Funded by:

NOAA Critical Thresholds for Extreme Weather Events

CASE STUDY

Las Cruces, NM

Photo: Las Cruces Convention and Visitors Bureau

Las Cruces is located in the arid desert region of south-central New Mexico, 46 miles north of the Mexican Border. The Rio Grande flows through the city and much of the city lies within the geologic floodplain of the river. Las Cruces is the economic and geographic center of the Mesilla Valley. More than half the city's population is Hispanic or Latino and 24% of the population lives below the poverty line.

Population: 101,643

Primary Climate and Weather Related Concerns: Monsoon Thunderstorms and Flooding, Extreme Temperatures (hot and cold), Drought, Dust Storms

ACTION TO BUILD RESILIENCE

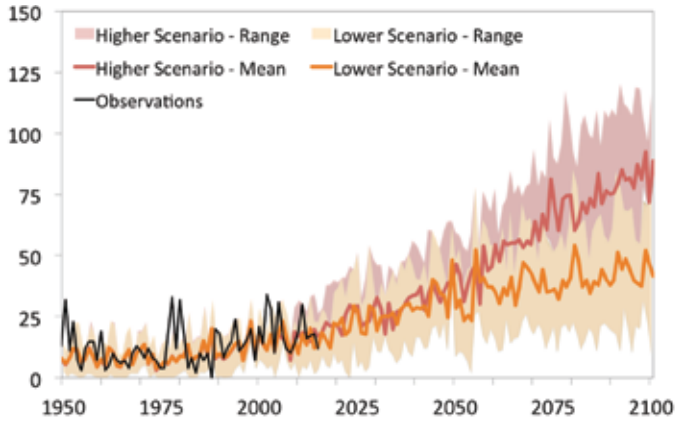
The City developed and installed a demonstration rainwater harvesting project at the Safe Haven Community Center Complex, in the heart of a low-to-moderate income neighborhood, and created a green infrastructure plan for the same neighborhood. The projects aim to lessen the impacts of extreme heat events, lower the Urban Heat Island effect (through planting additional vegetation and shade trees) and reduce the impacts of flooding (through green stormwater infrastructure).

Photo: Lisa La Rocque

CLIMATE PROJECTIONS

Project participants identified more than 30 thresholds of concern ranging from hot days and warm nights to potential shifts in the growing season and dust storms. While the project could not provide information on dust storms, climate projections highlight that by the end of the century, summer high temperatures will be over 100 degrees Fahrenheit for two or three months. Figures below show observations and projections for the future with a lower climate change scenario (RCP 4.5 - Lower Scenario) and higher climate change scenario (RCP8.5 Higher Scenario).

Days with maximum temperature > 100° F



Date of last frost (nighttime temp < 32° F) in spring

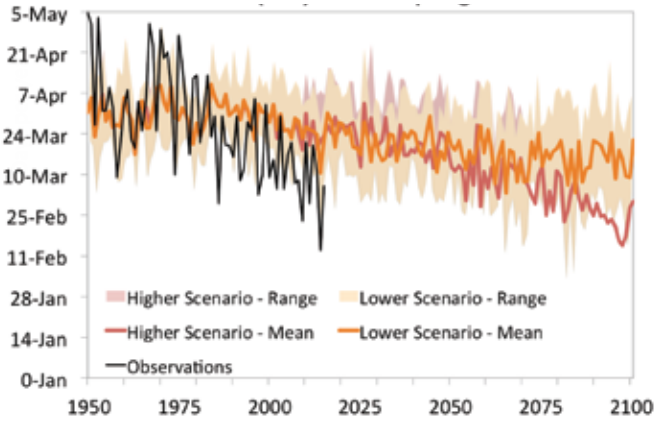


Photo: Sarah Leroy

INSIGHTS

The thresholds concept is somewhat beneficial for communicating about climate changes in the region. **However, without the institutional capacity (personnel and funding) or experience planning on long-term climate change time-scales, it is difficult to coproduce actionable science, based on the thresholds concept.**

This was the City's first concerted effort to address the politically-charged issue of human-caused climate change. At the workshops, the project team had a difficult time getting participants to think beyond the daily-to-weekly time scales associated with short-term emergency preparedness and response. **The City used the green infrastructure plan developed through this project to secure $400,000 in grants and matching funds to begin to renovate and install green infrastructure in a portion of a traditionally under-served neighborhood.**

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