HydroGFD3.0: a global near real-time updated hydrological forcing data set - supplementary material

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1 Supplementary material

1.1 Climatological data sets used for precipitation

Some regions of the CHPclim data set were replaced with GPCCv8 climatological means for the period 1980–2009. The grid points replaced (in the HydroGFD data set coordinates, counting grid ids from the lower left corner (minimum of lon and lat), and starting to count at 1.) are:

Northern Russia - x: 690–1190; y: 628–922

Scandinavia - x: 645–800; y: 579–736

Greenland was replaced with e5 climatological means for 1980–2009.
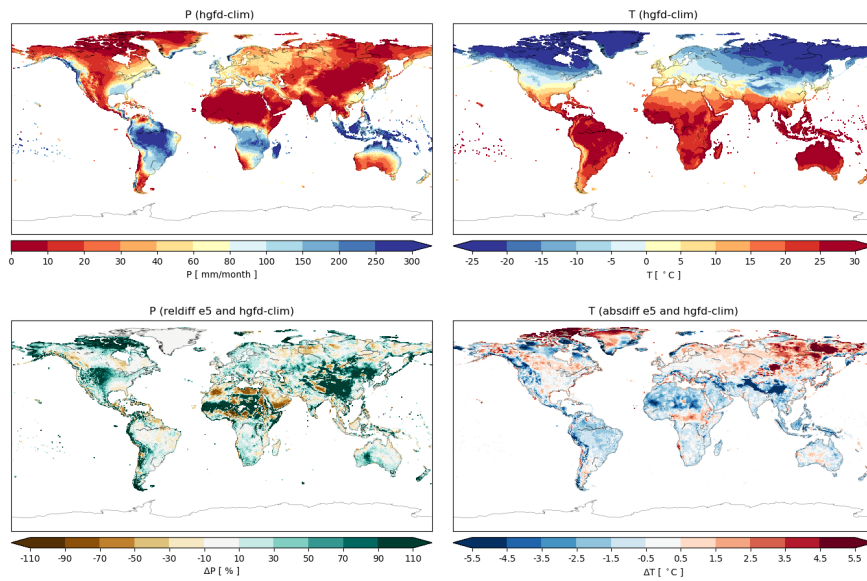
Figure S1. HydroGFD3 December–February mean climatology for P (top left) and T (top right). The bottom row shows the bias of the e5 reanalysis for each variable. Note that the scale for P is not linear.
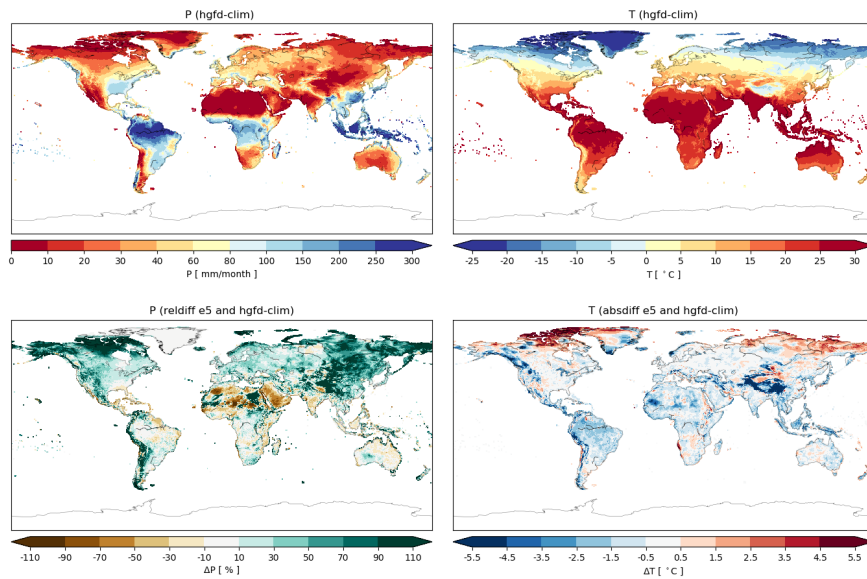
Figure S2. HydroGFD3 March–May mean climatology for P (top left) and T (top right). The bottom row shows the bias of the e5 reanalysis for each variable. Note that the scale for P is not linear.
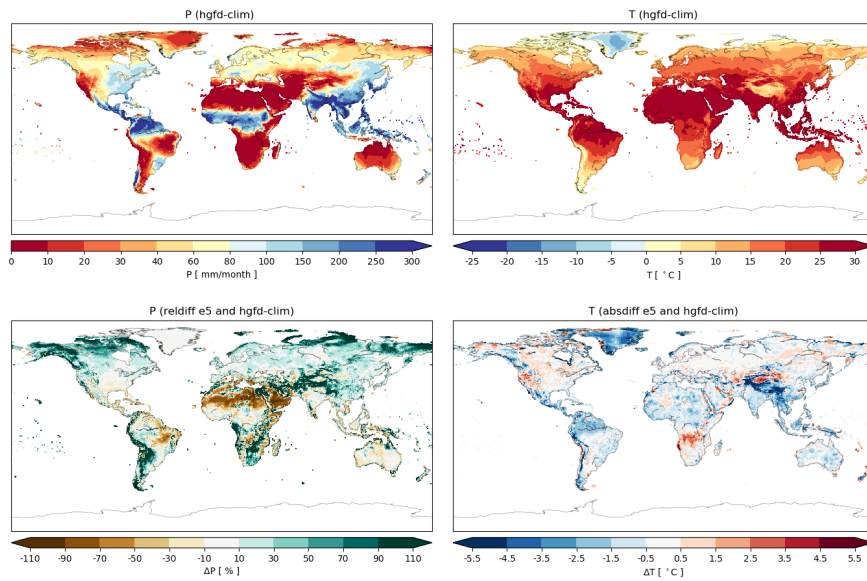
Figure S3. HydroGFD3 June–August mean climatology for P (top left) and T (top right). The bottom row shows the bias of the e5 reanalysis for each variable. Note that the scale for P is not linear.
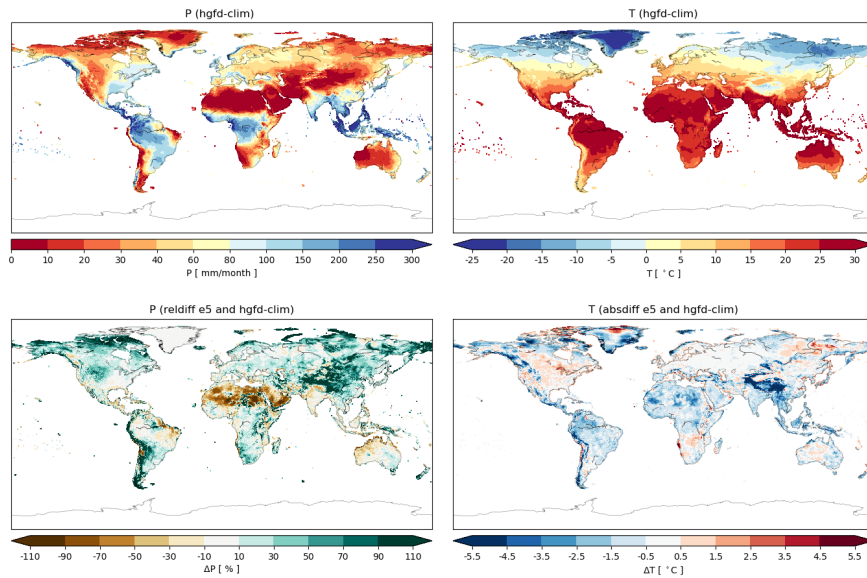
Figure S4. HydroGFD3 September–November mean climatology for P (top left) and T (top right). The bottom row shows the bias of the e5 reanalysis for each variable. Note that the scale for P is not linear.
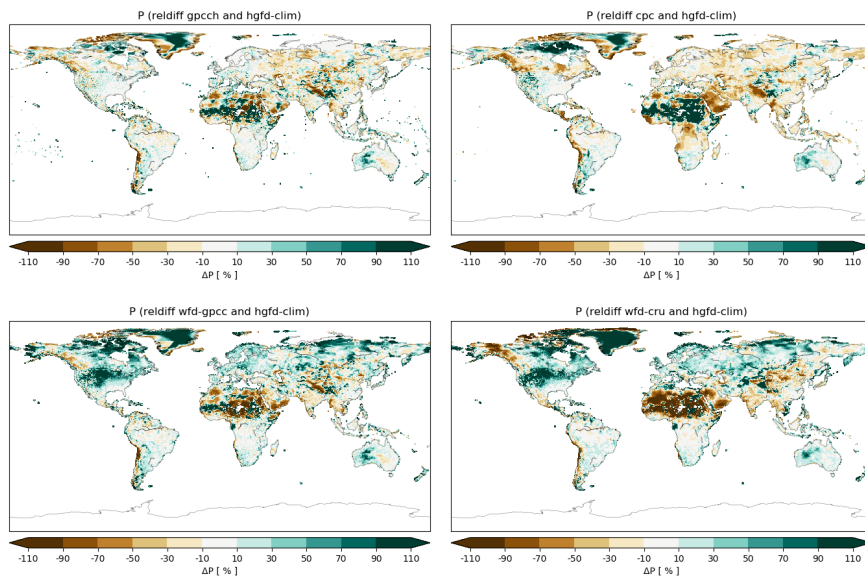
Figure S5. Relative difference in December–February P climatology between gpcch (top left), cpcp (top right), wfd-gpcc (bottom left) and wfd-cru (bottom right).
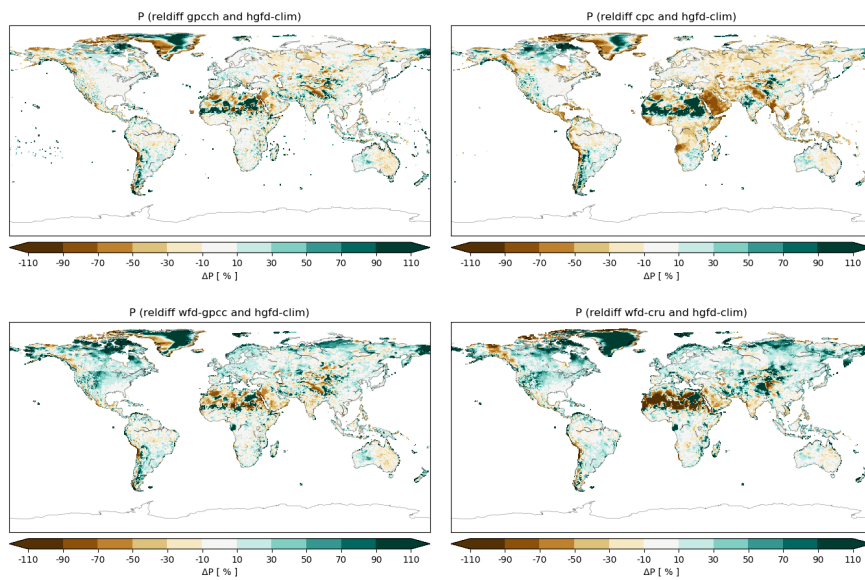
Figure S6. Relative difference in March–May P climatology between gpcch (top left), cpcp (top right), wfd-gpcc (bottom left) and wfd-cru (bottom right).
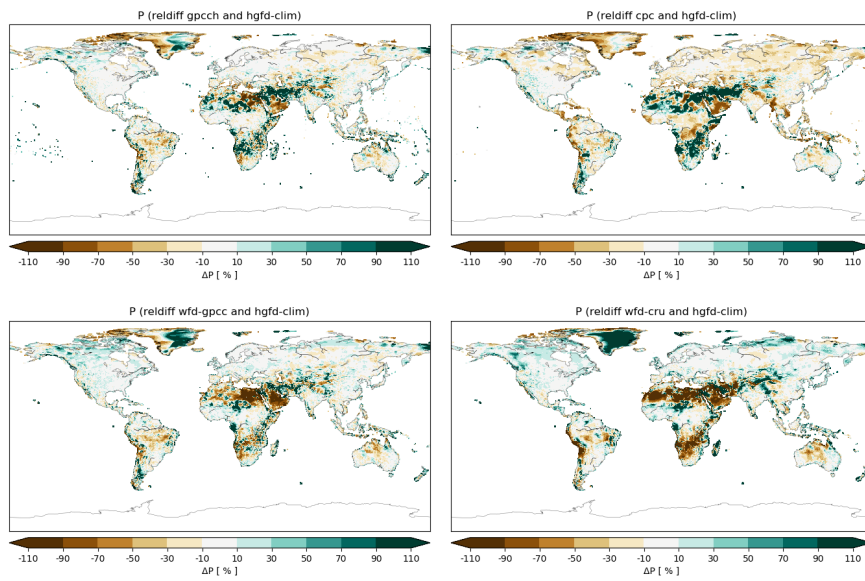
Figure S7. Relative difference in June–August P climatology between gpcch (top left), cpcp (top right), wfd-gpcc (bottom left) and wfd-cru (bottom right).
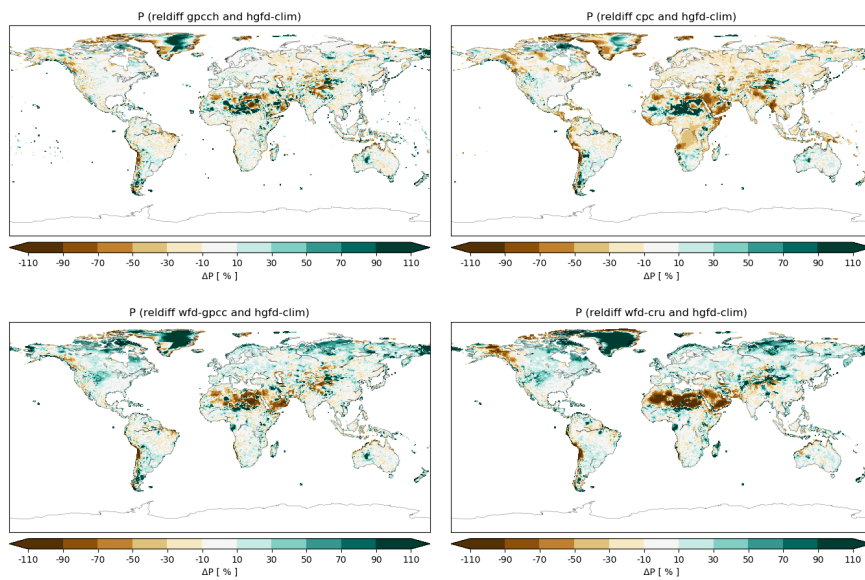
Figure S8. Relative difference in September–November P climatology between gpcch (top left), cpcp (top right), wfd-gpcc (bottom left) and wfd-cru (bottom right).
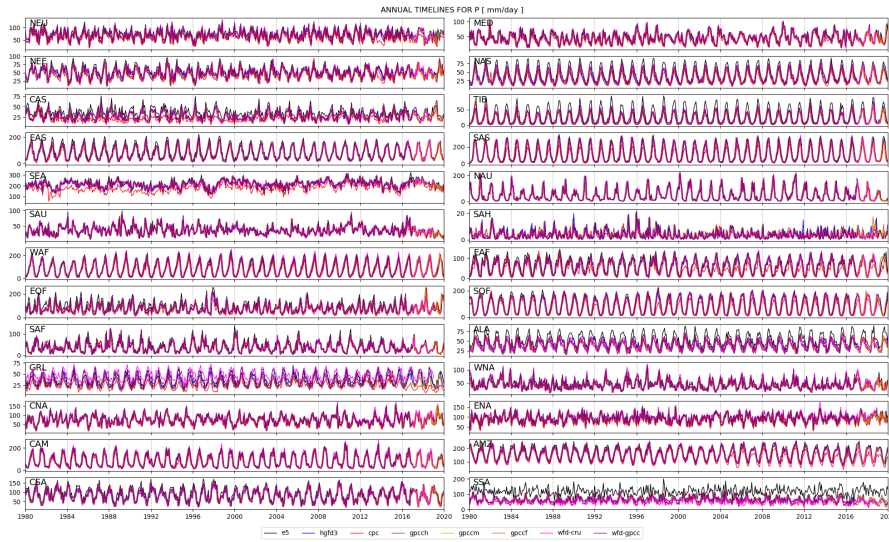
Figure S9. *P* absolute values for all data sets, averaged over the Giorgi regions for all valid land data points. The anomalies are relative to the e5 data set, and is evaluated for each single month.
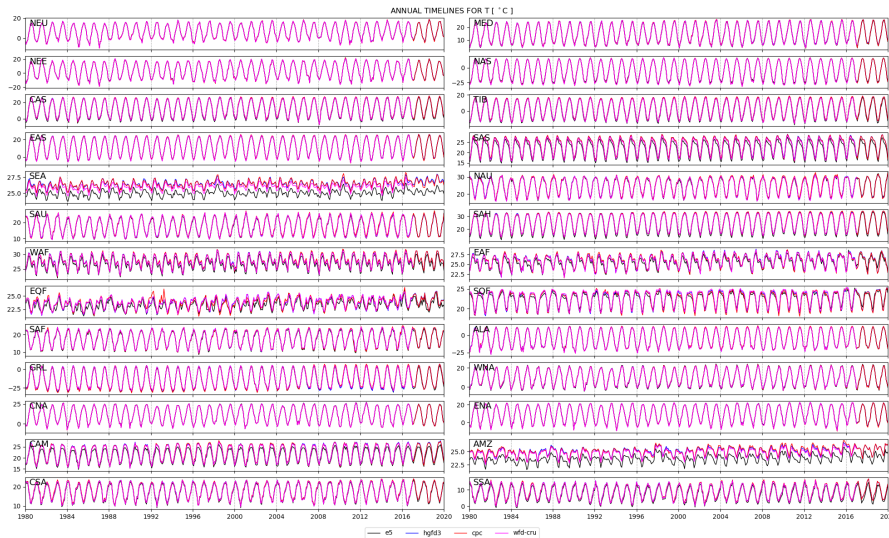
Figure S10. *T* absolute values for all data sets, averaged over the Giorgi regions for all valid land data points. The anomalies are relative to the e5 data set, and is evaluated for each single month.