

Trees and Climate Action

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City of San Diego, Environment Committee



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Cities need trees for climate adaptation!

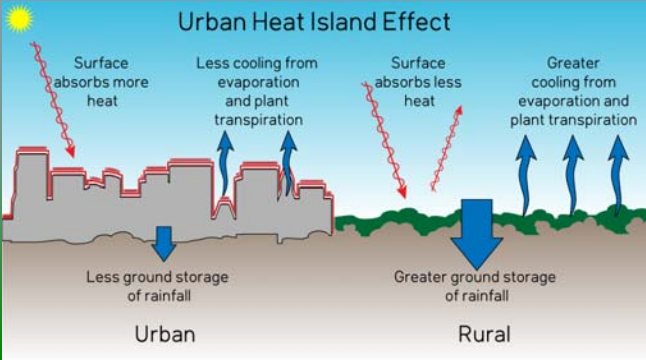
- Health benefits
 - Shade and cooling
 - Cleaner air
 - Active living
 - Cooler schoolyards
- Ecosystem services
 - Retain stormwater
 - Recharge groundwater
 - “Green infrastructure”



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Climate change will increase urban heat

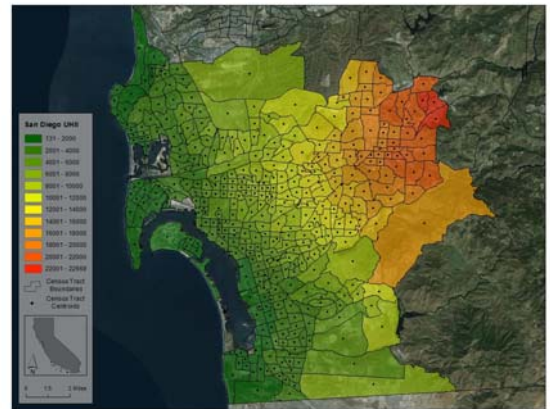
- Trees absorb heat and provide shade
- Trees cool neighborhoods by transpiring water vapor



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Urban heat patterns in San Diego

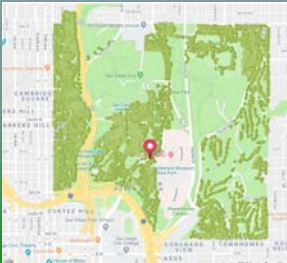
- During heat waves, all census tracts have “red” temperatures



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Trees are climate action tools... and more


- Carbon sequestration
 - \$4.8 billion annual national value (Nowak 2018)
 - Urban wood reutilization
- 15,350 trees in Balboa Park
- 7,000 metric tons carbon storage
- iTree annual benefits
 - \$70 k pollution removed
 - \$14 k stormwater filtered
 - \$32 k CO₂ removed



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Tree canopy cover

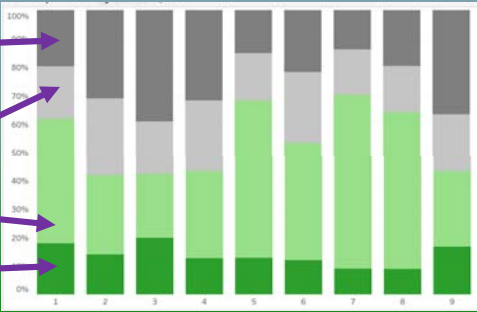
- Tree canopy goals in Climate Action Plan
- LiDAR-based remote sensing data
- Transform data to land cover types (grant)
- Existing tree canopy, for each parcel
- Possible tree canopy, for each parcel



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Tree canopy cover

- By district
- By land use



Buildings

Hard surfaces

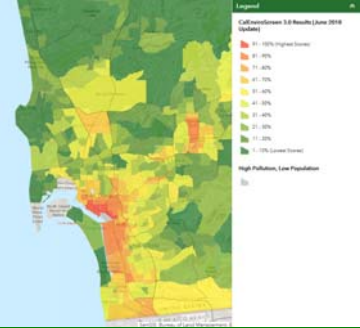
Soil, grass and shrubs

Tree canopy

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Tree canopy cover

- Equity
 - Differences by Districts and census tracts
 - Data from CalEnviroScreen 3.0
 - Highest population burdens and pollution levels in red



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