The Hydroscape of Tomorrow: Boise, Idaho

Projected Outcome: Idaho scientists are developing predictive tools to quantify future water supply and demand for sectors like agriculture, municipalities, industry, and recreation. Engaging with stakeholders in the region, these tools will help them evaluate alternative growth and climate change scenarios (Figure 1).
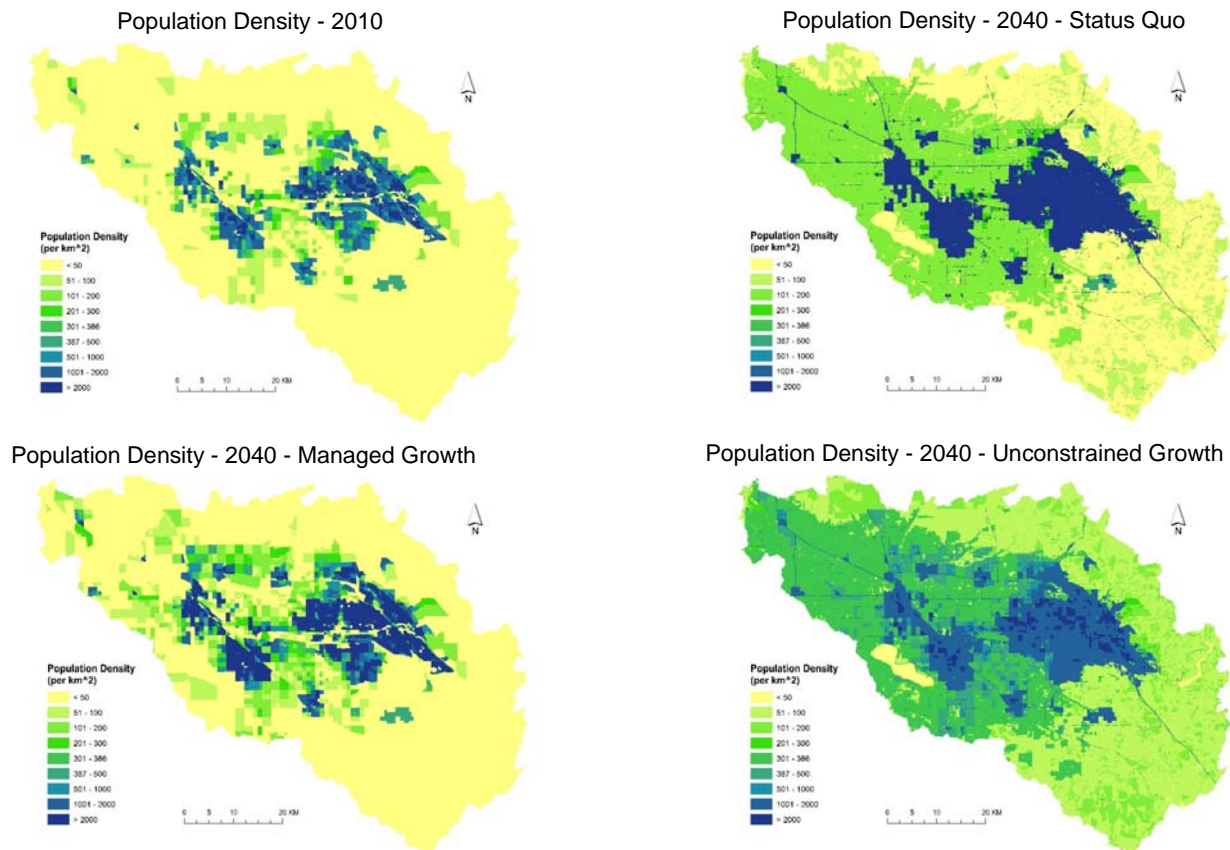
Population Density - 2010

Population Density - 2040 - Status Quo

Population Density - 2040 - Managed Growth

Population Density - 2040 - Unconstrained Growth

Figure 1: Alternative scenarios of population density in the Boise metropolitan area.

Impact: Predictive tools can highlight areas in the region where there is a high potential for floods or water scarcity and possible conflict between those who rely on water for a variety of reasons. With the ability to visualize modeling results, stakeholders can participate in the *activity* of modeling. Participants from water management agencies, regional planning associations, environmental groups, and local governments can articulate policies and preferences that the modeling framework needs to capture.

Explanation: Every resident, landowner, and city makes choices that ultimately impact their water footprint. We do not know with certainty what choices will be made in southwestern Idaho in the coming decades. But we can engage with stakeholders to understand the range of likely future choices, and evaluate a spectrum of scenarios that capture the implications of these choices for future water demand. We can also simulate how water moves through the landscape in rivers, canals, and in aquifers. In this way the predictive tools capture some of the key uncertainties about future water demand and supply. These include projected changes in water delivered due to climate change, anticipated changes in land use, and variation in the style of developments and associated consumptive water use.

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