

# Green Prescription: Tree Canopy & Health

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# Human Health Projects

- **Skin Cancer / CDPH (1990s)**
- **Urban Heat Island / NASA (1998 – 2001)**
- **Urban Forest for Clean Air /AQDs (2006)**
- **Fruit for Families / CDPH (2009)**
- **Green Rx / USFS (2010)**
- **Green Rx Expansion / CALFIRE (2012)**
- **Spreading the Canopy / Trees Forever (2012)**

# Green Rx



**Correlation or Association:**  
Urban Greening  
to  
Health Behaviors & Outcomes



# Expert Advisory Committee



**Desirée Backman, DrPH, MS, RD**  
Chief Prevention Officer  
UC Davis Health System & Calif Dept of  
Health Care Services

**Teri Duarte, MPH**  
Executive Director  
WALKSacramento

**Greg McPherson, PhD**  
Project Leader  
US Forest Service

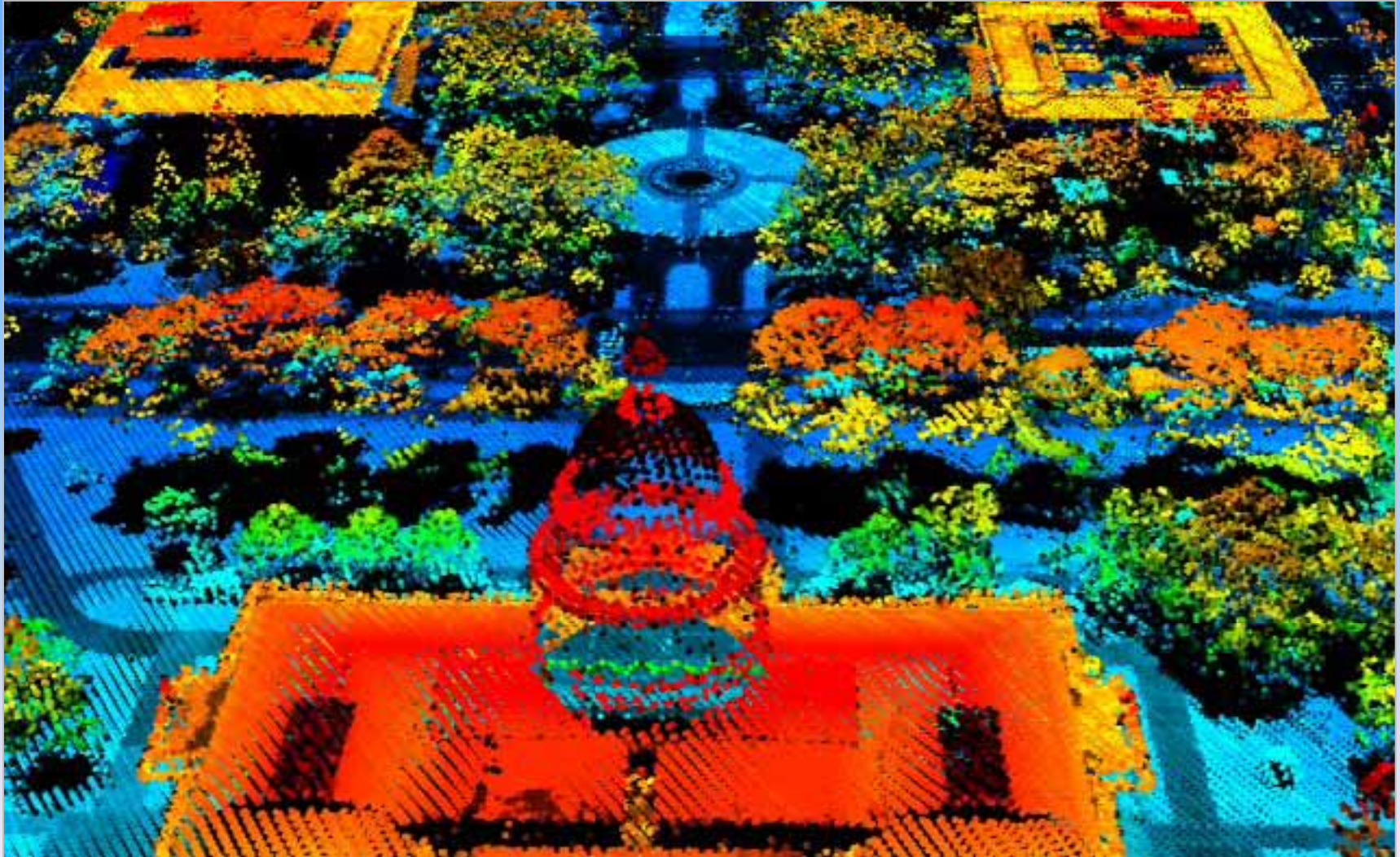
**Aimee Sisson, MD, MPH**  
Organic Farming Apprentice  
Soil Born Farms

**Mary E Northridge, PhD, MPH**  
Editor-in-Chief, American Journal  
of Public Health

**Glennah Trochet, MD**  
Former Sacramento County  
Public Health Officer

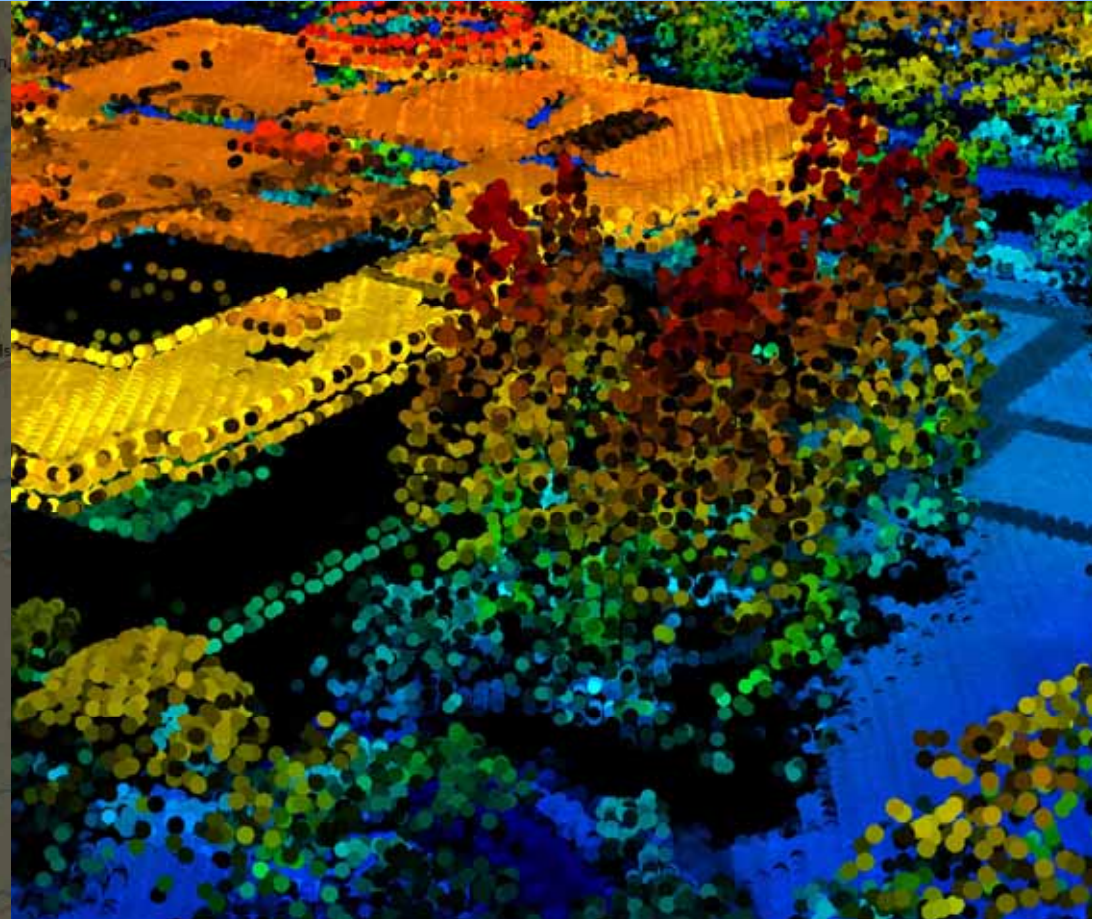
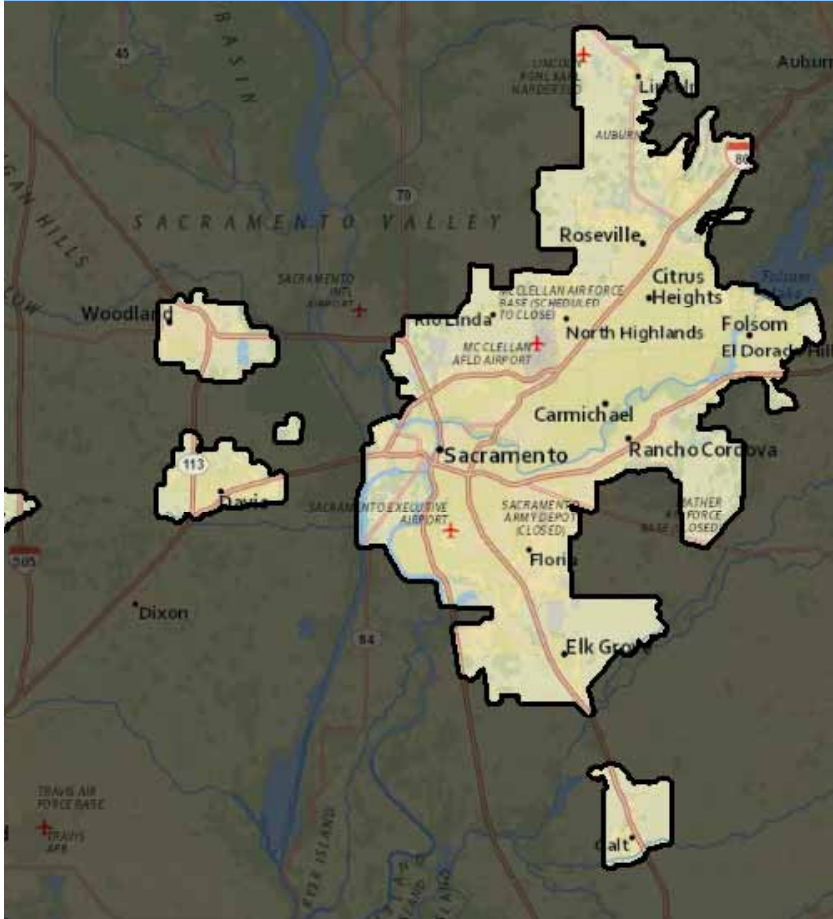
**Kathy Wolf, PhD**  
Research Social Scientist  
Urban Forestry & Urban Ecology  
Univ of Washington

# Methodology

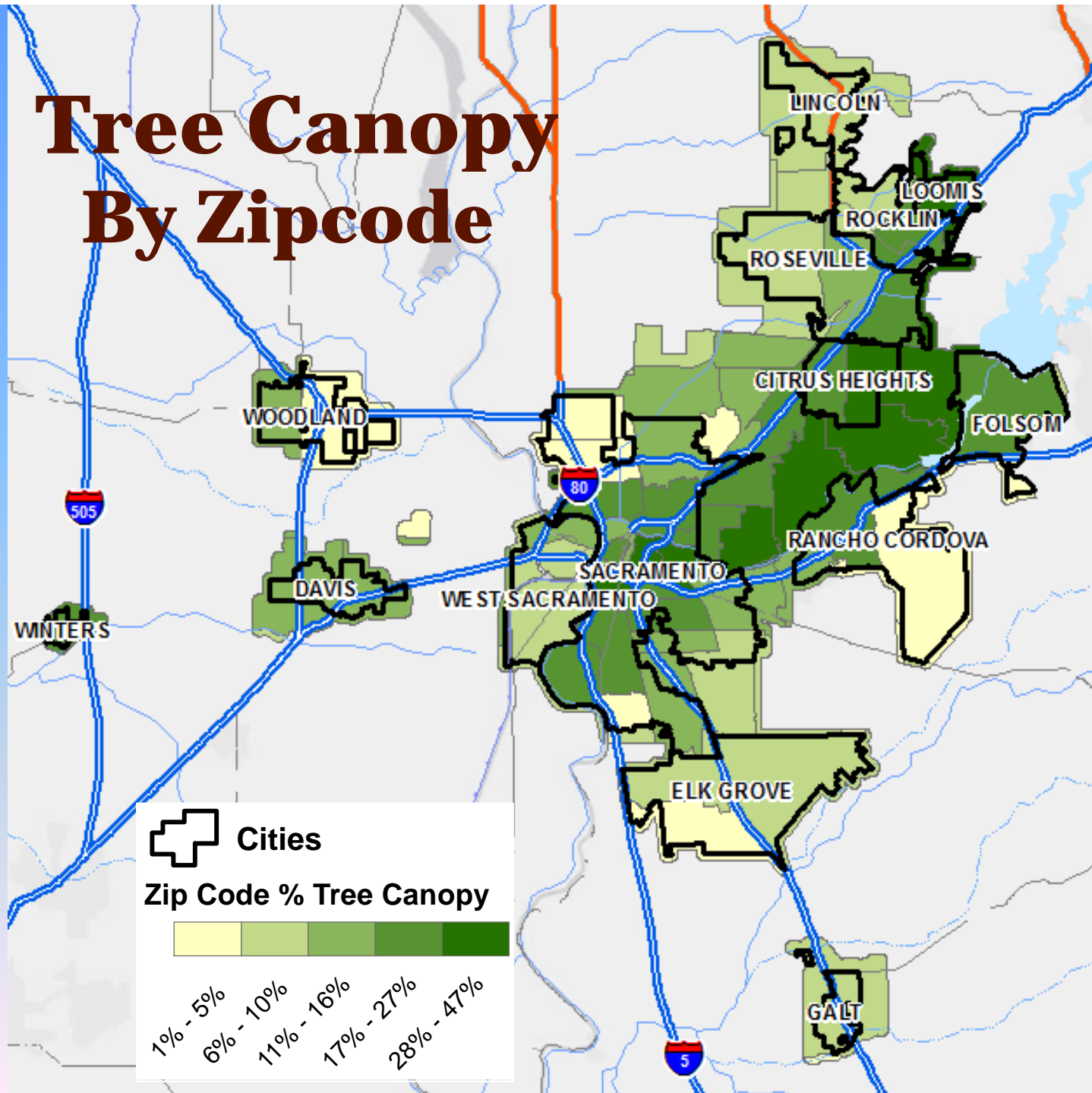


# Hi Res Canopy Data

- Aerial Imagery – NAIP 2009
- LIDAR – DWR 2008



# Tree Canopy By Zipcode





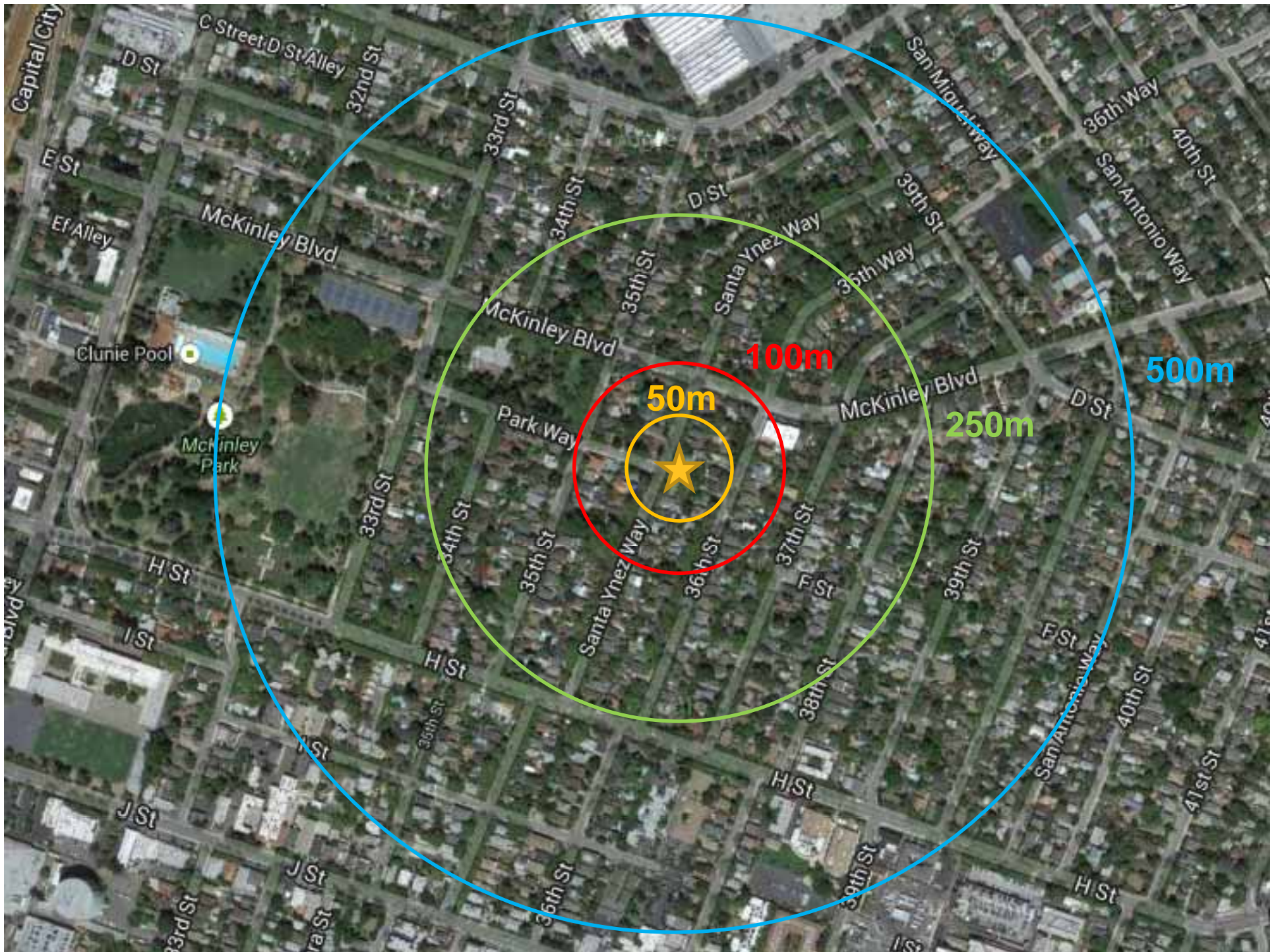
# Hi Res Health Data

## California Health Interview Survey

- 50,000 households
- Residences geo-coded – not zip code level

The screenshot shows the website for the UCLA Center for Health Policy Research. The header includes the center's name and logo, along with navigation links for Newsroom, Join Our Newsletter, Contact, and Login. Below the header is a main navigation bar with links for About The Center, Publications, Programs, Making an Impact, California Health Interview Survey, AskCHIS, and Health Profiles. The main content area features a large image of a diverse group of people and the title "California Health Interview Survey". Below this is a breadcrumb trail: Home > California Health Interview Survey. On the left side, there is a sidebar menu with links for About CHIS, AskCHIS, Get CHIS Data, Analyze CHIS Data, and Design & Methods. The main content area has a "Welcome to CHIS" section, followed by a paragraph describing the survey as the nation's largest state health survey and a critical source of data on Californians. To the right of the text is a "HEALTH DATA ALL-STAR" badge and a "print share" button. At the bottom right, there is a call to action: "Vote now for the data most important to".







# Green Rx: Hypotheses

- ADHD
- Asthma
- Overweight/Obesity
- Diabetes
- General Health
- High Blood Pressure
- Social Cohesion
- Physical Activity
- Mental Health



# Green Rx: Early Results

- ADHD
- **Asthma - Adult**
- **Overweight/Obesity - Adult / Child**
- Diabetes
- **General Health - Adult / Teen / Child**
- High Blood Pressure
- **Social Cohesion - Adult**
- **Vigorous Physical Activity - Adult**
- Mental Health



# Predictive Modeling

In two neighborhoods with **identical populations** and different Tree Canopies of 23% and 33%...

With 33% canopy, we would expect to find:

- Adult Obesity 20 % ↓
- Adult Type 2 Diabetes 20 % ↓
- Adult Overweight/Obese 10% ↓
- Adult Vigorous Physical Activity 10% ↑



# Predictive Modeling

In two neighborhoods with **identical populations** and different Tree Canopies of 23% and 33%...

With 33% canopy, we would expect to find:

- Adult Obesity 20 % ↓
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- Adult Overweight/Obese 10% ↓
- Adult Vigorous Physical Activity 10% ↑





# Predictive Modeling

In two neighborhoods with **identical populations** and different Tree Canopies of 23% and 33%

With 33% canopy, we would expect to find: :

- Teen Obesity 15 % ↓
- Teen Overweight/Obese 25% ↓



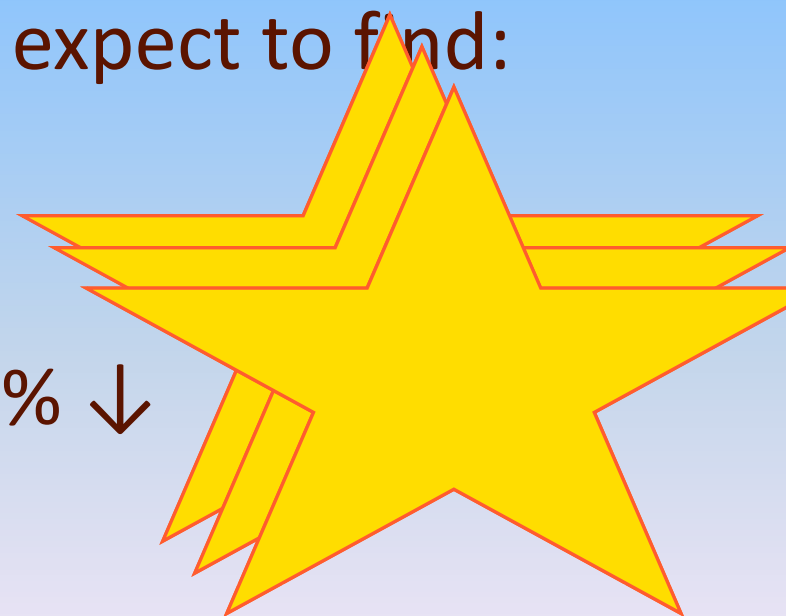


# Predictive Modeling

In two neighborhoods with **identical populations** and different Tree Canopies of 23% and 33%

With 33% canopy, we would expect to find:

- Child ADHD 27 % ↓
- Child Obesity 21 % ↓
- Child Overweight/Obese 13% ↓
- Child Asthma 11 % ↓





# **How to use this data:**

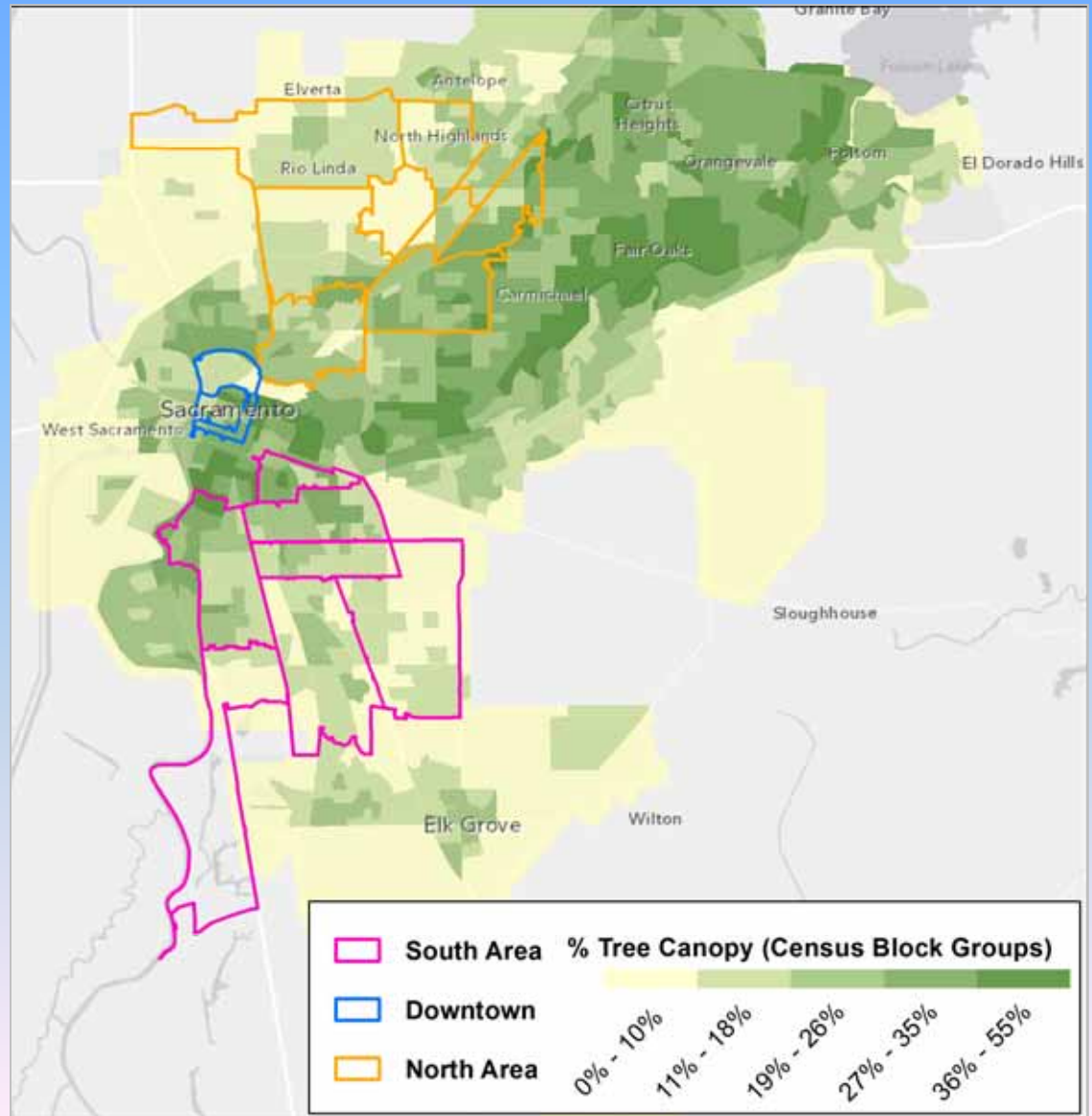
- **Impact policy**
- **Lead to more targeted research**
- **Change school design standards**
- **Influence our health care approach**
- **Activate community groups**



# Community / Canopy Initiative

15 Zip Codes

Canopy and High rates of poor health outcomes



# Thank you!



Questions?  
Call me...

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