

Supplementary Materials to: A sensitivity kernel perspective on GRACE mass change estimates, Journal of Geodesy.

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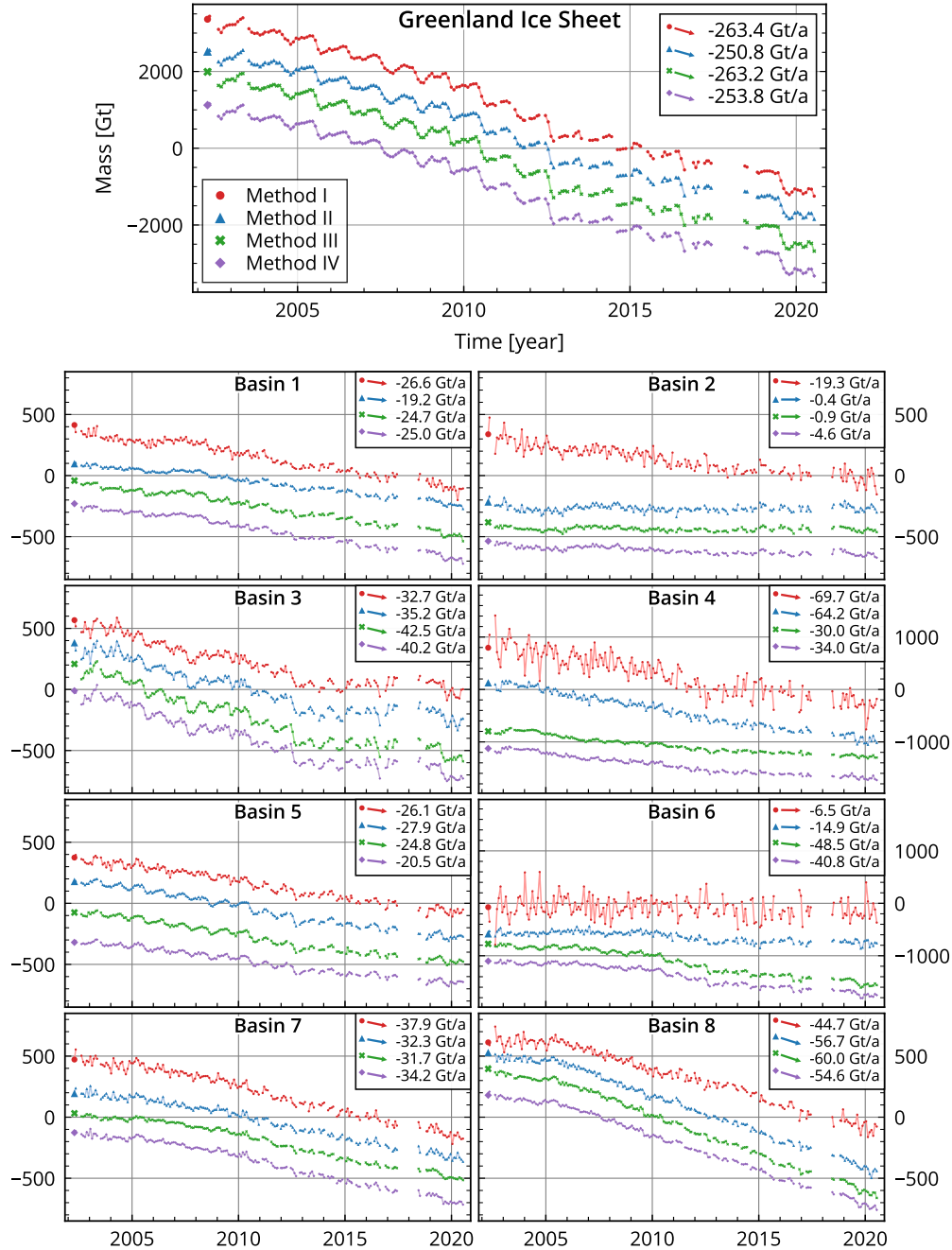


Fig. S1: Mass change time series of the four implemented methods for the Greenland Ice Sheet and drainage basins 1 – 8. Linear trends from fitting the standard model are given in the top right panel.

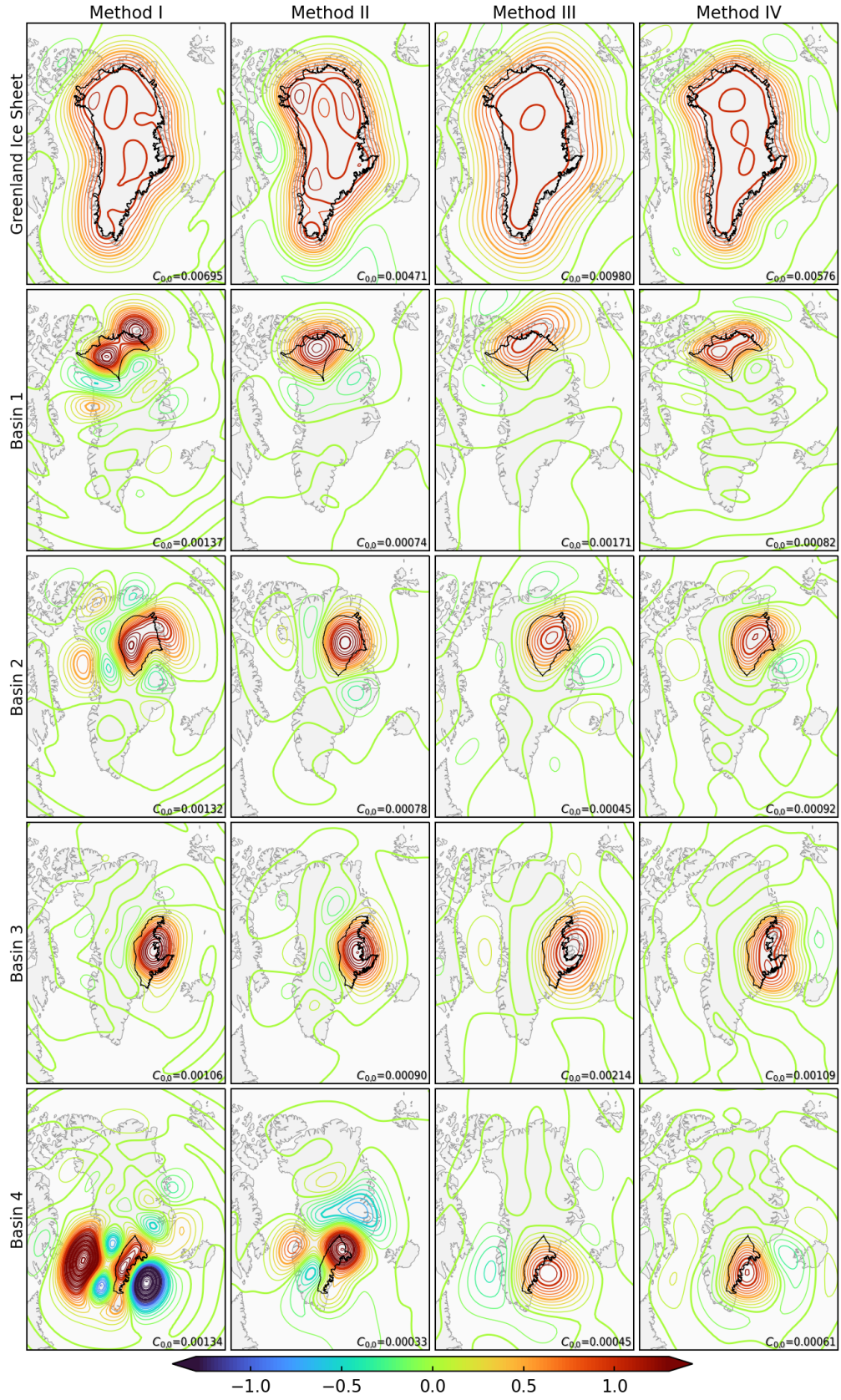


Fig. S2: Sensitivity kernels of our implementation of four different methods for the Greenland Ice Sheet and drainage basins 1 – 4. Contour lines are shown at increments of 0.1 (thin) and 0.5 (thick). The sensitivity kernels contain an empirically derived $C_{0,0}$ (given in the lower right) for illustration purposes.

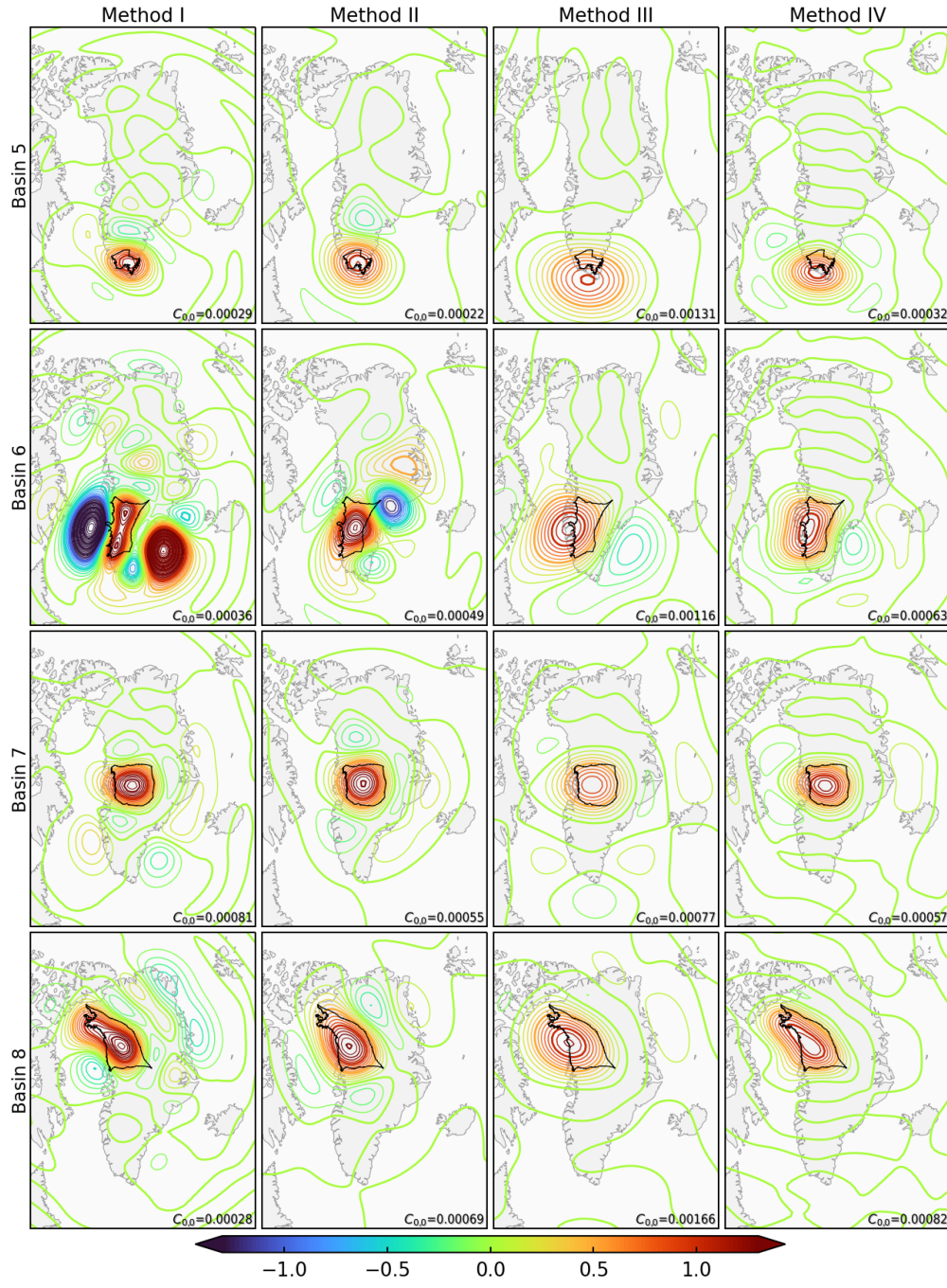


Fig. S3: Same as Fig. S2 but for drainage basins 5 – 8.

Table S1: Empirically determined degree-0 terms

	Method I	Method II	Method III	Method IV
GrIS	0.006 95	0.004 71	0.009 80	0.005 76
Basin 1	0.001 37	0.000 74	0.001 71	0.000 82
Basin 2	0.001 32	0.000 78	0.000 45	0.000 92
Basin 3	0.001 06	0.000 90	0.002 14	0.001 09
Basin 4	0.001 34	0.000 33	0.000 45	0.000 61
Basin 5	0.000 29	0.000 22	0.001 31	0.000 32
Basin 6	0.000 36	0.000 49	0.001 16	0.000 63
Basin 7	0.000 81	0.000 55	0.000 77	0.000 57
Basin 8	0.000 28	0.000 69	0.001 66	0.000 82

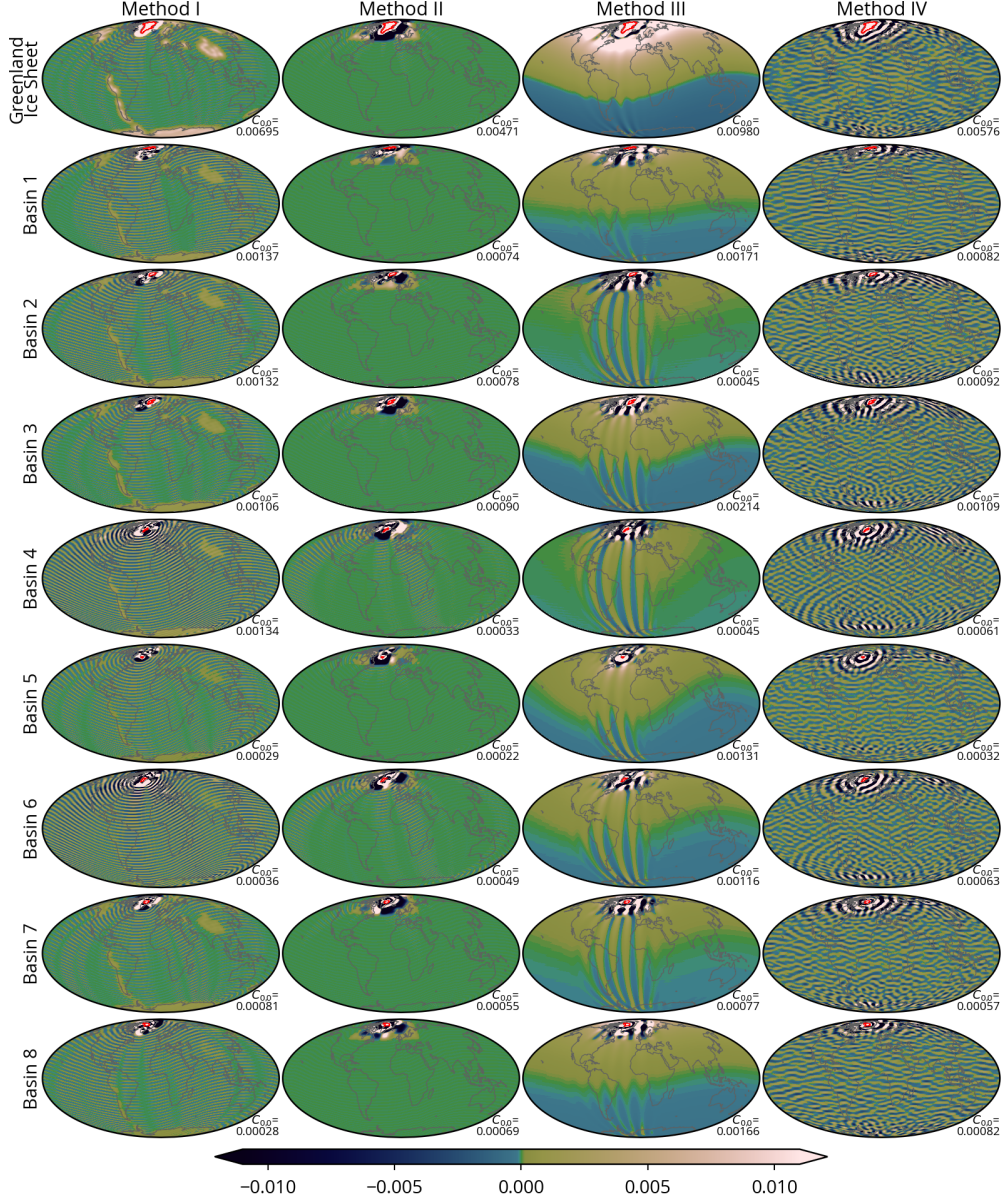


Fig. S4: Sensitivity kernels of our implementation of four different methods for the Greenland Ice Sheet and drainage basins 1 – 8 in a global representation. The sensitivity kernels contain an empirically derived $C_{0,0}$ (given in the lower right) for illustration purposes.

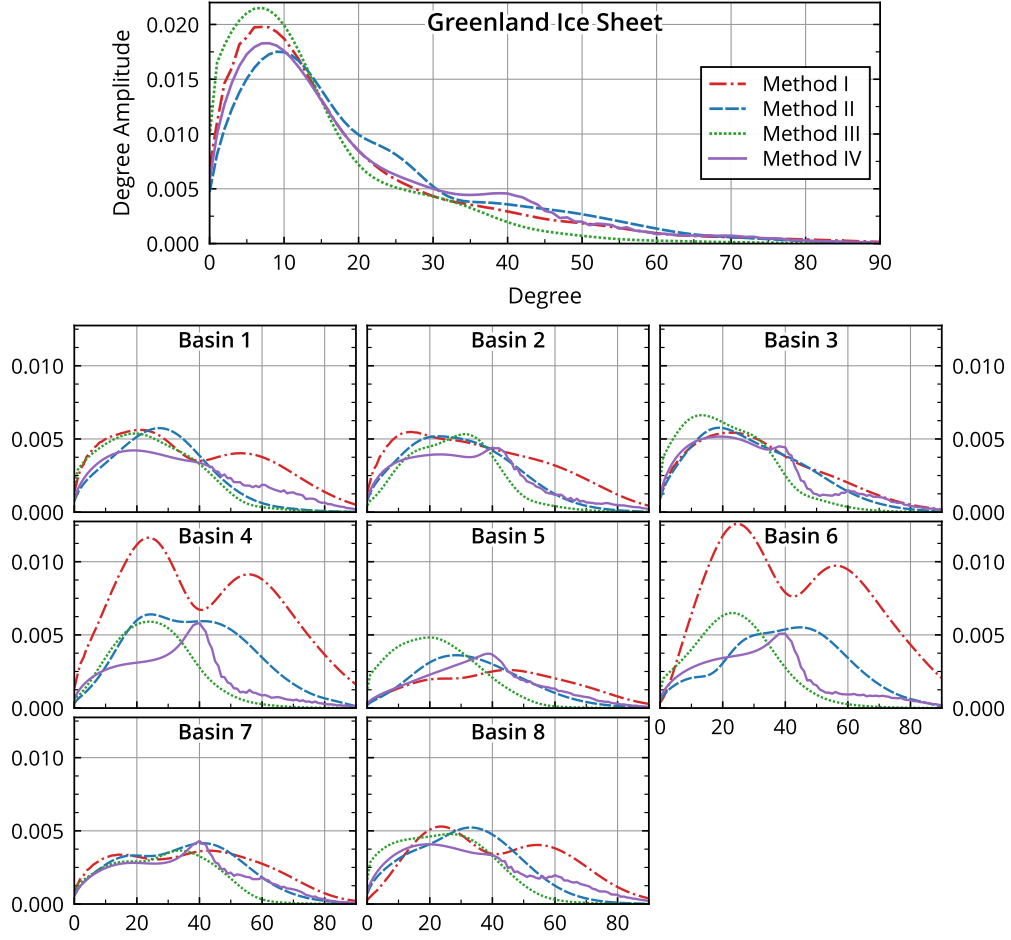


Fig. S5: Degree amplitudes of sensitivity kernels of our implementation of four different methods for the Greenland Ice Sheet and drainage basins 1 – 8. The sensitivity kernels contain an empirically derived $C_{0,0}$ for illustration purposes.

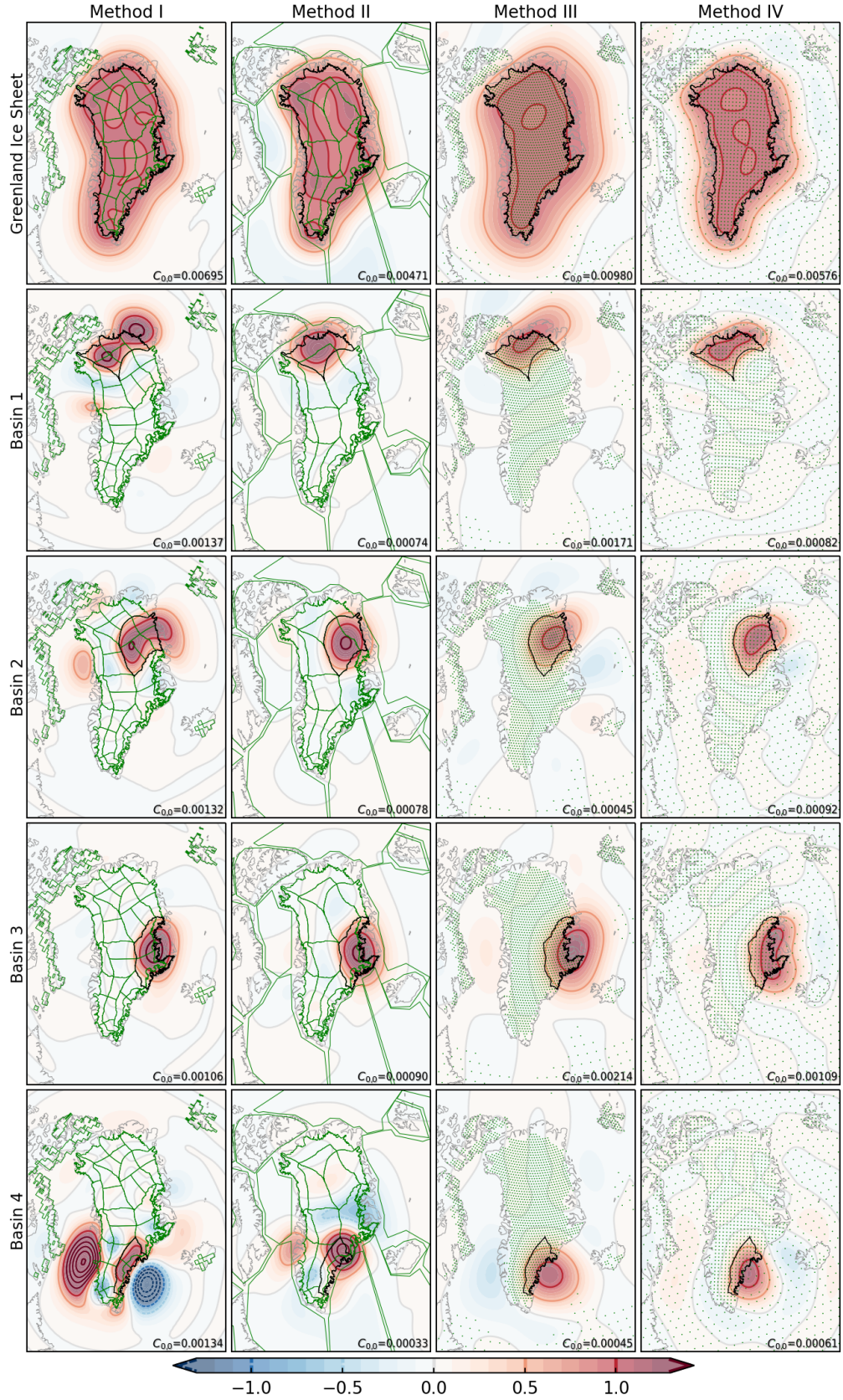


Fig. S6: Sensitivity kernels (background) of our implementation of four different methods for the Greenland Ice Sheet and drainage basins 1 – 4. Contour lines are shown at increments of 0.5. The sensitivity kernels contain an empirically derived $C_{0,0}$ (given in the lower right) for illustration purposes. Prescribed patterns are illustrated in green on top (areal patterns of Method I and Method II illustrated as polygons and point mass patterns of Method III and Method IV illustrated as points).

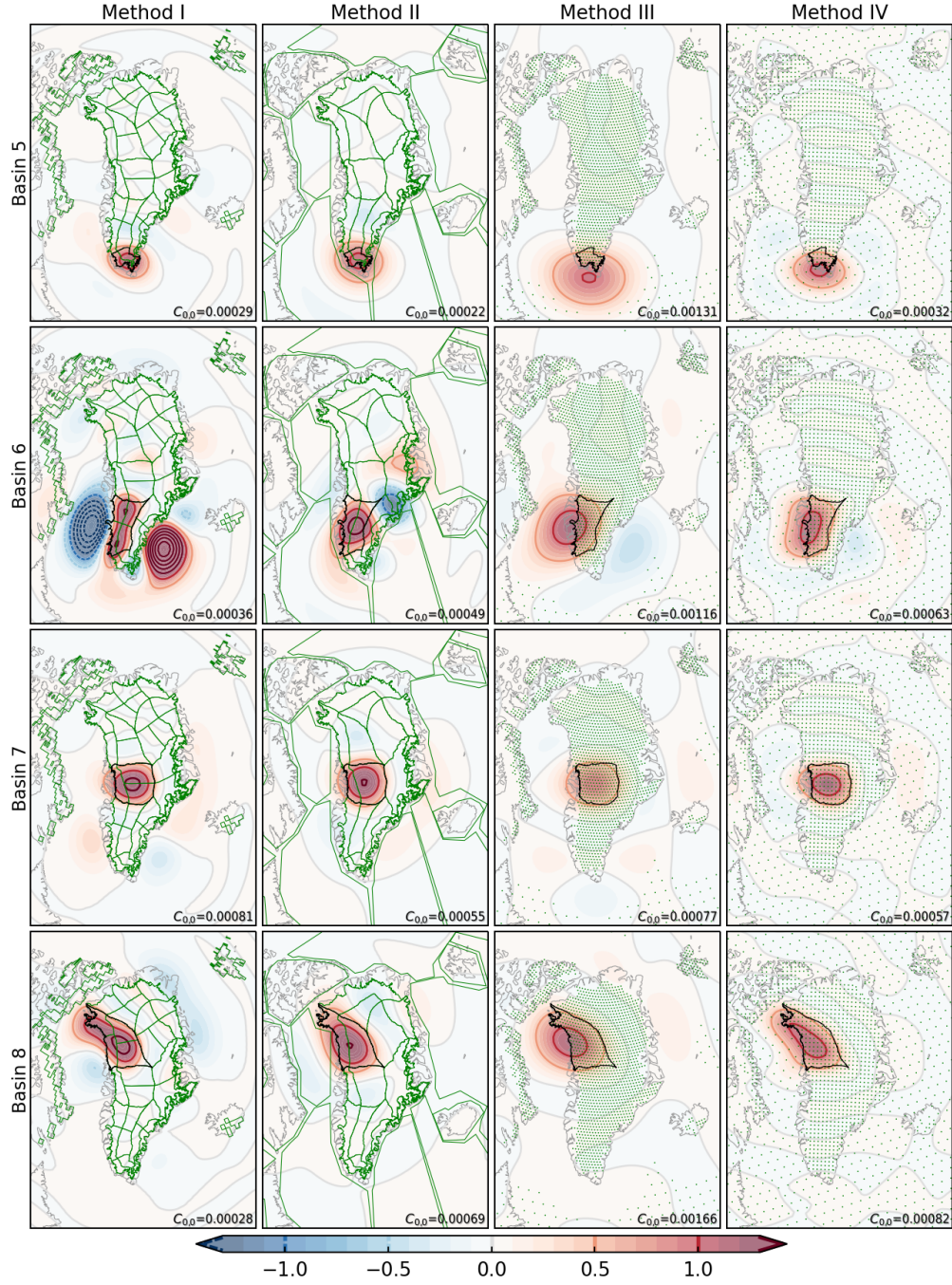


Fig. S7: Same as Fig. S6 but for drainage basins 5 – 8.