

Healthy Trees for Healthy Neighborhoods

Agenda for January 10, 2020

- Introductions
- Objectives and outcomes
 - Inform
 - Inspire
 - Invite
- Three 10-slide presentations
- Collective Impact model
- Work in teams for neighborhoods, schools, and parking lots (code compliance)

1

Introductions

- Name, neighborhood, and affiliation
- Briefly describe your most impactful tree issue or experience in past six months
- This is a campaign!
 - Plant healthy trees
 - Plant trees where people want more trees
 - Trees are not free, but not expensive

2

The Power of Climate Change

Global realities

- Faster rates of warming and impacts
 - Increased computational power for models
 - Stronger feedback loops for ice and permafrost melting
 - Ice cores show sea level can rise in a decade
- Many impacts will be irreversible “tipping points”
 - Drought and desertification
 - Melting ice and permafrost
 - Urban destruction from storms and sea level rise
 - Heat events and hotter cities

Personal realities

- Increasing anxiety and anger
- Heat and health affects everyone
- Time for professional action and advocacy



3

10-slide Presentations

- Tree Benefits
- Trees and Climate Action
- Trees and Schools



4

Tree Benefits

- Shade and cooling
- Health and livable communities
- Clean air and water
- Property values and jobs
- Climate action



- Online resources:

<http://investfromthegroundup.org/resources>

<https://www.treepeople.org/tree-benefits>

Trees shade buildings and lower energy bills



2

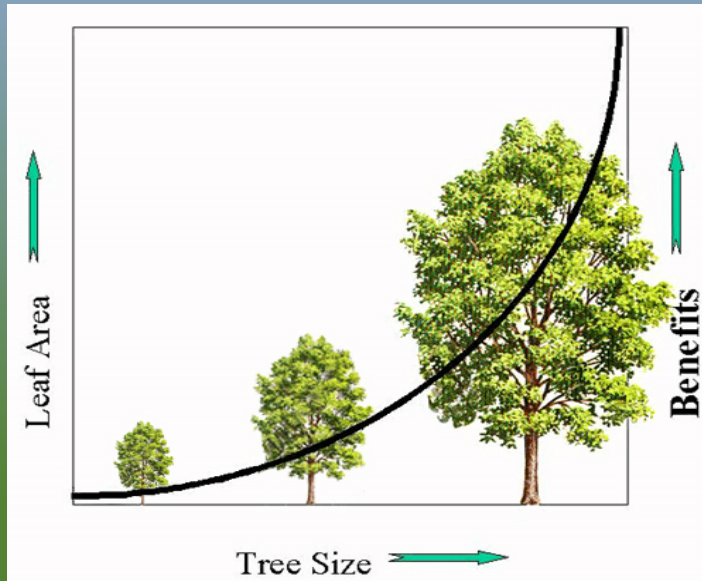
Trees shade streets and define neighborhoods
Trees make streets safer and more walkable



Trees in parks invite social and physical activity



Bigger trees = more benefits!



5

Trees clean the air by absorbing pollutants
Trees reduce greenhouse gases and urban heat



Trees stabilize soil and, reduce stormwater runoff, and improve water quality



Trees provide food and shelter for wildlife



8

Trees increase property values and buffer noise



Trees create jobs



Trees create more pleasant neighborhoods and business districts



Trees and Climate Action

- Climate impacts
- Climate adaptation
- Climate action planning
- Advocacy for trees

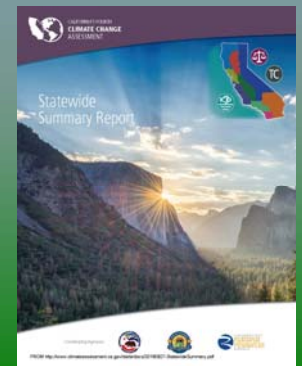
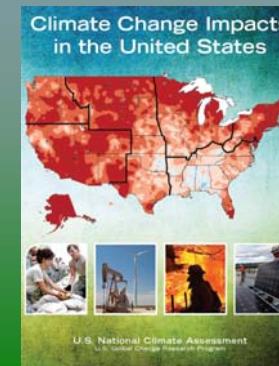
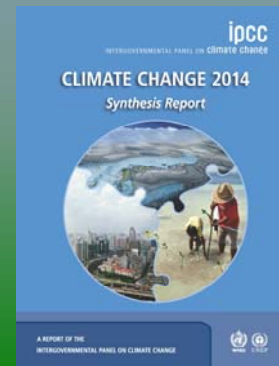


- Online resources:

- <http://sdrufc.com/trees-climate/>
- <https://www.climatesciencealliance.org/>
- <http://www.climateactioncampaign.org/>
- <https://sandiego350.org/>
- <https://scripps.ucsd.edu/centers/adaptation/>
- <https://www.sandiego.edu/climate/>

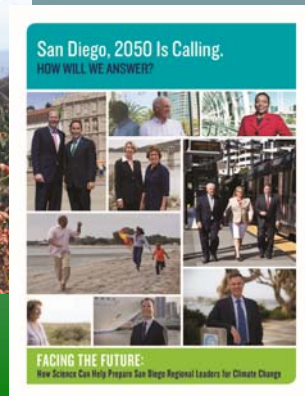
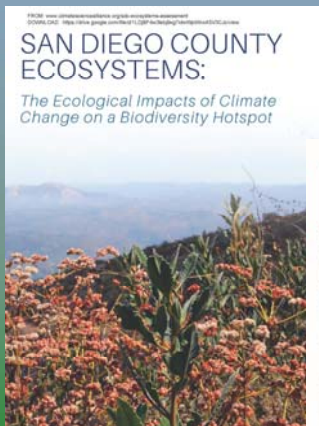
Realities of climate change impacts

- Intergovernmental Panel on Climate Change (IPCC), 2014
- U.S. National Climate Assessment, 2018
- Fourth Climate Assessment, California, 2018
- U.S. Forest Service report, 2012



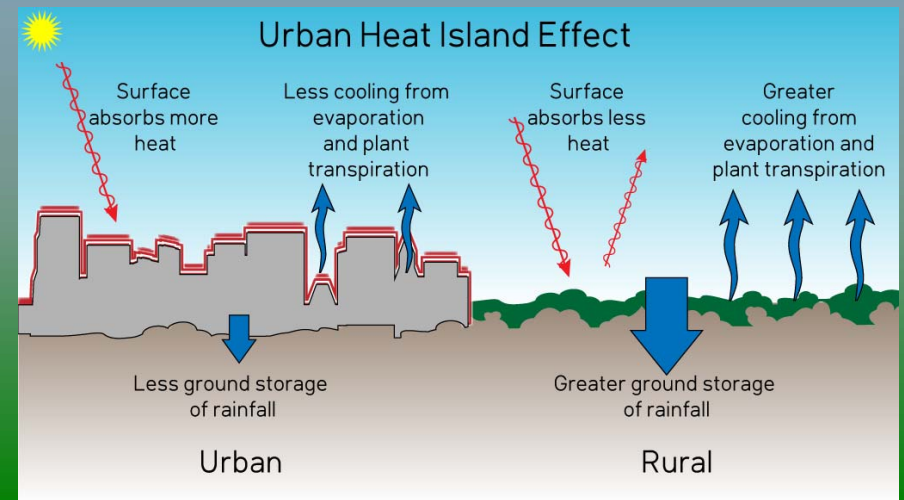
Local impacts of climate change

- Trees are affected by climate impacts
 - Drought
 - Temperature
 - Wildfires
 - Storms
 - Pests

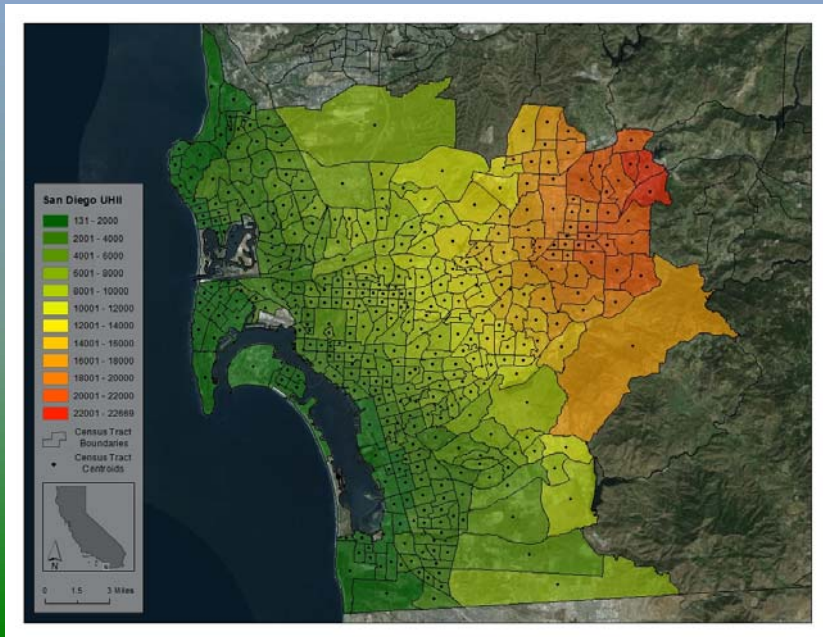


Climate change will increase urban heat

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

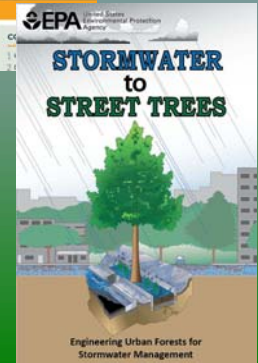
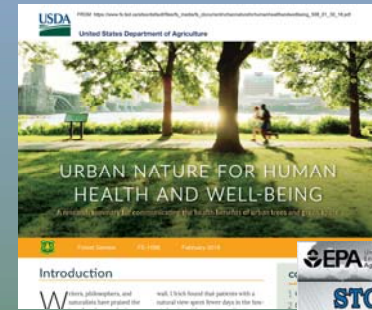


Urban heat patterns in San Diego



Cities need trees for climate adaptation!

- Health benefits
 - Shade, cooling
 - Active living
 - Most people live in cities
- Ecosystem services
 - Retain stormwater
 - Recharge groundwater
 - “Green infrastructure”
- Risk reduction
 - Ooops, also tree storm losses

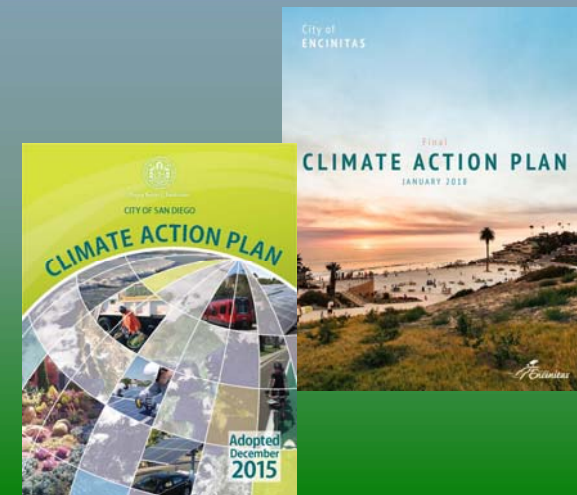


Trees are climate action tools

- Carbon sequestration
 - 4.8 billion annual value (Nowak 2018)
 - Urban wood reutilization
- Cap-and-trade programs
 - Protocols are challenging
 - Risk of not attaining survival or growth commitments
- Climate adaptation
 - Health and ecosystem benefits
- First “take care of what we have”
 - Then plant new trees
 - Consider future climate in selecting trees

What’s in a Climate Action Plan?

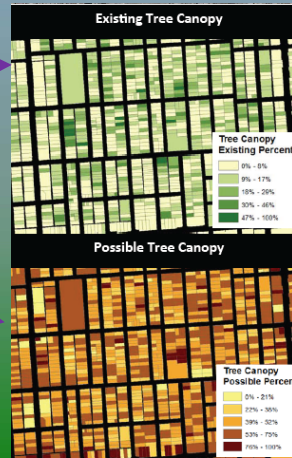
- Projected impacts by location, sector, equity
- Greenhouse Gas (GHG) emission reduction
- Adaptation goals
 - Tree canopy cover
- Public involvement
- Implementation



Tree canopy cover

- LiDAR-based remote sensing data (\$\$\$\$)
- Transform data to land cover types

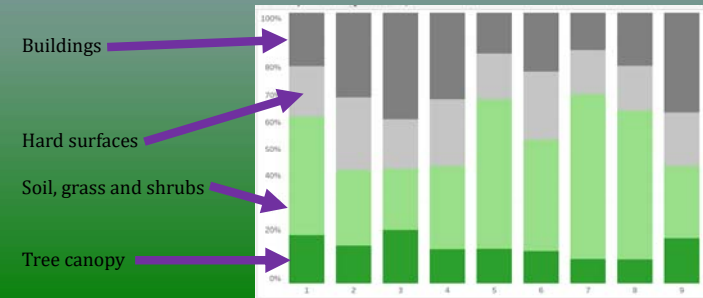
- Existing tree canopy
 - By land use (schools, parking lots)
 - By neighborhood (equity)



- Possible tree canopy
 - Community priorities
 - Ecosystem services

Tree canopy cover

- Actions to increase tree canopy
 - City-wide process or by district
 - Public and private land uses
 - Learn from other cities
- Set realistic 2035 goal for Climate Action Plan



Global Realities

- Faster rates of warming and impacts
 - Increased computational power for models
 - Stronger feedback loops for ice and permafrost melting
 - Ice cores show sea level can rise in a decade
- Many impacts will be irreversible “tipping points”
 - Drought and desertification
 - Wildfires and habitat conversion
 - Melting ice and permafrost
 - Urban destruction from storms and sea level rise

Emerging issues and trends

- Do youth and future generations have standing?
- What if negative feedback loops are faster than predicted?
- Is there equity in tree benefits and actions?
- How do community leaders and local professionals work together to fund tree care and planting?



Trees and Schools

- Benefits of trees
- Where to plant trees
- How to teach with trees



Resources

Muriel King, Master Gardener, muriel4trees@gmail.com
<http://sdrufc.com/trees-schools/>
<http://www.mastergardenersd.org/school-gardens/>
<https://www.greenschoolyards.org>

Most school grounds are like parking lots, with asphalt and few trees

- Asphalt grounds generate a lot more heat than areas with vegetation, as “heat islands”
- Children play in the sun and on asphalt
- Teachers have no place for outdoor lessons

Millions of children across California spend their outdoor time in the sun.

Health

58% of California's public schools have less than **5% tree canopy**

Reference: California tree canopy data from a GIS database compiled by Scott Berger, California Dept. of Public Health, Healthy and Sustainable Communities, California Department of Public Health, and the U.S. Environmental Protection Agency. © 2012 National Tree Foundation.

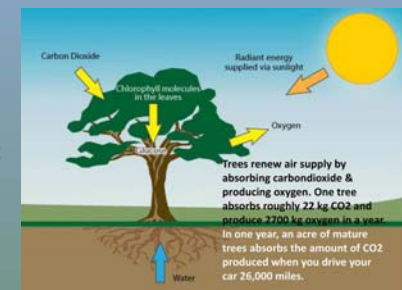
Trees enhance student health and outdoor play

- Shade play and learning areas
- Invite social interaction and physical activity
- Clean the air by absorbing pollutants
- Cool buildings and lower energy bills
- Make streets safer and more walkable



Trees help teach science and other lessons

- Benefits of trees
- What it takes to care for trees
- All living things depend on plants
 - Carbon-oxygen cycle
- Life sciences
 - Structure and function
- Earth sciences
 - Water quality, climate impacts
- Lessons at <http://sdrufc.com/trees-schools/>



Grade 5 How Trees Work

© 2012 National Tree Foundation

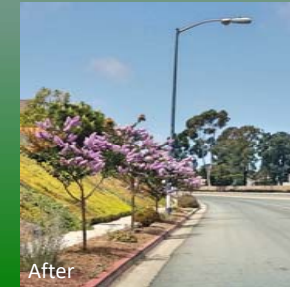
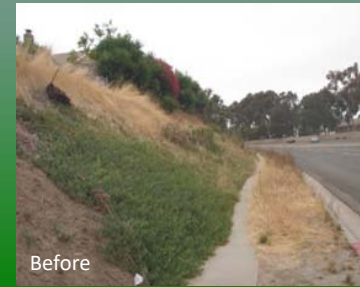
Trees can be planted in many places on school grounds

- At the edges of the asphalt, to shade play areas
- In areas where students congregate in the shade
- Over outdoor learning areas
- On south and west sides to cool buildings
- Along sidewalks in front of schools, drop-off waiting areas, and nearby bus stops
- In Joint-Use parks (SD Unified)



Trees can be planted on adjacent streets

- Improve walkability and provide a more pleasant and shaded outdoor experience
- Promote community pride and social interaction
- Encourage exercise and outdoor leisure activities
- Support “Safe Routes to School”
- Make neighborhoods more liveable



How can Master Gardener school garden consultants help?

- Map trees in the schoolyard and adjacent to schools
- Talk with teachers and administrators about the benefits of trees for outdoor play and learning
- Offer to share tree-based lessons
- Identify places that trees could be planted
- Work with parents, PTA and other groups to water trees



Let's get started!

- A Great Neighborhood without trees is **unimaginable**.
- A Great School without trees should also be **unimaginable!**



Why are trees so complicated?

- Trees are long-lived
 - Trees grow big
 - Benefits increase with tree size
 - Tree removals alter neighborhood experiences
- Trees need attention throughout life cycle
 - Trees thrive with proper care
 - Planting conditions define long-term health
- Equity
 - Many neighborhoods have no trees
- Discuss these further, at workshops

5

June 19, 2019 meeting

25 attended

Recommendations and ideas

- Engage many local groups
- Explore Collective Impact Model
- Set clear and measurable actions
- Enhance tree care education
- Start campaign, not new organization

6

There are plenty of resources!

Reminders of June 19 meeting and online materials
(next 6 slides)

- How do you get unhealthy trees?
- How do you get healthy trees?
- What are compelling reasons for trees
- How do you maintain healthy trees?
- How can trees be funded?
- Technology is transforming tree care
- Learn from other cities

7

What are compelling reasons for trees?

From June 19 meeting:

- Beautification of community, aesthetics (6)
- Civic pride, neighborhood engagement (3)
- Cleaner air, reducing air pollution (3)
- Climate change, carbon sequestration (11)
- Cooling neighborhoods, offset urban heat, shade, walkability (8)
- Education (2)
- Growing food (1), urban wood reutilization (1)
- Habitat for wildlife and pollinators (6)
- Health benefits (4)
- Increasing property values (2)
- Love of nature, inspiration, enjoyment (2)
- Lower crime rates (2)
- Stormwater retention, recharge soil moisture (2)
- “The cost of inaction is now more than the cost of doing something.”
- See flyers, <http://investfromthegroundup.org/>

8

How do you get unhealthy trees?

From June 19 meeting:

- Roots exposed, planted in hole that was too shallow
- Sidewalk breaking due to root growth, wrong species for location
- Planted with circling roots, too deep and not watered enough
- Planted in area that wasn't easily accessible (for maintenance)
- Species appropriate but poor quality stock planted 3" below grade
- Wrong tree-wrong place, planted too close to structure
- Not sufficiently watered during establishment
- Planted next to boulder and garage, grew very large and became a threat, blocked solar panels
- Tree planted without landscaper's involvement or supervision, didn't follow instructions

9

How do you plant healthy trees?

Online resources:



Presentations (10 slides each)	Tree Watering Tree Selection Tree Planting
Tree topics www.sdrufc.com	Tree Watering Tree Care
TreesAreGood.org (two-pagers)	Tree Selection Buying High Quality Trees New Tree Planting Pruning Young Trees Avoiding Tree and Utility Conflicts

10

How do you lose mature trees?

- Development removals
- Developments with narrow setbacks
- Mature trees that outgrew their site
- Smaller trees planted
- Trees cut down without notice
- Storms, winds and shallow roots
- Insects and disease
- Climate change
- Illegal and ill-advised maintenance
- Unfunded and insufficient maintenance

11

How do you maintain healthy trees?

Online resources:

Presentations (10 slides each)	Tree Care and Maintenance Tree Risk Assessment Trees and Sidewalks Trees and Storms Trees and Pests
Tree topics www.sdrufc.com	Trees and Sidewalks Trees and Storms Pests of Trees and Palms Trees and Wildfire Trees and Code Compliance
TreesAreGood.org (two-pagers)	Recognizing Tree Risk Mature Tree Care Pruning Mature Trees Why Topping Hurts Trees Insect and Disease Problems Palms Why Hire an Arborist?

12

How can trees be funded?

From June 19 meeting:

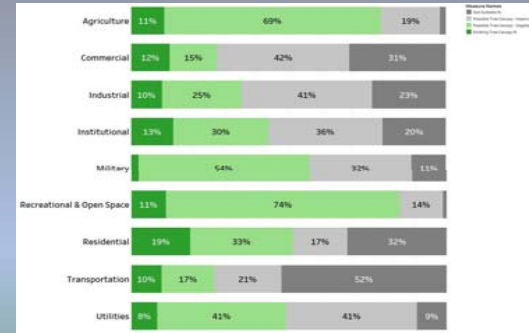
- Business districts, town councils, Maintenance Assessment Districts (3)
- Businesses, retail stores (4)
- City budgets (2)
- Civic organizations, community foundations (5)
- Cost sharing with property owner (1)
- Development fees, mitigation project fees or offsets (3)
- Fundraising, Go Fund Me, Donor's Choose (schools) campaigns (4)
- Gas tax funds, Carbon tax, Sales tax, Parcel tax (1 each)
- Grants from foundations, corporations, and State of California (7)
- Parent-teacher associations, or other school groups (2)
- Plant trees in memory, trees instead of benches, adopt-a-tree (3)
- Private donations-philanthropy (2)
- Property owners, Homeowners' Associations (3)
- Public-private partnerships, including nurseries, arborists, etc. to provide visibility and advertisement (3)
- San Diego Gas & Electric (1)

13

Where are the trees?

Tree canopy assessment

- Parcels
 - Land uses
 - Jurisdictions
- Properties
 - Public
 - Residential
 - Businesses

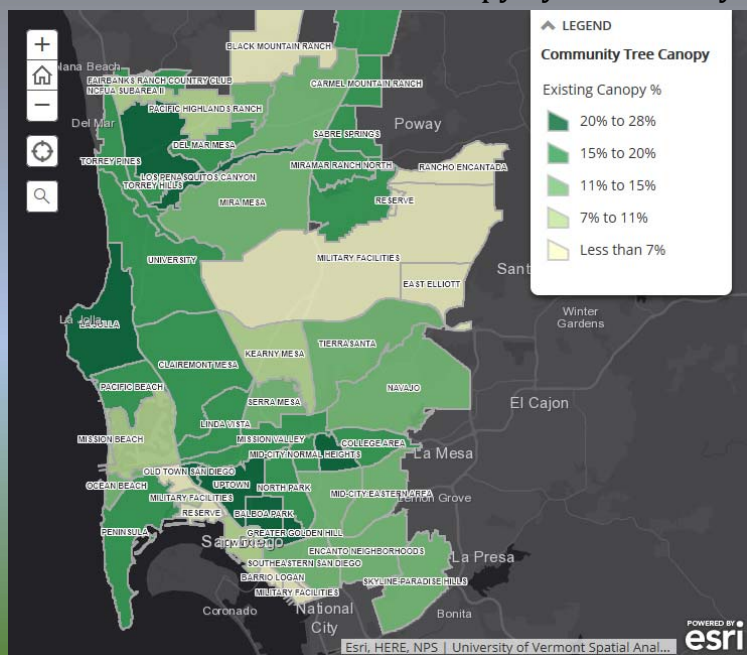


Equity

- CalEnviroScreen3.0
- Population and pollution values by census tract

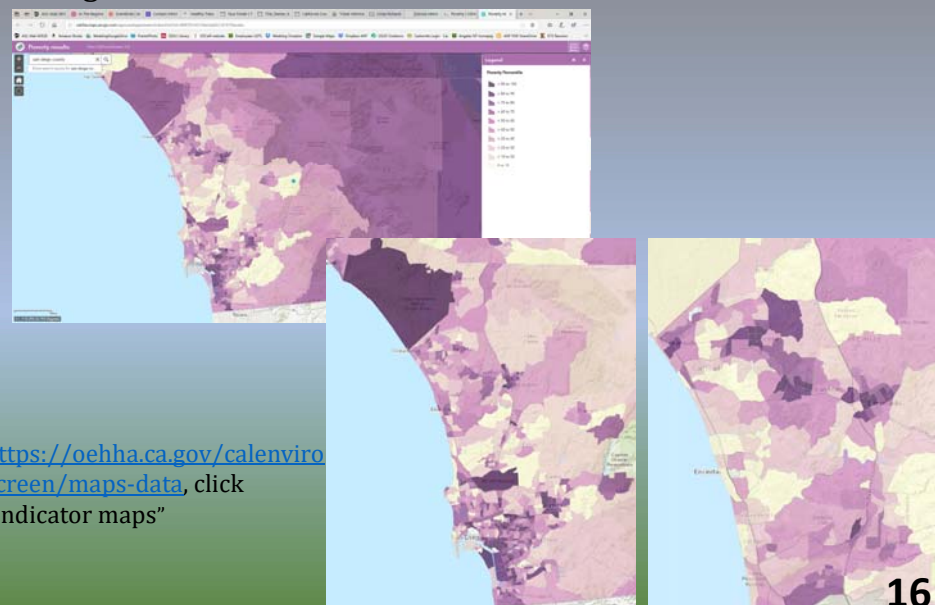
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CalEnviroScreen 3.0 –Tree Canopy by Community



15

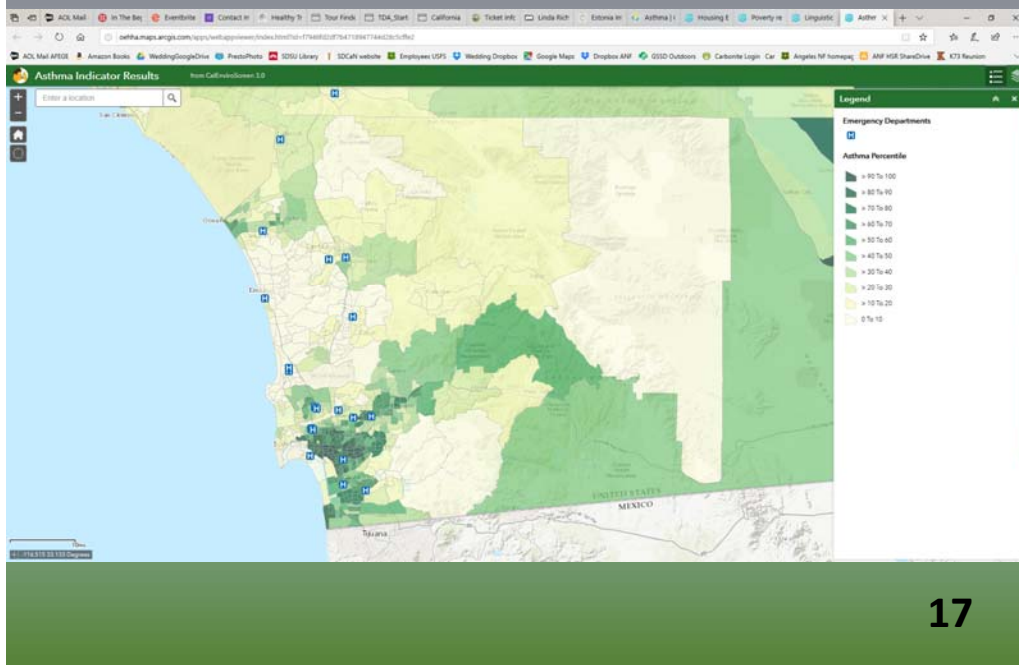
CalEnviroScreen 3.0 –Poverty, Housing Burden and Linguistic Isolation



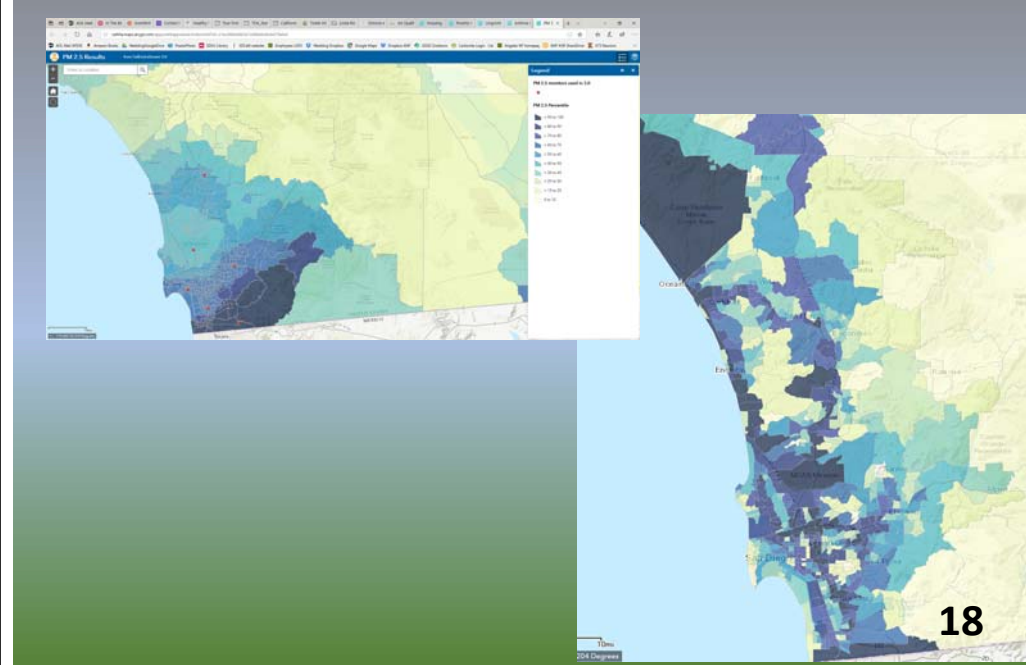
<https://oehha.ca.gov/calenviro-screen/maps-data>, click "indicator maps"

16

CalEnviroScreen 3.0 – Asthma



CalEnviroScreen 3.0 –PM 2.5 and Traffic



Community-based Power

1. Choose one focus:
 - Trees in schoolyards
 - Trees in commercial-community properties
 - Trees in backyards-frontyards
2. Form teams
3. Outline Collective Impact Model elements
 - Ideas for measurements
 - Ideas for activities
4. Complete Advocacy Worksheet and messages

19

Collective Impact Model—Five Elements

- It starts with a common agenda.
- Coming together to collectively define the problem and create a shared vision to solve it.
- It establishes shared measurement.
- Agreeing to track progress in the same way, which allows for continuous improvement.
- It fosters mutually reinforcing activities.
- Coordinating collective efforts to maximize the end result.
- It encourages continuous communication.
- Building trust and relationships among all participants.
- And it has a strong backbone.
- Having a team dedicated to orchestrating the work of the group.

<https://www.collectiveimpactforum.org>

20

Neighborhood Trees—Next steps

- Goal: establish advisory group for tree planting and stewardship, in each neighborhood
- Use tree canopy data and Climate Action Plans to identify priority neighborhoods for tree planting
- Create a template with resources, develop outreach strategy, and set specific commitments
- Recruit organizers from schools, gardening clubs, schools, homeowners' associations, assessment districts, planning groups, and more
- Next meeting, on January 30, contact Beryl Forman, El Cajon Boulevard Improvement Association

21

Trees in Schoolyards—Next steps

- Outline clear steps for planning and getting approval for planting trees in schoolyards, and post these on <http://sdrufc.com/trees-schools/>
- Identify 1-2 schools who are “ready” to plant trees, for an arborist to meet onsite to identify locations, trees and next steps

22

Trees in Parking Lots—Next steps

Highlight the illegal topping of 100 trees in Ralphs parking lot (6670 Montezuma Road, San Diego) and street trees

- Develop strategy and recruit community members
- Advocate for City of San Diego to enforce codes and for property owner (Krogers) to replace weakened and unsafe topped trees

Outline approaches for community activism with commercial property owners and managers

- Replace missing trees and enhance trees
- Create more attractive green spaces for customers and the community

23

Resources

- Advocacy training program offered in early 2020 by San Diego Audubon Society, <https://www.sandiegoaudubon.org/what-we-do/audubon-advocate-program.html>
- Urban forestry advocacy inspiration in video by Nan Serman, A Growing Passion series, <https://agrowingpassion.com/episode-505-urban-forests-trees-plants-city/>
- San Diego Tree Advocacy Handbook, <http://sdrufc.com/wp-content/uploads/2017/08/SD-Tree-Advocacy-Handbook.pdf>

24