

Grande Ronde summer steelhead cumulative DD

MNSnyder

8/29/2019

DD > 18 °C

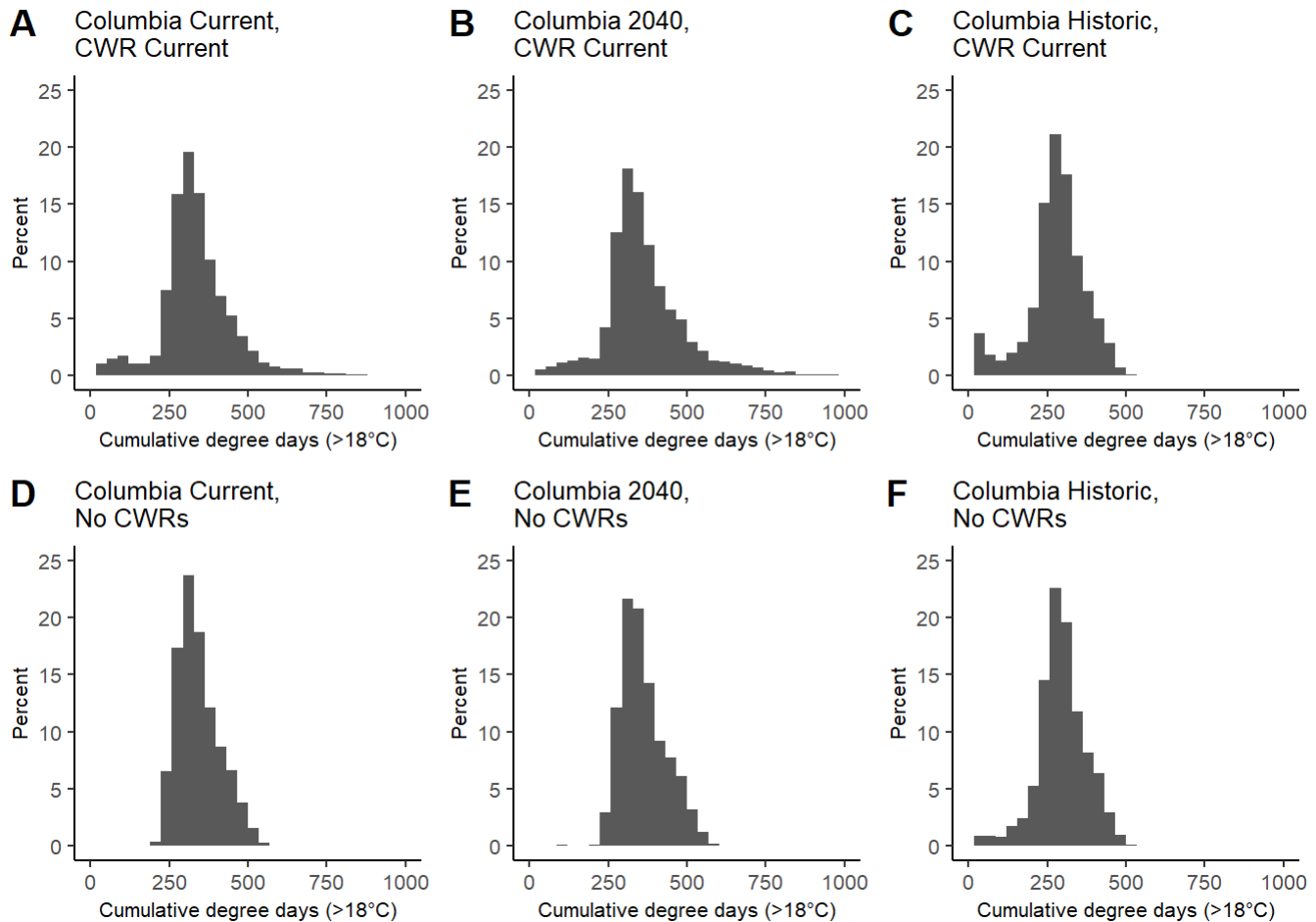


Fig. 1. Histograms of modeled Grande Ronde River summer steelhead accumulated degrees day over 18°C from Bonneville to the Snake River confluence in the Columbia River.

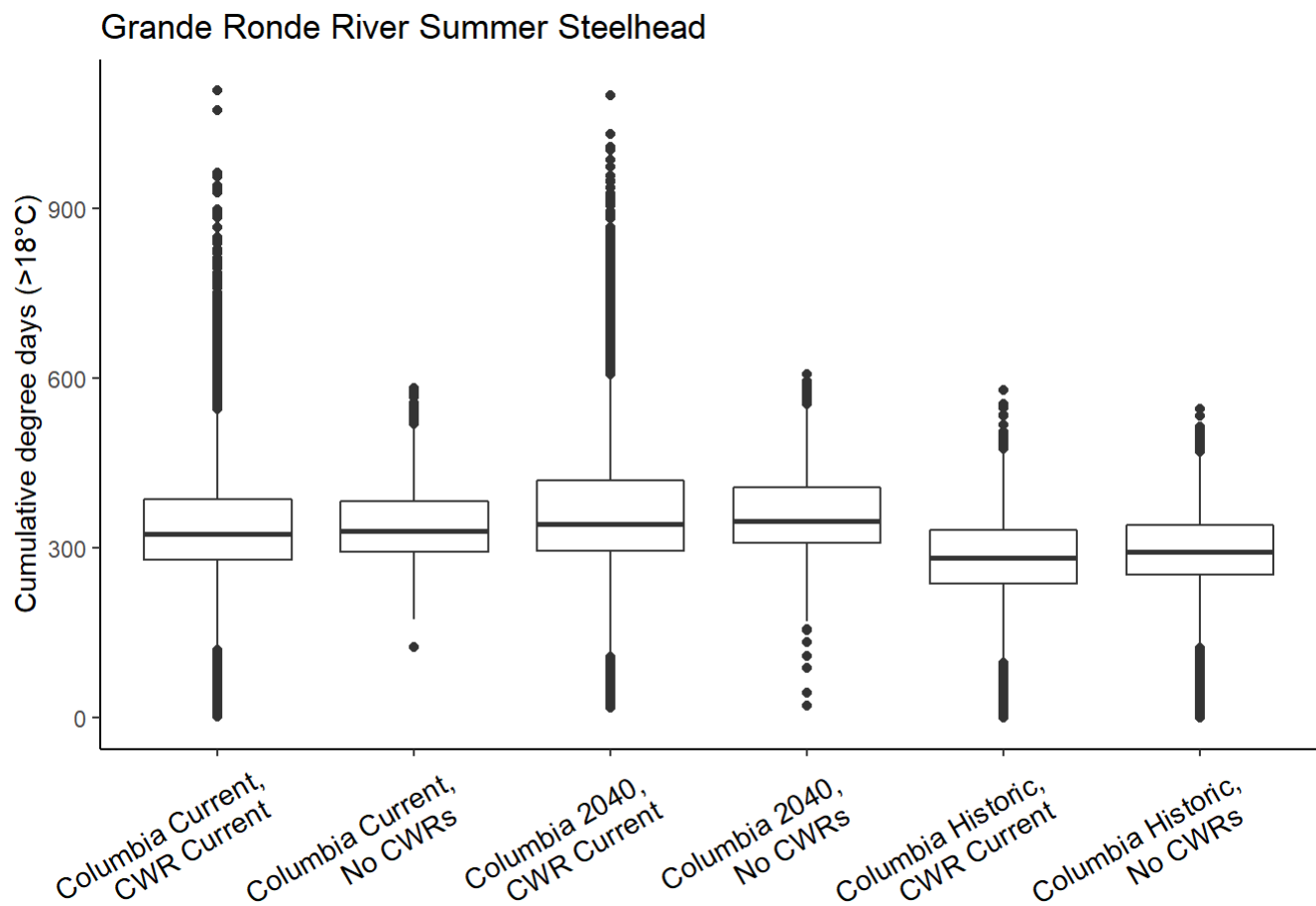


Fig. 2. Boxplots of modeled Grande Ronde River summer steelhead accumulated degrees day over 18°C from Bonneville to the Snake River confluence in the Columbia River.

Table 1. Cumulative degree days (>18°C) used across different HexSim thermalscapes summarized for Grande Ronde River Summer Steelhead.

Scenario	Minimum	25% quantile	Median	75% quantile	Maximum
Columbia 2040, CWR Current	19	296	343	421	1101
Columbia Historic, CWR Current	1	238	284	332	580
Columbia Current, CWR Current	2	280	325	387	1109
Columbia 2040, No CWRs	21	309	347	407	607
Columbia Historic, No CWRs	1	254	293	340	546
Columbia Current, No CWRs	126	294	330	384	583

Degree Days > 20°C

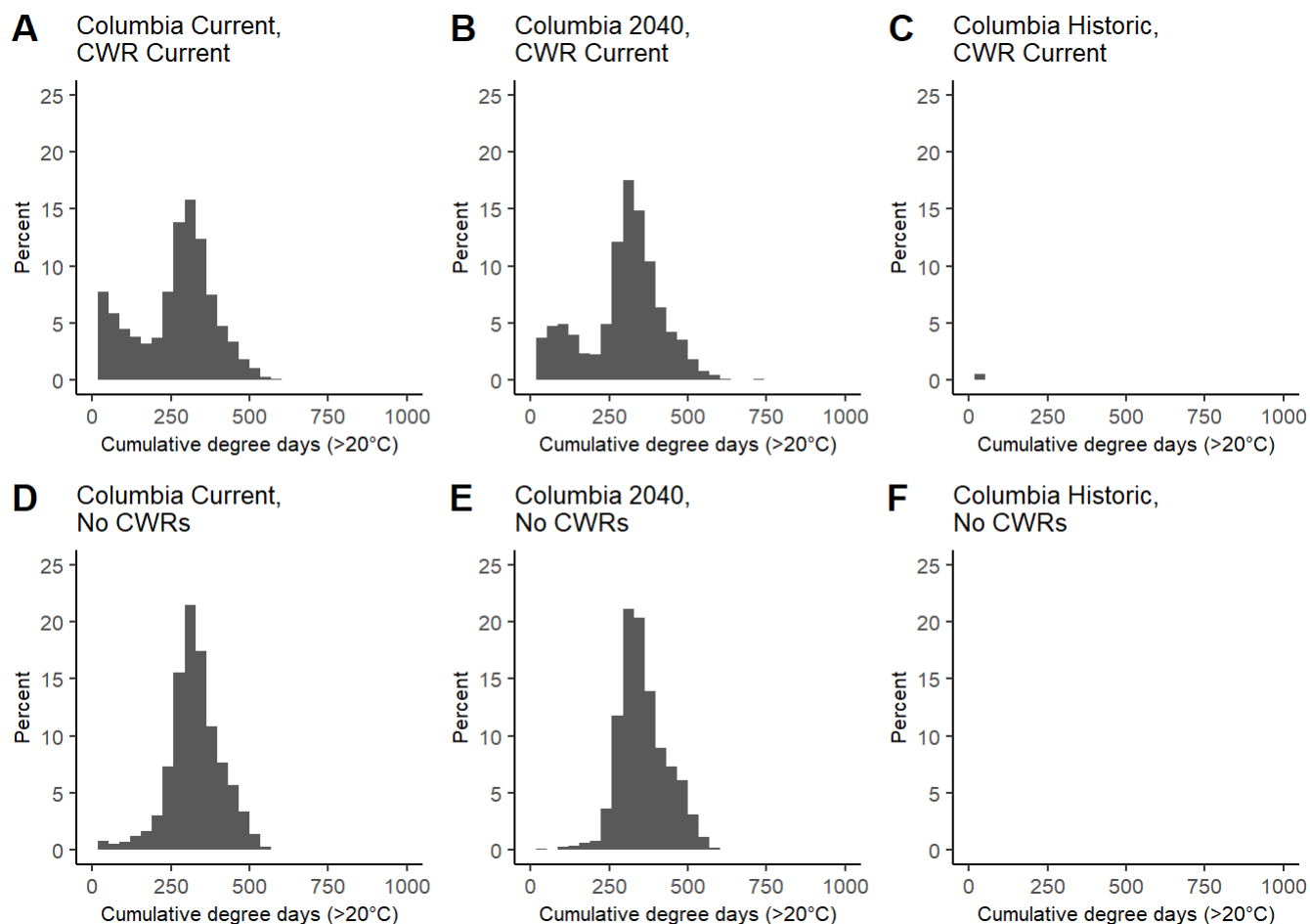


Fig. 3. Histograms of modeled Grande Ronde River summer steelhead accumulated degrees day over 20°C from Bonneville to the Snake River confluence in the Columbia River.

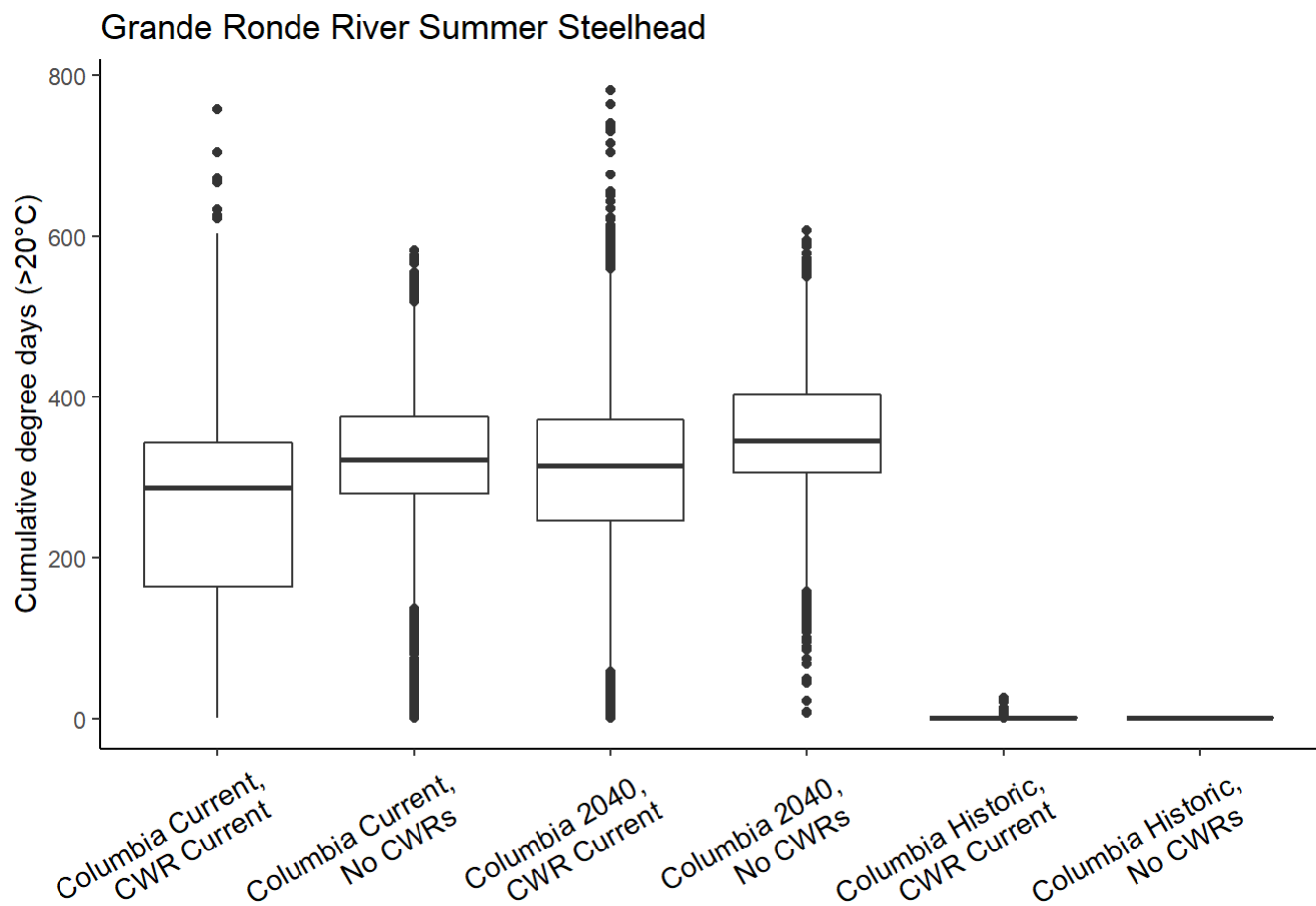


Fig. 4. Boxplots of modeled Grande Ronde River summer steelhead accumulated degrees day over 20°C from Bonneville to the Snake River confluence in the Columbia River.

Table 2. Cumulative degree days (>20°C) used across different HexSim thermalscapes summarized for Grande Ronde River Summer Steelhead.

Scenario	Minimum	25% quantile	Median	75% quantile	Maximum
Columbia 2040, CWR Current	1	246	315	372	781
Columbia Historic, CWR Current	1	1	1	1	25
Columbia Current, CWR Current	1	164	287	343	758
Columbia 2040, No CWRs	7	305	345	404	607
Columbia Historic, No CWRs	1	1	1	1	1
Columbia Current, No CWRs	1	280	322	375	583

Degree Days > 21°C

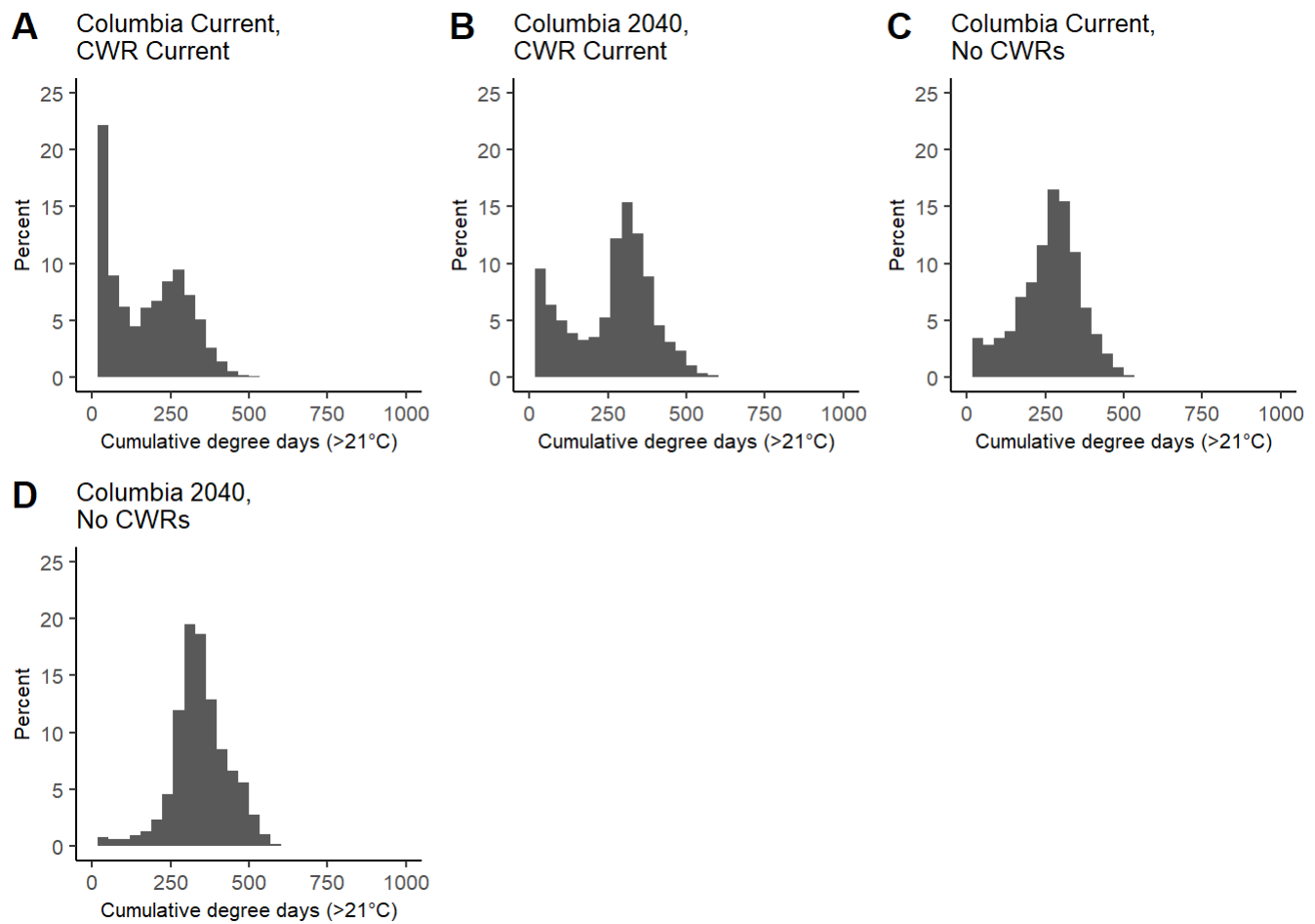


Fig. 5. Histograms of modeled Grande Ronde River summer steelhead accumulated degrees day over 21°C from Bonneville to the Snake River confluence in the Columbia River.

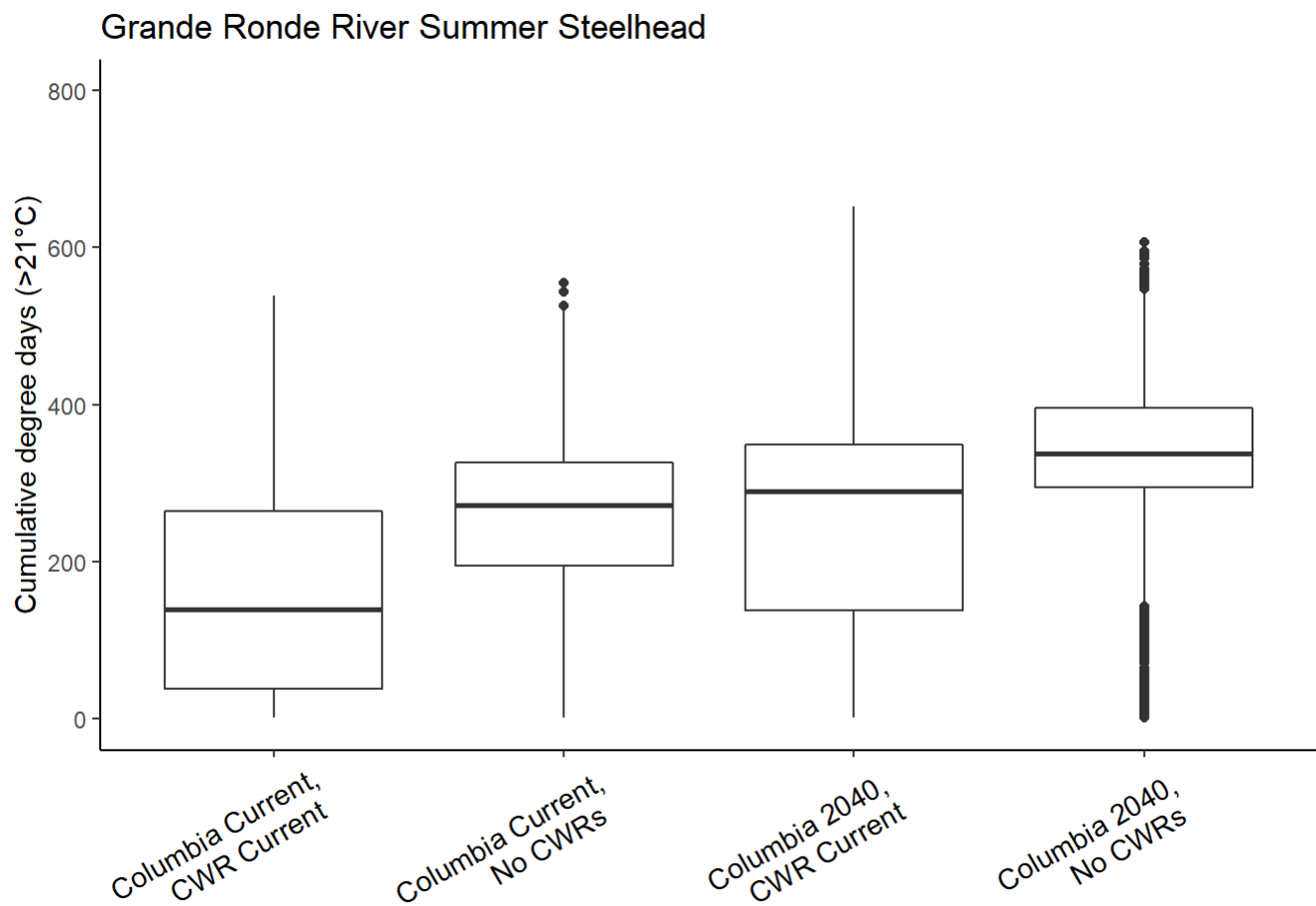


Fig. 6. Boxplots of modeled Grande Ronde River summer steelhead accumulated degrees day over 21°C from Bonneville to the Snake River confluence in the Columbia River.

Table 3. Cumulative degree days (>21°C) used across different HexSim thermalscapes summarized for Grande Ronde River Summer Steelhead.

Scenario	Minimum	25% quantile	Median	75% quantile	Maximum
Columbia 2040, CWR Current	1	137	290	349	652
Columbia Current, CWR Current	1	38	139	264	538
Columbia 2040, No CWRs	1	295	338	396	607
Columbia Current, No CWRs	1	194	272	326	555

Degree Days > 22°C

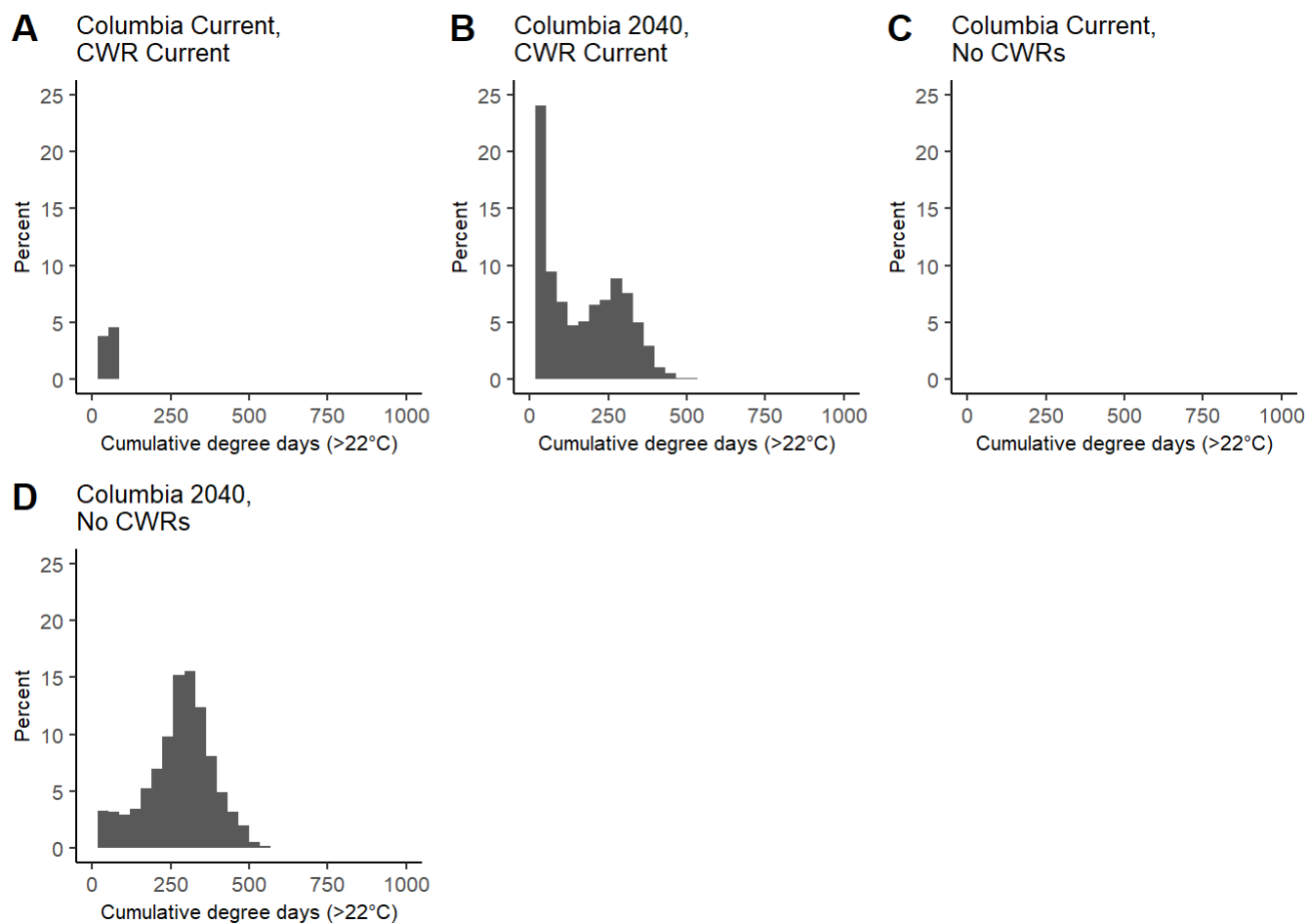


Fig. 5. Histograms of modeled Grande Ronde River summer steelhead accumulated degrees day over 22°C from Bonneville to the Snake River confluence in the Columbia River.

Grande Ronde River Summer Steelhead

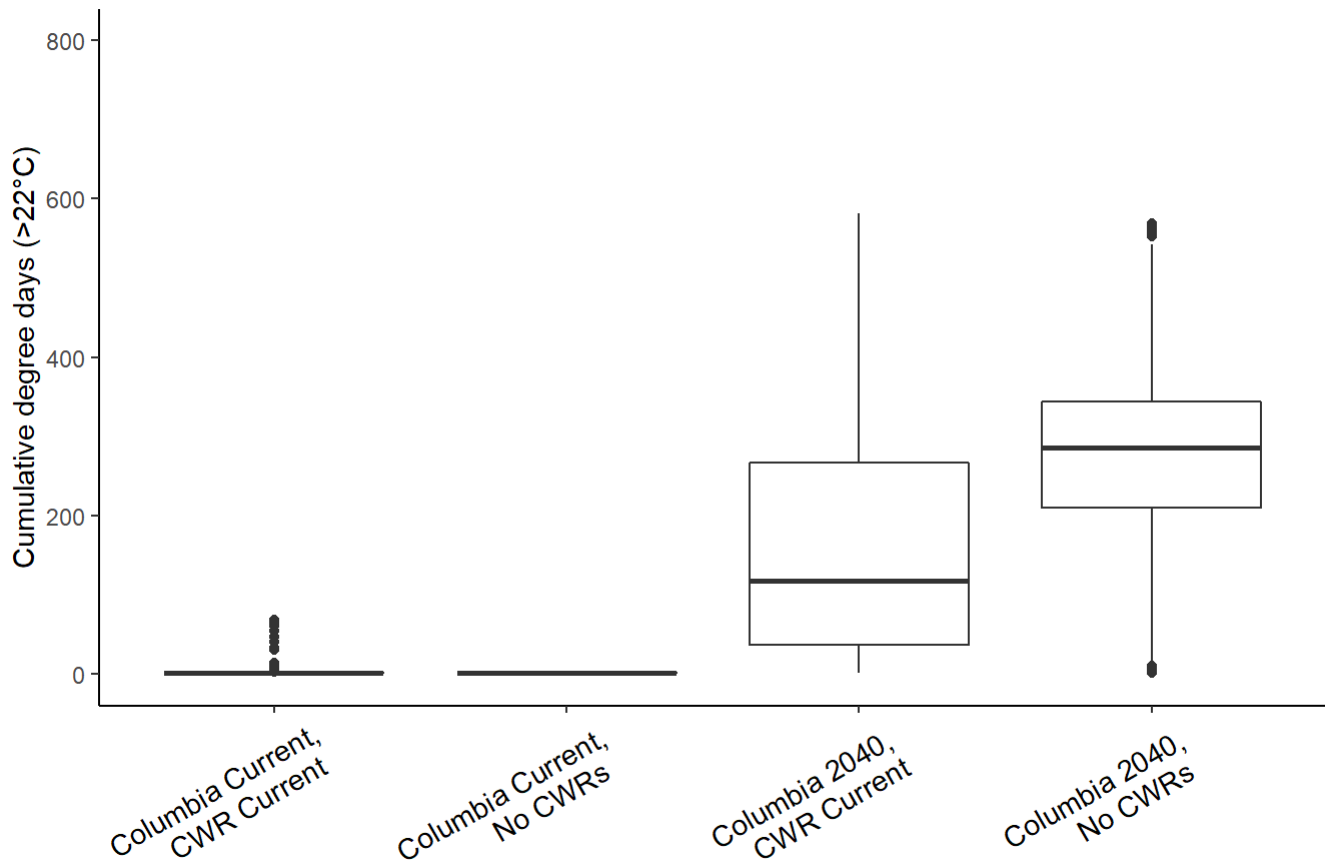


Fig. 6. Boxplots of modeled Grande Ronde River summer steelhead accumulated degrees day over 22°C from Bonneville to the Snake River confluence in the Columbia River.

Table 3. Cumulative degree days (>22°C) used across different HexSim thermalscapes summarized for Grande Ronde River Summer Steelhead.

Scenario	Minimum	25% quantile	Median	75% quantile	Maximum
Columbia 2040, CWR Current	1	37	118	266	582
Columbia Current, CWR Current	1	1	1	1	68
Columbia 2040, No CWRs	1	210	286	344	570
Columbia Current, No CWRs	1	1	1	1	1