Appendix C. Salmon and pike thermal regimes supplemental figures

Figure 1. Spawning and rearing habitats for Chinook and Coho Salmon in the Deshka watershed. Habitats documented with invasive northern pike are also shown.

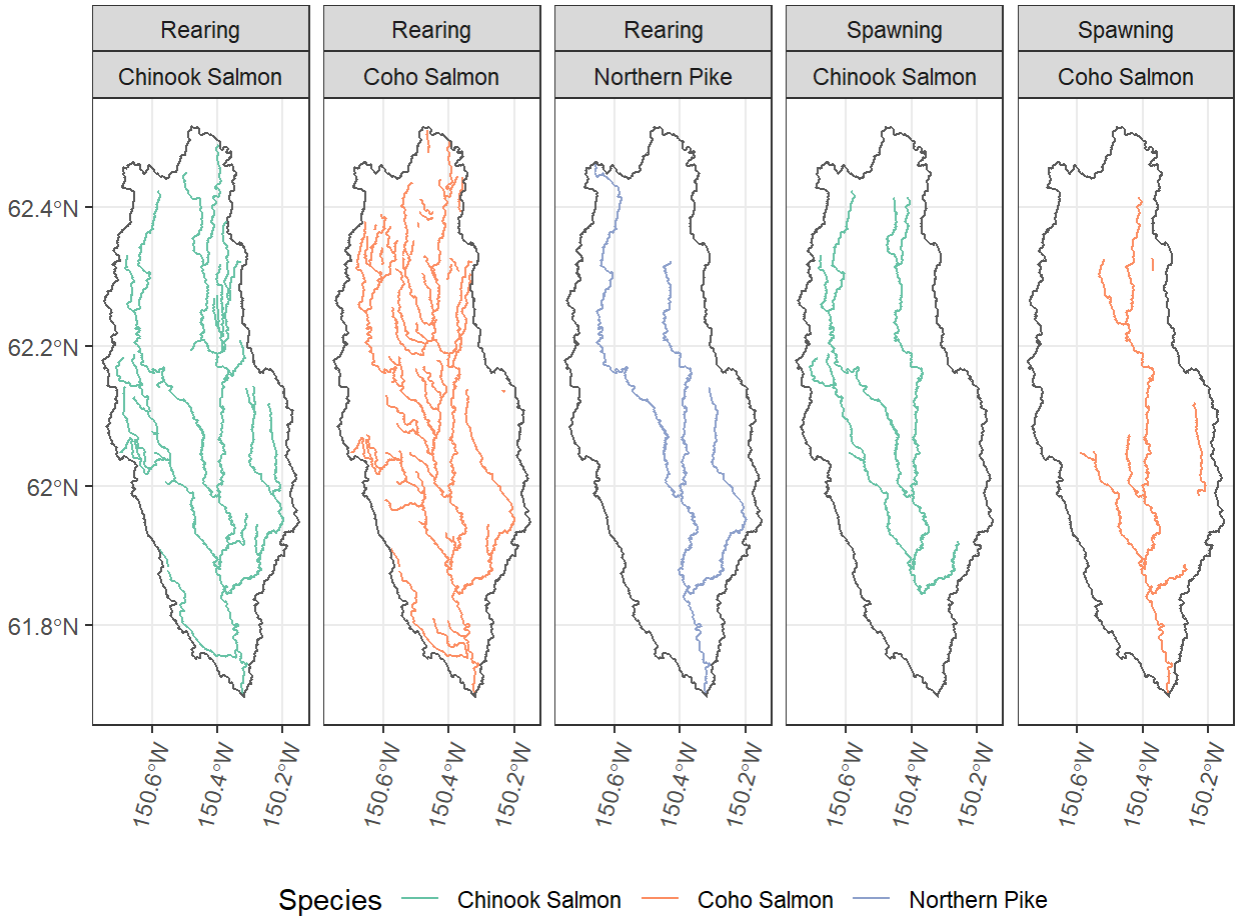

Figure 2. Spawning and rearing habitats for Chinook and Coho Salmon in the Anchor-Stariski watershed.

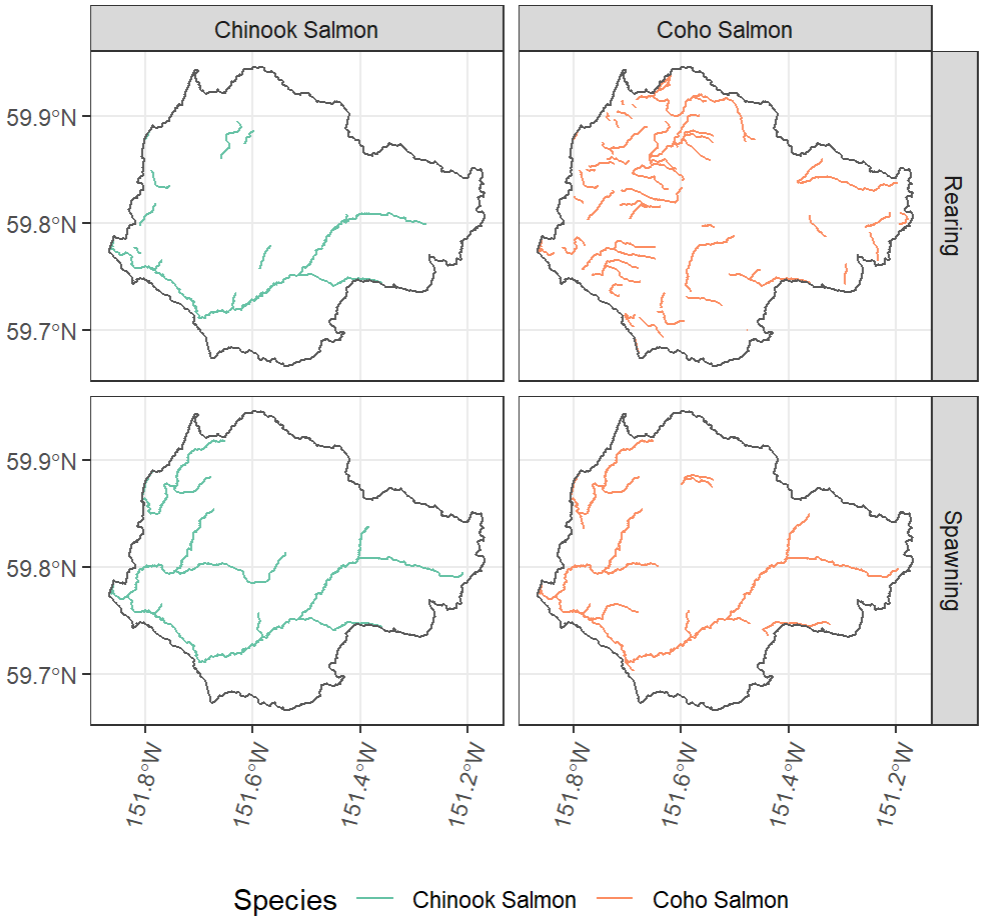

Figure 3. Distributions of mean monthly temperatures by decade for Coho Salmon rearing habitats in the Anchor-Stariski and Deshka watersheds. The y-axis represents the proportion of total rearing habitat (based on stream length in km) in each 0.5 degree temperature bin.

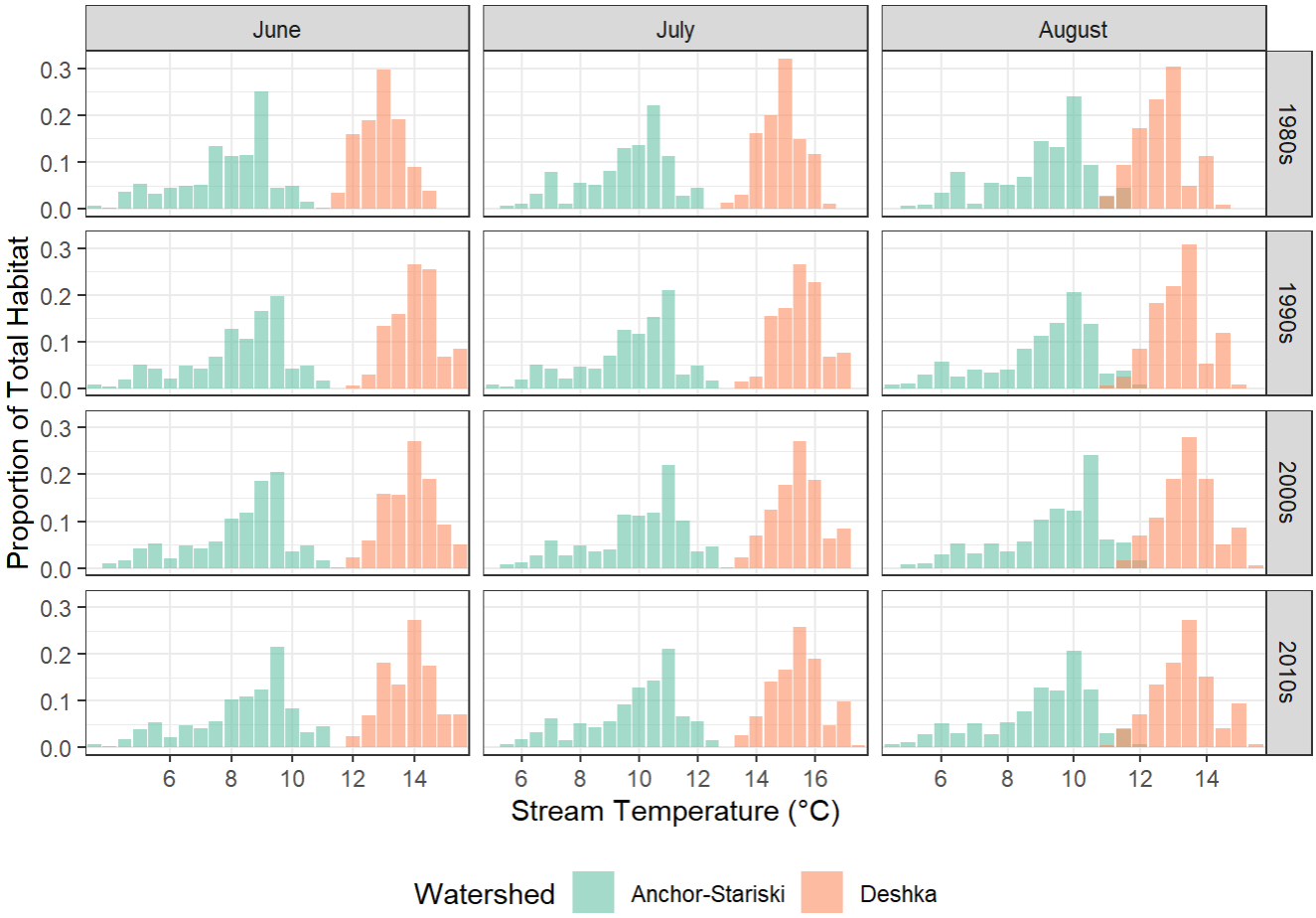

Figure 4. Distributions of mean monthly temperatures by decade for northern pike habitats in the Deshka watershed. The y-axis represents the proportion of total habitat (based on stream length in km) in each 0.5 degree temperature bin.

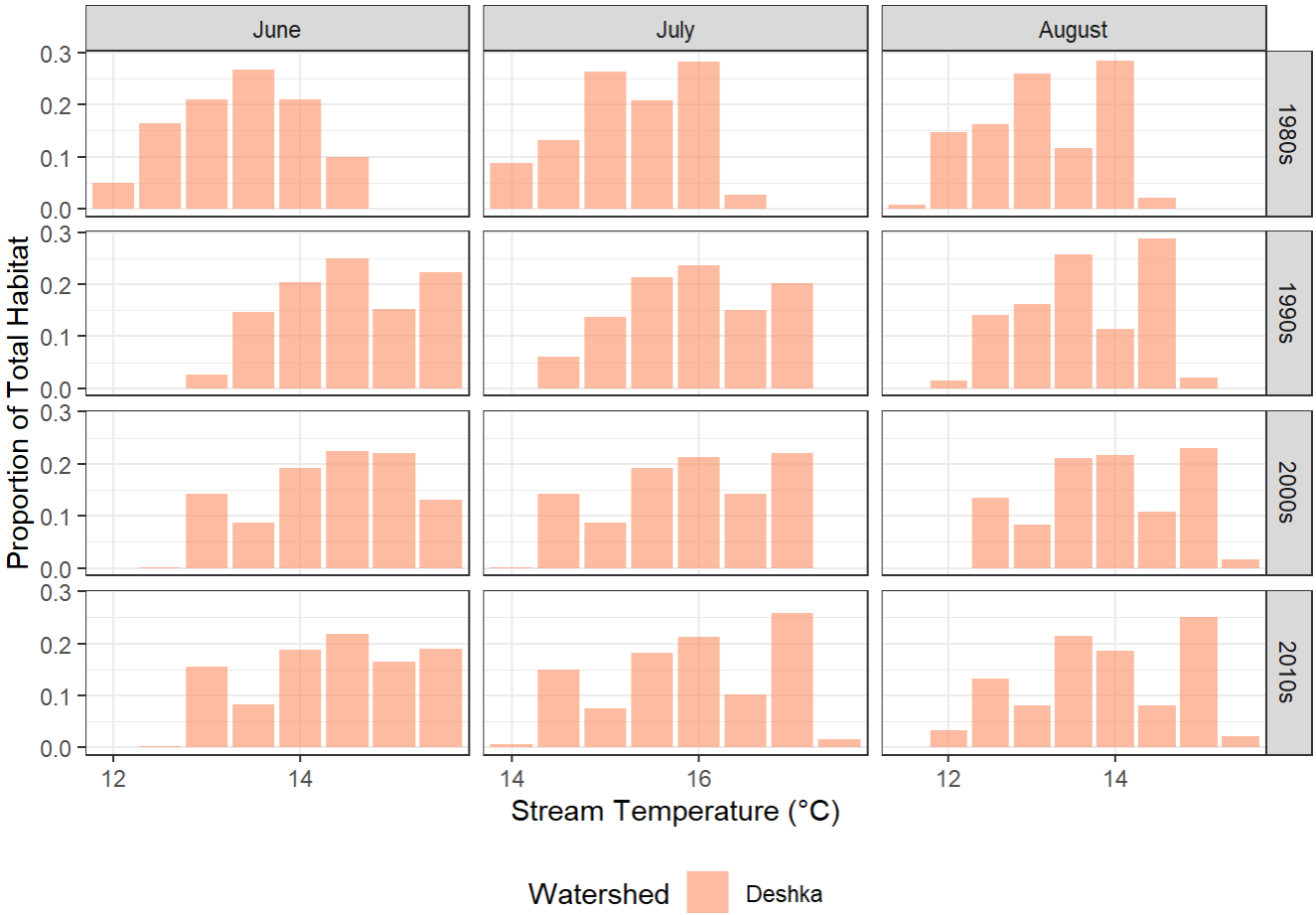

Figure 5. Chinook Salmon spawning catchments in the Anchor-Stariski watersheds and number of days with daily stream temperatures greater than 13°C in July, August, and September in a representative cold (2011) and warm year (2004).

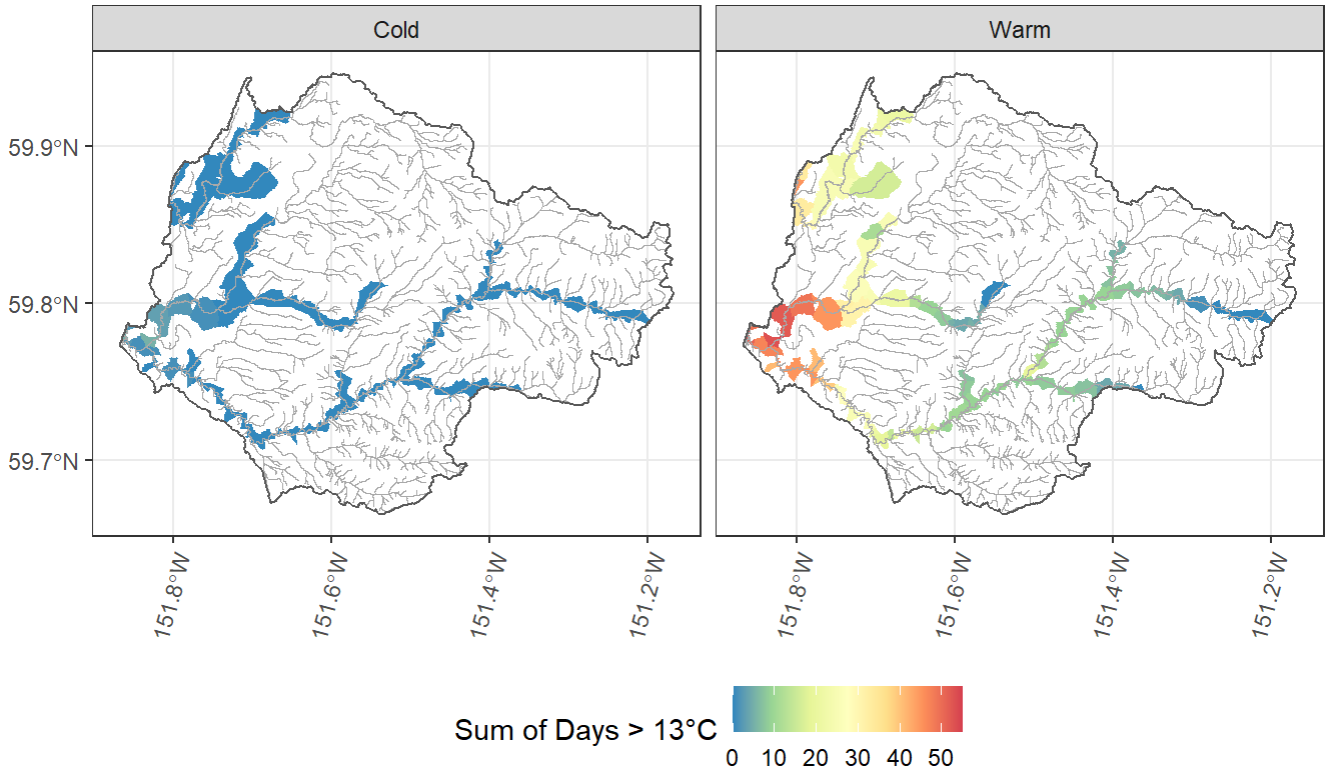

Figure 6. Chinook and Coho Salmon rearing habitats in the Deshka watershed and number of days with daily stream temperatures greater than 18°C in June, July, August, and September in a representative cold (1982) and warm year (2016).

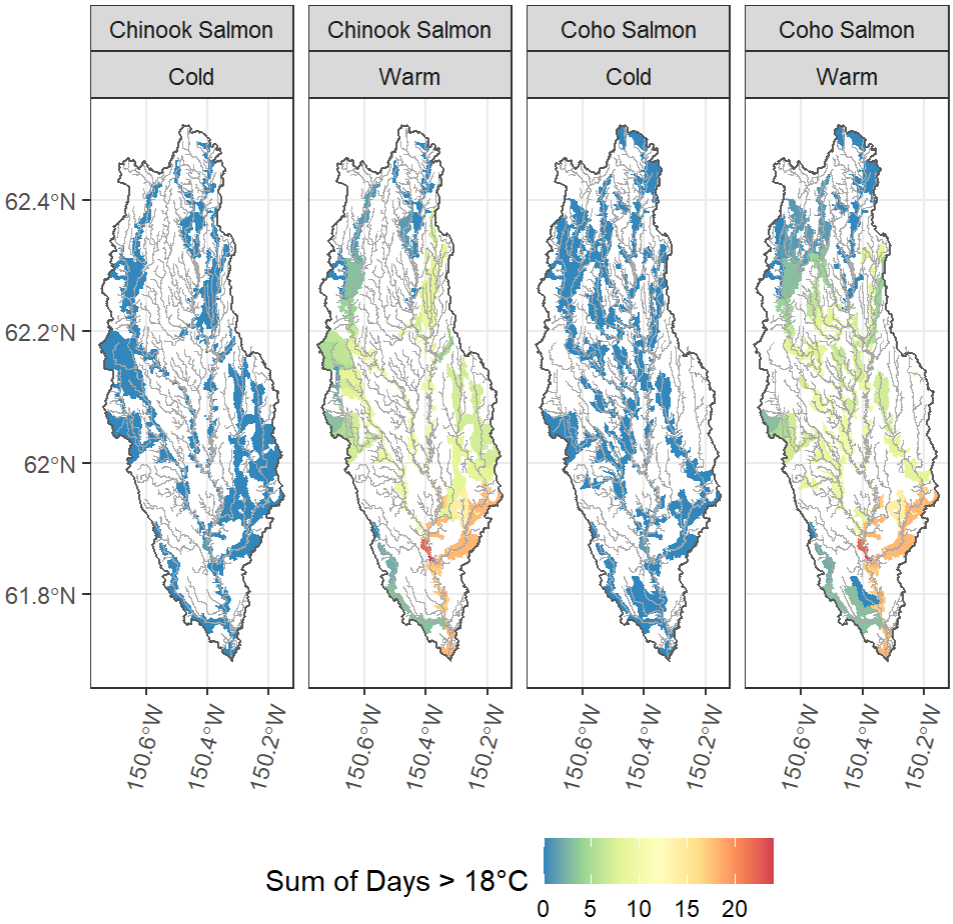

Figure 7. Changes in stream temperature metrics for the Anchor-Stariski and Deshka watersheds over the historic period (2000-2019). Temperature metrics were averaged across Chinook and Coho Salmon catchments for each year.

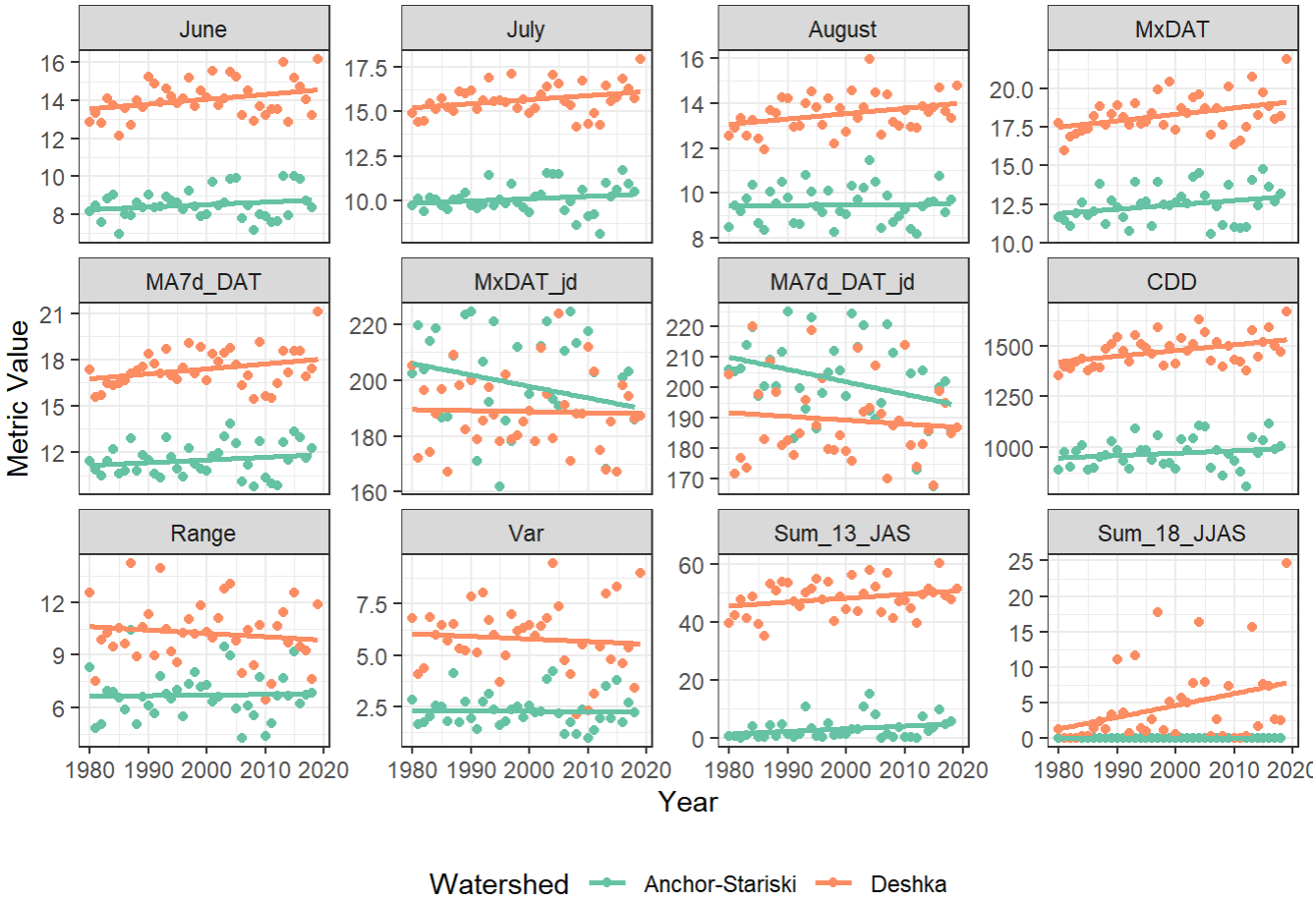

Figure 8. Distributions of mean monthly temperatures by future warming scenarios for the Anchor-Stariski and Deshka watersheds. Scenarios of +2°C and +4°C air temperature change were assessed for both watersheds. Warming scenarios were combined with high and low snow baselines for the Anchor-Stariski watershed because spring snowpack was an important predictor of stream temperatures in this system. The y-axis represents the proportion of total Chinook and Coho Salmon habitat (based on stream length in km) in each 0.5 degree temperature bin.

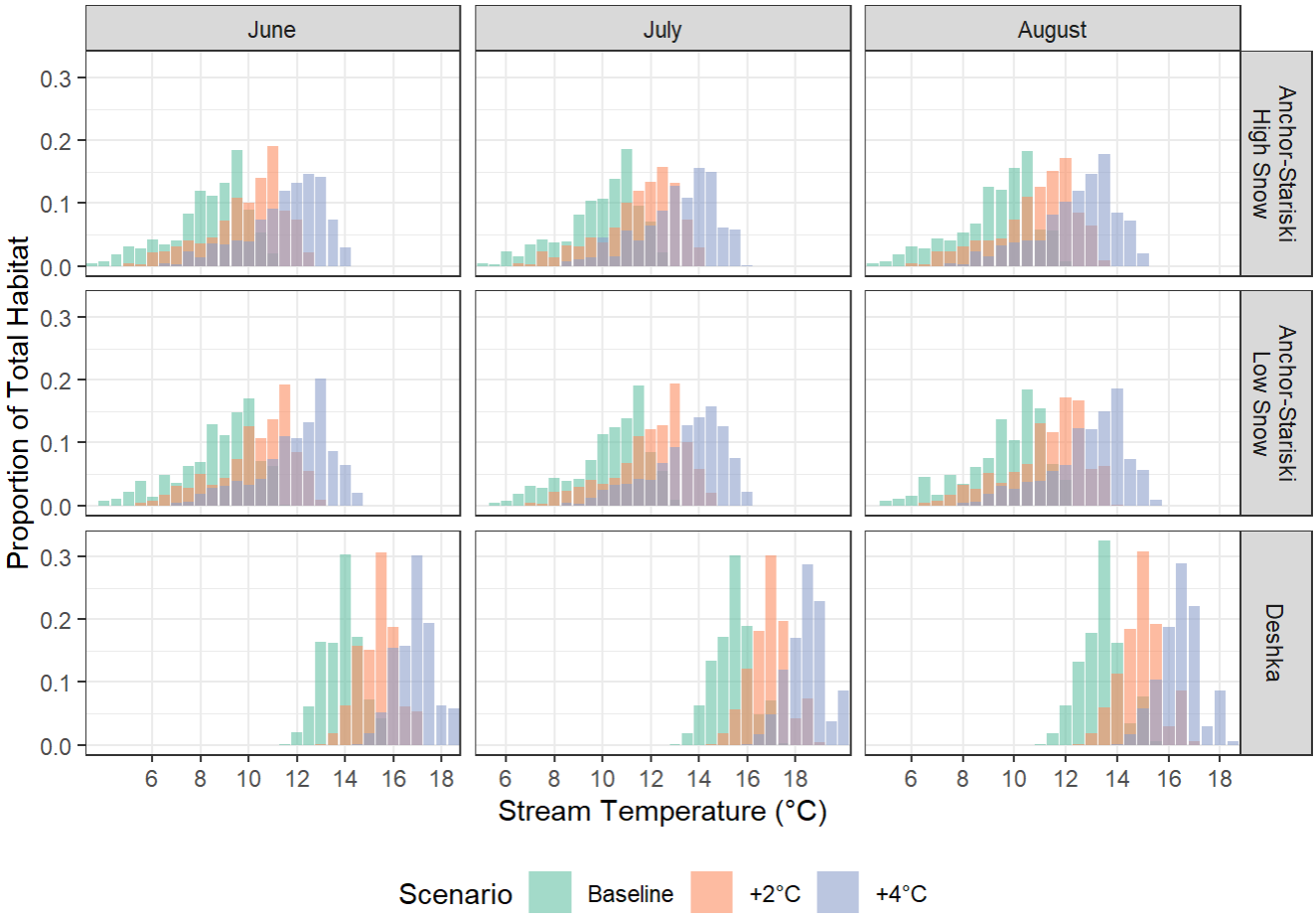

Figure 9. Mean July temperatures across catchments in the Deshka watershed for two future scenarios. 95% of current Chinook Salmon spawning habitats have mean July temperatures < 17.6°C. Black outline indicates catchments below this threshold that may become important thermal refugia in the future. Gray lines indicate the current extent of Chinook Salmon spawning across the watershed.

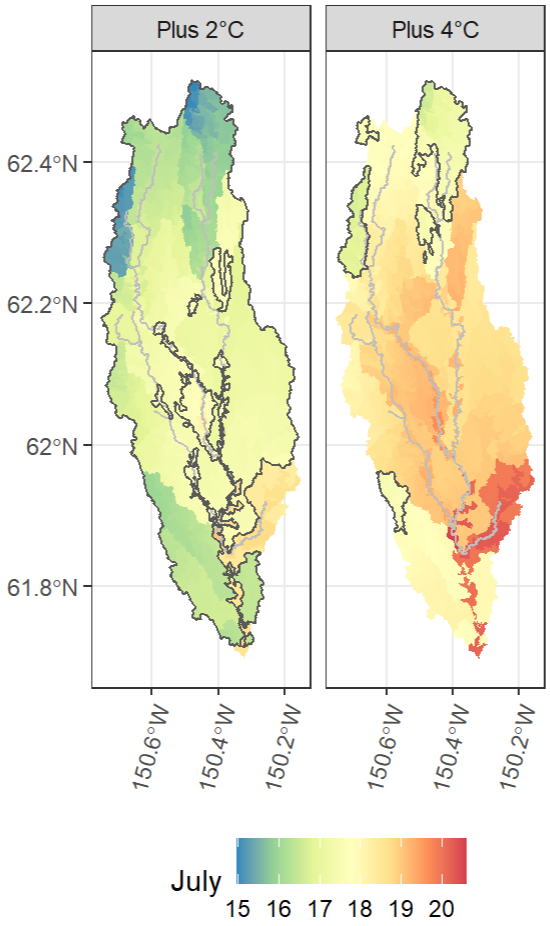

Figure 10. Mean July temperatures across catchments in the Anchor-Stariski watershed for four future scenarios. 95% of current Chinook Salmon spawning habitats have mean July temperatures < 12.9°C. Black outline indicates catchments below this threshold that may become important thermal refugia in the future. Gray lines indicate the current extent of Chinook Salmon spawning across the watershed.