Community Sensor Training: Best Practices and Lessons Learned

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for

Air Sensors International Conference

Oakland, CA

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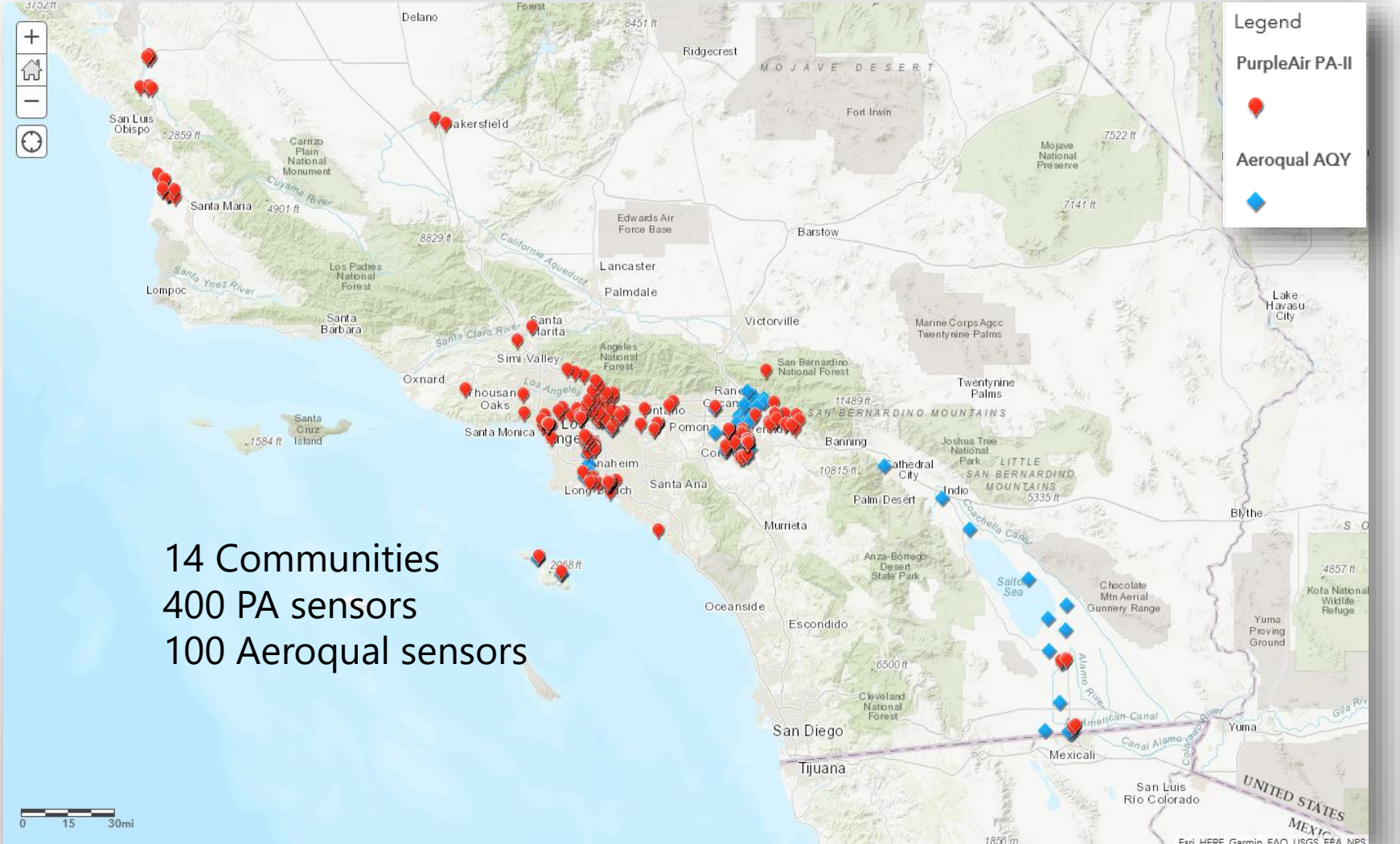
Project Background

- 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



Community Toolkit

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

Introductory Meetings

- Technical workshop on the sensors included discussion of health effects
- Found that allowing community group members to share their experiences and concerns about air pollution was very effective for engagement
- Meeting formats, presentations have evolved over time

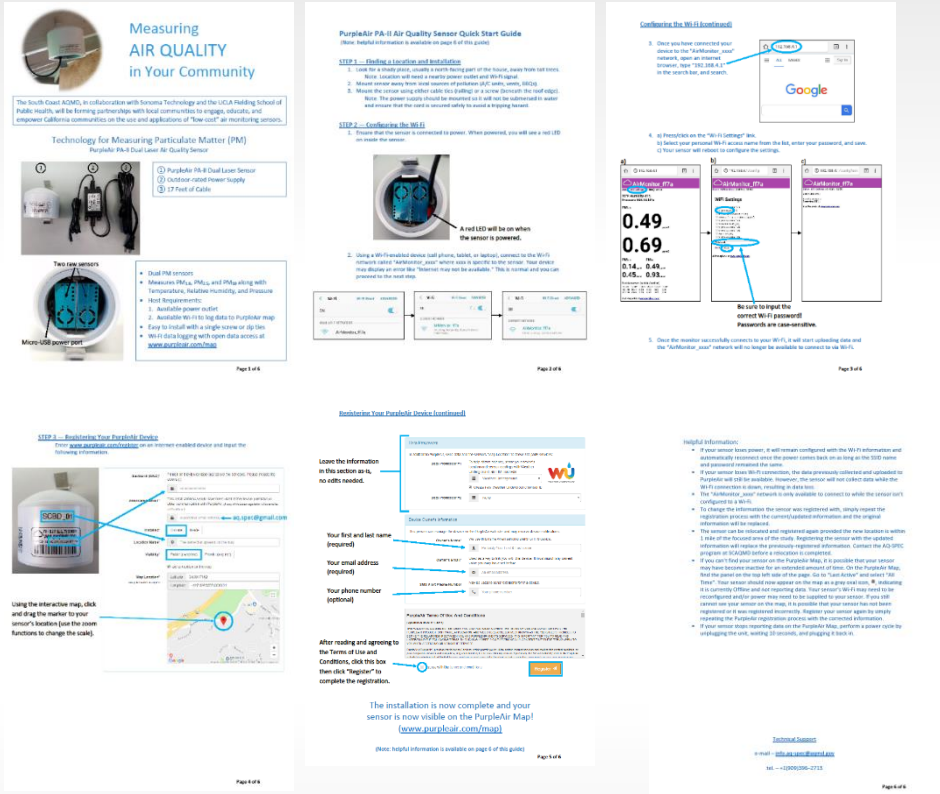
Evolution of the Installation Guide

400

Community

Scientists

Later

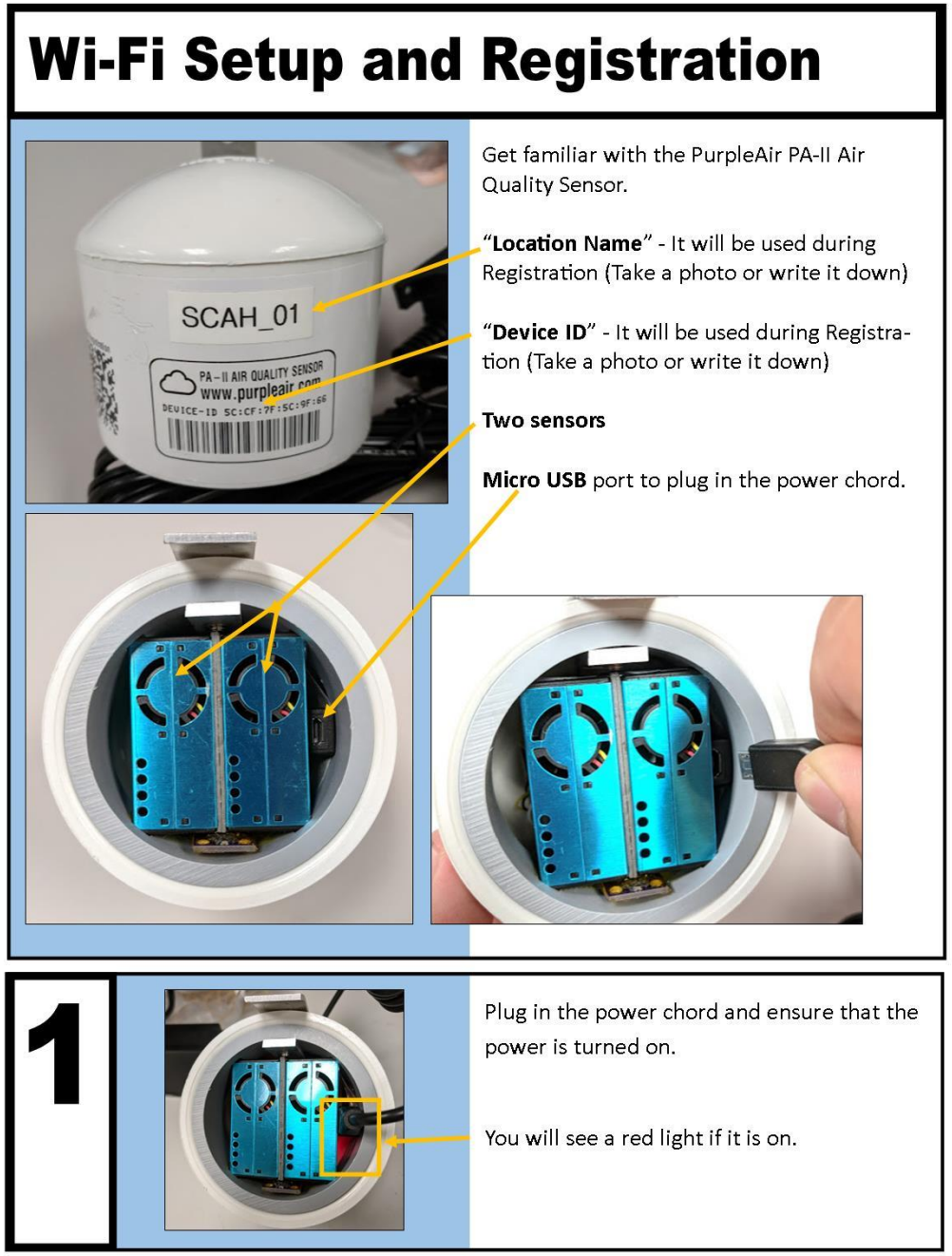


- Version 1, Two pages
- Created prior to community group meetings
- Included brief sensor information and instructions for siting, installing, configuring, and registering

- Version 7, Six pages
- Input gathered from community group members and frequently asked questions contributed to the multiple version edits
- Added sensor information, images, simplified instructions, visual aids, and a “helpful information” section

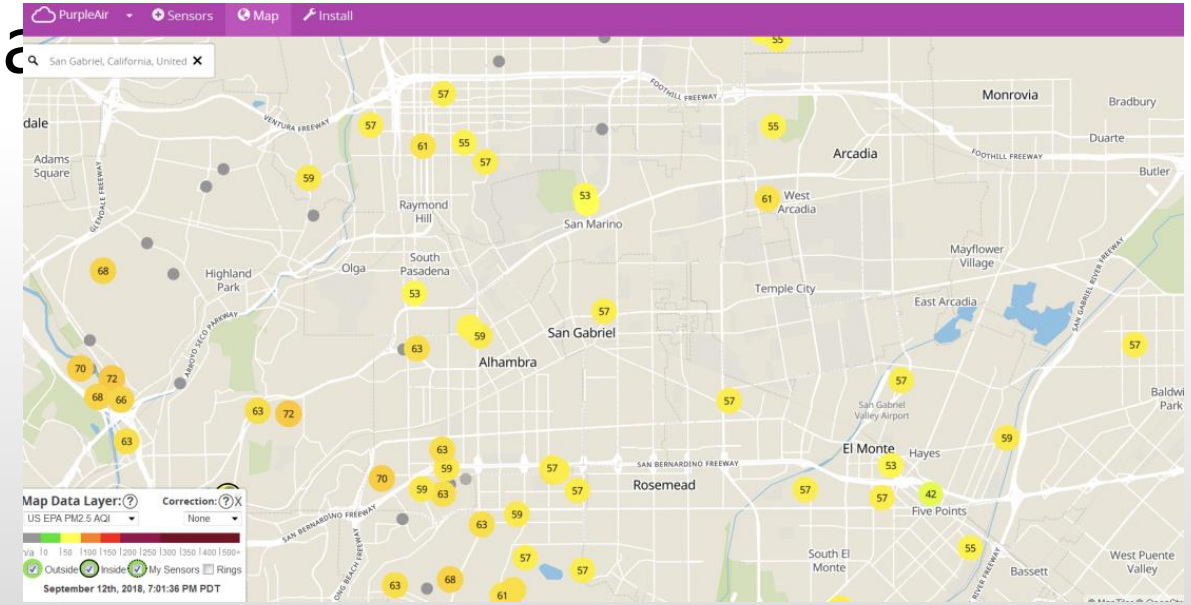
Further Customization

- Community version – Six pages
- Greatly increased use of images and reduced words
- Created by Oakland community partner, Asian Health Services, to better meet their community's needs



Deployment

- Range of locations – homes, apartments, schools
- Qualitatively "spreading out" locations (e.g., by zip code)
- Community enga



SCAQMD Sensor Installation Survey – Post Deployment

English Version

The Science To Achieve Results (STAR) Grant team at the South Coast AQMD would like to thank you for your participation in the project entitled, " Engage, Educate and Empower California Communities on the Use and Applications of "Low-cost" Air Monitoring Sensors" and to invite you to participate in this very brief online survey about your sensor installation location. Completing this survey with a smart device with a camera will allow you to easily submit a picture.

Installation Survey

Moving forward, please keep an eye out for upcoming community group meetings, an email containing the electronic log note entry form, and changes for end user data visualization and accessibility!

South Coast AQMD

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909-396-2000 • www.aqmd.gov

Spanish Version

EPA STAR Grant: La encuesta de instalación del sensor ahora disponible en Español

El equipo del programa otorgante/ la beca "la ciencia para lograr resultados (STAR, por sus siglas en inglés)" de la Administración de la calidad del aire de la costa sur, (South Coast AQMD, por sus siglas en inglés) le da las gracias por su participación en el proyecto llamado ""Envolver, educar y habilitar a comunidades en California en el uso y aplicación de sensores con monitoreo de aire a bajo costo" y le invita a participar en esta encuesta muy breve acerca del lugar de instalación de su sensor. Si completa esta encuesta con un dispositivo inteligente de cámara le permitirá fácilmente someter/enviar una foto.

Encuesta de instalación

Una vez que haya oprimido el enlace de la encuesta, oprima el tabulador "Default Language", (idioma predeterminado), arriba en la esquina a la derecha de la encuesta y seleccione "Español" del menú desplegable.

Con miras al futuro, esté al pendiente de próximas reuniones en grupo, un correo electrónico con una forma llamada "electronic log note entry form", y cambios de datos finales para el usuario de visualización y accesibilidad!

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For BAAQMD, six languages are needed!

SCAQMD Sensor Installation Survey – Post Deployment

Sensor Installation Survey

This survey is intended as a one-time survey to be completed when a community scientist installs a sensor as part of the South Coast Air Quality Management District's (SCAQMD) U.S. EPA Science to Achieve Results (STAR) grant project entitled "Engage, Educate and Empower California Communities on the Use and Applications of Low-Cost Air Monitoring Sensors."

Name*
Community Scientist Name

Email Address

Date of Installation*
8/13/18

Time of Installation
Morning | Afternoon | Evening

Community Group*
Select from the following communities:

-Please Select-

- El Monte City School District
- Fresno, Central California Environmental Justice Network (CCEJN)
- Imperial County, Comite Civico del Valle, Inc. (CCV)
- Kern, Central California Environmental Justice Network (CCEJN)
- Nipomo, southern SLO County

Lat: 0 Lon: 144.96552

What best describes the type of dwelling where the sensor is installed?*
- Single Family Home

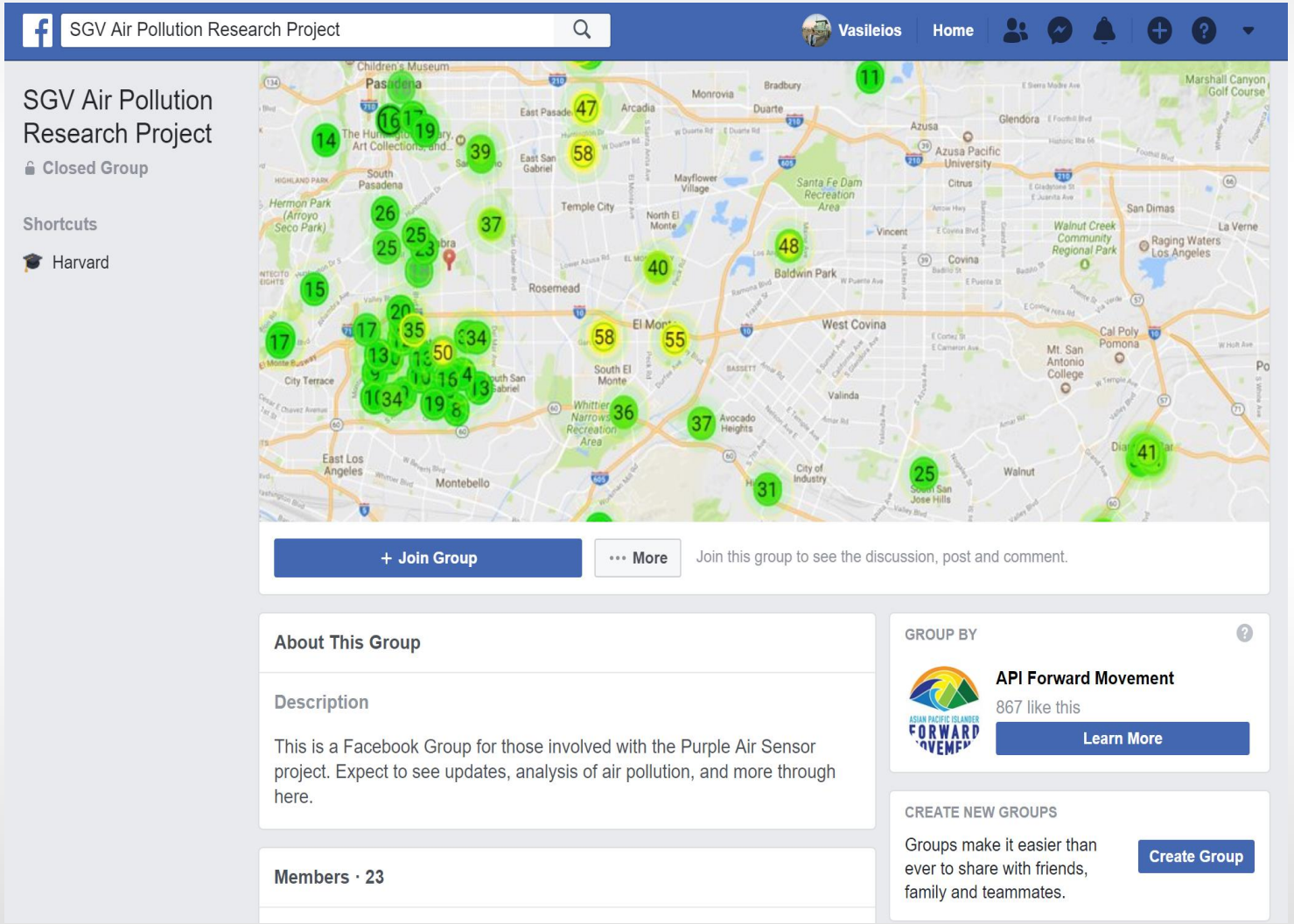
What best describes the location where the sensor is installed?*
- Front Porch or Patio
- Rear Porch or Patio
- Eave of the Home
- External Wall of Home
- Balcony
- Other

What direction is the installation location facing?*
- North Facing
- South Facing

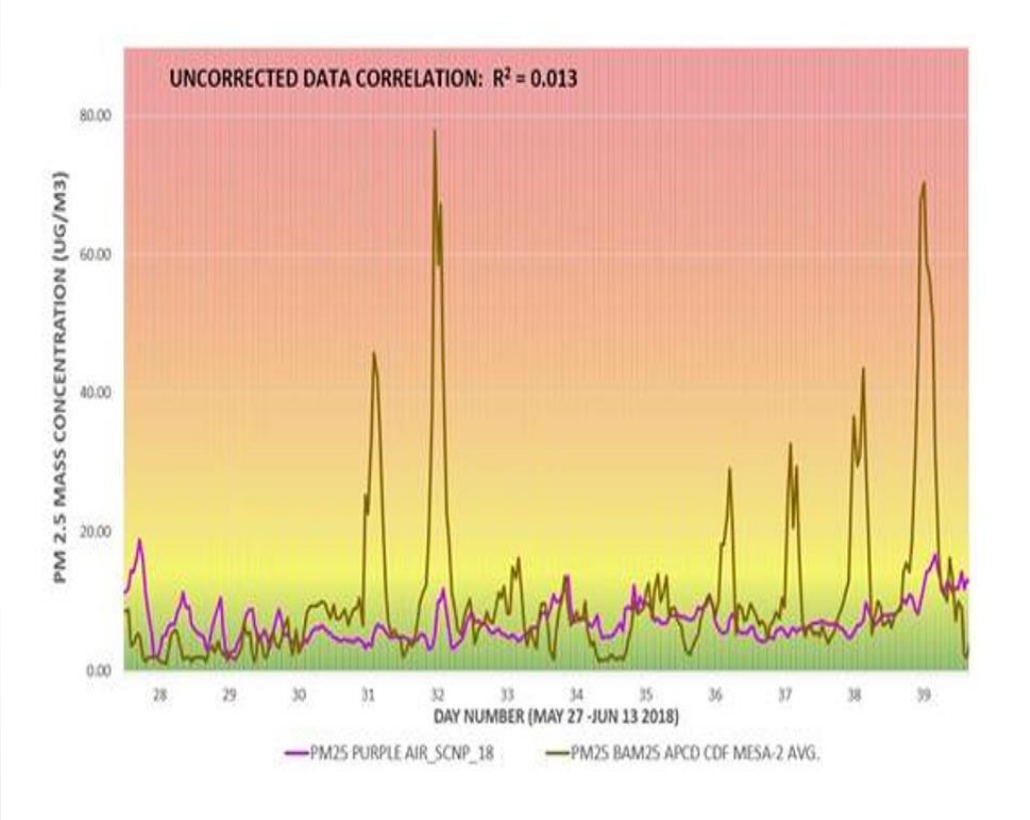
Engagement:
San Gabriel Valley Air Pollution Research Project – Asian Pacific Islander Forward Movement (APIFM)

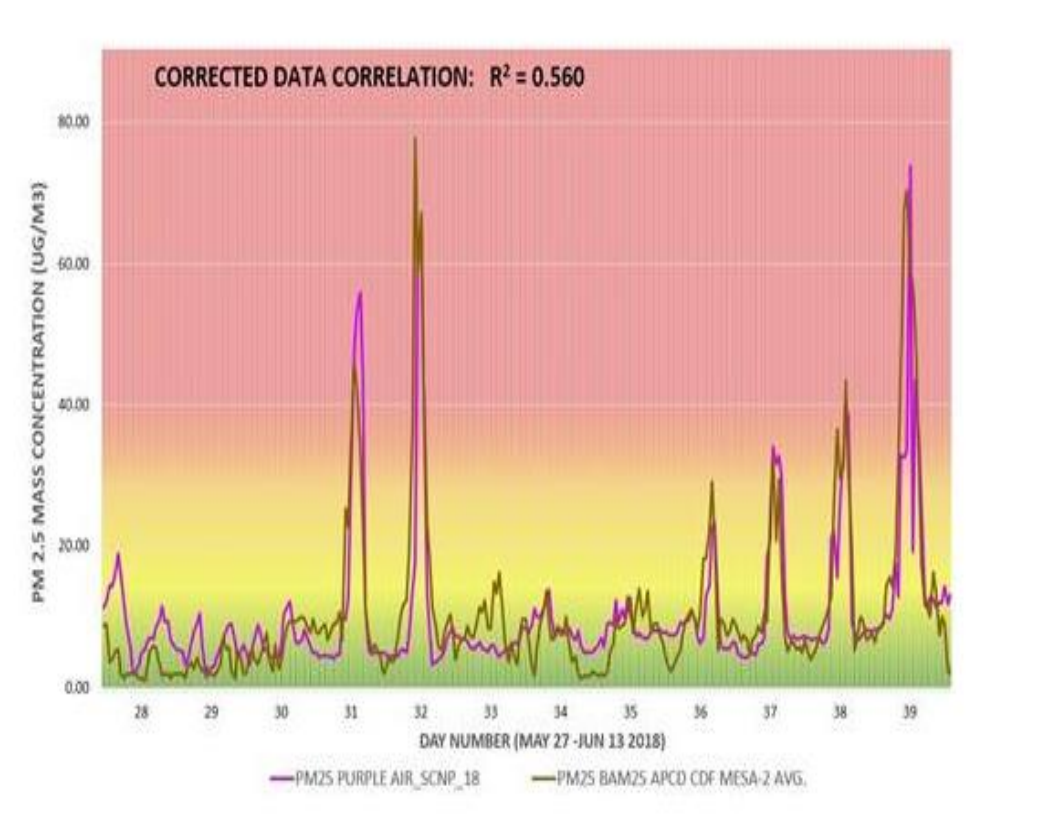
APIFM created and maintains a Facebook Group for the sensor participants.

APIFM posts articles about air pollution that are in the news and uses it as a medium to discuss any air readings they find interesting and worth sharing.



Community Data Analysis

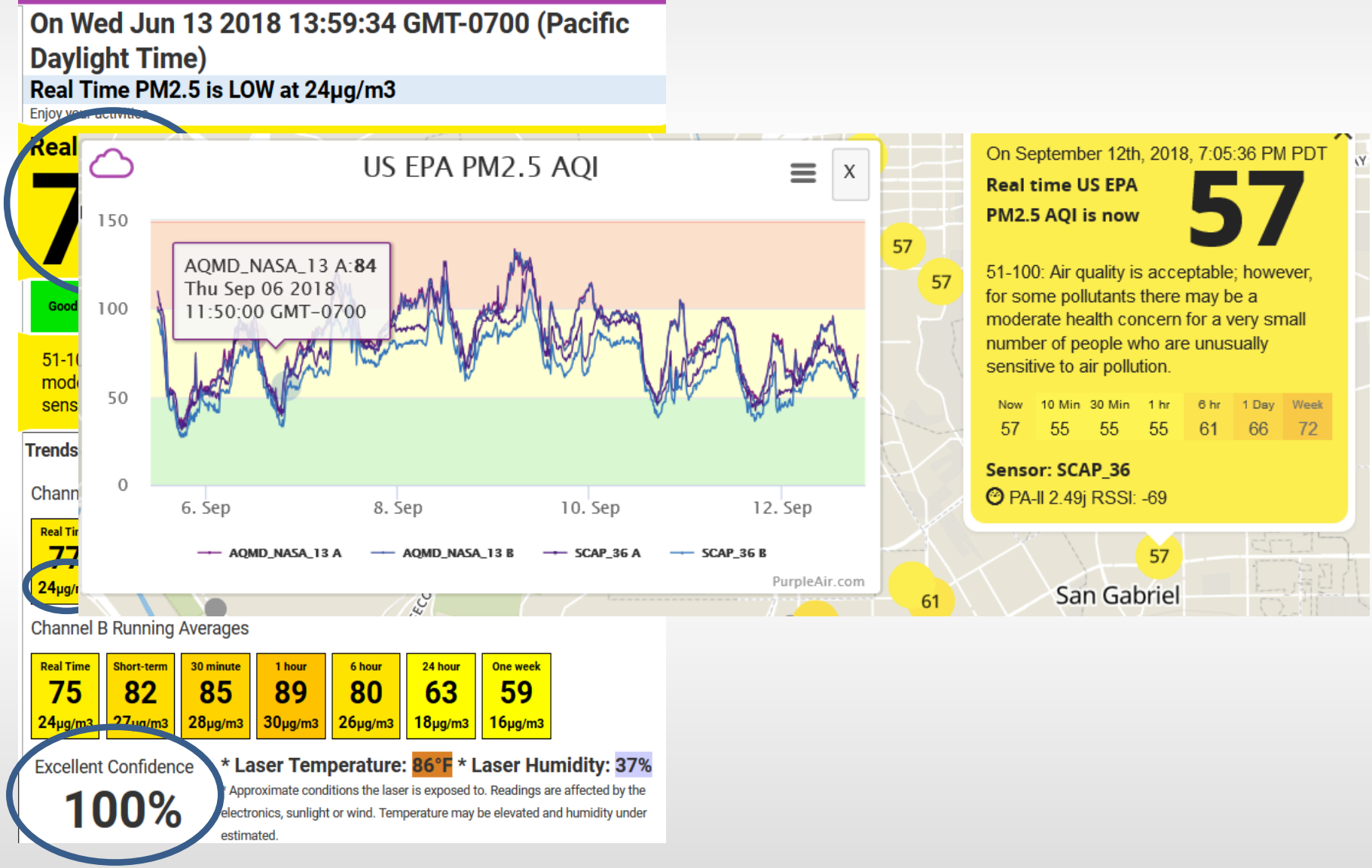




Some community members are very engaged in data analysis!

Lessons Learned

https://www.purpleair.com/map



Summary

- The team is learning and adjusting as we go
  - We especially are learning from our community partners
- Everything we are learning is informing the community toolkit