What's NEW in Maptitude® 2014

Maptitude 2014: New Features Overview

Maptitude 2014 is a major new release of Caliper Corporation's popular GIS (Geographic Information System) and mapping software, which includes the most up-to-date and accurate data ever provided.

This release combines several significant enhancements in productivity and high quality output. Finished reports are now accessible via a single click, allowing the direct sharing of your geographic analysis. Map backgrounds can be seamlessly switched to show aerial photo-imagery or terrain, adding realistic and relatable elements to your presentations. Maps can now be visualized in a stunning and compelling 3D view.

Maptitude delivers easy-to-use, professional mapping tools at the unbeatable price of only US$695. Annual (optional) upgrades cost US$395 per user/license. For pricing and ordering information please visit the Mapping Software Store, e-mail Maptitude Sales, or call us at +1 617-527-4700.

New Data

Country Packages

Maptitude 2014 ships with one detailed Country Package of your choice, and additional Packages can be purchased separately. Each Package includes a wealth of data unavailable in any other product, including an up-to-date street layer with addresses for pin-mapping (geocoding) and travel time information for computing routes and drive-time rings. Also included are building footprints for many urban locations, railways, and comprehensive named landmarks that range from public facilities to commercial buildings including shops, restaurants, and retail stores. Postal data and detailed demographics (where available) are shipped with the product.

You can switch between the countries you have purchased, and Maptitude will seamlessly refresh the interface with country-specific tools such as those for finding, pin-mapping, routing, and the Create-a-Map Wizard™. Also, new Map Libraries allow you to easily create attractive geographic and demographic maps while locating unlimited numbers of addresses and territory-based records.

A basic global map is provided with every Maptitude license, enabling you to view your data anywhere on Earth and to map your locations by coordinate, manually, or by any populated place (village/town/city).
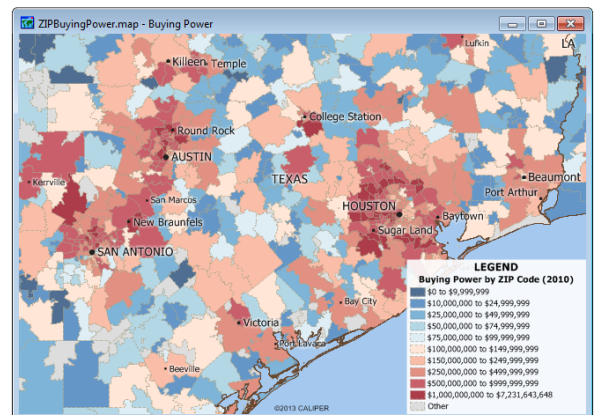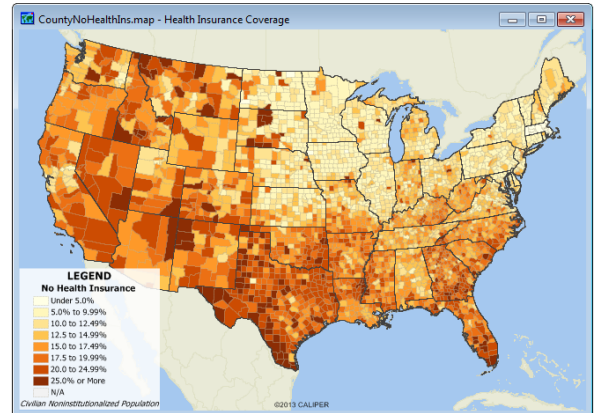
United States

New U.S. data sets provide access to up-to-date geographic information. Maptitude now includes an October 2013 HERE® map, allowing accurate address locating and street visualization, plus robust data on which to calculate shortest paths, drive-time zones (network bands), and drive-time territories (network partitions).

Other 2013 U.S. layers from HERE include buildings, highways, railroads, and landmarks. The Points of Interest layer contains over two million named public and business locations.

Maptitude 2014 ships with the January 2014 ZIP Code updates ensuring that you are using the latest data. The 5-digit ZIP Code boundaries are a nationwide area database with ZIP Codes for all 50 states, the District of Columbia, Puerto Rico, and the territories. There are updated 3-digit ZIP Code areas and a point database of ZIP Code centroids for the entire country. The ZIP Code area layers extend into non-deliverable areas, providing complete coverage of the continental U.S. The 3-digit and 5-digit ZIP Code areas include the number of businesses by detailed industry type (retail, finance, etc.), along with numbers of employees and annual payrolls. The ZIP Codes are also classified by their rural-urban commuting characteristics and list updated banking compliance FFIEC data for 2013.

The US Census boundaries (e.g., Tracts, Counties, MCDs, MSAs, States) that are included with Maptitude, plus 3- and 5-digit ZIP Code areas, contain some or all of several demographic profiles based a variety of sources including the data reported in the 2010 Census and the 2012 American Community Survey (ACS). This data is available for the USA, Puerto Rico, and the Territories. New variables encompass health insurance coverage, travel time to work, aggregate/median income by race, and demographic projections for 2015 and 2020. ZIP Codes and Tracts also include buying power/disposable income. The Map Librarian makes it easy to access a series of pre-defined thematic/shaded maps of these data.
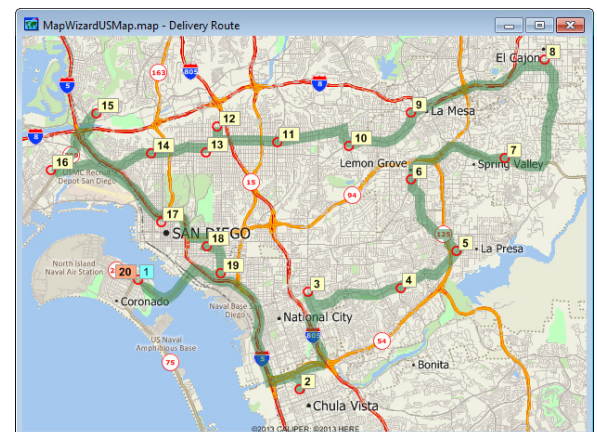
Finally, Maptitude includes some refreshed boundary files. The National Park, American Landmass, MSA, CBSA, and CSA layers have been updated.

Network Analysis and Routing

Shortest Path Toolbox

There is a revamped Shortest Path Toolbox :

- The stops are numbered in the map to more clearly identify destinations
- The stops can be visited based on an optional field of data such as "delivery sequence"
- The first and last stops chosen can be fixed as the first and last stops in the sequence
- Addresses, stop names, or any other field, provide useful identifiable detail for each location
- The speed and efficiency of the calculations is improved
- The toolbox is always enabled in default maps, removing the need to change the working layer

Network Bands Toolbox

Enhancements to the Network Bands tool reinforce its ability to create the most accurate drive-distance travel analysis on the market.

- Improved speed and efficiency of the analysis

- Improved accuracy by limiting bands to routable areas via an exclusion areas layer

- Automated demographic reports

New Map Styles

Maptitude 2014 gives you the greatest flexibility to-date in setting the styles of map features, themes, and selection sets.

Charts
- Rotate the angles of text labels on the x-axis of charts

Themes
- Choose the transparency of the "border style" Color Theme on area layers

- Double-click the Color Theme style dialog box ranges to edit styles

- Load a "border style" Color Theme on topological area layers

Point Layers
- Maptitude includes the United Nations Office for the Coordination of Humanitarian affairs (OCHA) humanitarian icons to help relief workers present emergency and crisis-related information quickly and simply. The set of symbols covers everything from natural disasters, such as tsunamis and earthquakes, to relief supplies, such as water containers and shelter kits.

Labels

Maptitude 2014 builds upon the powerful labeling engine with the following refinements:

- The "Allow overlapping labels" option now uses Smart Alignment, maximizing the number of features labeled by trying alternate locations to reduce the conflicts between labels.

New Database Functionality

Joins speeds have been improved in instances where there were missing values in the right-hand (slave) side of the join in ODBC tables.

Locating Data

The geocoding tools support multi-country functionality. When you switch between the countries you have purchased, Maptitude seamlessly refreshes the interface with country-specific tools such as those for finding, pin-mapping (geocoding), and the Create-a-Map Wizard.

The geocoding tools use the updated street and postal data, which makes the results of location matching more accurate. Improvements to the locate tools include:

- The Find tool lists province/state names to help distinguish between multiple matches

- Custom Location Indices support geocoding with or without a Country Package

- Create-a-Map Wizard supports Country Packages that do not include full street addresses

- Country Package catalogs support definition of:
  - the strictness of geocoding
  - the **Tools-Locate** menu items, to allow for differences in the geocoding tools supported by Country Package
  - the **Edit-Find** tool methods to perform address geocoding

New Documentation

Maptitude continues to offer numerous ways to get you started with the software. There is a brand new color PDF User Guide, along with new and revised 60-second tutorials and training videos. The 60-second tutorials and video tutorials are incorporated into the Online Help. In addition live and pre-recorded training webinars with audio are available on the website.

System and Interface

Maptitude 2014 supports the latest Windows operating systems, file types, and common design elements. Maptitude:

- runs as a 32-bit or 64-bit application on 32-bit or 64-bit Windows 8.1, 8, 7, Vista or XP
- includes new buttons in the Selection Toolbox and for Network Bands in the Toolbar
- installs in an Amazon Elastic Compute Cloud (EC2) Microsoft Windows Instance when licensed for remote access
- supports additional Windows interface standards

New File Import Support
- Oracle Database 12c
- Excel (*.xls) in 32-bit Maptitude when 64-bit Microsoft Office/Access Engine is installed

New File Export Support
- Tab-delimited text (TAB)
- Oracle Database 12c

New Native File Support
- Oracle Database 12c
- VRML 3D Models
- SketchUp 3D Models
- AutoDesk 3D Studio File
- AutoDesk Inventor 3D
- WMS Service Specification (*.xml)
- Compressed tiled TIF image layers
- CMYK TIF image layers
- MrSID Generation 4

Improved Create-a-Map Wizard

Create-a-Map Wizard is now more robust and easier to use.

- The maps use the latest geography and are updated
- The locate records by coordinate option (including longitude/latitude):
    - creates a Not Found selection set
    - provides geocoding statistics summarizing the results

Creating Selections and Formulas

There are several changes to the condition-building tools.

- The Formula dialog box supports the batch summing and multiplication of multiple fields
- The geocoding and find tools benefit from significant speedups in Select by Condition operations and functions
- The Selection Toolbox
    - displays in the drop-down list the style of every selection set
    - uses a new style button, replacing the button with a sample image of the current style
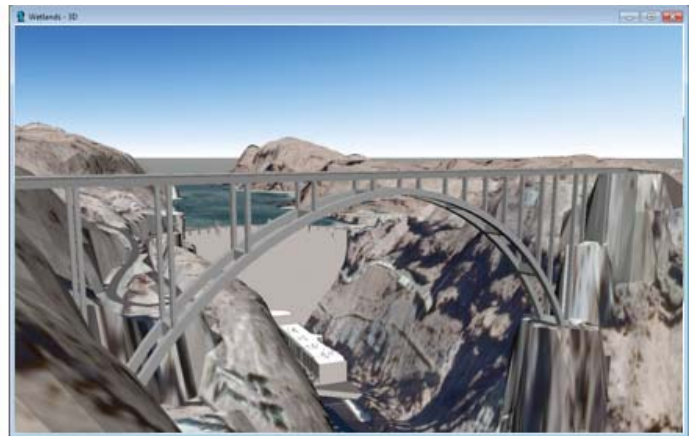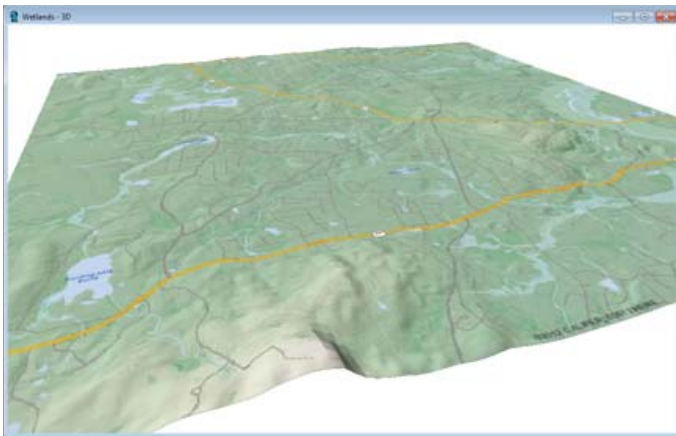
Projections/Datums

Maptitude 2014 has expanded support for datums and projections.

- 2 new projections (Longitude/Latitude and Web Mercator) in a World coordinate systems Class are supported
- The Australia, New Brunswick, Austria, Ontario, and Portugal datum conversions are improved
- New datum conversions for Switzerland (between the CH1903, CH1903+, and ETRS89 datums) are supported

Analysis Tools

New Features

Maptitude 2014 provides completely new 3D capabilities that can be used in any industry or application that requires landscape visualization. The powerful suite of tools allows the user to display, manage, and interpret elevation-based geographic information, and to accurately create, explore, and refine scenarios directly within a 3D environment. Working seamlessly within Maptitude, the 3D View allows you to map in 3 dimensions as a way of visualizing terrain or as a means of presenting findings to an audience. You can build a 3D scene from the huge number of Maptitude models and any combination of SketchUp, VRML, or 3DS models, such as buildings and landmarks.
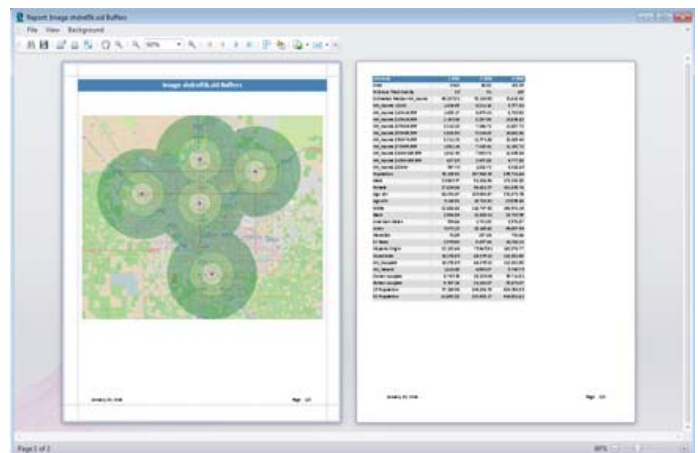

Existing Tool Improvements

Several modifications to existing tools were implemented:

- In the *Tools-Geographic Analysis-Overlay* and *-Buffers* tools, the default overlay layer for the chosen Country Package is used
- Numerical handling in triangulated irregular networks (TINs) is improved
- Contour area processing on grid layer selection sets is faster
- Voronoi diagram operations handle larger datasets and faster

Output Improvements

In Maptitude 2014 you can now create high quality reports. These reports can be produced when conducting ring and drive-time analyses. The report templates present your demographic and site analyses much more quickly and professionally than was possible in previous versions of the software. You simply choose from your own information or from the wealth of population variables included with Maptitude. This enables you to make better informed location-based decisions using clear and concise results, removing the need to wade through dense database tables.

Map scale bar sizing in Layout windows has been improved.

Imagery Improvements

Accessing and visualizing image layers is a core feature of Maptitude 2014, with several open and international standards now supported:

- Support for live tiled web map image layers, including OpenStreetMap, USGS Topographic Maps, and USGS Aerial Imagery (supersedes the USGS Image Toolbox)
- Support for OpenGIS Web Map Service (WMS) Specification imagery (*.xml) layers
- Support for the GDAL 1.10 image library, which improves the handling of various image layer formats
- Support for the latest MrSID libraries (version 8.5)
- Support for Web Map Image Layer file caching in an ***Edit-Preferences*** defined folder
- Support for new image layer style settings allow control over opacity, opacity color (with Color Picker tool), and opacity color range

Geographic Information System Developer's Kit (GISDK)

The main highlights are the enhancements to GISDK object-oriented programming. Several new function options have also been added. The changes include:

- Macro Blocks: A macro block (can also be referred to as a lambda expression, or an anonymous macro) is a way to pass some executable code as a parameter to another macro or function which can then execute this code, perhaps also passing some parameters
- Array Methods: GISDK arrays now have several methods, which use a block parameter to allow various transformations and other operations
- Weak references: The GISDK now has the ability to declare a "weak reference" to other values
- Virtual Properties: Virtual properties for objects can be defined be providing getter and/or setter methods in the class
- Two GISDK classes support silent and improved geocoding when called from third party tools:
  - Data.Finder: You can use "Data.Finder" with the current Country Package region
  - Data.Geocoder: You can program iterative geocoding first by address, then by postal code, and finally by City
- Options can be written as {Option1: "a string"} instead of {{"Option1", "a string"}}
- CreateFigure() accepts "Label Angle" as an Option
- IsWindow() can return "COM Control" and "DotNet Control"
- GetWindowType() can return "COM Control"
- ArrayTranspose() can also be called as TransposeArray()
- GetWindows() accepts "Dataview" as an argument
- VectorStatistic() supports "Cumulative Index", "Max Index" and "Min Index"
- ExportView() accepts "Row Order" as an Option

Please see the "Listing of GISDK Functions" topic in the Online Help to view a full list of GISDK functions that were added, changed, or replaced in Maptitude 2014.
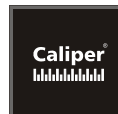
Options and Defaults

The ***Tools-Geographic Utilities-Geographic File*** dialog box now lists layer files one-per-line.

About Caliper

Caliper Corporation develops state-of-the-art Geographic Information Systems (GIS) software. With a focus on usability, Maptitude is designed to be a cost-effective professional mapping software product. Maptitude enables organizations to leverage their location-based data to improve decision making and planning, while minimizing expenditure through competitively priced solutions.

Caliper is a privately held corporation and is a leading developer of mapping, redistricting, transportation, traffic simulation, and GIS software.

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