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Irrigation demand on center-pivot crops in Alabama

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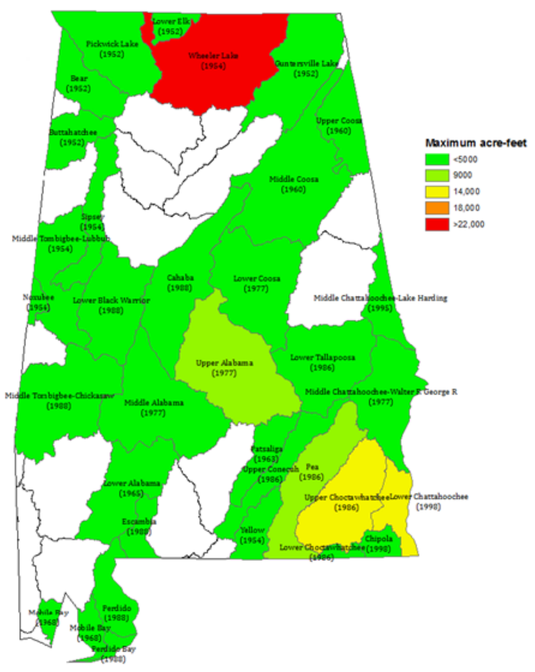
Overview

The purpose of this research was to combine center pivot acreage estimates with fifty year spatial crop model results in order to provide an historic and real-time demand tool for future irrigation expansion, and the withdrawal impacts from irrigated agriculture.

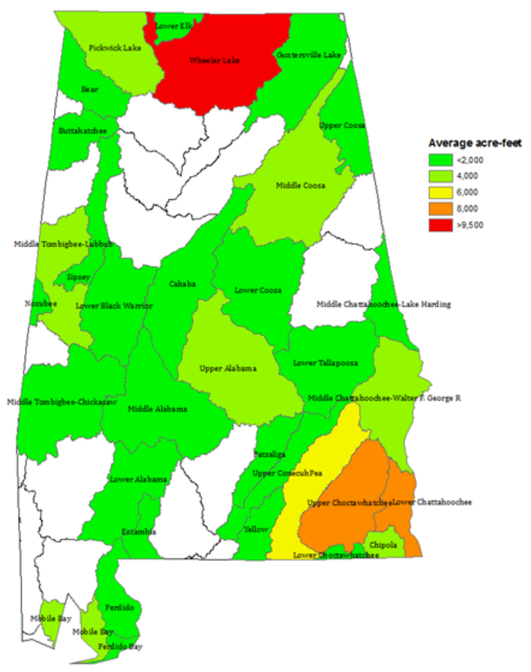
Key Findings

Results indicate high temporal and spatial variability from year to year and throughout the state. In order to monitor and sustainably manage water resources in the state, tools are needed for decision makers and stakeholders to visualize water demand in time and space.

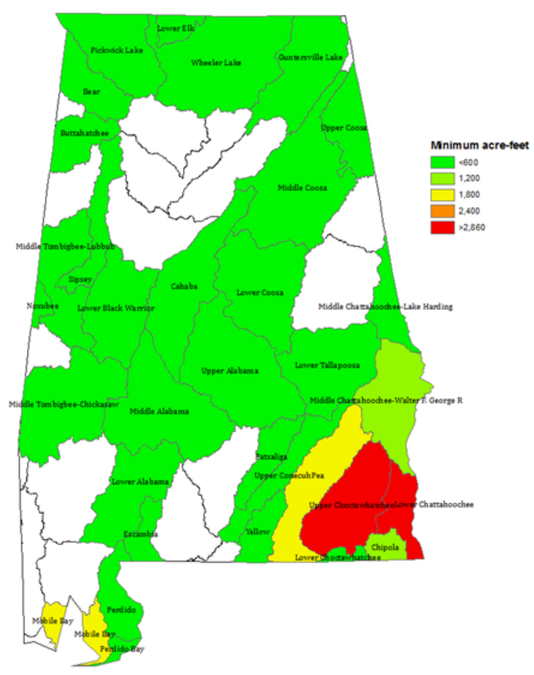
Maximum irrigation demand for HUC-8 watersheds in Alabama (year)

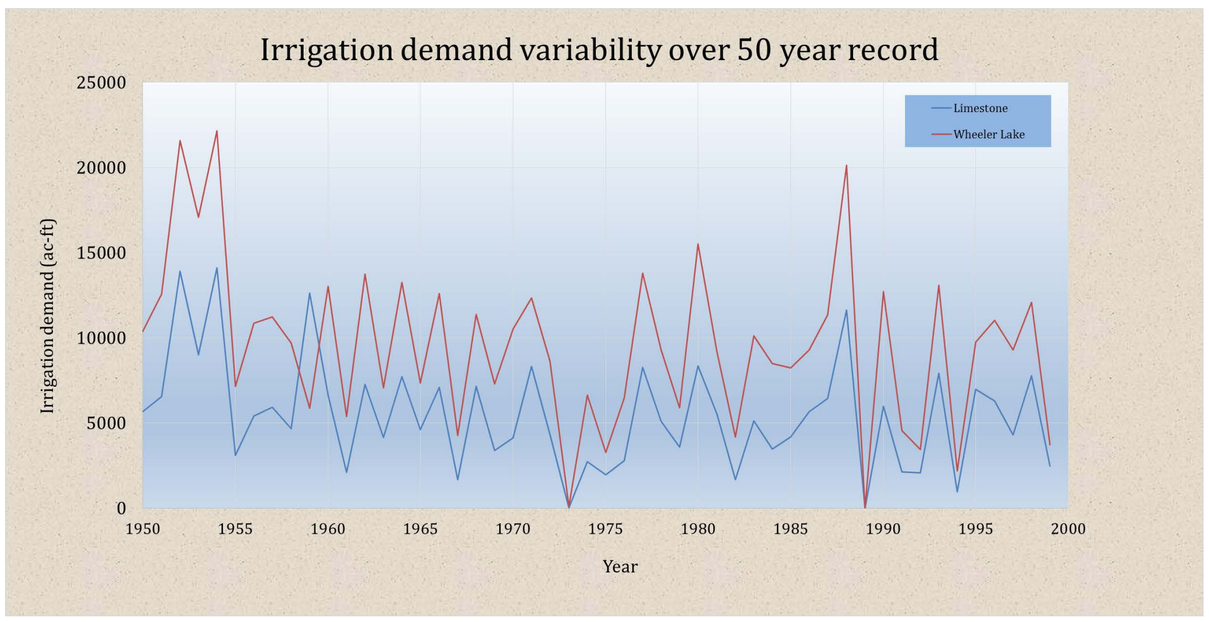


Average irrigation demand for HUC-8 watersheds in Alabama



Minimum irrigation demand for HUC-8 watersheds in Alabama





Impact

Future models are needed using real-time weather data with GriDSSAT/WaSSI functionality in order to identify areas most impacted by fresh water deficits such as the drought experienced throughout the Southeast in 2012.

Explanation

Supplemental irrigated agriculture in Alabama is growing in both acreage and demand. Its essential to understand the impact on local water resources by estimating the demand needed to sustain adequate crop production during seasonal variability.

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