

Climate Adaptation and Mitigation Through Green Infrastructure

County of Alameda

Addressing Heat Through Cooling Our Communities

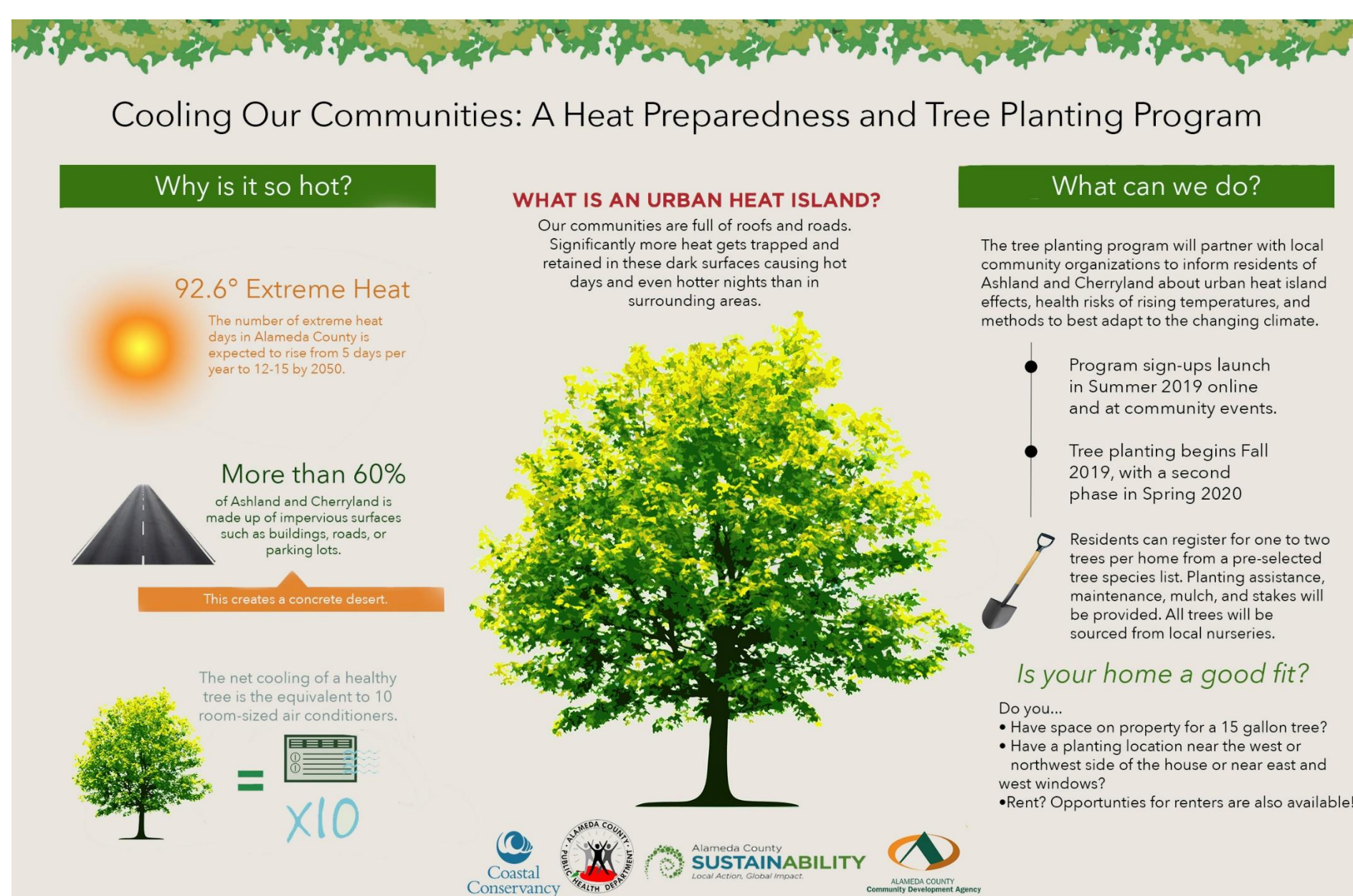
Heat in Alameda County

Alameda County is experiencing the effects of the changing climate already, as extreme heat days become more frequent. Such effects are exacerbated due to the urban heat island effect and especially affect vulnerable communities with little canopy cover. As trees retain both water and heat, they can lead to a difference of over 5 degrees between dense urban areas and communities with canopy cover. Therefore, the effects of heat can be lessened using natural systems and green infrastructure to both mitigate and help adapt to the changing climate.

Climate Adaptation and Mitigation through Tree Planting

To address the health and climate effects of increased heat, the Alameda County Planning Department, Sustainability Office, and Public Health Department, with funding from the Coastal Conservancy, developed “Cooling Our Communities.” The program is a heat preparedness and climate change adaptation program that provides free trees to residents to:

- Raise awareness and support the ability of communities to respond to health impacts associated with increased heat
- Increase shade, sequester carbon, reduce energy bills and associated GHG emissions, and help alleviate urban heat island impacts
- Build community capacity to adapt and develop resilience in response to heat impacts associated with climate change



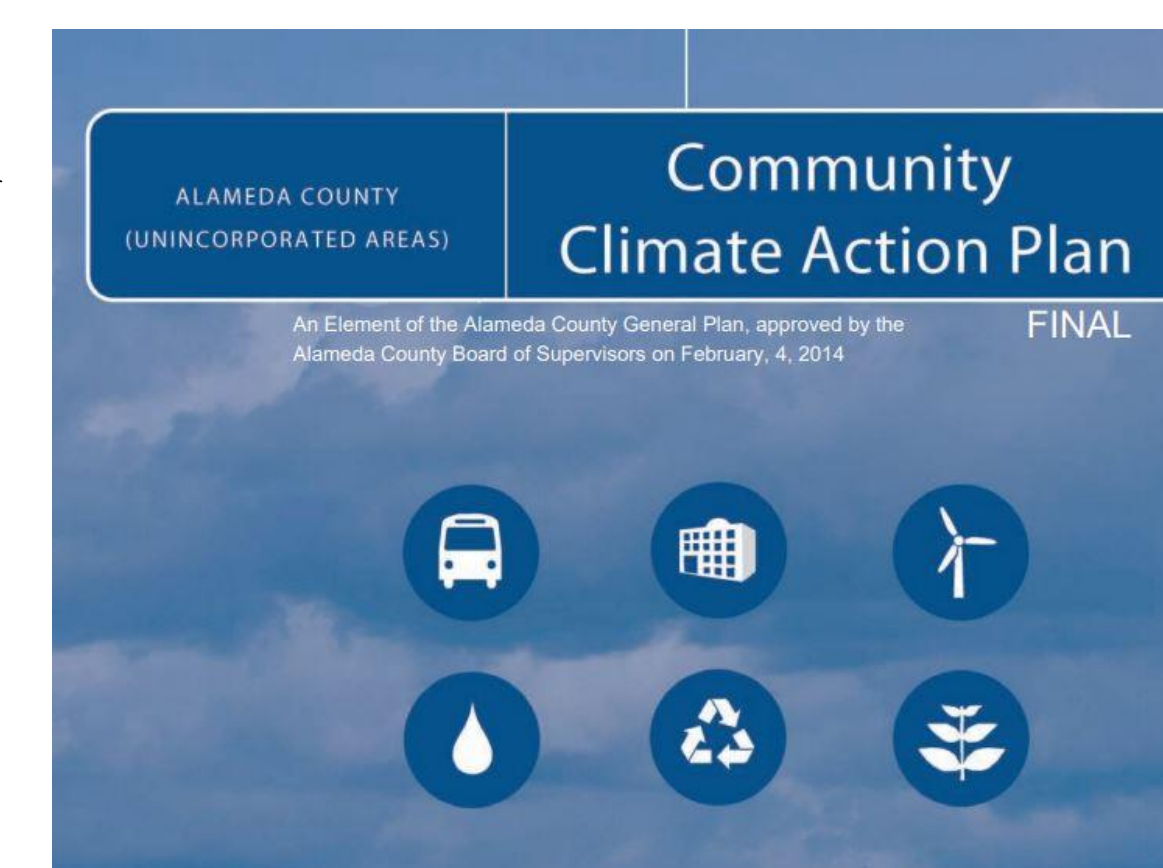
Program Outcomes

- Over 300 trees planted contributing to
 - stormwater run-off prevention
 - carbon sequestration
 - greenhouse gas emissions reductions
 - energy savings
 - improved air quality
- Tree protection ordinance to institutionalize program results
- Community forums conducted to engage community residents, inform about climate change, increase resilience to heat, and build capacity of community partners



In Context of Climate Action Plan

- Program addresses measure to expand urban forest to sequester carbon and reduce building energy consumption
 - 1 tree captures about 13 pounds of CO₂ per year
 - 1 tree can reduce energy consumption by around 200 kw/h per year
- Authored a Climate Action Plan Implementation Status Report updating over 50 measures to inform future climate policy, incorporating equity and adaptation



Micaela Unda

After graduating from Duke University with a degree in Environmental Science and Policy, Micaela wanted to explore climate policy development and help implement sustainability programs. She has also focused on environmental communications to effectively share messaging around the changing climate. Micaela is interested in continuing work at the intersection of policy, communication, and research to address climate change mitigation.

Acknowledgements:

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