

Air Quality Monitoring to Better Understand and Manage Air Pollution

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Developing Monitoring Programs

- Monitoring Goals
- Quality Control and Quality Assurance
 - Traceability
 - Data Quality Objectives
- Infrastructure
- Capacity Building
- Speciation
 - Non-regulated pollutants that support monitoring goals and air quality management



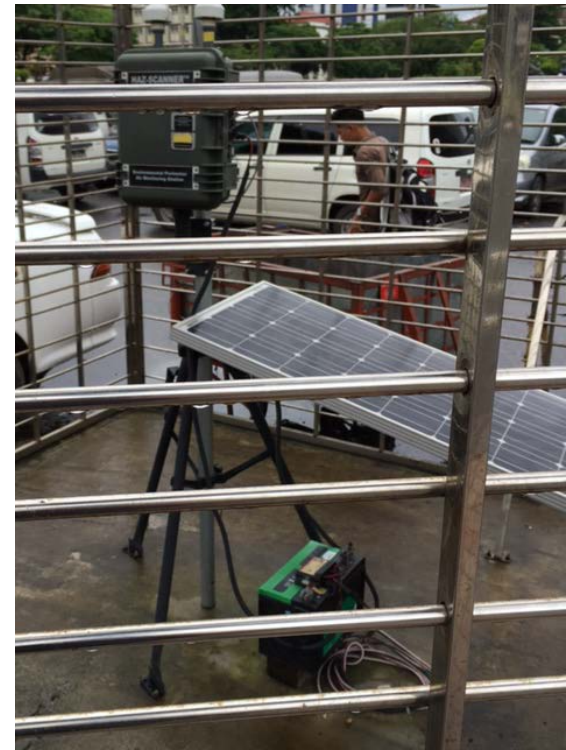
Monitoring Goals

- Assessment
 - Air Quality Assessment
 - Risk Assessment
- Source Apportionment
 - Support the design of air pollution control measures
- Compliance Monitoring
- Trends Analysis
- Accountability for Air Quality Programs



Quality Control and Quality Assurance

- The appropriate QAQC will depend on the goals and data quality objectives
 - Method Validation
 - Primary Reference Methods
 - Equivalent Methods
 - Approved Regional Methods
 - Calibration
 - Short term and long term methods
 - Traceability
 - Audits



Infrastructure

- Security and Access
- Electrical Power and Utilities
- Maintenance
- Data Backup and Management
- Climate Control
 - Temperature
 - Rain and Snow
 - Wind



Capacity Building

- Sustainable monitoring cannot be developed without appropriate training
- Partnerships are critical to support the need for ongoing capacity building
- The need for local capacity building is not in conflict with regional centers or centralized activities
 - Activities that support air quality monitoring in the USA are nationally centralized



Speciation and Non-Regulated Pollutants

- Development and assessment of control strategies often requires monitoring efforts that are beyond the target pollutant
- Speciation
 - Particulate Matter Chemical Speciation
 - Critical for Source Apportionment
 - US EPA Chemical Speciation network
 - VOC speciation for Ozone Mitigation
 - US EPA Photochemical Assessment Monitoring Station (PAMS)



Key Messages

- Ever increasing need to develop air quality monitoring programs throughout the world
- Monitoring efforts need to go beyond providing concentrations and early warning systems
- Primary goal of air quality management and monitoring is to reduce air pollution concentrations
- Air quality management requires trend monitoring and monitoring for accountability

