# GEOSPATIAL DATA AND SOFTWARE REVIEWS

## Maptitude

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**Product** Name: Maptitude Geographic Information System
**Company:** Caliper Corporation, Newton, MA.
**Cost :** US $695.00 for the Maptitude Software DVD single license
**Version:** 2012
**URL:** http://www.caliper.com/

**Description:** Maptitude GIS and mapping software is intended for business, government, and educational users.  It combines mapping software and geographic data, to make mapping and analysis simple.

**Key Features of the Software:**
- Includes Canadian datasets, with a nationwide street layer including address ranges for geocoding and routing as well as demographic data.
- Supports over 50 file types
- Integrates with Google Earth
- Contains several advanced geographic analysis tools
- Includes MapWizard instant mapping technology which is used for creating colour, scaled-symbol, dot density and thematic mapping
- Includes GISDK application development platform
- Users receive 60 days of email support

**System Requirements:**
- Microsoft Windows XP, Vista or 7
- 32MB RAM
- Hard disk with at least 340 MB free space

**Help:** Users receive 60 days free email tech support with a purchase of the software. Classroom training is available; however, the company headquarters are in Massachusetts which may not suit users in Canada. Occasional classroom training is available in other parts of the world.

The user guide is an important source for help, as it covers the software program in detail. Maptitude itself also contains a help menu.  Further help can be obtained online via online video tutorials and blogs. (http://www.caliper.com/training/MaptitudeVideoTutorials.htm ) Searching online, I found Maptitude posts on Twitter and YouTube, which is always a great way to see new ideas, products, get training and ask questions directly.

**Metadata :**  Maptitude does not have a 'catalogue' feature like ArcGIS does, and I had a difficult time displaying metadata, other than layer properties.

**Experience:** The software is visually similar to ArcGIS Desktop, with tools along the top, and the data being shown listed along the left hand side. Because this software is powerful, and has a lot of features, users should start by doing a tutorial. Once the user is familiar with the terminology and features of Maptitude, it is fairly easy to use. Users who have experience with other GIS software will find Maptitude easy to navigate.  The company was kind enough to contact me shortly after I downloaded the program to ask if I installed it correctly and if I had any questions so far.
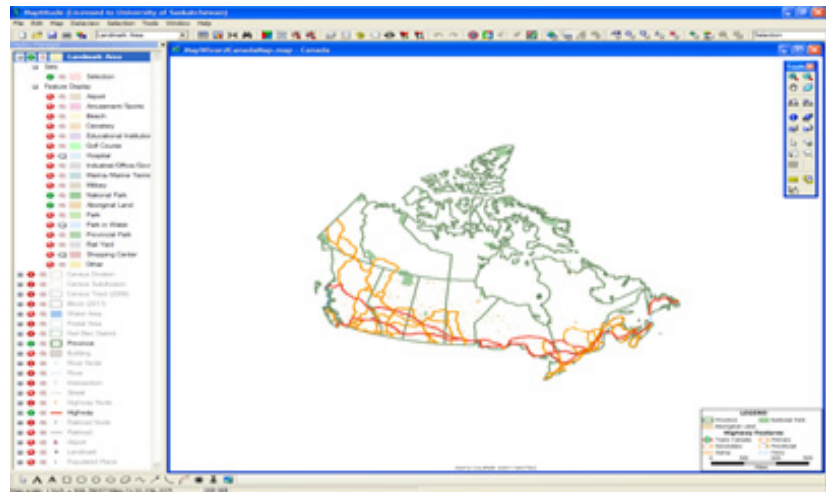
### a)  Making a Map

Because this software program includes datasets, users can create maps without first importing GIS data files. The Canadian Data DVD saves users the time and trouble of locating and downloading Census data and boundaries into their maps. Alternatively, users can import their own data to create their own maps, or to complement an existing map.

The tools are user friendly and easy to understand.  At start up, a Quick Start dialog box is displayed which gives the user options for creating their map. I selected 'Create a new map', then 'General Purpose Map' and then selected 'Canada' which produced a map looking like image below

You can see the layers are listed along the left hand side, while various tools are on the top, right and bottom of the screen.
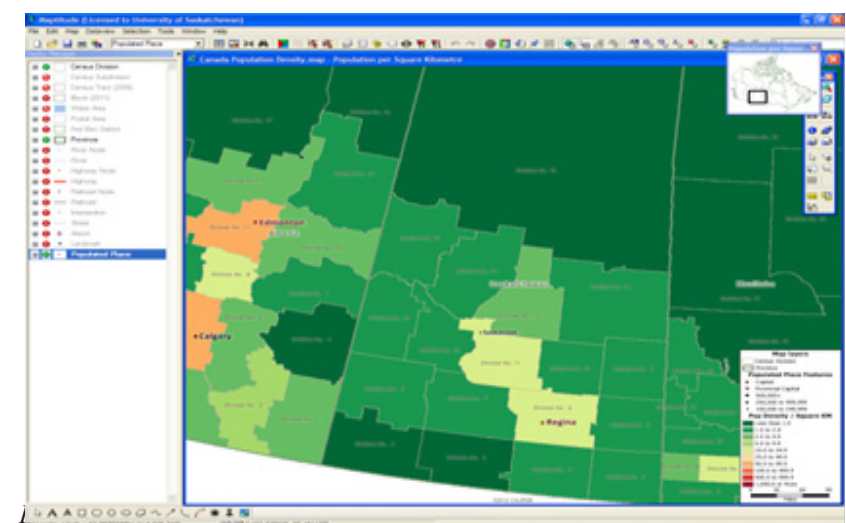
The Map Librarian is a feature you can open either in the tools menu or in the quick start dialogue box, that helps users quickly create thematic maps. I opened the Map Librarian, and selected 'Demographics', then 'Population Density', which quickly loaded into my map. See Figure Two.

### b)  Working with a map

As you can see, the format is similar to other popular programs, making it easy to understand. When working with layers, you can simply click on the red 'x' beside each layer to activate or deactivate it. There is also a label tag you can click on to label features quickly.

Analysing GIS data is also simplified in Maptitude. There are several tools that aid users in analyzing data, including using density grids and heat mapping, building areas of influence, performing surface analysis, identifying routes and more.  Users can also generate statistics, and create charts and graphs with the Maptitude tools. This program offers a lot of flexibility in changing the map's colours and symbols, making it easy to personalize for inclusion in a user's presentation or report. Going through some of the menus at the top, I will first look at the Map Menu.

**Map Menu:**
The map menu gives users several options for changing the way the map is displayed. Users can change the order of the layers, label and even hide layers.  This menu also allows thematic mapping.

**Dataview Menu:**

Similar to Esri's attribute table, the dataview displays the information associated with the layer. Data can be sorted, hidden, etc in this menu. Some of the more complex dataview options include modify table, table structure, formula field (which allows users to create new attributes based on inputted formulas), joining and statistics.

**Selection Menu**:

The selection menu allows users to select in various way, by value, location, condition, theme and more. Once a selection is made, a 'selection set' appears in the left hand layer menu under the layer from which the selection was made.

**Tools Menu:**

The tools menu is where many important functions are found. In addition to the previously mentioned Map Librarian tool, there is an 'Export' function as well as an 'Open in ArcMap' option. Other tools include map editing, surface analysis, routing and tools for imagery. Also in the tools menu is the locate function, which can locate a location by city, geotagging, postal code and more. Geographic analysis, such as creating bands and overlays, can be done here as well. The geographic utilities in the tools menu offers GPS import, clipping, merging and more.

## c)    Saving a Map

Maptitude allows users to save their maps in a wide variety of formats. Maps can be saved as images in commonly used formats (JPEG , TIF, PNG). Maps can also be saved as geographic files such as KMZ, KML and Map File. Below I will outline the various file formats which Maptitude can import and export.

## d)    Integrating with other software

Maptitude can import and export various formats compatible with other GIS software. See Tables One and Two for the complete format types. With all these formats available, Maptitude is extremely useful for collaborations, and sharing GIS data and maps. I found it quite easy to save my map out in KMZ file format and upload that to Google Earth. Not only does Maptitude work with other software and data files, it can also link to software such as Skype. Users can create Excel files which include a Skype field and phone number, and set up their map so that clicking on the desired point will launch Skype and call the number.

## e)    Price

Maptitude is very competitively priced, with a single license costing $695. For University use, an institutional license would have to be negotiated, something that could be very expensive. For Universities already using other for-cost programs, such as Esri, this may be too expensive, but having just a few licenses, in a computer lab perhaps, would be manageable.

## f)    Suggestions/ issues

I found that some of the terminology was confusing, especially after being used to ArcGIS terminology. For example, it took me a while to figure out how to open the 'attribute table' for the data, as you have to click New Dataview to open the data table.

I had trouble opening my shapefiles in Maptitude, getting an error message every time I used the Map Wizard to open a shp file. After emailing customer support with this problem, they gave me two options

for opening shp files. The first was using 'File' and 'Open', selecting shp file as the file type and navigating to, and selecting my shp file. The other way was adding the shp as a layer on a pre-existing map by going to the 'Map menu', selecting 'Layers', 'Add Layer', selecting shp and again navigating to and selecting my file. The support team also said they would look into the issue I was having, as using the Map Wizard to open shp files also works. I appreciated their quick and useful response.

Importable Formats

| | |
|---|---|
| • Workspace ( .wrk) | • Slide shows  (.sli) |
| •  Geographic file  (.cdf  . dbd ) | • TIGER/Line |
| • Fixed format binary (.bin) | • Etak streets (.mbs) |
| • Comma or tab-delimited text (.csv .txt .tab) | • Text/geography (.geo) |
| • dBase files, fixed format text (.dbf) | • MapInfo interchange (.mif) |
| • MS access table (.asc) | • GPS data (.gpx .gps) |
| • Excel worksheet (.xls .xlsx . xlsb . xlsm) | • AutoCAD DXF (.dxf) |
| • Esri Shapefile, EOO, ungenerate, project files,  and personal geodatabase (.shp .mdb) | • Intergraph DGN (.gdn) |
| • Map Info TAB files ( .tab) | • Atlas BNA (.bna) |
| • ODBC tables and SQL queries | • DEM (.dem, etc) |
| • Oracle tables and spatial layers | • Digital line graph (.dlg , etc) |
| • SQL server tables and spatial layers | • BTS (.lnk .nod .pnt . are) |
| • Image library files (.cil) | • Interim terrain data ( .slf) |
| • Tiff images (.tif) | • Land use and land cover (.gir) |
| • JPEG images (.jpeg) | • Ordinance survey (.ntf) |
| • MrSID images (.sid) | • Spatial data transfer standard (.ddf) |
| • ECW images (.ecw) | • Vector product format (.dht) |
| • Spot Images (.bil .tif) | • Portable network graphics(.png) |
| | • Digital Orthophoto (DOQ  DOQQ) |

*Table One: Importable Formats*

Exportable Formats

| | |
|---|---|
| • Standard / Compact Geographic file | • MapInfo Interchange |
| • Text/Geography | • Google Earth document / compressed |
| • Atlas BNA | • Oracle Spatial Layer |
| • AutoCAD DXF | • SQL Server Spatial Layer |
| • Esri shape/ Ungenerate | • DTS points |

*Table Two: Exportable Formats*

## Conclusion

Maptitude 2012 is a great program for those starting out using GIS, as it includes data and also provides simple ways to create maps with minimal knowledge of GIS software. It also is a useful product for GIS professionals as it includes tools for advanced analysis. This software integrates with several formats, making it easy for users to download and share data.  Users who already have subscriptions to other software products such as ArcGIS would probably not wish to purchase a similar product, however if an individual is interested in buying a single product, Maptitude is a good option.