

Supplementary Materials: The following are available online at <https://www.mdpi.com/2225-1154/8/12/148/s1>, Table S1: Summary table of comparison metrics between ERA5 and the GHCN, Figure S1: Results from the 40-year analysis of the 95th Percentile of daily precipitation and accumulation above that threshold, Figure S2: Results from the 40-year analysis of the 99th Percentile of daily precipitation and accumulation above that threshold, Figure S3: Distribution of Daily Precipitation Values for ERA5 and the GHCN.

Table S1: Comparison metrics between ERA5 and the GHCN for forty year, seasonal, and heavy precipitation results.

ERA5 vs. GHCN	Mean Absolute Error (mm/year)	Bias (mm/year)	Pearsons Correlation Coefficient
<i>Average Yearly Precipitation (With mountains)</i>	116 ± 104	44	0.48
<i>Average Yearly Precipitation (Without mountains)</i>	109 ± 78	52	0.47
<i>Winter Precipitation</i>	31 ± 21	19	0.70
<i>Spring Precipitation</i>	40 ± 26	30	0.55
<i>Summer Precipitation</i>	27 ± 22	-0.6	0.58
<i>Fall Precipitation</i>	29 ± 19	3	0.44
<i>Value of 90th Percentile Threshold</i>	4 ± 2	-4	0.90
<i>Value of 95th Percentile Threshold</i>	6 ± 3	-6	0.91
<i>Value of 99th Percentile Threshold</i>	12 ± 6	-11	0.88
<i>Precipitation Over 90th Percentile</i>	44 ± 41	4	0.51
<i>Precipitation Over 95th Percentile</i>	28 ± 28	-2	0.49
<i>Precipitation Over 99th Percentile</i>	11 ± 10	-4	0.38

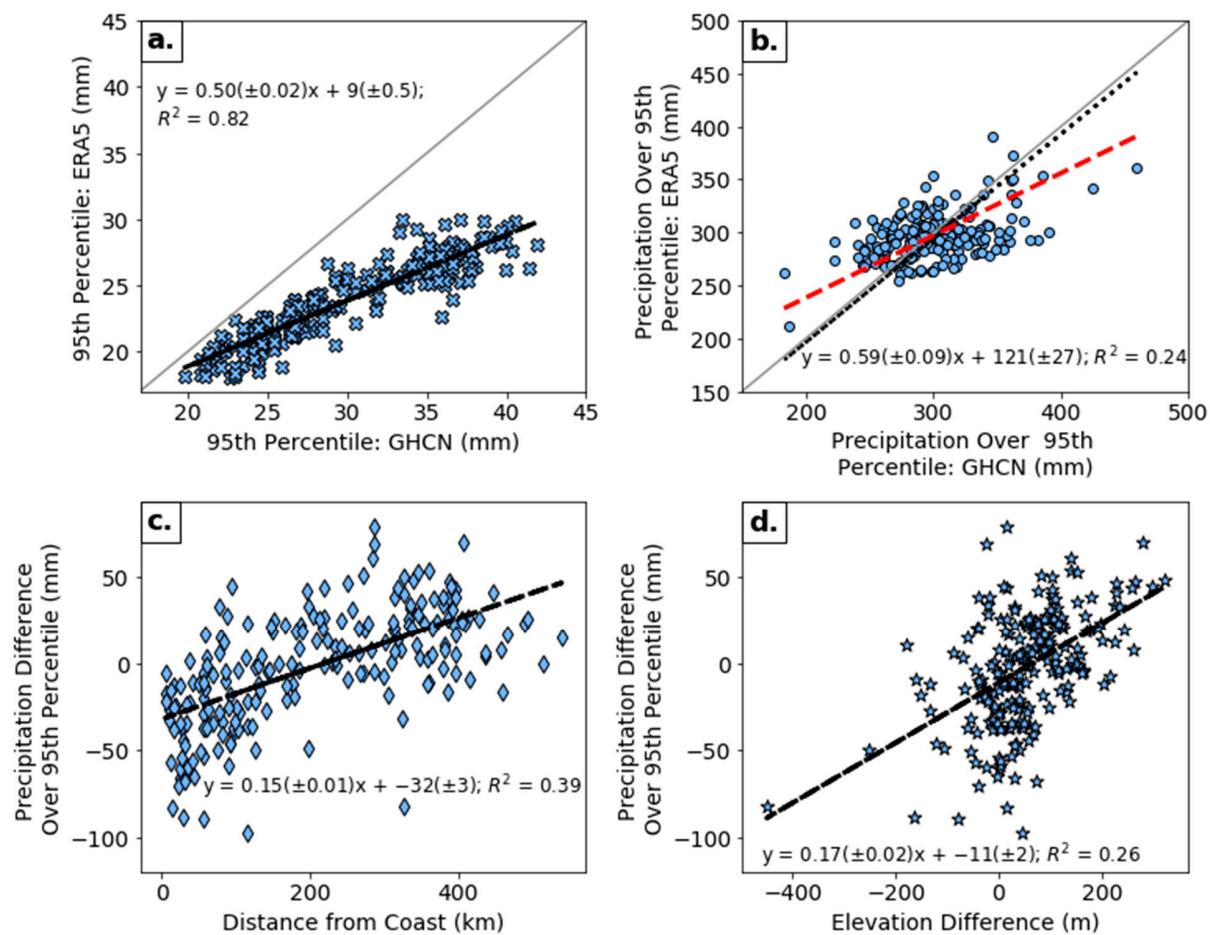


Figure S1. (a) The 95th percentile precipitation threshold ((mm) purple x's), (b) precipitation above the 95th percentile ((mm) purple circles), (c) precipitation difference over 95th percentile ((mm) vs. distance from coast ((km) purple diamonds), (d) precipitation difference over 95th percentile ((mm) vs. elevation difference ((m) purple stars). Panel (b) shows the reference 1:1 line (grey solid), the zero-intercept regression (black dotted), and the Deming regression (red dashed and equation). Panels (a,c,d) show ordinary regression (black dashed).

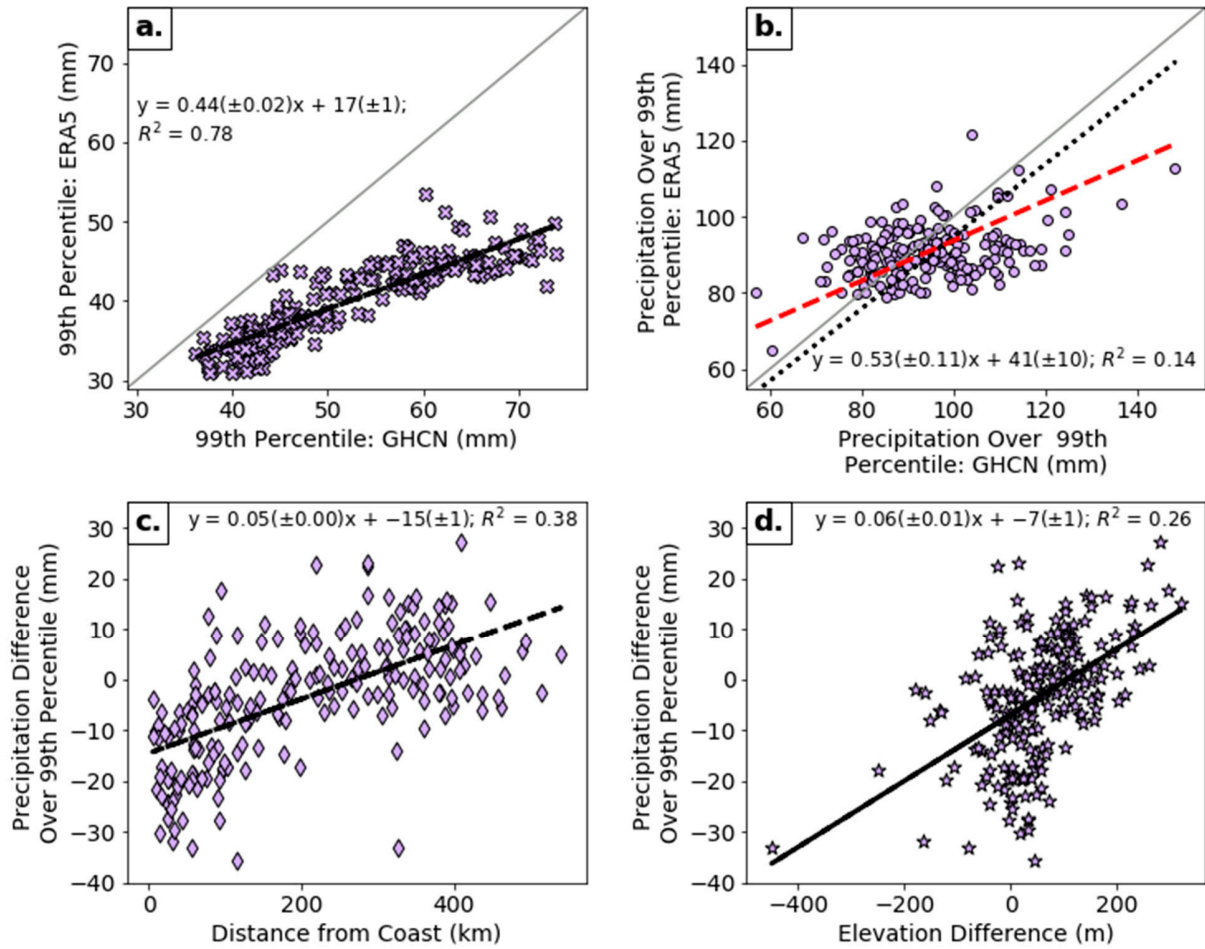


Figure S2. (a) The 99th percentile precipitation threshold ((mm) purple x's), (b) precipitation above the 99th percentile ((mm) purple circles), (c) precipitation difference over 99th percentile (mm) vs. distance from coast ((km) purple diamonds), (d) precipitation difference over 99th percentile (mm) vs. elevation difference ((m) purple stars). Panel (b) shows the reference 1:1 line (grey solid), the zero-intercept regression (black dotted), and the Deming regression (red dashed and equation). Panels (a,c,d) show ordinary regression (black dashed).

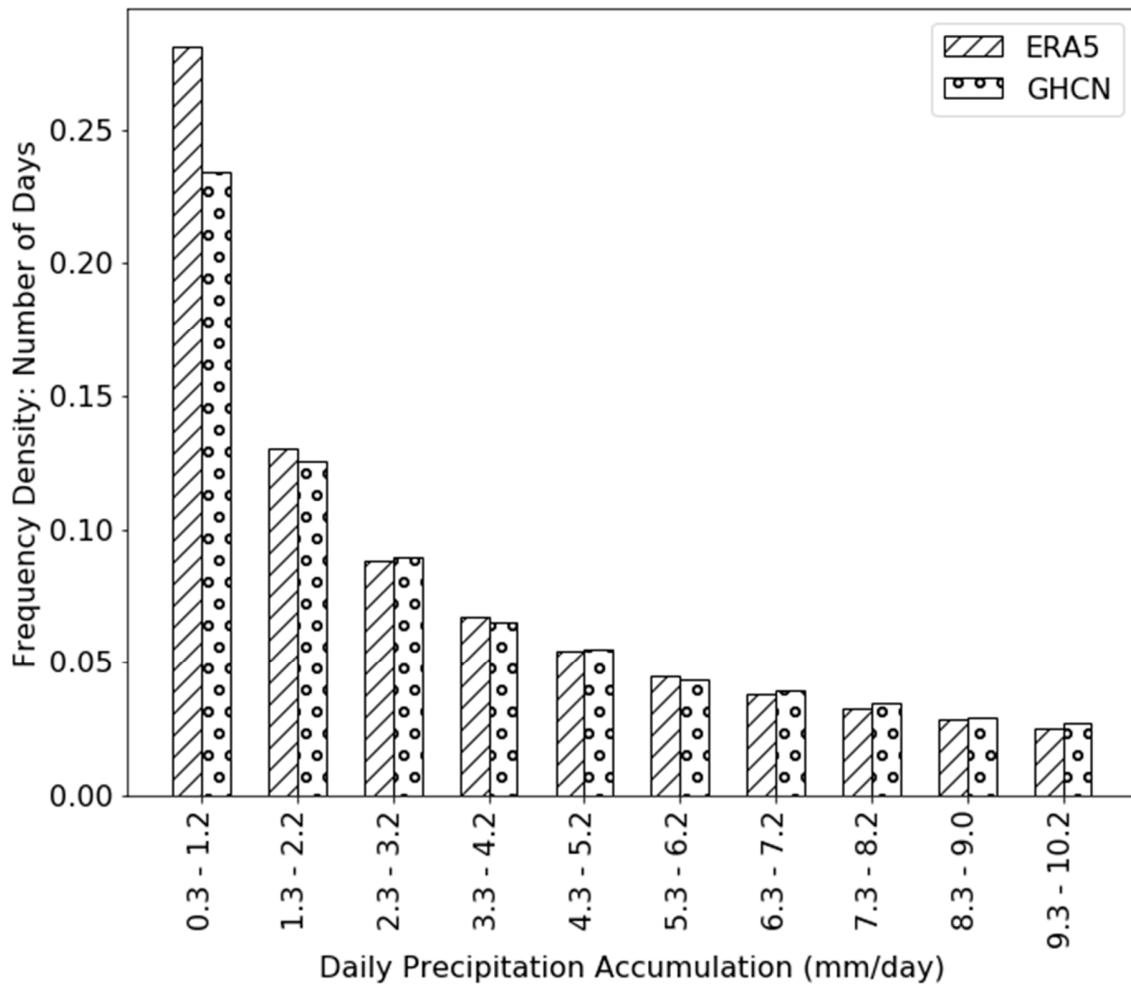


Figure S3. Distribution of daily precipitation values of ERA5 (hashed bars) and GHCN (dotted bars). This figure includes all wet days at all stations over the 40-year period of record.