



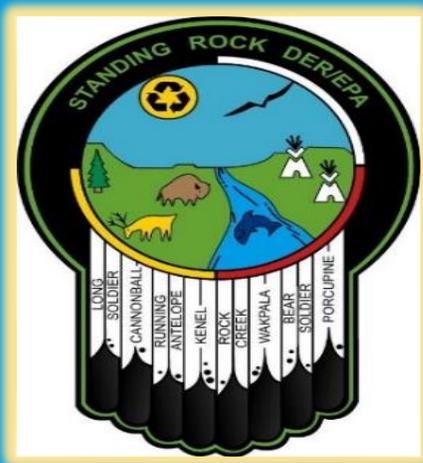
# Planning an Air Quality Monitoring Project

September 29, 2020

**Tribal Air Monitoring**



**Support Center**



# Webinar Logistics



- Webinar is being recorded – URL for the recording will be in post-webinar email and posted at <https://bit.ly/AIAQTPwebinars>
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Thank you for joining! We will begin the webinar shortly.  
Tuesday, September 29, 2020; 10:00am-11:30am Pacific Time

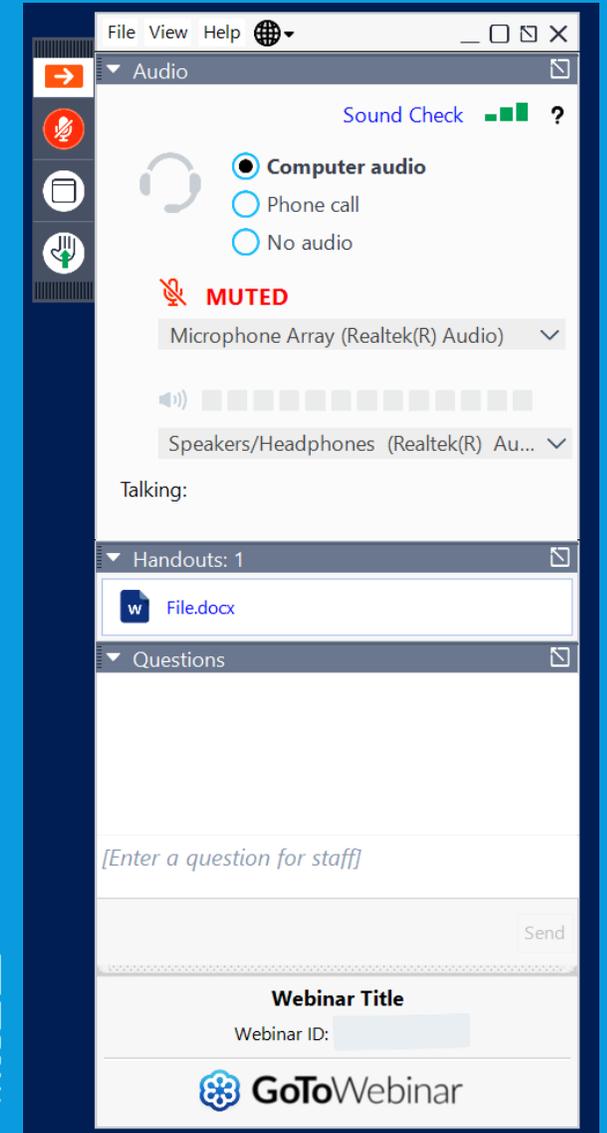
 Submit questions in the "Questions" pane

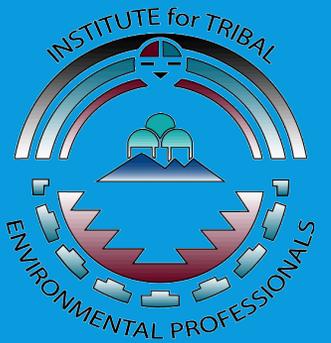
 Raise your hand if you would like to be unmuted

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Presented by the Institute for Tribal Environmental Professionals  
American Indian Air Quality Training Program  
Questions? Contact [Christal.Black@nau.edu](mailto:Christal.Black@nau.edu)



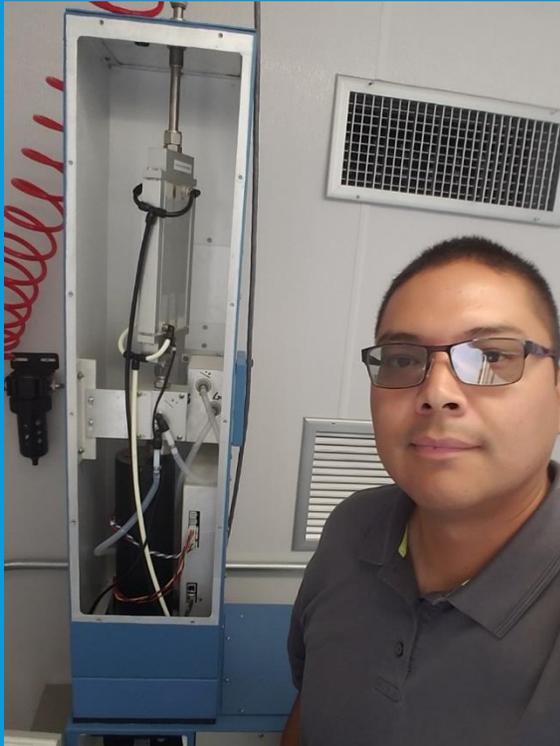


# Polling Questions

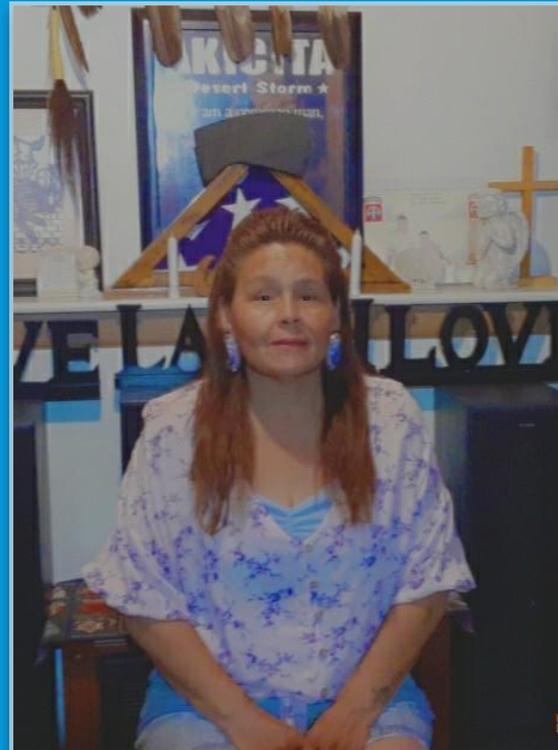
# Presenters



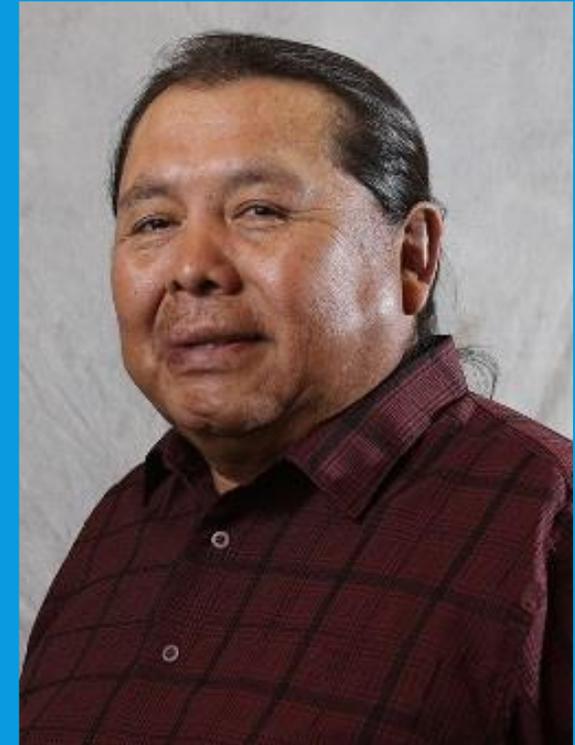
**Michael King**  
ITEP-TAMS



**Harriet Blackhoop-Cruz**  
Standing Rock Sioux



**Delbert Altaha Jr.**  
White Mountain Apache



# Webinar Overview



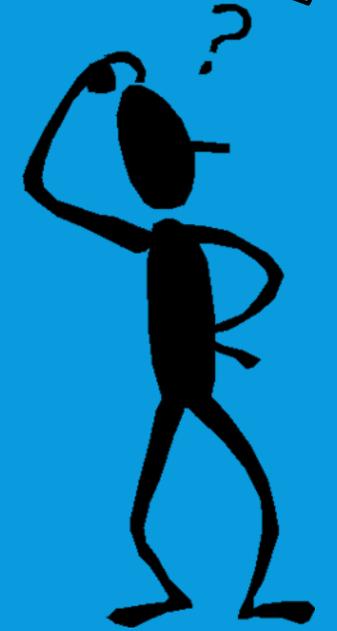
- This is an introduction to the formal project planning process mandated by EPA
- Importance & benefits of the formal planning process in environmental data collection projects
- Overview of planning documents which provide organization, documentation & understanding of a monitoring project
- Two tribal professionals will be sharing their project planning experiences

# Beginning the project

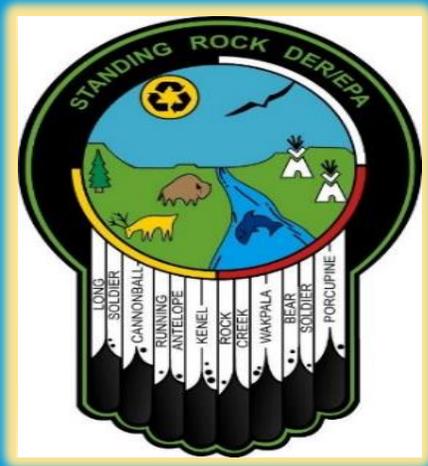


- What are we asking about our environment?  
“Why are we making measurements or observations?”
- Plan out who is going to do what, where, when, how.
- What information you are going to record?
- What are we going to do with the information?  
Use the data to make a decision even if its going to be making more measurements.

*Why are we making measurements?*



Smoke signal guy



Standing Rock Sioux Tribe  
Air Quality Coordinator  
Harriet Blackhoop-Cruz

# Radon Testing Project



- Radon is a colorless, odorless radioactive gas that is released from the natural breakdown of uranium in the soil, rock and to a lesser extent, water.
- It is the second leading cause of lung cancer in the United States, responsible for an estimated 21,000 lung cancer deaths a year.
- The Standing Rock Sioux Reservation is located in the south-central part of Sioux county that extends into the north-central part of South Dakota in Sioux county.
- This places Standing Rock Sioux Reservation in EPA's Zone 1 for radon.

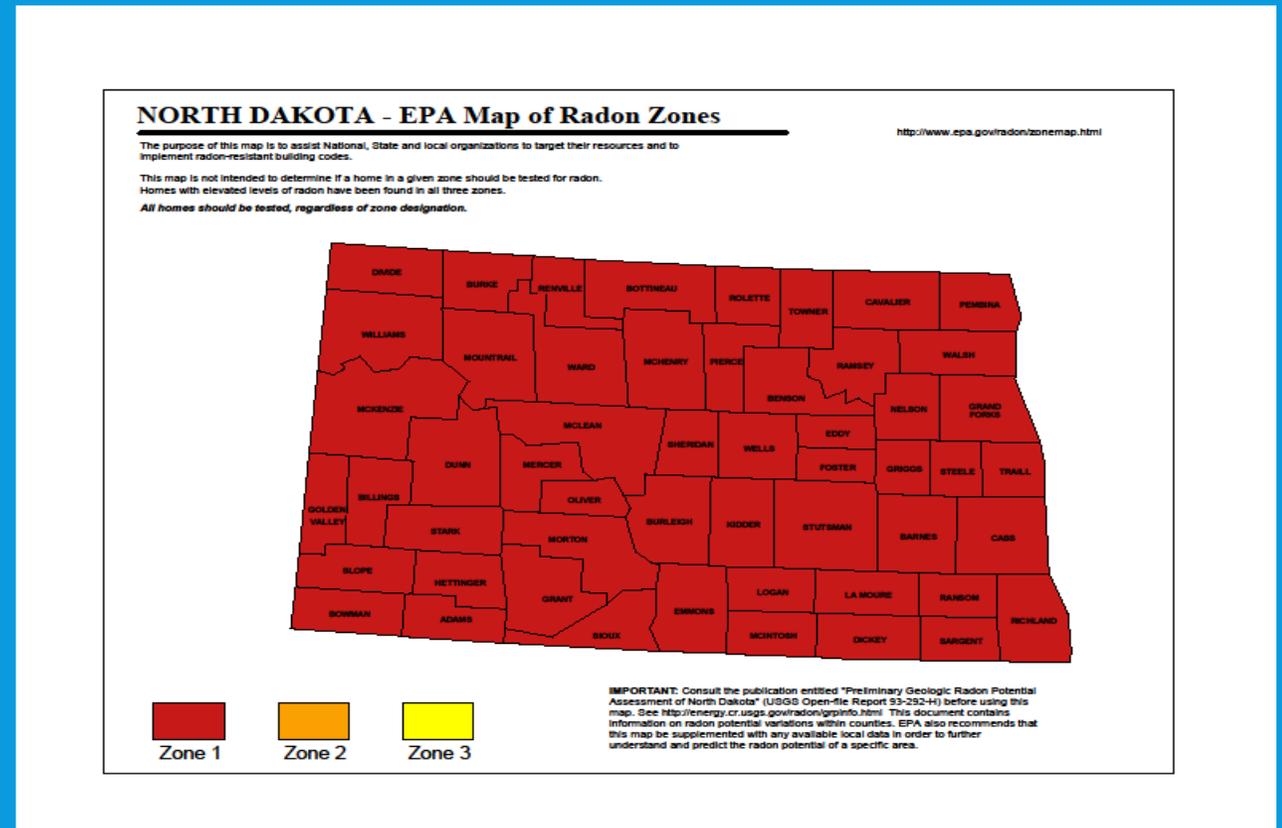
# State the Problem



- It is the intention of the Standing Rock Sioux Tribe to assist any residents that are living in homes that are found to have unsafe radon levels by working with the residents and homeowners to assist in the remediation of their home, and/or to help them find funding to cover the cost of equipment and labor for remediation.
- The Standing Rock Sioux Tribe manages activities that promote the protection of human health and the environment.
- The inhalation of radon in levels greater than 4.0 picocuries per liter (pCi/L) over prolonged periods of time poses a significant concern to human health.

# State the Problem- Continue

- There is concern within our community about potential radon exposures, and our mission is to protect public health and the environment in our population.
- High indoor radon concentrations have been found in all areas of the country and reducing indoor radon concentrations is an established and relatively inexpensive method of reducing risks of lung cancer.



# Data Decision



- Data will be used for mitigation of homes that tested 4.0 picocuries per liter (pCi/L) or over for concerns to the human health of the tribal members.
- Outreach and services to sources for mitigation of homes will be applied through grants, state radon programs and homeowners' programs.
- At the end of radon project, all information, data and methods will be applied in a final report and sent to EPA.

# Challenges/ Experiences



## CHALLENGES

- EPA STANDARDS AND PROTOCOLS
- RESOURCES TO DEVELOP PROGRAM
- RULES AND REGULATION GUIDELINES

## EXPERIENCES

- FINDING THE RIGHT RESOURCES
- NETWORKING
- FACE TO FACE (PARTNERSHIPS)



# White Mountain Apache Tribe Air Quality Technician Delbert Altaha Jr.

# What are we asking about the environment? “Why are we making measurements or observations?”

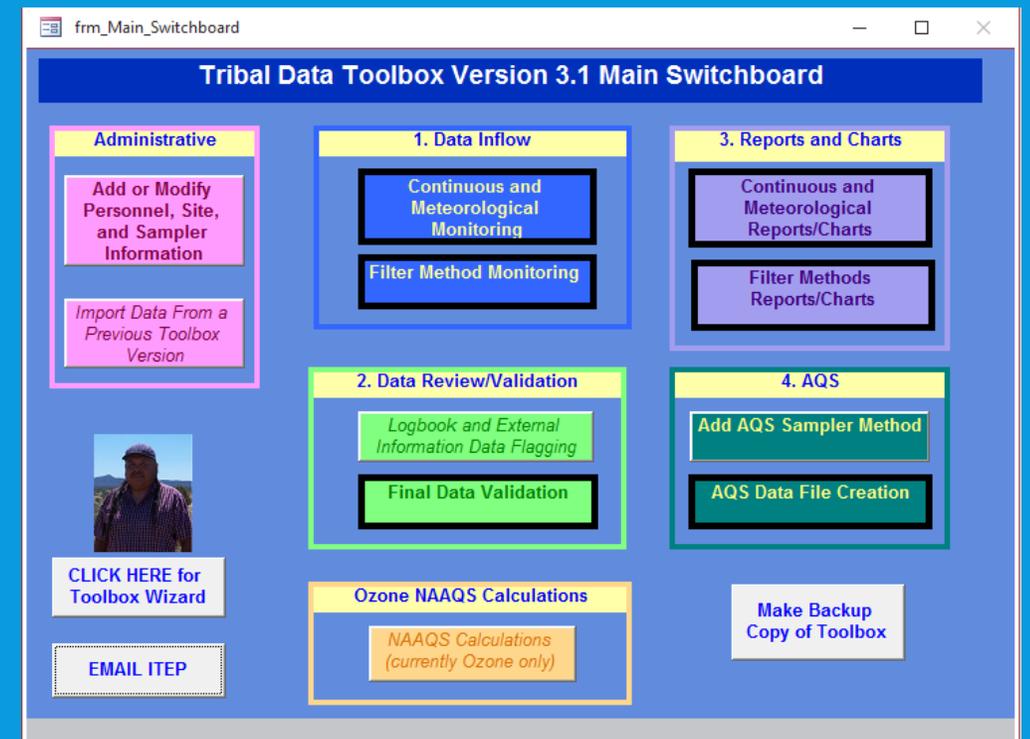
- The WMAT air quality is often impaired by pollution from woodburning, sawmill or prescribe burns and off reservation sources. Tribes in such situation may find that one way to improve their air quality is to have a regulated air program.
- The goal of the White Mountain Apache Tribe (WMAT) Air Program is to support clean air initiatives at the local level and bring awareness to tribal members of the importance of maintaining good air quality.
- Our beautiful Mtn. Baldy elevate at 11,400 ft is a class 1 area and granted special air quality protection under the federal CAA.
- The WMAT air quality standard is  $50\mu\text{g}/\text{m}^3$  and is well below the EPA standard of  $150\mu\text{g}/\text{m}^3$  for PM-10



Its take effort to help everyone breathe a little easier.

# Plan out who is going to do what, where, when, how and what information are you going to record.

- Phase 1 in this task is to get the flow meter recertified and recalibrate the air monitoring instrument. Begin download AQ data and data review, load into Tribal Data Toolbox. And then flag the data, validate the data, and create AQS data files.
- Phase 2 into the task is to get Quality Control on the performance of the air quality equipment. And then Quality Assurance to have other air quality program come in and preform and Air Quality audit
- Phase 3 would be to generate a quarterly report and educate the general public the importance of clean air quality.
- By reaching out, networking and asking for assistance you can get much done.



Individual air quality task works when you plan and preform the task to develop an air program.

# What are we going to do with the Information?

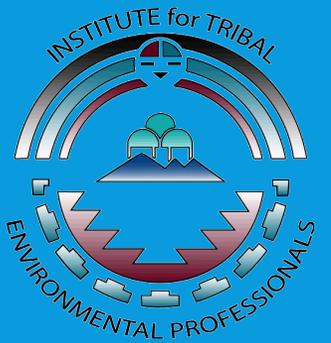
- WHITE MOUNTAIN APACHE TRIBE decision is to gather data to determine compliance with the National Ambient Air Quality Standard (NAAQS) which are standards set to protect human health & the environment.
- If the air quality exceed the NAAQS, a decision will be made to make more measurements to determine the source of high pollution concentration.
- Air Quality data is used to calculate the air quality index to generate health advisories to educate tribal members. If the air quality gets bad, a health warning will be announced on our local radio station

Daily AQI Color	Levels of Concern	Values of Index	Description of Air Quality
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

# What Challenges or Barrier did you Encounter While Planning Your Project?



- At the beginning I had no idea how to plan the project. I had to set a milestone and figure out how to begin.
- Working solo you've got to figure out everything, write plenty of SOP's and reach out for help. Thanks to ITEP training, workshops, conferences, and networking. I began to have a vision and setting goals.
- Effective Communication with vendors, networking with the right people, having the right mind set like "there always someone who already did the work, don't reinvent the wheel".
- My point of view is you can't be passive, speak your mind on what your trying to accomplish, Believe in yourself is extremely important for a successful air quality program.



# Polling Questions



Tribal Air Monitoring Support Center  
Institute for Tribal Environmental Professionals  
Technology Specialist III  
Michael King

# Introduction to Formal Planning



- The Environmental Protection Agency (EPA) policy requires systematic planning for all Agency-funded data collection projects
  - Planning helps eliminate approaches that do not work well to reduce the cost of lost time and rework, but also increases efficiency and early detection of problems
  - All successful projects include a planned data collection process that is conducted following an organization's Quality System.

What is a Quality System?

Smoke signal!!

# What is a Quality System?

- A Quality System is the means by which an organization ensures the quality of the data it provides.
- This management system controls technical, administrative, and human factors that affect data quality.
- EPA's Quality System consists of three levels: a Policy Level, a Program Level, and a **Project Level**.

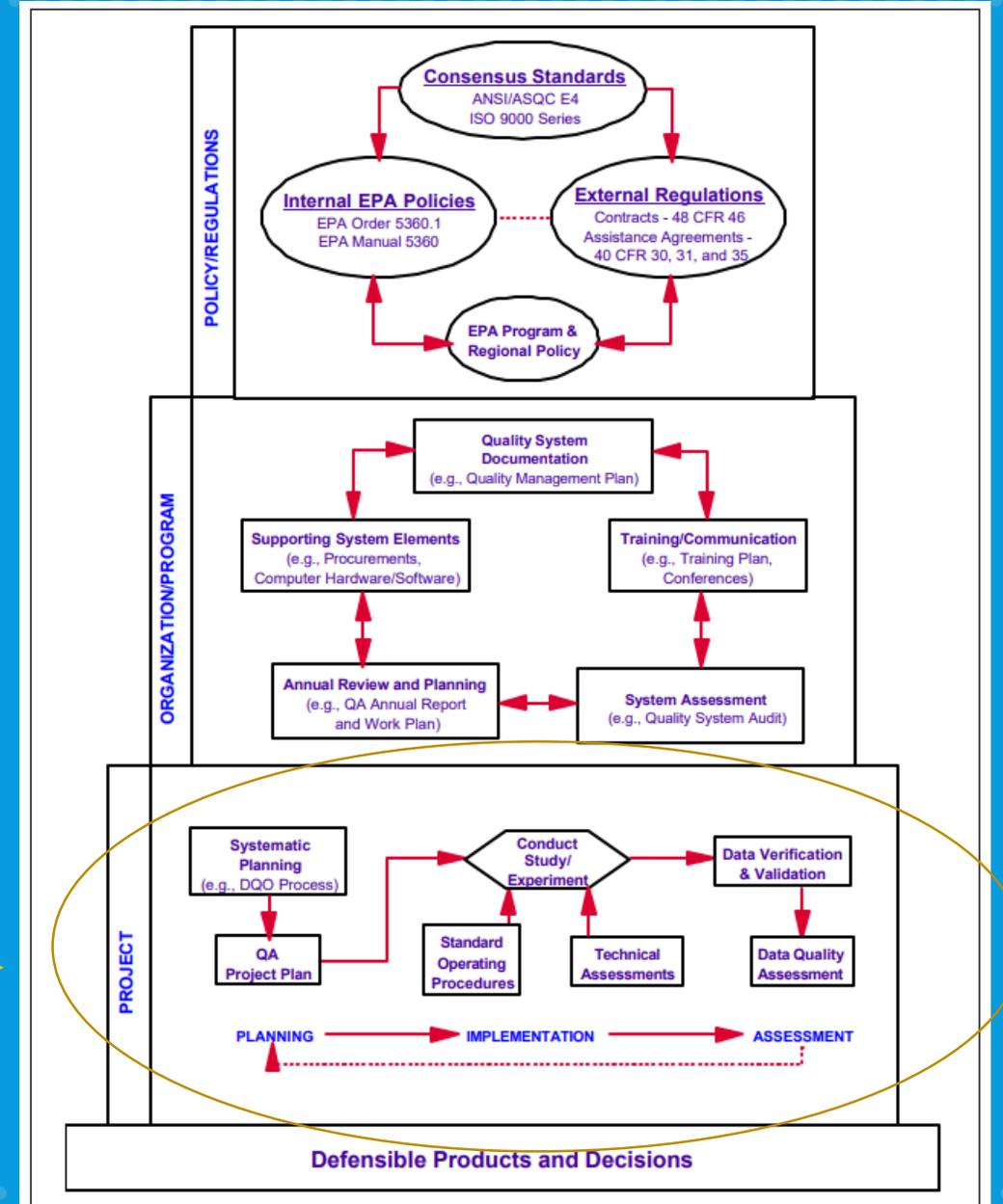
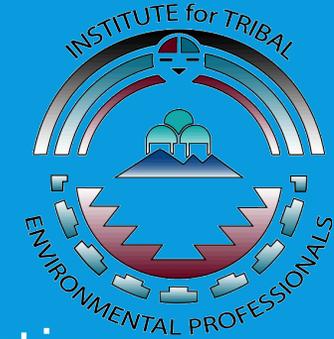


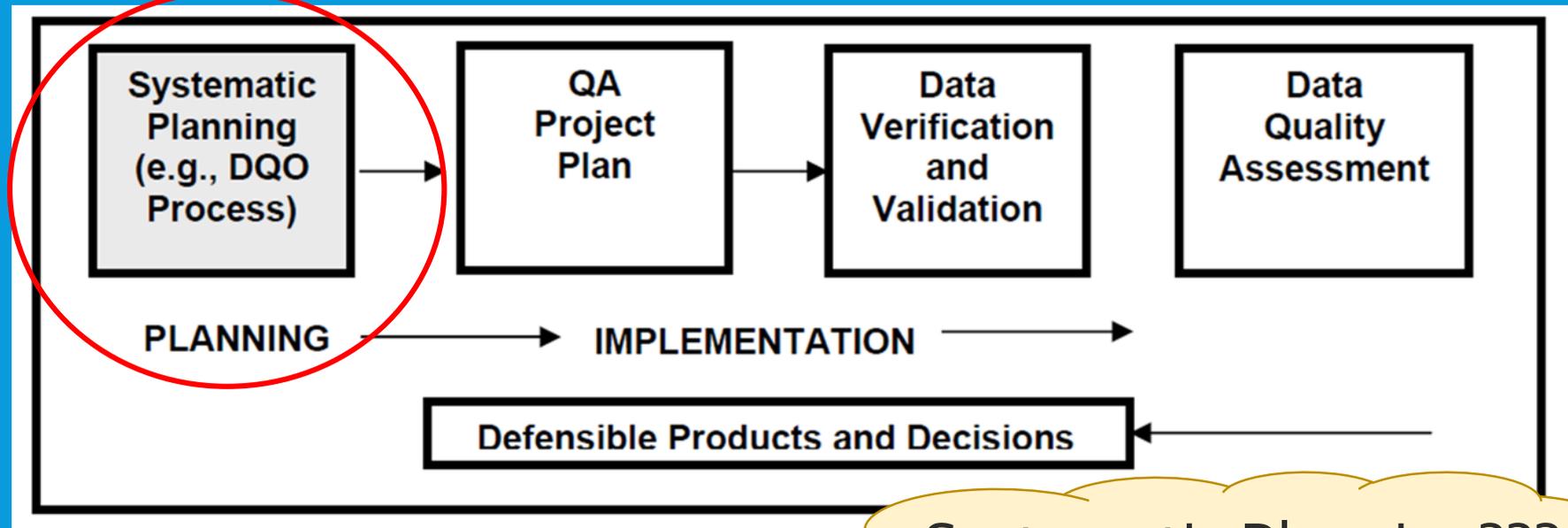
Figure 1. EPA Quality System Components and Tools

# A Quality System



We will focus on the planning components which prepare data collection projects to ensure that project objectives are achieved.

Begins with Systematic Planning



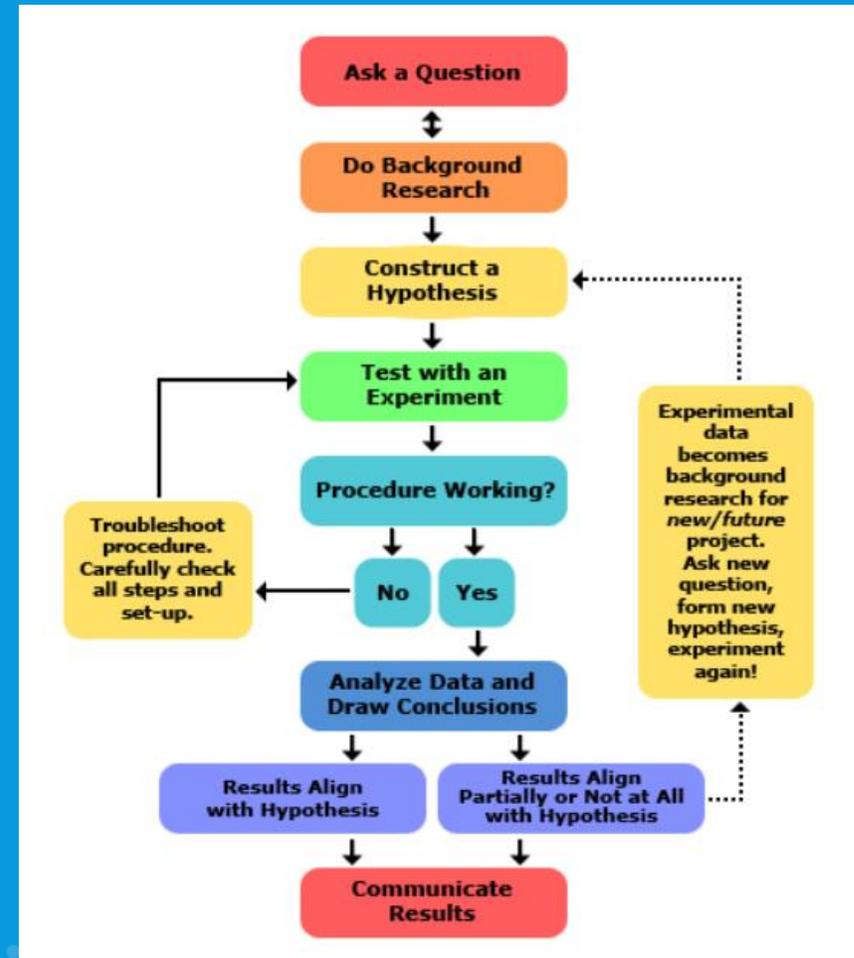
Systematic Planning???

Smoke signal!!

# Systematic Planning & Scientific Method



- Systematic planning is a planning process based on the widely-accepted “scientific method”
- The scientific method is a series of steps for experimentation that is used to explore observations and answer questions.



# EPA Systematic Planning

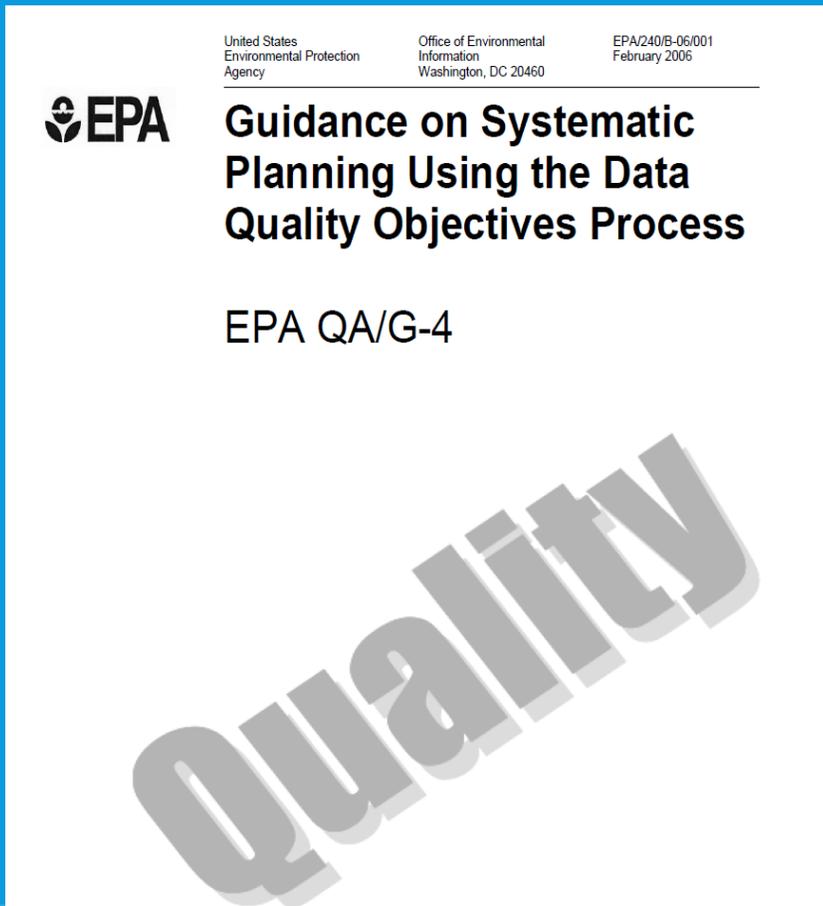


- EPA's formal planning process
- Elements of Systematic Planning
  - Identifies project team (oversight) and the problem to be investigated or decision to be made
  - Defines the project's objectives, the type, quantity and quality of data needed
  - Defines quality assurance/quality control activities
  - Documents!!

**Table 1. Elements of Systematic Planning**

Elements
<b>Organization:</b> Identification and involvement of the project manager, sponsoring organization and responsible official, project personnel, stakeholders, scientific experts, etc. (e.g., all customers and suppliers).
<b>Project Goal:</b> Description of the project goal, objectives, and study questions and issues.
<b>Schedule:</b> Identification of project schedule, resources (including budget), milestones, and any applicable requirements (e.g., regulatory requirements, contractual requirements).
<b>Data Needs:</b> Identification of the type of data needed and how the data will be used to support the project's objectives.
<b>Criteria:</b> Determination of the quantity of data needed and specification of performance criteria for measuring quality.
<b>Data Collection:</b> Description of how and where the data will be obtained (including existing data) and identification of any constraints on data collection.
<b>Quality Assurance (QA):</b> Specification of needed QA and quality control (QC) activities to assess the quality performance criteria (e.g., QC samples for both field and laboratory, audits, technical assessments, performance evaluations, etc.).
<b>Analysis:</b> Description of how the acquired data will be analyzed (either in the field or the laboratory), evaluated (i.e., QA review/verification/validation), and assessed against its intended use and the quality performance criteria.

# EPA Data Quality Objective Process



- The Data Quality Objectives (DQO) Process is the most commonly-used (EPA recommended) application of systematic planning.
  - DQO Process applies systematic planning to develop **performance and acceptance criteria** (or data quality objectives) for collecting environmental data to support project goals.
- Formal way of ensuring the **Quality of Data** used to support a project decision.

# Systematic Planning Using the Data Quality Objectives Process

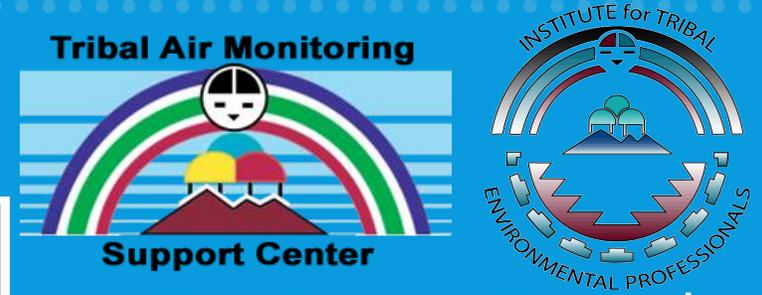
- Activities performed within the Systematic Planning process occur within the DQO Process
- Systematic planning is the framework for DQO process
  - An essential component of a Quality System/Project Management

## Systematic Planning

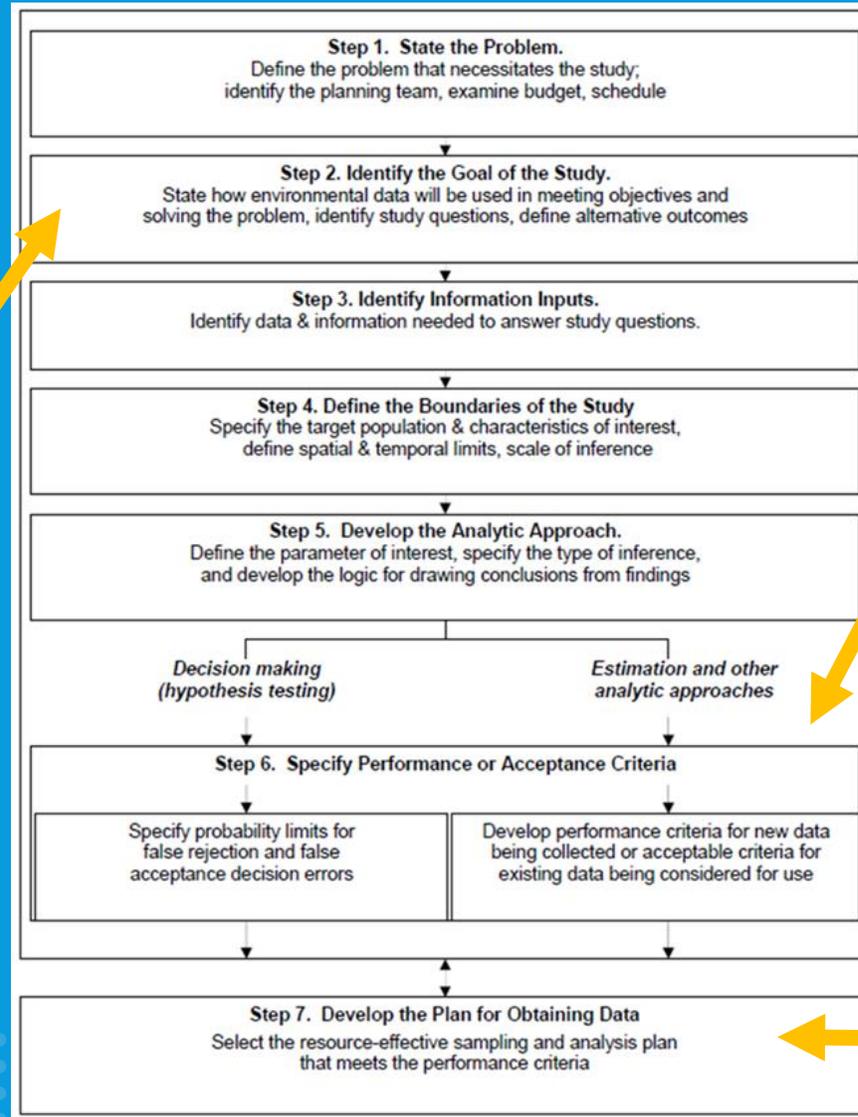
## Data Quality Objective Process

Activities Performed within the Systematic Planning Process (as featured among the eight elements in Table 1)	When These Activities Occur Within the DQO Process and/or the Project Life Cycle
Identifying and involving the project manager/decision maker, and project personnel	Step 1. Define the problem Part A of the Project Plan (Chapter 8)
Identifying the project schedule, resources, milestones, and requirements	Step 1. Define the problem
Describing the project goal and objectives	Step 2. Identify the goal of the study
Identifying the type of data needed	Step 3. Identify information needed for the study
Identifying constraints to data collection	Step 4. Define the boundaries of the study
Determining the quality of the data needed	Step 5. Develop the analytic approach Step 6. Specify performance or acceptance criteria Step 7. Develop the plan for obtaining data
Determining the quantity of the data needed	Step 7. Develop the plan for obtaining data
Describing how, when, and where the data will be obtained	Step 7. Develop the plan for obtaining data
Specifying quality assurance and quality control activities to assess the quality performance criteria	Part B of the QA Project Plan (Chapter 8) Part C of the QA Project Plan (Chapter 8)
Describing methods for data analysis, evaluation, and assessment against the intended use of the data and the quality performance criteria	Part D of the QA Project Plan (Chapter 8)  The Data Quality Assessment Process (Chapter 8)

# Data Quality Objectives



- The DQO Process is a series of 7 logical steps that guide project planning
- Identify data objectives for monitoring project
  - Ex. Determine compliance with National Ambient Air Quality Standards



- DQO Process is used to define criteria that will be used to design your data collection project
- The outputs of the DQO Process are then used to develop planning documents & data quality assessments
- i.e. Quality Assurance Project Plans

# Data Quality Objectives (7 Steps)



- State problem
  - Define why monitoring is needed
  - Create team and purpose
- Identify Goal of Study
  - Identify decision
    - What decision will be made with data?

## The DQO Process

- 1. State the Problem**
2. Identify the Goal of the Study
3. Identify Information Inputs
4. Define the Boundaries of the Study
5. Develop the Analytic Approach
6. Specify Performance or Acceptance Criteria
7. Develop the Detailed Plan for Obtaining Data

### 1. State the Problem

- Give a concise description of the problem
- Identify leader and members of the planning team.
- Develop a conceptual model of the environmental hazard to be investigated.
- Determine resources - budget, personnel, and schedule.

## The DQO Process

1. State the Problem
- 2. Identify the Goal of the Study**
3. Identify Information Inputs
4. Define the Boundaries of the Study
5. Develop the Analytic Approach
6. Specify Performance or Acceptance Criteria
7. Develop the Detailed Plan for Obtaining Data

### 2. Identify the Goal of the Study

- Identify principal study question(s).
- Consider alternative outcomes or actions that can occur upon answering the question(s).
- For decision problems, develop decision statement(s), organize multiple decisions.
- For estimation problems, state what needs to be estimated and key assumptions.

# Data Quality Objectives (Cont.)



## The DQO Process

1. State the Problem
2. Identify the Goal of the Study
- 3. Identify Information Inputs**
4. Define the Boundaries of the Study
5. Develop the Analytic Approach
6. Specify Performance or Acceptance Criteria
7. Develop the Detailed Plan for Obtaining Data

### 3. Identify Information Inputs

- Identify types and sources of information needed to resolve decisions or produce estimates.
- Identify the basis of information that will guide or support choices to be made in later steps of the DQO Process.
- Select appropriate sampling and analysis methods for generating the information.

- Identify Information Inputs
  - What data is necessary to make decisions?
- Define boundaries
  - What are the study area boundaries?
  - Define a sampling unit

## The DQO Process

1. State the Problem
2. Identify the Goal of the Study
3. Identify Information Inputs
- 4. Define the Boundaries of the Study**
5. Develop the Analytic Approach
6. Specify Performance or Acceptance Criteria
7. Develop the Detailed Plan for Obtaining Data

### 4. Define the Boundaries of the Study

- Define the target population of interest and its relevant spatial boundaries.
- Define what constitutes a sampling unit.
- Specify temporal boundaries and other practical constraints associated with sample/data collection.
- Specify the smallest unit on which decisions or estimates will be made.

# Data Quality Objectives (Cont.)



- Develop decision rule
  - What conditions will require action (action level)?
- Specify decision error limits
  - Identify allowable measurement uncertainty in making a decision error
  - Measurement performance criteria (imprecision, bias, detection limits, etc.)

## The DQO Process

1. State the Problem
2. Identify the Goal of the Study
3. Identify Information Inputs
4. Define the Boundaries of the Study
- 5. Develop the Analytic Approach**
6. Specify Performance or Acceptance Criteria
7. Develop the Detailed Plan for Obtaining Data

## 5. Develop the Analytic Approach

- Specify appropriate population parameters for making decisions or estimates.
- For decision problems, choose a workable Action Level and generate an “If ... then ... else” decision rule which involves it.
- For estimation problems, specify the estimator and the estimation procedure.

## The DQO Process

1. State the Problem
2. Identify the Goal of the Study
3. Identify Information Inputs
4. Define the Boundaries of the Study
5. Develop the Analytic Approach
- 6. Specify Performance or Acceptance Criteria**
7. Develop the Plan for Obtaining Data

## 6. Specify Performance or Acceptance Criteria

- For decision problems, specify the decision rule as a statistical hypothesis test, examine consequences of making incorrect decisions from the test, and place acceptable limits on the likelihood of making decision errors.
- For estimation problems, specify acceptable limits on estimation uncertainty.

# Data Quality Objectives (Cont.)



- Optimize monitoring design
  - Develop QMP/QA Project Plans for obtaining data

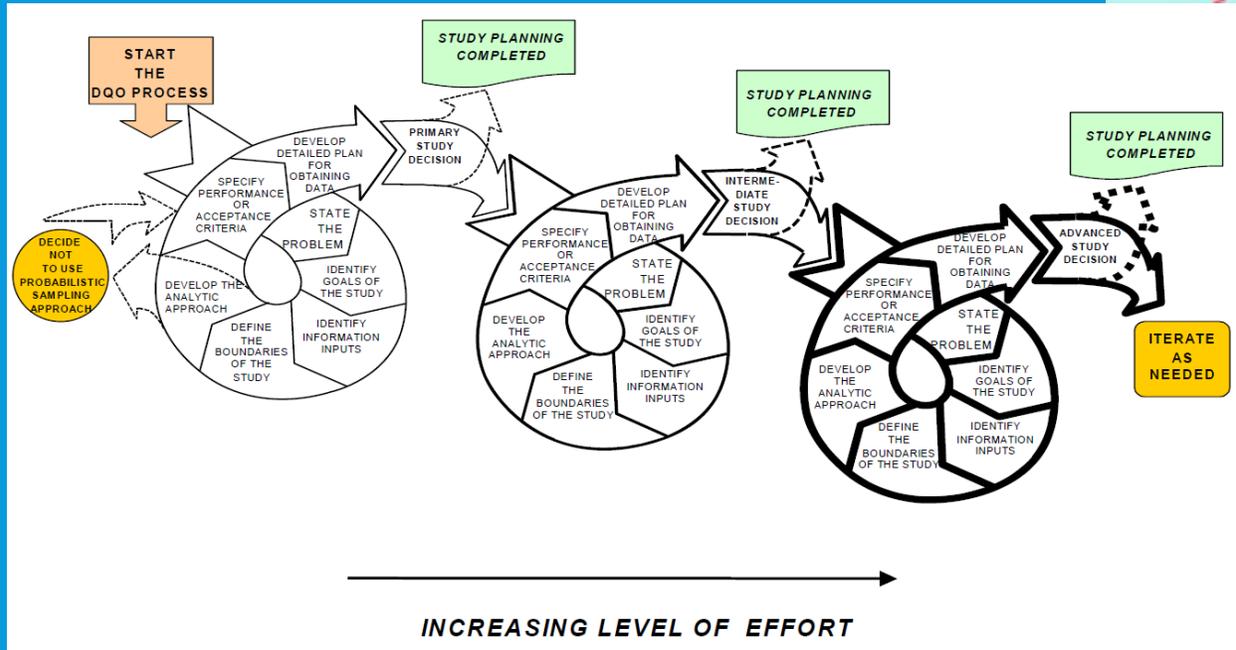
## The DQO Process

1. State the Problem
2. Identify the Goal of the Study
3. Identify Information Inputs
4. Define the Boundaries of the Study
5. Develop the Analytic Approach
6. Specify Performance or Acceptance Criteria
- 7. Develop the Detailed Plan for Obtaining Data**

## 7. Develop the Detailed Plan for Obtaining Data

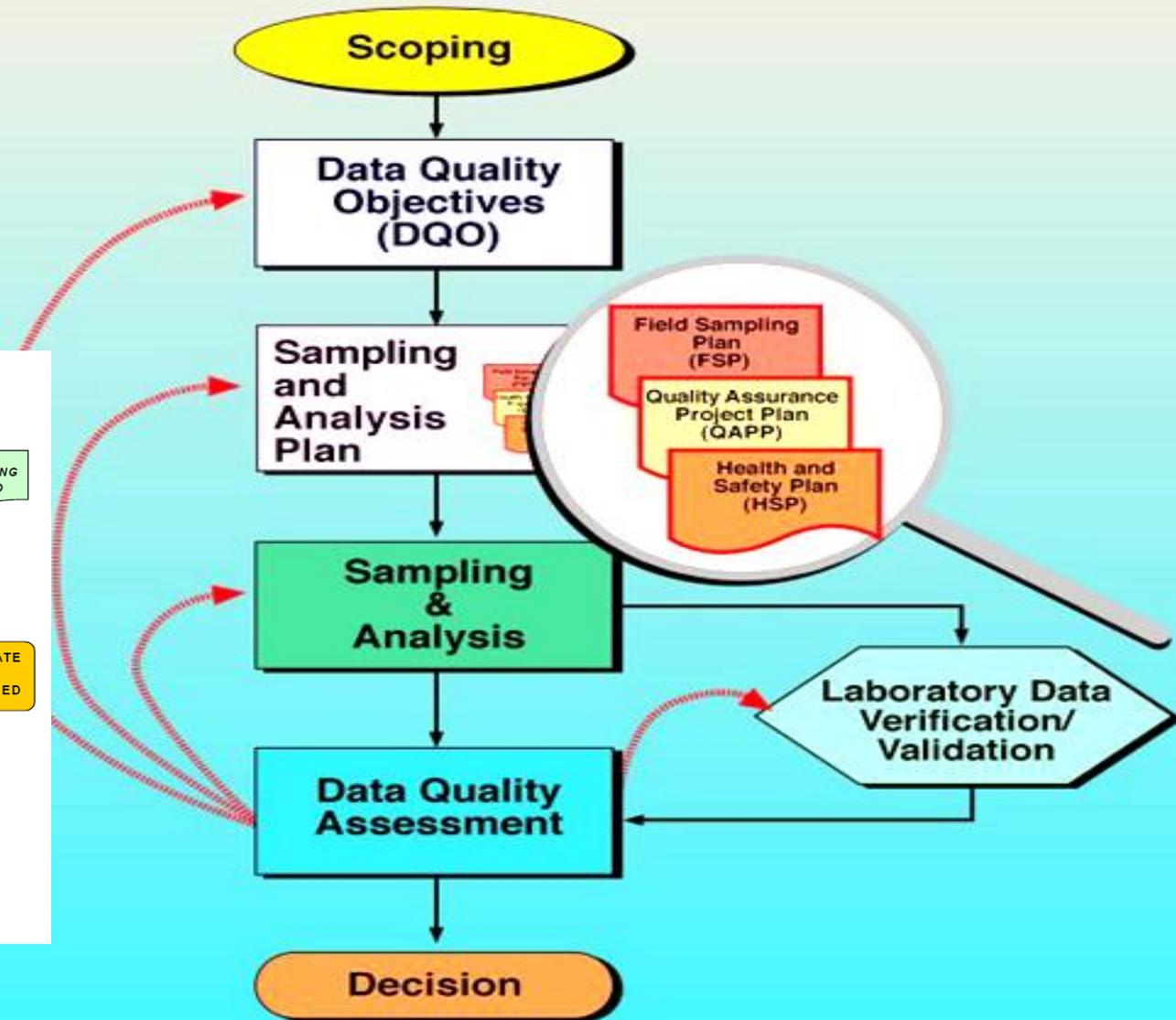
- Compile all information and outputs generated in Steps 1 through 6.
- Use this information to identify alternative sampling and analysis designs that are appropriate for your intended use
- Select and document a design that will yield data that will best achieve your performance or acceptance criteria.

- DQO Process can be repeated through the Project Life Cycle as more information on the problem is obtained.



Primary decision, intermediate decision, advanced decision

## The Decision Process



(Diagram courtesy of U.S. Department of Energy – DQO homepage)

# Benefits of the Data Quality Objectives Process



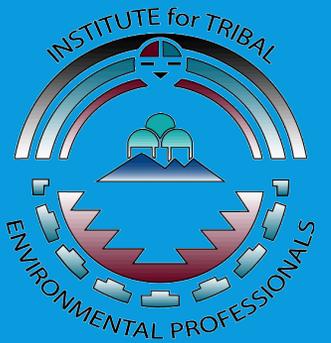
- The structured format facilitates: good communication, documentation & data collection design
- Makes data collection operations more resource-effective.
- Helps to focus projects by clarifying vague objectives
- Allows data users and technical experts to participate collectively in planning
- Defines performance requirements appropriate for the intended use of the data

# Alternative Planning Process

## Plan-Do-Check-Act Model



- If a program's quality guidance does not exist, then the program can develop or adopt its own quality procedures.
- May employ the "Plan-Do-Check-Act (P-D-C-A)" quality model.
- The P-D-C-A model includes the following steps:
  - Plan: Establish the objectives and processes necessary to deliver results
  - Do: Implement the process on program specific activities
  - Check: Monitor and measure processes, products and services against policies, objectives and requirements
  - Act: Take action to continually improve process performance.

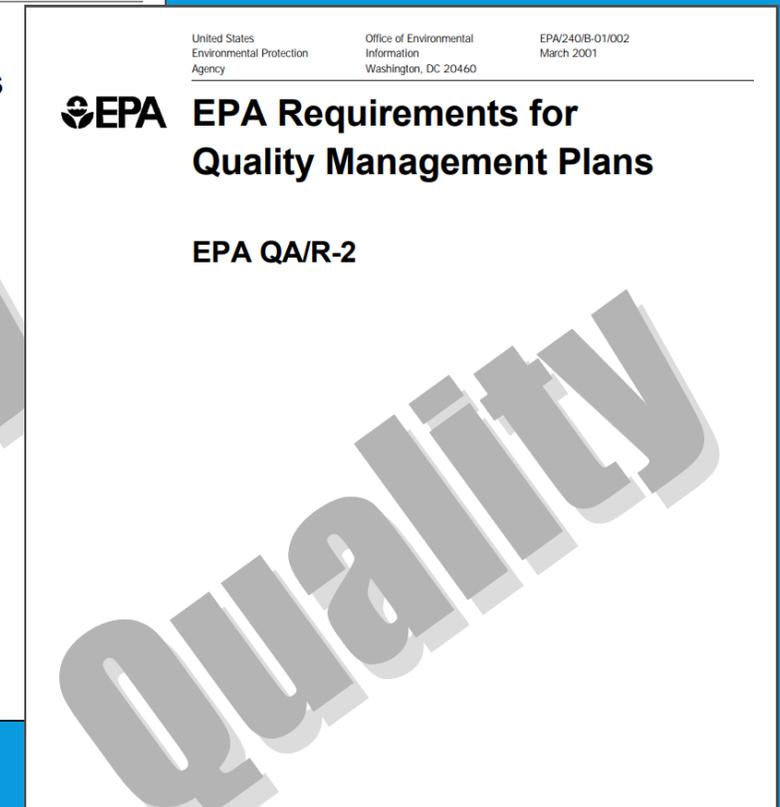
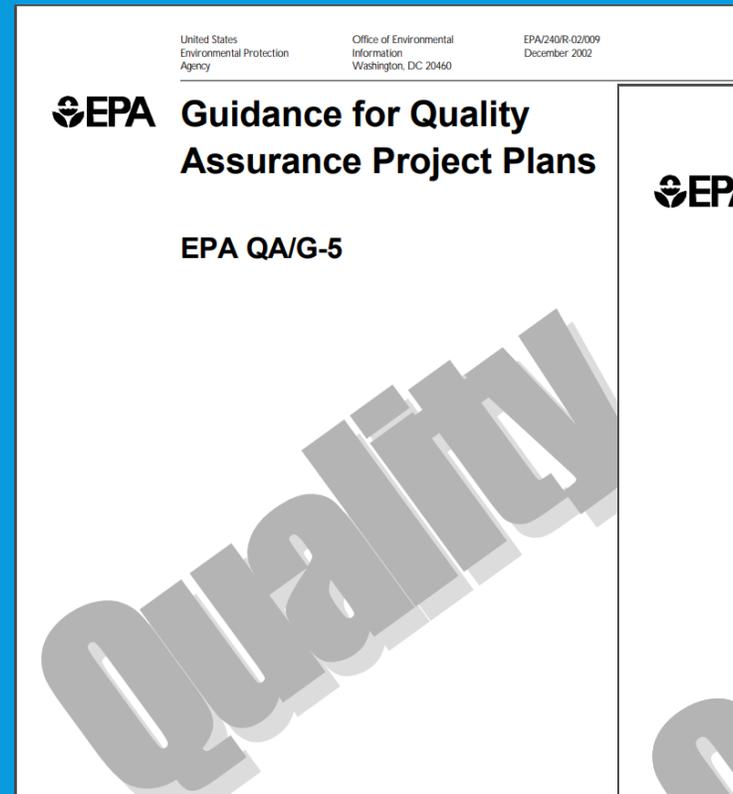


# Polling Questions

# Quality Assurance Project Plans Quality Management Plans



- EPA policy requires all organizations funded by EPA develop quality management plans (QMPs) and quality assurance project plans (QAPPs).
- The QAPP/QMP is not just a checkbox for EPA but a tool that should be used to plan your project and document your findings.
- QMP/QAPPs are the output of systematic planning



# Quality Management Plan



- The QMP describes the Quality System in terms of the organizational structure, functional responsibilities of management and staff, lines of authority, for planning, implementing, and assessing project activities

SOUTHERN UTE INDIAN TRIBE  
AIR QUALITY PROGRAM  
QUALITY MANAGEMENT PLAN/QUALITY ASSURANCE  
PROJECT PLAN



Prepared for:  
U.S. Environmental Protection Agency  
Region VIII  
1595 Wynkoop Street  
Denver, Colorado 80202-1129

Prepared by:  
Southern Ute Indian Tribe  
Air Quality Program  
P.O. Box 737  
Ignacio, Colorado 81137

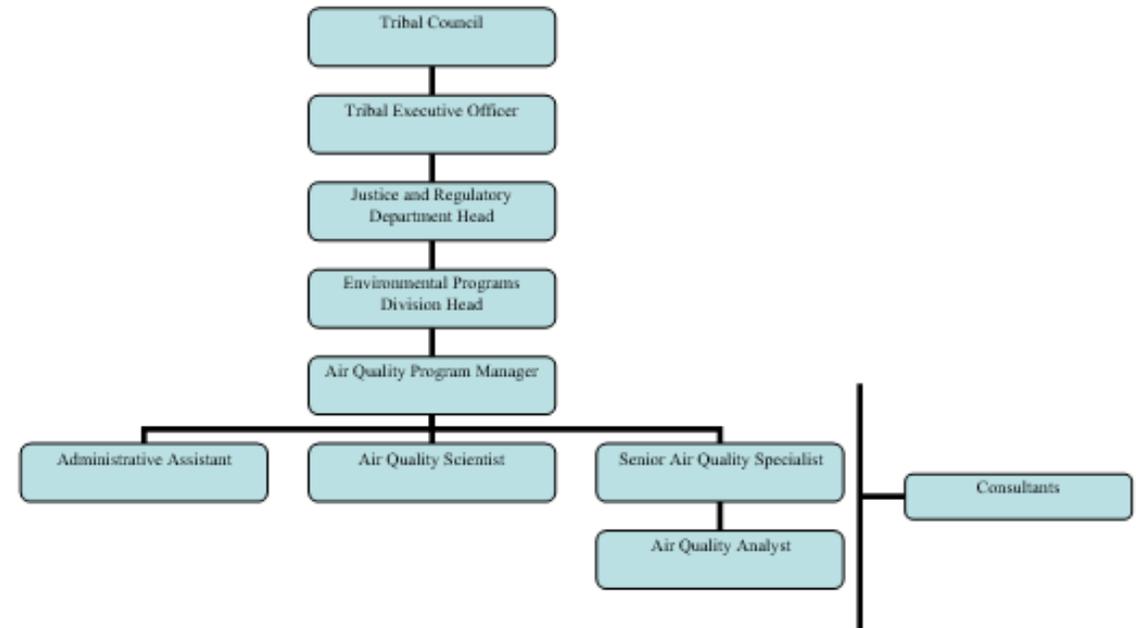
NAVAJO NATION ENVIRONMENTAL PROTECTION AGENCY  
AIR QUALITY CONTROL PROGRAM  
QUALITY MANAGEMENT PLAN/QUALITY ASSURANCE PROJECT PLAN



Prepared for:  
U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

Prepared by:  
Navajo Air Quality Control Program  
P.O. Box 529  
Fort Defiance, Arizona 86504

November 2017



# Quality Assurance Project Plans

- The QAPP is a critical planning document for any environmental monitoring project.
- A QAPP is divided into four basic groups divided into 24 elements documenting:
  - Project management (oversight)
  - Data generation, acquisition and validation (quality assurance/quality control (QA/QC) procedures)
  - Standard Operating Procedures (SOPs)
- Improves communication and ensures the quality of data satisfies performance criteria set forth in the Data Quality Objectives.

A QMP describes the Quality System whereas QAPP describes QA/QC procedures & activities

## QAPP Element

A1	Title and Approval Sheet
A2	Table of Contents
A3	Distribution List
A4	Project/Task Organization
A5	Problem Definition/Background
A6	Project/Task Description
A7	Quality Objectives and Criteria for Measurement Data
A8	Special Training Requirements/Certification
A9	Documentation and Records
B1	Sample Process (Network) Design
B2	Sampling Methods Requirements
B3	Sample Handling and Custody Requirements
B4	Analytical Methods Requirements
B5	Quality Control Requirements
B6	Instrument/Equipment Testing, Inspection & Maintenance
B7	Instrument Calibration and Frequency
B8	Inspection/Acceptance Requirements for Supplies and Con.
B9	Data Acquisition Requirements for Non-direct Measurements
B10	Data Management
C1	Assessments and Response Actions
C2	Reports to Management
D1	Data Review, Validation, and Verification Requirements
D2	Validation and Verification Methods
D3	Reconciliation and User Requirements

# QAPP/QMP and the Graded Approach



- EPA proposes a graded approach for the development of QAPPs and QMPs
- The term “graded approach” refers to the level of detail of QA/QC activities based on the project’s application

Category 1 = All 24 Elements

Category 2 = Only 16 Elements

Category 3 = Only 16 Elements

Category 4 = Only 6 Elements

# QAPP/QMP and the Graded Approach



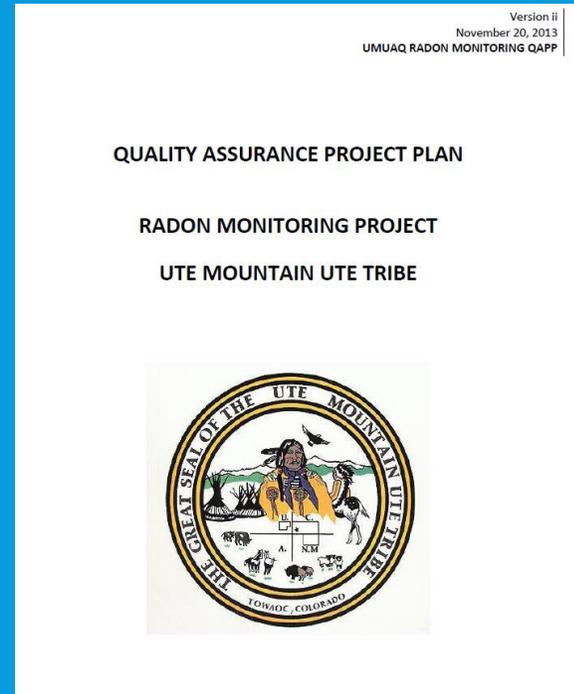
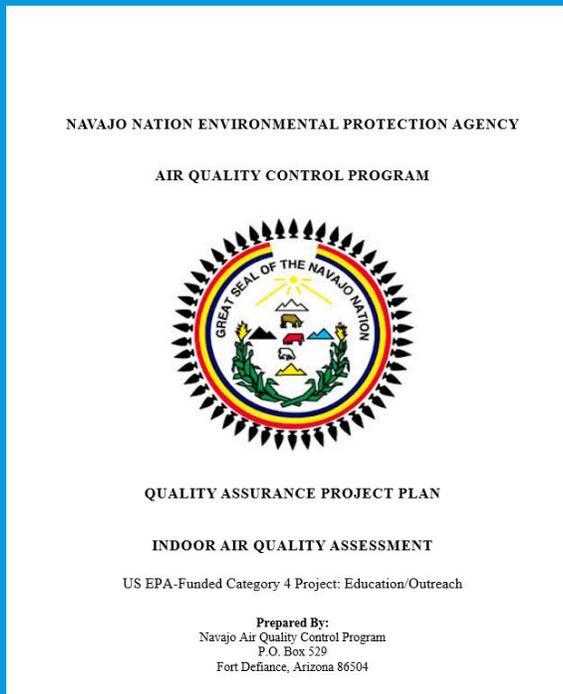
**Table 1. Ambient Air Monitoring Program QAPP/QMP categories**

Categories	Programs	QAPP/QMP Comments	DQO
<p><b>Category 1</b> Projects include EDOs that directly support rulemaking, enforcement, regulatory, or policy decisions. They also include research projects of significant national interest, such as those typically monitored by the Administrator. Category I projects require the most detailed and rigorous QA and QC for legal and scientific defensibility. Category I projects are typically stand-alone; that is, the results from such projects are sufficient to make the needed decision without input from other projects.</p>	<p>SLAMS PSD NCore IMPROVE CastNet</p>	<p>Most agencies implementing Ambient Air Monitoring Networks will have separate QMPs and QAPPs. However, a Region has the discretion to approve QMP/QAPP combination for small monitoring organizations (i.e., Tribes)</p>	<p>Formal DQOs</p>
<p><b>Category 2</b> Projects include EDOs that complement other projects in support of rulemaking, regulatory, or policy decisions. Such projects are of sufficient scope and substance that their results could be combined with those from other projects of similar scope to provide necessary information for decisions. Category II projects may also include certain high visibility projects as defined by EPA management</p>	<p>Speciation Trends Toxics Mon.</p>	<p>Most agencies implementing Ambient Air Monitoring Networks will have separate QMPs and QAPPs. However, a Region has the discretion to approve QMP/QAPP combination for small monitoring organizations (i.e., Tribes)</p>	<p>Formal DQOs for national objective, Flexible DQOs for localized objectives</p>
<p><b>Category 3</b> Projects include EDOs performed as interim steps in a larger group of operations. Such projects include those producing results that are used to evaluate and select options for interim decisions or to perform feasibility studies or preliminary assessments of unexplored areas for possible future work.</p>	<p>SPM One time Studies Local Scale Air Toxics Grants</p>	<p>EDOs of short duration. QMP and QAPP can be combined.</p>	<p>Flexible DQOs</p>
<p><b>Category 4</b> Projects involving EDOs to study basic phenomena or issues, including proof of concepts, screening for particular analytical species, etc. Such projects generally do not require extensive detailed QA/QC activities and documentation</p>	<p>Education/Outreach</p>		<p>Project Objectives or Goals</p>

# QAPP/QMP and the Graded Approach



- Tribes may tailor their QMP/QAPP specifications to their own monitoring project applications to better fit their specific needs.



Indoor Air Quality Monitoring Projects may implement the graded approach  
Be sure to consult with QA Officer

# Level of Data Quality Assurance & Documentation for Various Project Purposes

Categories of Data Use	Intended Project Purpose	Quantitative	Qualitative	Level of Detail
Increasing public understanding	Community engagement			
	Education			
Scientific studies and research	Environmental condition indicators (screening, exposure)			
	Studies and research			
Legal and policy action	Regulatory decisions			

The Darker the shading, the more rigorous the quality assurance level of detail

Not all QA elements will pertain to every project. In addition, the extent or level of detail written in the QAPP for each element will depend on the type of project, the data to be obtained, the decisions to be made, and the consequences of potential decision errors.

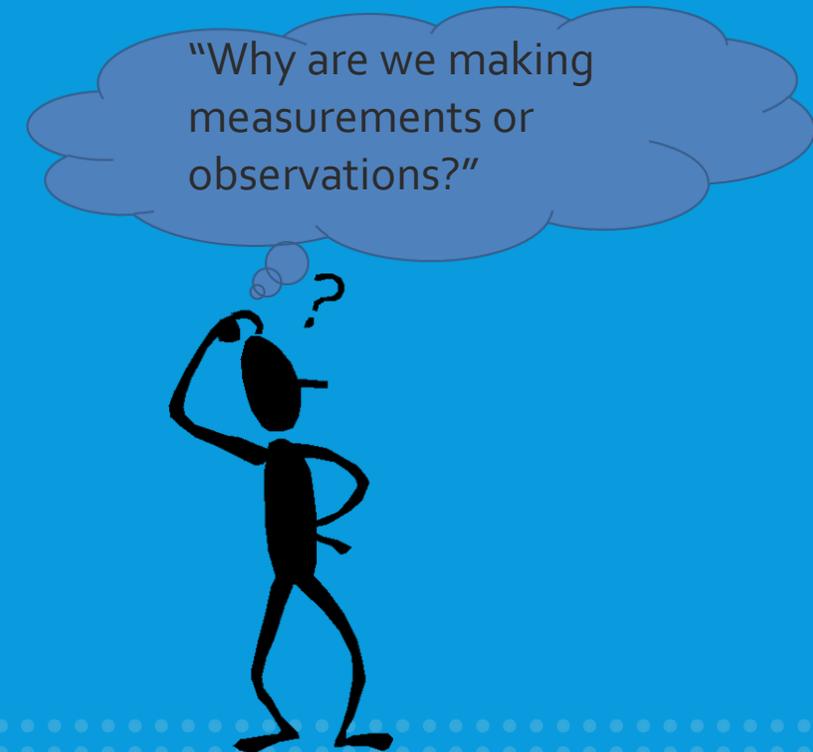
# Determine Your Air Monitoring Project Application to Meet Your Project Objectives

- Below are example applications of a monitoring project using low cost sensors

Table 1-1. Descriptions of potential uses for low cost air sensors.

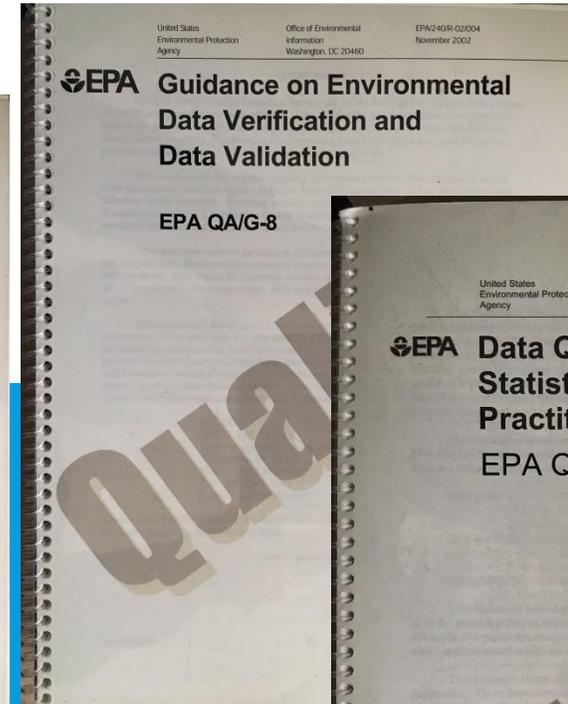
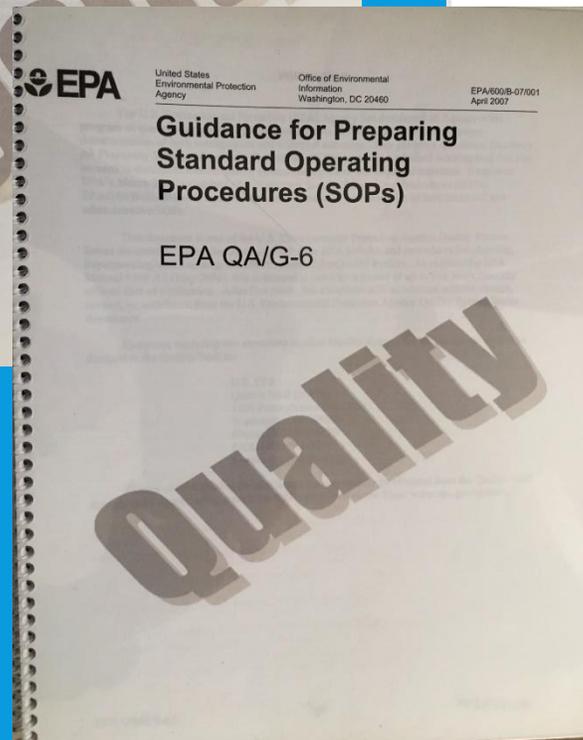
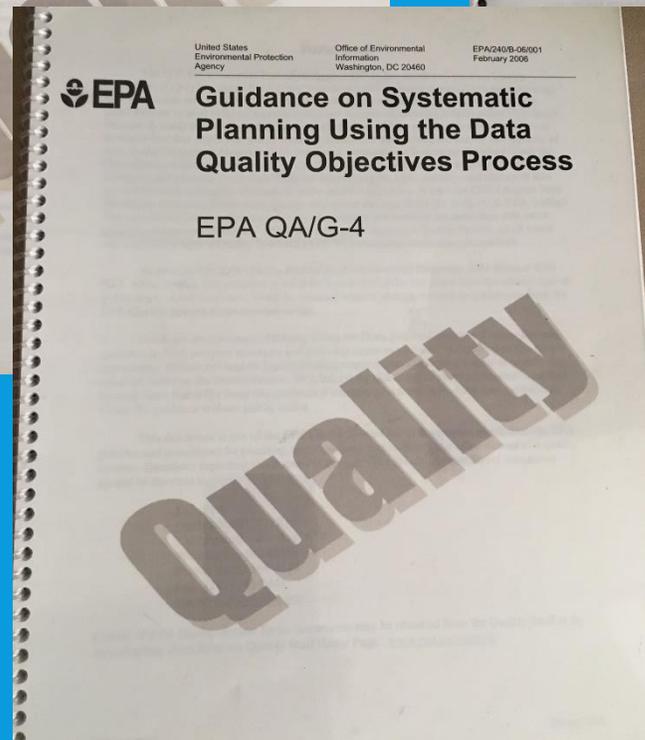
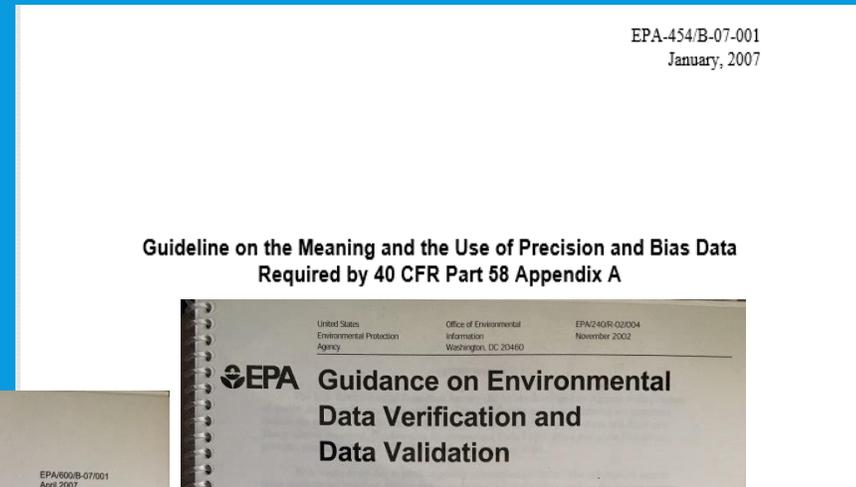
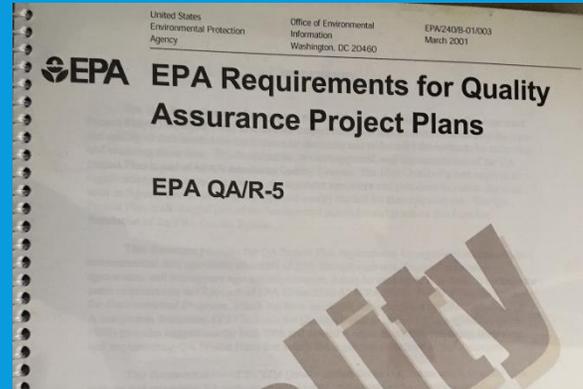
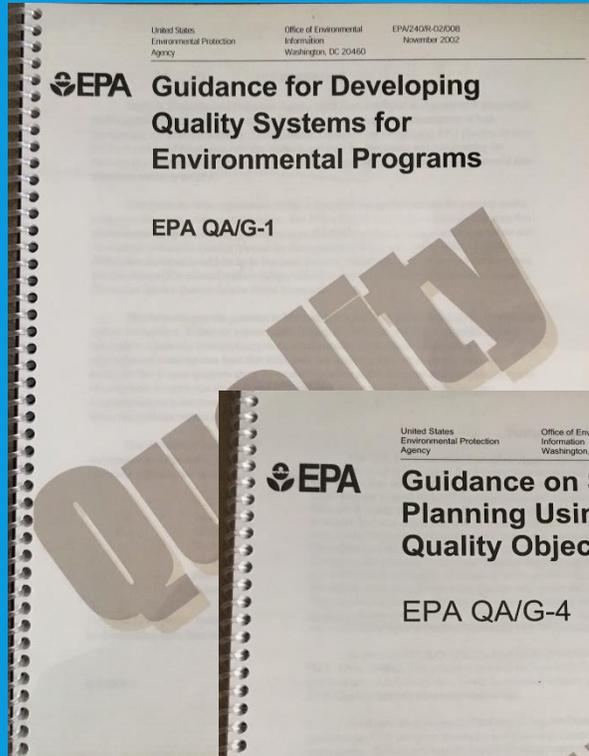
Application	Description	Example
Research	Scientific studies aimed at discovering new information about air pollution.	A network of air sensors is used to measure particulate matter variation across a city.
Personal Exposure Monitoring	Monitoring the air quality that a single individual is exposed to while doing normal activities.	An individual having a clinical condition increasing sensitivity to air pollution wears a sensor to identify when and where he or she is exposed to pollutants potentially impacting their health.
Supplementing Existing Monitoring Data	Placing sensors within an existing state/local regulatory monitoring area to fill in coverage.	A sensor is placed in an area between regulatory monitors to better characterize the concentration gradient between the different locations.
Source Identification and Characterization	Establishing possible emission sources by monitoring near the suspected source.	A sensor is placed downwind of an industrial facility to monitor variations in air pollutant concentrations over time.
Education	Using sensors in educational settings for science, technology, engineering, and math lessons.	Sensors are provided to students to monitor and understand air quality issues.
Information/Awareness	Using sensors for informal air quality awareness.	A sensor is used to compare air quality at people's home or work, in their car, or at their child's school.

Most Important Question???



# EPA Agency-wide Quality System Guidance Documents Can Be Found On The EPA Website

<https://www.epa.gov/quality/agency-wide-quality-system-documents>



<https://www3.epa.gov/ttn/amtic/qalist.html>

# Notice for Consultation on the Update of the U.S. EPA Quality System Policy & Procedure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF MISSION SUPPORT

Re: Notification of Consultation and Coordination on the Update of the U.S. Environmental Protection Agency (EPA) Environmental Information Quality System Policy and Procedure

Dear Honorable Leader,

The U.S. Environmental Protection Agency (EPA) is pleased to initiate a consultation and coordination with federally recognized Indian tribes to obtain input as we update our Quality System Directives. The directives shown below define the minimum requirements for quality systems supporting EPA environmental programs that encompass the collection, production, evaluation, or use of environmental information by or for EPA and the design, construction, and operation of environmental technology:

- [CIO 2105.0, Policy and Program Requirements for the Mandatory Agency-Wide Quality System](#) (EPA Order, formerly 5360.1A2) (2000);
- [CIO 2105-P-01-0, EPA Quality Manual for Environmental Programs](#) (2000)
- [CIO 2106, Quality Policy](#) (2008) (to be rescinded); and
- [CIO 2106-P-01-0, Procedure for Quality Policy](#) (2008) (to be rescinded)

In August 2017, the Office of Environmental Information (OEI) Strategic Advisory Committee (SAC) approved to update the CIO 2105 Policy and Procedure and rescind the CIO 2106 Policy and Procedure. In January 2018, OEI's, Office of Enterprise Information Programs (OEIP), Enterprise Quality Management Division (EQMD) formed a workgroup from the Quality Assurance (QA) Community members to update these Directives. Upon completion of writing these DRAFT Directives EQMD conducted an internal review with the QA Community prior to submitting these documents for your consultation and coordination and submitting them for an Agency-wide review.

The EPA is seeking your input on the enclosed, updated DRAFT Environmental Information Quality Systems Policy and Procedure to help guide implementation of the Agency's Quality Program. It is critical that we receive feedback from federally recognized Indian Tribes, as many have extramural agreements in place that are shaped by this Policy and Procedure. We especially would appreciate receiving feedback on the processes and procedures for QA Project Plan requirements. Please provide your comments to the Policy and Procedure on the enclosed comment form.

**Purpose:** To update CIO 2105, *Policy and Program Requirements for the Mandatory Agency-Wide Quality System*, dated May 5, 2000, and CIO 2015-P-01-0 EPA Quality Manual for Environmental Programs, dated May 5, 2000. This Policy and Procedure will only apply to environmental information collection, production, evaluation, or use. This update will state that the policy will "be consistent with the principles" in ASQ/ANSI E4 (2014) and define the terms environmental data, information, and technology to be consistent with E4, and it will incorporate relevant sections from CIO 2106 and CIO 2106-P-01.0.

**Background:** The information in CIO 2105 was written with the intent that the Agency's Quality Program would be applicable to only environmental data collection, production, and use. On October 20, 2008, CIO 2106, *Quality Policy* and CIO 2106-P-01.0, *Procedure for Quality Policy* were published and addressed all Agency products and services. With two existing quality policies, this resulted in confusion within the Agency.

After discussion with Agency managers and the Quality Assurance (QA) community the CIO issued a clarification memorandum, dated December 10, 2010, that stated that CIO 2106 would only be applicable to environmental data collection, production, and use. It clarifies that the Agency would use the Federal Managers Financial Integrity Act (FMFIA) process for administrative and financial quality-related issues, and the Information Quality Guidelines (IQG) process for all other quality-related issues.

**Drivers:** Response to Agency managers and QA personnel to bring about consistency and alleviate duplication in quality policies.

**Highlights:**

- Updating CIO 2105 and CIO 2105-P-01-0 will bring about consistency in that the Agency will have one policy and procedure addressing quality for environmental data collection, production, and use.
- Updating CIO 2105 and CIO 2105-P-01-0 will ensure that this policy and procedure are consistent with the principles in ASQ/ANSI E-4 (2014) and clearly define environmental: data, information, and technology.
- Information contained in CIO 2106 and CIO 2106-P-01.0 will be incorporated into the update of CIO 2105 and CIO 2105-P-01.

**Additional Information:**

- *Quality Policy*, CIO Policy 2106.0, dated 10/8/2008
- *Procedure for Quality Policy*, CIO 2106-P-01.0, dated 10/20/2008
- CIO Clarification Memorandum, Subject: EPA Quality Policy (CIO 2106.0), dated 12/10/2010
- *EPA Order*, CIO 2105.0 - Policy and Program Requirements for the Mandatory Agency-Wide Quality Management System, dated 5/5/2000
- *EPA Quality Manual for Environmental Programs*, CIO 2105-P-01.0, dated 5/5/2000
- *EPA QA Field Activities Procedure*, CIO 2105-P-02.0 dated 9/23/2014
- *Interim Notification Procedure*, CIO 2106-P-03.0, dated 12/30/2016

**Stakeholders:**

- National Program Office Deputy Assistant Directors
- Deputy Assistant Regional Administrators
- Laboratory Services and Applied Science Division Directors
- QA Community representing the National Program Offices, Regions, and the Office of Research and Development
- Senior Information Officials
- Information Management Officials
- Regional, Science, and Technology Directors
- Office of the Inspector General
- Information Research Manager Branch Chiefs
- Labor and Employee Relations
- Office of Mission Support (OMS)
- Tribal Nations
- States and Territories
- Environmental Council of the States (ECOS)
- Contractors and Grantees

**Tribal Consultation and Coordination Process and Timeline**

Date	Event	Contact Information <sup>1</sup>
September – November 2020	Notification during Media Specific Tribal Calls About Upcoming Tribal Consultation	EPA Contact: Connie Thoma <a href="mailto:thoma.connie@epa.gov">thoma.connie@epa.gov</a> 202-564-6874
September 2, 2020	Tribal Consultation Period Begins	EPA Contact: Connie Thoma <a href="mailto:thoma.connie@epa.gov">thoma.connie@epa.gov</a> 202-564-6874
September 22 and 24, 2020	Information Webinars for Tribes	Time: 2 PM  Join via webinar via: <a href="https://epawebconferencing.acms.com/tribalconsult/">https://epawebconferencing.acms.com/tribalconsult/</a>  For audio, please call: Conference Number: 202-991-0477 Participant Code: 8024707
November 6, 2020	Tribal Consultation Period Ends	EPA Contact: Connie Thoma

# Resources



## Online Courses:

- [Quality Assurance Fundamentals](#)
- [Writing Quality Assurance Plans](#)
- [Radon Fundamentals](#)
- [Writing a QAPP \(video series\)](#)

## EPA Websites:

- [EPA's Managing the Quality of Environmental Data website](#)
- [EPA Regional QA Manager Contact Information](#)

## Tribal Air Monitoring Support Center Resources:

- [TAMS Guidance on Developing Tribal Air Quality Programs](#)
- [Professional Assistance](#)



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**Thank you for joining today's webinar!**