

# Building sustainability indicators to assess the physical, social, & economic values of greening cities

*A study of the million trees initiatives in Los Angeles, CA*



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# Link with Sustainability



## Our goal:

- To build sustainability indicators for semi-arid urban forests and shed light on the social dynamics of implementing sustainability in large urban areas, with an application to Los Angeles.

## Key questions for our project:

- What are the *physical, social, and economic values of urban forests in semi-arid climates*?
- What are the impacts of urban forests on *greenhouse gas emissions, local air quality, and local temperatures* in relation to the urban heat island effect?
- How do complex systems involving urban ecosystems, social organizations and individuals change when provided with scientific information on urban forests?

# Project Overview



1. Using remote sensing, map vegetation and its leaf area index throughout LA, over time;

2. In-situ measures of urban tree function; overlay meteorological data and conc. of EPA criteria pollutants;

3. Hedonic studies to quantify the impacts of urban forests on the housing market;

4. Build sustainability indicators for various neighborhoods, jointly with LA agencies, NGOs, and the public;

5. Integrate biological, meteorological, socio-economic, & demographic data in a GIS database;

6. Observe how LA/NGOs/the public use this information and implement sustainability;



# Current and Potential Partners

## Current Partners

- City of Los Angeles, Environmental Affairs
- City of Los Angeles, Department of Public Works
- City of Santa Monica
- Metropolitan Transit Authority
- US Forest Service
- North East Trees
- Livable Places
- Global Green

## Potential Partners

- City of Los Angeles, Department of Water & Power
- City of Seattle?



# Lessons Learned thus Far



- Tensions between sustainability and political realities: creating disaggregated sustainability indicators may pit one part of the city against another...
- Difficulty of findings good sites for installing a tower with instruments to measure air quality in an urban area.
- There are lots of data: we just need to look in the right places...

# Our Goals for this Meeting

1. Meet people with experience in managing urban forests
2. Share experiences about starting a process for creating sustainability indicators.
3. More generally, meet other grantees and get an overview of cutting edge sustainability work.

