



Study Design Considerations for Successful Air Sensor Projects

ASIC

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Factors that affect levels of air pollution

- Natural background
- Emissions from sources
- Transport from other areas in our air basin and outside our air basin
- Meteorology
- Chemical reactions
- Topography

Cumulative air pollution levels are a complex mixture that varies widely in time and space

Air pollution monitoring needs to be designed around a specific objective to increase the likelihood of success





Monitoring Objectives

- Real-time information
- Survey a large area to identify issues
- Personal exposure
- Long term trends
- Track effectiveness of emission reduction strategies

Develop a Plan

- Match monitoring approach to the objective
- Leverage existing information
 - Air quality
 - Meteorology and topography
 - Source locations
 - Emissions
 - Impacts from outside the community?
- Logistics (power, security, access)



Ensure data fit for use

- Instruments (specificity, sensitivity, accuracy, precision)
- Procedures for consistent operations
- QA/QC procedures



Other considerations

- Data storage, management, and validation
- Interpret and communicate results
- Routine project evaluation
- Early stakeholder communication





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Questions?



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