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# DYNAMIC MAPS

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## **Dynamic Maps v3.1 Manual of Features**

Developed with  
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**UN-FAO  
Food and Agriculture Organization  
Environment and Natural  
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A **DYNAMIC ATLAS**® Product

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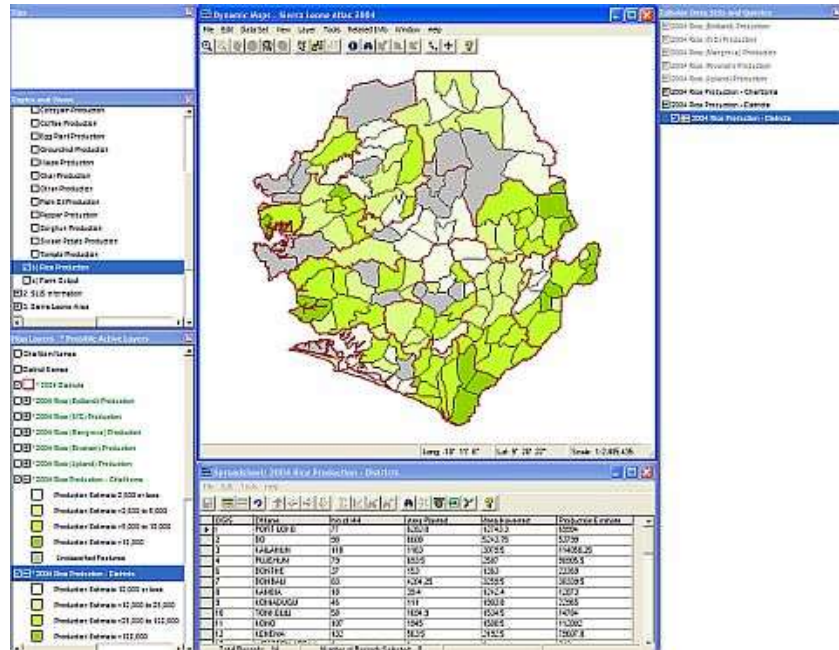
## Dynamic Maps at a Glance

Thank you for using Dynamic Maps. Dynamic Maps makes it easy for anyone to use maps in their everyday work. Dynamic Maps provides a map-based window onto your information, providing easy access to and manipulation of maps, associated tabular data, and related documents, pictures, web sites and more.

### Just Some of What You Can Do With Dynamic Maps:

Dynamic Maps provides access to data integrated in an "atlas" in meaningful "topics".

- Use data from databases and "map" the records to show trends and where important conditions exist. Your spreadsheets come alive when you can see their information mapped.
- Use the map features to publish and access related "documents", pictures, and URLs.
- Send your map directly to PowerPoint for instant inclusion in your presentation.
- Integrate with Excel to do advanced analysis and to add information.
- Create and save your own views of the data.
- Change the look of and label selected map features to emphasize their display.



### Dynamic Maps System Requirements

A computer running Dynamic Maps requires:

- Microsoft Windows operating system.
- Sufficient hard disk space for local atlases (if necessary)
- 128MB RAM and 300MHz processor or better is recommended for performance.
- Monitor size recommended 17" or better for sufficient viewing area.
- Network / Internet connection recommended although not mandatory for related information object access and software registration and access to other atlases.

### Installing and Running Dynamic Maps

(See **Appendix 1. Using Dynamic Maps on a Network** if you are installing Dynamic Maps on a network.)

There are two steps involved: Installing the software; and, importing / connecting to an atlas. The software itself won't do anything unless you have an atlas to connect to. If you are using a CD/DVD prepared with Dynamic Publisher, the entire process is automated for you. If not, there are a few steps to follow.

#### Automatic Install and Atlas Import Process with Dynamic Publisher (if applicable)

You may be installing Dynamic Maps from a CD/DVD with "Dynamic Publisher". If so, Dynamic Publisher will complete the install and atlas import process for you when you insert the CD/DVD (if the AutoRun function on your computer isn't turned off) – just follow the prompts. You may want to take note of where on your computer the atlas files are placed during the install. For more information about Dynamic Publisher, please see **Appendix 7. Installing with Dynamic Publisher**.

### **The Install and Atlas Import Process (without Dynamic Publisher)**

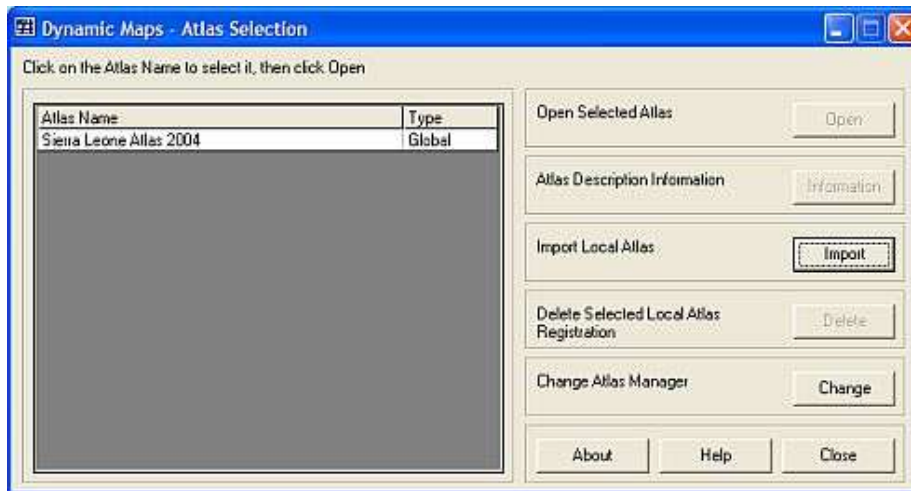
Run the Dynamic Maps installation program "Dynamic Maps 3.1 Install.exe". Turn off any applications that are running. When the install is complete, **reboot** your computer. During the installation process, MDAC v2.5 from Microsoft will be installed. If you have a more up-to-date version of MDAC, then it will not be installed.

Dynamic Maps needs an Atlas to run. If you don't have one, download a demonstration atlas from: <http://www.dynamicplanet.com/downloads/downloads.html>. Unzip or copy the atlas onto your computer, making sure that the original directory structures and files are kept intact.

Dynamic Maps can be started from Start / Programs / Dynamic Atlas or from the icon on your desktop.

When you launch Dynamic Maps, import an atlas, by clicking on **Import** and navigate to its directory e.g. C:\Atlases\Sierra Leone Atlas 2004". Click **OK** to start the import process.

Once imported the atlas will be in the Atlas Name list. To open it, click on the name of the Atlas and click **Open**.



#### **Condition for Import:**

- Dynamic Maps cannot import versions of an Atlas older than 3.0. Only Dynamic Knowledgebase can import older versions and upgrade them automatically.
- The atlas will not be able to be imported if the relationship among its files is not maintained. The import process will check your atlas and if there are problems it will give you a report.
- If you import and upgrade a v3.0 atlas, it cannot then be used in v3.0 Dynamic Atlas software because it has been upgraded. If you need to have it working in v3.0, make a copy of the atlas before importing it.

### **Overview of the Dynamic Maps Interface**

Dynamic Maps lets you to access and use the information in an "atlas". An Atlas is an integrated and organized collection of spatial data (map layers), tabular databases and spreadsheets, related documents and web links, and descriptions (metadata). When you open an Atlas in Dynamic Maps, you can get started right away using the data in it. To quickly see what the entire atlas contains, open each of its various topics. The interface consists of a number of windows that can be opened, closed and resized to meet your needs. The Tabular Data Sets and Queries window and the Related Information window are visible when the topic contains data sets or related information.

The screenshot shows the 'Dynamic Maps - World Health Atlas' application. The central map displays a world map with various colored regions. The interface includes several panels:

- Tips:** A panel on the top left containing general usage tips.
- Topics and Views:** A panel on the left listing various topics and views, such as 'Distribution of Dengue and Yellow Fever' and 'Distribution of Malaria in 1946, 1986, 1992, 1994'.
- Map Layers:** A panel on the left listing active map layers, including 'Malaria, 1996', 'Malaria, 1982', 'Malaria, 1984', 'Plague, 1952', 'Shistosomiasis, 1997', 'Visceral Leishmaniasis, 1994', and 'Yellow Fever, 1996'.
- Related Information:** A panel on the right listing related information objects, such as 'Dengue Fever, 1951', 'Dengue Fever, 1975 - 95', and 'Helminthiasis Filarii Acanthocheilonema Per'.
- Tabular Data Sets and Queries:** A panel on the right listing tabular data sets and queries, such as 'World Country Map' and 'Yellow Fever, 1996'.
- Spreadsheet:** A window at the bottom showing a table of data with columns for ID, code, country, and values.

ID	code	country	des22	pop22
143	TGO	Togo	1.02	0.52
55	GMB	The Gambia	1.02	0.58
128	RWA	Rwanda	1.01	0.57
56	GNB	Guinea-Bissau	1.01	0.63
12	BEN	Benin	1	0.56
132	SLE	Sierra Leone	1	0.56
29	CIV	Ivory Coast	1	0.56
38	CMR	Cameroon	1	0.56
31	COG	Congo	1	0.65
108	NGA	Nigeria	1	0.56
24	CAF	Central African Republic	1	0.57
60	GAB	Gabon	1	0.56

### Tips

Watch this window for tips on using the system and for any error messages.

### Topics and Views

The atlas' topics and any views that you create are listed. These are like the chapters in a printed atlas – providing a structured view on the atlas data.

### Map Layers

The Map Layers window lists all the topic's map layers. By turning a map layer on and off, you can see the various relationships and information in the map view. By making a layer "active" you can select its features, find features, see related information, and create analysis maps by working with associated data sets.

### Related Information

The Related Information window lists the map layers that have related information, and lists the name of the related information object. Clicking on the object's name will launch the object and will make its associated map layer active.

### Tabular Data Sets and Queries

This window lists the tabular data sets and any queries you generate. Clicking on a data set or query will launch it in the spreadsheet and will make its associated map layer active.

### Spreadsheet

The spreadsheet provides the interface between the tabular data and the related map layer and shows the fields and values for the records in a data table or query.

### Creating an Atlas

An Atlas is created and maintained using software called **Dynamic Knowledgebase**. If you want to create your own atlas, download Dynamic Knowledgebase from our web site at: <http://www.dynamicplanet.com/downloads/downloads.html> and then contact Dynamic Planet at [info@dynamicplanet.com](mailto:info@dynamicplanet.com) for help getting started and for an evaluation license. Please make sure you include your name / organization and software version downloaded in your request.

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## Topics and User Views

### Topics and Views Explained

Dynamic Maps uses **Topics** to organize the atlas data for viewing and use. An atlas might contain hundreds of different data sets and map layers – too much to see all at once. Each Topic is a logical subset of these.

Topics usually have a hierarchy structure so that topics that are related to each other appear in the same section.

Although you can't change the hierarchy or add new map layers in a Topic, you can import new data sets and add your own Related Information.

**Views** are much like your own topics. They store a snapshot of a topic's map layers at a particular location and scale, including any rendering properties you have assigned and perhaps, a class rendering of a map layer based on a related tabular data set. When you create a view it is added in the topic hierarchy underneath its related Topic. Because the view can store class rendering parameters, if the data you're using change the look of the map in your view might change as well. (See Class Rendering for more information)

Views do not store selected features or any user drawn objects.

### Using Topics and Views

To open a Topic, click on its name or in the check box. If there is a hierarchy of topics, click on the "+" sign to see the topics in that section of the atlas.

#### **Saving a View**

To save a new view, use the **File / Save View As** function and provide a unique name and a description (optional). This view will now be available whenever you launch this atlas. Saving a view will also save any class rendering properties you may have assigned, but not selected features or user drawn objects.

#### **Updating a View (Save View)**

When you make changes to a view – say by changing its extent, relative location, or the rendering properties of the map layers, use **File / Save View** to update it.

#### **Deleting a View**

To delete a view, use **File / Delete View**. Deleting a view does not delete any data in the atlas – just the particular reference to that data that you created.

You cannot delete the view if you're in it. Go to another Topic or View and then delete it from there.

## Map Layers

### Map Layers Explained

The **Map Layers** window lists all the map layers registered for the Topic.

**Green layers** – if a layer name is Green, that means it is “selectable” and it can be made “Active” and its features can be selected and identified. Only one selectable layer can be active at any one time.

**Black layers** – if a layer name is black, that means it is a “background” layer and it is used as reference only.

**Grey layers** – if a layer name is grey that means that the map layer is not available at the current map extent and/or location. Clicking on a greyed out layer will force the map view to zoom and/or pan to the extent of that map layer so that it can be seen.

Some map layers may be “value or class rendered” – meaning that different types of features on the same map layer will be rendered differently. For example, a road network might have highways and local roads, both of which could look different.

Any map layers that are turned on will be part of the map legend when you output the map to PowerPoint or a printed map composition.

The map layers are actually data (not pictures) and can be one of two types of data – “vector” and “raster”. Vector data map layers can be represented in one of four types:

- polygons – e.g. countries, areas, building footprints.
- lines – e.g. rivers, utility networks.
- points – e.g. cities, well locations.
- labels – e.g. province names.

Only vector layers can be selectable and active.

Raster-type map layers are images – e.g. geo-referenced satellite imagery.

#### Value and Class Rendered Map Layers

Other types of vector map layer are Value Rendered layers and Class Rendered layers. These layers are unique in that their features are not all rendered in the same way but are rendered based on an attribute of the feature (for value rendered layers); or on an attribute of a related tabular database field (for class rendered layers). Both types are frequently selectable map layers as well. In the above diagram, the Koppen-Geiger Climate Zones layer is a value rendered map layer with each “zone” rendered differently.

In Dynamic Maps, if a selectable data set has an associated tabular database registered against it, you can often create your own class rendered map layer. See Class Rendering below for more information.

### Active Layers

Almost everything you do in Dynamic Maps is done on the “active” layer. An active layer has the focus for related tabular data and related information objects. An active layer can have its features found, identified and selected. Only those map layers that appear in green and have an asterisk (\*) in front of them can be made active.

A map layer can be made active by:

- Clicking on its name in the list.
- Clicking on the name of a tabular data set.
- Clicking on the name of a related information object.
- Selecting it from **Layer / Active Layer**.
- Going into Related Information, Find, Identify or Select modes and then selecting an active layer.

#### The Active Layer Rules:

- Only one map layer can be active.
- Only active layers have related tabular data and information objects.
- Only active layers can have their features identified, found and selected.



The highlighted “2004 Rice (Boliland)” map layer is the Active Layer.

## Using Map Layers

### Making a Map Layer Visible

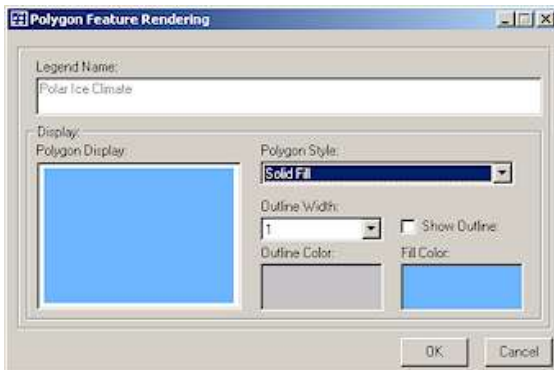
Turn a map layer on or off by clicking on it or by clicking in its checkbox.

### Changing the Appearance of Map Layers

You can change how a map layer looks i.e. its "rendering properties" – except image layers. Different map layers will have different rendering property options, depending on whether the layer is composed of polygons, lines, points, or labels.

To change the rendering properties, **right-click** on the layer name to get the rendering properties form. For value rendered and class rendered map layers, right-click on the particular layer legend value you want to change. Save changes by saving the view (**File/Save View As**).

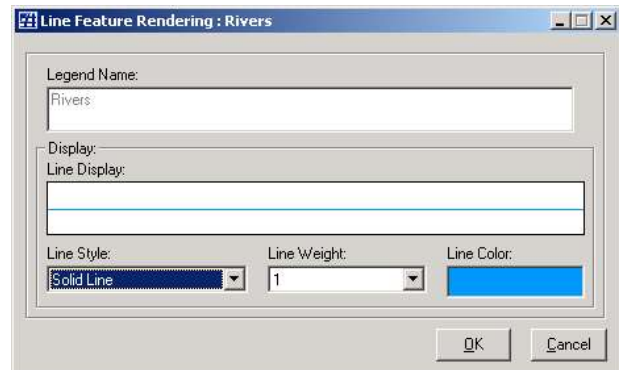
### Changing the Appearance of Polygon Layers



By right-clicking on the layer name, you can change:

- **Color:** Map features' fill color.
- **Polygon Style:** A highly transparent fill is useful if you want a solid shade but still want to see features underneath. When you set a "transparent" fill, it is essentially the same as setting no fill. You are able to "see through" these polygons to other feature layers.
- **Outline Color:** Map features' border color.
- **Outline Width and Show Outline:** Map features' outline width and whether or not the outline appears at all. If the polygon style is set to transparent fill, you cannot turn "Show Outline" off.

### Changing the Appearance of Line Layers

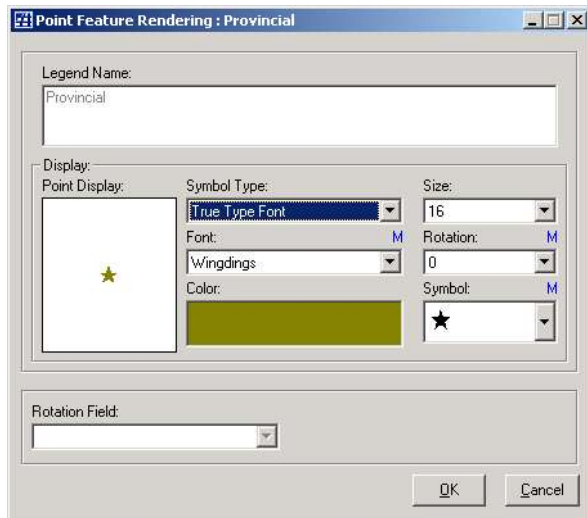


By right-clicking on the layer name, you can change:

- **Line Style:** Solid, dash and others.
- **Line Weight:** The features' width.
- **Line Color.**

*Windows 98 systems will not display outline widths and line widths greater than 1 and line style types other than solid because of a bug in the operating system.*

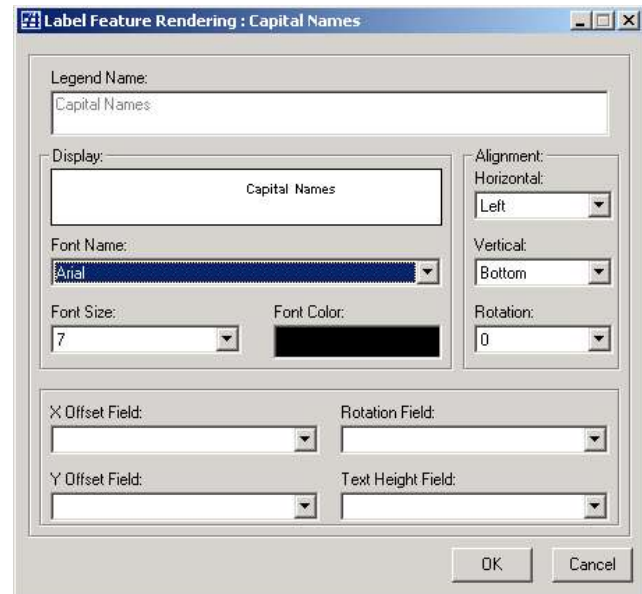
### Changing the Appearance of Point Layers



By right-clicking on the layer name, you can change:

- **Symbol Type:** When you select the **True Type** marker you can use any font on your system. Some widely available fonts – such as Wingdings – provide interesting and useful markers. If you choose True type marker, you may need to wait a moment while the font names are loaded.
  - **Font and Symbol:** These fields show the list of available letters and icons in the font.
  - **Rotation:** The rotation field indicates how much the symbol will be rotated in a counterclockwise direction starting from North – 0 degrees. The values are in 15-degree increments.
- **Size:** The size is set in either pixels for the circle, square, triangle and cross markers or in font size points for True type markers.
- **Rotation Field:** If the map layer itself contains a field with symbol rotation values, these can be used. This allows each point feature to have a unique rotation for its symbol. If this is specified it will override the value in Rotation.

### Changing the Appearance of Label Layers



By right-clicking on the layer name, you can change:





- **Font Name; Font Color; Font Size**
- **Rotation:** Labels can rotate counterclockwise in values of 15° intervals from 0 to 345 degrees.
- **Horizontal Alignment:** You can orientation / position the feature relative to the label: Left, Right, or Center.
- **Vertical Alignment:** You can position the label relative to the feature it represents: Top, Bottom, or Center.

The following four fields are used in special cases where the map layer itself has label rendering fields.

- **X Offset Field:** Works based in map units. The X-Offset describes the number of map units to the left or right of the feature center that the label will be placed.
- **Y Offset Field:** As with the X-Offset, the Y-Offset describes the number of map units above or below the center of the feature that the label will be placed.
- **Rotation Field:** The number of degrees rotation for the label counterclockwise.
- **Text Height Field:** The text height field describes the size of the text in the label based in map units. When the Text Height field is used the Font Size is ignored.

## Using the Map View

### Getting the View You Want – Zoom and Pan

Move around the map with: Zoom In , Zoom Out , Zoom to Selected , Zoom to Active Layer , Pan  and Zoom Topic Extents .

**Zoom to Selected** will center the view on any selected feature(s) and zoom in to it.

**Zoom to Active Layer** will center the view on the active layer and zoom to its maximum extent.

**Pan** lets you to move the view. Hold down the mouse key while you “drag” the map view.


**Zoom Topic Extents** resets the map view to the Topic’s extent.

### Dealing with Map Scales:

The visibility of map layers often depends on the scale.

If your active layer has a selected feature, the system will zoom only to the minimum or maximum extent of that selected feature to prevent it from being lost.

### ***Finding and Identifying a Feature***


 Use **Find** to locate a feature on the active layer. You can **Search Current View**, or **Search All**. If you choose to **Search All**, all the features in the active layer will be listed regardless of whether or not they're in the area of your map view.

The Find form gives several options:

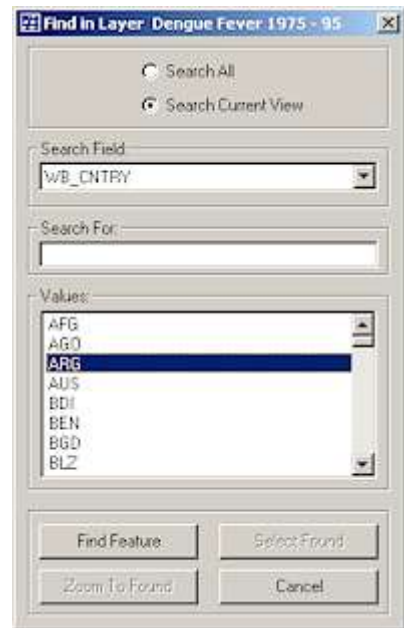
- **Find Feature** – the found feature will be highlighted.
- **Zoom to Found** – the map will zoom in to the found feature.
- **Select Found** – the found feature will be selected.

You also can select the **Search Field** from the dropdown list. The **Search Field** lists all the fields in the map layer's attribute file, so there may be a number of attributes that you can choose from to do your search.

You can also start typing the name of the feature in the "**Search For**" field and the system will try to match the name based on the letters as you type.

 Use **Identify** to identify the active layer's features. When you are in identify "mode", every feature you click on will become highlighted and labeled.

Use **Tools/Advanced Identify** to see all the information about a feature from the map layer's attribute table.




### ***Change the Appearance of Found and Identified Features***

Use **View / Render Find\_Identify** to change the default style for found and identified features. Any changes you make to these default rendering properties are only active for the session.


Use **View / Label Found** to turn labels on and off for found features. Default is on.

## Selecting Map Features

There are many ways to select features on an active layer.

**Select by Pointing** . Use **Select by Pointing** to select features on the active layer by clicking on them. You can select multiple features by holding the CTRL key while clicking.

Features are also “unselected” in this manner. Holding the CTRL key and clicking on a selected feature will unselect that feature but leave other features selected.

**Select All** . Use **Select All** to select all the features on the active layer.

**Unselect All** . Use **Unselect All** to clear all feature selections on the active layer.

All the other selection features are in the Edit menu:

**Select by Name:** Use **Edit / Select by Name** to select a feature(s) by choosing its name from the listing of features in the active layer. With **Select By Name** you can choose to select only those features in the active layer that are visible in the current view, or all features in the active layer. To select multiple features by name, hold the CTRL key while selecting the names from the list.

**Select by Rectangle** and **Select by Circle:** Use **Edit / Select by Rectangle** or **Select by Circle** to select all features within or touching a rectangle or circle that you define on the map.

**Select by Polygon:** Use **Edit / Select by Polygon** to select all features within or touching a polygon that you define on the map.

**How it's done:** Draw the bounding polygon by marking one corner by clicking then move the cursor to the next corner and click, and then to the next corner, and so on. When all sides are defined, double-click.

**Select by Intersecting:** Use **Edit / Select by Intersecting** to select features on another map layer based on the selected features on your active layer.

**How it's done:** First select the features you want to use as your intersection “template” on the current active layer. Then choose **Edit / Select Features / Select by Intersecting** and pick the new active map layer from the menu that appears whose features you want to intersect with.

**Example:** A topic contains both a district layer and a village layer. You want to select all the villages within a specific district. Select the district and use **Select by Intersecting** to select all the villages by choosing the Villages layer as the intersection layer.

The intersection process may take a few moments to calculate and display.

### Other Ways to Select Features

Features can also be selected by highlighted a related record in the Spreadsheet, by opening a Related Information object and by going into Related Information Mode and selecting/clicking on a feature.

### Changing How Selected Features Look

Use **View / Render Selected** to change the default style of selected features. Any changes you make to the default rendering properties are only active for the session. They will be lost if you refresh/change your atlas connection or exit.

### Changing How Selected Features are Labeled

Use **View / Label Selected** to turn labels on and off for selected features. Default is on.

Use **View / Render Labels** to define how the labels will appear when a feature is selected.


## Other Map View Functions


### Printing a View

Use File / Print View to print the view directly – rather than go through the process of creating a map composition.

While the Print View function prints what you see on the screen, map creation is normally done with the map composer. See Working with the Map Composer below

### Measuring Distance and Area

 Use **Measure Distance** to measure the distance in kilometers or meters along a line you define on the map.

 Use **Measure Area** to measure the area of a polygon that you define on the map.

#### Technical Info:

When measuring distance or area on a map layer that is based on geographic coordinates, the resultant distance or area is only an approximation. The actual calculations are done on a generalized map surface and not on the reference ellipsoid using geodetic distances.

The accuracy of a distance or a polygon area also depends on the accuracy of the original maps used to create the atlas, any processing of the digital data that's been done, the screen resolution that you are using when defining the locations and the viewing scale.

### Copying a View

Use **Edit / Copy All** to capture the current map view for use in another Windows-based program, such as Word.

### Copying Selected Features

Use **Edit / Copy Selected** to copy the selected features and their labels as they appear in the map view. All other map features and layers will not appear in the resulting image.

### Linking with ArcView

If you have ESRI's ArcView v3.x installed, use **Tools / ArcView** to automatically launch ArcView and pass your current view's map layers data into an ArcView project. Some notes about the link with ArcView:

- Once you have exported your maps to ArcView, any changes you make to the maps are not reflected in Dynamic Maps. You cannot export any drawn features (circles, added text, etc.) from your view.

## Drawing and Annotating

Drawing functions are available at **Tools / Draw**. Your map view can be used as a canvas for drawing shapes and annotation. Drawn objects can be part of your map composition.

The objects you draw are only available for this session and are not saved if you save the View. Drawn objects cannot be edited, they must be deleted and redrawn.

Drawn objects maintain their relative size, so if you zoom in on a circle you draw, the circle gets bigger!

#### Tips:

Use PowerPoint instead. Create your map composition as a PowerPoint slide, then once in PowerPoint, use its annotation capabilities to annotate the map.

Drawn objects remain available even if you switch topics! Therefore you can highlight an area of interest in one topic and compare characteristics in map layers on other topics.




**Draw Points** 

You can draw points of various styles, weight, and color using either default styles or any true type font on your system.

**Draw Line** 

You can draw a complex line of various styles, weight, and color on your map.

**Draw Polygon, Draw Rectangle and Draw Circle**

   You can draw many kinds of closed features with various fill patterns, fill color, and line color.

**Delete User Drawn Features** 

Use **Delete User Drawn Features** to selectively delete drawn objects and text. To delete text, you need to click near the beginning or the end of the text path that you created.

**Delete All User Objects** 

Use **Delete All User Objects** to delete all drawn objects and text at once.

**Add Text** 

Add Text lets you annotate your map.

**How it's done:**

1. Select the **Add Text** button. The Label Feature Rendering form will appear, with a default size color and font face and example text. Click **OK** once you have assigned the appropriate parameters to the text.
2. Once you click **OK**, you are brought back to the map to define a path for the text. Text is input on a line (path) that you create on the map. The line can be straight, or it can have several segments. Use the cursor to define this path, keeping in mind the size of text and its approximate length. At the end of the path, double-click the cursor.
3. Once you have defined the path, a form will appear in which you input the text. You can only insert one line of text at a time.

**Notes about Adding Text:**

- If your text is longer than the path, the text will continue in the same direction.
- To create upside-down text, draw the path right to left.
- Sharp corners in the path will be smoothed by the text so that changes in direction appear gradual.


## Related Information


### Related Information Explained

Geography is a powerful way to reference information. Dynamic Maps lets you to access documents, pictures, URLs, and more linked to map features. Plus, Dynamic Maps also gives you the ability to add your own information to map features – and even publish these for everyone else using the atlas if it's online or web-enabled.

When related information objects registered, they are listed under their related map layers in the Related

Information window. There are three "types" – 

documents (any digital file);  URL (an Internet link);

and  descriptions.

For "Documents", the file extension will dictate how your computer treats the file. For example, if its extension is .doc, the computer will try to launch Microsoft Word; if it's .pdf it will try to Adobe Acrobat Reader. Common extensions that many computers will read are: image formats like .gif, .jpg, .wmf, .bmp; document formats like .doc, .xls, txt, .pdf, .htm, .html, .rtf; multimedia formats like .ppt, .pps, .mpeg, .wav, .mov, .ram, and other formats like .exe and many more.

URL's default to <http://> when being added, however, this default can be changed to, for example, <ftp://> for ftp sites.

"Descriptions" are treated as text files and are useful when describing sources of information that either aren't digital files or online (such as paper files, films, paper maps).

### Using Related Information

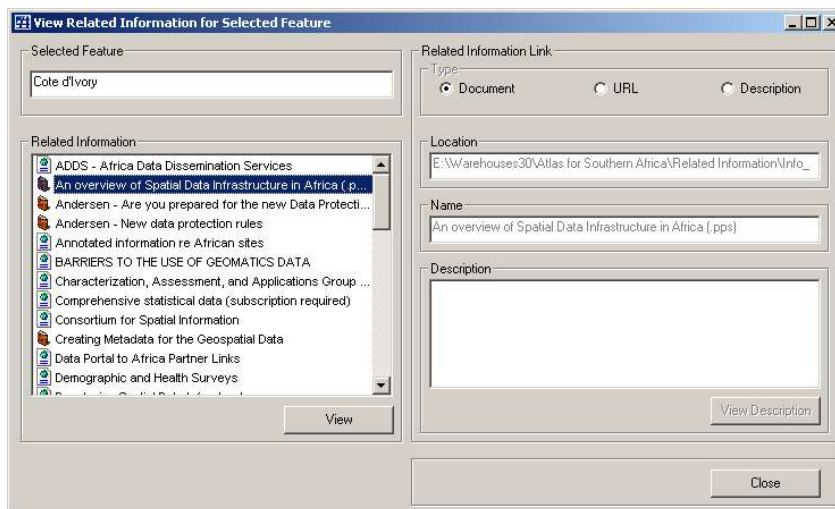
The Related Information window shows what information objects are available for each map layer in a topic. The easiest way to access related information is to click on the object's name. Doing so will launch the object and will select the map layer feature(s) to which it is related.

#### Show Related Information

Use Show Related Information to see what related information exists for one or more selected features. When a feature(s) is selected, clicking Show Related Information will launch a form listing the related information for that feature enabling the related information objects to be selected; or, if there is only one related information object associated with that feature, that object will be launched automatically.

#### Related Information Mode

Use Related Information Mode to access any related information for features on the map view in the active layer. When you are in Related Information Mode, any map feature in the active layer that you click on will become selected and if it has related information, these will become available. If there is one selected map feature and the feature has one information object, then that object will be launched automatically. If there are more than one related objects associated with the feature, the system will list them on a form. Select the object of interest and click the **View** button.



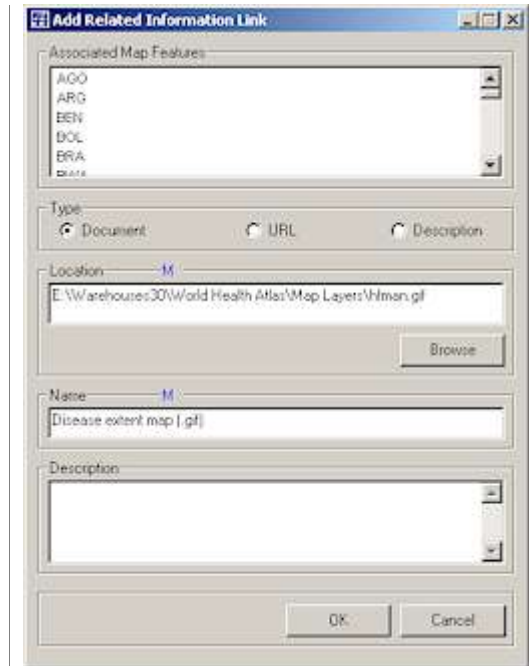
### Adding (Publishing) Related Information

Use Add Related Information to add documents, web links, pictures, or any other type of information to a selected feature(s).

When a file is added – such as a document or a picture – a copy of the file is placed into the atlas structure. If the atlas is being published on the Internet or on a Local Area Network, the file is then available to anyone else using it.

#### Tips:

- If you publish a document that later changes, say, from “Draft” to “Complete”, delete the old document and re-publish the new. Dynamic Maps copies your document into the atlas Related Information directory.
- Do not publish a document that is open for editing. Close the document in its native program before adding it.
- Provide useful descriptions including, for example, the contact, file size, copyright, and creation date.



### Updating Related Information

Use **Related Info / Update** to update the name, description, and/or URL of a related information object. The various map features do not need to be selected to update or delete information objects associated with the active map layer.

You cannot change the map feature(s) for which an object is related, nor can the file be changed. If the document needs to be updated, then delete it and re-publish it.

### Deleting Related Information

Use **Related Info / Delete** to delete related information. The function removes the relationship to all the object's related map features.

### Password Protection for Related Information




A password may be required to add, update and delete related information since atlases can be on a network and published on the Internet. The password requirement is set in Dynamic Knowledgebase. Passwords are atlas-specific – not user-specific, so everyone with access to an atlas will use the same password to manage related information. This is one way that the atlas administrator can limit who can add related information.

## The Spreadsheet, Tabular Data Sets and Queries

### Tabular Data Sets Explained

Each record in the data set relates to a feature on the active map layer. For example, the records in a database of city population for various cities would relate to the features on a cities map layer. Because of this relationship, Dynamic Maps lets you to use the map as a "window" into the data – letting you to visualize the data in a new, unique and helpful way.

There are three types of data sets that can be listed in the Tabular Data Sets and Queries window – System Data Sets, User Data Sets, Queries. They look like this:

-  = System data sets.
-  = User data sets.
-  = Queries.

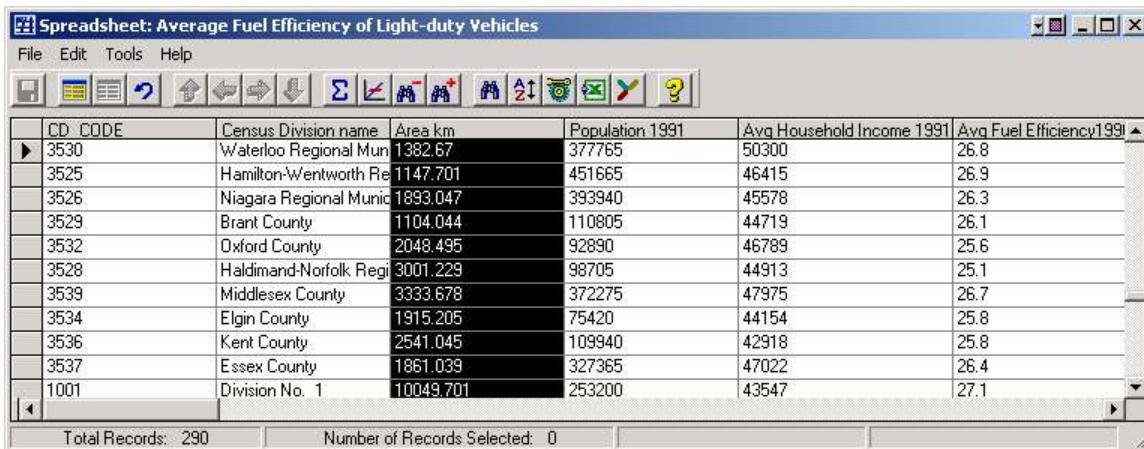
- System data sets are always available in the atlas. They are registered using Dynamic Knowledgebase.
- User data sets are "imported" or created by you and stored on your computer locally and are not stored the atlas. These are not visible to anyone else accessing the atlas.
- Queries are created by using the Query Builder function, and are subsets of a System or User data set. They are temporary and are not saved in the atlas.

### Opening a Data Set in the Spreadsheet

The Tabular Data Sets and Queries window lists all available data sets in the topic. Click on a data set name or the check box to populate its records in the spreadsheet window and make the associated map layer active.

### The Spreadsheet Functionality

Use the Spreadsheet to analyze the relationships between the database records and the map features. Do this using Class Rendering and Query Builder in particular. Use class rendering to illustrate the values in a field and create a thematic map from them – such as a map that shows where the values are high, medium and low. Use Query Builder to ask questions of the data – such as where is field's value high – and map the result.



CD_CODE	Census Division name	Area km	Population 1991	Avg Household Income 1991	Avg Fuel Efficiency 1991
3530	Waterloo Regional Mun	1382.67	377765	50300	26.8
3525	Hamilton-Wentworth Re	1147.701	451665	46415	26.9
3526	Niagara Regional Munic	1893.047	393940	45578	26.3
3529	Brant County	1104.044	110805	44719	26.1
3532	Oxford County	2048.495	92890	46789	25.6
3528	Haldimand-Norfolk Regi	3001.229	98705	44913	25.1
3539	Middlesex County	3333.678	372275	47975	26.7
3534	Elgin County	1915.205	75420	44154	25.8
3536	Kent County	2541.045	109940	42918	25.8
3537	Essex County	1861.039	327365	47022	26.4
1001	Division No. 1	10049.701	253200	43547	27.1

Total Records: 290      Number of Records Selected: 0

### Selecting Records

As you select and unselect records in the spreadsheet, the records' associated map features become selected and unselected. Likewise, selecting a map feature selects its associated record(s). Selecting a map feature may select multiple records, since a map feature might have several records associated with it in a data set.

5933	Thompson-Nicola Regio
5937	North Okanagan Regio
5941	Cariboo Regional Distric
5953	Fraser-Fort George Reg
2473	Thompson-Nicola Regio

To select a record, the most straightforward way is to click on the little square to the immediate left of the record where a black arrowhead appears. To select multiple records, hold down the Ctrl key while you click on the record.

You can also select the highest or lowest value record with **Find Minimum** or **Find Maximum**.

There may be map features with no associated records, and there may be database records with no related map features.

If the selected feature(s) does not show up on the map, it may be because your view is at the wrong location. Use the map's **Zoom to Selected** function to navigate quickly to the selected feature(s).

### Find Records

Use **Find** to find field values for the records in the spreadsheet.

**How it's done:** Type in the character or numeric string in the "Find What" field and click the **Find Next** button. The string you type does not have to be the entire length of a word or number. For example, if you type "old", the Find will locate records with "golden", "Old Site", etc. Turn "Match Case" checkbox on for a case-sensitive search.

Tip: You can also find records that meet a certain criteria by using the Query function.

### Other selection functions include:

#### Select All

Use **Select All** to select all the records and their corresponding map features.

#### Inverse Selected

Use **Inverse Selected** to select all unselected records while at the same time unselecting the selected records.

#### Unselect All

Use **Unselect All** to release all the currently selected records.

If you want to work with only the selected records use **File / Save Selected Records** and work with the resulting data set.

#### Move to Selected

The Move buttons let you to navigate from one selected record to another. Use these to jump to: the first selected record in the list, the next selected record, the previous selected record, and the last selected record.

### Find Minimum or Maximum

Use the Find Minimum and Find Maximum to find and select the record in a field that has the lowest or highest value. If more than one record has the same minimum or maximum value, they are all selected.

Some columns may have inappropriate "0" values in a field. Build a query to get rid of these records first.



### Sort Records

Use **Sort Records** to arrange records in ascending or descending order. Select the field you want to sort and click the Sort button. Any selected records are unselected when sorting.

Tip: To sort on multiple fields, transfer the data to Excel and use its Data/Sort function.

Tip: When you launch a data set, you may want to sort the field of interest first since the records are sorted on the first column, which may not be the field of interest.

### Using Sum Column and Column Average

  Use **Sum Column** and **Average Column** to get the sum and average value of a field. Select the field and then click the sum or average button. The results are displayed in the status bar at the bottom of the spreadsheet.

These functions can only be used on a numeric field. If a field looks numeric values but the math functions are not enabled, then the field (column) is actually an alphanumeric field.


Tip: When determining the average value of a field, you may want to delete any inappropriate "0" value fields using a query first, since these will affect the calculation.

### Creating a User Data Set

 Use **Save Selected Records** to create a User Data Set.

### Linking with Excel

Dynamic Maps can integrate *dynamically* with Excel by sending spreadsheet records into an Excel worksheet and keep a connection with the map.

Use  **Launch Excel** to send all the records to Excel. Use **File / Excel – Selected Records** to transfer only selected records.

You may need to be patient! The process can take time.

#### Tips:

- If you sort the data, use the Data/Sort function – you need to sort all the fields, and not just the selected field. This will ensure that the order between the records in Excel and the map features does not get corrupted, i.e., the link to Excel can become scrambled if you sort on an individual column and not on the whole spreadsheet.
- If you create a chart or graphic and want to use it in your Map Composition, save it as a .bmp file and then use the **"More"** function on the business graphics form in Map Composer to bring in the chart/graphic.
- If you transfer data from one Excel worksheet to another, the link with the map is not maintained in the new Excel worksheet.
- If you make changes to the data in Excel and want to bring it back into Dynamic Maps, you can import the new data set by using the Import Data Set function.

## Query Builder

Query builder lets you create a subset of the data set that contains only the records and fields you are interested in. Once the query is built, the results can be mapped as selected records, used for class rendering, saved as a User Data Set, and/or sent to Excel for further analysis, chart making, and business graphics.

You can edit the query at any time during your session by selecting the query from the Data Sets and Queries list and clicking the Build Query button. However, if you change topics, the query and its results are lost.

After creating a query, use Save Selected Records if you want to save the results, i.e., make sure the records are all selected before using this function.

### How to Define a Query



Launch query builder and:

1. Choose the **Field Name** (column headings) against which the (first) selection criteria will be applied.
2. Choose an **Operator**.
  - If the field is numeric, use equals (=), less than (<), greater than (>) or not equal (<>).
  - If text, use equals (=), not equals (<>) or "Like". The "Like" operator chooses records containing the text of the chosen field value. For example, Like "China", would choose records with "China", "South China Sea", "East China", etc.
3. Choose the **Compare Method**:
  - Use **"To Field Value"** to list the values in the field you've chosen. Scroll up and down and select from this list the value point of interest. You are defining a criterion that selects records based on this value; or
  - Use **"to Another Field"** to compare against a field other than the one you've chosen. In this case you defining a selection criterion that selects the records based on the relationship between the **"Field Name"** values and the values in "another field". Use this for example, if you want your query to return all the records in the "Field Name" field that are equal to records in "Another Field".

### 4. Choose the **Selection Method**:

- Use **"AND (Restrict Selection)"** if this is the first expression you have defined for the query. Use AND also to join two query selection statements in which both conditions must be met. Using multiple **AND** statements tends to **reduce** the number of records that will be returned, since selected records must meet each and all of the criteria that you set.
- Use **"OR (Expand Selection)"** to broaden the criteria when there are more than one query statements. When you use **OR**, you are likely **increasing** the number of records that the system will return because if either condition is met, the record will be returned.

For example, use **OR** when you want to capture all records that have a field with a value greater than some high value or less than some low value. Set up the first "greater than" criteria and then the second "less than" criteria with the **OR**.

With the "OR" statement, you can set up several criteria "sets" that can include multiple "AND" statements - with each "set" started by an "OR" statement. With each "OR" statement, the query builder will know when the new set of criteria begins and will return records that meet any of the criteria sets.

5. **Build Query:** Click **Add New Selection** to put the expression into the criteria statement. Click **Remove Last Selection** to remove the last criteria in the query statement.

6. Provide a name for the query in the **Query Name** field.

7. Optional: Click **Customize Output** to determine the fields you want the resulting spreadsheet to contain. Move fields you don't want from the Selected Fields to Available Fields. You can also, choose the field the resulting spreadsheet should be initially sorted by.

The data set's Link Field will always be added to the spreadsheet when you build a query so that a link with the Map View is maintained.

The Selected Fields you put into the output do not have to be the same fields on which you based the criteria. For example, if you are setting up a relationship to show the number of cattle greater than 100 for farms in a province, then the Selected Field might only need to be the "Number of Farms" field and the query's criteria might be something like "Number of Cattle > 100".

### **Troubleshooting:**

If you get a message that says "No records returned from this query", this may have happened because:

- a) For criteria statements that have more than one criteria, a common mistake is the improper use of "AND" when "OR" is meant. Every time the AND selection method is used, the records must satisfy the criteria in each statement.
- b) For criteria statements with one criterion, the Greater Than (>) operator may have been used with the maximum numeric value, or the Less Than (<) operator may have been used with the minimum numeric value.
- c) For criteria statements that match the values of one field against another, the fields may have no values that match.

Remove unwanted "0" value or "-9999" value fields using the query.

## **Class Rendering**

With class rendering you can divide the spreadsheet's records into meaningful ranges or "classes" and then display these on the map with different colors and styles. This is particularly useful when you want to illustrate trends and distributions in the data. Class rendering uses only numeric fields.

### **Using Class Rendering**

The options available for class rendering make it possible to classify the same data in many different ways producing many different results. As soon as you choose the Class Field, the system calculates and provides a default classification scheme. You modify those defaults to produce the desired result.

To create a class rendered map from your data, select **Class Rendering** from the Spreadsheet toolbar and select the field from the **Available Fields** list for which classes will be defined. To select the field, highlight it and click the "**Select Class Field**" button. The system will produce a default set of parameters that you can accept or change. If you only want to classify and render a few records in the data set, first use Query Builder to create a spreadsheet with only those records. Class rendering is only done with numeric fields. Click **OK** to create the map or modify the default settings to create the result you need.

If you do not like the results you can go back into the Class Rendering form and make appropriate changes. The system remembers all your parameters while the class rendered map is available. To permanently save the class rendered map, save it as a view.

**1. Available Fields:**

Count  
Households  
Population  
SGC\_Code  
UT\_Code  
UT\_MUNID

Select Class Field

Population

**2. Classification Limits**

Minimum Value:  6,908  
Average Value:  213,189  
Maximum Value:  2,262,100

Minimum Value:   
Maximum Value:

**3. Number of Classes**

4

**4. Value Used When Multiple Records**

Minimum  Average  Maximum

**5. Class Display Options**

Show Unclassified Features

**6. Calculate Class Breaks**

Evenly Distributing Values  By Increment - Specify   
 Evenly Distributing Records  
 Evenly Distributing Features

Apply Class Breaks

**Apply Color Scheme**

Orange (5 colors) Build Color Schemes

**Class Properties**

	7. Break Value	# Records	# Features	Symbols	8. Legend Text
1	570,706	46	46		Population 570,706 or less
2	1,134,504	2	2		Population greater than 570,706 to 1,134,504
3	1,698,302	0	0		Population greater than 1,134,504 to 1,698,302
4	2,262,100	0	0		Population greater than 1,698,302

Show ToolTips

Help Clear OK Cancel

### Creating Your Classification Map

1. Look at the “**Class Field Statistics**” showing the minimum, maximum and average values of the data in that field and decide if you want to set a Minimum or Maximum value for your “**Classification Limits**” and the **Number of Classes** to be used. The class field statistics will also help you determine at what value each class break should occur. You can create maps with between 2 to 10 classes.

2. Check the “**Value Used When Multiple Records**” setting. If you have one data record per map feature then this option will not make any difference. But, if your data set has more than one record for a map feature, the values for each of those records may cause that map feature to be rendered in different ways – depending on which value is used. For example, if your data set contains maximum temperature readings for every month for a particular location, then that location’s values over the year may fall into more than one temperature range (class). This setting tells the system which value to choose for each feature – the minimum value, the maximum value, or calculate and use an average value. See Appendix 4 for an example.

3. Use the **Classification Limits** in several ways:

- To define a minimum value and/or a maximum value beyond which the system will not classify the data.
- To help extend the values available for classification if you want to show class breaks that have no features. For example, if you have no values above 40% but want the legend to show values up to 100%.
- To help create an incremental classification with regular logical breaks – e.g. 0-25; 25-50; 50-75; 75-100; where you set the minimum to “0”, the maximum to “100” and the “By Increment” setting to 25.

4. Set the Class Display Option – **Show Unclassified Features**. With this selected, any map feature in the active layer that is not part of the class rendered map, either because its value is outside the range you’ve set or there are no related values for it in the database, will be displayed. If not selected, these features won’t be drawn.

5. Select a **color scheme** (if desired). See “**Using Color Schemes**” below for more information.

6. The key to class rendering is setting up meaningful break points for the data. One way to help get started is to use the “**Calculate Class Breaks**” functions. After choosing the method, click the **Apply Class Breaks** button to have the results appear in the Class Properties area.

- **Evenly Distributing Values** will generate split points based on the minimum and maximum values in the data set divided by the number of classes.
- **Evenly Distributing Records** will try to create the breaks by allocating an equal number of records to each class. However, since some records might have the same value, this won't always lead to an even number being in each break.
- **Evenly Distributing Features** will try to create the breaks by allocating an equal number of map features to each class. However, if many map features have the same value as each other, the system may not be able to create an even distribution.
- **By Increment – Specify** enables you to force the system to start from the Minimum value and create breaks based on the increment you set. So if you have 4 classes and the Minimum value is 0 and the Increment is 25, your breaks will be: 0-25; 25-50; 50-75; 75-100.

7. Fine tune your class breaks by editing their values in the Break Value field of the Class Properties area. When you do, you will automatically see the other values in the fields change to reflect the change.

8. Set the **Legend Text**. Click on the Legend Text field value and type in the new text.

9. Edit the **Symbols** (if necessary). To change the rendering properties for any or all of your classes, click on the color swatch or symbol for the class you want to change and set the color of the feature, the style, and the outline color.

#### **Rendering Tips:**

- Solid fills will prevent other map layer features underneath from appearing. If you want your class rendered features to appear a uniform color and you want the features underneath to show up in the display, choose a “highly transparent fill” or “somewhat transparent fill” as the style for the feature rendering.
- The symbol rendering properties can be edited right from the map layers list by right-clicking on the legend entry.

#### **Clearing a Class Rendering**

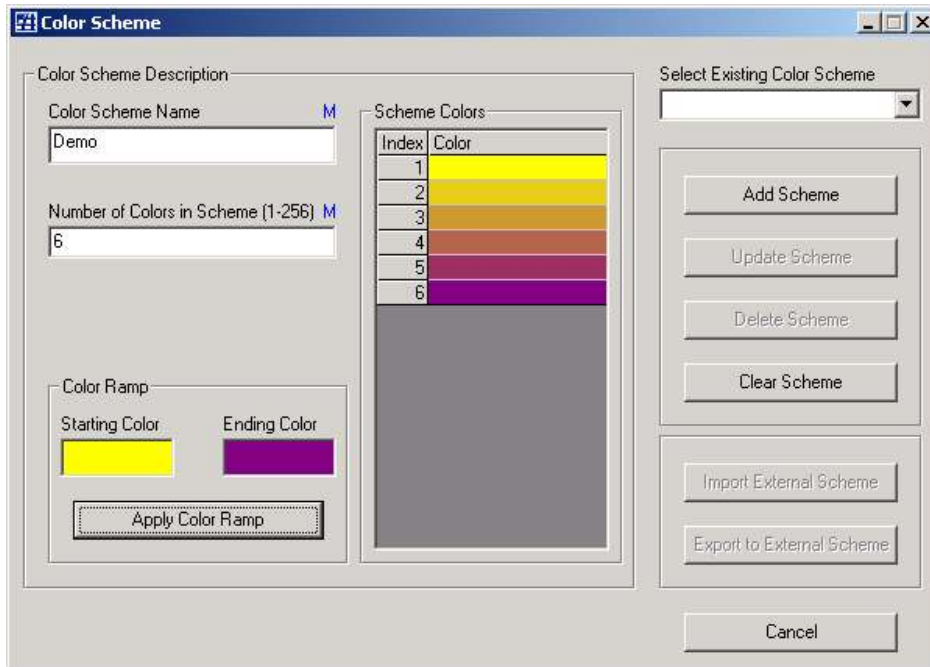
To clear a class rendering on your map view, turn the data set or map layer off, or go to Tools / Class Rendering - Clear.

#### **Saving a Class Rendered Map**

You can save a class rendered map as a view using the File / Save View As function. The Break Values and the Symbol values are saved when you do. If you then want to change the class rendering for that map layer, make the map layer active and launch the class rendering function.

## Using Color Schemes

Dynamic Maps lets you to manage the color schemes for creating class rendered maps. The color scheme function sets the **fill color** parameter for the rendering properties of each class. Other rendering properties, such as transparency and outline are set manually for each class if you want.



### Creating a New Color Scheme

Use **Tools / Color Schemes** in the spreadsheet menu. Give the scheme a name and identify how many colors you want in the scheme. When you do this, the **Scheme Colors** field gets filled with black swatches.

A fast way to create a scheme is to use the **Color Ramp**. By clicking in the **Starting Color** and **Ending Color** fields you can define a ramp's beginning and end colors. Clicking **Apply Color Ramp** populates the other colors in the **Scheme Colors** display list.

If you want to change a color in the **Scheme Colors** display list, click on the color swatch and choose a new one.

When you are satisfied with the colors chosen and your other parameters, click **Add Scheme**.

### Managing the Color Scheme

To edit one of your own existing color schemes, use the **Select Existing Color Scheme** dropdown list to select the color scheme. Note: This list will only show the color schemes you have created / updated – it will not include any "system" color schemes. Each color in the scheme can be edited by selecting it in the **Scheme Colors** field. If you need to update the number of colors in the scheme, you must update the number of colors first and then re-select the scheme before you can assign values to those new colors.

If you want to edit a "system" color scheme, export the color scheme using Dynamic Knowledgebase and then import the resulting .clr file as outlined below, and then modify it as desired.

### Exporting a Color Scheme

You can share the color schemes you create with your colleagues. To export a color scheme to an external file, select the color scheme you want to export and click **Export Color Scheme**. Give the theme a file name and location and click **Save**.

The Dynamic Maps color scheme ".clr" file may have the same extension as files used in other systems, but it is not compatible with any other system.

### Update Scheme

Updating enables you to change the name, colors and number of colors in a color scheme. If you want to create a new scheme based on an existing one, first export the original scheme, make the changes (and change the name!), then re-import the old. Now you'll have both.

### Deleting a Scheme

To delete a scheme from the list of available color schemes, select the scheme and then click **Delete Scheme**.

### Importing a Color Scheme

To import a color scheme file, clear the form and click the **Import External Scheme** button. Locate the <scheme name>.clr file on your computer or on the network and click Open. The color scheme must be a unique name -- which may mean renaming an existing color scheme before importing if there are two schemes with the same names.

## Importing a “User Data Set”

Dynamic Maps lets you to import data as a “User Data Set”. The data can be in a number of formats: Access (.mdb), Excel (.xls), dBase IV (.dbf), or stored in an Oracle or SQL Server database. You can even import a table/view from any other ODBC-compliant database using an ODBC link in Access.

The important thing to know about importing data is that there needs to be a field in the database table/view that contains values that match (both in value and type) the values in the map layer’s ID field. You can look at the values in the ID field and in your data set table that you want to import using the “View Attributes” function in order to confirm the match.

If you are importing a view from an Oracle or SQL Server database, you will need to have appropriate password and permissions to see the server / service. Please talk to your database administrator if you need assistance.

You are always importing data sets based on the Active map layer. If the map layer you want to import data for is not active, select it. An imported data set is available in the Topic in which it is imported. If the map layer exists in many topics and you want the User Data Set there as well, you need to import it again. User data sets, once imported, are only available to your computer – not to everyone using the Atlas.

### How it’s done:

Use **Data Set / Import Data Set** from the map view menu.

**Step 1.** Set the Database Type and Select Database  
Select one of the five types available – Access, Excel, dBase, Oracle, SQL Server – by clicking on the appropriate radio button and clicking **Select Database**. Depending on the type you choose, a secondary form will appear either asking you to locate and open the file (for Access / Excel / dBase types); or to input the Net Service Name, User Name and Password for Oracle; or, Server Name, User Name, Password, and Database Name for SQL Server.

**Step 3.** Choose the Link Field  
Use **View Attributes** to see the contents of the table/view and the values of the map layer’s ID field. Right click on the appropriate field and **Set the Link Field**. Right clicking also enables you to sort the values in ascending or descending order.

Not all the records in the data set’s link field have to match a map layer feature ID value.

### Step 2. Identify the Table or View

The **Table or View** field lists the tables and views in the chosen database. For Excel spreadsheets, the worksheet tabs will be listed.

Choose the table/view you want to register. The “**Link Field**” field will be populated with all the fields in this table/view that are the same data type as the map layer’s link field. You will need to select a field in Step 3. that has **matching values with the map layer’s ID field** so that the data records can be related to the map features.

### Step 4. Complete the Import

Complete the import process by giving the data set a name and clicking **Import**. The data set will now be in the Tabular Data Sets and Queries window for that map layer and that Topic.

If none of the records in the data set have values that correspond to the map layer feature ID, the data set will not be imported.

### Considerations About Importing an Excel Worksheet

- When importing an Excel worksheet, the system will assume that the first row contains the field headings. You may need to do some formatting work in Excel before you can import the data, such as removing headers that span more than the first row.
- Any OLE objects in the spreadsheet will not be shown in the grid – such as graphs.
- When matching on a non-numeric field, sometimes a record in Excel will look like it's spelled the same, but in fact there is a blank space before or after the name. If so, the link with the map layer feature won't work. Other things to watch out for that will produce link errors is that sometimes the words are spelled slightly differently, and sometimes there is different capitalization.
- Because of the greater chance for error with Excel, it is often better to first import the spreadsheet into Access as a table and then import the table into Dynamic Maps.

### Deleting a User Data Set

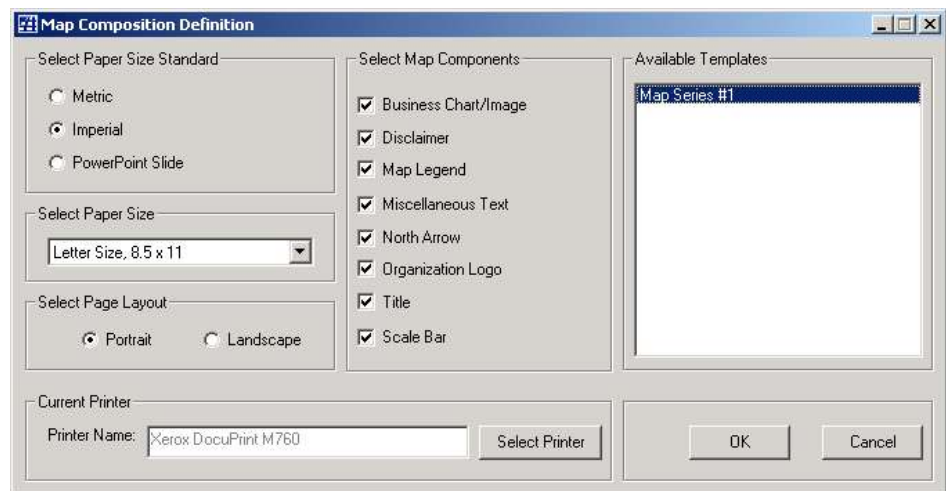
Use **Data Set / Delete Data Set** to delete any user data set for the active map layer. You can only delete user data sets that you have imported. System data sets can only be removed by using Dynamic Knowledgebase.

## Working with Map Composer

### Map Composer Explained

Map Composer lets you create map compositions that can be printed with a printer or integrated with PowerPoint as a slide. Map compositions can have various surround features such as a North arrow, title, legend, graphics, scale bar and text.

Map Composer also lets you create map templates that can be re-used with a consistent layout and style based on the size and orientation. In this way, it's easy to create a map "series" with different content but the same layout.



## Map Composer Functionality

### How it's Done:

**Step 1.** Use **File / Compose Map** to begin. Select the Paper Size Standard that you will using. Select Metric or Imperial if you are going to print the map or select PowerPoint Slide if you are sending the composition to PowerPoint as a slide.

### Without a Template:

**Step 3.** Once the size and orientation parameters are set, select the various map components that you want to appear on the composition. Each map component is turned "on" or "off" by clicking on and off the check mark beside its name. You can also change them in the Map Composer. When you have selected what components to start with, click **OK** to launch the Map Composer.

**Step 2.** Select the Paper Size if you are printing the map and identify whether the map will be output with a **Portrait** (vertical) or **Landscape** (horizontal) layout in the **Select Page Layout** field. These options are disabled for a PowerPoint slide.



If you are printing, check the Current Printer setting and if necessary, **Select Printer**.

### or, With a Template:

**Step 3.** Once the size and orientation parameters are set, the system will list any templates available for that size and orientation in the Available Templates field. If you want to use a Template you have already created and saved, select that template by clicking on it to highlight it. Click **OK** to launch the Map Composer.

### **The Map Components**

Each of the components on the map composer can be resized and several have properties, such as border, text, size and color that can be defined. The map components are accessible in the map composer's View menu or a component can be accessed directly by right-clicking on it. Components can be turned on and off using the "visible" switch on their properties form.

Clicking on a map component with the left mouse button lets you to change its size and location. Move the cursor over the corners until it becomes a two-way arrow  and then drag the corner in or out to change the size. Note the resizing is proportional in both directions. To move the component, move your cursor over the component until it becomes a four-way arrow symbol  then click on the component with your left mouse button and drag the component to its new location. You can use the horizontal and vertical guides to help you position the component at a specific location. The guides can be turned on/off from the **View / Guides Visible** menu.

**Use of Fonts:** All the elements that contain text support the use of multiple fonts so that, for example, the component can reflect the language in which it is being used.

#### **Business Chart/Image**

If you have an image that reflects or enhances the information shown on the map, this component provides an opportunity to incorporate that image on the map composition. For example, you may want to use this function to place a key map in your composition. You can add any graphic from your system or network using the **More** button. These graphics all must be in .bmp format.

**Tip:** Use the **Edit / Copy All** function to create a Key Map for your map composition. Capture the map image at the topic full extent and paste into an image editing software.

#### **Map Legend**

The Map Legend lists the various map layers shown on the map as well as any class rendering results. The legend is generated by the system based on the map layers that are turned on.

The properties form lets you:

- Edit the font properties (color, font, size) of both the legend's title and the map layer names.
- Edit the border's width and color and turn the border off.

By right-clicking on the legend, or by selecting **Map Composer - View / Legend**, you can define a border for it and turn its visibility on and off. If you publish the map composition in PowerPoint, you can edit the legend text.

#### **Disclaimer**

Disclaimer is a text field. Its default purpose is associated with copyright and other related notifications, although, you could use it for any text.

#### **North Arrow**

The map is always created with its orientation having North at the top of the page. You can choose from several different north arrow styles. To add a north arrow to the list of available arrows, use the **More** button to navigate to the image file. The graphic must be in .bmp format.

#### **Title**

The Title component is a text field in which you can provide a title for the map.

#### **Map Background**

Map Background lets you add a border around the map composition. To access the form, right-click anywhere on the map composition outside of any other elements or select **Background** from the map composer's **View** menu. If you want a border, specify its width in pixels and if necessary, change the color by right-clicking the color swatch or using **Select Color**. The output results may vary in effectiveness depending on the printer you use since the border may not match the paper's edge.

#### **Map**

No matter what, the map will always be present! You can add a border to the map and change its width and color. You can turn on and off the coordinates that will appear on the corners of the map, as well as edit their font name, size and color.

If you publish the map composition to PowerPoint, the map can be edited by converting the image and ungrouping its features.

#### **Miscellaneous Text**

The Miscellaneous Text box gives you an opportunity to provide, say, a description of the project that the map represents or any other pertinent information.

#### **Organization Logo**

The Organization Logo component provides the opportunity to include your organization's logo on the map composition. Use **More** to initially add the proper logo and subsequently any additional graphics you may want to add to your **Available Logos** list.

#### **Scale Bar**

The scale bar is a graphic that the system automatically generates to indicate the scale at which the map image is drawn. The scale bar is tied to the map. If you enlarge or shrink the map the scale bar will automatically change.

### Using the Map Guides

The red-hatched map guides - the vertical X Guide and horizontal Y Guide - show the position of the map feature. Their positions are displayed in inches or mm depending on the paper type chosen and reflect the distance from the left hand side of the page for the X Guide, and the top of the page for the Y Guide. To move a guide, move your cursor over top of it until it becomes a two-way arrow, click and hold with the left mouse button, and then drag the guide to position.

Components "snap" to guides automatically. As a result, it is easy to position components in exact locations and to line them up vertically and horizontally. To get a component to "snap" to a position, the X Guide must be near the left or right side of the component, or the Y Guide must be near the top or bottom of the component.

In the **Map Composer – View** menu you can select "**Guides Visible**" to turn the guides off and on.

### Saving the Map Templates

The placement, type and characteristics of the map composition's elements in the map composer can be saved as a template - meaning that all the various surround features, their sizes, fonts, positions, border properties, text descriptions, and their visibility can be saved for use in other map compositions. This is helpful if, say, you need a consistent look and text descriptions to your map compositions. The first time you create a map composition, there are no templates. Templates are user-specific and need to be defined with each install of Dynamic Maps.



To save a template select **Map Composer – File / Save Template As** or the **Save Map Template As** button from the Map Composer's button bar.

If you want make changes to the template, select it when you start creating the map composition and then save it again with the changes.





To **delete a Map Template** that you no longer need, use **Map Composer - File / Delete Template**. The form will list all available templates for that paper size and orientation.

### Previewing Your Map Composition (Print Preview)

Before printing, Dynamic Maps gives you a chance to see what the final product will look like.



Use Print Preview on the map composer button bar, to launch the **Map Composition Viewer** form. From this form, you see exactly how the graphics file will look when it is created and sent to the printer.

Use the **View Full Composition**, **Zoom In**, **Zoom Out** and **Pan** buttons     to view the area of the map of interest. You can now save the map composition graphic file or print it.

### Saving a Map Composition

When you are satisfied with the result, you may want to save the map composition as a graphic file in .bmp format. To save a composition, use **File / Print Preview** from the Map Composer form, and then **File / Save** from the Map Print Preview form.

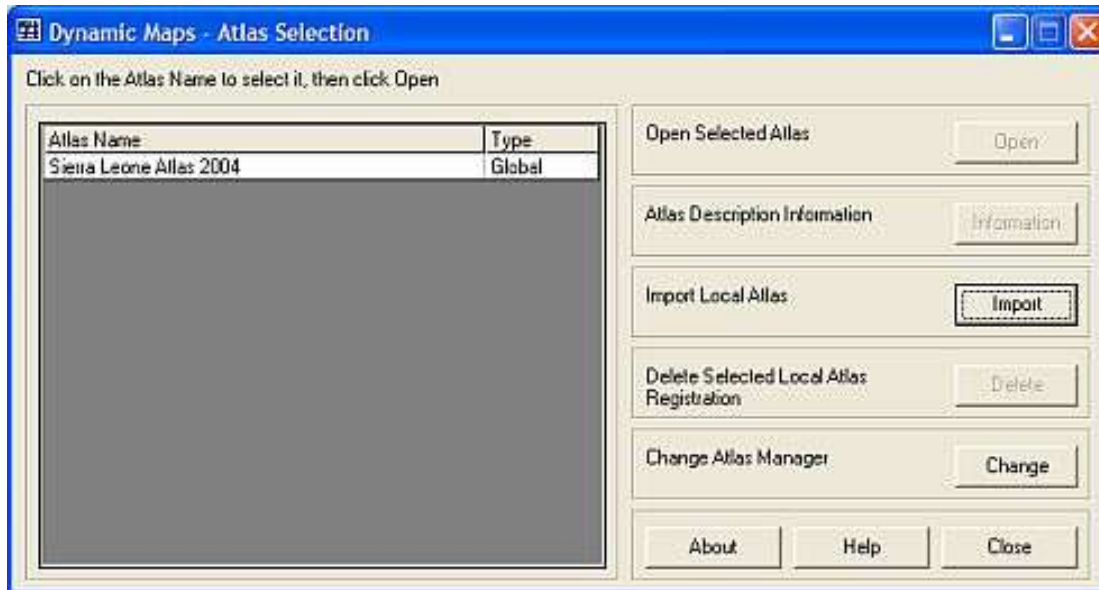
When you save the map composition, all your current map compositions will be listed regardless at what scale they have been produced. When you save a map composition you have no way of later editing it directly from Dynamic Maps. Each map file will be about a 4 megabyte .bmp file. To delete a map composition, use **File / Delete Map Composition** in the Map View (not the Map Composition).

### Printing a Map Composition



To print the map composition, use the Print button on the Print Preview form. If you are printing to Adobe Acrobat Distiller, the process may take a few minutes to complete.

## Dynamic Maps Administrative Functions



### Advanced Functions: Connecting to the Global Atlas Manager.

When connecting to atlases on a network, Dynamic Maps makes the connection through the "Global Atlas Manager" – a database often called "Atlas Manager.mdb" that keeps track of the atlases on the network and directs Dynamic Maps where to go to find them. This is the file you need to connect to so that Dynamic Maps can use atlases on the network.



### Atlas Information

The **Information** button launches a form that provides information that was used to define the atlas when it was created with Dynamic Knowledgebase. None of the fields can be changed in Dynamic Maps.

<p><b>Atlas Name</b> The name of the atlas.</p>	<p><b>Atlas Description</b> A description given to the atlas typically to indicate source and/or purpose.</p>
<p><b>Atlas Location</b> The location of the "&lt;atlas name&gt; kb.mdb" file. This file maintains the registry information for all the map layers, data sets and metadata in the atlas.</p>	<p><b>Map Projection</b> The map projection identifies which map projection the map layers are stored in. There are many possible projections, including: Geographic, Mercator, UTM and several others.</p>
<p><b>Mapping Coordinate Units</b> The Mapping Coordinate Units represent the reference system used to measure locations on a map. The choices are Decimal Degrees and Meters.</p>	<p><b>Reference Ellipsoid</b> The Reference Ellipsoid is a mathematical representation that describes the approximate surface of the earth and is the basis for a mapping coordinate system. There are several ellipsoids including: GRS 1980, Clarke 1866 (for North America), WGS 84, etc.</p>
<p><b>Atlas Password</b> For Atlases with a password, Dynamic Maps users will need to input the password before they can add related information.</p>	<p><b>DWMS Server IP Address / Host Name</b> The "<b>Server</b>" is the URL/location of the Internet or Intranet service where Dynamic Web Maps Server (DWMS) is installed and running. Used when the atlas is published on the web.</p>

**Web Alias**

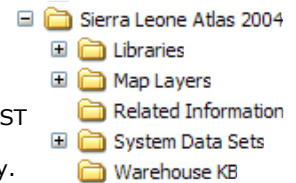
The "**Web Alias**" is the Virtual Directory that points to the Related Information directory in the atlas. Used when the atlas is published on the Internet.

**Importing an Atlas**

Atlases created with Dynamic Knowledgebase can be copied and imported for use on your computer. This makes Dynamic Maps a powerful stand-alone data access application because whole organizations and their partners and clients can all be accessing and using the same data even when not connected to a network.

**The Import process:**

1. Copy or unzip the atlas in its entirety onto your computer. Some atlases can be quite large, so make sure you have enough disk space on that drive. The atlas **MUST** be copied with all its files and directories in their same relative locations – i.e. **DO NOT** change the name of any file or directory, and do not move any file or directory. A typical atlas will have a directory structure like the one shown and this must be maintained on your computer when you copy it.
2. When the atlas is in place, click **Import** on the opening form in Dynamic Maps and browse to the location of the parent directory and click **OK**.
3. The import process will begin automatically. If you get any errors they may reflect one of four conditions:
  - a. There were one or more files missing. If this is the case, you can usually chose to continue to import the atlas and the references to those files would be removed. Otherwise, don't import the atlas and either look for the missing file(s) or ask the atlas creator for assistance.
  - b. The atlas won't import at all because you selected the wrong parent directory. Read the error message carefully and try the import again.
  - c. The atlas won't import at all because the atlas structure has been changed or an atlas directory has been renamed or some other problem exists. Try copying the original atlas files again or ask the atlas creator for assistance.
  - d. You already have the same local atlas imported. You can have the same atlas as a global atlas and as a local atlas as long as they are two separate copies.

**Deleting an Atlas Registration**

To remove the registration for a local atlas from your computer, select the atlas you want to remove and from the Administration form, click the **Delete** button. This process just removes the atlas from the list, it does not delete any files. If you want to completely delete the atlas from your computer, delete the registration first in Dynamic Maps, then delete the files in Windows Explorer. Note, you cannot delete the registration of a Global Atlas. This can only be done with Dynamic Knowledgebase.

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## Appendix 1. Using Dynamic Maps on a Network

Dynamic Maps can link to multi-user "global" atlases on a network through the Global Atlas Manager, as well as "local" atlases on your computer. Atlases are built and managed using **Dynamic Knowledgebase**. For information about building atlases and using Dynamic Knowledgebase, please contact Dynamic Planet at [www.dynamicplanet.com](http://www.dynamicplanet.com) or consult the Dynamic Knowledgebase documentation. Dynamic Knowledgebase and sample atlases can be downloaded from the Dynamic Planet web site.

### Installing and Setting Up on a Network

**Need a Global Atlas Manager:** When installing Dynamic Maps on a Network, it will need to connect to the Global "Atlas Manager" in order for it to connect to the atlases on the network. This is usually a file called "Atlas Manager.mdb" that is created with Dynamic Knowledgebase.

**Global Atlases:** Atlases stored centrally and registered in the Atlas Manager are considered "global" and can be accessed by other users that connect to the same Atlas Manager. Global atlases are particularly useful if, for example, the data are changing frequently, and/or if the tabular or spatial data are too large to distribute on CD, and/or if the data are coming from another corporate system, and/or if restrictions need to be placed on who has access to the information. When global atlases are used, Dynamic Maps connects to them through the Global "Atlas Manager" file.

**Need Administrator Privileges:** If your computer is installing from a network or if you have many users registered on this computer, make sure you have logged on to the computer with Administrator privileges before beginning the install.

#### *Uninstall Any Older Versions of Dynamic Maps*

If you have an older version of Dynamic Maps, uninstall it first. If the uninstall prompts whether you want to delete shared files, pick NO. To uninstall, use the Control Panel's "Add / Remove Programs" function. Select Dynamic Maps and follow the prompts. There may be some files left in the {root:\Program Files\Dynamic Atlas\Dynamic Maps} directory. These can be deleted manually – be careful when deleting files in this area of your computer.

Reboot your computer after the uninstall.

#### *Install Dynamic Maps*

Use the **Dynamic Maps 3.1 Install.exe** file to install the software. Accept the defaults and REBOOT after installing. If there are any Service Packs issued, install these too after re-booting. Check the Dynamic Planet web site [www.dynamicplanet.com](http://www.dynamicplanet.com) for Dynamic Maps service packs.

#### *Connect to a Global Atlas Manager*

For Dynamic Maps to access atlases that are managed on a local area network in your office, you need to connect to the Global "Atlas Manager". From the opening form, click the **Select** button and navigate through the network to the Atlas Manager.mdb file. **Open** it and then **Close** the form.

If you have any atlases you want to connect to locally, use the Import process from Dynamic Maps to connect to them. Do not connect to the same atlas that is already available as a Global atlas.

## Appendix 2. Liberate Your Information!

### Introducing Dynamic Planet

Dynamic Planet is an information solutions company. Our focus is to help organizations publish and access information. Projects of any size can be quickly, effectively, and confidently implemented based on our experience and often by leveraging Dynamic Atlas software.

**Dynamic Atlas Software** is a software solution that:

- Handles all kinds of information – such as spatial data, tabular data and documents;
- Handles key functions that most people need;
- Is “generic”, works anywhere and even complements other technologies; and,
- Is usable by everyone – not just the few “gurus” who have advanced technology or experience.

### Introducing Dynamic Atlas

**Dynamic Atlas** technologies enable the integrated publishing of maps, databases, and documents. The key components of Dynamic Atlas are:

**Dynamic Atlas:**  
So advanced it's simple.

1. **Dynamic Knowledgebase**, which provides the ability to quickly and easily set up and manage atlases for publishing to the desktop with Dynamic and the web through Dynamic Web Maps.
2. **Dynamic Maps**.
3. **Dynamic Web Maps**, which enables the publishing of atlas topics on the Internet.

### Dynamic Knowledgebase

Our database management tool, **Dynamic Knowledgebase**, is at the heart of Dynamic Atlas. With Dynamic Knowledgebase, the construction and management of the atlas is “behind the scenes” so that your clients only need Dynamic Maps or a web browser to access and use the data and information.

With **Dynamic Knowledgebase** your organization can maintain virtually all its information in structured corporate data atlases – thus promoting maintenance, standards and data sharing. Once data are registered in an atlas, they are *automatically and immediately* available for use on the desktop or over the Internet on the corporate web site.

Specifically, Dynamic Knowledgebase handles:

- **Spatial data (maps)** – even huge map layers can be handled. When spatial data are registered, their rendering characteristics are defined as well as the scale at which they should be rendered. This way, the data appear in a logical color, sequence, and at an appropriate scale when they are accessed on the desktop or on the web. The user chooses what map layers they want to see and use, and there they are! Dynamic Knowledgebase handles spatial data in ESRI’s coverage and shape file format and various raster/image formats.
- **Tabular data** from Oracle, SQL Server, dBase, Access, Excel or any ODBC-compliant database system. With Dynamic Knowledgebase it is easy to relate tabular data to features on a map layer so that users can easily “map” their data to identify spatial trends, create thematic maps, and do other spatial analysis.
- **Metadata (Descriptions of the data)**. Dynamic Knowledgebase enables all data to have detailed and standardized descriptions provided for them to support users’ needs to understand the data they are using.
- **Multiple “Atlases”**. Spatial data can have different projections or they can relate to completely different areas or features. Therefore, Dynamic Knowledgebase lets you create separate “atlases” of data as a way of logically and physically organizing - keeping “like” data together. You can distribute these atlases on CD.
- **Topics**. Groups of map layers, data sets, and documents are put into relevant “topics” that are immediately reflected when a user launches Dynamic Maps or logs onto your web site. Topics let you focus the users’ attention on an item or area of interest while providing information that is tailored to meet their needs.

Bring the relationship  
between your data and  
geography to life!

### ***Dynamic Web Maps***

Dynamic Web Maps integrates mapping, tabular data and related documents reports and URLs on the Internet thereby significantly enhancing your ability to communicate with clients and share important information.

The atlas "topics" are published individually so that the Internet client can quickly find the information they need or create a map of particular interest. And before accessing any of them, clients can access descriptions of the data to determine what map layers and tabular data are worthwhile retrieving. As the data change and are updated in the core database, these changes are immediately reflected on the web site.

Click on a map feature and get information about it -- such as links to documents, dynamic reports, a URL, etc. ***Any information object*** can be registered against ***any map feature*** providing your Internet clients a fabulously easy and powerful access mechanism for whatever information you want to publish.

Dynamic Web Maps provides the integration of maps, tabular data and documents on the Internet. No HTML programming required. No plug-ins either.

### ***Contact Dynamic Planet***

Our experience, partnerships, and Dynamic Atlas software combine to provide any organization with dramatic information publishing and access solutions. Contact us and find out how we can help you "Liberate Your Information!"

#### **President**

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## Appendix 3. Dynamic Maps Function Descriptions

### Map View Functionality

File	Edit	Data Set	View	Layer	Tools	Related Info	Window
Delete View	Copy Selected	Import Data Set	Pan	Active Layer	Measure	Add	Tile Windows
Save View	Copy All	Delete Data Set	Zoom In	Rendering Properties	• Measure Area	Update	Tips
Save View As	Select by Intersecting		Zoom Out	Visible Layer	• Measure Distance	Delete	Topics and Views
Compose Map	Select by Name		Zoom Topic Extents	Description	Draw	Related Info Mode	Map Layers
Open Map Composition	Select by Pointing		Zoom to Selected		Identify Feature	Show Related Info	Related Information
Delete Map Composition	Select by Polygon		Zoom to Active Layer		Advanced Identify		Data Sets
Select Printer	Select by Rectangle		Show Feature Names		Find Feature		Spreadsheet
Print View	Select by Circle		Label Selected		ArcView 3		
Refresh Atlas	Select All		Label Found				
Atlas Connections	Unselect All		Render Labels				
Exit			Render Selected				
			Render Find / Identify				

### Map View File Functions

#### **Delete View**

**Delete View** brings up a form of available views from which you choose the one to delete. To delete a view, select it from the list and click **Delete**.

#### **Save View As**

**Save View As** saves your current Map View and rendering settings as a new user view.

#### **Open Map Composition (Ctrl+O)**

**Open Map Composition** lets you select a map composition already created for viewing and printing.

#### **Select Printer**

**Select Printer** lets you choose the printer or output service for printing a map composition file or your view.

#### **Save View (Ctrl+S)**

**Save View** saves the Map View and rendering settings with the same name. If there is no name, the system uses "Save View As".

#### **Compose Map (Ctrl+M)**

**Compose Map** lets you establish the parameters for the map composition.

#### **Delete Map Composition**

**Delete Map Composition** deletes a map composition from the list of available map compositions.

#### **Print View (Ctrl+P)**

**Print View** lets you do a quick print of the current user view – without any of the surround features.

**Refresh Atlas**

**Refresh Atlas** re-starts the atlas at its default view. Use when changes are made to the atlas's data/structure.

**Atlas Connection (Ctrl+W)**

**Atlas Connection** invokes an Atlas Selection form so you can connect to another atlas.

**Map View Edit Functions****Copy Selected (Ctrl+C)**

**Copy Selected** lets you copy just the selected map feature(s) to the Windows clipboard as a graphic image. From there, the features can easily be pasted into any standard Windows software supporting cut and paste functionality.

**Copy All**

**Copy All** copies all visible features in the map view and places them in the Windows clipboard. This is an easy way to get your view into Word or PowerPoint.

**Select by Circle**

**Select by Circle** lets you define a circular shape on the map view for which all the intersecting active layer features will be selected.

**Select by Intersecting**

**Select by Intersecting** lets you select any features on a non-active layer that intersect with features you have already selected on the active layer.

**Select by Name**

**Select by Name** brings up a list of the available features on the active layer. Selecting one or more feature names from the list will automatically select and highlight the feature on the map view. You can list only those features in the active layer that are visible in the current view, or list all features in the active layer.

**Select by Pointing**

With "Select By Pointing", you select and unselect features on the active layer by positioning your cursor on them and clicking. You can select multiple features by holding the CTRL key while clicking the mouse.

**Select by Polygon**

**Select by Polygon** lets you define a polygonal shape on the map view for which all the intersecting active layer features will be selected.

**Select by Rectangle**

**Select by Rectangle** lets you define a rectangle on the map view for which all the intersecting active map layer features will be selected.

**Select All**

**Select All** selects all the features on the active layer.

**UnSelect All**

**UnSelect All** clears the currently selected set of features on the active layer.

**Map View Data Set Functions****Import Data Set**

**Import Data Set** allows an appropriately structured tabular data set to be imported and linked with the current active map layer. Once the data set has been successfully imported, it is displayed as a user data set in the Tabular Data Sets and Queries window under the associated map layer's name.

**Delete Data Set**

**Delete Data Set** lets you remove a user data set.

**Map View View Functions****Pan**

**Pan** lets you grab and move the map image in any direction with the mouse.

**Zoom In (Ctrl+Z)**

**Zoom In** lets you increase the scale of the Map View by defining a rectangle for the new area of interest.

**Zoom Out**

**Zoom Out** lets you zoom out 150% and center on the position of the cursor.

**Zoom Topic Extents (Ctrl+G)**

**Zoom Topic Extents** zooms to the outer boundaries of the topic.

**Zoom to Selected**

**Zoom to Selected** zooms to the selected feature(s) and centers it in the map view.

**Zoom to Active Layer**

**Zoom to Active Layer** zooms to the extent of the active layer.

<p><b>Show Feature Names</b></p> <p>Show Feature Names will label all the features of the Active Layer based on the map layer's assigned name field.</p>	<p><b>Label Selected</b></p> <p><b>Label Selected</b> turns on and off labels for selected features.</p>
<p><b>Label Found</b></p> <p><b>Label Found</b> turns on and off labels for found features.</p>	<p><b>Render Labels</b></p> <p><b>Render Labels</b> lets you define the size and color of the labels.</p>
<p><b>Render Selected</b></p> <p><b>Render Selected</b> lets you change the rendering properties used for selected features.</p>	<p><b>Render Find - Identify</b></p> <p><b>Render Find - Identify</b> lets you change the rendered properties of features when they are found or identified.</p>

## Map View Layer Functions

<p><b>Active Layer (CTRL+A)</b></p> <p><b>Active Layer</b> provides a list of all selectable map layers from which you can set the active layer by clicking on its name in a list.</p>	<p><b>Render Properties (Ctrl+R)</b></p> <p><b>Render Properties</b> lets you select a map layer and then define its rendering properties (i.e. how it appears on the map view).</p>
<p><b>Visible Layer</b></p> <p><b>Visible Layer</b> lets you quickly turn the layers on and off in your map view all at once – rather than one at a time.</p>	<p><b>Description</b></p> <p><b>Description</b> lets you get a report (often called "metadata") in your web browser about a map layer.</p>

## Map View Tools Functions

<p><b>Measure - Area</b></p> <p><b>Measure - Area</b> lets you define a polygon and find its approximate area in square meters or kilometers.</p>	<p><b>Measure - Distance</b></p> <p><b>Measure - Distance</b> lets you draw a complex line and find its approximate length in meters or kilometers.</p>
<p><b>Draw</b></p> <p><b>Draw</b> launches the Draw Toolbar with a number of drawing-related functions. These can be used to enhance your map composition with project-specific descriptive lines, shapes, and text.</p> <ul style="list-style-type: none"> <li>• <b>Draw Point:</b> Draw points of various styles, weight, and color using either default styles or any true-type font on your system.</li> <li>• <b>Draw Line:</b> Draw a complex line of various styles, weight, and color.</li> <li>• <b>Draw Polygon:</b> Draw polygons with various fill patterns, fill color, and line color.</li> <li>• <b>Draw Rectangle:</b> Draw rectangles with various fill patterns, fill color, and line color.</li> <li>• <b>Draw Circle:</b> Draw circles with various fill patterns, fill color, and line color.</li> <li>• <b>Add Text:</b> Add text to create labels for features or add other relevant information on your map.</li> <li>• <b>Delete User Object:</b> Delete User Object deletes drawn objects and text.</li> <li>• <b>Delete All User Objects:</b> Delete All User Objects deletes all drawn objects and text.</li> </ul>	
<p><b>Identify Feature</b></p> <p><b>Identify Feature</b> lets you identify a feature on the active layer by clicking on it.</p>	<p><b>Advanced Identify</b></p> <p><b>Advanced Identify</b> provides all the information about a feature stored in the map layer's primary attribute table.</p>
<p><b>Find Feature (Ctrl+F)</b></p> <p><b>Find Feature</b> lets you find a particular feature on the active layer – either within the current view or over the entire layer's extent.</p>	<p><b>ArcView 3</b></p> <p><b>ArcView 3</b> launches ArcView and passes the currently visible map layers to ArcView into a project view.</p>

## Map View Related Info Functions

### **Add**

**Add** lets you publish a document, URL or description against a selected map feature(s). You may need specific privileges i.e. an atlas password and operating system privileges depending on your system's security settings (see your system administrator for details).

### **Delete**

**Delete** lets you delete any related information object for the selected map feature(s).

### **Show Related Information**

**Show Related Information** launches the related information form containing the related information for selected features.

### **Update**

**Update** lets you update the logical name and the description for a linked information object for the selected map feature(s).

### **Related Information Mode**

**Related Information Mode** puts you in the related information mode so that whatever feature you click on will become selected and its related information will be highlighted or launched.

## Map View Window Function

### **Tile Windows**

**Tile Windows** will "fit" all the open windows on your computer screen. Use the other functions in the Windows menu to turn the various windows on and off. The only window that cannot be shut down is the actual map view.

## Spreadsheet Functionality

File	Edit	Tools
M/S Excel - All records	Select All	Query Builder
M/S Excel - selected records	Inverse Selection	Find
Save Selected Records	Unselect	Find Minimum
Exit		Find Maximum
		Sort
		Math Functions - sum
		Math Functions - average
		Class Rendering - Create
		Class Rendering - Clear
		Description
		Color Schemes
		Label Features

## The Spreadsheet File Functions

### **M/S Excel – All Records**

**M/S Excel – All Records** launches Excel, moves all the data from the Spreadsheet into Excel, closes the Dynamic Maps spreadsheet and maintains a link between the records in Excel and the map view.

### **Save Selected Records**

**Save Selected Records** registers all the selected records in the spreadsheet as a new User Data Set.

### **M/S Excel – Selected Records**

**M/S Excel – Selected Records** launches Excel, moves any selected records in the Spreadsheet into Excel, closes the Spreadsheet and maintains a link between the records in Excel and the map view.

## The Spreadsheet Edit Functions

### **Select All**

**Select All** selects all the records in the Spreadsheet. The map will also change to reflect this new selected set.

### **Inverse Selected**

**Inverse Selected** lets you reverse the current selection. It makes all unselected records selected, and makes the selected records unselected.

### **Unselect Records**

**Unselect Records** releases all the currently selected records.

## The Spreadsheet Tools Functions

### **Query Builder**

**Query Builder** lets you create a sub-set of the records in the Spreadsheet that meet specific criteria you define.

### **Find**

**Find** lets you find a string of characters in the Spreadsheet.

### **Find Minimum**

**Find Minimum** finds and selects the record(s) with the minimum value in a column (field).

### **Find Maximum**

**Find Maximum** finds and selects the record(s) with the maximum value in a column (field).

### **Sort**

**Sort** sorts the spreadsheet's records in ascending or descending order in a column (field).

### **Math Functions / Sum**

**Math Functions / Sum** calculates the total of a column's values.

### **Math Functions / Average**

**Math Functions / Average** calculates the average value of a column (field).

### **Class Rendering**

**Class Rendering - Create** lets you divide the spreadsheet's records into meaningful value-ranges or partitions ("classes") and then display these on the map in different colors and styles. To clear the class-rendered map, use the **Class Rendering - Clear** function.

### **Description**

**Description** lets you get a report describing a data set in your web browser (often called "metadata").

### **Color Scheme**

**Color Scheme** lets you manage the color schemes you use to create class rendered maps – including importing and exporting schemes from elsewhere.

### **Label Features**

Label Features lets you select a field from the spreadsheet and use its values to label the map features. Label Features has two functions: Create and Clear. **Create** enables you to define what field to use for the labels, how the system should choose the labels when there is more than one label per features; and, how the labels should appear. **Clear** will clear the map view of the labels.

## Map Composer Functionality

File	View
Save Map Template	Business Chart / Image
Save Map Template as	Disclaimer
Delete Map Template	Map
Print Preview	Map Background
Microsoft PowerPoint	Map Legend
Exit	Miscellaneous Text
	North Arrow
	Organization Logo
	Scale Bar
	Title
	Guides Visible

<b>Show Coordinates</b>
-------------------------

## Map Composer File Functionality

### **Save Map Template**

**Save Map Template** lets you save your current map parameters for use in subsequent map compositions. If your current map's parameters have not been previously saved and named, then use "Save Map Template As" form.

### **Delete Map Template**

**Delete Map Template** provides you with a list of the templates you have saved and lets you select then delete one of those templates.

### **Microsoft PowerPoint**

**Microsoft PowerPoint** sends the map composition to PowerPoint.

### **Save Map Template As**

**Save Map Template As** saves a new map template.

### **Print Preview**

**Print Preview** function creates a preview of the map composition and displays it in its own window. From this form you can:

- Save Map Composition – lets you define the name and the file location for the graphic (.bmp) file that you are about to save; and,
- Print Map Composition.

## Map Composer View Functions

### **Guides Visible**

**Guides Visible** lets you select whether or not the X and Y (vertical and horizontal) guides are visible on the map composition. The guides can then be used to orient and "snap" composition objects.

### **Show Coordinates**

**Show Coordinates** lets you select whether or not the X and Y (vertical and horizontal) coordinates are visible on the map composition corners.

## Appendix 4. “Value Used When Multiple Records” Scenario

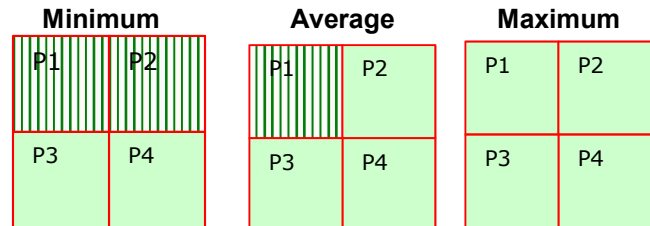
In Class Rendering, the **Value Used When Multiple Records** parameter is probably the least well understood. This example helps explain what it does and how. Value Used When Multiple Records only makes a difference to the rendered map when map features have more than one record related to it. In this example, the map has four “features”. You want to consider a field that is present in the spreadsheet for all four features, but for two of those features there is more than one record. You render the map in two classes so that features with an associated value less than 3 are rendered as vertical lines and those with a value of 3 and above are rendered as solid.

The first three columns represent the data in the spreadsheet and the last three show how the feature would be rendered for each class assignment:

Data Set Record	Map Feature	Value	Average Value for Map Feature	Minimum render as:	Average render as:	Maximum render as:
#1	P1	2	2.5	<b>Lines</b> (value=2)	<b>Lines</b> (value=2.5)	<b>Solid</b> (value=3)
#2	P1	3				
#3	P2	2	4.5	<b>Lines</b> (value=2)	<b>Solid</b> (value=4.5)	<b>Solid</b> (value=7)
#4	P2	7				
#5	P3	5	5	<b>Solid</b>	<b>Solid</b>	<b>Solid</b>
#6	P4	4	4	<b>Solid</b>	<b>Solid</b>	<b>Solid</b>

Looking at the field value in the above table, features P1 and P2 have values that could put them in either class.


With **Minimum**, features P1 and P2 would be rendered with lines -- since they both have a minimum value lower than 3 (record #1 and #3).



With **Average**, the system sums the relevant values associated with each feature and takes an average of these, and then renders the features based on those average values. In this case, features P2, P3, P4 are rendered as solid since their values are greater than 3, while P1 is rendered with vertical lines since it's value is less than 3.

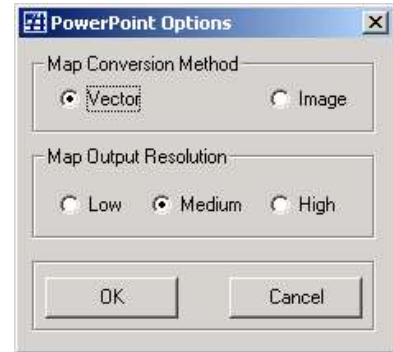
With **Maximum**, all features would be solid, because all four features have an associated database record with a value of 3 or greater.

## Appendix 5. Using PowerPoint with Dynamic Maps

You can create a PowerPoint  slide instead of a paper map by selecting PowerPoint Slide in the Map Composition Definition Form's "Select Paper Size Standard" field. When you are in Map Composer, selecting **Map Composer – File / PowerPoint** launches PowerPoint and creates a new "presentation" with your map composition on a slide.

In order to be able to edit the map, you must select "Vector" in the Map Conversion Method options. Then select the Map Output Resolution of Low, Medium or High. If you select "Image", the entire map composition will be transformed into a graphic and placed into a PowerPoint slide.

PowerPoint cannot handle too much detail – and that is unfortunately the case in GIS vector data. That's why Dynamic Maps provides three options for Map Output Resolution. High provides the most detail but may have too much data for PowerPoint to Ungroup. Use a Medium or Low setting to transfer the vectors in such a way that the complexity of the vectors is not too high for PowerPoint.



When you choose to create a PowerPoint slide, the various map components are transferred as a text box, an editable picture, or as an image. These can have various effects and enhancements applied including shadows, borders, and fills. Text boxes can be rotated and given 3-D effects. Pictures have a variety of formatting tools available through the Picture Toolbar - such as transparency, contrast, and brightness.

Component	Component Characteristics
Business Chart/Image	The Business Chart / Image is transferred as an image.
Disclaimer	The Disclaimer is transferred as a text box.
Map Background	Map Background is not transferred.
Map Legend	The Map Legend is transferred as a picture object and can be ungrouped and edited.
Miscellaneous Text	The Miscellaneous Text component is transferred as a text box.
North Arrow	The North Arrow is transferred as an image.
Organization Logo	The Organization Logo is transferred as an image.
Title	The Title is transferred as a text box.
Scale Bar	The Scale Bar is transferred as a picture object and can be ungrouped and edited.

### **Editing the Map in PowerPoint**

The map itself is transferred as an editable picture object when you select the "Vector" option in the Map Conversion Method. To edit the map in PowerPoint, select it and click OK when challenged to convert the object and then "Ungroup" from the Draw menu. Because entire map layer features are transferred to PowerPoint, they do often not fit the rectangular boundaries of the map composition and some features may actually lie outside your map composition area on the slide. You may want to select and delete some of these. By editing in PowerPoint this way, you have the opportunity for a great deal of visual effects – such as animating individual features and "exploding" them out from the map to highlight them.

Tip: When the features are Ungrouped, they remain all selected. If you need to delete various map features that are outside your viewing area but you find it difficult to unselect the features, you can create a new slide and then go back to the slide with the map. The features will now be unselected.

Tip: Try using the Format Autoshape function to try different colors and effects with your map features.

## Appendix 6. Glossary of Terms

<b>Active Layer</b>	The Active Layer is the selected map layer in a topic. Only one layer can be active at a time. An Active Layer can have its features selected and identified and can have related information registered against its features. Any selectable map layer can be made active. Make a layer active by clicking on its name.
<b>Atlas</b>	An "atlas" is a grouping of map layers and their associated system data sets and related information objects and descriptions and organized into topics.
<b>Data Set / Tabular Data</b>	<p>A Data Set contains tabular information that appear in the Spreadsheet window. Only one data set can be used at any one time. There are two types of Data Sets: <b>System Data Sets</b> and <b>User Data Sets</b>.</p> <p><b>System Data Sets</b> are registered in the atlas with Dynamic Knowledgebase and cannot be deleted by you. System data sets are accessible to anyone using the atlas with Dynamic Maps.</p> <p>A <b>User Data Set</b> consists of data defined by you through the <b>Data Set / Import Data Set</b> menu function and is only accessible to you.</p>
<b>Database</b>	A collection of related information, managed, and stored as a unit. A GIS database includes data about the spatial location and shape of geographic features recorded as points, lines, areas, or pixels as well as their attributes. A tabular database contains records with various fields containing values. Dynamic Maps can connect to almost any production database.
<b>Image Data / Raster Data</b>	<p>Some common examples of image/raster data include remotely sensed data, aerial photography, scanned data, and photographs. Image data are a form of raster data where each grid-cell or pixel has a certain value depending on how the image was captured and what it represents. For example, if the image is a remotely sensed satellite image, each pixel represents energy reflected from a portion of the Earth's surface. If, however, the image is a scanned document, each pixel represents a value associated with a particular point on the document.</p> <p>Images usually provide background information to the vector map layers.</p>
<b>Image Layer</b>	An Image Layer is file in .bmp, .bil, .tif or .sid format (raster format) with an associated World file for geo-referencing.
<b>Map Composition</b>	A Map Composition is a raster image file in .bmp format that represents the end product map generated through the Map Composer tool. The map image is depicted on one of several possible paper sizes for printing.
<b>Map Coordinates</b>	Map Coordinates describe the location of geographic features in a coordinate system. Dynamic Maps supports two types of coordinates systems: Geographic/Curvilinear and Cartesian coordinates. Geographic / Curvilinear coordinate systems have their coordinates displayed as Degrees, Minutes and Seconds, and Cartesian coordinate systems have their coordinates displayed in rectangular units such as meters.
<b>Map Extent</b>	The rectangular limits of the map layer's surface area.
<b>Map Layer</b>	A Map Layer is a collection of geographic features represented as points, lines, polygons or labels.
<b>Map Scale</b>	Map scale defines the distance relationship between the map and the Earth's surface. The map scale is expressed as a fraction of distance, such as 1:50,000 where one distance unit on the map represents 50,000 of the same distance units on the Earth.
<b>Map Template</b>	Map Templates let you can define and save the layout of map components.
<b>Metadata</b>	Called "Descriptions" in Dynamic Maps, metadata provide descriptive information about the map layer or data set.
<b>Pan</b>	Pan moves the viewing window in any direction to display parts of the map that, at the current viewing scale, lie outside the current map view.
<b>Pixel</b>	Short for "picture element". A pixel is the smallest resolvable element in a raster image. A pixel has both a spatial location and a value component.

<b>Related Information</b>	Any type of digital file and URL and text description can be related to a spatial feature or features. This enables geography to be used as an index to non-geographic information objects.
<b>Selectable Map Layer</b>	A Selectable Map Layer is a map layer that can be used for feature selection and query purposes and with which tabular data sets can be associated. They appear in Green in the Map Layers window.
<b>Shape files</b>	<p>The shapefile format defines the geometry and attributes of geographically-referenced features in three files with specific file extensions. They are:</p> <ul style="list-style-type: none"> <li>• .shp - the file that stores the feature geometry.</li> <li>• .shx - the file that stores the index of the feature geometry.</li> <li>• .dbf - the dBASE file that stores the attribute information of features.</li> <li>• Plus, often various index files to speed up access and drawing.</li> </ul>
<b>SKE Inc.</b> <a href="http://www.skeinc.com">www.skeinc.com</a>	<p>Thank you for using Dynamic Maps. SKE developed Dynamic Maps to meet the need for easy data access and manipulation not being met by traditional high-cost, high-overhead, hard-to-learn mapping and GIS systems.</p> <p>Dynamic Maps is just one of the things we do. SKE works with clients to identify and meet their business information needs through the design and build of appropriate information and management systems. Please feel free to contact our implementation partner (Dynamic Planet) at <a href="http://www.dynamicplanet.com">www.dynamicplanet.com</a> for more information.</p>
<b>Spatial Data (see also Vector Data and Image Data)</b>	<p>Geographic or "spatial" data are any data that describe any part of the Earth's surface or the features found on it. Along with cartographic and scientific data, they can also include business data, land records, photographs, customer databases, travel guides, real estate listings, legal documents, videos, etc.</p> <p>Spatial data store the location of geographic features, along with attribute information describing what these features represent. Spatial data have an explicit relationship between the geometric and attribute information, so that both are always available. To ensure that location is accurately recorded, spatial data always use a specific coordinate system, unit of measurement, and map projection. When spatial data are displayed, they have a particular scale just like any paper map.</p> <p>Spatial data are primarily feature-based. They enable specific geographic phenomena to be managed, manipulated, and analyzed easily and flexibly to meet a wide range of needs.</p>
<b>Spreadsheet</b>	Tabular data are displayed and queried in the Spreadsheet window. When any record is selected in the Spreadsheet, its corresponding geographic feature is automatically selected in the Map View.
<b>Vector Data</b>	<p>Vector data record spatial information as a set of x,y or Latitude, Longitude coordinates. Point features are recorded as single locations. Line features, including the outlines of polygons, are recorded as an ordered series of coordinates, and polygons as a closed series of coordinates. Vector data are well suited to record the location of discrete geographic features with precise locations like streets, boundaries, streams, villages, etc.</p> <p>Vector data are highly dependent on the number of coordinate points that are chosen to represent features, especially natural features like streams and coastlines. As you zoom in on vector data representing such features, you will eventually see the individual straight-line segments that make up their vector representation. Each data set has an inherent accuracy that is dependent on how it was initially surveyed (located and described) and then how it was represented, i.e., on hard copy maps created at a specific scale or in digital databases.</p>



## Appendix 7. Using Dynamic Publisher Client

Dynamic Publisher Client is a way for organizations to distribute an atlas(es) along with the Dynamic Maps software on CD / DVD for easy installation and use.

### How the Dynamic Publisher Client Works

Turn off Dynamic Maps if it is running. Insert the CD/DVD with the file package into your computer. The autorun sequence will show you an introductory web page with a description. If autorun has been disabled on your computer you can launch the sequence manually by double clicking on the "run.bat" file.

From this point on, the program will automatically install Dynamic Maps and/or any available Service Pack if necessary; reboot your computer if Dynamic Maps was installed; copy the atlas(es) to a directory on your computer that you choose; and then import the atlas(es) automatically.

At that point you will be able to run Dynamic Maps with the atlas(es).

### Dynamic Publisher Questions and Answers

***What if I have Dynamic Knowledgebase and don't want a "Local" Atlas?***

Dynamic Publisher is meant for people not using Dynamic Knowledgebase. Delete the Local Atlas registration and then re-import the atlas with Dynamic Knowledgebase.

***Can the location the atlas(es) is put be specified changed?***

Yes, during the unpacking process, you can specify a location for the atlas directories and files to be placed. Once the atlas is imported into Dynamic Maps, you cannot change the location without moving the atlas and re-importing it.

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