



# CLIMATE CHANGE RESEARCH PROGRAM GRANT AWARD



**CALIFORNIA POLYTECHNIC STATE UNIVERSITY, SAN LUIS OBISPO**

## THE FUTURE OF SAN JOAQUIN VALLEY AGRICULTURE UNDER CLIMATE CHANGE AND THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT

**PRINCIPAL INVESTIGATOR:** Michael McCullough, Associate Professor, Dept. of Agribusiness

<p><b>PROJECT GRANT</b></p> <p style="font-size: 1.2em; font-weight: bold;">\$ 541,362.00</p> <p><b>Duration: 24 Months</b></p>	<p style="text-align: center; font-weight: bold;">PRIORITY RESEARCH AREAS</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Supporting and Protecting Vulnerable Communities from the Impacts of Climate Change</li> <li><input checked="" type="checkbox"/> Integrating Land Use, Conservation, and Management into California Climate Change Programs</li> <li><input checked="" type="checkbox"/> Increasing Data Accessibility and Planning Support for State, Local, and Regional Climate Change Planning</li> </ul>
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This research will analyze the likely economic impacts of climate change on disadvantaged communities in the San Joaquin Valley in the context of pending regulations and changing resource conditions. This study focuses on the agricultural economy, which is dependent on factors that can be critically impacted by climate change. These factors create important and often overlooked tradeoffs that affect future costs and opportunities for disadvantaged communities under a changing climate. Researchers will explore the link between water resources that support farming, the economic well-being of communities that depend on farm jobs and the effect of climate change and Sustainable Groundwater Management Act requirements on the Valley's water resources.

<b>PARTNERS</b>	<ul style="list-style-type: none"> <li>➤ California Cotton Ginners and Growers Association</li> <li>➤ ERA Economics, LLC</li> <li>➤ Lower Tule River Irrigation District</li> <li>➤ Pixley Irrigation District</li> <li>➤ University of California, Merced</li> <li>➤ Western Agricultural Processors Association</li> </ul>
<b>RESEARCH ACTIVITIES</b>	Identify linkages between agriculture, climate change, and the well-being of rural disadvantaged communities within the San Joaquin Valley. Quantify and model the future impact of SGMA. Evaluate the impact of future climate change, regulations, and SGMA on communities in the Valley using a hydro-economic modeling framework.
<b>FACILITATES GREENHOUSE GAS EMISSIONS REDUCTIONS</b>	This research will determine the state of and interaction between climate change, water use/availability, and agricultural communities. It will identify opportunities for agriculture to consider how water supply and the regulatory environment in agriculture can accelerate the reduction of GHG emissions. Data generated from this research will be available to use in regional modelling tools and other their efforts to understand the impact of GHG emission policy on agriculture.
<b>BENEFITS DISADVANTAGED AND LOW INCOME COMMUNITIES</b>	Researchers will identify impacts on rural disadvantaged communities that are likely to suffer most under future conditions. The geographic focus on the San Joaquin Valley lends itself to studying differentiated water supply and use across the San Joaquin Valley and engagement with up to twenty of the State's most disadvantaged communities, all of which are highly dependent on agriculture for their standard of living.
<b>ENGAGEMENT ACTIVITIES</b>	Surveys will be developed, generated and distributed with cooperation of the research partners and members of the agricultural community. In cooperation with state and local water agencies and based upon previous work the research partners, sustainable water yields will be established. Researchers will share previously conducted climate change related policy work with the research partners and agencies to help improve future modeling efforts.