



Presenter

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Climate Change and Trout on the Qualla Boundary

Trout are a culturally and economically important group of species on the Qualla Boundary. As trout are coldwater fishes, and the Qualla Boundary is located near the Southern limit of trout distribution, trout there are expected to be highly sensitive to climate warming. In this study, I modeled how the distribution and total area of native brook trout habitat will change under the four RCP greenhouse gas emissions scenarios from the IPCC AR5. I found that the majority of habitat loss will occur within the next 10-25 years and that habitat loss in 50 years will be between 50% in the "best case" scenario and 92% in the "worst case" scenario. I will also discuss models of the impact of climate warming on production in the tribal hatchery. Preliminary model outputs suggest that higher summer temperatures will reduce fish growth during that period, leading to longer times to grow fish to stocking size and greater feed costs as fish will require higher rates of feeding for longer periods of time.