



AirNow Global – Platform for International Collaboration

John E. White, U.S. EPA Office of Air Quality Planning and Standards

National Air Quality Conference
January 26th, 2018

Outline of Discussion

- **Overview of AirNow-International (or AirNow Global)**
 - Differences between AirNow
 - Benefits
 - The Motivation for New System
 - Features
- **How to Participate in AirNow-International**
 - Two Approaches...
 - Software Install vs. AirNow-Tech (data sharing)
 - AirNow Global Community



AirNow International Meeting at the 2016 Better Air Quality Conference in Busan, South Korea

AirNow and AirNow Global?

- **AirNow and AirNow Global – what is the difference?**
 - AirNow is a State-of-the-art, community-supported software system
 - Basically the Same System and Core Technology
 - However, the U.S. system has:
 - ✓ Forecasting application (local agencies responsible for submitting air quality forecasts for their cities, not EPA) and
 - ✓ Email alert system that is administered by local agencies
- **Software undergoing re-engineering effort to be web-based**
 - Various initiatives and outside resources have led to enhanced features and capabilities for the AirNow platform
 - ✓ Under final development
 - More easily shareable with interested countries and maintained by EPA (versus stand-alone installs)
 - ✓ Next phase is to make truly open source and lighter

AirNow Global Benefits

- **State-of-the-art, community-supported software**
- **Streamlined air quality data management**
- **High-quality, reliable data to support key decisions**
- **Vital air quality information for decision makers and alerts for the public**
- **Enhanced environmental governance and management capacity**
- **Regional and worldwide cooperation and partnerships among air quality agencies**
 - Transparency for the public and promotes good will amongst neighbors
- **Collaboration between agencies and the U.S. EPA**

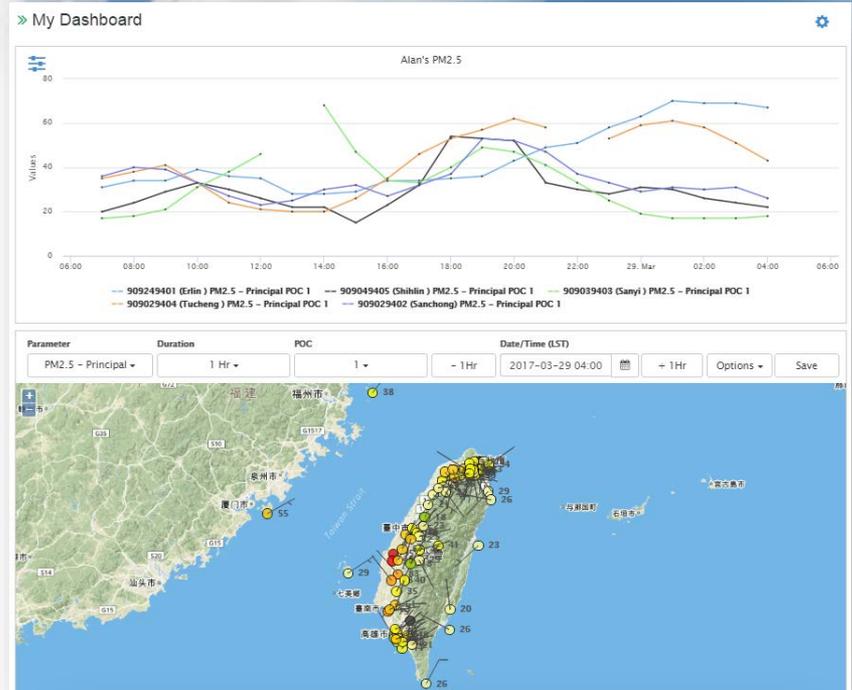
Motivation For New AirNow System

- Big data (e.g., small sensors, sub-hourly data)
- Scalable and robust data system
- Ease of data management
- Consolidation of the desktop applications into a single web/cloud-based platform
- Improved usability
- Cloud-based



• Current Features

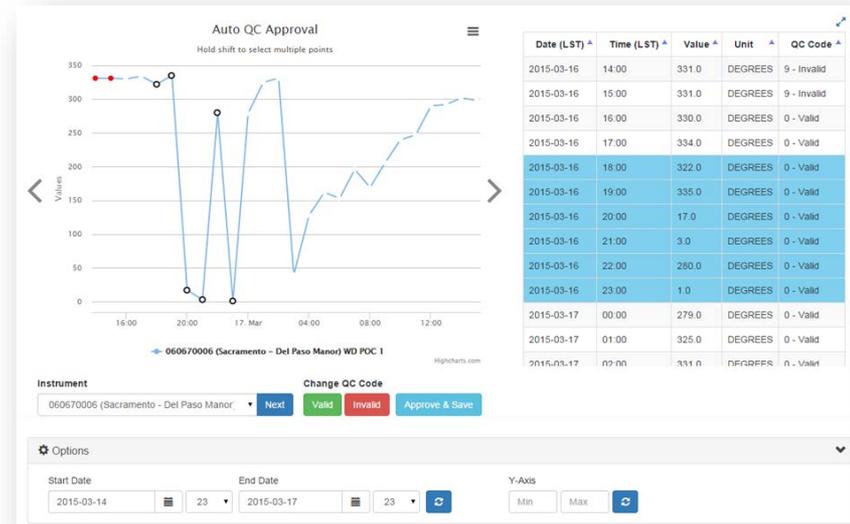
- Dashboard (network and data at-a-glance)
- Workspace (data queries and management)
- Management of sites and parameters
- Customization of quality control (QC) checks
- Alerting based on QC
- User management
- Visualization tool
- Ability to handle high time-resolution data from sensors



Upcoming AirNow Enhancements

- **Features To Be Completed Soon**

- Data QC/Auto Approval
- Instrument management
- Scheduled data export
- Data import Application Programming Interface (API)
- Flexible API for data retrieval
- Documentation
- Online help
- Installer
- Cloud image/clone capability



Installation offers the full suite of AirNow

- Real time data collection, quality assurance, mapping, and distribution
- Support for forecast distribution and forecast model input, but no forecast model itself
- 18 years of operational experience and investment
- Same platform as U.S.
- Web based or local install
 - ✓ More complex - hardware, software, licenses, network connections, system configuration and testing considerations

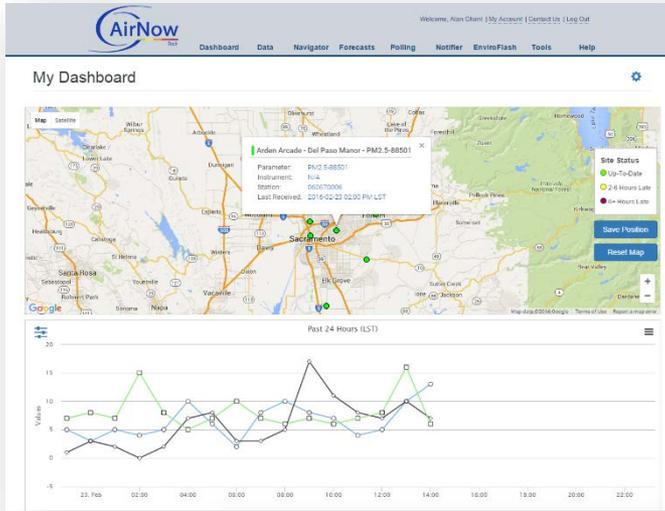
Data Sharing offers [AirNow-Tech](#)

- Decision Support System – management and analysis tool for the AirNow Program
- GIS functions – worldwide HYSPLIT trajectory tool, satellite, and smoke products blended with air quality and meteorological data
- Data queries, personalized tools, and preferences
- Password-protected user accounts



AirNow Program: One System, Two Approaches

Install AirNow Platform



Drag To: Zoom Select Points Edit

Date (LST)	Time (LST)	Site	Param	Param ADS	Value	Unit
2014-11-02	00:00	Sacramento - Del Paso Manor	PM2.5-88501	88501	10.0	UGM3
2014-11-02	00:00	Sloughhouse	PM2.5-88501	88501	2.0	UGM3
2014-11-02	00:00	Vacaville	PM2.5-88502	88502	3.0	UGM3
2014-11-02	00:00	Elk Grove	PM2.5-88501	88501	3.0	UGM3
2014-11-02	00:00	Colfax	PM2.5-88502	88502	11.0	UGM3
2014-11-02	00:00	Auburn	PM2.5-88502	88502	3.0	UGM3

Social Media / Twitter / Edit

Enabled: Yes No

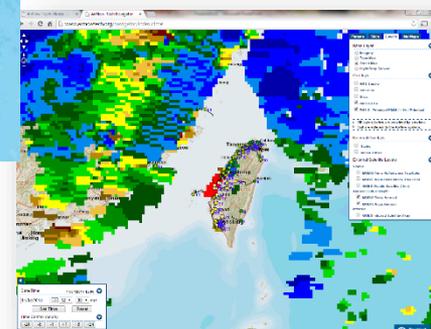
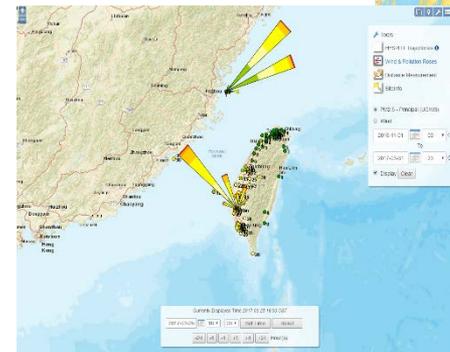
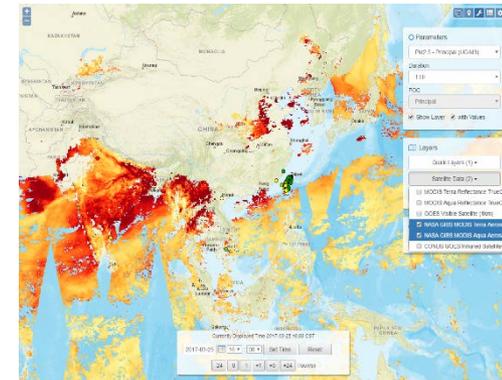
Site: New Delhi

Parameters: PM2.5 - Current AQI

Hashtag: #Test Tag

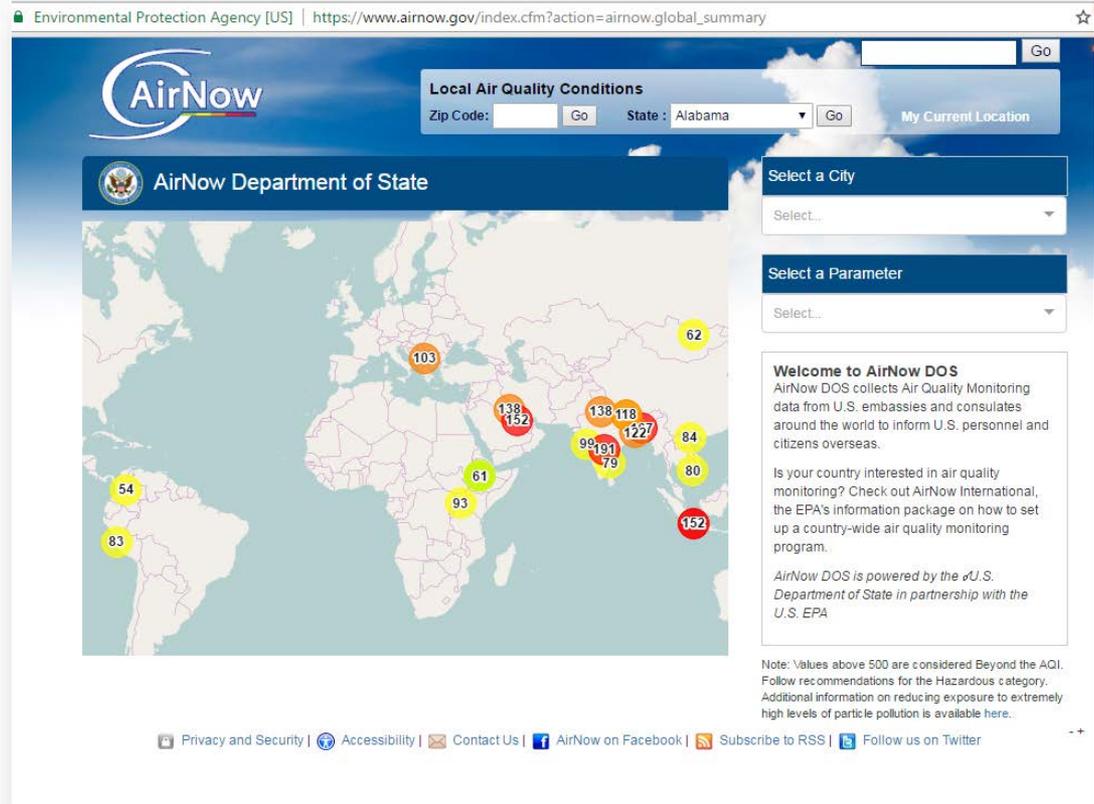
Preview: @tydeknapp7 @tydeknapp7 - New Delhi - 2016-2-26 12PM - PM2.5 - 21 AQI - Good #Test Tag

Flow Data to AirNow... use AirNow-Tech



AirNow-Tech allows you to have access to State Dept and regional data

- Taiwan
- Coming Soon:
 - ✓ Japan
 - ✓ Thailand
 - ✓ Vietnam
 - ✓ Indonesia
 - ✓ Nepal



Currently 27 U.S. embassy and consulate monitors around the world reporting to AirNow, perhaps up to 50 total in the next few years

2018 AirNow Global Opportunities

- **Japan Ministry Of Environment to flow data to AirNow**
 - *EPA Taiwan pioneered this approach*
- **Nepal AirNow pilot installation this Spring**
- **Ghana AirNow pilot installation later in the year (with small sensors)**
- **Ongoing conversations with Thailand, Vietnam, Indonesia, India about data sharing with AirNow**
- **2018 Better Air Quality Conference (BAQ)**
 - AirNow Global community side events
 - Opportunity for regional collaboration and technical exchange
- **AirNow Global webinars starting back up in the Spring**
- ***A potential* Regional Air Quality Workshop in Asia in late 2018 to advance data sharing, regional collaboration and capacity building**

- **AirNow Global Community**

- Advances air quality management worldwide by sharing tools and information.
- Collaborates on the development and enhancement of air quality tools that will advance air quality and forecasting knowledge and applications.



- **Better Air Quality Conferences**

- Community Meeting
- System Training
- Information Exchange
 - Reporting air quality to the public
 - Small/low-cost sensors



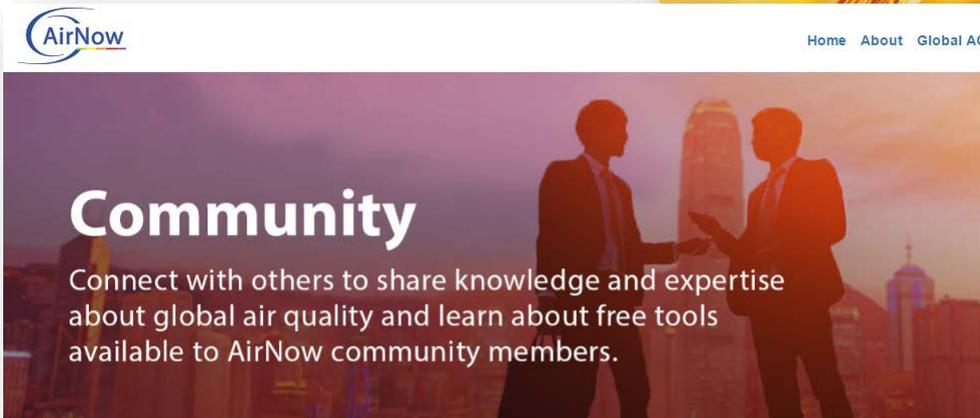
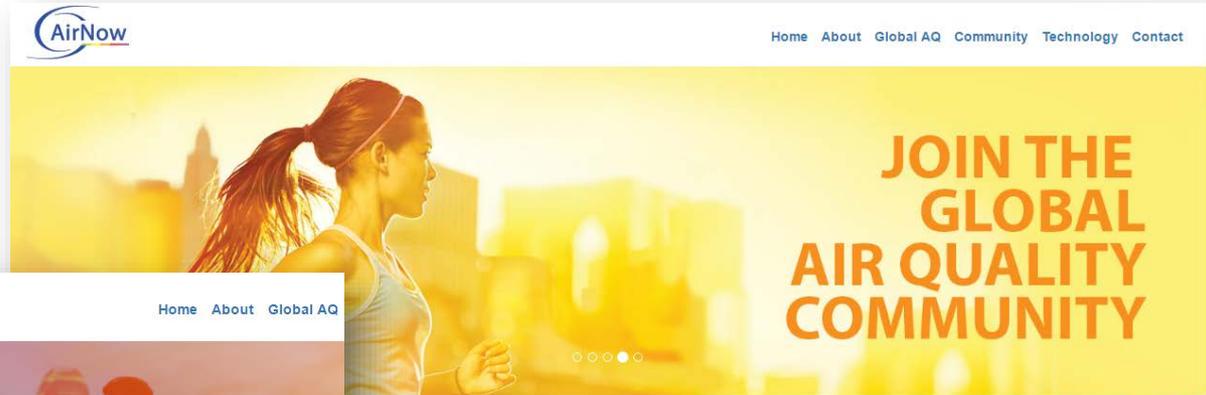
<http://airnowglobal.org/>

Community benefits

- ✓ Pool expertise of a variety of air quality professionals
- ✓ Share insights, knowledge, data and tools to make air quality information available to people around the world
- ✓ Provide collaboration and networking opportunities
- ✓ Stay up to date on emerging issues and solutions
- ✓ Find information about events (conferences, webinars, training)
- ✓ Network and collaborate via forum discussions
- ✓ Learn about AirNow related initiatives taking place around the world

[Join the Community](#)

- AirNow Global Community Website



AirNow International Community Vision
 An air and improved health around the world by creating a global community organizations, and individuals that share insight, knowledge, data, and tools.



News and Events

Find out about recent activities related to the AirNow program and air quality around the world.



Community and Networking

Discover the benefits of joining the AirNow community.



Tools and Resources

Explore information about the AirNow system and community.



Contacts

John E. White

white.johne@epa.gov

Phil Dickerson

dickerson.phil@epa.gov

Lourdes Morales

morales.lourdes@epa.gov

Alan Chan

alan@sonomatech.com

