

**Institute for Tribal Environmental Professionals  
Tribal Air Monitoring Support Center  
QA and Data Management Resources**

Data Management Resources

Resources folder for NTFAQ: <http://bit.ly/DataManagementResources>  
Morongo's Data Management, or How to Survive a TSA <http://bit.ly/JessicaSouthard>

Quality Review and Exchange System for Tribes (QREST) <https://qrest.net/>

SOPs: <https://bit.ly/QREST-SOPs>  
videos: [http://bit.ly/QREST\\_training\\_videos](http://bit.ly/QREST_training_videos)  
Training using the "sandbox" QREST-test: [http://bit.ly/QREST\\_test](http://bit.ly/QREST_test)

Overview video on QREST: [http://bit.ly/QREST\\_mediaspace](http://bit.ly/QREST_mediaspace)  
QREST training videos, including QA Features: [http://bit.ly/QREST\\_training\\_videos](http://bit.ly/QREST_training_videos)  
What is open source? <https://opensource.com/open-source-way>

Tribal Data Toolbox: [https://www7.nau.edu/itep/main/air/air\\_aqt\\_tdt](https://www7.nau.edu/itep/main/air/air_aqt_tdt)

Online Courses, Including QA FUNdamentals and QAPP Writing courses:

Our mission includes providing training and technical assistance to all federally recognized Indian nations in the US. During our early years, we provided example QAPPs and classroom courses on QAPP-writing. Both of these methods, however, fell short of providing training on basic QA concepts, working with tribes to design their own individual measurement programs to fit their objectives, and allowing the time necessary to write a QAPP. Environmental professionals take at least weeks to gather instrumentation manuals, field data and QC sheets, and develop SOPs, so classroom courses did not offer the time needed to finalize QAPPs. To meet these needs, and to provide tools and training for the wide variety of projects and professionals we serve, we developed the following QA-related courses and tools. Our philosophy is to provide information, such as example texts for QAPP sections, along with checklists, videos, and explanatory text, AND to always start with the primary DQO question: Why are we gathering this information? In addition, we gear our training to the individual, their deadlines, and their constraints and plans. As always, we are grateful for improvement suggestions from those we serve and EPA. These are all "living" resources that we will continue to update and improve.

<https://itep.scholarlms.com/courses/>

The prerequisite to our QAPP-writing courses is **Quality Assurance Fundamentals**, which is an introduction to basic QA/QC concepts (bias and precision, with control charts of QC checks), terminology, and a review of the elements of QAPPs for environmental monitoring projects. Completion of this course signifies practical understanding of the QA elements of QAPP Level 4 projects, such as indoor air quality or wildlife surveys, or other basic community assessments. This course is equivalent to 1.2 CEU and requires approximately 12 hours of total learning time.

After completing QA Fundamentals, participants will be able to:

- Explain what a staff person needs to know about QA for a project and why it is important.
- Explain the terminology that is used in QAPPs.
- Describe QA in common sense terms.
- Locate helpful resources, materials, and people to develop quality systems.
- Identify basic principles of data management.
- List the required elements for a category 4 QAPP (as categorized by US EPA).
- Begin writing a QAPP.

Our **QAPP Writing course** addresses, in detail, all 24 sections/elements of a Quality Assurance Project Plan. It was developed in collaboration with EPA OAQPS ([Guide to Writing Quality Assurance Project Plans for Ambient Air Monitoring Networks; EPA-454/B-18-006, August 2018](#)) and is designed for tribal professionals who need to write or revise a QAPP for an environmental data gathering project. Participants who are revising an existing QAPP, or require a refresher in only particular sections or elements, can access only those sections of the course, as needed.

Courses include pre-recorded presentations, assignments, one-on-one assistance as needed, and example QAPP excerpts. All the videos are also available at: <http://bit.ly/QAPPvideos>

### **Online Library**

<http://datatools.tamscenter.com/>

Library of files shared by tribes, states, counties:

- SOPs, including AQS formatting,
- excel QC sheets,
- Data
- validation reports, etc.

### **Tools and Professional Assistance:**

One requirement of legally defensible data, including air monitoring data used for regulatory purposes, is that the project include careful data management and review, including final validation and review by an independent third party QA reviewer. ITEP's TAMS Center provides data management and review tools, including instruction and professional assistance in their use:

- The Quality Review and Exchange System for Tribes (**QREST**), an open source (no licensing fees) cloud based data management and reporting platform, including polling as well as imported data <https://qrest.net/> with instructional videos at [http://bit.ly/QREST\\_training\\_videos](http://bit.ly/QREST_training_videos), and specific QA features at <https://bit.ly/QA-QREST>
- The **Tribal Data Toolbox**, a MS Access database with features for importing, flagging, managing, reviewing, and reporting, including built-in AQS formatted reports
- Professional Assistance in managing AQS submittals using QREST as well as the Tribal Data Toolbox, or using the **AQS** Transaction Generator; suitable for already-validated data.

**TurboQAPP:** Our resources include a QAPP-writing software tool, TurboQAPP, developed with OAQPS for NAAQS monitoring, and including "other" categories for any monitoring using either field and lab analyses. This software is installed on tribal computers and leads QAPP writers through the systematic planning DQO process, starting with element 7—objectives, and through all 24 elements. This program has been updated over the years as needed to stay up to date with US EPA NAAQS recommendations and regulations, industry guidance, and in response to tribal and EPA regional comments. The software is free to tribes, and is populated with example texts and spreadsheets, links to EPA and other guidance and resources, and is described at: [https://www7.nau.edu/itep/main/air/air\\_aqt\\_qapp](https://www7.nau.edu/itep/main/air/air_aqt_qapp). Brief instructional videos are at: [https://www7.nau.edu/itep/main/Training/training\\_wbl\\_ivw](https://www7.nau.edu/itep/main/Training/training_wbl_ivw). At this point, **we need funds to migrate TurboQAPP to an open source platform**, as it is no longer financially advantageous to Lakes Environmental to support it; and as for our tools QREST and Tribal Data Toolbox, ITEP can then maintain and support the program.

### **Instructional Videos:**

<https://mediaspace.nau.edu/channels>

- Legally Defensible Data: <https://mediaspace.nau.edu/channel/Environmental%2BData%2BManagement/69659682>
- AQS: <https://mediaspace.nau.edu/channel/AQS%2BFast%2BTrack/69472942>
- Tech Tips, including Pivot Tables (super fun and useful): <https://mediaspace.nau.edu/channel/ITEP%2527s%2BFive%2BMinute%2BTech%2BTips%2B%2528Leroy%2527s%2BCorner%2529/70326632>
- Precision and Bias: <https://mediaspace.nau.edu/channel/Precision%2Band%2BBias/70327222>

All are also on youtube: <https://www.youtube.com/c/melindaroncabattista>