2020 Climate Change Consortium for Specialty Crops

Southern California Region

CLIMATE SCIENCE ALLIANCE

cdfa
CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

Southern California is already experiencing the impacts of a changing climate, with shifts in temperature, precipitation variability, extreme weather events, prolonged drought, and intense wildfires. These changes could have implications for the region's agriculture, with corresponding impacts to the region's economy, environment, and people. Despite these challenges, agricultural producers play a critical role in building on-the-ground resilience and are an important part of the region's climate change solutions.

The 2020 Climate Change Consortium for Specialty Crops - Southern California region provides a unique opportunity for producers, scientists, technical advisors, and partners to convene and discuss regionally specific climate impacts for Southern California, identify priority agricultural needs and concerns to address these impacts, and showcase current opportunities for on-the-ground adaptation and resilience. Building off of the 2012 Climate Change Consortium for Specialty Crops, the 2020 Consortium offers a platform for producers to share adaptation strategies and recommendations to help buffer the impacts of a changing climate. These discussions will help inform and guide the California Department of Food and Agriculture's future activities and funding priorities to continue their long standing commitment in supporting California agriculture now and into the future.

We want your feedback!

Do you have input, needs, or recommendations to help address climate change-related challenges? We invite producers, farmers, technical assistants, and others to share your ideas through our Feedback Form by visiting the link below or contacting Lindsey Jasperse at the email below:

www.climatesciencealliance.org/2020-consortium ljasperse@climatesciencealliance.org

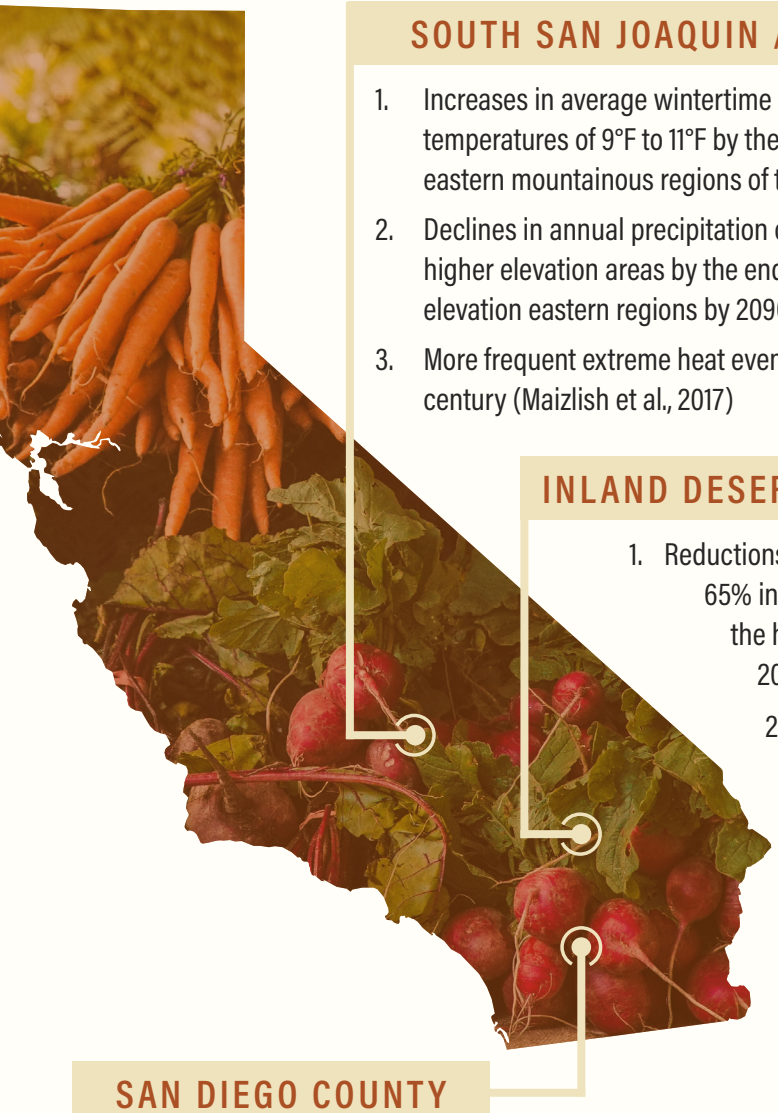
Resources

Please visit our website to learn more about the Climate Change Consortium for Specialty Crops and find event information, materials, and resources.

www.climatesciencealliance.org/2020-consortium

Regional Climate Impacts and Opportunities

While overall trends in climate are mostly consistent across Southern California, the impacts of a changing climate will vary across the region's diverse topography and micro-climates (Bedsworth et al., 2018). Major agricultural regions, including San Diego County and counties within the Inland Desert and South San Joaquin regions, will experience distinct climate impacts and opporunities in the coming years, as listed below:



SOUTH SAN JOAQUIN / KERN COUNTY

1. Increases in average wintertime (January) temperatures of 7°F to 10°F and average summer (July) temperatures of 9°F to 11°F by the end of century, with especially high temperature increases across the eastern mountainous regions of the Southern Central Valley (Maizlish et al., 2017)
2. Declines in annual precipitation of up to 3.5 inches in lower elevation areas and up to 10 inches in higher elevation areas by the end of the century, with a decrease in snowpack of 9 inches in higher elevation eastern regions by 2090 (Maizlish et al., 2017)
3. More frequent extreme heat events, with an increase of 7 to 10 heat events per year by the end of the century (Maizlish et al., 2017)

INLAND DESERT REGION / RIVERSIDE & IMPERIAL COUNTIES

1. Reductions in minimum annual precipitation of up to 50% and increases of 40-65% in maximum annual precipitation by the end of the century, illustrating the high degree of variability expected in the coming years (Hopkins et al., 2018)
2. Increase in the wettest day of the year by up to 30% by the end of the century, increasing the risk of flash flooding (Hopkins et al., 2018)
3. More intense heat extremes, increases in daily average maximum temperatures of up to 8-14°F and in daily minimum temperatures of up to 4-7°F, and warmer winters with the potential for fewer days of freezing temperatures in some areas (Hopkins et al., 2018)

SAN DIEGO COUNTY

1. Increases of 10-30% in the average wettest day every five years by the end of the century, meaning that extreme precipitation events will become more intense (Kalansky et al., 2018)
2. Overall, greater warming projected for inland areas compared to those near the coast, in part because of the CLCF and the marine layer that shield San Diego's coastal zones. The average hottest day per year is projected to reach 110-125°F in desert areas and 100-110°F in coastal areas by the end of the century under some greenhouse gas (GHG) emission scenarios (Kalansky et al., 2018)
3. Increases in minimum temperatures, with generally warmer winters, nighttime temperatures (Gershunov and Guiguis, 2012; Jennings et al., 2018; Kalansky et al., 2018) and higher average daily minimum temperatures (Kalansky et al., 2018). Additionally, there is potential for more frequent cold extremes, similar to past records (Favre and Gershunov, 2009)
4. Exacerbated moisture deficits across much of the region's landscapes, with intensified droughts, drier conditions and larger water deficits (Kalansky et al., 2018)

LEARN MORE ABOUT IMPACTS AND OPPORTUNITIES FOR SPECIFIC CROPS IN THE SOUTHERN CALIFORNIA REGION:
www.climatesciencealliance.org/2020-consortium