Engage, Educate, and Empower California Communities on the Use and Applications of "low-cost" Air Monitoring Sensors

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Outline

- Introductions
  - Project Background
  - Current Community Deployments
- Toolkit & Guidebook Overview
- Discussion Topics and Q&A

Project Background

- Environmental Protection Agency (EPA) Science to Achieve Results (STAR) Grant

- Awarded to South Coast AQMD, Sonoma Technology, and University of California, Los Angeles (UCLA)

- Work with California communities to increase awareness and address local air quality issues

Main Objective

Provide communities across California with the knowledge necessary to appropriately select, use, and maintain "low-cost" sensors and to correctly interpret the collected data

Community Deployments
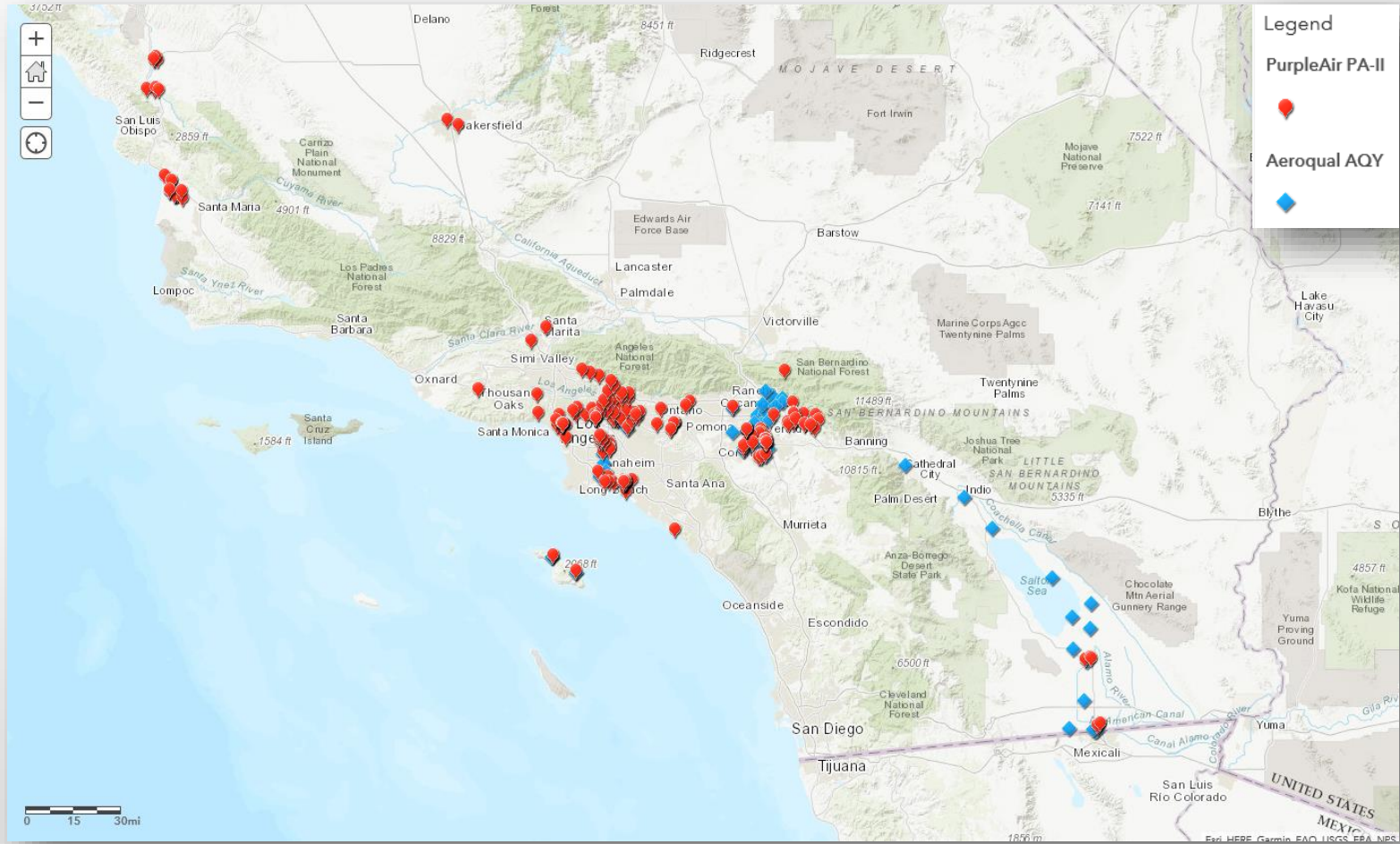
Developing a Toolkit

- Guidebook
  - Best practices
  - Issues to consider during planning and measurement stages
  - Data handling and interpretation
- Training Videos
- Data Collection Checklist
- Surveys

Guidebook Topic Areas

1. Introduction
What makes a project successful?

2. Understanding Air Quality
Air quality basics & monitoring air quality fundamentals

3. Planning Your Project
- *Framing the problem*
- *Identifying pollutants of interest*
- *Where and when to measure*
- *Selecting a sensor system*

4. Deploying your sensors
- *Using and troubleshooting your sensor*
- *Collecting useful data*
- *Interpreting your data*

5. Taking Action
- *Communicating results*
- *Mitigation and outreach*

6. Resources
- *Links to more information*
- *Resources and citations*

1. Introduction

- What makes a project successful?
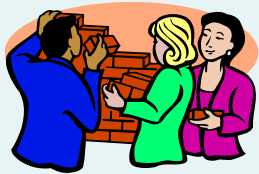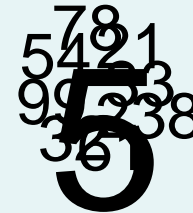

| Establish a stakeholder group | Assess issues of concern | Set project goals | Design full project | Collect and QC data | Interpret data & recommend actions | Take action |
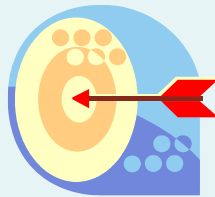
- Match goals and expectations to project design

- Communicate limitations (if any) early-on

2. Understanding Air Quality

- What is air pollution?

- How does air pollution impact our health?

- How is air pollution measured?

3. Planning Your Project (1)

- What are the air quality issues concerning our community?

- What pollutants may be of concern?

- Frame the issue

- Define SMART project goals

3. Planning Your Project (2)

- Where, when, and how can we measure?

- How do we select a sensor (or other) monitoring system?

3. Planning Your Project (3)

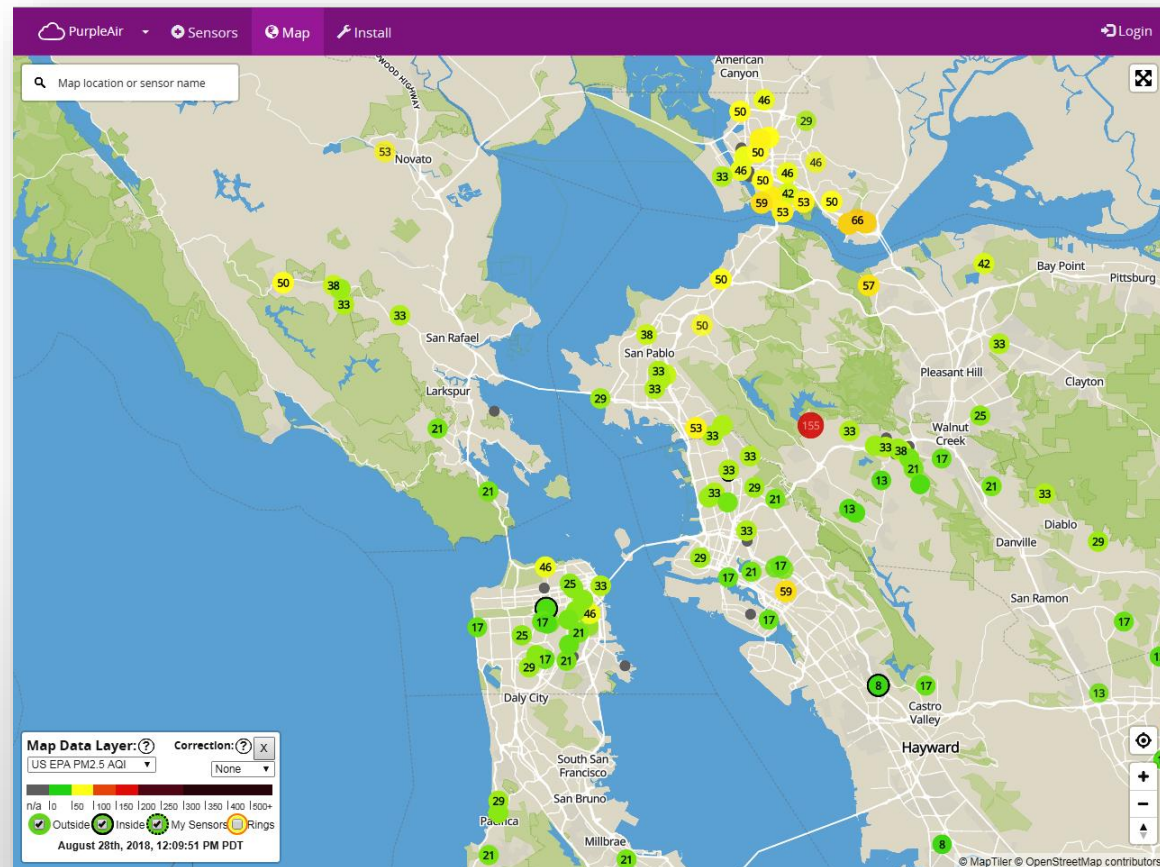- How can we engage our community and encourage participation?

4. Deploying Sensors (1)

- Where should we install sensors?
- What are common problems with sensors?

4. Deploying Sensors (2)

- How do we view the data and what does it mean?

5. Taking Action

- What are actions that can be taken?
  - Personal/Individual Actions
    - Personal exposure-avoidance
    - Education and awareness
    - Data analysis ('citizen science')
  - Group Actions and Campaigns
    - No-idle campaign at schools
    - Identifying Violations Affecting Neighborhoods (IVAN) www.ivanonline.org
    - Sharing results at civic meetings

6. More Resources

- Air District Web Pages
  - South Coast AQMD (http://www.aqmd.gov/)
  - Bay Area AQMD (http://www.baaqmd.gov/)
- Information about California Assembly Bill 617 and the Community Air Protection Program (https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program)
- EPA's AirNow provides real-time information nationwide (https://airnow.gov/)
- Latest air quality data for California (https://www.arb.ca.gov/aqmis2/aqmis2.php)