherical-harmonic coefficients of the rate of geoid-height change in mm/yr for the GIA estimate AGE1 (GPS only). The ASCII file has four columns; spherical-harmonic degree (column 1), spherical-harmonic order (column 2), coefficient of cosine term of spherical-harmonic expansion (column 3), coefficient of sine term of spherical-harmonic expansion (column 4). The cut-off degrees are 0 to 170.

The divides of the sectorial subdivision and the location of the GPS stations used are shown in Figure 1. The distribution of apparent ice-mass change resolved for each of the 25 Antarctic drainage basins is shown in Figure 2.

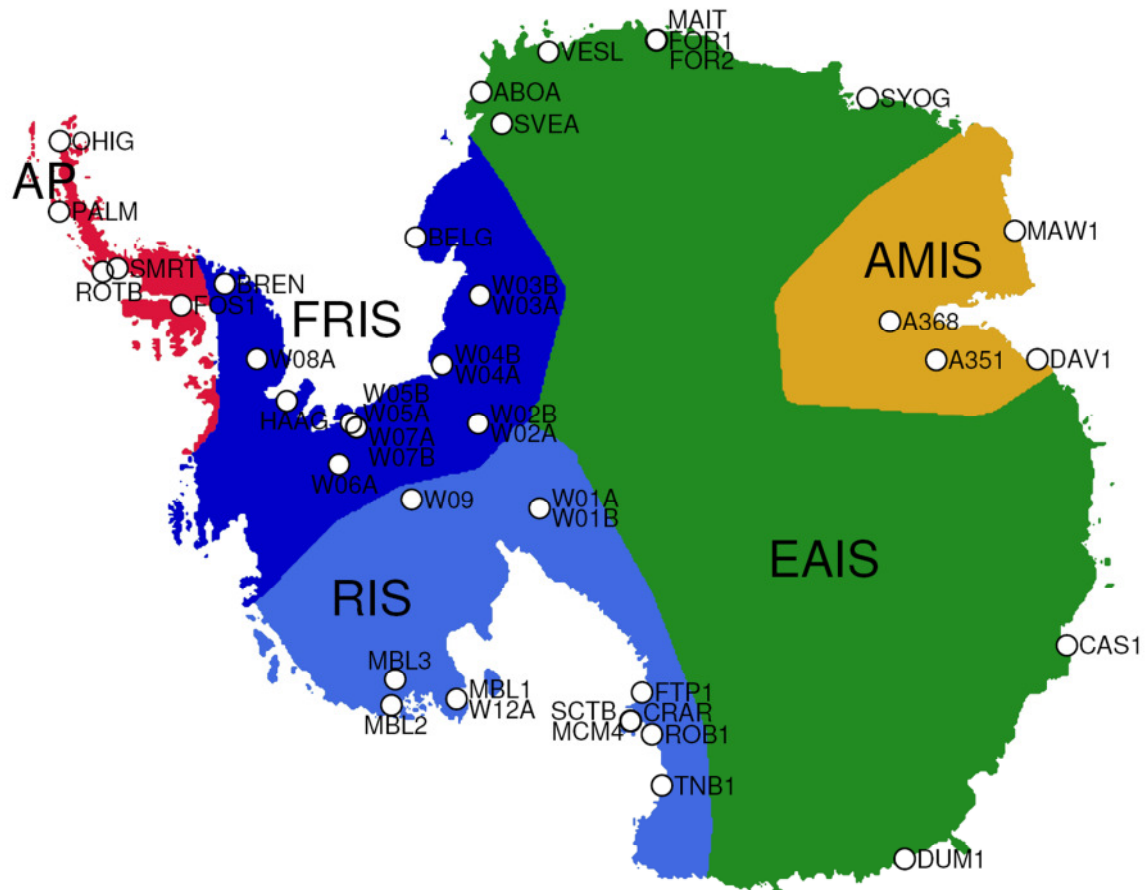


Figure 1. Definition of sectors used for subdividing the load histories (LH1, LH2 and LH3). Color code corresponds to the one used in the Figure 3, main paper. The sectorial acronyms are; Antarctic Peninsula (AP), Filchner-Ronne Ice Shelf (FRIS), Ross Ice Shelf (RIS), Amery Ice Shelf (AMIS), remaining parts of East Antarctic Ice Sheet (EAIS). Note that e.g. FRIS and RIS include the actual shelf regions where (un-)loading appeared during the last glacial cycle. The GPS stations which we use are indicated by the white markers and designated by the names as used by Thomas et al. (2011).

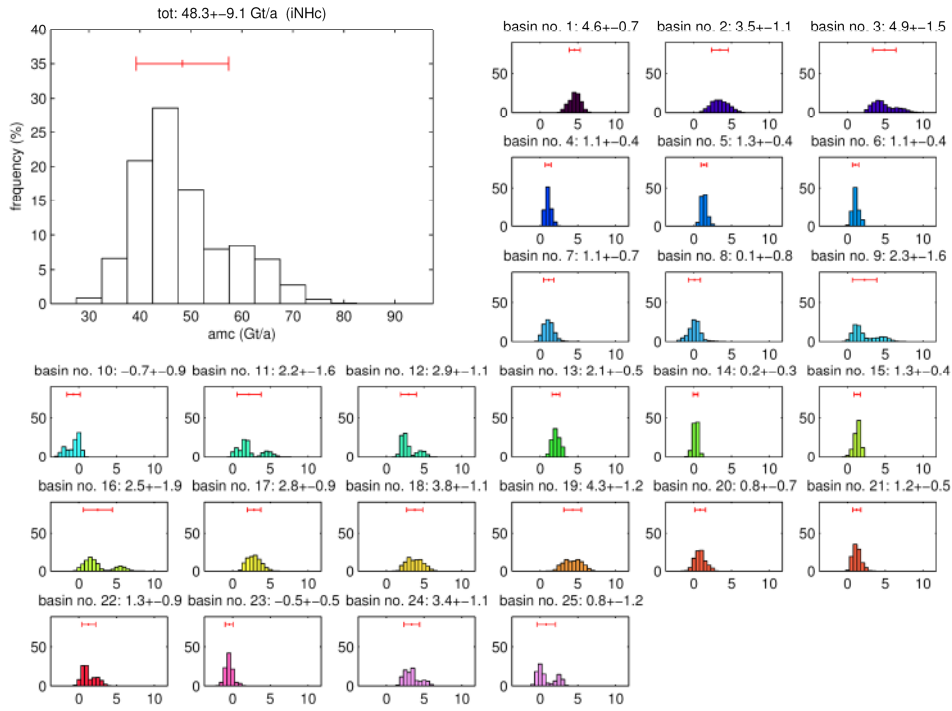


Figure 2. Distribution of apparent ice-mass change for the 25 drainage basins underlying Table 2, main paper. The distribution of apparent mass change for total Antarctica including its mean and 1-sigma interval is shown in the top left corner. The remaining subplots show the corresponding results for the drainage basins as illustrated in Figure 1, main paper. The color code corresponds to the one used in Figure 1, main paper.