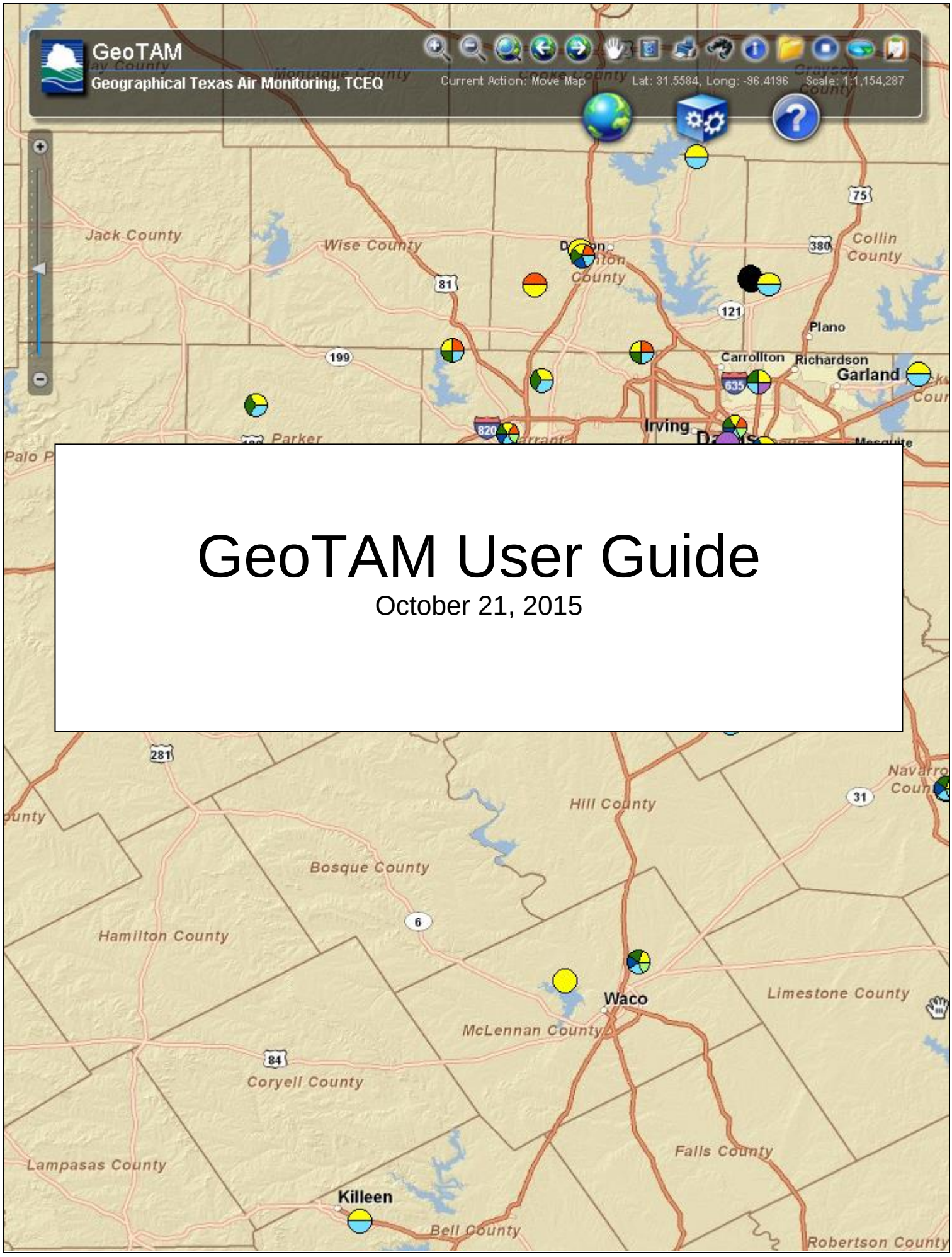


GeoTAM User Guide

October 21, 2015

Contents

Introduction to the GeoTAM Viewer

The GeoTAM viewer is designed to allow the public to view available spatial datasets of air quality monitoring assets throughout the state of Texas.

It allows users to perform multiple functions, such as:

- Do spatial searches for monitors within an adjustable distance from any coordinates or address using the buffer tool
- View detailed information about air monitoring sites
- Use general layers to view locations of air monitoring sites relative to features such as schools, counties, and legislative districts

GeoTAM was created using Adobe Flex API technology. Adobe flash player is needed to use the application. Any functionality issues can be reported using the Contact Us option.

The information provided by this software is public. If the information is not available through GeoTAM, customized maps can be requested utilizing the Contact Us option.

GeoTAM contains interactive features and tools designed to make ambient air monitoring location information more available and accessible to the general public. Detailed information about each tool and its use is contained here. Any suggestions, comments, complaints, and requests for assistance with GeoTAM can be addressed through the information in the Contact Us section.

Getting Started

Computer and Internet Browser Settings

The following computer and Internet browser settings are recommended and have been tested for platform compatibility:

1) Computer Settings

   Operating System – Microsoft Windows XP or later.

2) Internet Browsers

   - Internet Explorer 9.0 or higher
   - Firefox

3) Adobe Flash Player plug-in version 10.x:
   a. Using the latest Adobe Flash Player plug-in is highly recommended and can be found here: http://get.adobe.com/flashplayer/?promoid=BUIGP
   b. If the user does not have Adobe Flash Player plug-in the application will not load.

To Access GeoTAM:

- Click the GeoTAM link https://gisweb.tceq.texas.gov/geotam3/index.html

About "The Dock" and Tools

The upper right side of the screen is inhabited by a tool docking station. This collapsible pane is where all tools will open when selected. Upon first arriving at the GeoTAM page, the Map Features tool is docked. These tools can be clicked and dragged to different places on the map. If moved, a small icon will appear in the tool window that when clicked will re-dock the station in the pane at the right. The dock organizes tool windows in the sequence they were opened. The user can scroll through and open tools using the dock scroll bar, or collapse the dock pane to hide all docked tools.

What Data Layers Does GeoTAM Display?

The Map Features tool contains a list of all the available map layers which may be displayed within the map frame. Each data layer has a check box located to the left of its layer name. The first column of boxes indicates which layers are currently visible in the frame. An empty box indicates the layer is not visible, while a checked box indicates the layer is visible. Multiple layers may be turned on at the same time. The frame will instantly refresh as map layers are turned off and on by the user.

Not all layers will be visible at all magnifications. Zoom in to view local data such as local streets, locations of schools, oil and gas wells, oil and gas pipelines, etc.

Air Monitoring Site

Pollutant/Sampler Type

Carbon Monoxide –

A device that continuously samples and analyzes air for carbon monoxide.

Chromium VI –

A Chromium VI sampler that may be configured to collect non-size selective particulate samples on filter media and/or gas samples on sorbent media.

Carbonyl –

A network of samplers that collects samples which are analyzed for aldehydes and ketones (carbonyl compounds).

AutoGC –

A gas chromatograph that automatically samples and analyzes air for a number of hydrocarbon compounds.

Hydrogen Sulfide –

A device that continuously samples and analyzes air for hydrogen sulfide.

Multicanister VOC –

A canister sampler that accommodates the connection of multiple canisters for sequential, unattended sampling.

Oxides of Nitrogen –

A device that continuously samples and analyzes air for oxides of nitrogen not including highly reactive nitrogen compounds.

Reactive Oxides of Nitrogen –

A device that continuously samples and analyzes air for oxides of nitrogen including highly reactive nitrogen compounds.

Nitrous Acids, Organic and Particulate Nitrates –

A device that continuously samples and analyzes air for NOy-NOx. This sampler type does not correspond to any current type of sampler equipment. Instead NOz is calculated from the outputs of separate NOx and NOy monitors.

Ozone –

A device that continuously samples and analyzes air for ozone.

PM 10 Non-continuous –

A sampler that collects samples of particulate matter having an aerodynamic diameter less than 10 micrometers using a federal reference or equivalent method.

PM 10 Continuous –

A sampler that collects samples of particulate matter having an aerodynamic diameter less than 10 micrometers using a continuous sampling method and tapered element oscillating microbalance analysis.

PM 2.5 Non-continuous –

A sampler that collects samples of particulate matter having an aerodynamic diameter less than 2.5 micrometers using a federal reference method.

PM 2.5 Speciation –

A sampler that collects samples of particulate matter having an aerodynamic diameter less than 2.5 micrometers which is analyzed for a variety of parameters.

PM 2.5 Continuous –

A sampler that continuously collects samples of particulate matter having an aerodynamic diameter of less than 2.5 micrometers which is analyzed by a tapered element oscillating microbalance.

Sulfur Dioxide –

A device that continuously samples and analyzes air for sulfur dioxide.

Semi-Volatile Organic Compounds –

A sampler that collects samples intended for semi-volatile organic compound analysis.

Total Suspended Particulate –

Total Suspended Particulate Sampler (can include Lead).

Volatile Organic Compounds –

A sampler that collects samples intended for volatile organic compound analysis.

General Layers

Schools

Oil and Gas Wells (Surface wells – active and non-active)

Oil and Gas Pipelines

Non-Attainment / Near Non-Attainment

TX House of Representatives Districts

TX Senate Districts

TCEQ Regions

Urban Areas

Counties

US Congressional District

Census Blocks with Pop Density (sq mi)

Network

Auto-GC –

A TCEQ network of samplers that automatically samples and analyzes air for a number of hydrocarbon compounds.

CAMS –

A TCEQ network of samplers that continuously sample ambient air quality.

Carbonyl –

A network of samplers that collects samples which are analyzed for aldehydes and ketones (carbonyl compounds).

Community Air Toxics –

A network defined by the TCEQ of samplers to measure community exposure to toxic volatile organic compounds.

Multi-canister –

A network defined by the TCEQ of samplers that collect samples of less than 24 hours duration to measure community exposure to toxic volatile organic compounds and ozone precursors.

Non-Continuous Particulate –

A TCEQ network of particulate samplers that collect samples on a non-continuous schedule.

Semi-Volatile Organic Compounds –

A TCEQ network of Hi-Vol filter/PUF/XAD samplers that collect semi-volatile organic samples.

QAPP

Community Air Toxics Monitoring –

Community Air Toxics Monitoring Network (CATMN). This monitoring effort, funded by the state of Texas, primarily involves collecting samples of volatile organic compounds and related meteorological information for designated sites.

National Air Toxics Trends –

National Air Toxics Trends Stations (NATTS). 24-hour samples are collected every sixth day and analyzed for particulate matter and metals. Meteorological parameters are continuously monitored.

Photochemical Assessment Monitoring –

Photochemical Assessment Monitoring (PAMS). Measurements are acquired from existing TCEQ monitoring stations within the border area in Texas. Measurements may also be obtained from other sources. PAMS sites are established to enhance monitoring of Ozone and its precursors.

Pantex –

This program involves air quality monitoring in the vicinity of the Pantex nuclear weapons facility.

Particulate Matter 2.5 Monitoring –

Activities of this program support the statewide monitoring of particulate matter (PM) less than 2.5 microns.

State and Local Air Monitoring –

State and Local Air Monitoring (SLAMS). The SLAMS monitoring effort will determine compliance with the 1990 Clean Air Act Amendments regarding attainment of the National Ambient Air Quality Standards (NAAQS), including the July 18,1997 revisions to ozone NAAQS.

Speciation/Trend –

Established by regulation in 1997 as a complement to the PM2.5 FRM network. Speciation sites are located in urban areas and form a companion network to the rural IMPROVE (Interagency Monitoring of Protected Visual Environments) network.

Collocation

Collocated –

Indicates the presence of a secondary air monitoring sampler of the same type, running at the same conditions, physically near the primary sampler. Usually placed to confirm collected data quality.

Equipment

Continuous –

Air monitoring samplers that take measurements unassisted around the clock.

Non-continuous –

Air monitoring samplers that collect samples upon a discontinuous schedule or by manual operation.

What Tools are Available?

Title Bar

 Zoom in

This tool allows you to zoom in on the map to view more detail for a selected area. The area displayed is based on the outer boundary (extent) of the box drawn. To zoom in, click and drag over an area on the map to be enlarged.

 Zoom out

This tool allows you to zoom out from the area displayed in the map. The area displayed is based on the extent of the box drawn. To view more of the map area, click and drag a box over an area on the map.

 Full extent

This tool resets the map to the full extent of Texas in GeoTAM by clicking once on the button. This restores the view at which the application initially opens.

 Last Extent

Application moves back to the previous map extent.

 Next Extent

Application moves forward to the next map extent. You must have already zoomed in before there can be a Next Extent.

 Pan

This tool allows you to drag the map display in any direction with the mouse. To use this tool, move the cursor to any desired location, hold down the left mouse button and drag the display.

 Clear

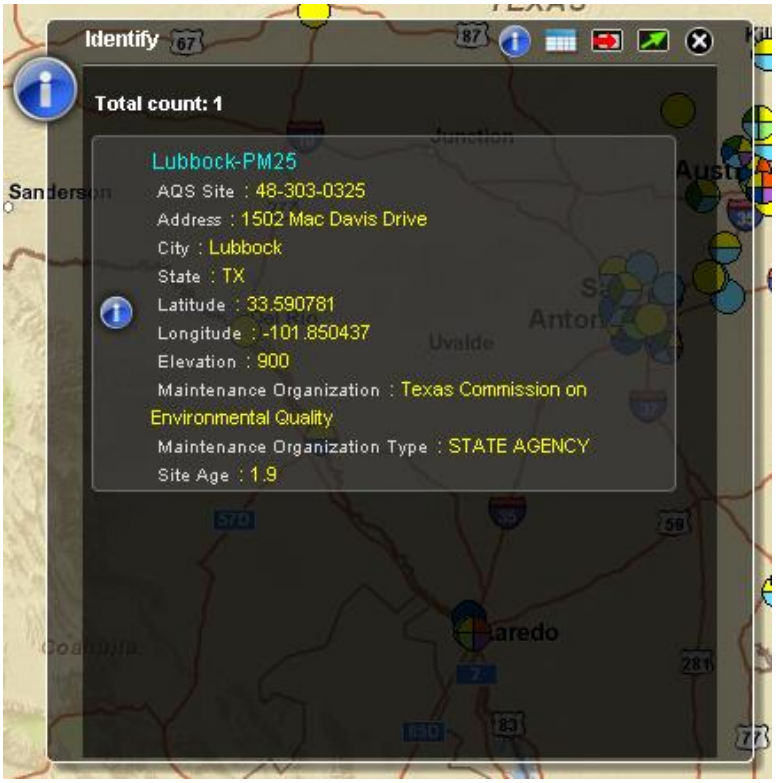
Click once to clear all selections.

 Search

Search for air monitoring sites based on zip code, CAMS number, AQS number, site name, county, city, or TCEQ region.

 Identify

This tool is used to display specific detailed information about layers that are enabled and selected (identified).



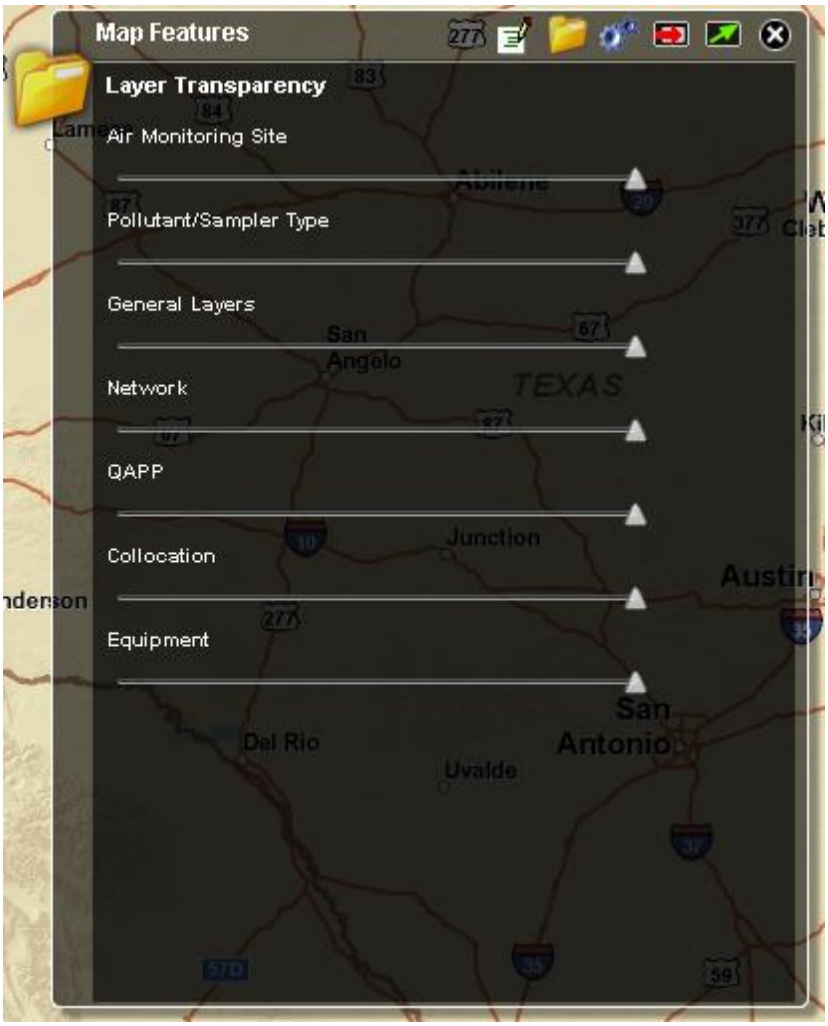
To use, select the “Identify” tool, then left-click in the GeoTAM’s map frame on a particular air monitoring site. The results will appear in the tool window.

 Map Features

The Map Features window can be minimized and docked by clicking on the arrow button. 

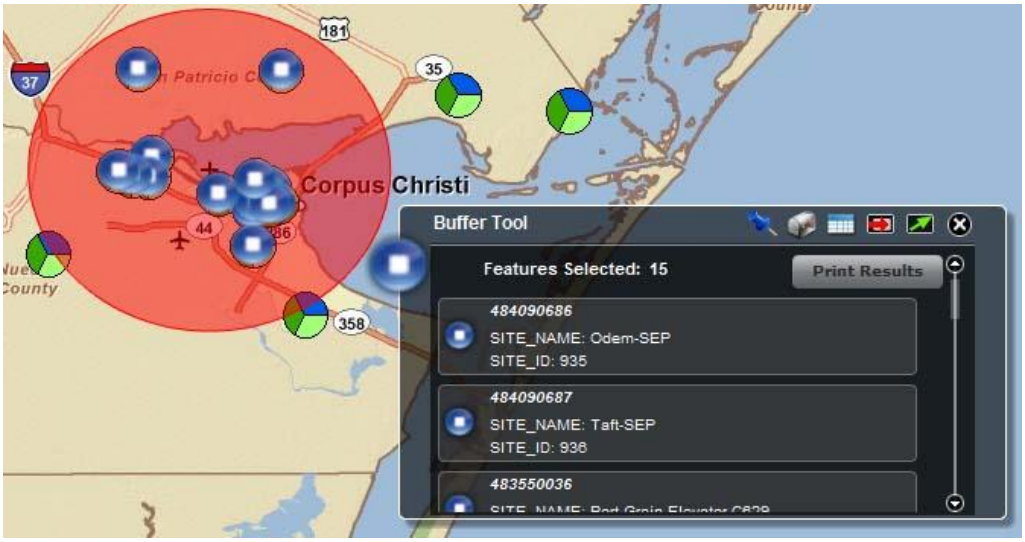
In addition, you can close the Map Features window by clicking on the X button.


You can also take advantage of changing the transparency (or opacity) of certain layers by clicking the layer transparency button. 



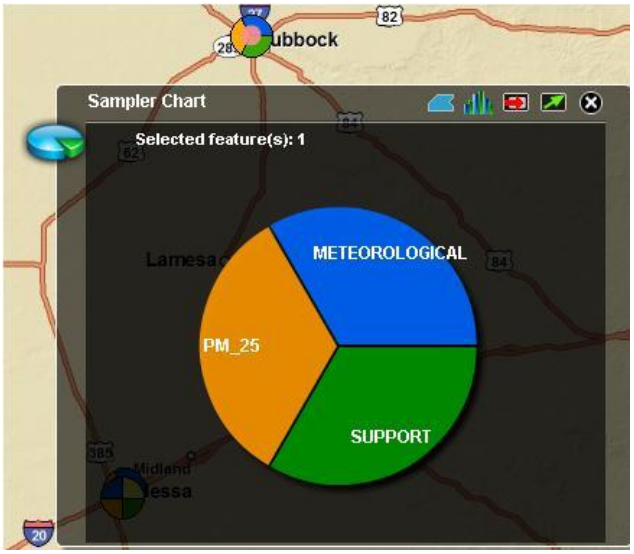
You can change the value of the transparency for layers by dragging the slide bar. At 100% the layer is opaque and at 0% the layer is invisible.

 Buffer



This tool is used to create a buffer polygon around a selected point with a user-defined radius. Sites located within the buffer area are displayed in the results section of the tool window.

 Sampler Chart



The Sampler Chart Tool allows users to see a pie chart display of the sampler types present at one or more selected air monitoring site locations. The number of a particular sampler type can be seen by hovering the mouse pointer over the specific slice in the chart.

 Site Summary

This tool can be used to display summary information about a specific site, including: AQS number, site name, site address, overall site photograph, and a link to more detailed site information.

Map

Imagery

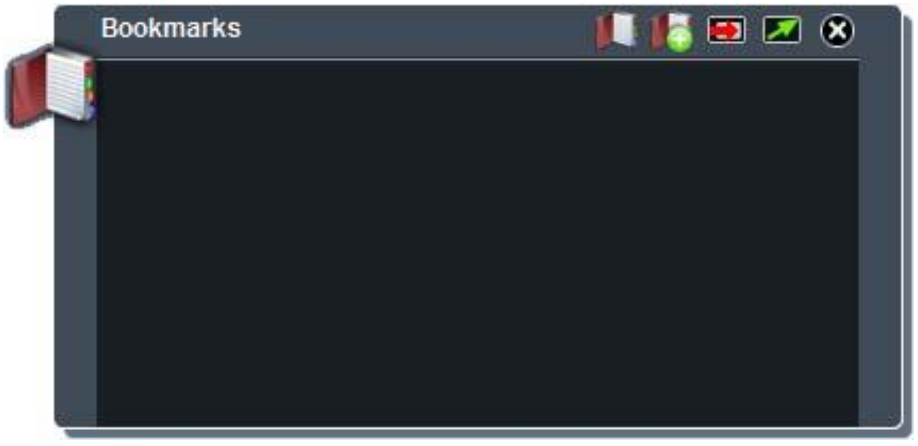
Topo (Topographic)

Street – Default base layer.

Overview Map

This is a display of the current viewer focus at a more zoomed out extent.

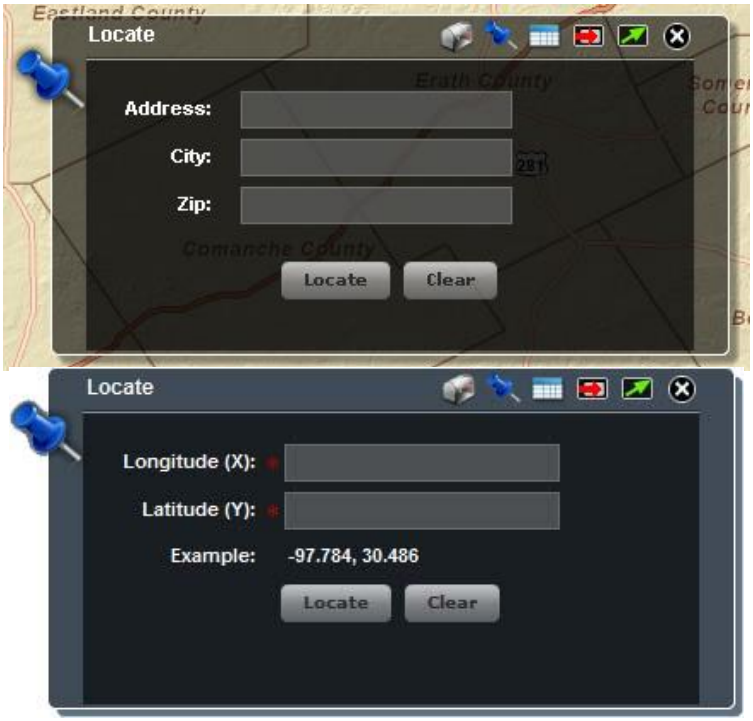
Bookmarks



Bookmarks allow users to save a current view (geographic location) and can be easily returned to at a later time. Multiple views can be bookmarked and can be selected in the bookmark tool.

Toolbox

Locate Tool

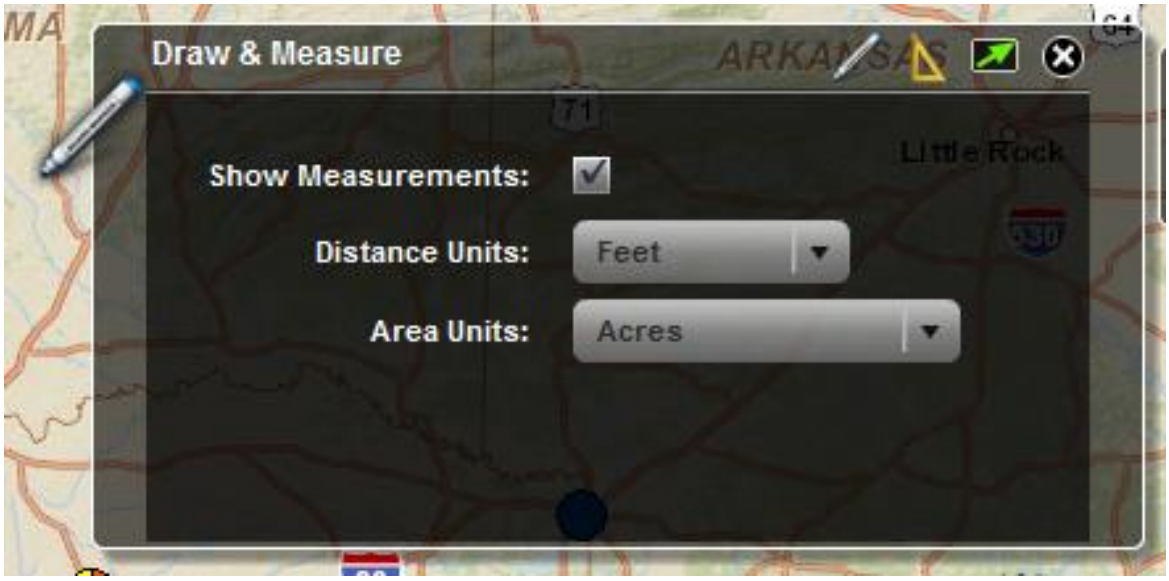


The Locate tool is used to find specific points on the map. You can search by street addresses or geographic coordinates. Multiple locations can be stored in the results section of this tool. Only one blue "push-pin" will display on the map at a time.

Draw & Measure Tool

The draw and measure tool will allow you to add free-hand lines, straight lines, polygons, points, and text to your GeoTAM browser session.

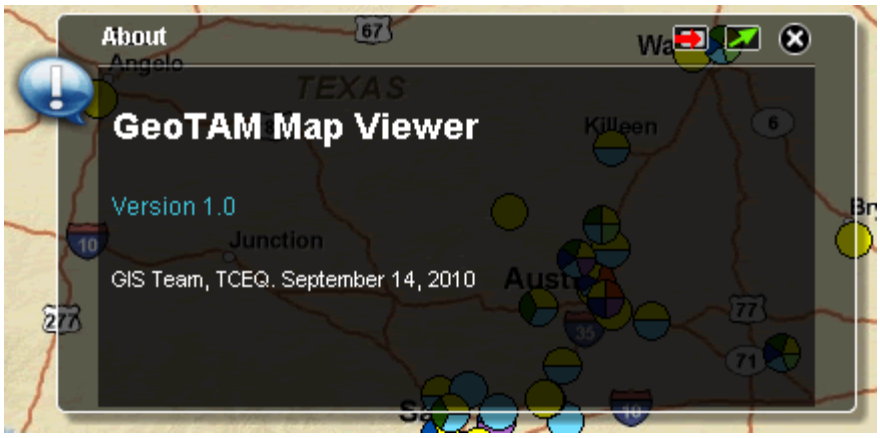
Measurement options can be accessed by clicking on the measurements icon. 



These options will allow you to display distance and area measurements for lines and polygons. Distance and area units can be changed using the drop-down menus.

Help Box

About



The About window will display details about the current version and last release date of the GeoTAM application.

Contact Us

This is the means by which GeoTAM users can request assistance with the program, provide comments and suggestions, or notify TCEQ of any issues that may be encountered.

User Guide

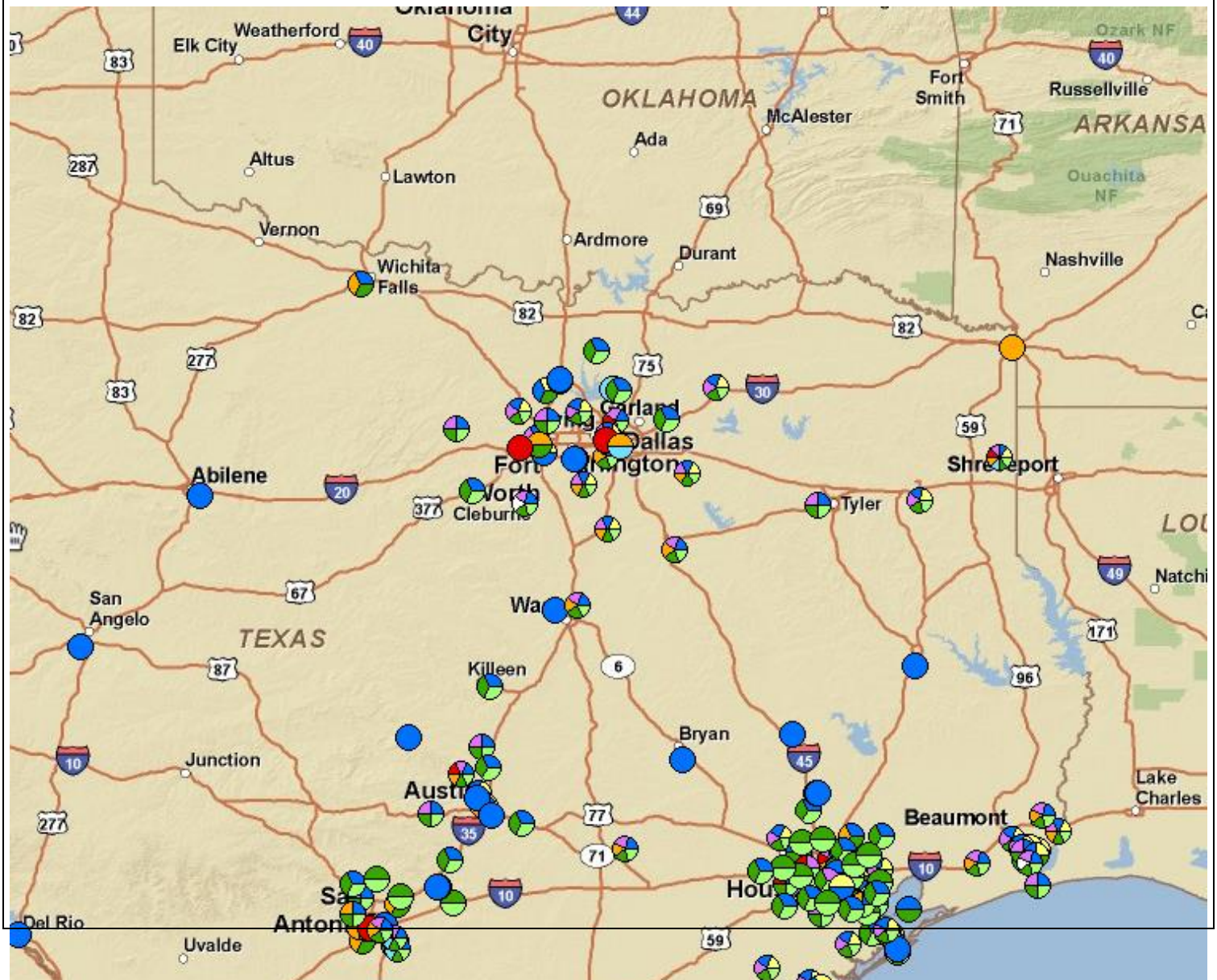
This icon links to the User Guide (this document) for the Viewer.

TCEQ Homepage

Direct link to the Texas Commission on Environmental Quality's homepage.

How to use GeoTAM Demos:

[How to view Ozone samplers in the Houston area]



How to Contact Us?

Contact the Data Management Section of the Monitoring Division via phone (512)239-1716, email monops@tceq.texas.gov

Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Tx 78711-3087