



Fresno Council of Governments Project Fact Sheet

EXTREME HEAT ANALYSIS AND SHADE ADAPTATION PLAN

WHAT WE ARE DOING:

The Fresno Council of Governments is pursuing a Caltrans Climate Adaptation Planning Grant to develop an Extreme Heat Analysis and Shade Adaptation Plan. The plan will identify which neighborhoods of Fresno County are most vulnerable to extreme heat. It will also identify corridors with high bike and pedestrian traffic that are candidates for increased tree canopy and vegetative cover projects, as well as corridors for greenway projects. It will include a list of funding sources and community partners for developing the projects. The final plan will be shared directly with member agencies and can inform the jurisdictions' master plans, general plans, and future projects.

WHY THIS IS IMPORTANT:

The climate of Fresno County traditionally produces warmer temperatures. However, with climate change, the frequency and severity of hotter temperatures is expected to increase. The annual average maximum temperature for Fresno County is expected to rise 5.3 °F, in a medium emission scenario, or 8.7 °F in a high emission scenario, by the end of the century. The number of extreme heat days (above 94.3 °F) is expected to rise from 5 day per year to 43 days per year, under a Medium Emissions Scenario, and to 66 days per year under a High Emissions Scenario.

Last year, Fresno County experienced more than 100 days when temperatures were over 100°F and in 2021 there were 349 heat-related emergency calls, as shown in the map below. Additionally, 14 out of the 15 incorporated cities, and the majority of unincorporated Fresno County, are identified as disadvantaged communities in the SB 535 Disadvantaged Communities map. The average income is 25% below the state average, so over 58% of the residents are in low-income communities. These communities may not have the financial means to adapt to rising temperatures. For example, they may not be able to afford high costs of cooling units, adequate housing insulation, or may rely on walking and bicycling for transportation.



Total ER Visits due to Extreme Heat (2009-2018)



Heat-Related Emergency Calls in 2021

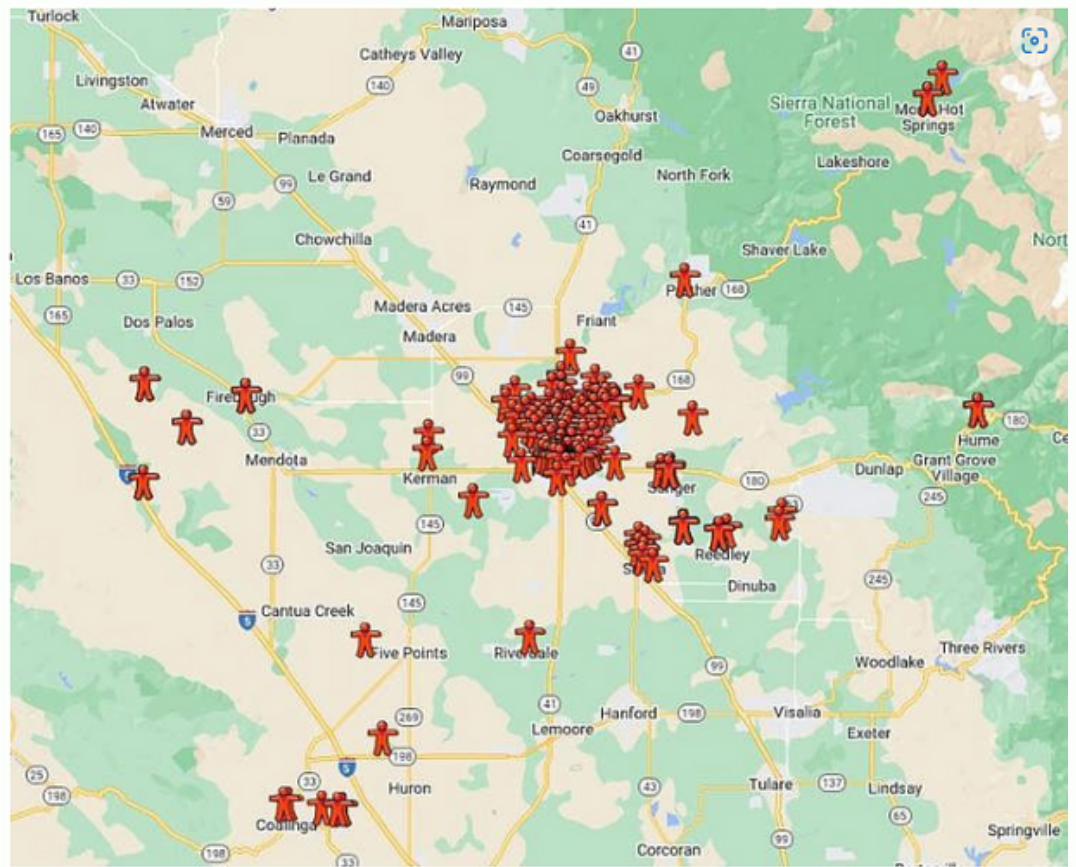


Days over 100°F in 2022



Projected Days Above 90°F (2035-2064)

Without action, the rising temperatures will result in rising health-related illnesses. Rising temperatures can also result in worsening air quality, which will exacerbate respiratory illnesses. Fresno County has historically failed to meet federal air quality standards for ozone and particulate matter 2.5 and has high rates of asthma. Heat and sunlight react with emissions from vehicles and industrial facilities (NOx and VOC) to create ground-level ozone. Ozone negatively affects human health. It is linked to coughing, difficulty breathing, and aggravated lung diseases, such as asthma.



Heat-Related Emergency Calls in 2021
 Source: Fresno County heat waves will last longer in the future. Here's what that means for your health | USC Center for Health Journalism

BENEFITS OF TREE CANOPY:

Tree canopy and vegetative land cover can help address some of these issues. Trees can provide a cooling effect through evapotranspiration and can provide protection from extreme heat. Tree canopies can also help trap and filter pollutants, such as PM 2.5 and CO2. Increased tree canopy and vegetative land cover can provide shade, a cooling effect, and improved air quality in Fresno County communities. The proposed Extreme Heat Analysis and Shade Adaptation Plan will identify corridors for tree canopy improvements based on an extreme heat vulnerability analysis and bike and pedestrian traffic analysis.

How Do Trees Benefit People?

Beyond adding beauty to our communities, trees provide real health and safety benefits to people living in cities and towns every day.

Build Connection
 Trees support social connection. Studies found that residential common areas with trees and other greenery support stronger feelings of community.

Reduce Stress
 City walks by green spaces result in a lower heart rate than walks by buildings or vacant lots.

Getting Active
 People who live in areas with high levels of greenery are much more likely to be physically active.

Cool Spaces
 Trees offer cooling benefits to cities and towns, which are typically warmer due to hard surfaces.

Support Long-Term Health
 People who live in areas with healthy tree canopy experience less asthma, strokes, and cardiac arrest.

Safety Buffer
 Trees provide a natural barrier between cars and people enjoying walks in their neighborhoods, creating a safer space for everyone.

Clean Air
 Trees directly remove particulate matter from the air, reducing overall air pollution.

Source: <https://realblognow.com/health-benefits-of-trees/>