Supplement of:
Bio-climatic factors drive spectral vegetation changes in Greenland
Tiago Silva et al.

Tiago Silva[1,2], Brandon Samuel Whitley[3], Elisabeth Machteld Biersma[3], Jakob Abermann[1,2], Natasha de Vere[3], Katrine Raundrup[4], Toke Thomas Høye[5,6], and Wolfgang Schöner[1,2]

[1]Geography and Regional Science Institute, University of Graz, Graz, Austria
[2]Austrian Polar Research Institute, Vienna, Austria
[3]Natural History Museum of Denmark, University of Copenhagen, Copenhagen, Denmark
[4]Department of Environment and Minerals, Greenland Institute of Natural Resources, Nuuk, Greenland
[5]Department of Ecoscience, Univeristy of Aarhus, Aarhus, Denmark
[6]Arctic Research Centre, Univeristy of Aarhus, Aarhus, Denmark

Correspondence: Tiago Silva (tiago.ferreira-da-silva@uni-graz.at)
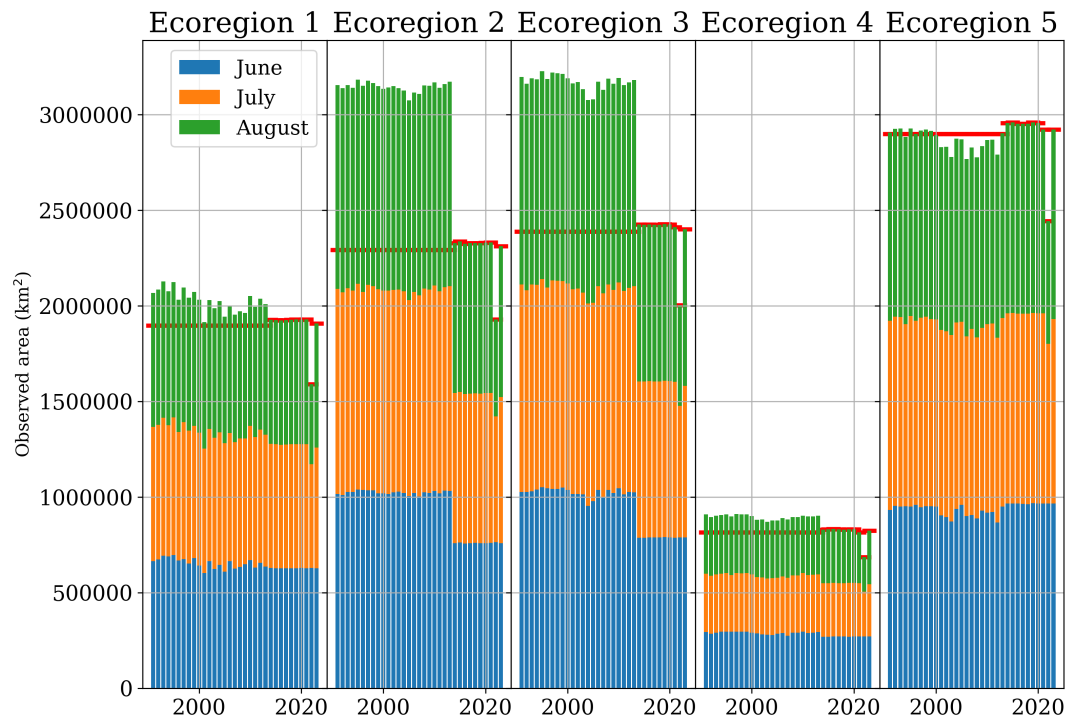
Figure S1. Monthly area extent (#observations×area) cover by AVHRR and VIIRS between 1991 and 2023 as dependent on ecoregion. The red line marks between 1991 and 2013 the averaged monthly area extent based on the period 2014–2023.
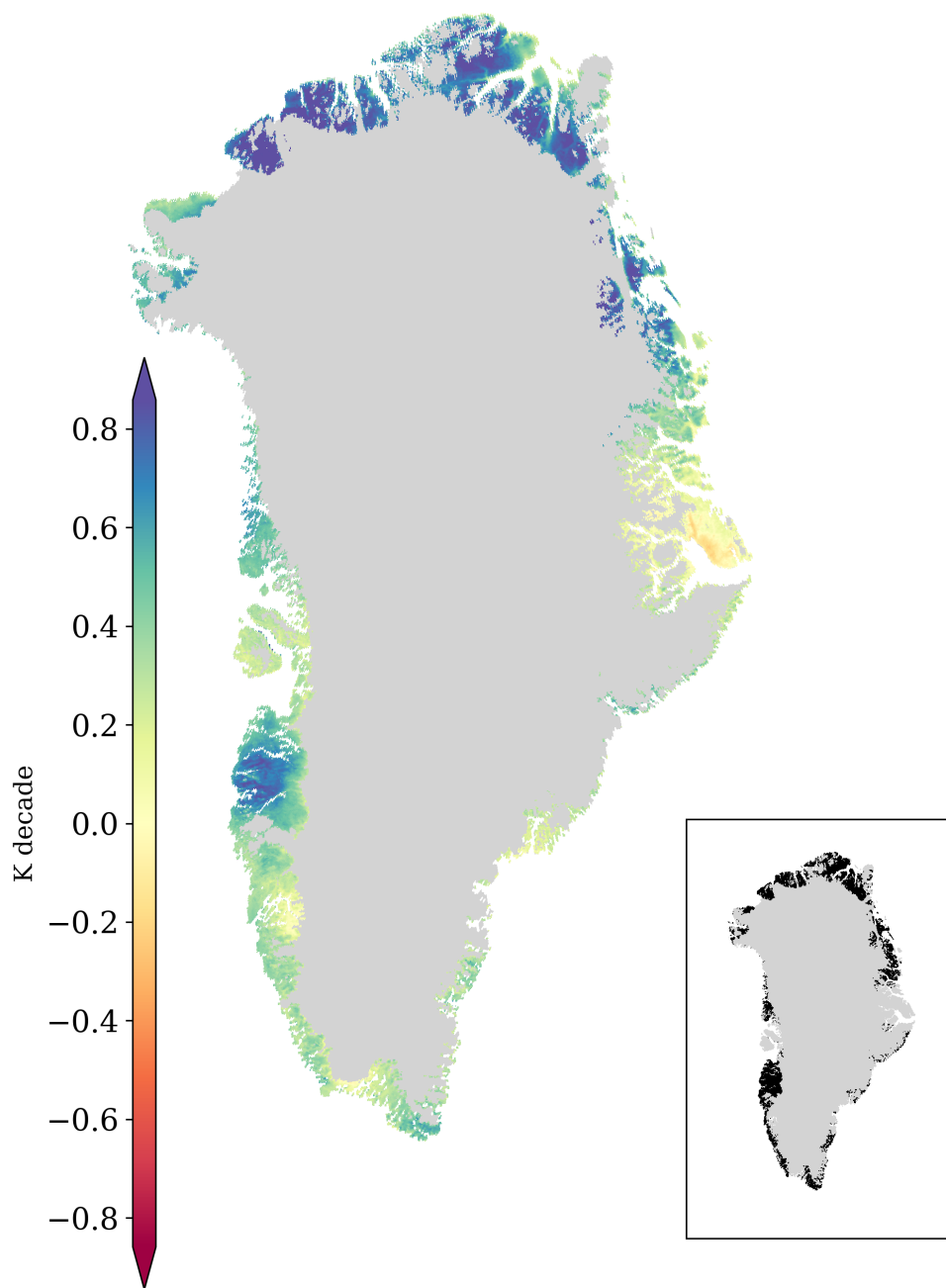
Figure S2. 2-m air-temperature trends in summer across ice-free Greenland from CARRA between 1991 and 2023. Significant confident levels higher than 90% are shaded in the map in the lower right corner.
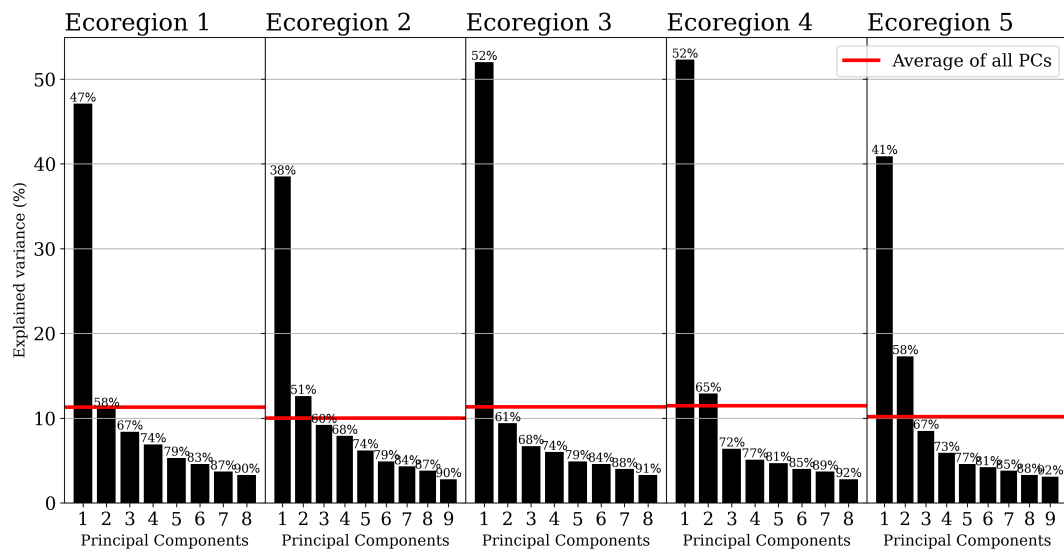
Figure S3. Explained variance among principal components and across ecoregions between 1991 and 2023 accounting for at least 90% of the variability among the 16 bioclimatic indicators. The averaged explained variance for the principal components accounting for at least 90% of the variability among the 16 bioclimatic indicators is drawn in red.
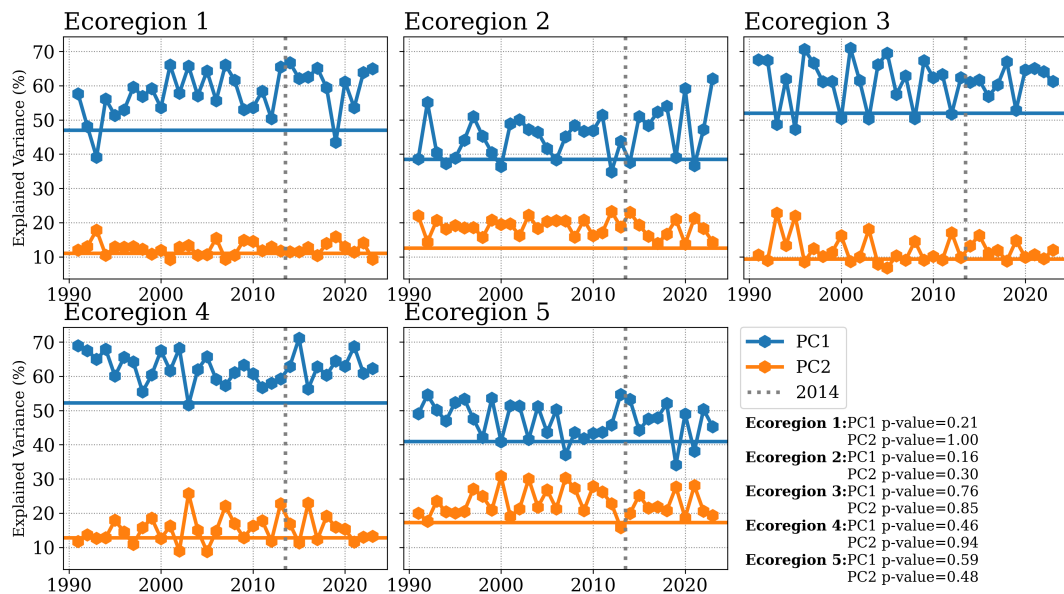
Figure S4. Interannual explained variance for the first and the second principal component across ecoregions between 1991 and 2023. The explained variance of the combined period is shown as horizontal continuous line. The vertical dash line marks the change of satellite in 2014.
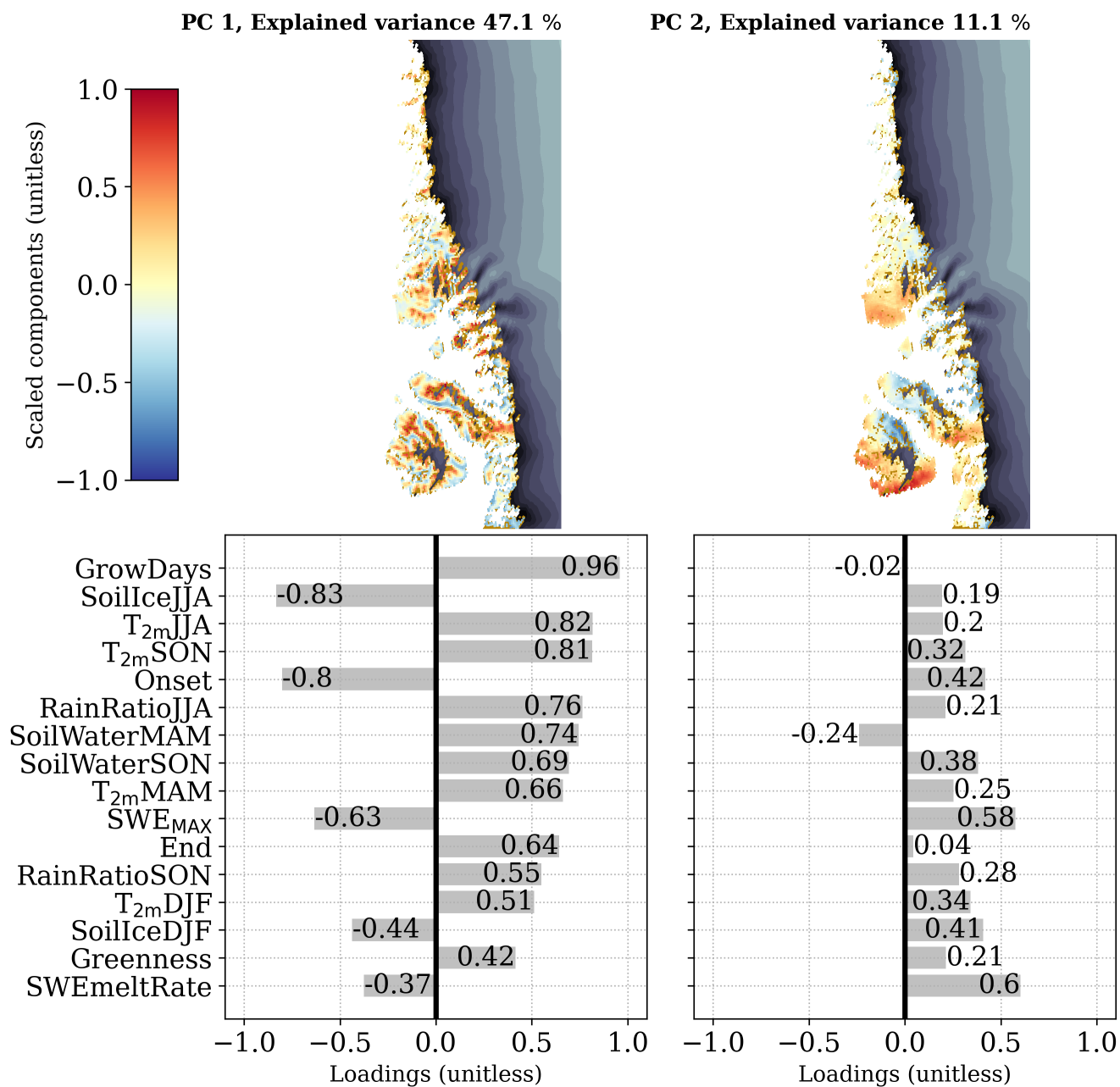
Figure S5. Spatial pattern of the averaged 1991–2023 scores for the first (PC1) and second (PC2) principal components in ecoregion 1, as well as the corresponding loadings of each component.
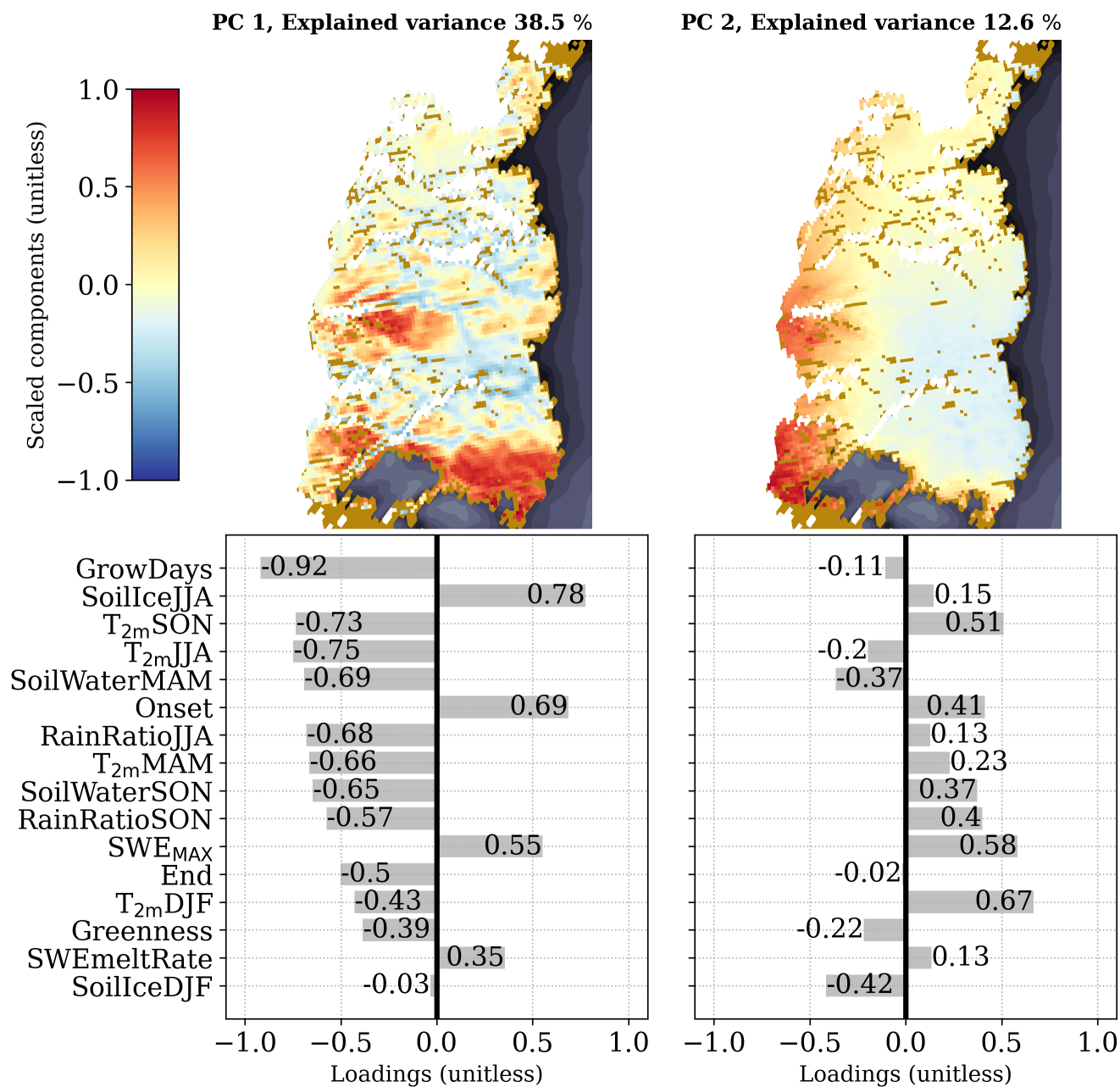
Figure S6. Spatial pattern of the averaged 1991–2023 scores for the first (PC1) and second (PC2) principal components in ecoregion 2, as well as the corresponding loadings of each component.
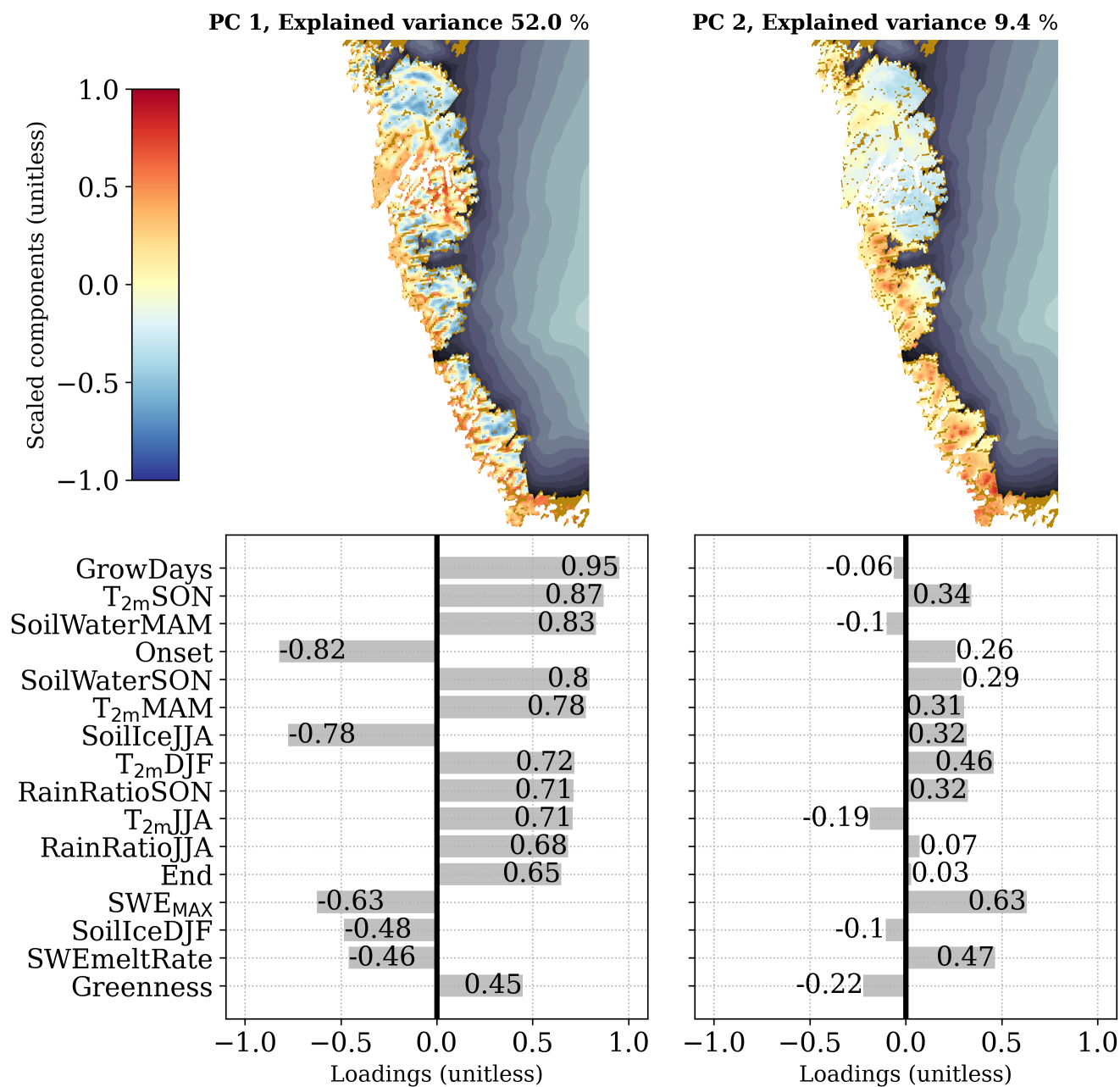
Figure S7. Spatial pattern of the averaged 1991–2023 scores for the first (PC1) and second (PC2) principal components in ecoregion 3, as well as the corresponding loadings of each component.
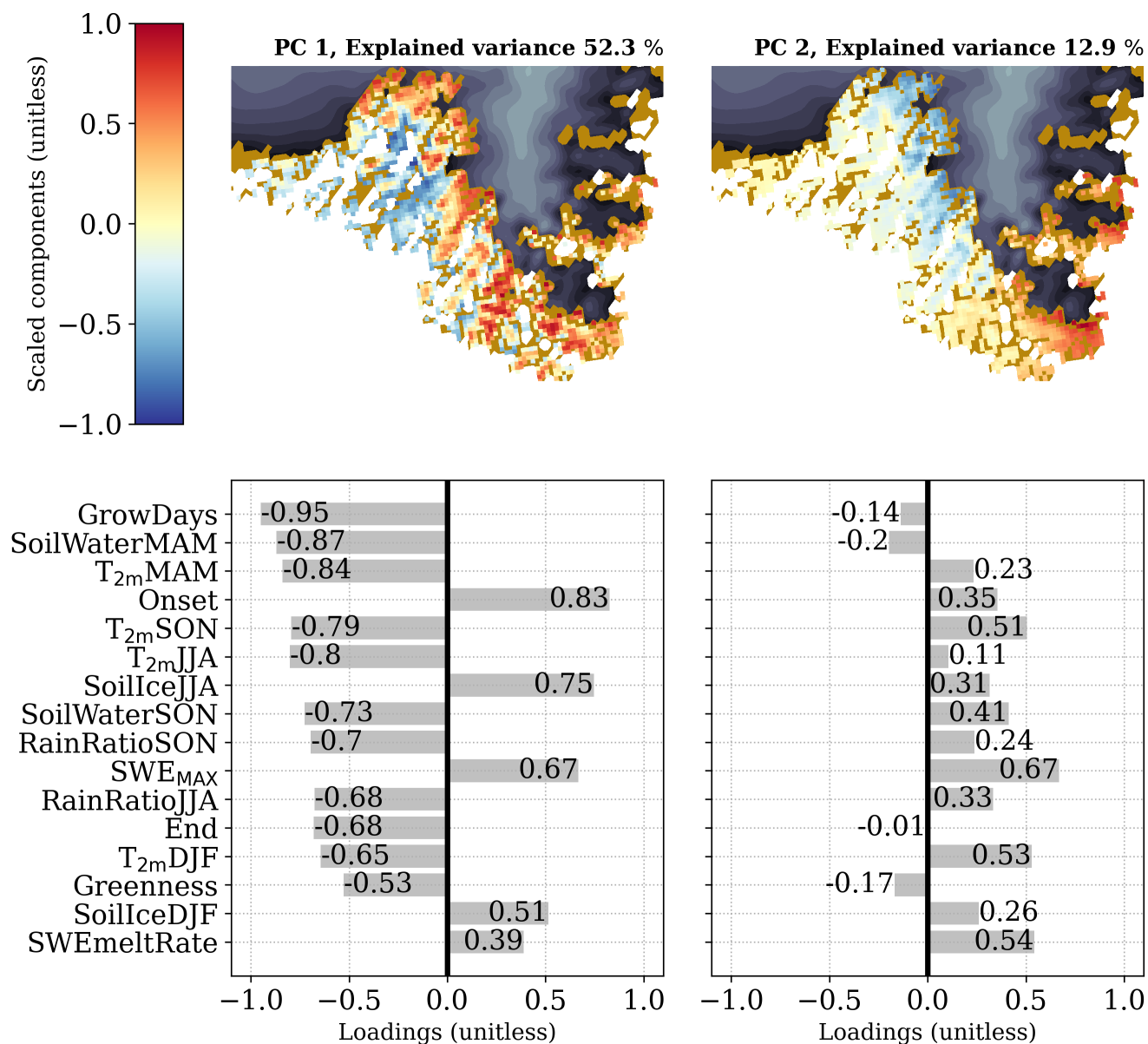
Figure S8. Spatial pattern of the averaged 1991–2023 scores for the first (PC1) and second (PC2) principal components in ecoregion 4, as well as the corresponding loadings of each component.
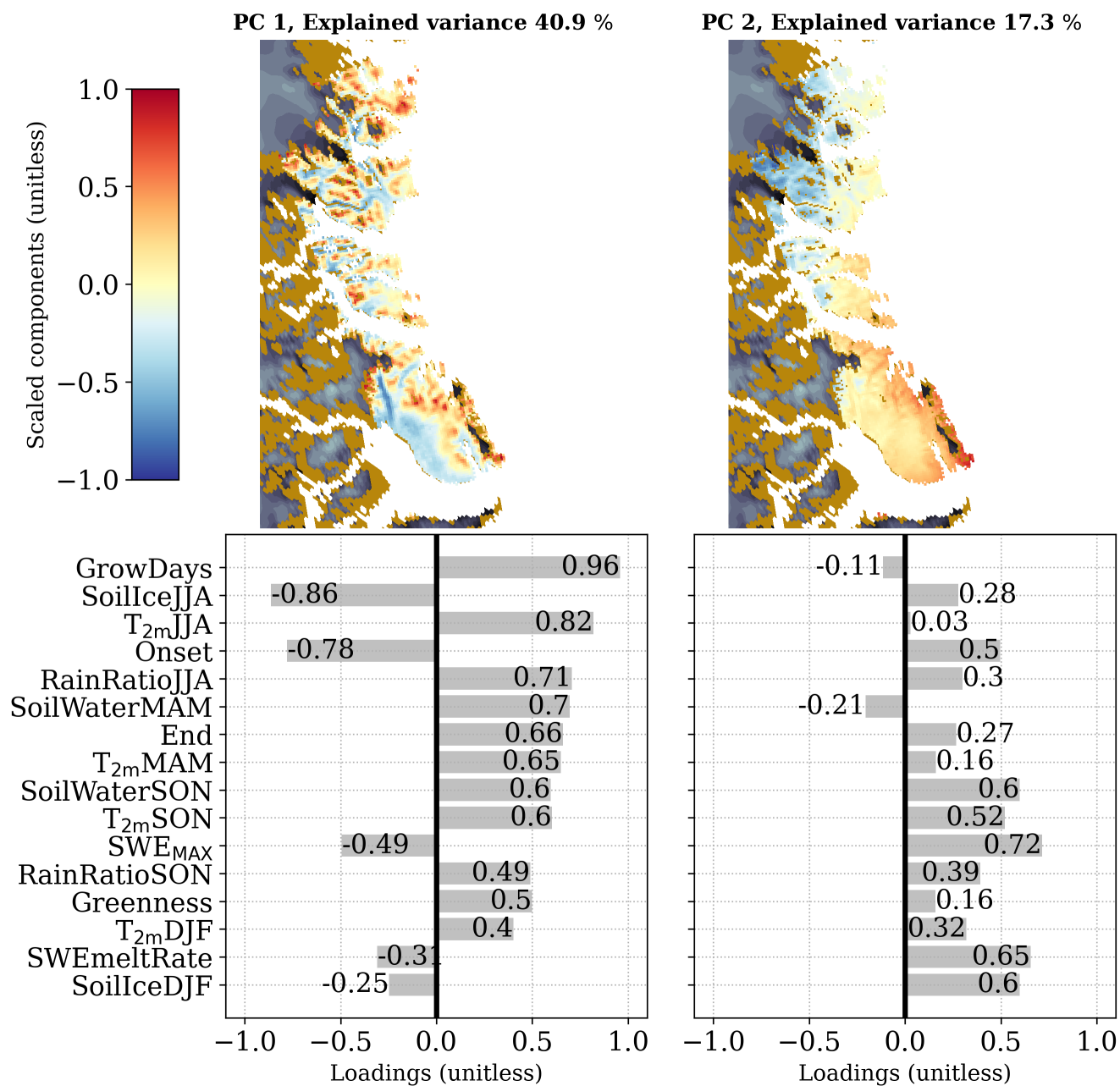
Figure S9. Spatial pattern of the averaged 1991–2023 scores for the first (PC1) and second (PC2) principal components in ecoregion 5, as well as the corresponding loadings of each component.
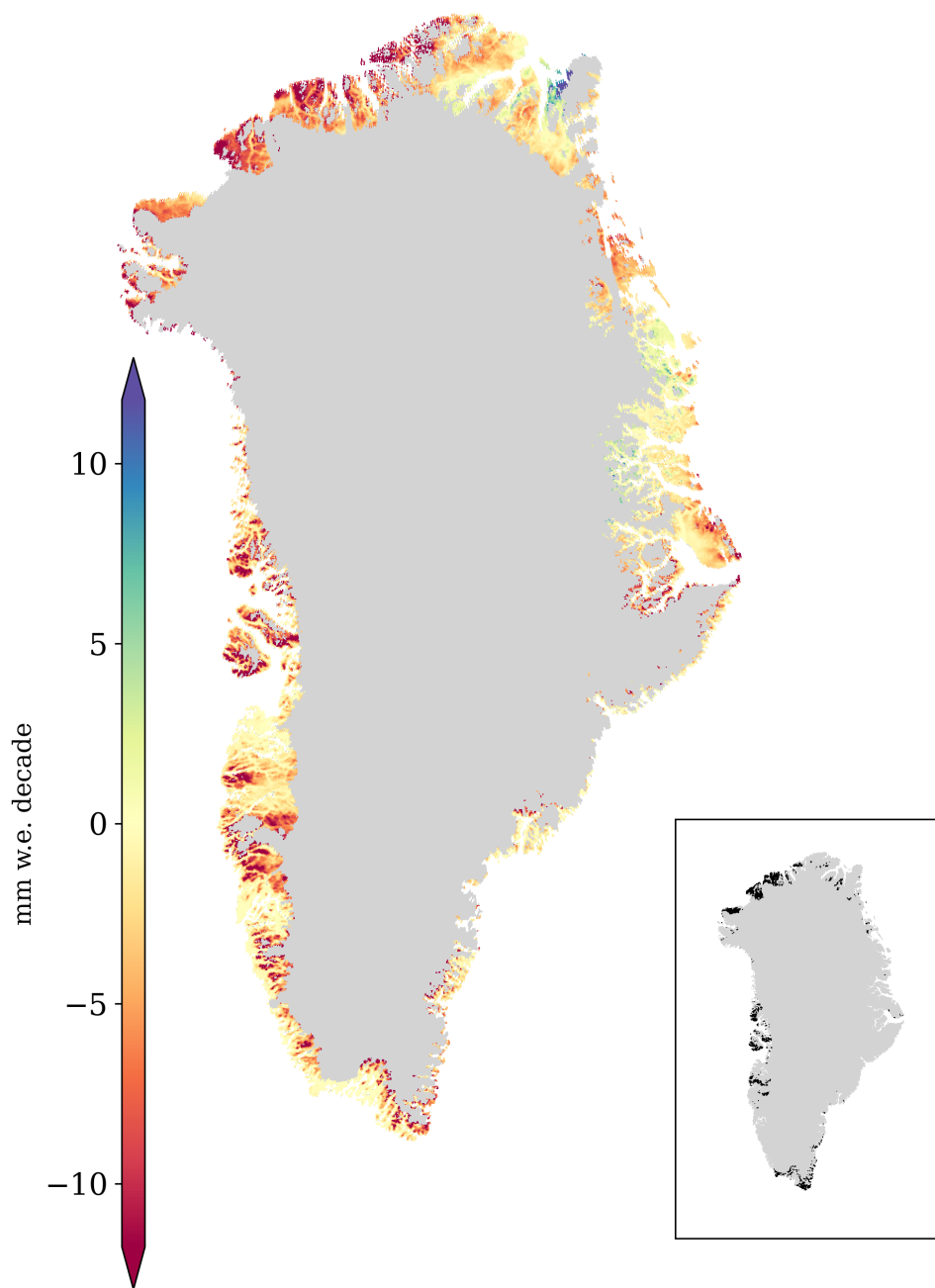
Figure S10. Total solid precipitation trends in summer across ice-free Greenland from CARRA between 1991 and 2023. Significant confident levels higher than 90% are shaded in the map in the lower right corner.