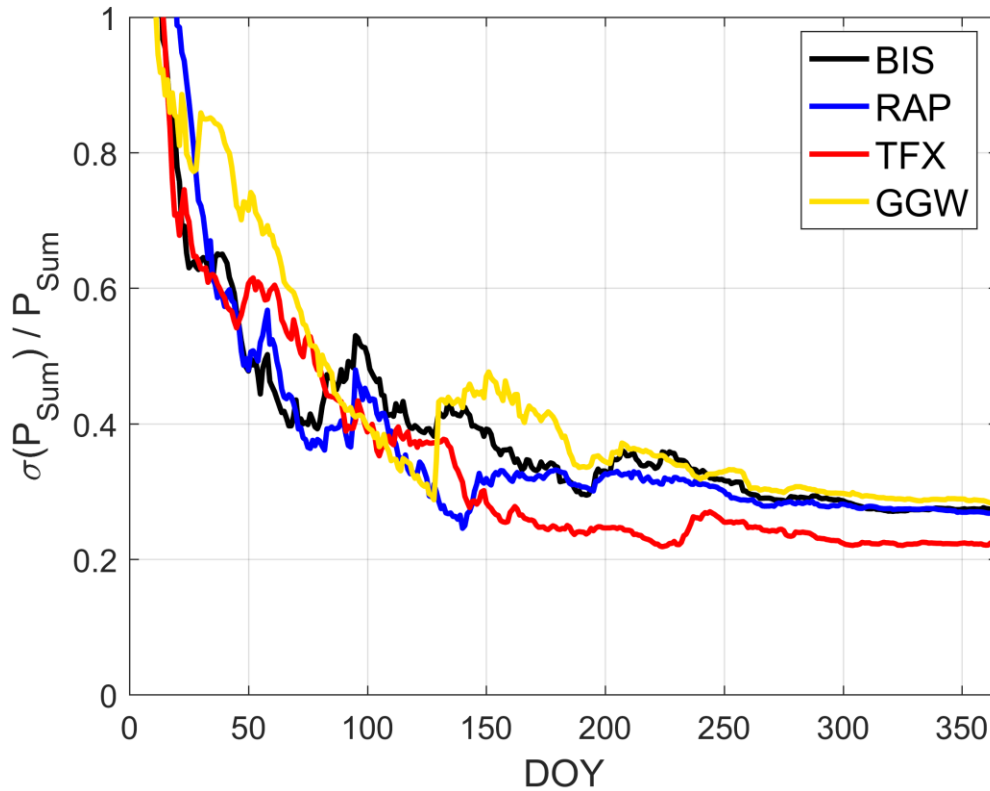


1 **Supplement to:**
2 **Convective suppression before and during the United States Northern Great Plains**
3 **Flash Drought of 2017**

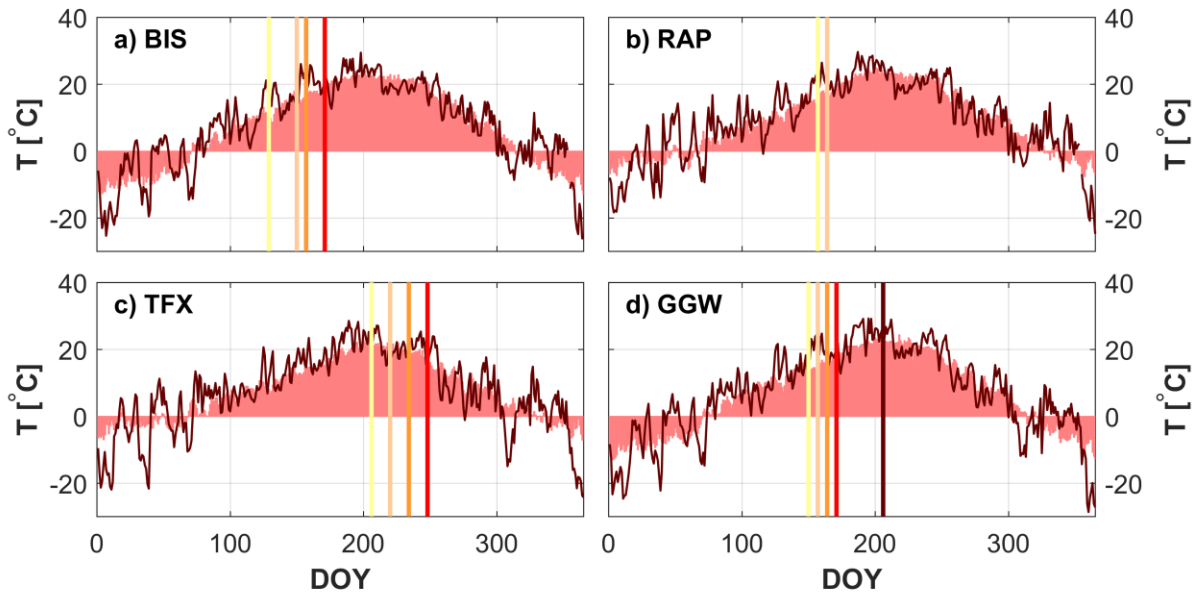
4 **Tobias Gerken^{1,2}, Skylar Williams¹, Gabriel T. Bromley¹, Benjamin L. Ruddell², and Paul**
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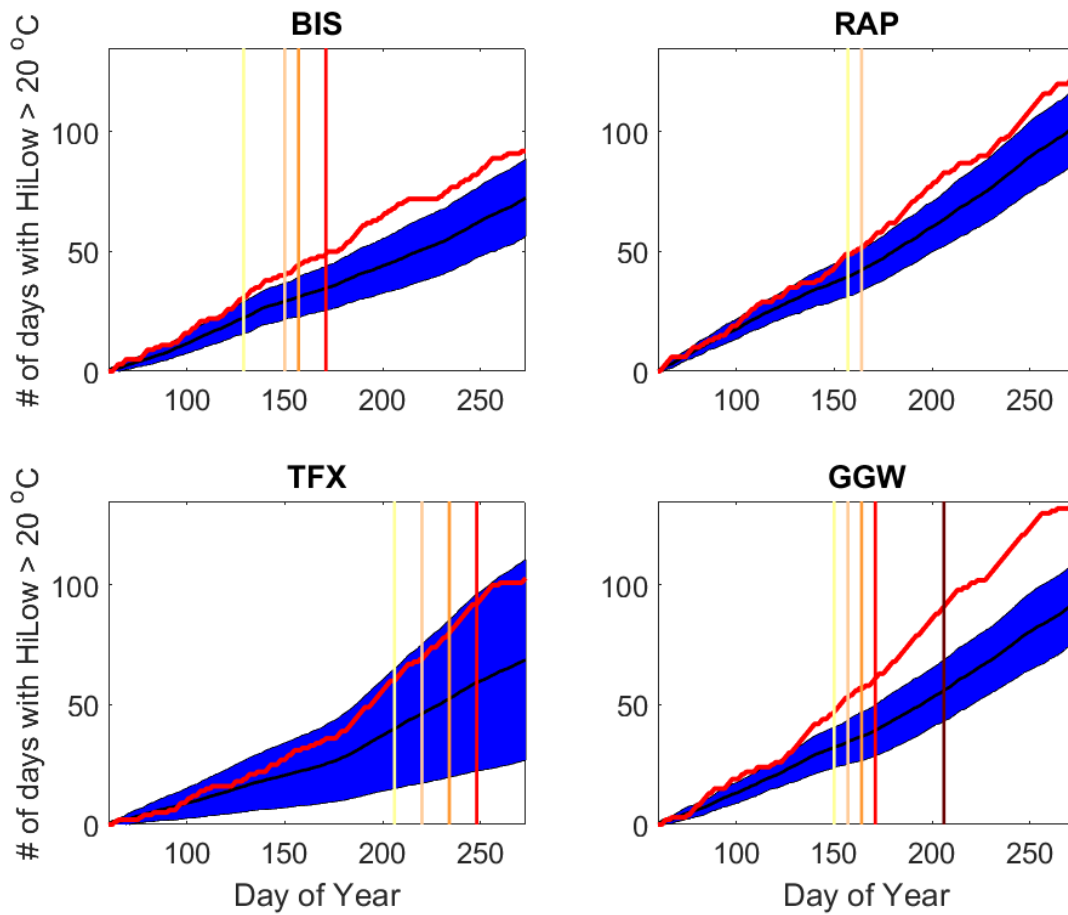
12
13 **Figure S1.** Comparison of standard deviation of P-climatology compared to mean cumulative
14 annual precipitation (1987-2016) for Bismarck, ND (BIS); Rapid City, SD (RAP); Great Falls,
15 MT (TFX); and Glasgow, MT (GGW)



17

18 **Figure S2.** Air temperature for 2017 (dark red line) compared to 30-year average temperature
 19 (1987-2016, shaded area) for (a) Bismarck, ND; (b) Rapid City, SD; (c) Great Falls, MT; and (d)
 20 Glasgow, MT. Vertical lines indicate onset of drought (D0 – yellow to D4 – dark red).

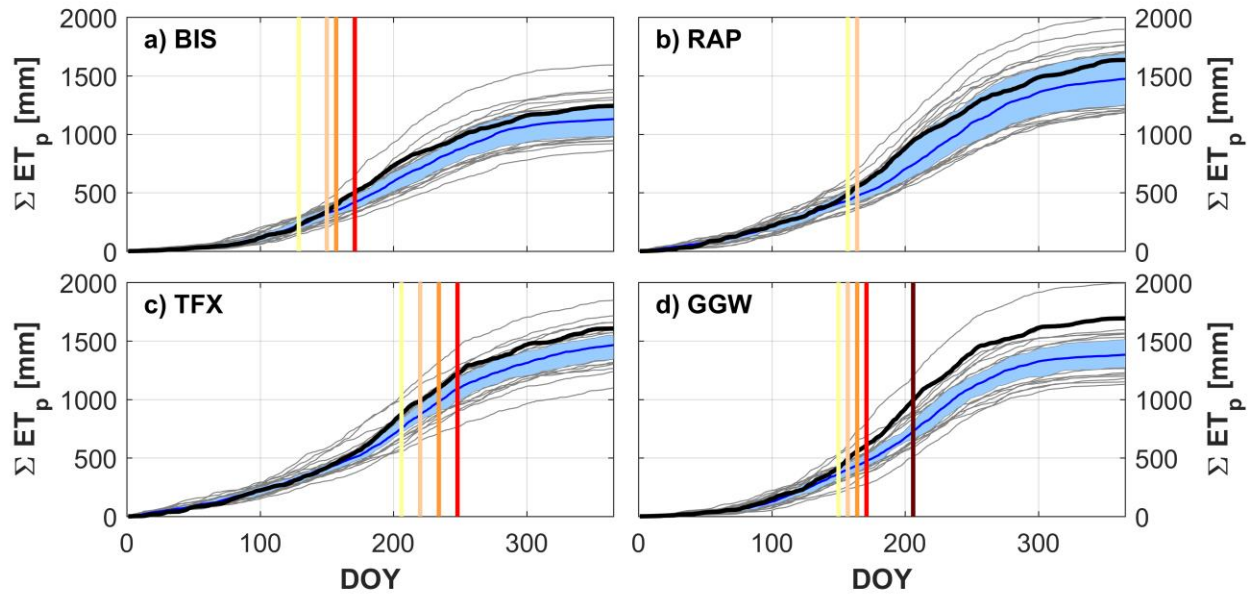
21



22

23 **Figure S3.** Comparison of cumulative number of days with $HI_{low} > 20\text{ }^{\circ}\text{C}$ for 2017 (red line) and
 24 the corresponding 1987-2016 climatology (black line) and its standard deviation (shaded area)
 25 for (a) Bismarck, ND (BIS); (b) Rapid City, SD (RAP); (c) Great Falls, MT (TFX); and (d)
 26 Glasgow, MT (GGW). Vertical lines indicate onset of drought (D0 – yellow to D4 – dark red).

27



28

29 **Figure S4.** Comparison of cumulative potential evapotranspiration (ET_p) estimated from the
 30 FAO Penman Monteith equation 2017 (black line), climatological interquartile range (shaded
 31 area), and individual years outside the interquartile range (grey lines) for (a) Bismarck, ND; (b)
 32 Rapid City, SD; (c) Great Falls, MT; and (d) Glasgow, MT. Vertical lines indicate onset of
 33 drought (D0 – yellow to D4 – dark red).