Application Of Spatial Climate Scenarios to Pierce County

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Unusually severe weather patterns are becoming more present due to climate change. Geographic Information Systems (GIS) datasets can be used to calculate impacts of these events. Individual layers depicting the cumulative impact from climate scenarios the globe will face are widely available. However, these layers cover large areas with low resolution and accuracy on a local scale. In this study I used GIS to create a high-resolution model of the impact of climate change in Pierce County. Areas vulnerable to changing climate were determined with a raster analysis of climate scenarios combined with known vulnerabilities in the area. Analysis showed that urban areas in the county are relatively protected from climate change on a local scale, but areas adjacent to water had a high frequency of being vulnerable to these future conditions. This model posed as a holistic view on current knowledge integrated with future scenarios to serve future planning of the county's mitigation on infrastructure from climate change.