AirNow MeterApp User Guide

Description

The ERT AirNow Meter application allows you to obtain observed air quality parameters in, and around, the United States with information provided by AirNow. The observed pollutants provided include the following: (Where Available) ground-level ozone, particle pollution ($PM_{2.5}$ and PM_{10}), carbon monoxide, nitrogen dioxide, and sulfur dioxide. AirNow updates the values of the parameters every hour from information administered by third-party sources. The ERT AirNow Meter application provides you with the most recent values of each parameter as shown on AirNow.gov AirNow air quality readings are added to Survey Controller similar to adding an instrument. **Note: AirNow is a third-party site that has no affiliation with ERT Support.**

Installation

The AirNow Meter application is available for download from www.epaosc.org/viper.

1. Click on the Documents section and sort on the File Name by clicking the column heading 'File Name'.
2. Click on 'Download' to the right of the AirNow_Setup.msi.
3. Double-click the AirNow_Setup.MSI to install the Meter App.

NOTE: The AirNow Meter application must be installed on the computer running Survey Controller

4. Follow the installation prompts.

5. When you are prompted to 'Select Installation Folder', select Everyone on the bottom left and click **Next**.

6. After installation completes, launch the ERT AirNow Meter application by double-clicking the desktop icon.
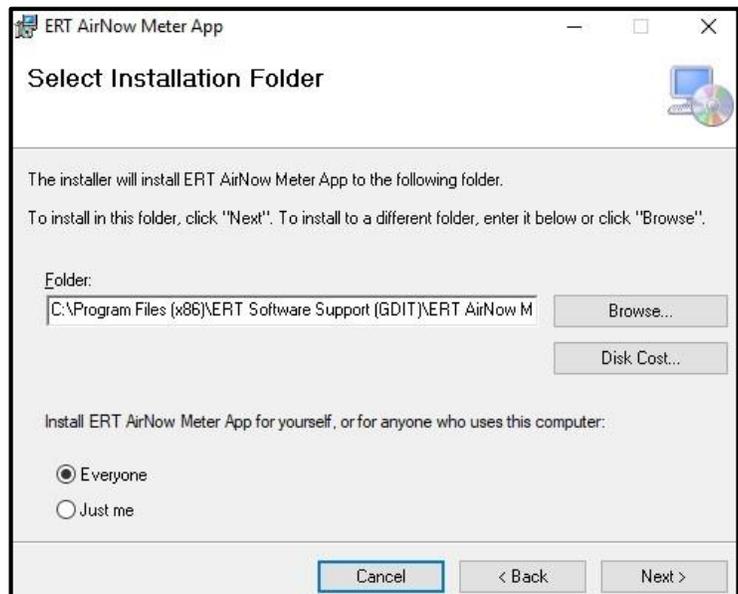
Initial Configuration

An AirNow API Key is required to pass data from the AirNow website to the AirNow Meter App. The API key is associated with a user account therefore, initial configuration of the AirNow MeterApp requires you to configure the AirNow API login credentials. **Note:** The username configuration prompt only appears the *first time* the application runs. Configuration options can be changed later from the Settings icon in the AirNow Meter App.

1. Launch the ERT AirNow Meter application by double clicking the desktop [AirNow Meter] icon.

2. An AirNow API Username and Password are required for access to AirNow API data.

3. If you already have an AirNow API User Name and Password, enter them on this screen and click the Log In button. Otherwise, request an AirNow API Account by doing the following:
   a. If you do not have an AirNow API account, click on the 'Request an AirNow API Account' or browse to http://airnowapi.org/account/request/ to Request an AirNow API Account.
   b. Provide the information requested to create an AirNow API account.   Put a checkmark in the 'I Agree' and click '**Request Account**'.

c. You will receive an email (to the email address you registered with). Click on the link or copy and paste it into a browser.

d. The code will automatically populate. Click **'Confirm'**.

When your account is activated, return to the AirNow Meter App on your desktop and enter your User Name and Password.

4. Open the AirNow MeterApp. The AirNow API Key is required to pass data from the AirNow website to the Meter App. The key is associated with the user account credentials on the AirNow website. To get your AirNow API Key:

   o Click the link titled "**Get Your AirNow API Key"** and follow the instructions:
   o Click **OK** to continue to the AirNow Website.
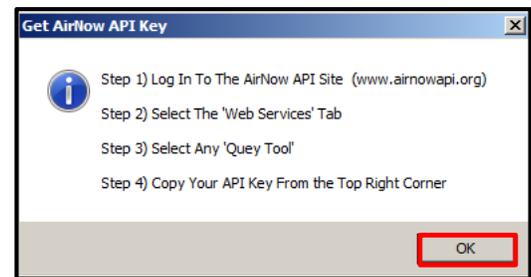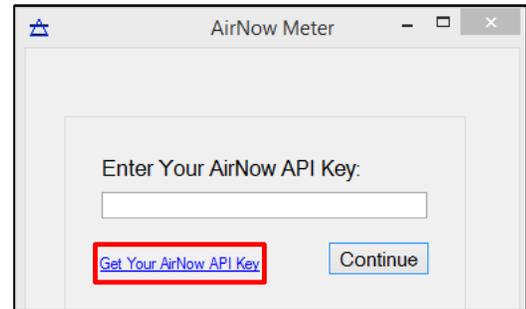
   o Select the "**Web Services**" tab

   o **Select** *any* **"Query Tool" link** (see image below). **Note: you must be logged into AirNow.** If Links are not active on this page, click the Login button in the upper right corner and enter your AirNow API.org account. The same information (list of available reporting sites) will be passed to the AirNOW Meter app regardless of which Query Tool link is selected so click any link to generate an API Key code.
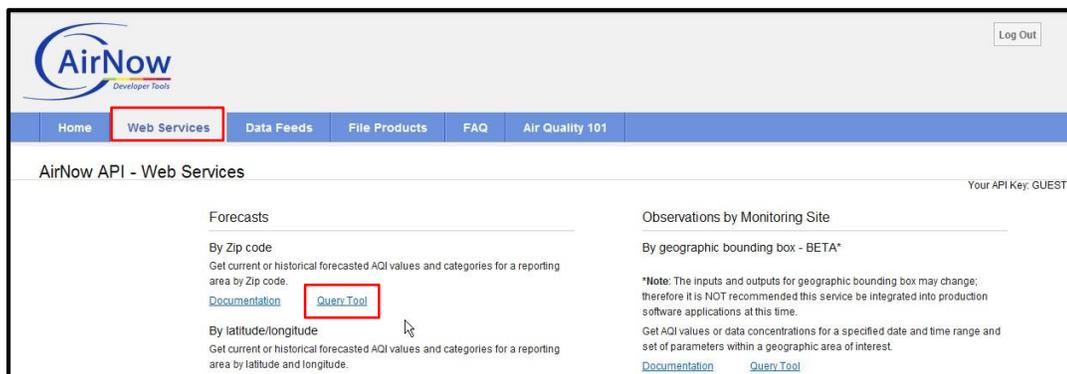
a. After selecting any of the Query Tool links, an API Key will be generated (see image below). **Copy the API Key located in the top right corner** and close the browser.
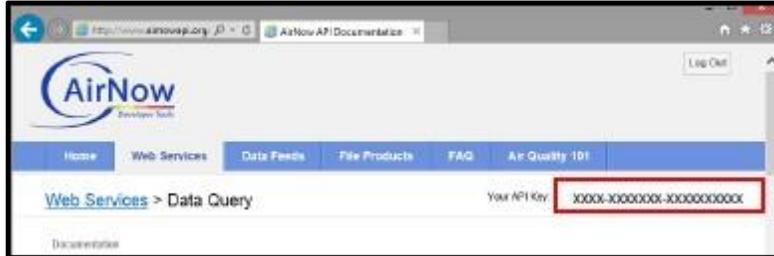
b. **Paste the API key in to the ERT AirNOW Meter App** and click **Continue.**

c. The AirNow MeterApp is now configured and ready to use.

Selecting AirNow Data

After completing the one-time setup of the AirNow username, password and API key, the AirNow Meter App is ready to use. The username, password and API key provided earlier are saved in the MeterApp and do not need to be entered each time the MeterApp is launched.

The AirNow MeterApp provides search capabilities for an AirNow reporting site and reporting parameters of interest. The data can be added to your Viper Field Survey Controller Run in addition to your instruments so that all of your relevant data is viewable in Deployment Manager.

Search By Reporting Sites

There are four(4) search options in the AirNow MeterApp to find AirNow reporting sites:

Option 1: Search By AQSID – Each reporting site is assigned an AQSID by Air Now. If you know a specific AQSID, select that option from the search by drop down list and enter the AQSID number.

Option 2: Search By County – Select the County option to see a list of reporting sites for a particular county. After selecting County, Drill down to the County by first selecting a State and then the County.

Option 3: Search By State – Select the State option to see a list of reporting sties for an entire State.
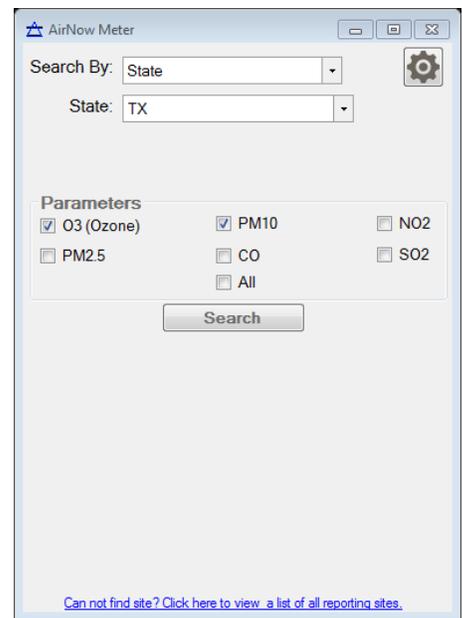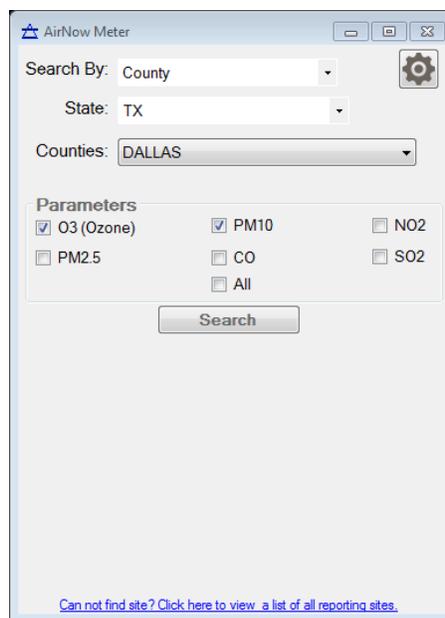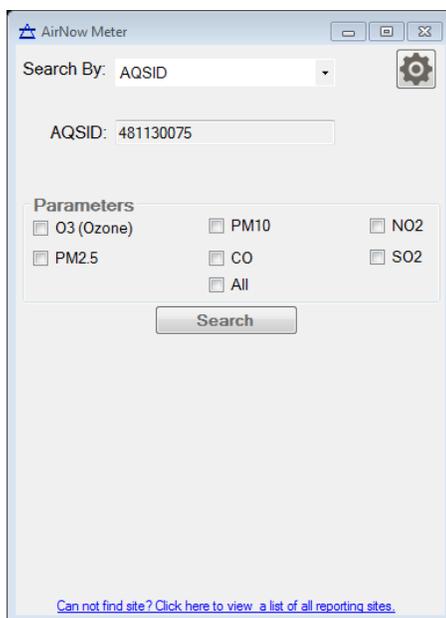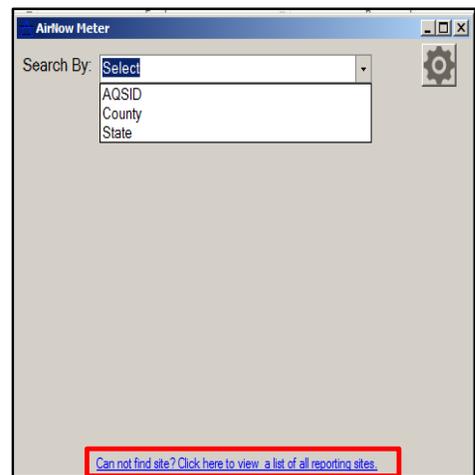
Option 4: Search By All Reporting Sites

1. To view a list of ALL reporting sites, click the link at the bottom of the search window 'Cannot find a site? Click here to view a list of all reporting sites'.

   This option provides the most information when searching for AirNow data.

   - Additional fields such as Reporting Agency name, and FIPS codes for CMSAs and MSAs, etc. are provided.
   - Each of the columns listed can be sorted by clicking on the column heading.

The example below shows an expanded view of the All Reporting Sites option. The Agency Name column has been sorted, the Site Name "Dallas North C63" has been selected. The Yes button will then be selected to carry that AQSID number to the MeterApp search page.

All Reporting Sites

Search Values For Site
481130075 (Dallas North C63)?

	AQSID	Parameter Name	Site Code	Site Name	Status	Agency ID	Agency Name	EPA Region	Latitude	Longitude
	481130069	NO	0069	Dallas Hinton St. C401/C...	Active	TX1	Texas Commission on Environmental Quality	R6	32.820000	-96.860000
	481130069	DEWPOINT	0069	Dallas Hinton St. C401/C...	Active	TX1	Texas Commission on Environmental Quality	R6	32.820000	-96.860000
	481130069	PMC	0069	Dallas Hinton St. C401/C...	Active	TX1	Texas Commission on Environmental Quality	R6	32.820000	-96.860000
	481130075	O3	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
▷	481130075	NO2	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	TEMP	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	WS	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	WD	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	SRAD	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	NOX	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130075	NO	0075	Dallas North C63	Active	TX1	Texas Commission on Environmental Quality	R6	32.919206	-96.808498
	481130097	WS	0097	Dallas Redbird Airot C402	Active	TX1	Texas Commission on Environmental Quality	R6	32.676700	-96.871700

Still can not find site? Click here for help.

2. Highlight the reporting site of interest and click the **'Yes'** button to return to the MeterApp Search window.

3. The AQSID for the selected site will automatically be populated allowing you to narrow the search. **NOTE:** although the reporting site may be active, it may not be reporting the Parameters of interest. *For additional information about the fields displayed, visit the following website:* http://www.airnowapi.org/docs/MonitoringSiteFactSheet.pdf

AirNow Meter

Search By: AQSID

AQSID: 481130075

Parameters
- ☐ O3 (Ozone) ☐ PM10 ☐ NO2
- ☐ PM2.5 ☐ CO ☐ SO2
- ☐ All

Search

Can not find site? Click here to view a list of all reporting sites.

Select Reporting Parameters

1. Select one, or more, parameter(s) from the "Parameters" box and click Search (see images above).

2. All parameters can be selected by checking the All box and clicking 'Search'

Select A Reporting Site

The AirNow MeterApp can report parameters for *one* specific *site*. When searching by State or County, multiple sites may be displayed. Once the Site of interest has been located in the search results list, use the "Sites" drop down box to pick a specific Site (note: *you cannot click in the grid to select a Site*)

The image to the right illustrates selecting one specific site from the list.
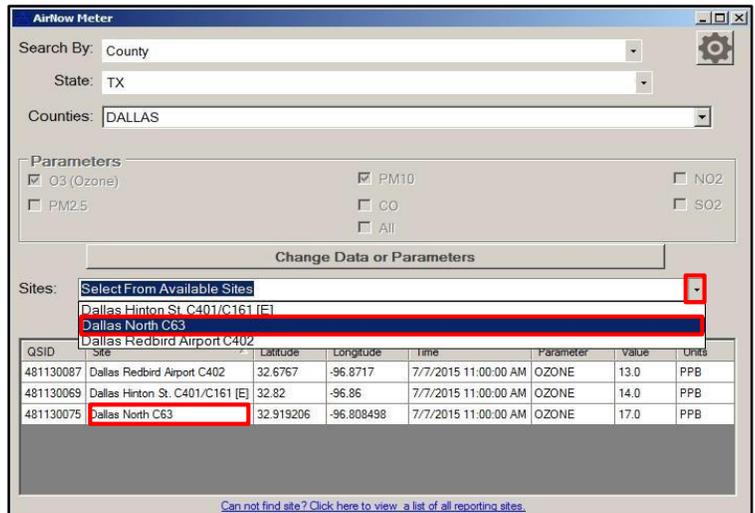
The image to the right illustrates a specific site selected. In this example, only one parameter is available for that reporting site. If multiple parameters were available and selected in the original search, they would all be listed for the specific site. See example below.
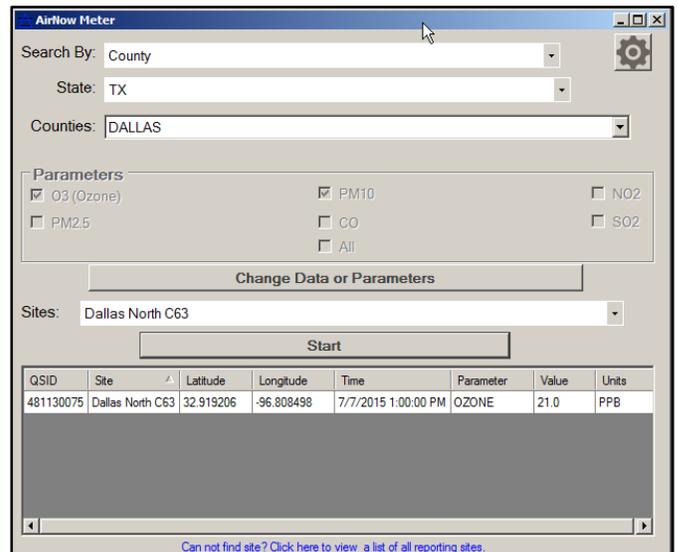
The image to the right illustrates a specific site selected. In this example multiple parameters are available for that reporting site (Ozone and PM2.5). All available parameters for a specific site can be added to the MeterApp and to Survey Controller.
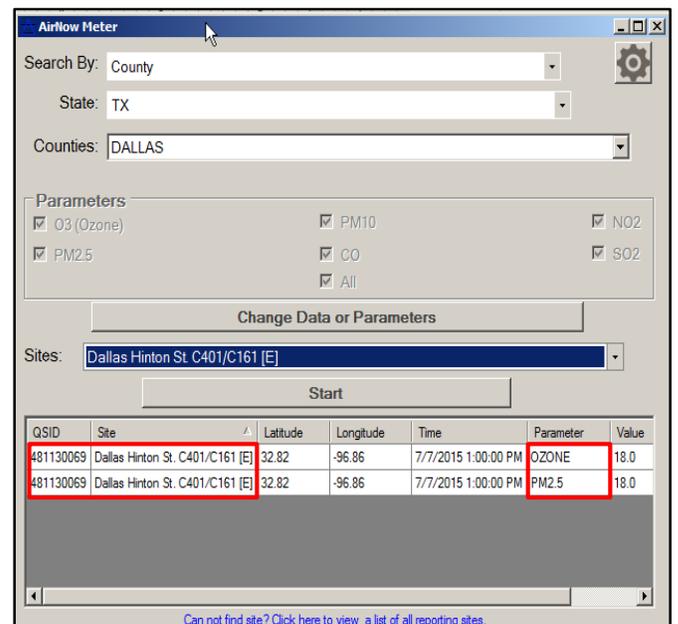
To add parameters for *multiple Sites*, multiple instances of the MeterApp need to be running. For example, if you wanted to display the Ozone values for all of the sites reporting Ozone in Dallas County, three MeterApps would be running since three sites are reporting Ozone. Each MeterApp would have a different site selected.

Start Data Transfer to the MeterApp

IMPORTANT: Make sure Field Survey Controller is open before continuing.

1. Press the "**Start**" button in the MeterApp
    The image below explains the different parts of the running MeterApp display.

Elapsed time since Start

After a run has been started in Survey Controller, Push the current reading to Survey Controller

Stop data transfer from AirNow to the MeterApp

Number of Changes since Start (i.e., number of updates received from AirNow)

Time the MeterApp last checked for updated values at AirNow

Time Last reading was sent to Survey Controller

AirNow Meter: Athabasca Valley

00 : 04 : 23

Push

Stop

Changes: 0   Last Check at 4:57:14 PM

QSID	Site	Latitude	Longitude	Time
000090701	Athabasca Valley	56.7328	-111.39	4/27/2015
000090701	Athabasca Valley	56.7328	-111.39	4/27/2015
000090701	Athabasca Valley	56.7328	-111.39	4/27/2015
000090701	Athabasca Valley	56.7328	-111.39	4/27/2015
000090701	Athabasca Valley	56.7328	-111.39	4/27/2015

Last Message Sent At 4:57:17 PM

Adding AirNow MeterApp to a Survey Controller Run

1. **Start a Run** in Survey Controller
2. In the LINC Setup Window, click '**Add'** (The AirNow Parameters are added along with Viper equipment)
3. Click the Radio Button for **Generic CAP Stream**
   o If the Generic CAP Stream radio button is not available
     - From the RUN menu in Survey Controller, Select Preferences
     - Check "Allow Generic Cap"
4. In the Cap Stream Source box, select all desired AirNow Parameters
   o Note: To select multiple lines at once, hold Ctrl and select each desired Source (or select the first line, then hold down Shift while selecting the last line to select all sources.)
5. After the ERT AirNow Meter application has been added to Survey Controller, on the Meter Application, click the "Push" button.
   o Note: Readings are sent automatically when changes in values are detected.

LINC Configuration

LINC Type:
○ Lifeline   ● Generic CAP Stream

CAP Stream Source:
[help]

Athabasca Valley - CO (AirNow Meter - CO
Athabasca Valley - NO2 (AirNow Meter -
Athabasca Valley - OZONE (AirNow Mete
Athabasca Valley - SO2 (AirNow Meter - S
Athabasca Valley - PM2.5 (AirNow Meter

Add a CAP Stream Source Manually...

Cancel   OK
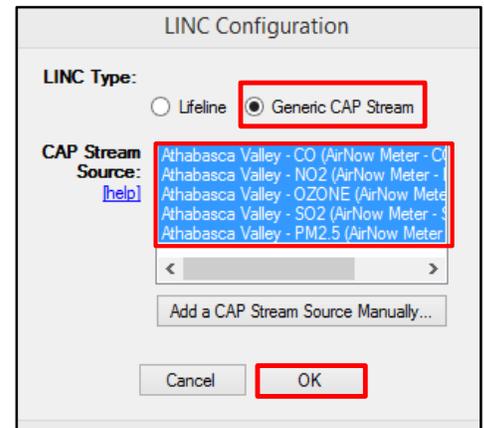
Updating Initial Settings

- **Updating the Reporting Sites List**
  o If you cannot find the site you are looking for, after searching through the Reporting Sites list, try updating the list.

  o To update the Reporting Sites list, click the Settings button [gear icon] and select "Update Site List". Enter your AirNow API credentials. If your credentials have been entered correctly, the Reporting Sites List will update.
  Note: If it is a new site, AirNow.org updates their Reporting Sites List every hour.

- **Change Port or Host**
  o By default, the Port is set to "6991" and the Host Name is set to "localhost."
  o To change the Port or Host Name, click the Settings button. Select the "Change Port or Host" option. Click the change button to enter the new values. When finished, select continue.
  Note: The Port and Host Name will revert back to default when the application is closed.

- **Change API Key**
  o Your AirNow API Key is constant for the life of your AirNowAPI.org account.
  o In the rare case that you must change your AirNow API Key, press the settings button. Continue to "Change API Key." Paste your new AirNow API Key. Press continue and wait for validation.