



Fractal Mapper v8.0

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1 Introduction

1.1 Overview

Fractal Mapper is a map making tool designed specifically for aficionados of Role-Playing Games, War Games, Play-By-Mail games, and fantasy authors. Fractal Mapper can be used by players to create great looking and functional maps of fantasy, science fiction, or real locations. Some of Fractal Mapper's powerful and unique features include:

- A Powerful 'Object Based' graphics engine which features (among others) zooming, rotation, resizing, and cloning.
- Fractal Drawing Tools for creating realistic coastlines, rivers, and other objects of nature.
- Standard Drawing Tools for creating rectangles, triangles, circles, lines, and spline curves.
- Full color mapping symbols.
- Special Effects such as bevels and shadows.
- The GoblinAPI™ Scripting Interface
- The Scenario Builder for storing and printing your campaign notes.
- The Building Tool for city and town designing.
- Printing across multiple pages.
- Layering for toggling the display of various types of map objects.
- Hyper-Linking for creating interactive atlases.

1.2 What's new in v8.0

Here's an overview of what's new in Fractal Mapper 8. Keep in mind, this is not a full feature list - but rather a 'big picture' overview of just the changes between FM8 and FM7.

An updated interface

Fractal Mapper's menus and toolbars have been updated to a more modern look. In addition Fractal Mapper's theming support has also been improved. This means Fractal Mapper will adapt better to both XP's or Vista's interface.

But the the changes are more than skin deep. Fractal Mapper also 'plays nicer' with the Operating System. For example, by storing its data in Windows' designated application data areas, Fractal Mapper 8 will run under reduced rights accounts.

New Mapping Symbols

Fractal Mapper 8 includes 250 new high resolution .PNG symbols. These higher resolution symbols provide the artistic look of hand drawn art with the resolution necessary for nice prints and exports.

There's two sets - one for the creation of miniature scale battle maps and one for traditional fantasy maps. Since these are .PNG symbols, the symbols can also be used by any other mapping program that supports .PNG symbols.

Special Effects

Cue the Special Effects! Fractal Mapper 8 supports a number of new special effects to enhance the look of your maps. These include Bevels, Textures, Blurs, Feathers, Shadows, and Inner Shadows.

Bevels create a raised edge look to objects, and shade the raised area. Bevel edges can be of several different types – flat, rounded, sloped, etc.

Textures are gray scale images (bump maps) that define the texture of a surface. Textures are combined with any bevel effects when bevel lighting is performed.

Feathers are a special type of blur which blurs only the edges of an object to transparent, creating a blended/ soft edge. These are great for blending together two types of terrain or boundaries. An Inverse Feather blurs the center of the object.

The new raster based Shadows create a softer, more authentic shadow effect. Inner Shadows cast the shadow onto the object themselves – as if the object was inset.

The all-new Symbol Palette

Access your entire symbol library easier than ever with the all new Symbol Palette. The new symbol palette makes all of the symbols in your library available right from the main window. The symbols themselves have an extra 'level', and are divided into Symbol Sets, which each Set being divided into Symbol Categories, allowing you to better group similar symbols.

The new Symbol Palette also features several special types of symbol sets:

The first is the Favorites symbol set. If you select a symbol in the palette and click the 'favorite' button, the symbol is added to the Favorites symbol set. Think of it as a bookmark for your favorite symbols!

The On Map symbol set shows all of the symbols currently in use on the map.

The Random Set categories allow you to pre-define groups of symbols from which the program will randomly select. When a random set is selected, and a symbol is placed on the map, the program will select one of those symbols randomly to place.

Other symbol related changes include Symbol Memory. When you place a symbol on the map that has no pre-defined scale, if that symbol had been previously placed on the map or resized, that last size is used as the default size of the symbol. It's a great time saver!

New drawing tools

Fractal Mapper 8 supports a pair of great new and updated drawing tools!

The new Vector Flood Fill is a super-flexible vector based flood-fill drawing tool. The Vector Flood Fill acts like the typical flood fill you see in many image editors, with the exception that this tool creates a vector object (a polygon or complex polygon) representative of the filled area. This means you can then move, alter fills and colors, scale, rotate, and edit the object as you can any other polygon on the map. Vector Flood Fills are great for making political

boundaries that flow along natural borders such as rivers and coastlines.

The Random Symbol Fill has been completely recreated. To use it, you draw a freehand area on the map, and the selected symbol (or symbols for random sets) are placed at a density you control. The Random Symbol Fill tool works with Random Symbol Sets - which presents a very quick way of creating forests and mountain ranges!

Enhanced .PNG image support

Support for raster symbols – primarily .PNG images with transparent support – has been expanded and optimized. In Fast mode, FM8's .PNG drawing is twice as fast as it was in FM7! In addition, .PNG images can be used as fill patterns.

.PNG symbols can also now have a scale defined for them. This allows raster symbols to be placed at a consistent size on maps when a unit of measure is defined. That is, like vector symbols that have units of measure defined, when a .png that is defined as 10 feet by 10 feet in size is placed on the map, it is placed at that size regardless of the current zoom level.

Submaps

One of the most asked for new features was the ability to create new maps from areas of larger maps. Fractal Mapper 8 lets you create these submaps. Just select an area on your map, and the layers and types of objects to export, and a new map is created of that area.

Presentation Styles (Color Themes)

Ever want to print your map out in black and white? Or create an old-style looking map? FM8 features several Color Themes to let you quickly switch between display styles. Map display can be switched back and forth between several different color styles - full color, gray scale, black and white, and sepia tone.

GoblinAPI and Scripting

The flexibility of the scripting system in FM8 has been greatly enhanced. FM8 now features a plug-in based interface to scripts - a system very similar to the one found in AstroSynthesis v2.0. Plug-ins can be created to add features to the program menu (or pop-up menus) and toolbar, to create custom tools, and Inspiration Pad entries.

In addition, a set of GUI classes has been added into the scripting system to let plug-in writers create their own modal windows with buttons, check boxes, and other widgets.

Localization

Fractal Mapper is used in many countries all over the world. So to make Fractal Mapper more friendly and approachable to the world audience, FM8 can display its menus, buttons, and windows in languages other than English. FM8 uses a simple text based system for storing translation data, which means anyone can add support for a language (if they speak that language, that is). Language files will be hosted separately on NBOS Online as they become available. (note: FM8 does not support Unicode - only latin-based character sets)

Add-on Programs

As in previous versions, several add-on programs are included for free with Fractal Mapper 8.

Included with FM is an all-new Globe viewer. Like the viewer bundled with previous versions of FM, you can zoom in and out, pan around the planet from any angle, and set the globe to rotate automatically. The new globe viewer works in full color (the previous globe viewer only handled 256 colors), and can export both images and animations.

Also included is Fractal World Explorer v1.7. FWE 1.7 features atmosphere generation (as seen in AstroSynthesis), a simplified export to Fractal Mapper maps, and a new binary file import to allow importing of raw elevation data files (such as .DEM's).

While not exactly bundled, Fractal Mapper 8 integrates directly with the new web-based NBOS Online Exchange. You can upload your maps directly to NBOS Online Exchange from within the program. This new web-based system replaces NBOS Online v1.1.

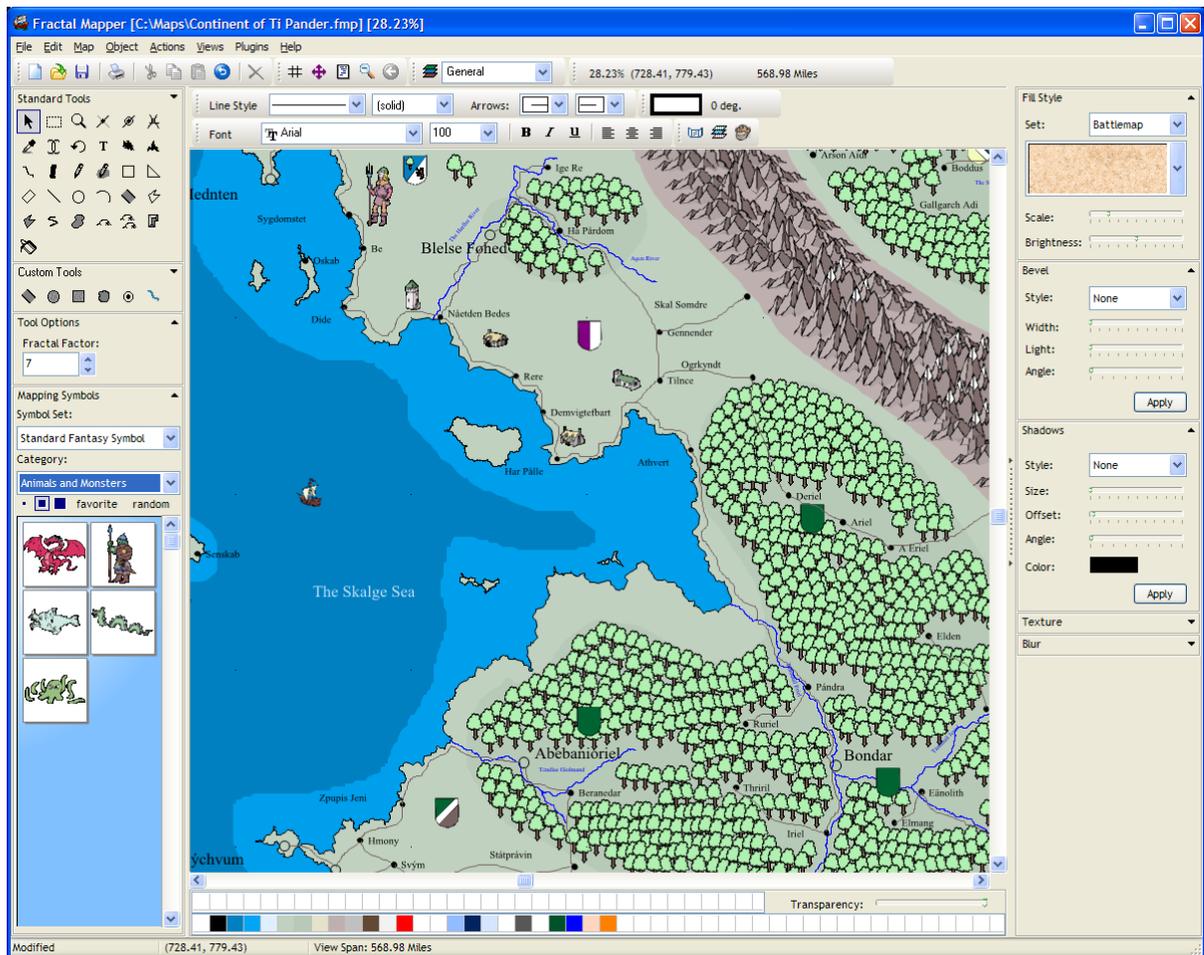
1.3 What are 'Fractals'?

Fractals are geometric shapes/graphics created by repetitively calling certain mathematical algorithms. Fractal shapes are usually referred to as being 'self-similar'. This means that while each fractal object is different from others (of the same algorithm), each object remains similar in nature. Objects in nature are often seen as having fractal qualities. Leaves from a tree, for example, are each different from each other, but all have a similar shape. Coastlines and snowflakes are other examples of this. The Fractal's relationship to the natural world is what makes it an excellent tool for modeling the world. Thus, the fractal continents, coastlines, and rivers of Fractal Mapper!

1.4 Fractal 2D drawing

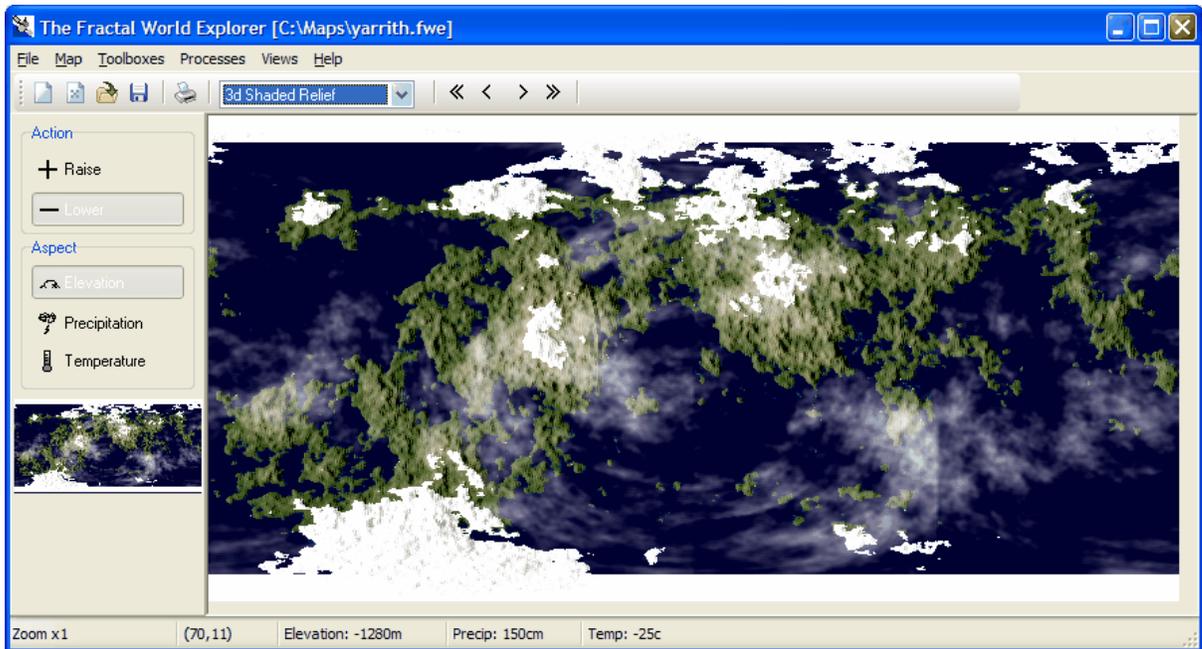
The heart of Fractal Mapper is the set of *Fractal 2-dimensional Drawing Tools* that comes with it. With these tools, realistic continents, islands, rivers, roads, and caves are easy to create.

Varying levels of Fractalization are selectable for each Fractal Tool to produce the desired effect - lower levels for smooth coastlines and rivers, higher levels for fjords and island chains. This level of Fractalization is called the *FractalFactor*. The FractalFactor is a whole number between 0 and 10, 0 being no fractal rendering, and 10 being the highest level of fractal rendering. To draw shapes with straight edges, you'd use a FractalFactor of 0. To draw a very jagged coastline, you'd set the FractalFactor to something high, like 10. The default value of the FractalFactor is 7 – this produces fractal lines and polygons that are suitable for typical continents and rivers.

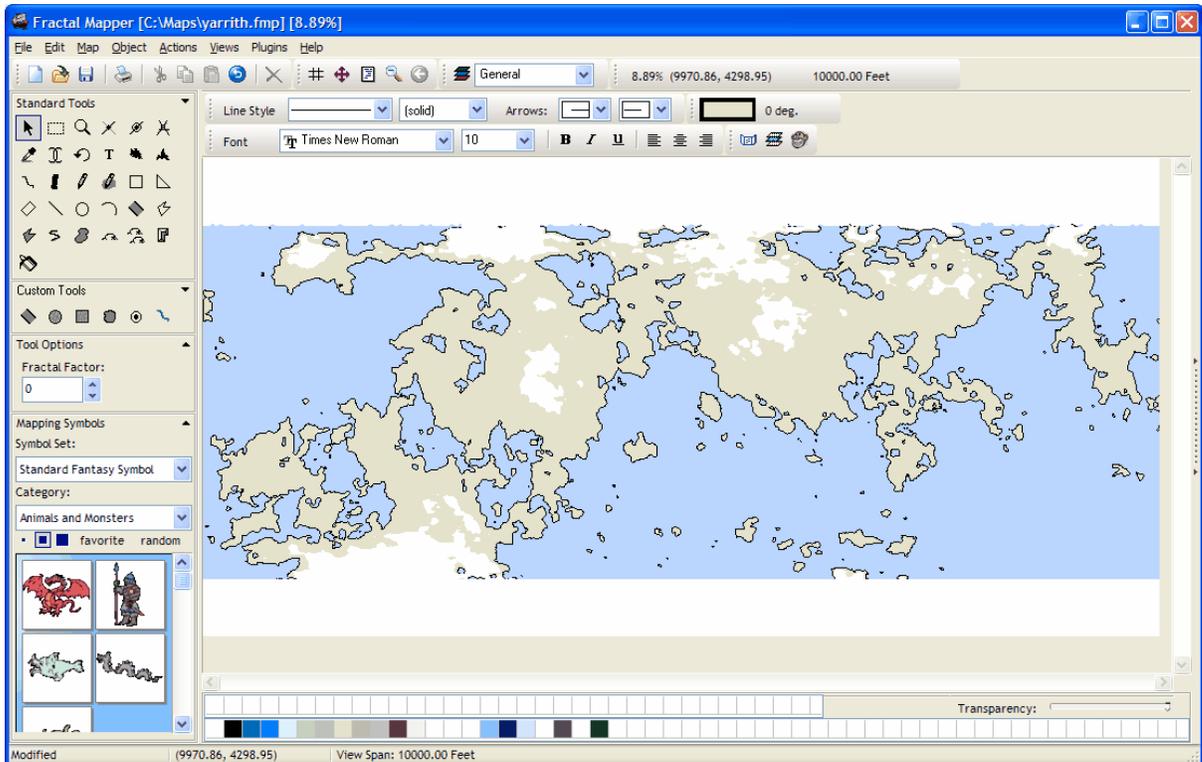


1.5 3D Terrain

Why think in just 2 dimensions? Fractal World Explorer (aka, 'FWE') is a free add-on that comes with Fractal Mapper. With FWE, you can make stunning 3D terrain maps! In the program folder with Fractal Mapper's icon, there should also be an icon for FWE.

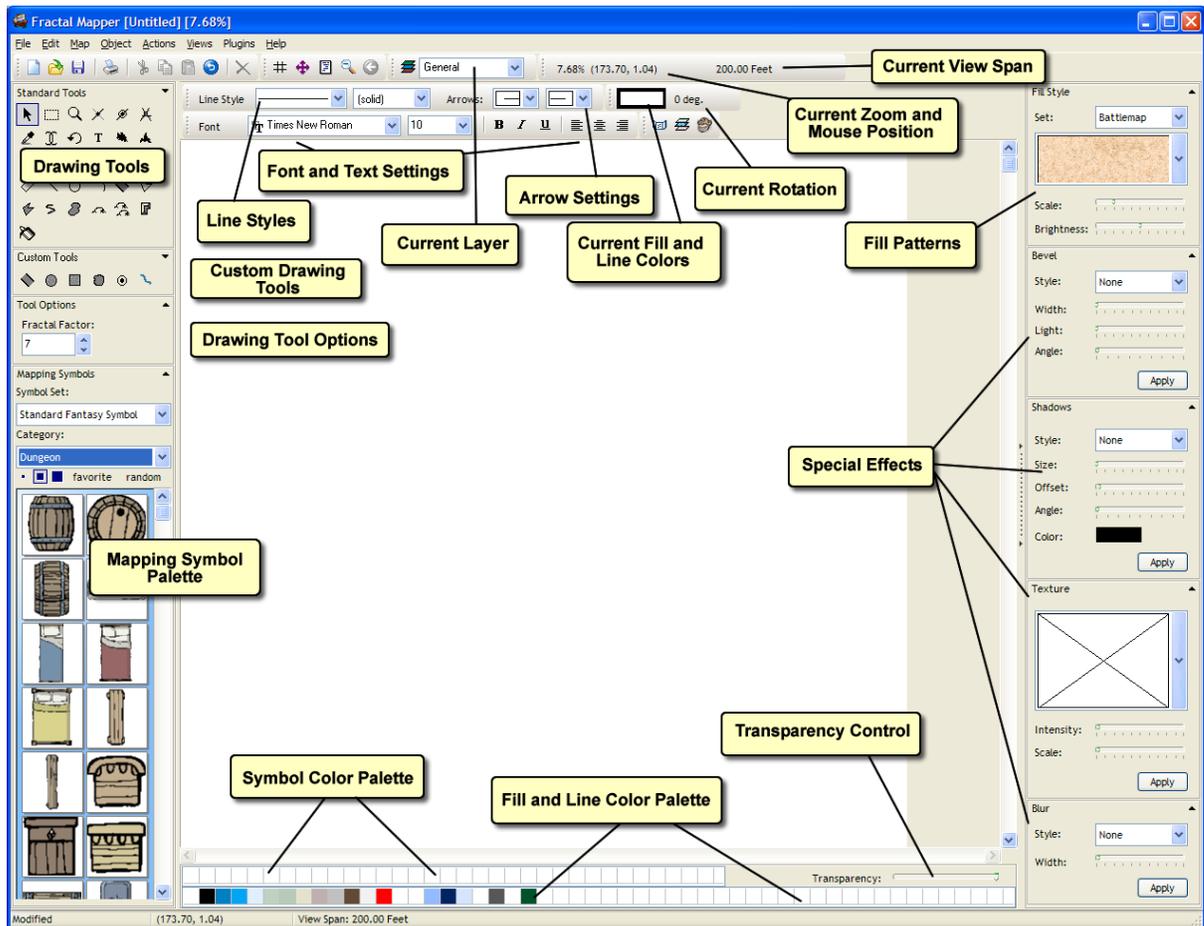


One of the most exciting features of The Fractal World Explorer is its ability to convert its 3D elevation data into a two dimensional Fractal Mapper map. This will let you create both a 3D and 2D version of your world maps! See the tutorial for information about how to do this.



2 Drawing Maps

2.1 Main Window Guide



2.2 Placing Objects on the Map

Fractal Mapper uses the concept of 'mapping tools' to reflect the different types of objects, such as land masses and rivers, that can be placed upon your map.

To place an object on your map, select a 'tool' from either the standard or custom tool palette by clicking on it. Once you've done this, you can draw objects on the map portion of the main window.

Different tools require different actions for placing objects on the map. Some tools, like the mapping symbols and text allow you to simply click once to place an object. Others, like the Fractal Landmass and rectangle tools require that you 'drag' a rectangle on the map.

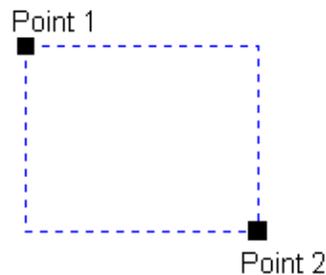
The hallway and building tools require two steps - the first step is dragging one side of the object, then lifting the mouse button. The second step is moving the cursor (without the mouse button pressed) until the desired shape is displayed. When the desired shape is displayed, a single left click creates the object.

Polygons, Polylines, and Spline Curve tools allow you to select any number of individual points on the map by left clicking on the map. When you are finished placing points on the map, you can right click to create the object. The PolyPath tool works similarly.

Finally, the freehand tools - Freehand Landmass and Freehand Polyline - allow you to 'draw' on the map with the left mouse button down. As you move the cursor, line segments are added. When you're finished drawing with a freehand tool, just release the left mouse button and the object is created.

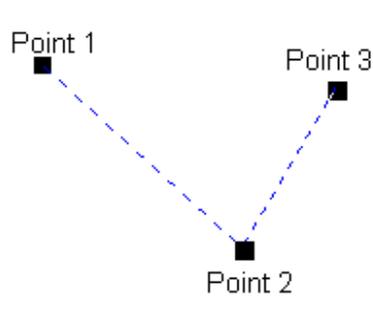
To draw a Fractal Land Mass, Fractal Line, Rectangle, Straight Line, Circle (ellipse):

Click at point 1, hold the mouse down, and drag to point 2.



To draw a Triangular Land Mass, Triangle, Angled Rectangle, Arc:

Click at point 1, hold the mouse down, drag to point 2, release the mouse button, move cursor to point 3, click once at point 3.

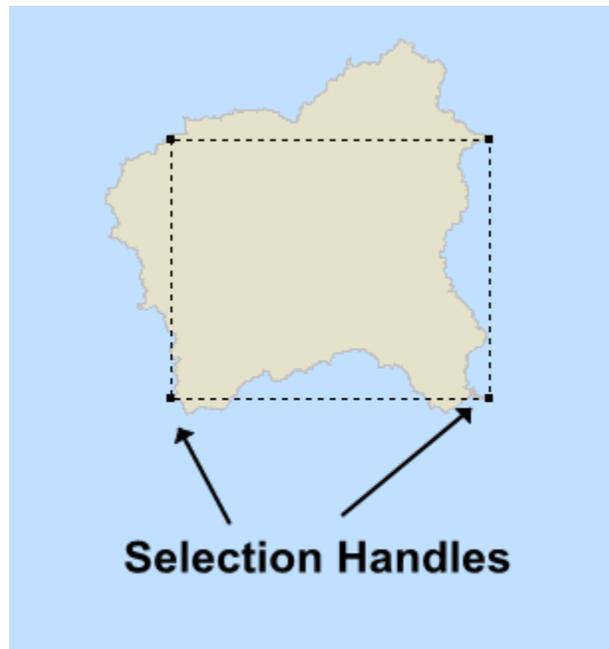


To draw a Fractal Polygon, Fractal Polyline, Spline, Closed Spline, PolyPath, Smart Building:

Click at point 1 and release the mouse button. Click at point 2 and release the mouse button. Same for point 3 and point 4. After clicking at point 4, **right clicking** once finishes the action. 'Poly' objects can contain any number of points, so you can right click anytime after point 2 to finish the object.

Pointer Tool

Use the pointer tool to select map objects (such as Fractal Land masses and rivers) after they have been placed on the map. Once an item is selected, it can then be cut, copied, and altered. You can alter an object by changing its colors, FractalFactor, font name, font style, font size, location (by dragging/dropping), etc. To select more than one object with the Pointer Tool (for example, if you want to delete three specific objects), hold down the Shift key when making your selections. This will let you select multiple objects by individually clicking on them with the Pointer Tool.



The Pointer Tool also allows you to select and move individual nodes (points) of a selected object to reshape or scale it. To reshape an object, select it first with the Pointer Tool. Then, with the Pointer Tool still active, click on one of the selection handles that highlight the nodes of the selected object (when you do this correctly the cursor will change to a cross with arrows). You can then drag the node around on your map to reshape the object. To scale an object (or objects), select it with the Pointer Tool as above, and then select one of the selection handles. Hold down the Shift key as you then drag the node. As you drag the node on the map with the Shift key still pressed, the selected object(s) will scale larger or smaller, depending on where you drag the node.

Area Select Tool

Like the Pointer Tool, the Area Select Tool lets you select map objects after they have been placed on the map. The Area Select tool, though, lets you select all the eligible objects on your map within a specific area you draw out on the map. To select all the map objects within an area on your map, select the Area Select tool, and drag out and release an area on your map. When you release the mouse button, all objects that have nodes in that area will be selected. You can then work with the selected objects as if they were selected using the Pointer Tool.

Zoom Tool

The Zoom Tool lets you zoom in and out on your map. To zoom in on your map, left click a spot on your map while the Zoom Tool is selected. The Mapper will zoom in a bit on that spot. Alternately, you can zoom in on a region of interest ('ROI') on your map. A rectangular region is selected by dragging the mouse while the left mouse button is selected. When you then release the mouse button, Fractal Mapper will zoom in to that rectangle.

To Zoom back *to the previous zoom level*, right click while using this tool. To fit the map to the screen, right click twice. To Zoom back a small amount, use the [Zoom Back](#) button on the main tool bar.

Note: Right clicking is **not** a 'zoom out', but rather returns you to the zoom level you were at - this might be at a higher or lower zoom.

Add Node Tool

The Add Node Tool allows you to add points, or 'nodes', to selected objects on your map. To add a node to an object on your map, first select it with the Pointer Tool or the Area Select Tool. Then select the Add Node Tool, and draw a line that intersects the selected object at the point you wish to add the node at. See [Adding and Deleting Object Nodes](#)^[42] for further information.

Delete Node Tool

The Delete Node Tool lets you delete one or more of an object's nodes. To delete a node or nodes that belong to an object, first select it with the Pointer Tool or the Area Select Tool. Then select the Delete Node tool, and draw out a region on the map that covers the nodes on your object that you wish to delete. See [Adding and Deleting Object Nodes](#)^[42] for further information on using this tool.

Measure Tool

This tool can calculate the distance in 'real world' units between various points on your map. To measure the distance between two points on your map, left click the first point, then left click on the second point, and then finally right click. A message box will be displayed reporting the distance. To measure the distance between more than two points - a route that passes between several cities - simply left click each point along the path, and then right click when done.

See the [Map Setup](#)^[77] section for information on setting your map's unit of measure.

Color Selection Tool

Sometimes you like a color that appears somewhere on your map, but it doesn't exist on your color palette (for example, if the color was part of a bitmap mapping symbol). Using the Color Selection Tool, you can grab that color off the screen to make it the currently selected fill color, and even add the color to your color palette at the bottom of the window (by dragging the selected fill color to the color palette).

Map Link Tool

You can use the Map Link Tool to display other maps or files that have been hyper-linked to

a map object. To use this tool, select it, and click on an object (such as a city name or building). If a map or file link has been assigned to that map object, Fractal Mapper will display the linked map or file. See the [Hyperlinking](#)^[128] section for more information.

Rotate Tool

This tool allows you to rotate objects on your map interactively. To use this tool, select the objects you want to rotate with the Pointer tool, and then select the Rotate tool. Drag the mouse with the left mouse button pressed in either a clockwise or counter-clockwise motion around the selected objects to rotate them. The Rotate tool can also act as the Pointer tool in certain situations. If no other objects are selected on the map, you can select a single object by clicking on it with the Rotate tool. This is useful and saves you a few mouse clicks when you are rotating a number of objects. When the Pointer tool is selected, you can quickly switch to the Rotate tool by right clicking on an object.

Text Tool

The Text Tool allows you to add text to your maps. When you click on the map with the text tool selected, a box appears at that location on the map prompting you to enter text. Enter your text, and press Tab (*not Enter*) to add the text to the map. If your text extends past the right hand side of the box, it will wrap across multiple lines. Alternatively, if you know the general size of the text object you want to create, you can drag a rectangle on your map with the Text Tool, and a text box of that size will be displayed.

Text is printed on maps in the font, style, justification, and size shown on the tool bar. To alter the font, style, justification, or size of a text object, select it with the pointer, and make the appropriate changes on the tool bar. See [Altering Text Objects](#)^[39] for more information.

Fractal Landmass Tool

Fractal Landmasses can be used to create continents, islands, lakes, seas, etc. When the Fractal Landmass tool is selected, you can define a rectangle on the screen that will provide a guide for the rendering of a Fractal Landmass. When the mouse is released, The Fractal Mapper will render a landmass at the currently set Fractal Factor, about the defined rectangle.

Triangular Fractal Landmass Tool

The Triangular Fractal Landmass tool allows you to render a landmass about a selected triangle. The Triangular Fractal Landmass tool creates terrific islands. The Triangular Fractal Landmass tool is a 'two-step' tool like the Fractal Path. First, you define one side of the triangle, and then define the other two sides with the second mouse movement.

Fractal Line Tool

Fractal Lines are ideal for rivers and roads. With the Fractal Line tool selected, you can define a straight line on the main map. When the mouse button is released, that line will be rendered using the currently set FractalFactor.

Fractal and normal (non-fractal) lines can be of either 'Scaled' or 'Fixed'. type. 'Fixed' lines display their lines the same thickness, regardless of the current zoom level. 'Scaled' (also known as 'geometric') lines scale the line's thickness according to the current zoom level. For example, a 'Scaled' line that's 4 pixels wide at 100% would display as 2 pixels wide at

50%.

Fractal Polypath Tool

The Fractal Polypath tool can be used to create roads, rivers, and wall segments. The Fractal Polypath generally works like the Polyline and Polygon tools - just draw out the polypath by clicking at points on your map, and finish by right clicking. The difference is that the Fractal Polypath's have 'widths' that you can adjust. Once a polypath is placed on your map, you can go to the starting point of the path, and resize the width of the path as desired. See [Altering Polypath's](#) ⁴⁵ for more information.

HINT: usually paths and rivers made with the Fractal Polypath tool look best with a FractalFactor of 1 or 2.

Fractal Freehand Line Tool

The Fractal Freehand tool allows you to draw whatever you'd like right upon the map. By holding down the left mouse button and dragging the pointer about the desired line (be it straight, curved, zig-zag, etc) a line will be created that follows that mouse path. When the left mouse button is released, the line will be rendered according to the currently set FractalFactor.

Fractal Freehand Landmass Tool

The Fractal Freehand Landmass works identically to the Fractal Freehand Line tool, except that when the mouse button is released, a Fractal Landmass is rendered along that line, connecting the first and last points on the line.

HINT: To create great looking island chains, use this tool, and draw a straight line. The landmass created will (may) then cross its own path several times for a stunning effect.

Fractal Polyline and Fractal Polygon Tools

The Polyline and Polygon fractal tools allow for finer definition of rivers and landmasses than the Fractal Line and Fractal Landmass tools by allowing the user to specify numerous vertices of the fractal object. Both tools are used in the same way. Select either, left click a point on the map and release the mouse button. Do this again at another point, and then another. You will see a trail of lines leading between each of the points. Finally, right click the map. The line between the points will fractalize. If the tool you had selected was the polygon tool, the first and last points selected will be connected, and the entire region filled. You may want to lower the Fractal Factor a bit with these tools, since you are defining the line a bit more precisely, less fractalization is required.

HINT: These tools are excellent to use if you are trying to duplicate an existing map...especially if you have scanned it in and placed it on the background.

Line, Rectangle, and Triangle Tools

The Fractal Mapper provides traditional shape tools, in addition to the set of fractal tools. The Line, Rectangle, and Triangle objects they are identical on the map to the Fractal Line, Fractal Landmass, and Fractal Triangular Landmass objects, with the exception that their Fractal Factors are set to 0. Lines, Rectangles, and Triangles can be assigned Fractal Factors other than 0 after they are created.

Ellipse (Circle) Tool 

The Ellipse Tool lets you place a circular or ellipse (oval) shaped object on your map. This tool works like the Rectangle Tool - just select a starting point on the map, drag to the ending point, and release. In addition, Ellipses can be set to display as Chords or Pie Slices by defining the angle range of the ellipse to display. See [Creating Chords and Pie Slices](#)^[44] for further information.

Arc Tool 

The Arc Tool lets you draw arc segments on your map. The Arc Tool is a two-step tool like the Triangle Landmass tool. To use this tool, select the starting point of the arc to draw, drag to where the end point of the arc is to be, release the mouse button, and move the cursor until the desired arc is displayed. When you see the arc segment you want, right click to add it to the map.

Angled Rectangle Tool 

The Angled Rectangle tool allows you to define a normal rectangle at any desired angle. This tool is a 'two-step' tool (like the Triangle Tool), requiring two separate mouse movements. The Angled Rectangle is useful for creating slanted dungeon hallways and buildings in city maps.

Hallway Tool 

The Hallway Tool works just like the Angled Rectangle tool, except that only the side 'walls' are drawn.

HINT: Place dungeon rooms on the map first, and add the hallways afterwards for best results with this tool.

Map Symbol Tool 

You can place various mapping symbols on your map with the Map Symbol Tool. Select a symbol from the symbol palette, and then click or draw out a rectangle on the map. The selected symbol will be placed on the map. See the [Placing Mapping Symbols](#)^[48] section for more information.

Random Symbol Fill Tool 

This tool offers a quick way to place multiple mapping symbols on your map. With this tool selected, draw out a freehand region on the map. The area will be filled with the currently selected mapping symbol. In the Tool Options box you can control the density at which the symbols are placed. See the [Placing Mapping Symbols](#)^[48] section for more information.

Spline Curve Tool 

The Spline Curve Tool draws a curve from the first selected point, through all other selected points. It's operation is identical to the way the Polyline and Polygon tools work.

Closed Spline Tool 

The Closed Spline Tool allows you to create a filled polygon with smooth, curved edges.

Closed Spline objects can be especially useful for such things as contour curves, starship wing segments, and ponds. The operation of this tool is identical to the way the Polyline and Polygon tools work.

Smart Building Tool

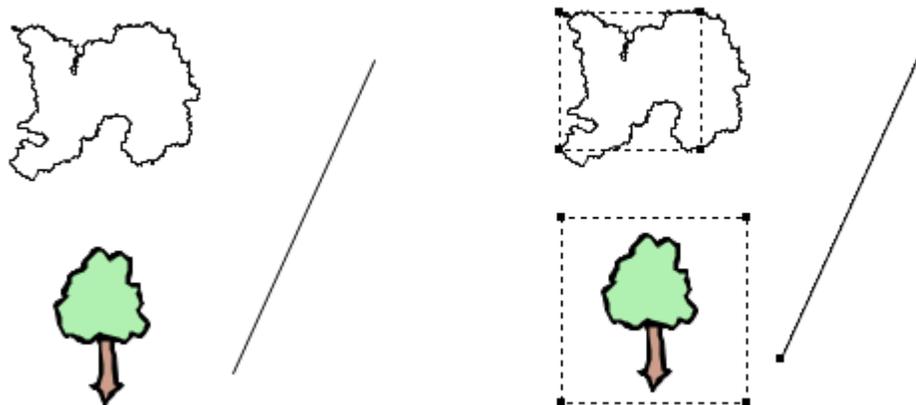
The Smart Building Tool allows you to easily draw buildings for use in town and city maps. See the [Smart Building](#) ^[57] section for more information on how to put this tool to use. This tool operates in a similar manner to the Polyline and Polygon tools.

Vector Flood Fill Tool

The Vector Flood Fill tool lets you 'flood fill' an area. This creates a polygon object that represents the area that is filled. The polygon object can then be treated like any other object on the map. See the section on [Using the Vector Flood Fill](#) ^[61] for more information.

2.3 Selecting Objects

Once you've placed an object onto your map, you'll usually want to do something with it. To do so, you'll need to first *Select* the object. Fractal Mapper offers a variety of ways to select objects: the Pointer tool, the Area Select tool, the Select All menu item, and the extended Select by Example menu items. When an object is selected, it is displayed with selection handles and a dashed outline.



Objects not selected on the left, Objects selected on the right.

The Pointer Tool

The Pointer tool is perhaps the most frequent tool you'll use. To use the pointer tool, click on the  icon in the Standard Tools palette.

The Pointer Tool allows you to select individual objects by simply clicking on them while the tool is active. Normally, when you select an object with the Pointer tool, the other objects

that are selected (if any) become un-selected. You can alter this behavior, though, so that each time you select an object with the Pointer tool the other selected objects *stay* selected. To do this, hold down the Shift key as you select objects with the Pointer tool.

The Area Select Tool

The Area Select tool lets you select all objects on your map that have points that reside in a selected rectangle. To use the Area Select tool, click on the  icon in the Standard Tools palette.

The Area Select tool allows you to drag out a rectangle on your map (click on your map, hold the mouse button down, and drag to a new location on your map, and release the mouse button). When you do this any object within that area will be selected. Also, similar to the Pointer tool, if you hold down the Shift key as you select regions on your map, those objects that are already selected but are not in the region you select will stay selected, otherwise they will be unselected.

The Select All Menu Item

To select all the objects on your map, select Edit-Select All from the main menu, or press Ctrl-A.

The Select by Example Menu Items

If you need to select all objects that fit a certain criteria - a specific line color, for example - then you can take advantage of the Select by Example Menu Items. These menu items look for and select other objects on your map that are similar to the other currently selected objects in some way.

For example, say you've changed your mind and want to change the fill color of all the land masses on your map. If it's a large map, you may have dozens or even hundreds of land masses. Quite a chore to select individually. But, with the Select by Example menu items, it's easy. Just select one of the land masses on your map with the Pointer tool, and then select Select by Example-Same Fill Color. All the objects on your map with that fill color are then selected. All you have to do after that is change the color of the land masses by choosing what you want from the color bar.

There's one special Select by Example menu item that should be singled out. That's the Select Containing Text menu item. This menu item allows you to select all objects that have a specified piece of text in the object's text (for text objects), or within the object's notes (all objects). When you select Select by Example-Select Containing Text from the menu, you will be prompted for the text to search for.

Note: Fractal objects (land masses, rivers, etc) can at times be tricky to select. This is because in order to select these objects with the Pointer tool, you need to select within the region defined by the points used to create the object, not the fractal (jagged) portions. This region is the region that area enclosed by the dashed lines when an object is selected. For tough to select objects, you may need to make judicious use of the Area Select tool, or occasionally do a quick Ctrl-A (select all) to see where the outline of the object is so that it can be selected with the Pointer tool.

2.4 Altering Objects

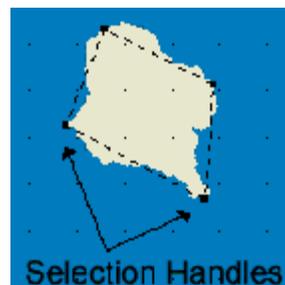
2.4.1 Moving, Scaling, Reshaping, and Deleting Objects

Objects on your map can be moved, scaled (resized), re-shaped, and deleted.

To Move an object, select the Pointer tool, click on the desired object, and drag to its new position. To move multiple objects, select them with the Pointer or Area Select tools, switch to the Pointer tool, and drag them to their new position.

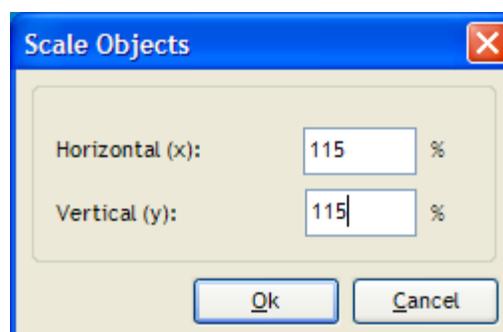
You can also move selected objects using the arrow keys on your keyboard. Once selected, the arrow keys can be used to move an object a distance equal to one pixel on your screen in the direction of the arrow pressed. Additionally, if you hold down both the Ctrl key and an arrow key, the object(s) will be moved a distance equal to 10 pixels on your screen.

To Reshape an object, first select it with the Pointer tool, and then drag/drop the node selection handle that you wish to alter to a new location.



To Scale or re-size an object, select it with the Pointer tool. Then, drag one of the selection handles **while holding down the Shift key**. If the handle is dragged towards the top left of the screen, the item will be scaled smaller. If dragged towards the bottom right of the screen, it will be scaled larger.

Alternatively, you can select Actions-Scale from the main menu. This will display a dialog window which will let you scale the selected objects a specified percentage Horizontally and Vertically.



Note: Text objects don't technically scale, since their font size is fixed, and their vertical size is determined by the number of lines the text wraps. But you can resize the width of a text area. To do this, select the top left selection handle of a text object, and drag the handle to the left to shrink the width, or to the right to enlarge it.

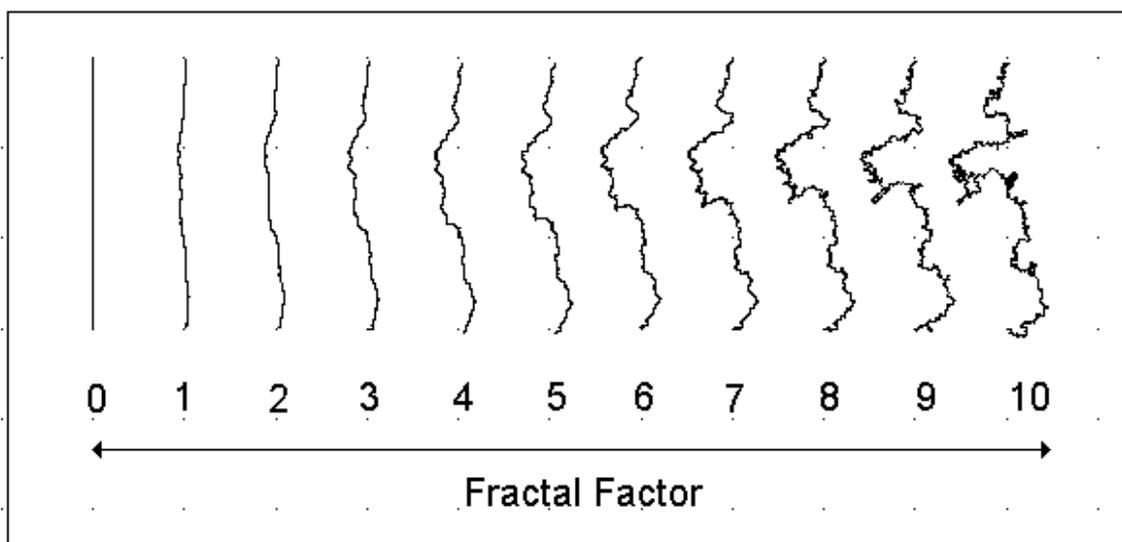
To delete a map object or objects, select them with the Pointer or Area Select tool and press the delete key. Alternatively, you can select Edit-Delete from the main menu or press the corresponding toolbar button.

2.4.2 Fractal Settings

The FractalFactor

The meat and potatoes of Fractal Mapper has always been it's support for fractal drawing tools. These tools are what allow you to draw realistic coastlines, rivers, caverns, and other natural elements.

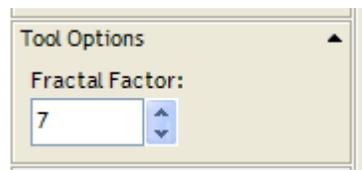
When a line or polygon is fractalized, it's processed using a mathematical technique designed to convert the line or polygon into something found in the natural world. This processes usually morphs an object's shape into something only vaguely resembling the original line or polygon. The extent to which an object is fractalized is called it's FractalFactor. The FractalFactor is a value ranging from 0 (no fractalization) to 10 (max fractalization). The diagram below shows an example of how a line would render under each FractalFactor. (**Note: each object will render differently, so the below only gives a general idea of how each FractalFactor alters an object**)



The type of fractal object you're creating will help you determine what FractalFactor to select

for the object. Continents, for example, usually look best when a FractalFactor of 5 to 7 is selected. Rivers usually look best at a FractalFactor of 3 to 5. Roads made with the polypath object might only require a 1 or 2. In addition, the more points the user specifies for an object, the lower it's FractalFactor needs to be. For example, a landmass created using the Fractal Landmass tool has four user defined points (top, left, bottom, and right). A FractalFactor of 6 or 7 is common on these objects. But, a Fractal Polygon with, say, 10 user defined points, might only need a FractalFactor of 4 or 5. Freehand objects, with often hundreds of user defined points, may only need a FractalFactor of 1 or 2.

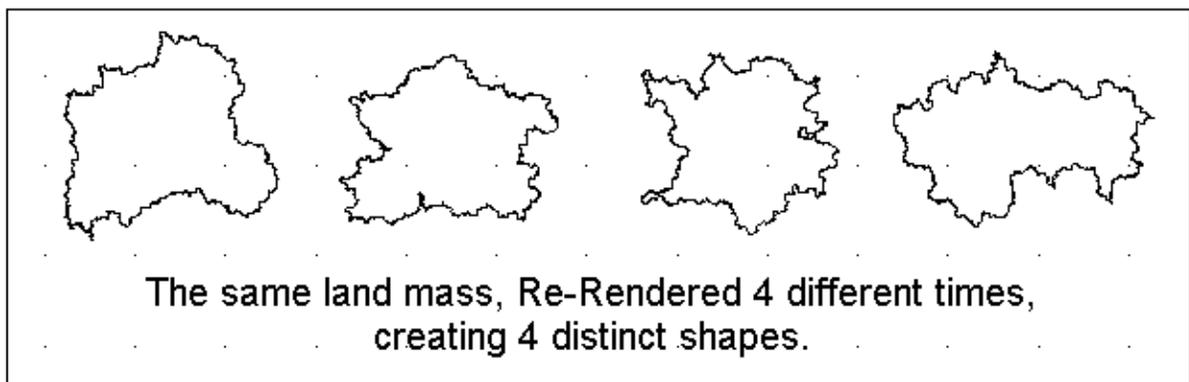
An object's FractalFactor can be set or altered using the Fractal Factor box in the Tool Options panel (below the mapping tools). To alter an object (or objects) FractalFactor, first select the object(s) with the Pointer or Area Select tool. Then, use the arrows on the Fractal Factor box to alter the value. As the FractalFactor changes, the selected object(s) will alter.



Re-Rendering

Sometimes you've placed a fractal object on the map in the exact location you wanted to, but the fractalization creates a shape you don't like. Rather than deleting the object and then creating a new one, you can Re-Render the object to get a different fractalization.

To Re-Render an object or objects, first select the object(s) with the Pointer or Area Select tool. Then select Actions-Re-Render from the main menu.



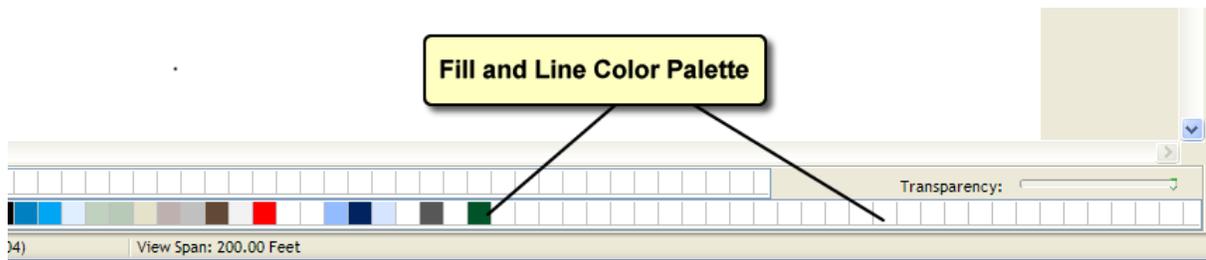
2.4.3 Setting and Changing Colors

Most objects on your map will have two colors that can be set - a fill color and a line color. The fill color is the color of the interior of the object. The line color is the color of the outline of the object.

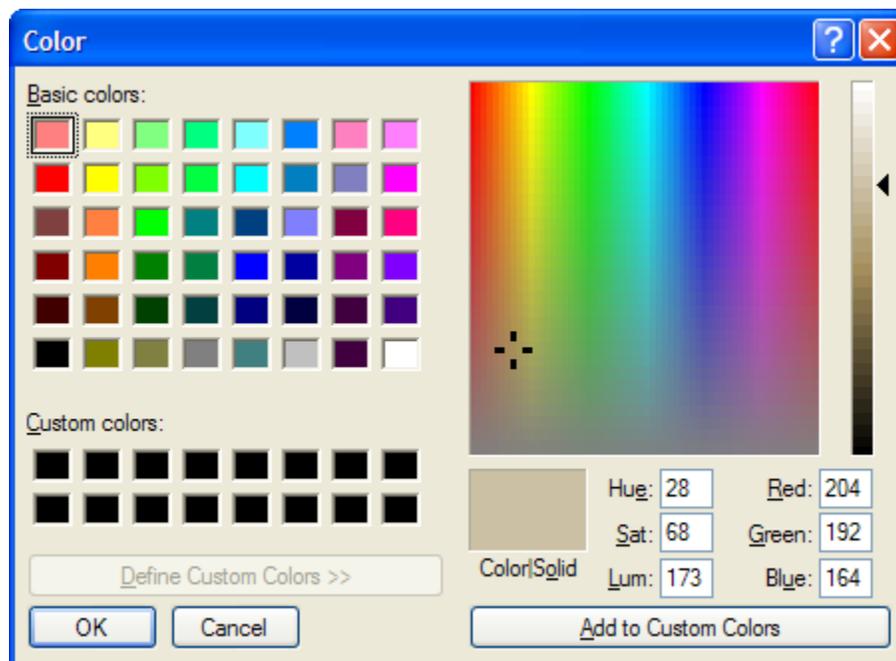


Fill and line colors. In this example, the line color is red, and the fill color a blue.

To change the fill color of an object or objects, first select the object(s) with either the pointer tool or the area select tool. Then, click on the color bar at the bottom of the window. The fill color for all the currently selected objects will change to the color selected. Similarly, to change the line color of an object, do as above, but right click on the desired color on the color bar.



In many cases, the desired color isn't on the color bar at the bottom of the window. It's easy to add colors to it, though. Simply double click on one of the squares on the color bar and a color selection dialog box will be displayed. Select a color (or type it's RGB or HSV values) and press 'ok'. The selected color will appear on the color bar.



Another way to add colors to the color bar is to use the Color Selection tool. To grab a color off your map, select the Color Selection Tool and then click the location on your map that is the color you desire. When you do this, the fill color of the color indicator on the toolbar (top right part of the window) will change to the 'grabbed' color. To then add that color to your color palette at the bottom of your screen, simply drag the color indicator from the toolbar to a square on the color palette, and it will be added.

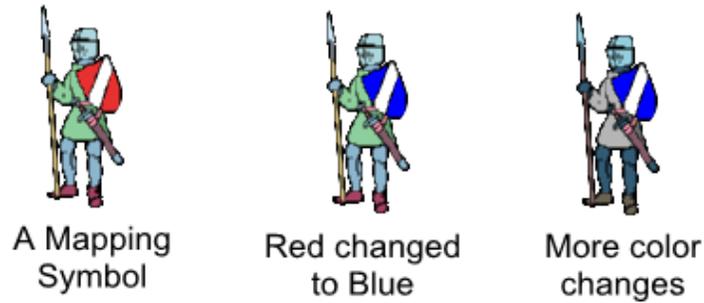
NOTE: If you're grabbing a color for use as a line color (instead of a fill color), you'll need to add the color to the color palette before using it.

In some cases, you may not want a fill or line color at all. See the [Lines and Line Styles](#)^[24] section for how to have a 'clear' line, and the [Object Fill Styles](#)^[27] section for how to make a transparent object.

2.4.4 Changing Mapping Symbol Colors

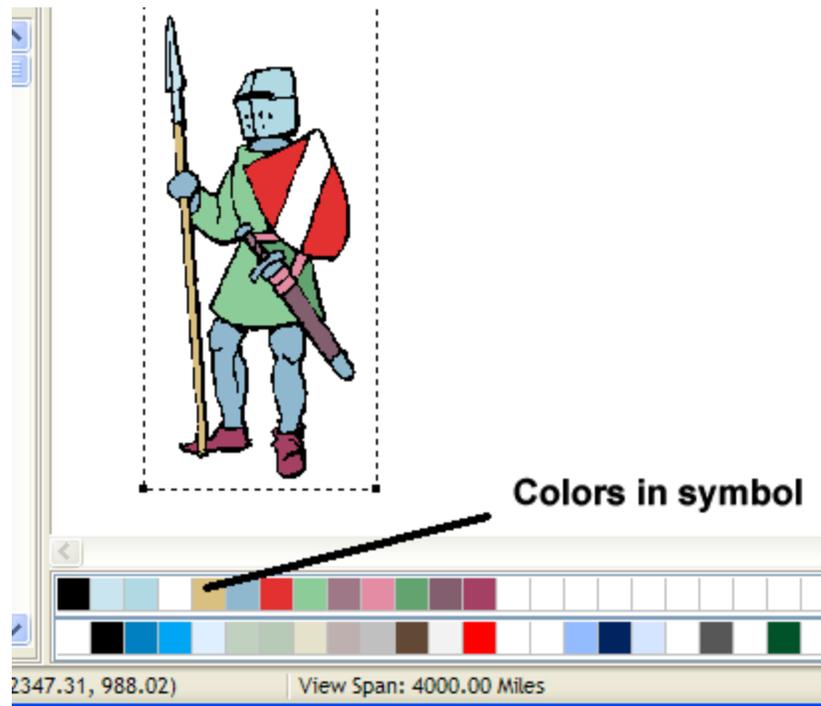
Once you've placed a vector mapping symbol on your map, you're not stuck with the colors. Fractal Mapper features a Symbol Color Palette that lets you edit the individual colors of a mapping symbol.

Note: This feature only applies to vector based mapping symbols. These are the symbols whose file names end in ".fmp". **The colors in bitmap or .PNG mapping symbols cannot be edited in this manner.**

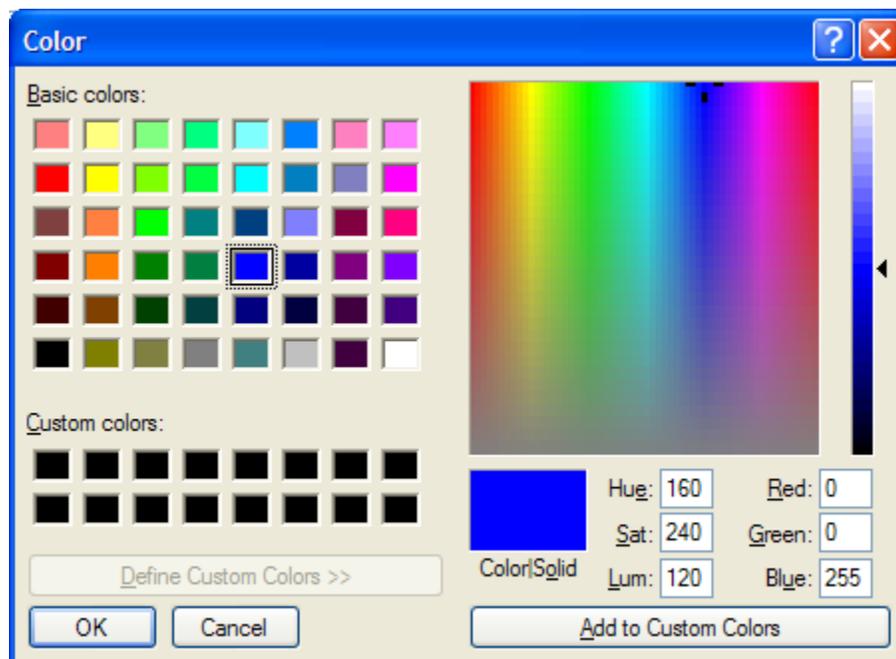


The Symbol Color Palette

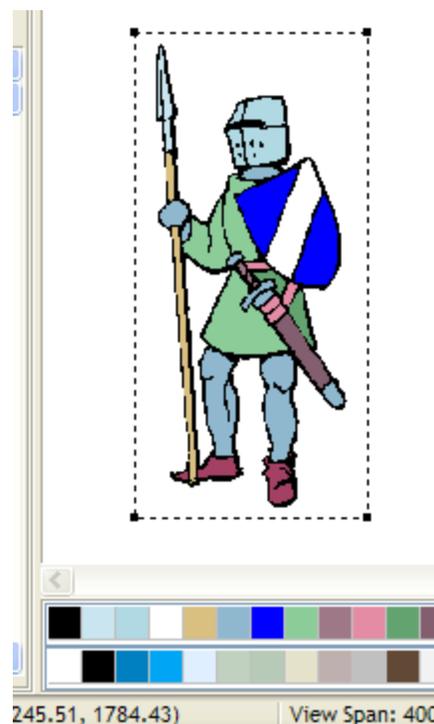
The Symbol Color Palette bar lets you individually alter colors that appear in mapping symbols. Whenever you select a mapping symbol with the Pointer tool, the colors that can be found in that symbol are displayed in the Symbol Color Palette. The Symbol Color Palette bar is found at the bottom of the Mapper's main window. It is the **top** color bar of the two bars at the bottom of the window.



To change one of the colors in a selected mapping symbol, double click the color you wish to change on the Symbol Color Palette. A pop-up color selection window will be displayed. Select a new color, and press Ok. In this case, we change red to blue.



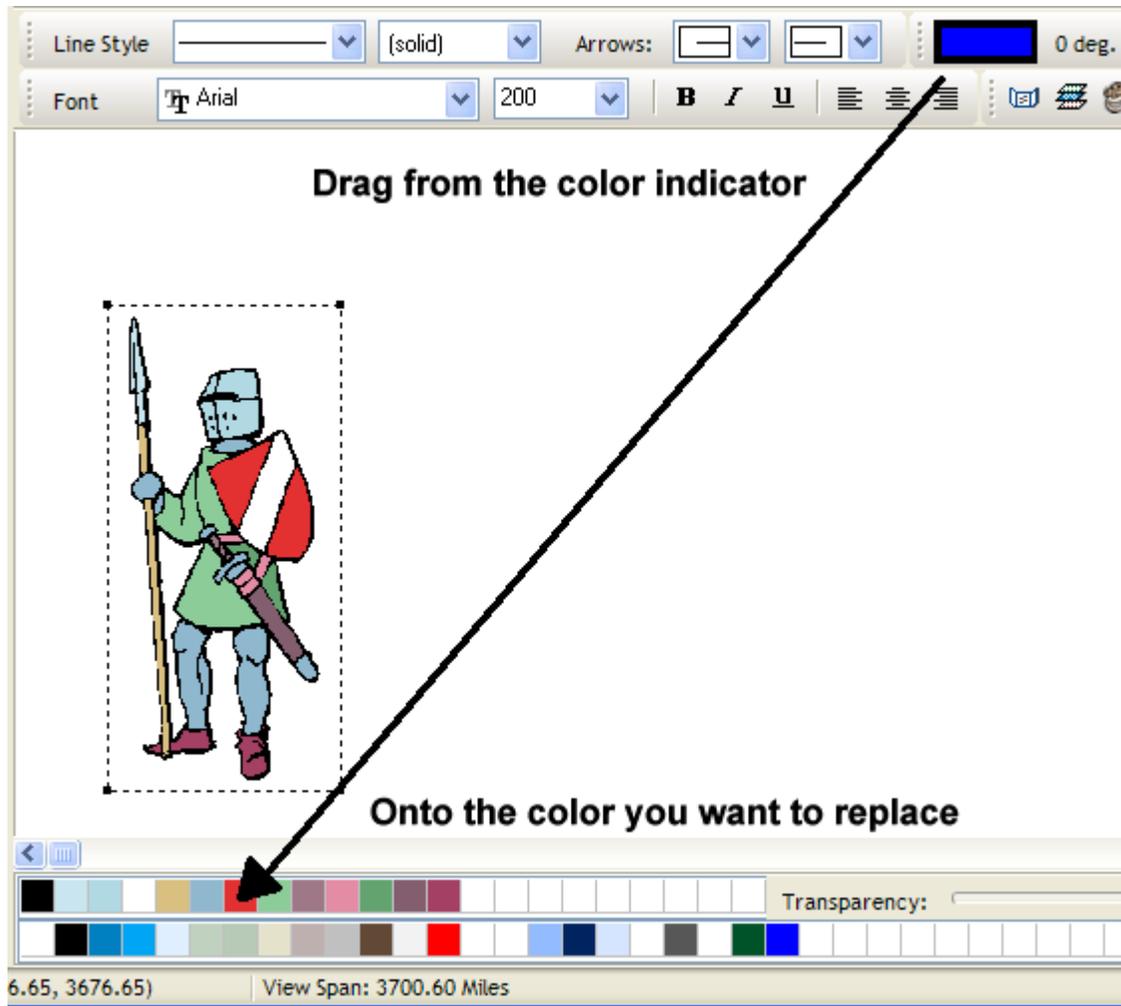
When you do this, the new color that you selected will replace the old color. Your map will be updated to reflect the changes.



If you have more than one mapping symbol selected, the color substitution will be applied to **all** selected mapping symbols.

Another way to use the Symbol Color Palette is to drag the Color indicator box at the top

right of the window onto one of the colors on the Symbol Color Palette bar. When this is done, the color that was displayed in the Color indicator immediately replaces the color that it was dropped on.



This technique is very useful when combined with the [Color Selector](#) tool.

Removing Color Changes

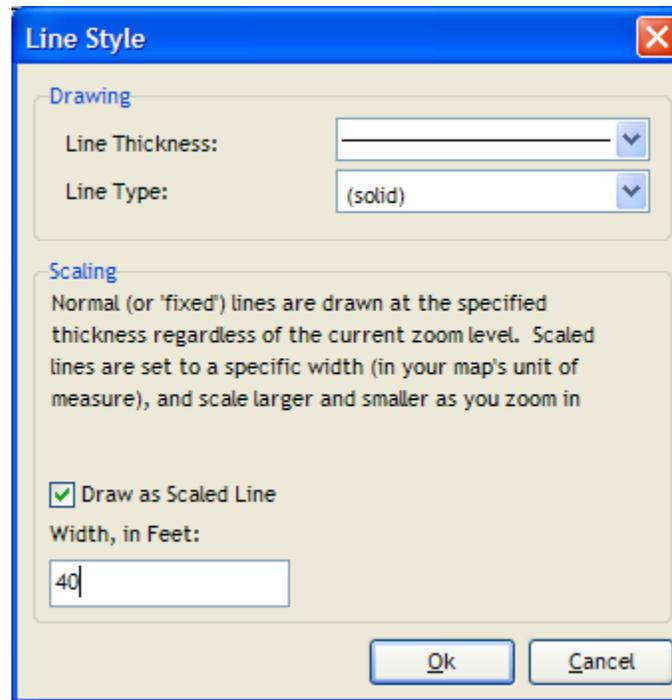
To remove any changes you have made to the colors of a mapping symbol, select the symbol with the Pointer tool and then select Object-Clear Palette Edits from the main menu.

2.4.5 Lines and Line Styles

All map object types, with the exception of mapping symbols and text, have assigned to them Line Size and Line Style attributes. These tell the program how to display the lines associated with the mapping object.

There are two ways to set the line styles for map objects that have been selected with the

Pointer Tool or Area Select Tool. The first way is to select the line width and line style from the boxes on the main toolbar. The second is to select Object-Line Style... from the main menu to display the Line Style dialog box:



The Line Style dialog box offers additional functionality over the line style boxes on the toolbar.

Line Thickness

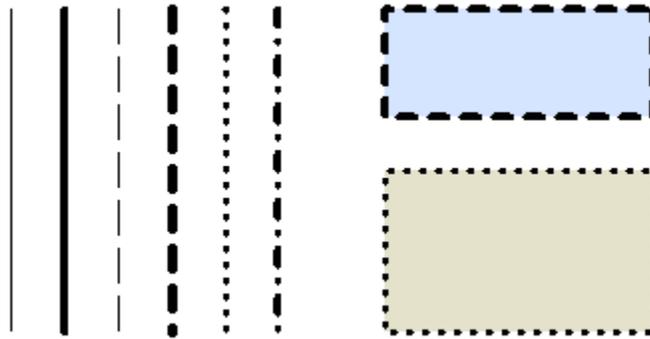
This tells the program how thick to draw the line on screen. Unless Line Scaling is enabled (see below), the line is drawn at the selected width *regardless* of the current zoom level. For example, if you select a line that's 4 pixels wide, it will be displayed as 4 pixels wide at all zoom levels.

Line Type

This specifies the type of line to draw - solid, long dashes, short dashes, etc. If you select '(clear)', no line will be drawn around the map object.

Scaling

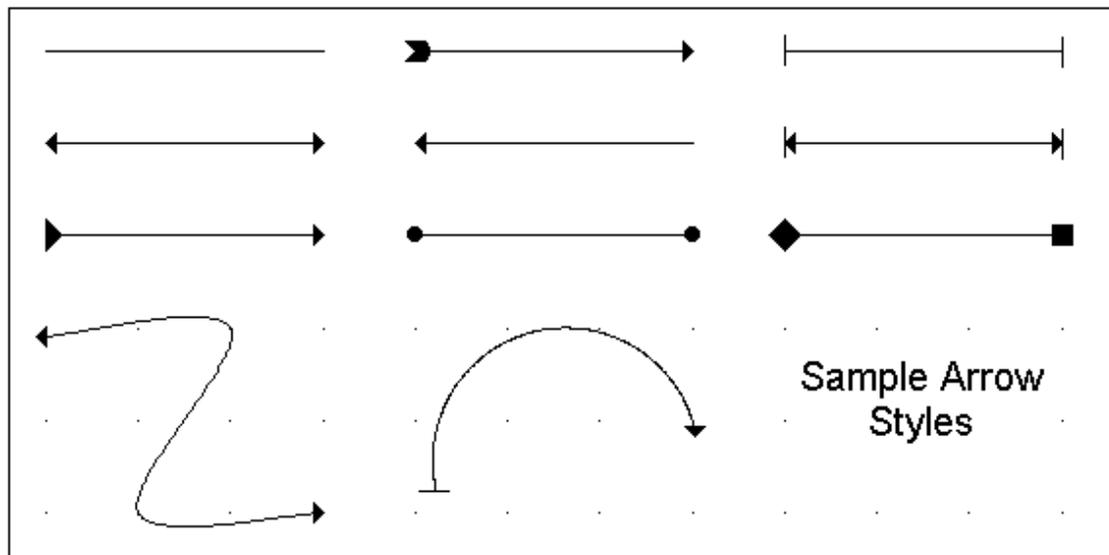
(Only available using the Line Style dialog box) When Line Scaling is enabled, you can specify a line width in your map's unit of measure (feet, miles, kilometers, etc). When the line is drawn, it's width varies with the zoom level. That is, as you zoom in the line gets wider, and as you zoom out, the line gets thinner. In either case, the line itself is displayed at a width that relates to the size you selected. (Scaled lines are sometimes referred to as 'geometric' lines in other graphics programs)



Various Line Styles and Widths

2.4.6 Arrows

Line objects - straight lines, fractal lines, arcs, and spline curves - can have Arrows at their start points, end points, or at both points. Arrows are useful for drawing attention to a specific feature of a map, or as distance measurement symbols.

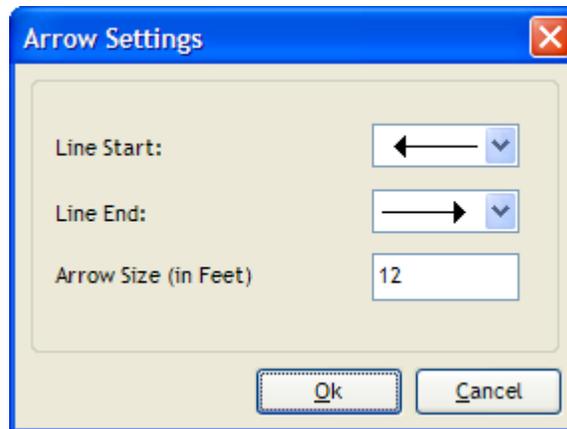


To apply arrows to a line object or objects, select the object(s) with the Pointer or Area Select tools, and then select the desired type of arrow from the arrow boxes on the Line Style toolbar.

Additionally, you can use the Arrow Settings dialog box to select arrow tips. To use this window, first select the line object(s) as above, and then select Object-Arrow Settings... from the main menu.

The Arrow Settings window will allow you to select the start and end arrow tips for line objects (just like the boxes on the toolbar do), and also allow you to select the size of the arrow tip in your map's unit of measure. Typically the arrow size is set to 0. This means that

no matter what the zoom level is, the arrow is drawn at the same size (this is the default behavior). When the size is set to something greater than 0, the arrow tips will be drawn at the specified size, and will be displayed larger as you zoom in on an object.



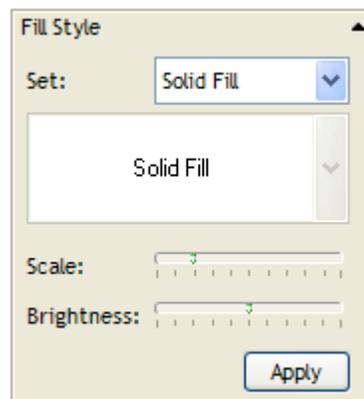
2.4.7 Object Fill Styles and Patterns

Closed objects, such as landmasses, rectangles, and circles, can be filled in a number of ways. The objects can be filled with a solid color, no color at all (clear fill), with a specific pattern, or with a [color gradient](#)³³ (covered in the next section). In addition, each filled object can also be filled with a square, hex, or dot grid, if desired. Non-closed objects, such as lines and spline curves, as well as mapping symbols, do not have a fill setting.

When you place an object on your map, the object's fill style will be set to the currently selected fill style. This is usually the last fill style you selected, or the fill style of the last object you selected with the Pointer tool. To alter an object's fill style, select the desired fill style from the Fill Style box on the special effects toolbar.

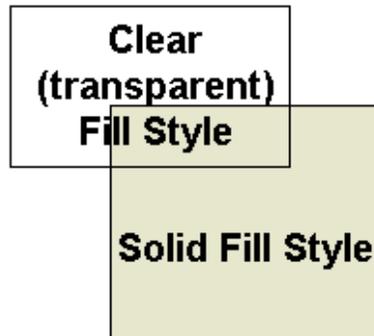
Fills are divided up into sets. The sets include Solid Fill, Clear Fill, Hatches, and then one or more sets containing image patterns (depending on what you've installed).

Solid Fill (solid color)

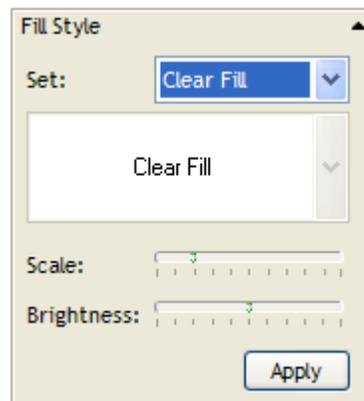


The most commonly used fill style is the Solid Fill. This style fills your map object with a solid color. To select a solid fill for your object, first select it with the Pointer Tool, then

select the Solid Fill set in the Fill Style box, and then click Apply. To select an object's fill color, **left** click on the appropriate cell on the color selection grid at the bottom of the window. See [Setting and Changing Colors](#)¹⁹ for more information. (It's called a 'set', but there's only one option in the Solid and Clear sets).

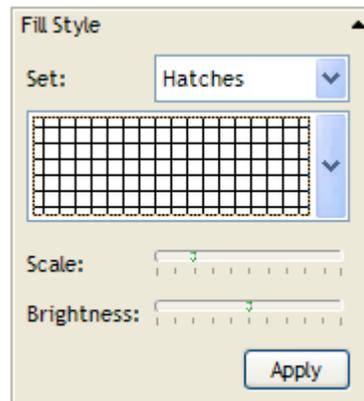


Clear Fill Style (transparent/outlined)

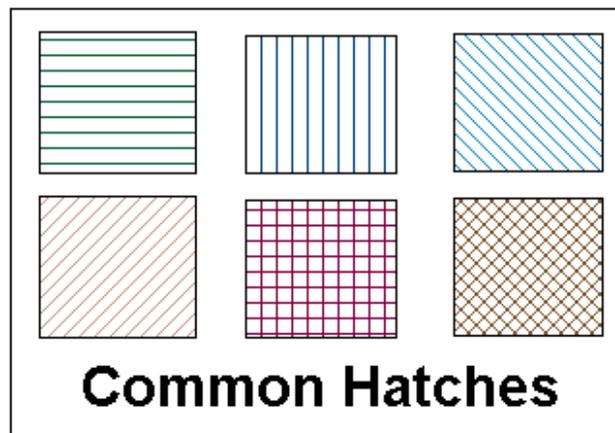


The Clear Fill style draws your closed object without a fill at all. Objects placed on the map with a Clear Fill Style are essentially transparent, and show only the outline of the object in the selected line color. To set your object's fill style to Clear, select the Clear Fill set in the Fill Style box and then click Apply.

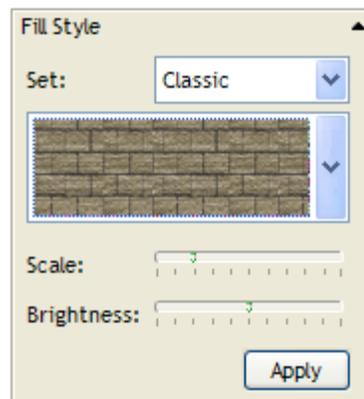
Hatching Patterns Styles



When one of the common Hatching Styles are used as a fill style, your closed object is filled with the selected hatching style. The lines of the hatch are drawn in the currently selected fill color. To apply a hatch fill to an object, select the Hatches set, then select the desired hatch from the drop down, and then click Apply.

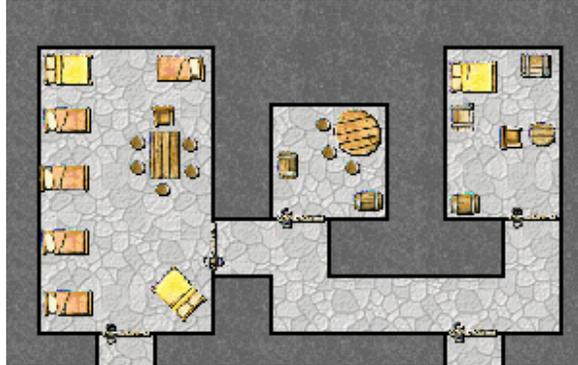


Pattern Fills (Image Patterns)



Objects can also be filled with image patterns. To select a pattern for an object, first choose one of the available sets, then select the desired pattern from the drop down box, and then click Apply.

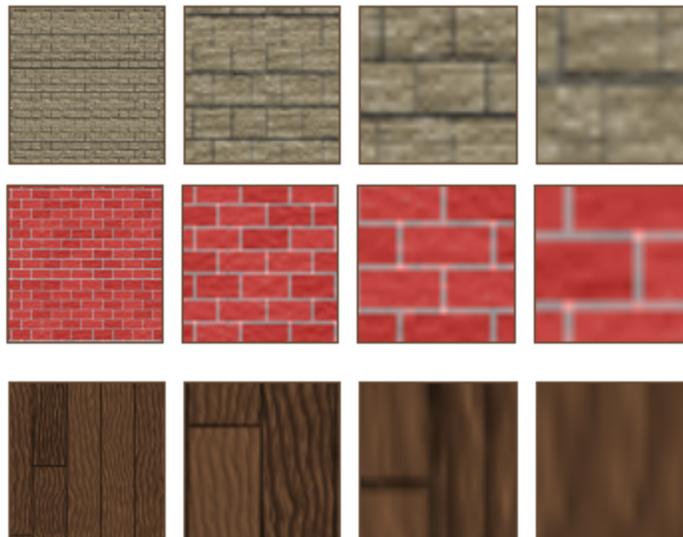
A number of patterns are shipped with Fractal Mapper that can be used in many situations - grass, dirt, stone, and wood of many different types. In addition, you can add your own Fill Patterns - see [Adding New Fill Patterns](#)¹³¹.



Pattern Fills Example - Fills used for floor pattern and stone background.

Pattern Fills have two other settings you can use to control their look - their Scale and Brightness.

A pattern's Scale setting defines how tightly the pattern is applied to the object. As the Scale slider is moved to the left, the pattern gets smaller. As it moves to the right, it gets bigger. After setting the desired scale, click Apply.



Patterns at various scales

The Brightness setting adjusts the brightness of the pattern's colors. If you slide the Brightness slider to the left, the pattern gets darker. If you slide it to the right, it will be lightened. After selecting the desired brightness, click Apply.



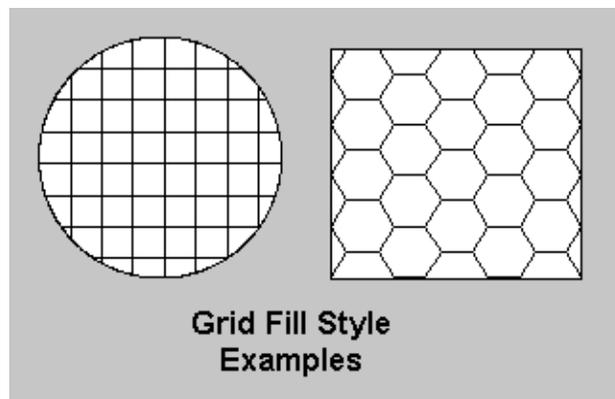
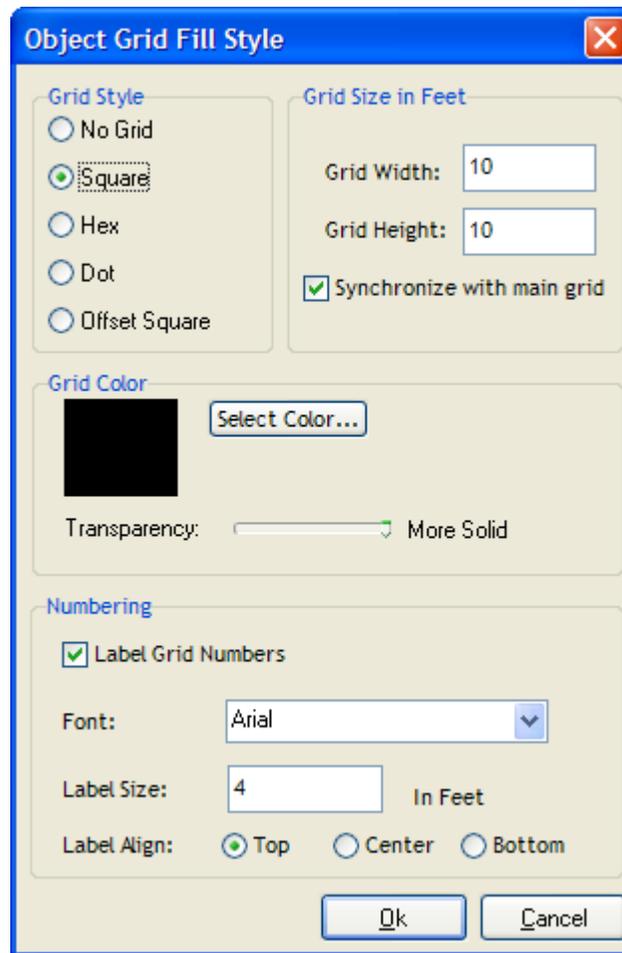
A pattern at varying levels of brightness.

The *On Map* Set

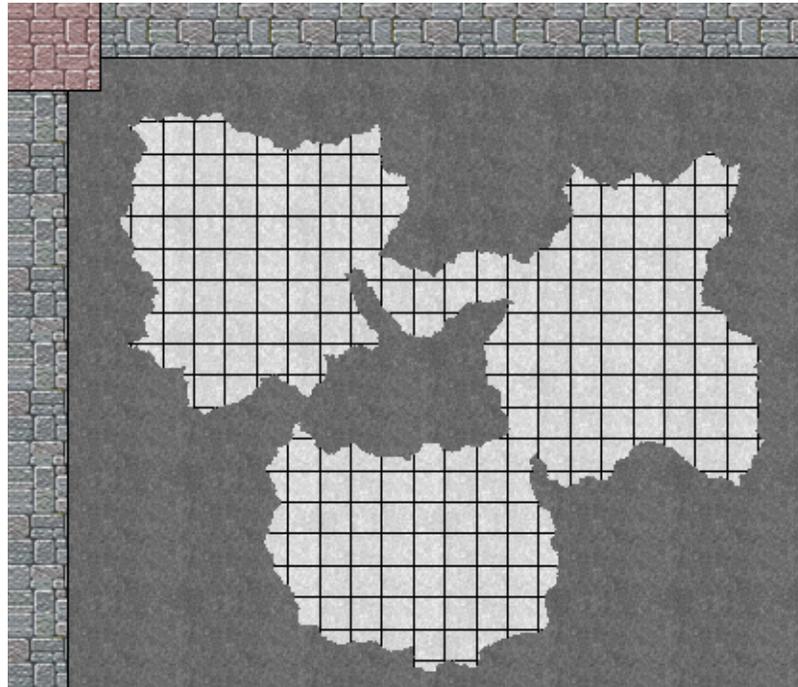
The On Map set is a special fill set that displays all of the pattern fills currently in use on your map. This set operates the same way the other fill pattern set operates.

2.4.8 Grid Fills

Each closed object, in addition to being filled with a Solid Color, Clear Fill, or Fill Pattern, can also be filled with a grid. The grid fill works in conjunction with the other fill styles. An object, for example, can be filled with a stone pattern and a square grid, or a solid color with a hex grid. To select an object or object(s) fill style, select them with the Pointer or Area Select tool, and then select Object-Grid Fill Style... from the main menu. A dialog box will be displayed which will allow you to select the type, size, and color of the object's grid fill style.



An object's grids can be *synchronized* with your map's main grid. When an object's grid style is the same as the main map grid (e.g., they're both square) and they're the same size, the grid drawn when the grid is synchronized matches the main grid. This is very useful, for example, when filling interior rooms with a grid (dungeon, castle layouts, ship floor plans).



A 'Synchronized' Grid Fill Example. Three fractal polygons and a fractal polypath, each filled with the same grid type and size, and each set to 'synchronize' with the main grid. This creates a seamless connection between the objects.

HINT: Grid fills make a great way to create inset maps that depict zoom outs or zoom-ins of areas on your map.

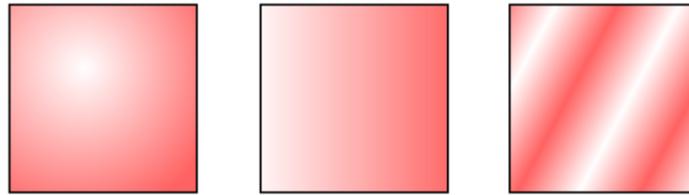
2.4.9 Gradient Fills

Fractal Mapper allows you to fill a closed object not only with a single color, but with two colors that blend together. This sort of color blending is called a gradient, and is very useful for creating artistic effects on your map.

Gradients are defined by selecting two colors to blend, two control points which define how and in which direction the colors will blend together, and the style of gradient. FM supports two styles of gradients, Radial and Linear.

Linear gradients smoothly blend from one color to another based on the direction and length of the line segment defined by the two control points. The first color starts at the first control point, and evenly blends to the second color in the direction of the second point. Linear gradients are displayed in a repeating pattern. If the control points are close to each other, the gradient will repeat.

Radial gradients blend outwardly from the first control point out to the distance defined by the second point. Anything past the second point is filled solid with the second color.



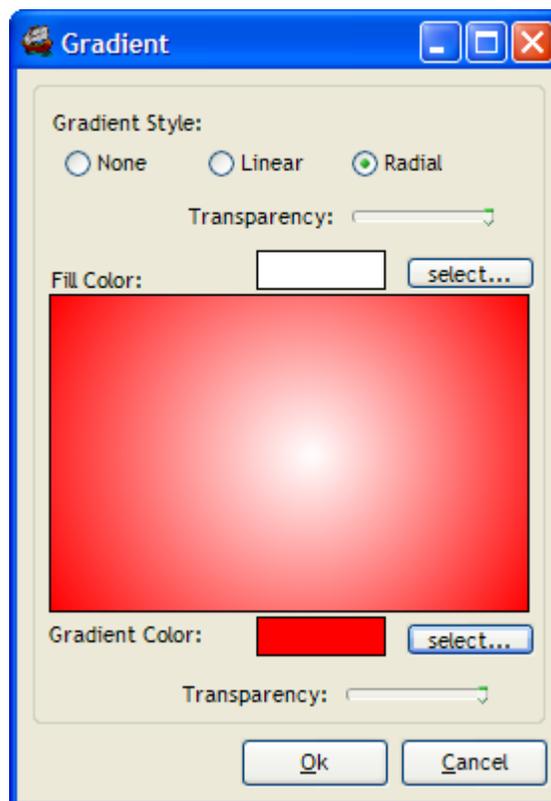
From left to right: Radial Gradient, Linear Gradient, Linear Gradient with a repeating pattern.

How to Create a Gradient

Gradients can be created in two ways: either using some mouse shortcuts on the main window, or by opening the Gradient window.

To quickly create a gradient on your map with the mouse, first select an object. Set the first color of the gradient as you would set the normal fill color by selecting a color from the bottom color palette. Then, select the second color by holding the Shift key down, and clicking on the desired color in the color palette. This will assign a radial gradient to the object in those two colors.

The alternate way of creating a gradient is to use the Gradient window. First, be sure the object is selected. Then open the gradient window by selecting Object-Gradient Fill from the main menu.



Select the type of gradient to use: None (no gradient, solid fill), Linear, or Radial. Then select the two colors to blend by pressing the Select... buttons. Lastly, you can set the level

of transparency to apply to each color. The transparency settings are useful for creating objects that fade in from solid to completely transparent.

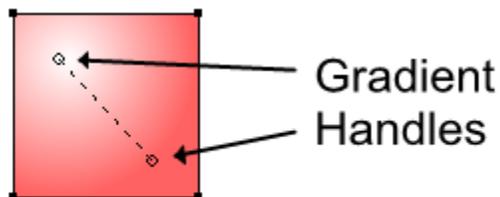
Blend

An example of a transparent gradient

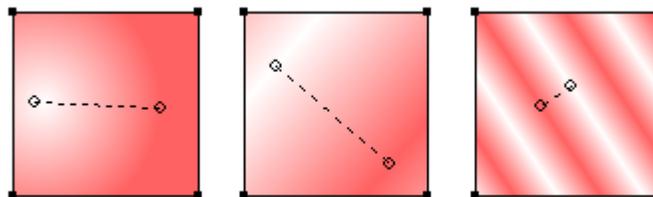
Hint: to remove a gradient, you can set the gradient style to 'None' on the gradient window. Alternatively, selecting the same color for both the fill and gradient color when using the quick mouse technique described above will also remove the gradient.

Manipulating a Gradient

Once a gradient is applied to an object, you can adjust the direction in which colors blend by adjusting either or both of the gradient control points. Whenever an object with a gradient is selected, selection handles representing these control points will be displayed along with the normal selection handles. The two gradient handles are small circles filled with the color controlled by that point.

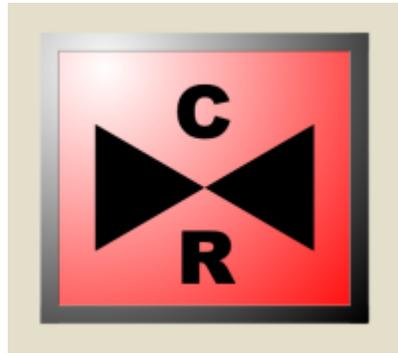


To adjust how colors blend, simply select the color gradient handles, and move them around. You can adjust the direction in which the gradient flows, and, for linear gradients, whether the pattern repeats.



Using Gradients

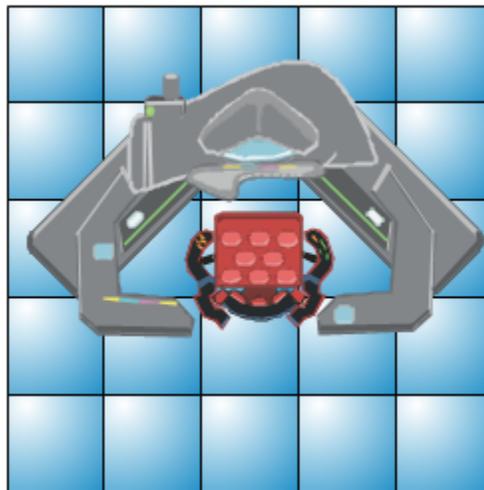
Gradients can be used for great effect on your maps. Here's some examples:



a NATO map symbol



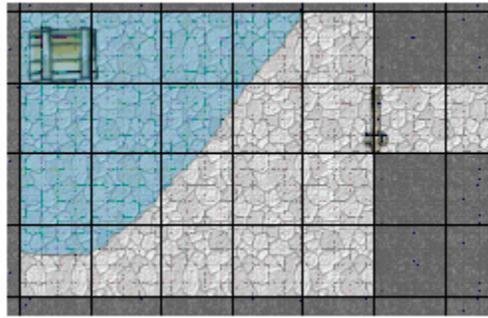
a gradient applied to text



Stylish grids in
starship deckplans

2.4.10 Transparency

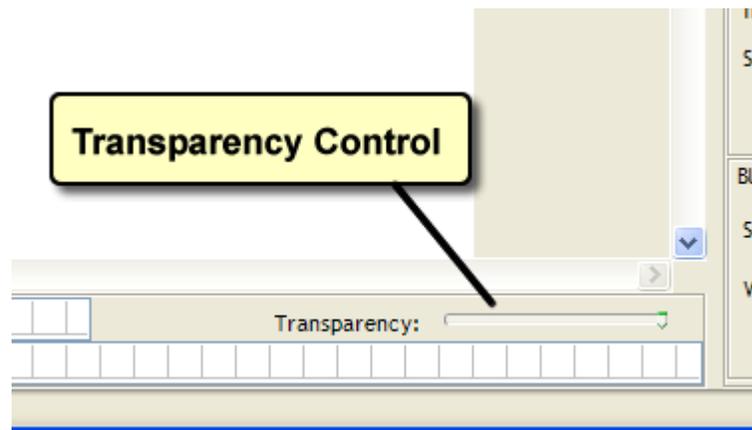
Objects on your map can be displayed in varying levels of transparency. This is another artistic feature that can be used to add great effects to your map. For example, a dungeon room half flooded with water:



Will the party swim for the chest?

Setting transparency

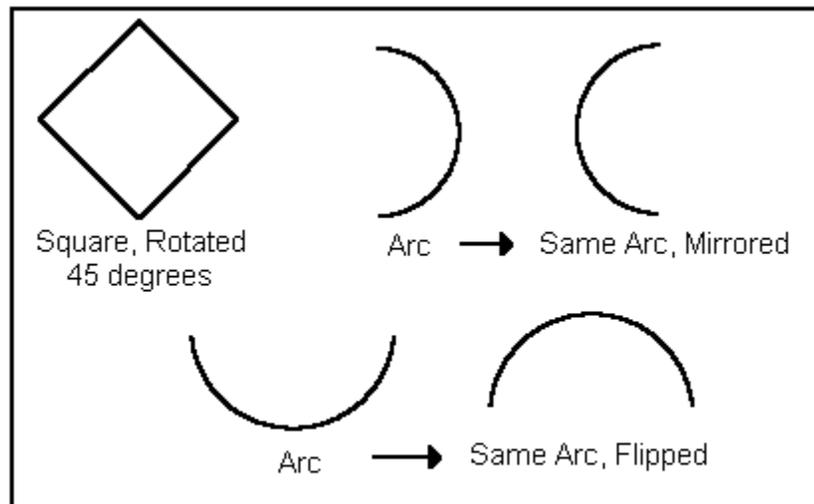
You can set the transparency for selected objects by sliding the transparency indicator found at the bottom of the main window left and right. Moving the indicator left makes the object more transparent, and moving objects to the right makes the object more (or completely) solid.



drag the indicator to the left to make more transparent, to the right to make more solid.

2.4.11 Rotation and other Transformations

Objects on your map can be transformed in several ways. They can be Rotated to any whole angle, they can be Mirrored (all points swapped along the Y-axis), and they can be Flipped (all points swapped along the X-Axis).



Rotation and Transformation Examples

To rotate, mirror, or flip an object or objects, first select the object(s) with the Pointer tool. Then select either Actions-Rotate, Actions-Mirror, or Actions-Flip from the menu.

When rotating an object, you will be prompted to enter the amount of rotation in degrees, from 0 to 360. Mirroring and Flipping work a bit differently.

If more than one object is selected and you Rotate, Mirror, or Flip the objects, the action will be performed about a common center point (for rotation) or axis (for mirror, flip) .

Note 1: Text and Mapping Symbols can be rotated, but not mirrored or flipped.

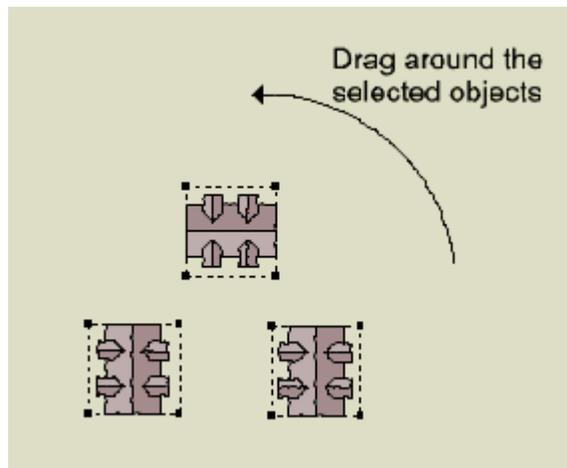
Note 2: In previous versions of the mapper, Rotation was the angle at which the object was displayed. In FM7 and later, the values entered for Rotate are the amount, in degrees, to rotate by. A subtle, but important difference.

2.4.12 Rotating with the Rotation Tool

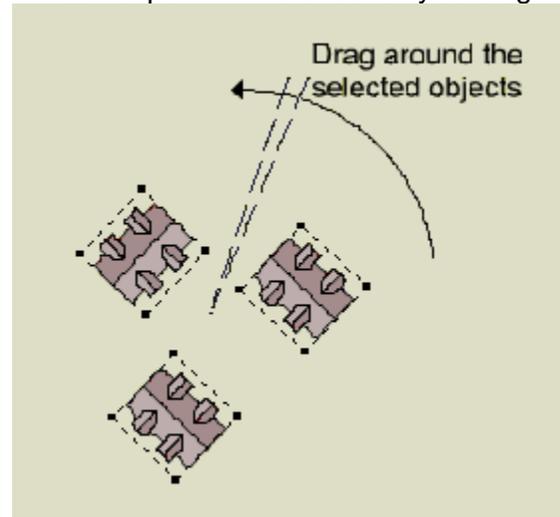
An alternate method of rotating objects is to use the Rotation tool  from the standard tool palette. One or more objects can be rotated with this tool at a time.

To use the tool, first select the objects you want to rotate with the Pointer tool. Then select the Rotation tool. Drag (holding the mouse button down) in a clockwise or counter-clockwise motion on your map, around the selected objects. The objects will rotate as you drag them.

Select the objects with the Pointer, select the Rotation tool, and then drag the mouse on the map in a circular motion



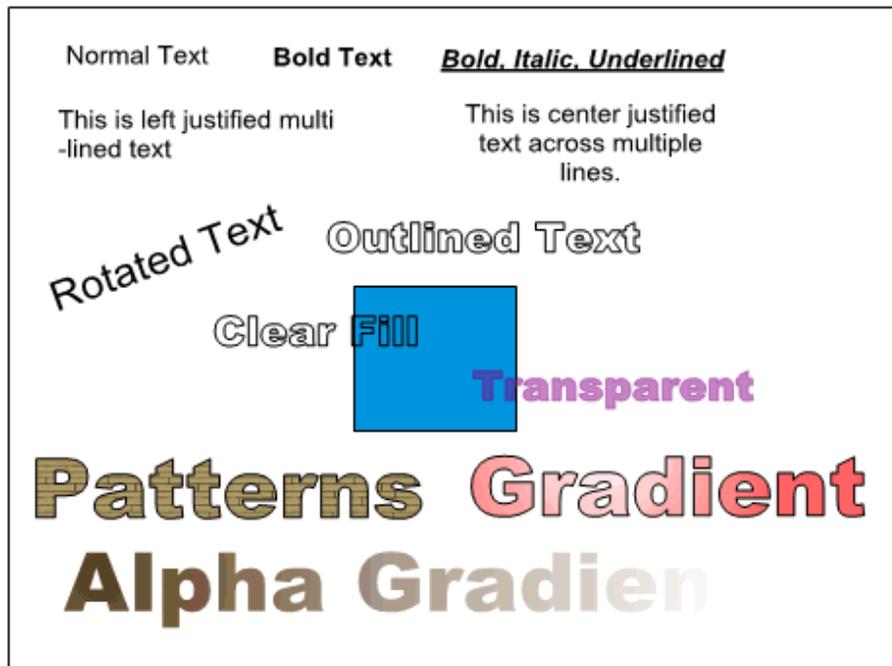
And the selected objects will rotate about a center point in the direction you drag.



2.4.13 Altering Text Objects

Text objects can be altered in a number of ways - in font, size, style, text justification, and the text the object displays.

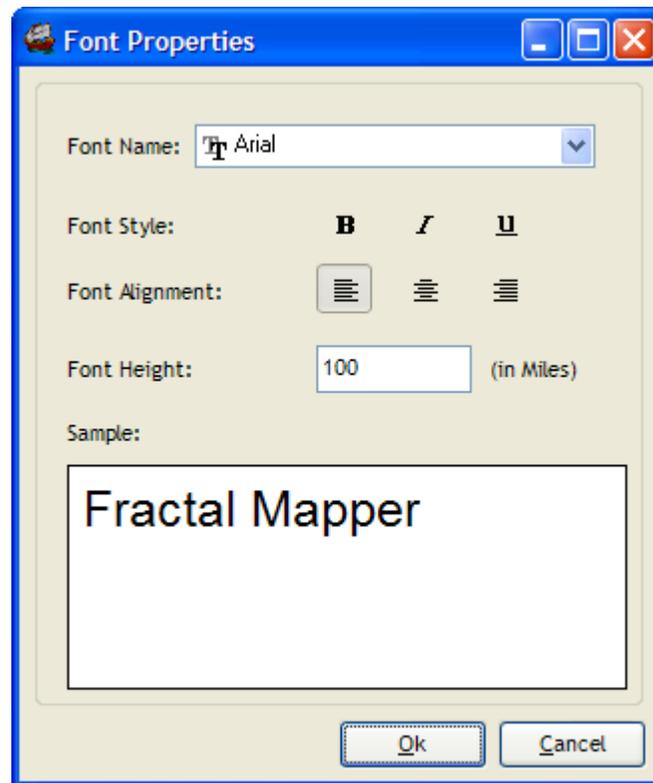
To edit the actual text of a text object, select the text object with the Pointer tool, and then choose Object-Edit Text from the main menu. Alternatively, right click on the object and select Edit Text from the pop-up window.



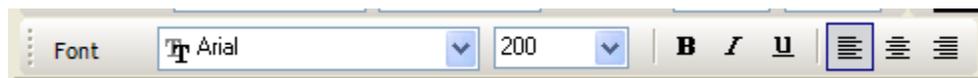
Text Samples

You can alter the font style of the text as well. To alter the font style, select the text objects to be altered and then select Object-Font from the menu. Alternatively, you can use the font section on the main toolbar to set font styles.

The Font Properties windows is displayed when you select Object-Font from the main menu.



Alternatively, you can alter selected text objects by choosing the desired items on the main toolbar.



Text objects have the following attributes that can be modified when the Text object is selected with the Pointer tool:

Font Name: The text object's font name (face name) can be selected using the font drop down list box on the toolbar.

Font Size: The Font Size of an object can be selected from the Font Size drop down list box on the toolbar. The size references the vertical span of the font, in your map's default unit of measure (meters, miles, etc).

Bold, Italic, Underline: The Text object's Bold, Italic, and Underline attributes can be selected by toggling the appropriate button on the tool bar. Each attribute is independent of the others, so combinations of the styles are allowable (such as bold and italic text).

Text Line and Fill Color: Text line and fill color can be selected by left or right clicking on the color palette just as you'd assign colors to the other closed objects on your map. In addition, you can also apply color [gradients](#)^[33] and [patterns](#)^[27] to the text object, just as you would apply it to any closed object.

Text Justification: Text that wraps across multiple lines can be drawn using left, center, or right justification. To change a text object's justification, toggle the appropriate text alignment buttons on the font toolbar.

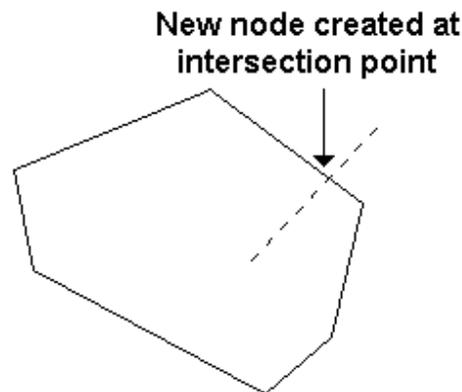
Text Rotation: Text can be rotated like other objects on the map. To rotate a text object, select the object with the Pointer tool, and then select Actions-Rotate from the menu. Alternatively, you can select the object, and then use the [Rotation tool](#)  to rotate the text.

2.4.14 Adding and Deleting Object Nodes (Points)

After you've placed an object on your map, you're not stuck with its shape as is! You can add and delete object nodes on your object using the Add Node and Delete Node tools. For both the Add and Delete Node tools, it's important to know that only the user defined points for an object can be affected. That is, only the points on screen that you defined with the mouse for an object can be deleted or used when adding an object. Points created by fractal rendering cannot be directly removed or have nodes inserted in between them (see below for more info on adding/deleting nodes on fractal objects).

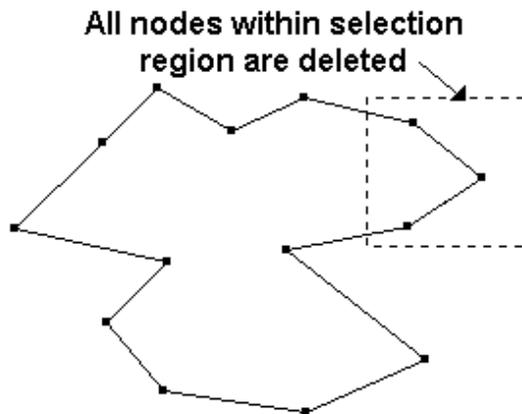
Adding Nodes

To add a node to an object that's on your map, first make sure it's selected by using either the Pointer tool or the Area Select tool. Once it's selected, select the Add Node tool from the main tool palette. With the Add Node tool draw a line (as if you were using the straight line tool) that *intersects* the selected object at the point you wish to add the new node. When you lift the mouse button, a node is added to that object at that point. At that point, the new node can be treated as any of the other nodes in the object and be selected, moved, or even deleted.



Deleting Nodes

To delete a node in an object, first select the object using the Pointer or Area Select tools. Then select the Delete Node tool. With the Delete Node tool selected, draw a rectangle on your map (as if you were drawing using the rectangle tool) that includes the node or nodes that you wish to delete. When you lift the mouse button, the nodes within the area you defined are removed from the object. If you remove enough nodes that leaves the object with only one node defining it, the object itself is removed from the map.



Working with nodes on fractal objects.

Internally, Fractal Mapper tracks two sets of points for each object - the points you defined for an object on screen (the start and end point of a fractal river, for example), and the points defined during the fractal rendering process (the jagged points along the length of a fractal river). The Add and Delete tool works only with the first set of points - the user defined points - since those are the only points guaranteed to be there after a line is fractalized. In normal shaped objects such as lines and rectangles with a fractal factor set to 0 (no level of fractalization), the two sets of points are identical. In fractal objects, the two sets of points will be very different. A line, for example, will have two points defined on screen by you, but may have several thousand line segments defined after the line is fractalized.

To add and delete points on along the fractalized portions of an object, you'll need to take advantage of object [cloning](#)⁶⁵. In particular, you'll need to use the Clone to Polyline or Clone to Polygon feature. These two features take a fractal line defined by a simple start and end point, and transform it into a very complex line with possibly thousands of line segments. You can then add and delete nodes on this new object as described above.



**A Land Mass, cloned to a polygon. The new
polygon then has a number of nodes removed**

NOTE: When you add or delete a node on a fractal object, such as a landmass or river, you will likely see the fractalization on the object change dramatically. This is because when you add or delete a node, you're changing the input that goes into the fractal algorithms. The only way to guarantee that the overall shape of the fractal object does not change when you add or delete a node is to [clone](#)⁶⁵ it first. That's chaos for you!

HINT: You can add and delete nodes on arcs, spline curves, and ellipses as well by using

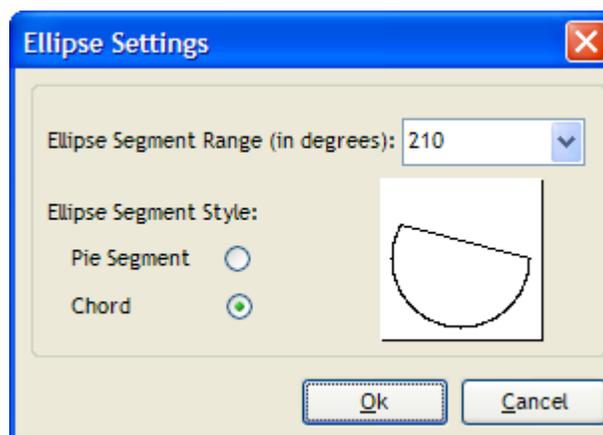
the same strategy you would use when adding and deleting nodes to fractal objects. If you clone an arc, spline curve, or ellipse, you can then add and remove nodes using the Add Node and Delete Node tool.

2.4.15 Creating Chords and Pie Slices (Ellipses)

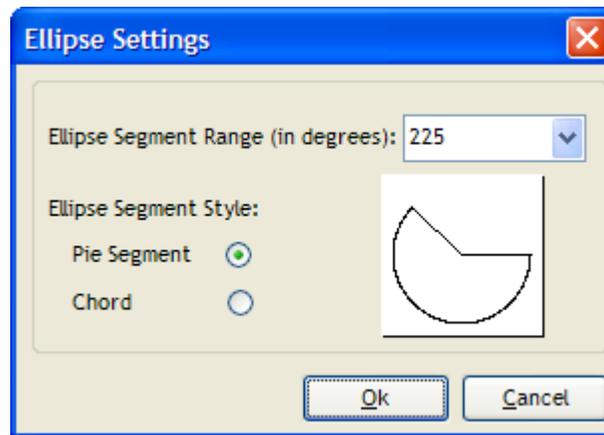
Ellipse (circles and ovals) objects can be displayed in three ways - as an ellipse (default), as a pie slice, or as a chord. In most cases, you'll probably just want your ellipse displayed as-is. Occasionally, though, you might only need a segment of an ellipse. These segments are called Pie Slices or Chords, depending on how they're drawn. A Pie Slice is partial ellipse, with the ends of the pie slice connected by a two lines - one from each end of the pie slice to the middle of the ellipse. Chords are elliptical segments that are connected directly end to end with a straight line.



To display an ellipse as either a Pie Slice or a Chord, select the ellipse with the Pointer tool, and then choose Object-Ellipse Settings... from the main menu. A window will be displayed allowing you to select the range of the segment (out of 360 degrees) and the type of segment.



Ellipse settings, showing a Chord



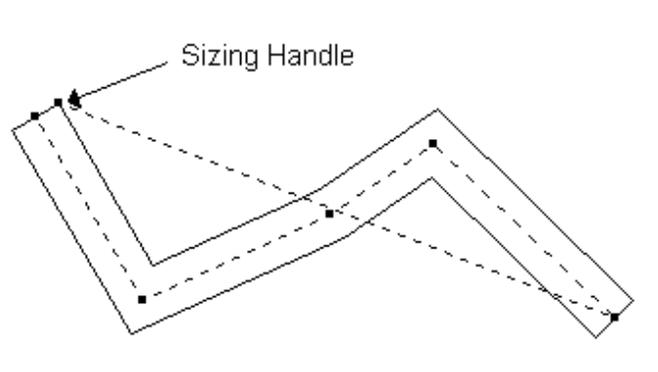
Ellipse settings, showing a Pie Segment

Hint: Ellipses can be cloned to polygons or polylines like other objects. When this is done, the individual points that make up the circle can then be edited with the node editing tools.

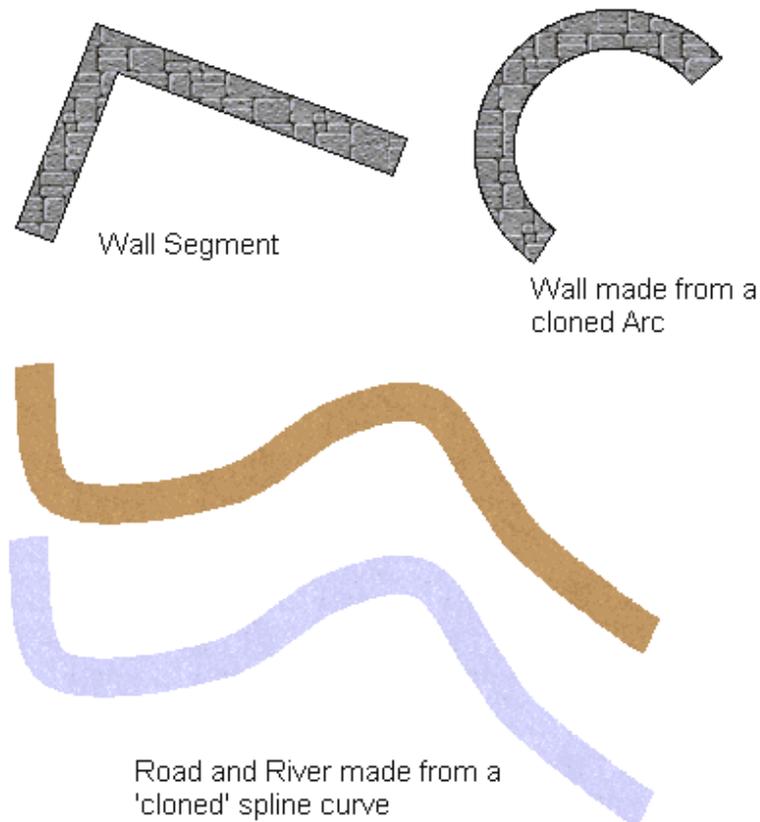
2.4.16 Altering Polypaths

The Fractal Polypath is a mapping tool with an identity crisis. While it behaves like a polyline, it also has some qualities in common with polygons and other filled objects. Polypaths can be altered like the other closed objects and assigned brush colors and fill patterns.

In addition, Polypath's can be widened or narrowed as desired. To alter the width of a polypath, select the polypath with the Pointer or Area Select tool. Then, drag the path's sizing handle closer or farther from the path. This will widen or narrow the path.



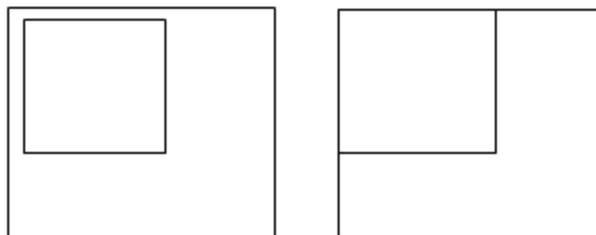
Sample Polypaths:



2.4.17 Flushing Objects

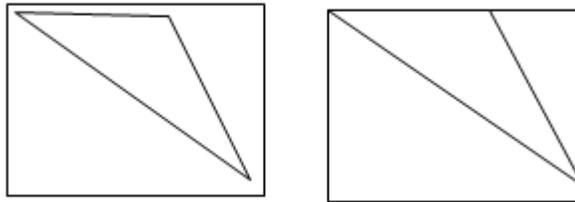
Sometimes you want to place objects flush up against each other. Think of it like pushing a dresser or bed up against a wall. Fractal Mapper lets you do this by using the [Flush Against](#) feature.

To flush or nudge an object up against other objects on the map, first select the object, and then select [Actions - Flush Against](#) from the menu. The object's nodes will be flushed up against other nearby objects (if there are any that are close enough). Be sure to select only the object you want to flush up against other objects. The other objects that it is moved up against do not need to be selected.

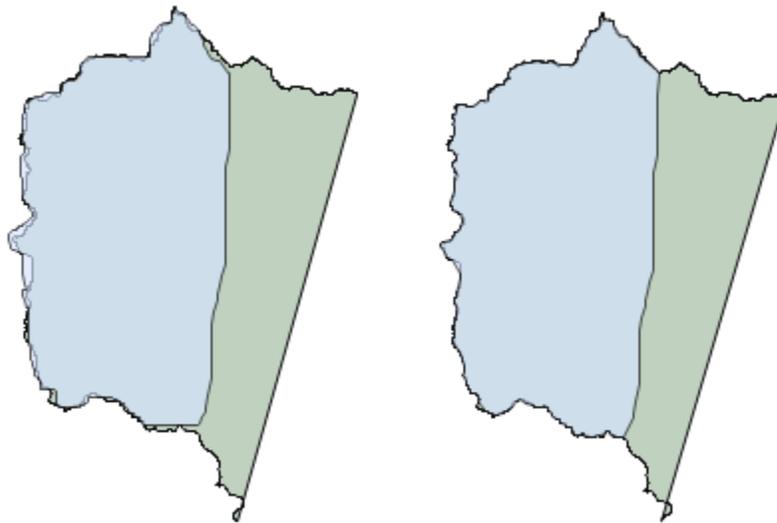


Before and after example of a rectangle flushed up

against another rectangle



Before and after example of a triangle flushed up against a rectangle



Practical example - before and after of a freehand polygon (blue) traced over the edge of a fractal landmass (green). The freehand object is flushed up against the landmass. This is an excellent way to make political boundaries that run along a coast.

2.5 Mapping Symbols

2.5.1 Mapping Symbols

One great thing about using map making software rather than less specialized drawing programs is all the cool mapping symbols! Fractal Mapper comes with hundreds of professionally drawn mapping symbols that you can place on your map.

Symbol Types

Fractal Mapper uses two different types of symbols - *Raster* symbols and *Vector* symbols.

In most cases, which type of symbol you are placing on the map doesn't have much importance, as both types are used in the same way. But there's a few specific things to keep in mind with each type of symbol.

Raster Symbols are image files. They can be either standard Windows bitmaps (.bmp) image files, JPEG files (*.jpg), or more commonly, Portable Network Graphics (.PNG) image files. If the image file has what's called an alpha channel and supports some level of transparency as its background, the image is drawn with the background transparent.

Raster Symbols are great for when you want a nice hand drawn look to your map, or when creating 'realistic' battle maps. The downside of raster symbols is that they don't scale too well. Zoom too far in on them, and they'll appear pixelated.

Vector Symbols are essentially just other Fractal Mapper maps. These have a file extension of .fmp. Vector Symbols usually have much crisper lines, and display well at any zoom level. But they might lack that hand drawn look. Also, when you have a lot of symbols on your map (hundreds or thousands), vector symbols tend to draw a bit faster.

Symbol Memory

Typically, when you place a symbol on your map, you'll end up using that symbol one or more times on the map. For example, you might switch between a few different trees or have a dungeon with many treasure chests. Fractal Mapper will remember at what size each symbol on your map is used, and automatically set any new copies of that same symbol to that size when you place them. This is called Symbol Memory. You don't have to do anything to have the sizes remembered - whenever you re-size a symbol it's new size is memorized.

2.5.2 Placing Mapping Symbols

Mapping symbol selection is done using the Symbol Palette.



Symbols are divided into *Sets* and *Categories*. Each set contains a number of different symbol categories, and each category contains one or more mapping symbols.

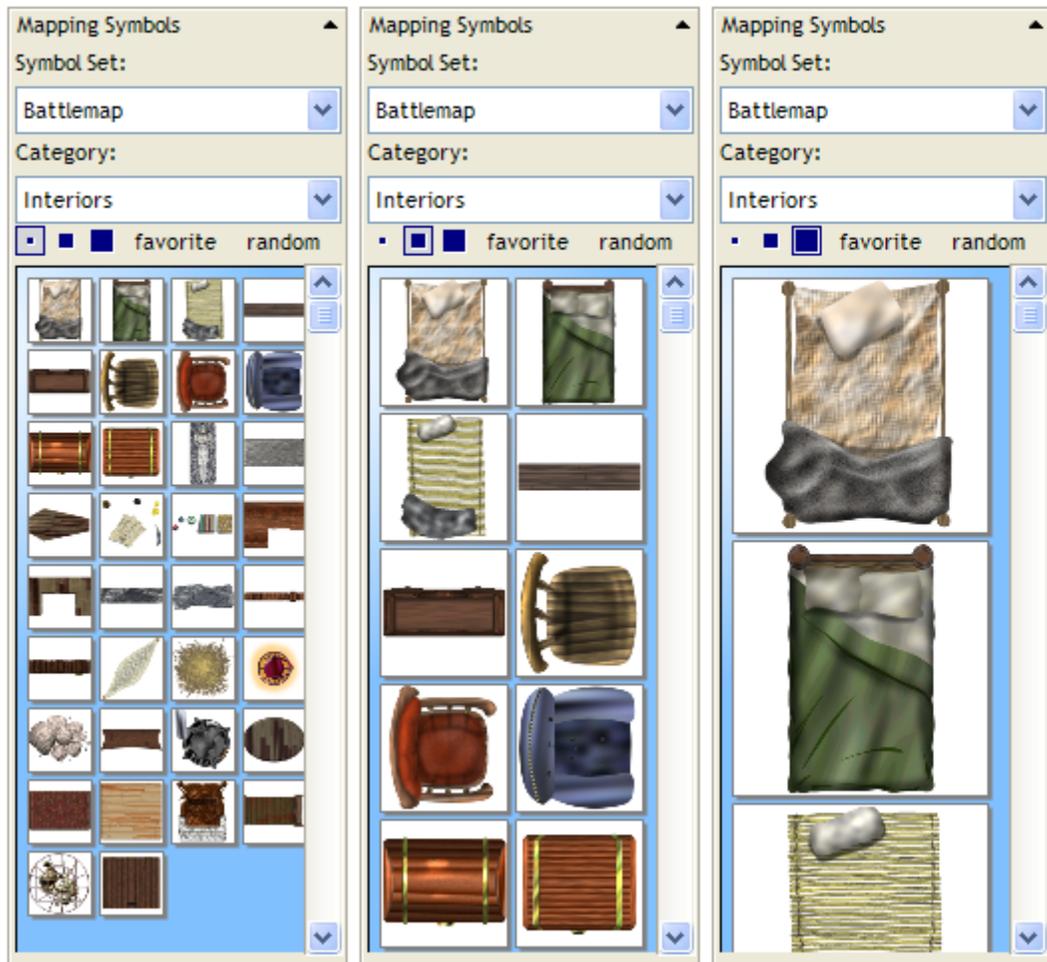
When you change the Symbol Set, the different categories in that set are displayed in the Category box. When you switch between categories the symbols in that category are displayed on the palette.

To place one of the symbols in the palette onto your map, click on a symbol you like in the palette, and then click on the map. The symbol will be placed at that location on the map. If you click on the map again, another symbol will be placed where you clicked.

Alternatively, if you want to place the symbol onto the map at a specific size, you can do so by selecting the symbol in the palette, and dragging out a rectangle on the map. The symbol will be placed at a size such that it fits in that rectangle.

Thumbnail size selection

There's three small squares located just under the Category box. These are the thumbnail sizing buttons. By selecting these, you can alter the size of the symbol thumbnails to show more at once, or show the thumbnails larger so you can see more detail.

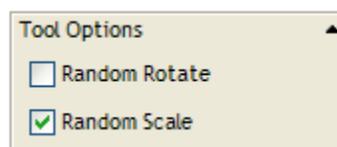


Symbol thumbnails at different sizes

Random Rotation and Scaling

Symbols don't have to automatically be placed in a uniform direction, or at a uniform size. You can tell Fractal Mapper to automatically randomly rotate or scale symbols as they are placed on the map. When the Map Symbol tool  is selected, the Tool Options box shows two check boxes - one for random rotation and one for random scale.

If you check the Random Rotate box, symbols, when they are placed on the map (by any means) will be randomly rotated (0 to 360 degrees). If you check the Random Scale box, symbols will be scaled +/- 10% in size when they are placed on the map.



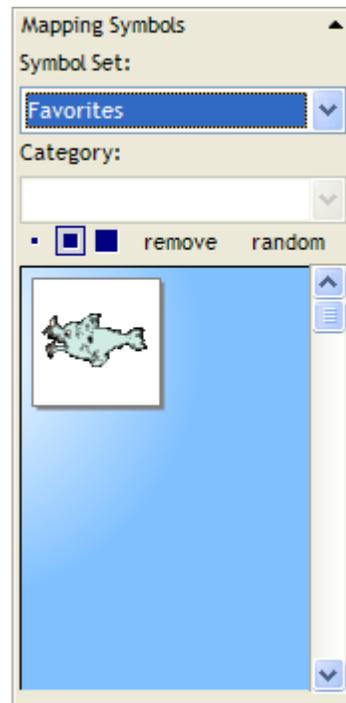
2.5.3 Favorites Sets

One of the two special types of Symbol Sets is the *Favorites* symbol set. This is a special symbol set that you can use to store your frequently used mapping symbols.

To add a symbol to your Favorites set, first find the symbol in the symbol palette. Then click on the symbol you want to add, and then click the Favorites button.



When you do this, the symbol will be added to your Favorites set. You can now quickly access it by switching to the Favorites symbol set.



You can then click on that symbol and add it the map as desired.

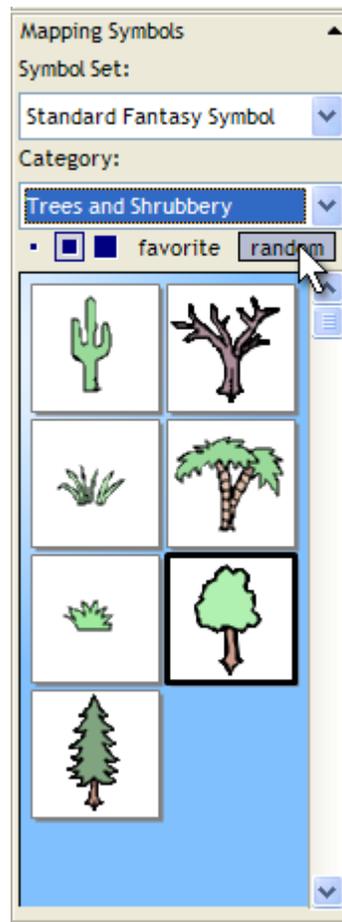
To remove a symbol from the Favorites set, click on it in the palette, and then click the Remove button.

2.5.4 Random Sets

Often you'll want to place a number of different symbols on the map such that they look to be placed there with a degree of randomness. A good example of this is building forests with tree symbols. You could switch back and forth between several different tree symbols, clicking the symbol, then the map, then a different symbol, then a map... but that can be tedious.

Fractal Mapper offers an alternative way to do this - *Random Sets*. Random Sets are a special type of symbol set in which you can define any number of categories from which symbols can be placed onto the map randomly.

To create a Random Set, first pick a few symbols you want to add to the set. Click on a symbol you want to add, and then then click the Random button.



When you do this, you will be prompted for the name of a random set category to assign the symbol to.



Type in a category name (it can be any text) or select an existing random set category from the list provided, and then click Ok. The symbol will be assigned to that random set category. You can then repeat the process, adding a few more symbols to that random set category.

Once a random set category is defined, you can switch to it by selecting the Random Sets

symbol set.



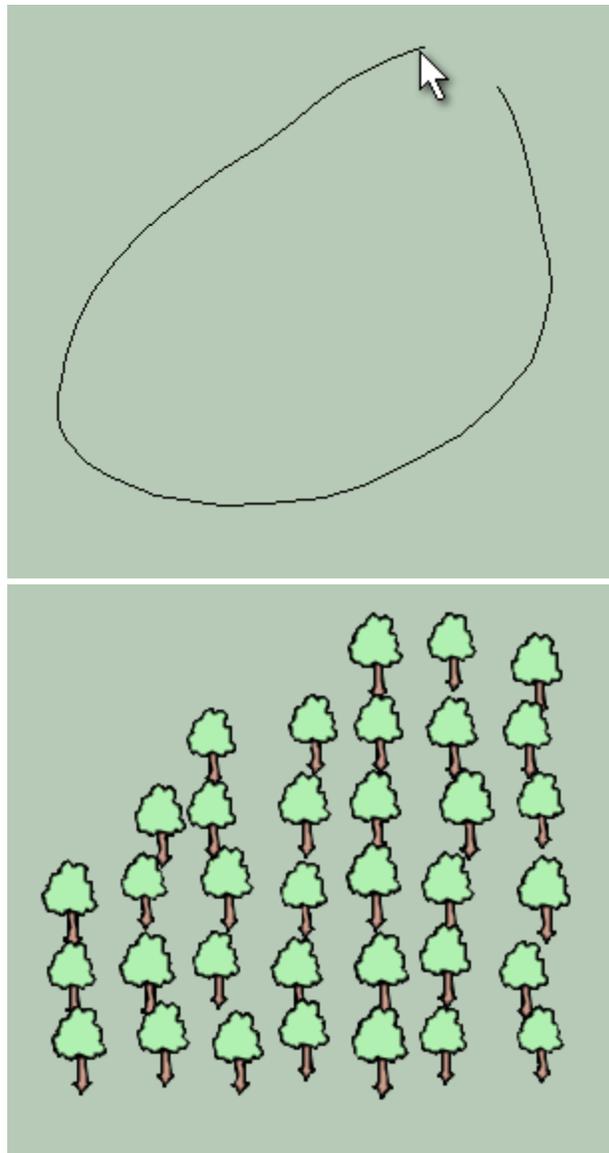
To place these symbols randomly on the map, select one of the symbols in the desired random set category (it doesn't matter which one), and then click on the map. One of the symbols from that set, selected randomly, will be placed where you clicked. Symbols can also be placed by dragging out a rectangle.

Random symbol sets can also be used with the [Random Symbol Fill](#)⁵⁴ tool, greatly enhancing your ability to place many symbols on the map randomly and quickly.

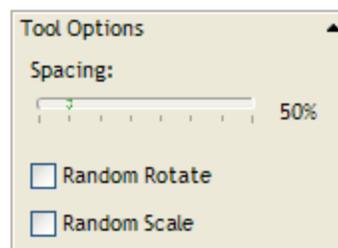
2.5.5 Random Symbol Fill Tool

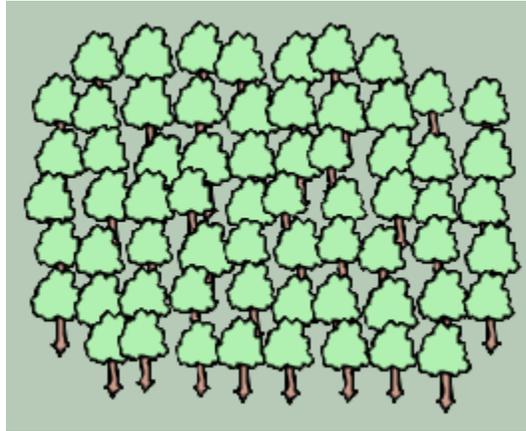
If you want to place a lot of symbols on your map, there's a much quicker alternative to the Map Symbol tool - the Random Symbol Fill tool.

The Random Symbol Fill tool lets you select a freehand area on your map, and fill that area with the currently selected mapping symbol. To do this, first select the Random Symbol Fill tool  from the tool palette. Then select the desired symbol from the symbol palette. Once you've selected a symbol, draw out a freehand region on your map, and then release the mouse button. The selected region will be filled with the symbol.



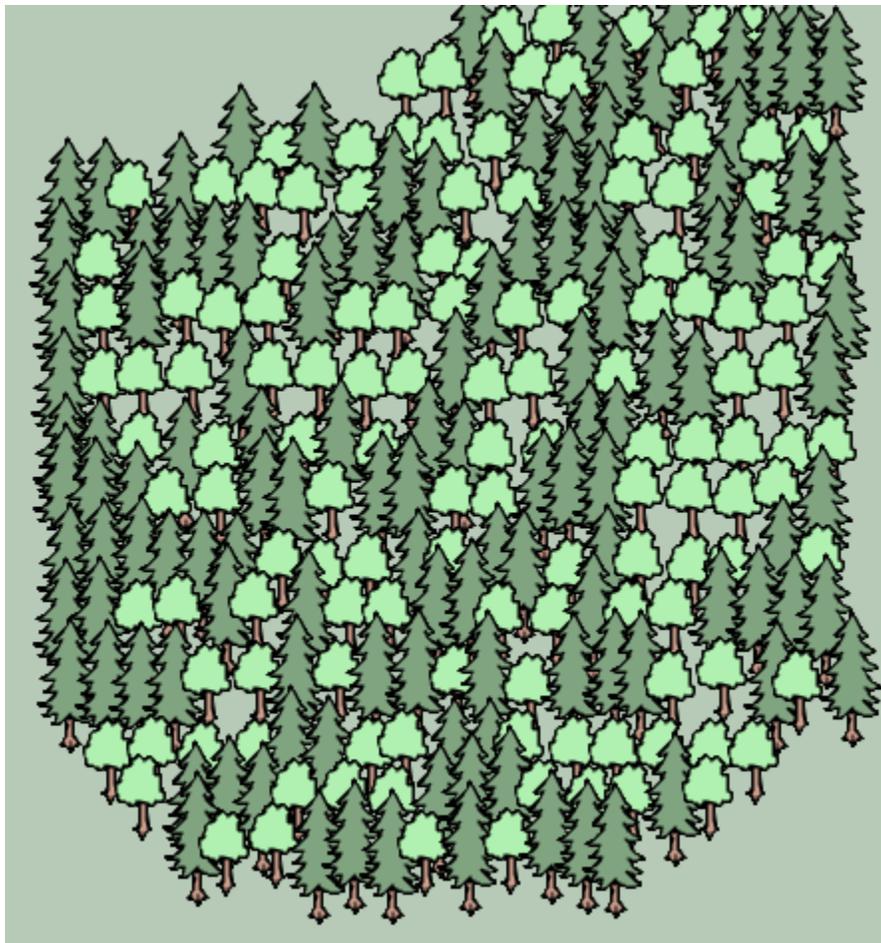
You can control the density at which the symbol is placed on your map. When the Random Symbol Fill tool is selected, the Tool Options box will display a slider which will let you select the spacing (density) of the symbols when placing them. Slide it lower to place the symbols closer together, and higher to place them farther apart.





Trees placed at a 50% spacing.

The Random Symbol Fill tool also works with Random Sets. That is, if you use the Random Symbol Fill tool while a symbol from a random symbol category is selected, symbols will be selected randomly from the random symbol category as they are placed on the map.



An 'instant forest' using the Random Symbol Fill tool and Random Sets.

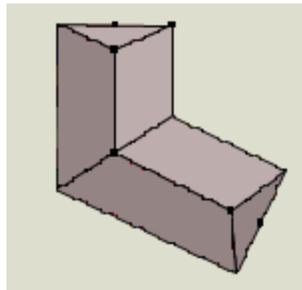
Literally hundreds or thousands of symbols can then be placed randomly onto your map in just seconds!

The Random Symbol Fill tool also respects the Random Rotate and Random Scale check boxes, as the normal Map Symbol tool does, and will randomly rotate or scale each individual symbol as it is placed on the map per those settings.

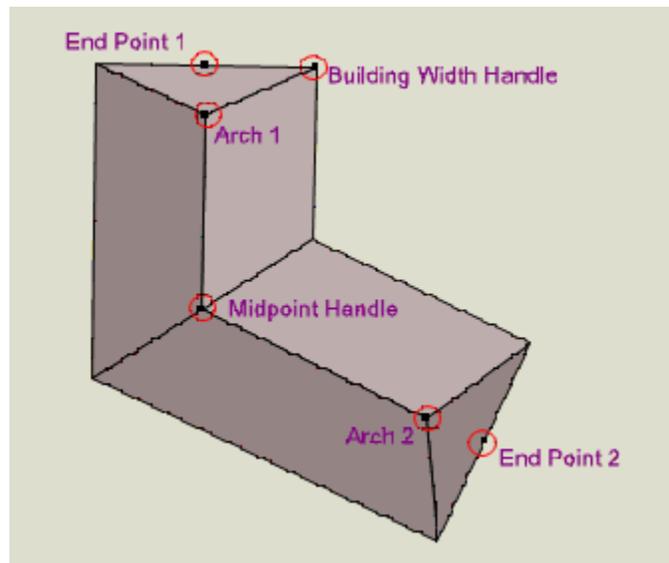
2.6 Using the Smart Building Tool

The Smart Building tool allows you to quickly place buildings on your map. With the Smart Building tool you can also build from smaller parts more complex buildings with window arches.

The Smart Building tool works a lot like the polygon, polyline, and polypath tools - at least at first. Select the Smart Building tool  from the standard tool palette. Then click on two or more points on your map. Finally, right click on your map to finish point selection (like you do with the polygon tool). When you do this, a building will be placed on your map that follows the selected points. Here's an example of a building created by selecting two points on the map:



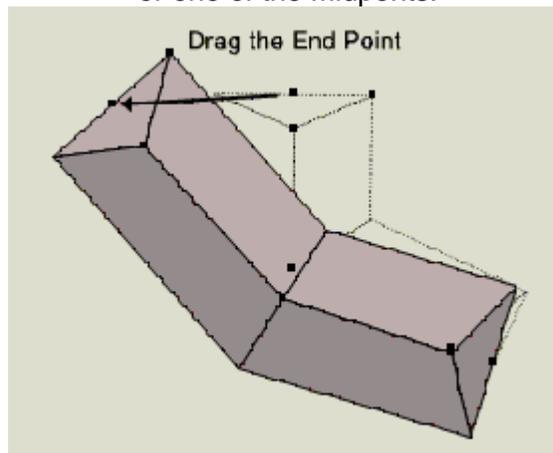
If you notice, when you select a building object, there's a number of selection handles all about the building:



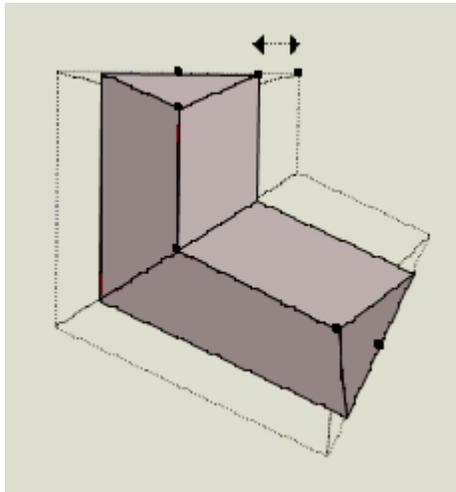
Using these selection handles, you can control how a number of aspects about the building.

If you move either of the End Point handles or one of the Midpoint handles, you can control the overall shape of the building. If you drag the Building Width handle, you can control how narrow or wide the building is. Lastly, the two Arch handles allow you to vary how steep the arch appears, or even to move the arch out off the edge of the building (see below for why you'd do that).

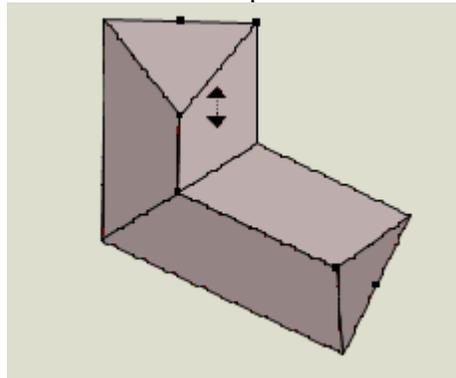
To adjust the shape of the building, drag either End Point, or one of the Midpoints.



To adjust the width of the building, drag the Width handle

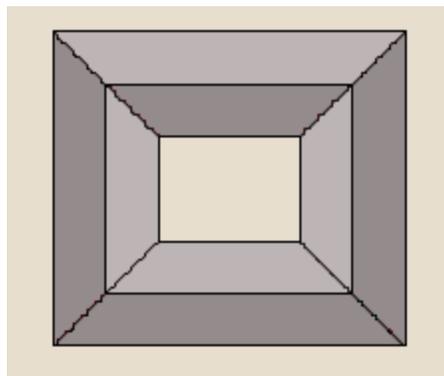


Adjust the arches by dragging one of the arch points.



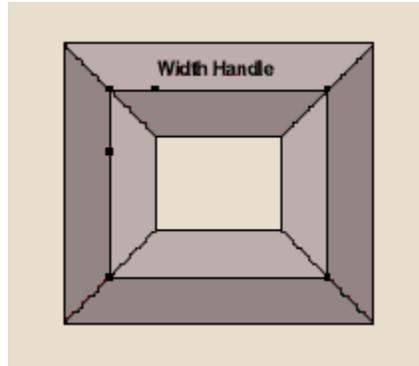
Closed Buildings

It's also possible to draw closed buildings with the Smart Building tool. These are buildings whose start and end points match. When this happens, the Smart Building will automatically close to create a building that encircles a courtyard:



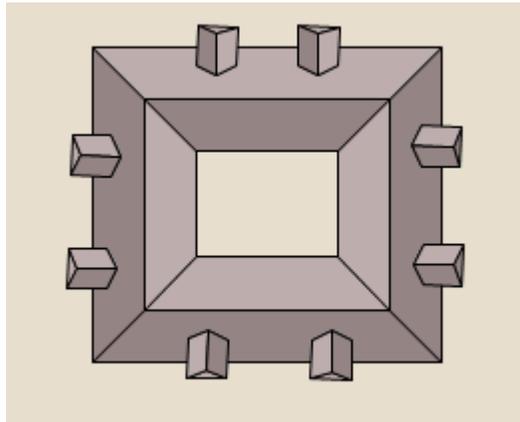
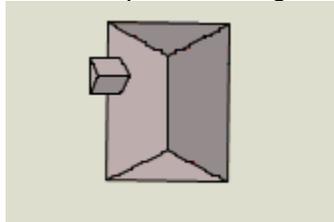
Creating a closed building works essentially like creating any other building. Select 4 or more points, and be sure to set the last point you select to the same spot as the first point. For precise square and other regular shapes, you may wish to enable grid [snapping](#)⁸¹.

Manipulating closed buildings also works by accessing it's various handles. The main difference here is that there are no arch handles - just Midpoint handles and the Width handle:



Making window arches

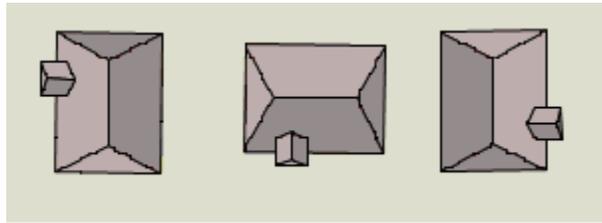
It's easy to make more complicated buildings by using several building objects. For example, you can add a window arch by placing a second building object on top of another, and extending one of it's arch handles out past the edge of the building, as such:



'Shading'

Smart Buildings will shade the side of a building that is to the bottom and right side of a building segment. If you rotate a building, the shading of the individual sides will adjust accordingly. Building objects filled with a gradient will not show this shading behavior (usually that's what you're trying to do with the gradient), but building objects filled with texture patterns **will** shade.

The same building at different rotation angles shades different sides.



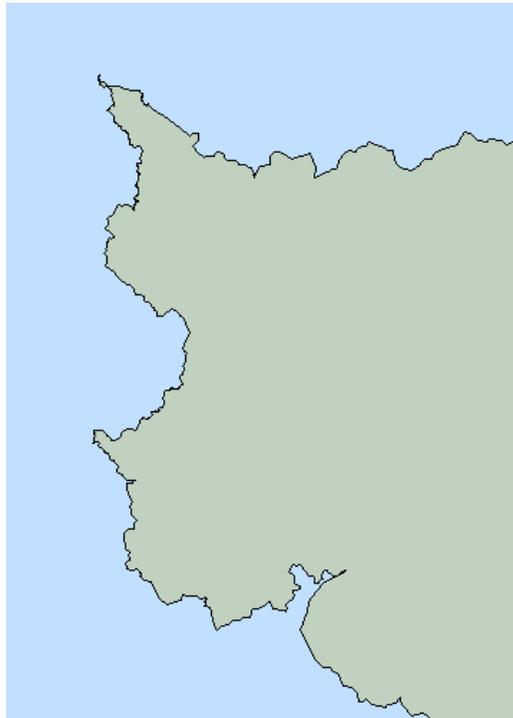
2.7 Using the Vector Flood Fill tool

If you have worked with image editing software, you've probably seen a flood fill tool. This tool would fill an unbroken area of color with another solid color. Since Fractal Mapper is a vector drawing program that deals with lines and shapes as opposed to pixels, such a flood fill wasn't possible... until now. Fractal Mapper v8.0 features a new tool, called the *Vector Flood Fill* tool.

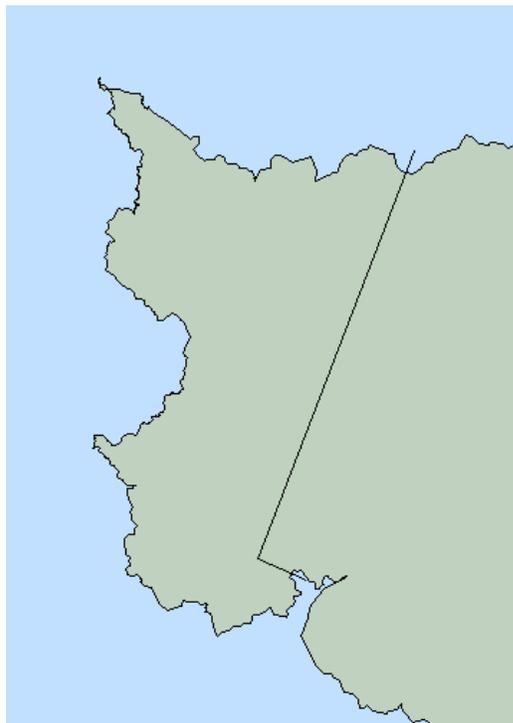
The Vector Flood Fill tool works a lot like the flood fill tools you've seen in other graphics programs. You click a spot on the image and any unbroken area of color is filled with a selected color. With Fractal Mapper and the Vector Flood Fill tool, the difference is that the area filled is converted into a polygon object which can then be manipulated on your map like any other polygon/landmass object.

To use the Vector Flood Fill tool , select it, and then click on an area of the map you want to fill. A polygon will be created with the currently selected fill color (or pattern) that represents the area that was filled.

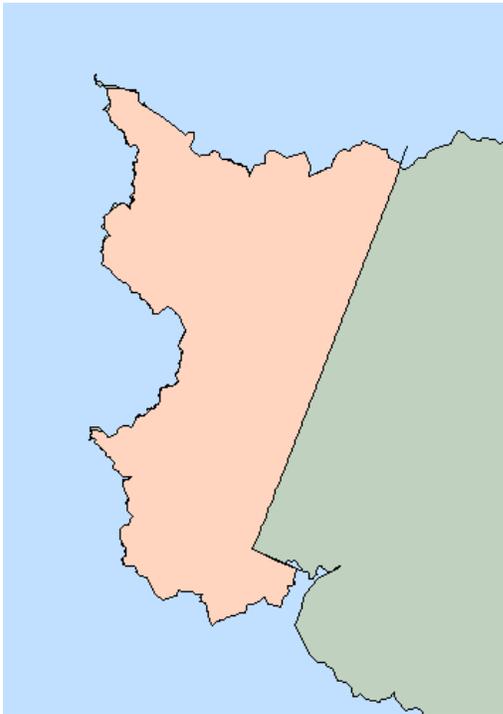
The Vector Flood Fill tool has many uses. For example, it can be used to quickly separate a landmass into political boundaries. To do this, first block off an area of a landmass with one or more lines



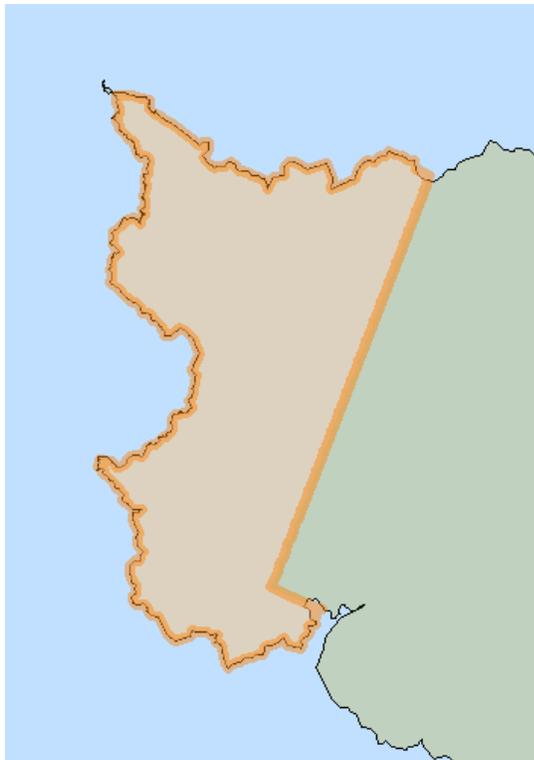
Take a landmass



Block off an area with a line



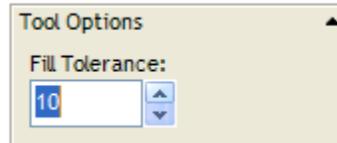
select the Vector Flood Fill tool, select a fill color, and click inside the boundary you are creating.



Once the area is filled, you can work with it like any other polygon on your map, altering the lines and fill.

Hint: After filling a fractal area, it often helps to use the [Flush Against](#)  action to nudge all the polygon's nodes up against the filled object.

You can control how the Vector Flood Fill determines if a color is close enough to the color at the point where you clicked by setting the fill *tolerance*. You can set this in the Tool Options panel whenever the Vector Flood Fill tool is selected.



The default value is 0, which means that when filling an area, fill only those points around where you clicked that have exactly the same color as the point you clicked on. If the tolerance is set to something greater than 1, then the Vector Flood Fill tool tests each point as it attempts to fill it to check if the difference between the color at the point clicked on and the color at the point being tested are mathematically within the tolerance level. (the red, blue, and green color components are treated as 3-d space, and the Pythagorean theorem is applied between the two color to calculate their 'distance').

2.8 Unicode Text

Fractal Mapper can display Unicode text on maps. This means if you speak Japanese, Chinese, Hindi, or any of the many languages which use text which requires a Unicode character set, you can make maps in your own language. This is also a great way to add a nice look to maps by using text from a wide variety of languages on your map.



Unicode text is added to maps in the same way text using the Latin character set is added - just type it in. It can also be copy and pasted into the map if you don't have a keyboard or input device for inputting Unicode text.

2.9 Cloning

Cloning creates a duplicate of the currently selected map object. All objects can be cloned in one of four ways:

Clone: This creates a duplicate of the selected object.

Clone to Polyline: This creates a fractal polyline object out of the currently selected object. Each rendered point within the first object becomes a point on the new object. For example, a fractal landmass may have four points assigned to it (the rectangle that the user dragged with the cursor when the object was placed on the map), but when cloned, each point of the final, rendered fractal object is placed on the new object (in this case, it's converted to a very complex line).

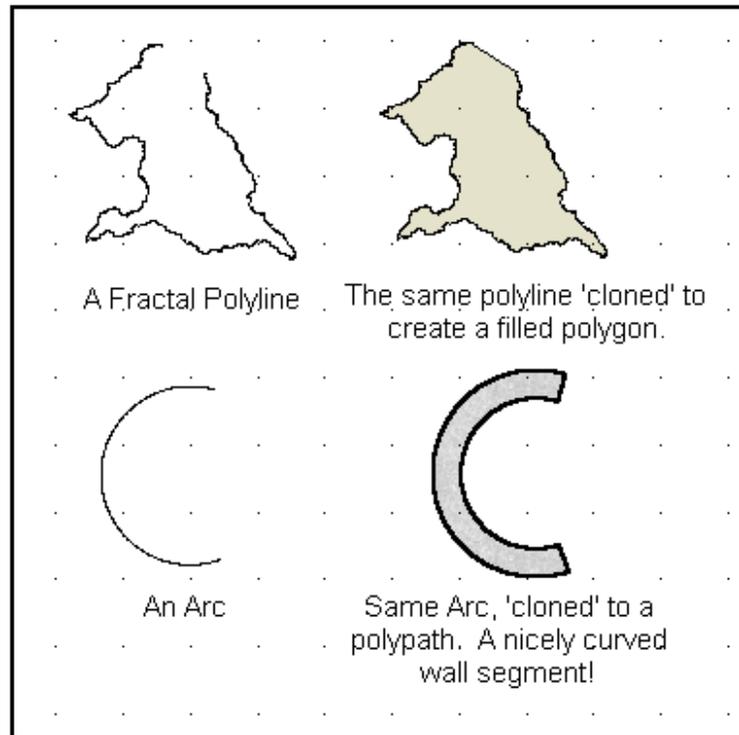
Clone to Polygon: This creates a fractal polygon object out of the currently selected object, assigning each rendered point to the new object like 'Clone to Polyline' does.

Clone to Polypath: This creates a polypath object out of the currently selected object.

HINT: Clone to Polyline and Clone to Polygon are especially useful for converting Spline Curves into solid, filled objects.

HINT: Combined with the Line Merging, the Clone to Polypath feature is a powerful way to create complex wall segments, cavern passages, rivers, and roads.

To Clone an object, select it with the pointer tool, and then choose the appropriate menu option under Action-Clone or the appropriate Action-Clone To menu item.



Cloning Examples

2.10 Creating Arrays

You can use FM's Array features to create multiple copies of one or more objects in a specific alignment. This is useful when you want to create regular repetitions of objects at given intervals without having to copy/paste each object individually.

Fractal Mapper supports the creation of three types of Arrays:

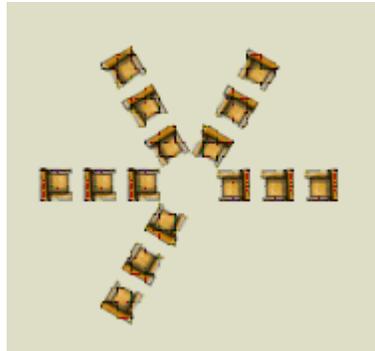
Rectangular Array

A Rectangular Array duplicates the selected object(s) into a given number of rows and columns. Here's an example of a single chair converted to 6 columns and 8 rows of chairs with the Rectangular array feature:



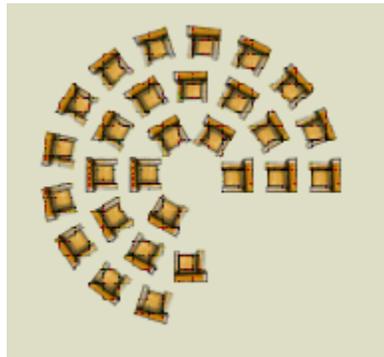
Polar Array

A Polar array duplicates one or more selected objects into one or more circular rings of a given quantity, radius, and degree arc. Here's an example of the same chair copied as a Polar array, in three rings, across a 270 degree arc:



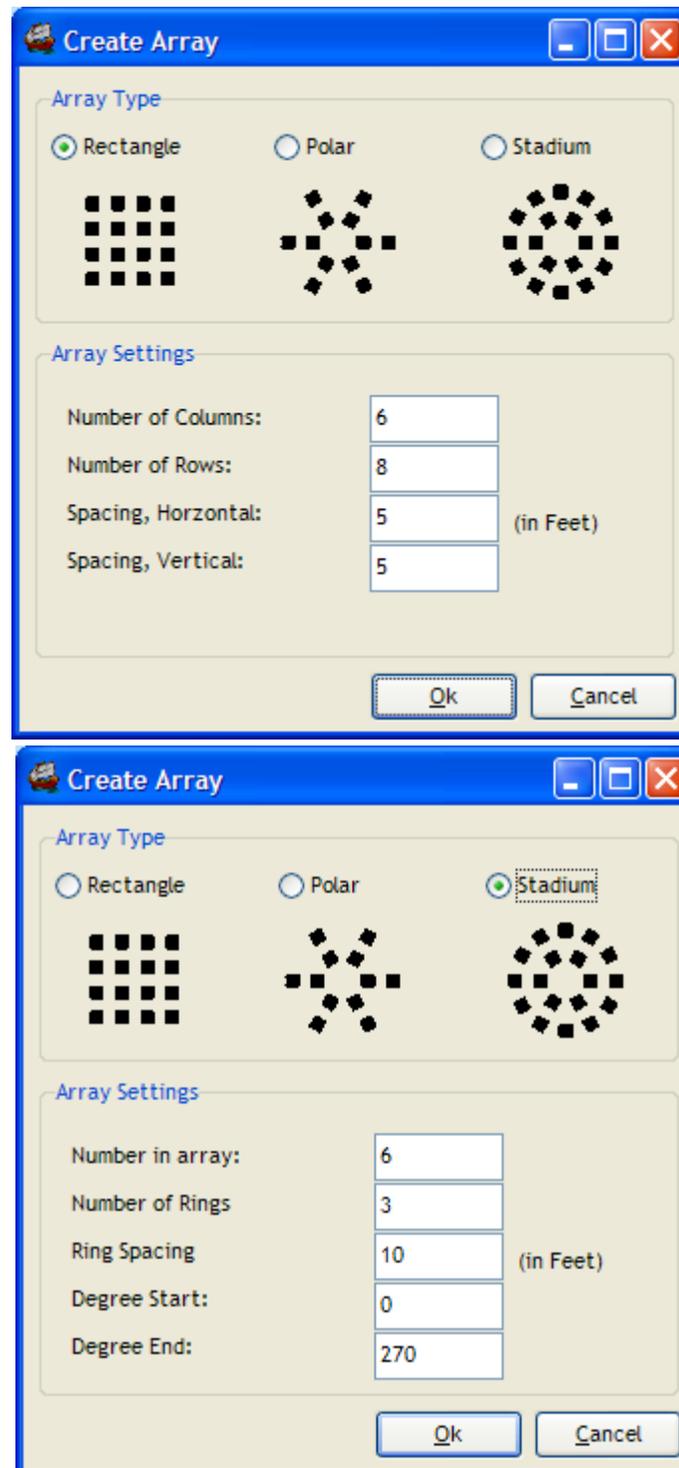
Stadium Array

A Stadium Array is just like a Polar array, but the number of objects per ring increases correspondingly as the radius of each ring increases. Here's an example of a 'stadium' of chairs consisting of 3 rings across a 270 degree arc. As you can see, the number of chairs per ring increases with each additional ring:



Creating an Array

To create an array, select the object or objects to be duplicated with the Pointer tool. Then select Actions-Create Array from the menu. The Array window will be displayed.



The Array window when Rectangle is selected (left) and when Polar or Stadium is selected (right)

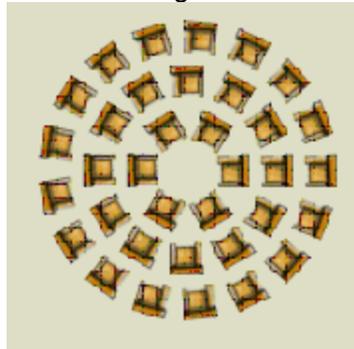
First, select the type of Array you wish to make, Rectangle, Polar, or Stadium. This will alter the Array Settings section according to the type you selected.

If creating a Rectangular array, enter the number of columns and rows to create. Then enter the horizontal and vertical spacing, in your map's unit of measure (meters, miles, etc). The spacing values will control how far apart each copy is created. Press Ok, and your array will be created.

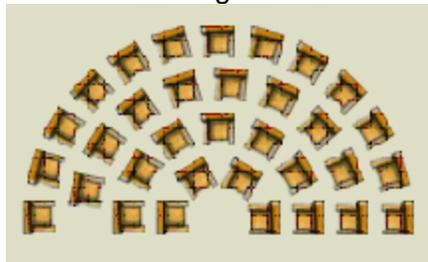
If you are creating a Polar or Stadium array, first enter the number of objects in each ring. (if creating a Stadium array, this number will automatically be adjusted for each additional ring). Then enter the number of rings to create, and the radius of each ring in your map's unit of measure. Finally, if you dont want the array to span an entire 360 degree arc, enter start and end angles to define the wedge to create.

Arc Examples:

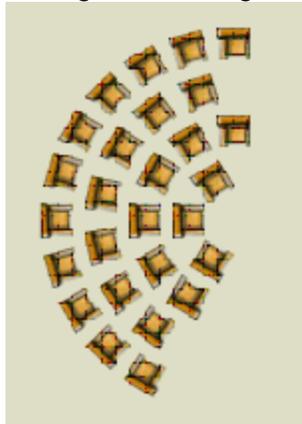
360 Degree Arc



180 Degree Arc



Starting at 90 degrees, ending at 245 degrees



2.11 Creating and Exploding Symbols

Often times while making a map you'll find yourself re-using pieces/parts over and over again. For example, if you create a simple tower by placing two concentric circles on the map, and then use that 'tower' over and over again in other places on your map. If you find you are re-using a few objects, you may want to turn those objects into their own mapping symbol to make it easier to copy and paste them into other areas of your map.

Creating a Mapping Symbol

To create a mapping symbol from one or more objects on your map, first select the objects. Then select Actions>Create Symbol from the main menu. The objects will be merged together into a single mapping symbol object on your map.

When a symbol is created, it is saved with your map. **But, it is not saved to file** as an individual symbol that can be selected in the mapping symbol gallery. To save the symbol as it's own file, select Actions-Export Symbol from the menu. You will then be prompted for the name of the mapping symbol file to create.

Exploding a Mapping Symbol

No, it's not as fun as it sounds. Exploding a symbol is the reverse of creating a symbol. When you explode a symbol, you break a symbol apart into its component parts. This will make every individual object within the symbol its own symbol on your map. This feature is typically useful when you wish to alter an existing mapping symbol, or apply some artistic techniques to the component objects (such as a fancy gradient).

To explode a symbol, select the symbol with the Pointer tool, and then select Actions-Explode Symbol from the menu.

Note: You can only explode a vector based symbol (one whose file name ends in .fmp, or that was created with the Create Symbol menu option.). Raster symbols (.png's, .jpg's, etc.) have no component parts to break into.

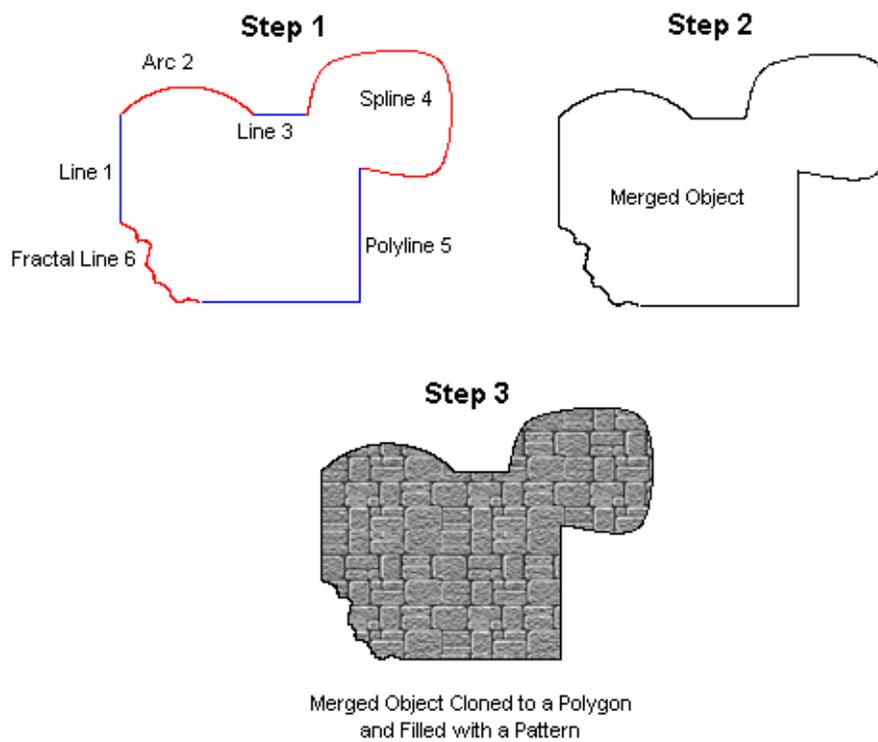
2.12 Merging Line Objects

Straight lines, fractal lines, arcs, and spline curves can be merged together at their end points to create a single object. This is an excellent technique to use when trying to create an object with an unusual shape.

To merge line type objects together, select the objects with the Pointer Tool or Area Select tool, and select Actions-Merge Lines from the main menu.

In order to be able to merge objects, they'll need to meet at their respective start or end points. These start and end point meetings must be exact. Since this level of exactness is difficult to achieve manually, you'll usually need to have either the Snap to Square Grids or Proximity Snap enabled (see [Snapping](#) ^[81] for more information) when placing objects on to your map that you intend to merge. Placing objects on the map with one of those two snapping methods ensures that the start and end points of your lines (or arcs or splines) will be snapped to either the exact point of a grid line intersection or to the exact point of the

nearest node of an other object.



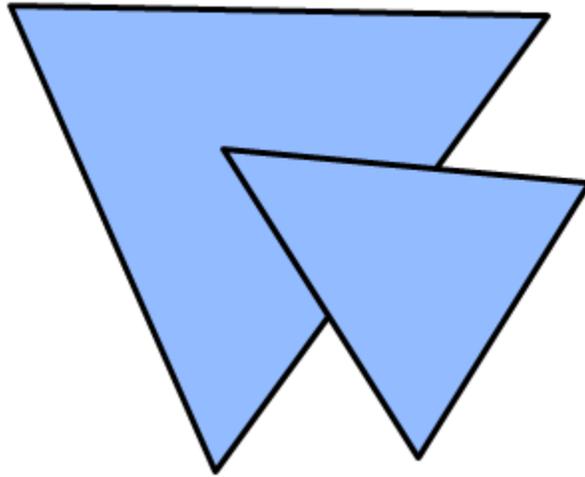
When an object is merged, the resulting object is a polyline object comprised of segments taken from the original objects. If you then wish to fill the newly created object with a color or pattern, you'll need to first [clone](#)⁶⁵ it to a polygon. After objects are merged, the original set of objects are not removed from the map. To remove them, you'll need to select them and delete them manually.

2.13 Adding and Subtracting Polygons

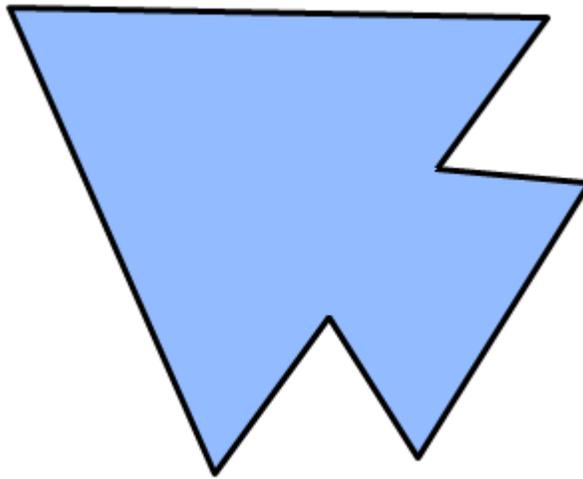
Fractal Mapper supports the creation of *Complex Polygons* (also sometimes called *PolyPolygons*), by using one of several Combine Polygon menu options. Creation of complex polygons is done by adding and subtracting polygons to create unique, interesting shapes. Complex Polygons can consist of one or more separate parts, and even consist of parts that have holes.

Important Note: Adding and Subtracting polygons is a powerful feature - but it does slow your map down a bit because drawing complex polygons requires that the program devote more processing effort. While this slowdown isn't usually noticeable when you have just a few complex polygons made up of a few parts on your map, it can be significant if you have a number of very complex polygons made up of many sub-polygons. So, use when needed, but be careful not to over use the feature!

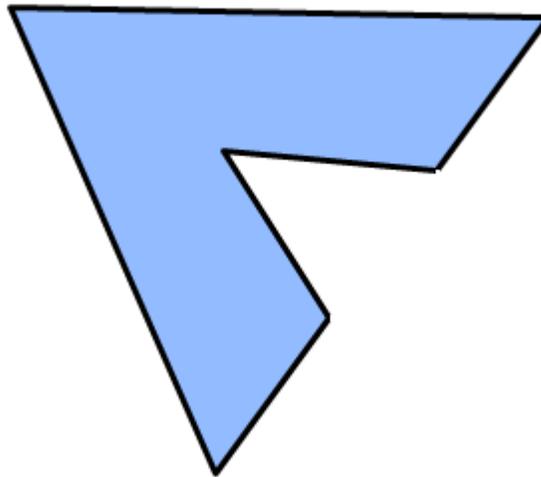
Examples of Adding and Subtracting Polygons:



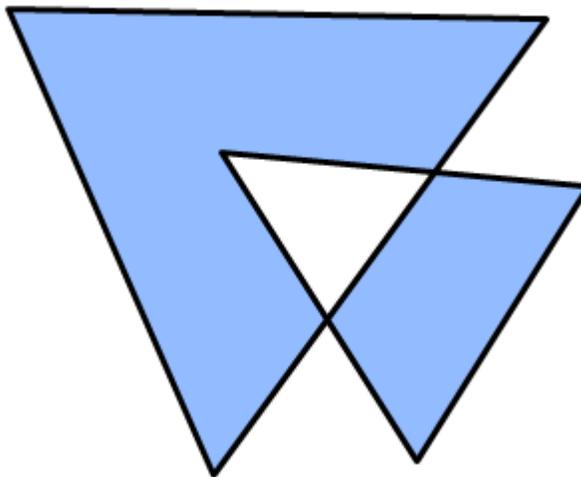
Two Polygons



Added Together



Subtracted



Excluded (XOR'd)

FM supports three types of polygon operations, Adding, Subtracting, and Excluding.

Adding combines two or more polygons into a single complex object. Any area that is filled by any of the component polygons is filled, and the whole object is outlined.

Subtracting takes one or more polygons and removes the area it encompasses from another polygon. By using subtraction, it's possible, for example, to create polygons with holes.

Excluding, also called XOR'ing, returns that portion of the selected polygons that do not intersect. Because Excluding is supported natively by the operating system, drawing

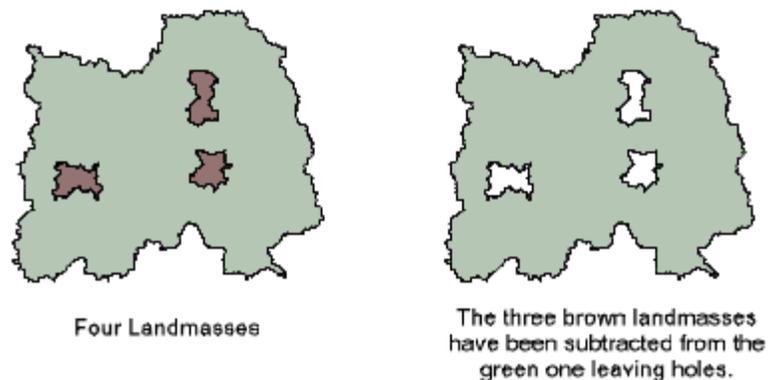
complex polygons comprised of *only* Excluded parts *does not* impact drawing speed.

Any number of polygons - which includes any closed object such as land masses, circles, closed splines, etc - can be added or subtracted together in a single action.

When you add, subtract, or exclude polygons, the action is processed from the back most selected object, and proceeds forward. If you notice in the above example, it's the top triangle's area that is subtracted from the triangle below it.

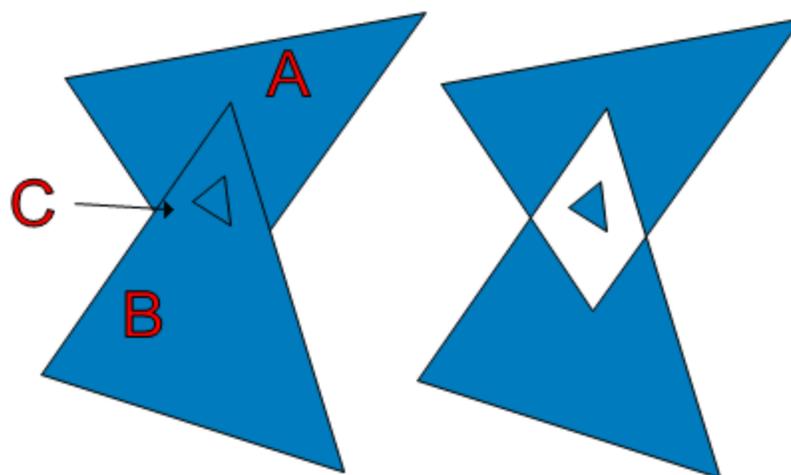
(Warning: geeky conceptual description follows!)

Here's an example of more than one object being subtracted



In this case, all four land masses were selected, and Actions-Combine Polygons-Subtract was selected from the menu. The result is a landmass with holes! Hmm...that looks like a forest with some clearings.

Here's a more complex example, three triangles Excluded.



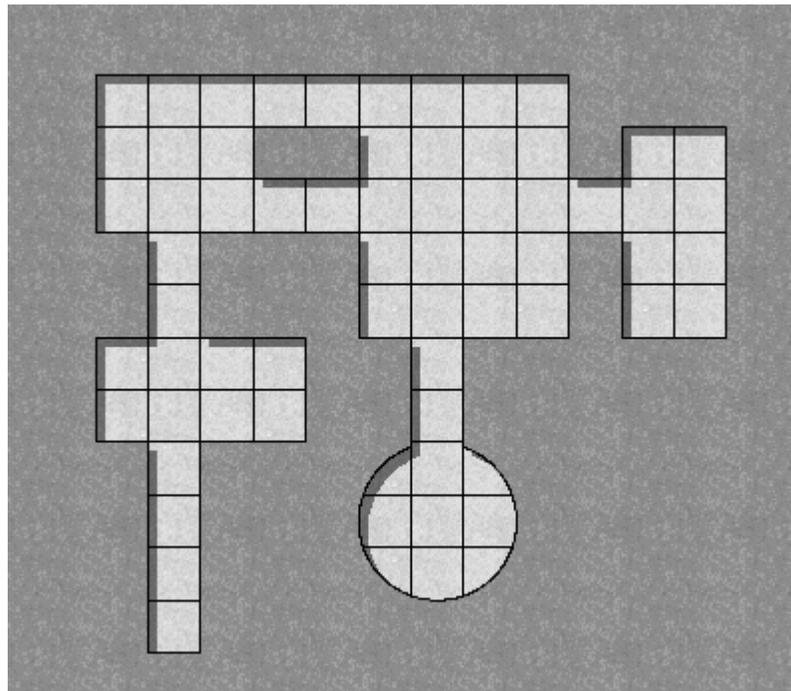
As you can see, the result is a single complex polygon with three parts, one of which is unattached from the other two! In this case, here's what happened. The three objects, A, B, and C were selected and Excluded from each other. FM first performed an exclusion of B

and A. This resulted in the area that included only those parts of B and A that did not intersect. Then C was Excluded from that object. In this case, since all of C was included in the area that was removed when B & A intersected, the result is that C stays put.

How to Add, Subtract, or Exclude Polygons

Adding and subtracting polygons is easy. Simply select the polygons you want to work with using the Pointer tool. Then select one of the following menu options: Actions-Combine Polygons-Add, Actions-Combine Polygons-Subtract, or Actions-Combine Polygons-Exclude (XOR). The polygons will be combined in the selected manner.

Here's an example of using these features to create a cut-out style dungeon.

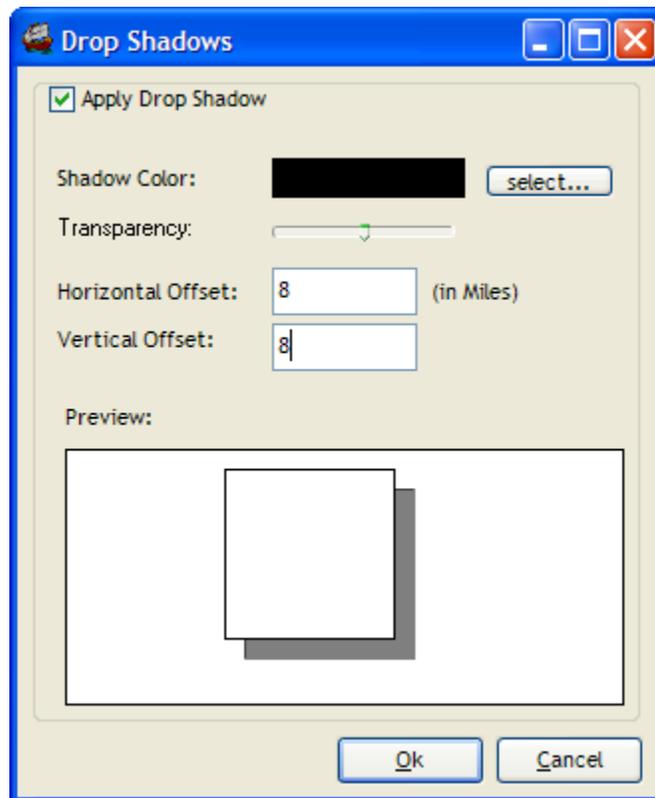


In this case, a single large square was placed on the map and filled with a dark gray pattern. Then each room and hallway was added as a rectangle or circle. All the objects were selected, and 'subtracted' from each other, leaving a large square with rooms 'cut' out from it. Then a drop shadow was applied. Finally a background object with a light gray pattern and grids was added.

2.14 Creating Drop Shadows

Drop shadows are vector based shadows that draw an offset, grayed out copy of any object to produce a shadow effect. Fractal Mapper also supports a different type of shadow, the [Special Effect Shadow](#)^[96], as well.

To create a drop shadow, select the object that you want to have a shadow with the Pointer tool, and then select Object-Drop Shadows from the menu.



The default shadow color is black, but this can be changed. Select the color of the shadow by pressing the Select... button.

Then, set the transparency of the shadow by sliding the Transparency indicator left and right. Left makes the shadow more transparent, and right makes the shadow more solid.

The Offset boxes allow you to specify how far the shadow is dropped from the object. Enter the horizontal and vertical distance you want the shadow to cast, in your map's unit of measure.

As you change values, the Preview box will update to give you an idea of how the shadow will look.

When you're finished making setting changes, press Ok, and the shadow will be applied.

Examples:



2.15 Map Setup and Configuration

The Map Setup window lets you specify the height and width that your map represents, the map's measurement unit (feet, miles, etc), the default background color, and background maps/images (if any).

To display the Map Setup window, select Map-Map Setup... from the main menu, or press the  button on the toolbar.

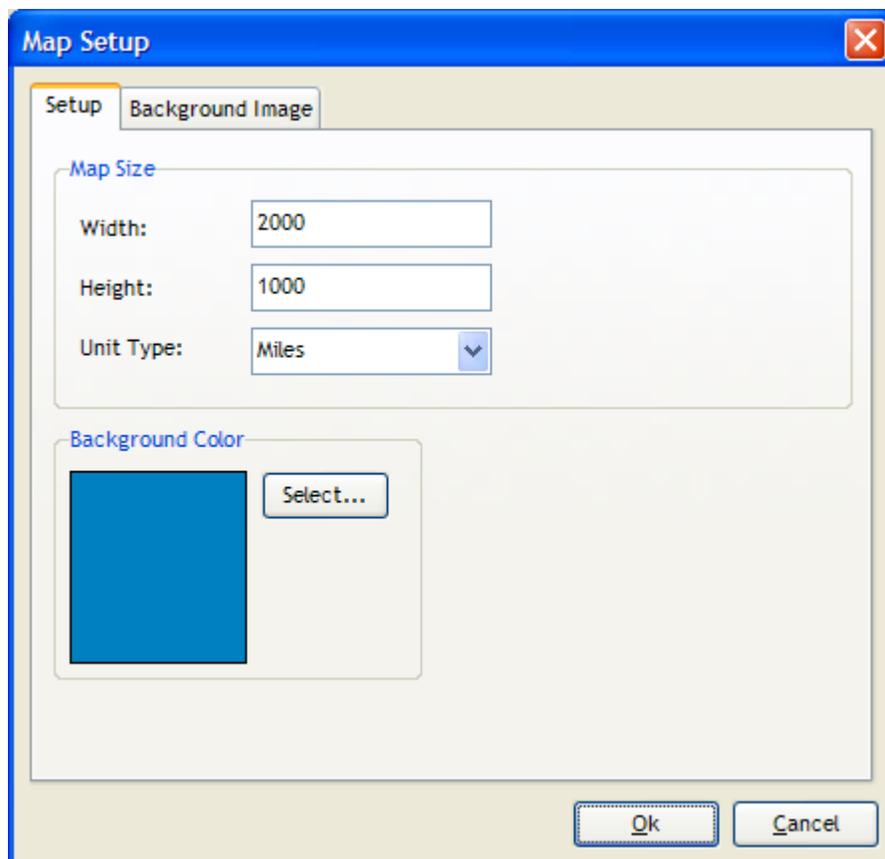
The Map Width and Map Height settings denote the spans in your choice of measurement units that the map represents. For example, a map using miles set with a Map Width of 4000 and a Map Height of 3000 represents a map that is 4000 miles x 3000 miles in size. The unit type box lets you choose from common measurement units, or enter your own (a unit used on your campaign world).

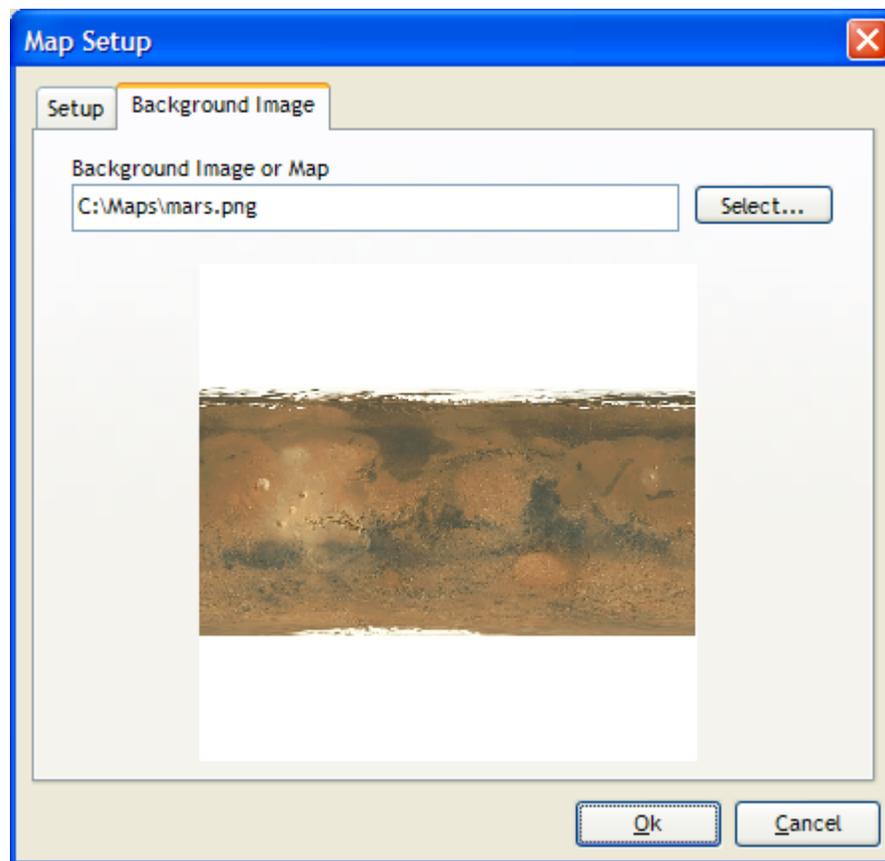
The Default Color setting tells Fractal Mapper with what color to fill the background of the map. The Select button will display a color selection window which will let you select a background color.

The Background section allows you to add or remove the background map or graphic. Background maps let you load a separate file in the background. This file can be another Fractal Mapper map, a Fractal World Explorer map, or a graphic file (bitmap / JPEG / PNG).

Background Maps are a particularly useful means of converting hand drawn maps to Fractal Mapper maps. If you have a scanned image or graphic of your existing map, you can place it as the background map. Then, use the polygon, polyline, freehand, and other drawing tools to trace over it.

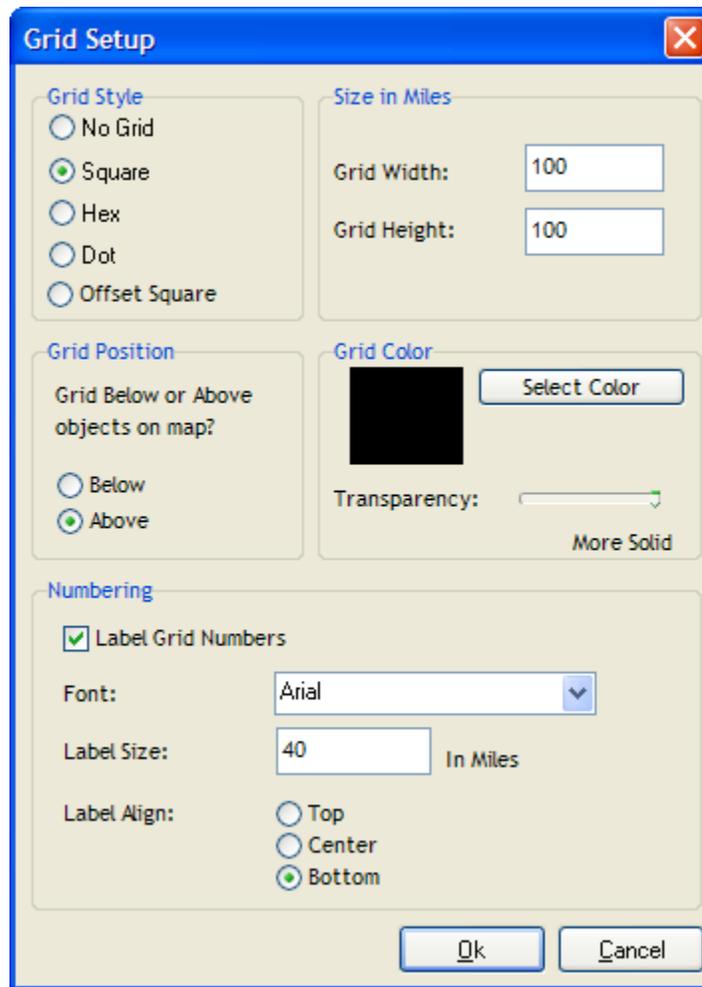
HINT: For best results when setting up a map that is to be wrapped about a globe, set the height of the map to 1/2 of the width. On spheres, the distance from the poles is half the circumference.





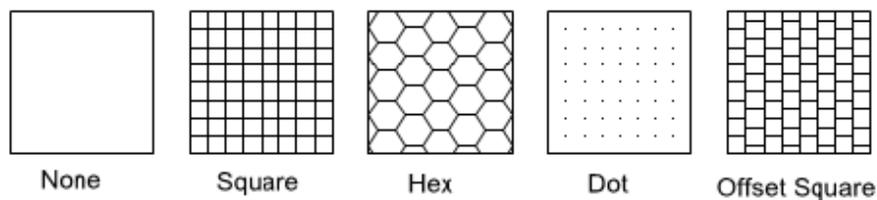
2.16 Grids

Fractal Mapper can place Square, Hex, Dot, or Offset Square grids on your map. To add or alter the grids on your map, select Map-Grids from the main menu, or click the  button on the main toolbar. When you do this, the Grid Setup window is displayed.



The Grid Setup window allows you to specify the type, style, position, and sizes of the grids to be displayed on your map. In addition, you can also opt to have the mapper automatically number grids.

First select the type of grid to be displayed (None, Square, Hex, Dot, or Offset Square).

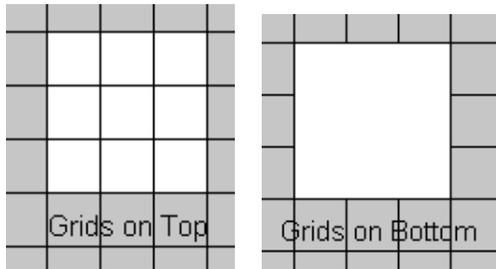


Grid Styles

Then, select the size of the grids. The Grid Width and Grid Height settings specify the size of the grids in your map's default unit of measure (miles, meters, etc). **When setting the size of a hex grid, set the height to be 67% larger than the width to get a true hex.** For example, if a hex grid is to be 100 units wide, set it's height to 167.

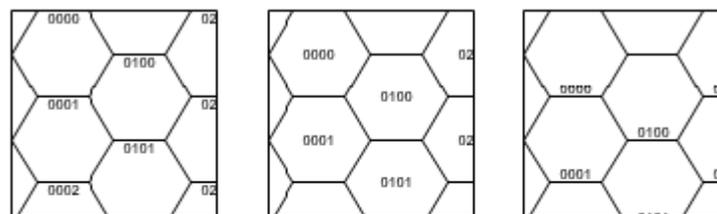
After this, select the position of grids on your map - either positioned on the top or bottom of

map objects. By positioning your grids on the top of your map, grids will be overlaid on all map objects. By positioning grids on the bottom, all map objects will be drawn over the grids.



Next, select the Grid color and transparency. This will control the color of the grid lines, and if desired, the level of transparency of the lines. Move the transparency indicator to the left to make the lines more transparent, and to the right to make them more solid.

Lastly, you can tell FM to label each grid cell. Select the font that labels will be displayed in, as well as the height (in your map's unit of measure) of the text. Also, select the alignment of the label within each cell. The label can be at the top, in the center, or at the bottom of the grid.



Top

Center

Bottom

Grid Labeling Alignment

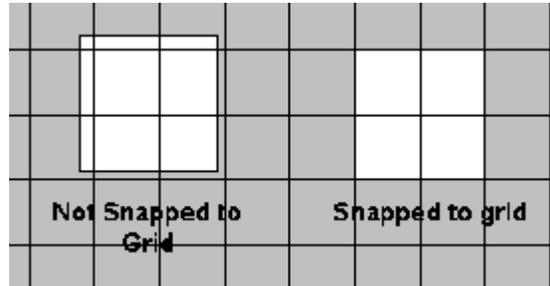
2.17 Grid Snapping

Some times when drawing maps you need to place an object's points at an exact location, but it's difficult to do it by hand. At times like these you can take advantage of Fractal Mapper's *Snapping* capabilities. The various snapping features allow you to place an object at specific points much more precisely than you can by hand. Fractal Mapper supports three types of snapping - Snap to Square Grids, Proximity Snap, and the Intersection Snap. Each of the three snap modes can be enabled or disabled by selecting/de-selecting them on the Object menu.

Snap to Grids

When designing a dungeon, starship deck plans, or any other form of map that requires regularly shaped objects, you can enable the Snap-To Square Grids feature within Fractal Mapper.

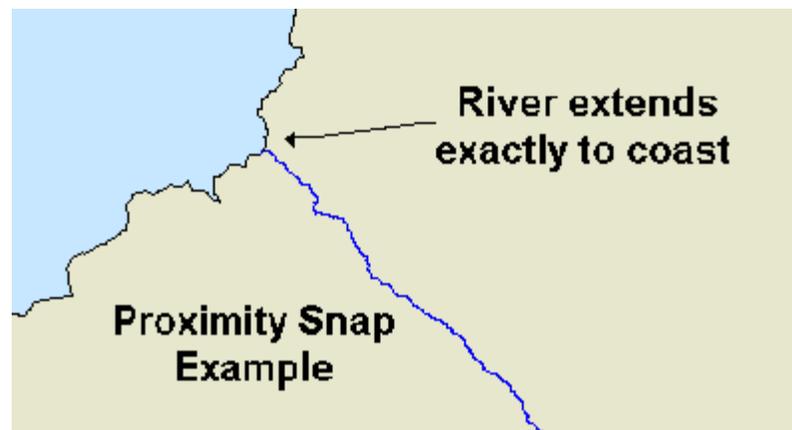
To use the Snap-To Square Grids feature, first, set the grid style to 'square' or 'dot'. Then, enable the Snap-To feature by selecting **Map - Snap-To Square Grids** from the menu. When this menu item is checked, the coordinates of all map objects created with this feature enabled will 'snap' or align themselves to the nearest grid line intersection.



Note: objects will not snap to grid points that are part of an individual object's grid fill style unless the grid style is 'synchronized' to the main grid.

Proximity Snap

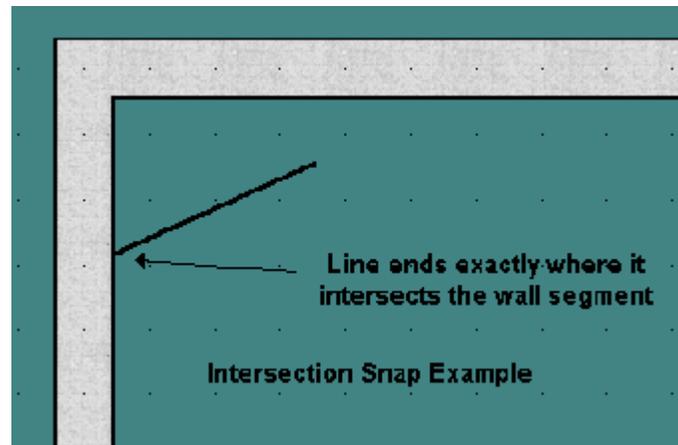
The Proximity Snap allows you to automatically snap an object's nodes to the nearest nodes of another object. For example, you could snap the starting point of an arc that you are drawing to the end point of a line. When Proximity Snap is enabled and you draw an object on your map, the object's nodes that you define are automatically snapped to the nearest node of any of the other objects on your map that are within a pre-defined distance (the pre-defined distance is equal to 15 pixels on your screen). It's important to note that only the points you defined when drawing an object on the map are snapped - not the points that are created after a fractal object is rendered. For example, when using the Fractal Landmass tool, you define four points of the object - the top, left, bottom, and right points. If Proximity Snap is enabled, only those four points are snapped. With the Proximity Snap, the nodes of your object can, though, snap to the rendered nodes (meaning the jagged points) of **other** fractal map objects.



HINT: The Proximity Snap is very useful for linking fractal objects together precisely - for example, making a fractal river end exactly at a coastline.

Intersection Snap

If you need to place an object's nodes not at a specific point, but rather at the intersection of two lines, you can use the Intersection Snap. When placing an object on your map with the Intersection Snap enabled, the first and last points defined for your object will automatically snap to the nearest line intersection if that intersection is within a predefined distance on the screen (25 pixels). Similarly to the Proximity Snap, it's the first and last points defined for the object that get snapped, not all the nodes in a fractal object. Also, again similarly to the Proximity Snap, the intersections that the new objects are snapped to can be intersections created by fractal rendering.

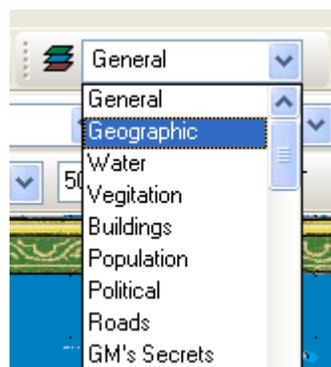


HINT: The Intersection Snap is great for linking wall segments that are drawn at varying angles.

2.18 Layers

Layers are a great way to keep the many objects on a map organized into various categories. Fractal Mapper supports up to 256 different layers.

The Layers box on the main tool bar displays the 'current' layer that will be assigned to objects as they are created. As objects are placed on the map, they are assigned to the layer that is currently displayed in the drop down box.



The Layer Box on the toolbar controls what layer new objects are placed on.

If you've worked with other graphics programs - particularly photo and image editors - you've probably seen and used layers before. **It's important to note that Fractal Mapper layers are not related to the front-back order of objects.** In Photo editing software, layers are a tool used for image composition, and don't necessarily have a meaning beyond that within the image. In Fractal Mapper, layers are a *data management* feature that lets you logically group objects of similar types so they can be hidden/shown as desired.

You can toggle the display, selectability, and secret attribute of objects on each layer, as well as rename layers, by using the Layer Settings window. To open the Layer Settings window, select Map-Layers... from the main menu.

When a layer's Visible status is unchecked, those objects on the layer are not displayed on your map (they're still there - just hidden).

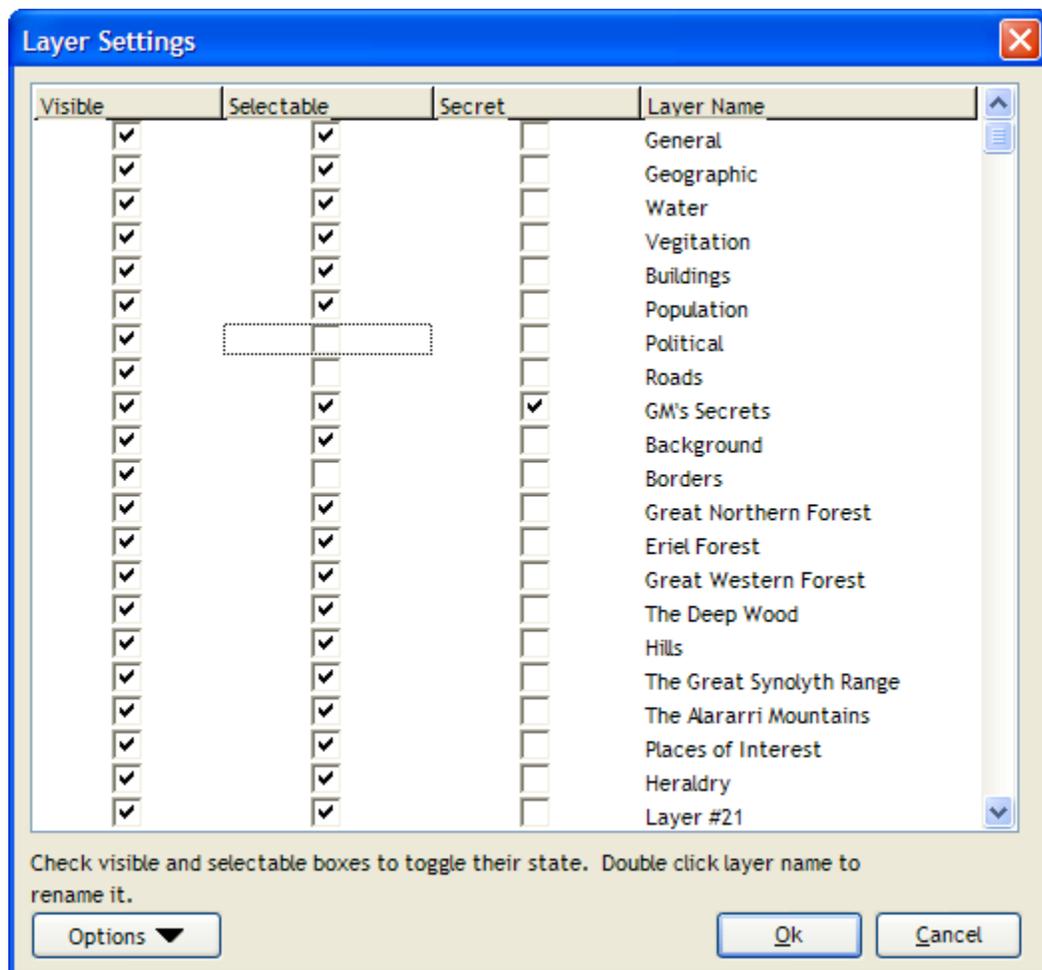
When a layer's Selectable status is unchecked, objects on that layer cannot be selected with the Pointer or Area Select tools, nor can they be selected using the Select Same... menu tools.

When a layer's Secret status is checked, objects on that layer will not be visible to players when using the GM's Screen¹⁰⁹. In addition, layers marked as secret will be made visible or invisible depending on the status of the Show / Hide Secret Layers button on the toolbar.

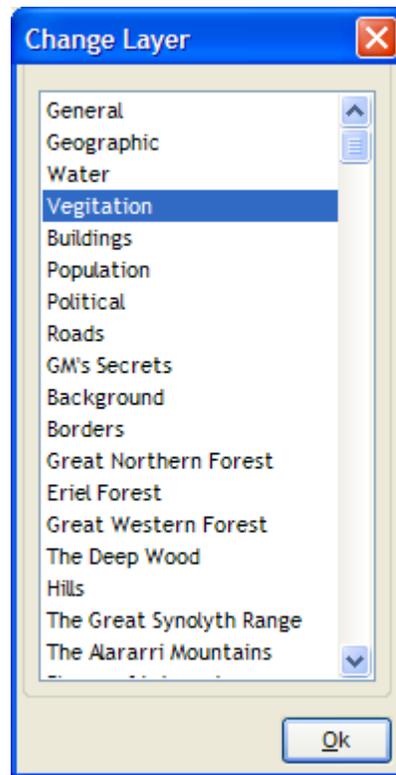
To rename a layer, double click on the layer name. You will then be prompted to type in a new name for the layer.

Why would you want to hide objects on certain layers, or make them unselectable? Good question! Here's a few scenarios where Fractal Mapper's layering system makes things easier:

- Large maps can consist of thousands of objects. Sometimes this makes it difficult to select specific objects on the map. For example, on a continent map, it can be annoying to keep accidentally selecting the continent's land mass when you mean to select a river. By placing the land masses on a separate layer ("Geographic", for example), you can disable their selectability, thereby making it easier to select other objects. This also prevents accidental movement of objects on that layer.
- Large maps with hundreds or thousands of mapping symbols may take a few seconds to refresh after each change to the map. By placing mapping symbols on separate layers, you can hide them, thus making the map refresh quicker.
- You can hide the display of secret layers by toggling the Show / Hide Secret Layers button on the toolbar. In addition to this affecting the display on the GM's Screen, it also control how the map image is printed and exported. With the secret layers hidden then, you can create special player versions of your map.

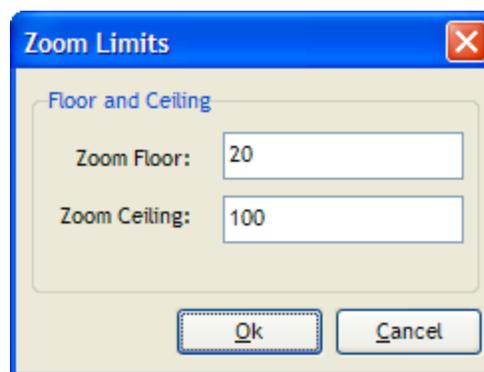


You can change the layer on which an object resides by selecting the map object(s) with the Pointer or Area Select tool, and then choosing Object-Change Layer... from the main menu or Change Layer... from the right-click pop-up menu.



2.19 Zoom Floors and Ceilings

Each object placed on a map can have a Zoom Ceiling and Zoom Floor. If either of these values are set to something other than 0, the mapper will not display the object unless the current zoom value falls within the assigned range. To set a Zoom Ceiling or Zoom Floor, select Object-Zoom Limits... from the menu.



A zoom floor value of greater than 0 means that a map object will not be displayed unless the current zoom level is greater than the floor. For example, an object set with a zoom floor of 10 will not display unless the current zoom level is equal to or greater than 10%.

If set to a value greater than 0, a map object will not be displayed if the current zoom level is greater than the zoom ceiling value. For example, if an object has a zoom ceiling of 20, it will not be displayed if the current zoom value is greater than 20%.

Zoom floors are useful for hiding the small details of a map, such as small towns and minor rivers. This avoids clutter in the map when it is zoomed out. Zoom ceilings are useful for hiding the really big objects on a map. Continent names, region names, and other large scale items might block out too much detail when the map is zoomed in. Setting a zoom ceiling removes them from site when you want to see the detail.

2.20 Locking Objects

Objects on your map can be 'Locked' in place to prevent them from being accidentally moved. Locked objects can be selected and manipulated as other objects, with the exception that they cannot be moved. This is useful when working with an object that is already perfectly positioned.

To lock an object or objects, select the object(s) with the Pointer or Area Select tool, and then choose Object-Locked from the main menu. The Object-Locked menu item acts as a toggle. When items are locked, the menu item will have a check displayed next to it to denote the object is locked. When they are not locked, no check mark will be displayed on the menu item. In addition, the selection handles objects will change from black to gray when they are locked.

To unlock the objects (thus making them movable again), select Object-Locked a second time.



Unlocked and locked objects. Note the gray handles on the locked object.

Auto Locking

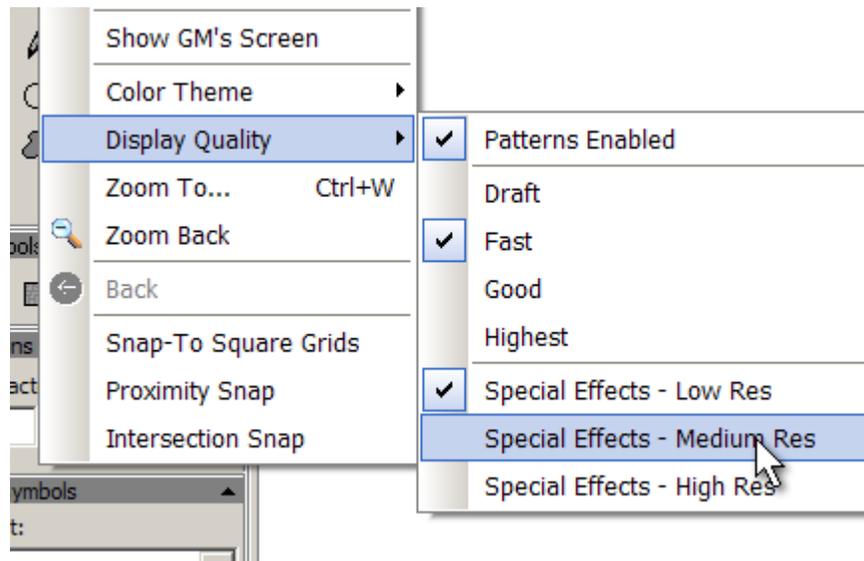
Objects can be locked automatically as they are placed on your map. This is called Auto Locking. To enable Auto Locking, select Object-Auto Lock from the main menu. When this is done, a check mark is displayed next to that menu item, and all objects are automatically locked as they are placed on your map (this has no effect on objects already on the map). To disable Auto Locking, select Object-Auto Lock from the menu again. The check mark will disappear, and Auto Locking will be disabled.

2.21 Special Effects

2.21.1 What are Special Effects?

Fractal Mapper supports several different raster-based artistic effects, referred to as Special Effects. What sets these special effects apart is that they are pre-rendered at a fixed pixel resolution on your map, much as is done in advanced image editing and compositing software.

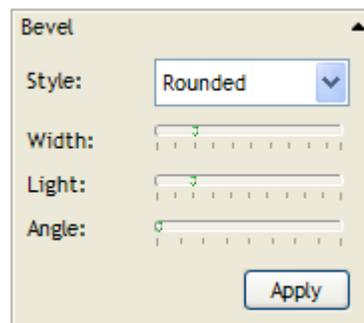
You can increase the DPI of the rendered Special Effects. By default, Fractal Mapper renders all special effects in low resolution. For most uses, this is sufficient. But, if you're creating an image for publishing, or to be printed at a very larger size, you might want a higher level of detail. To increase the DPI select one of the Special Effects resolution settings in the Map - Display Quality menu.



2.21.2 Bevels

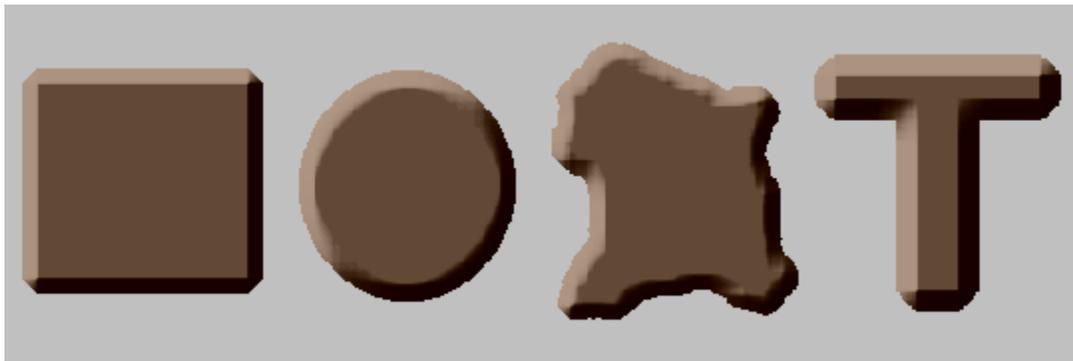
Bevel effects allow you to add a raised-edge appearance to objects on your map. Any object can have a bevel applied to it, though most typically they are applied to polygons and text.

Bevels are assigned to objects using the Bevel box on the special effects panel (on the right side of window).

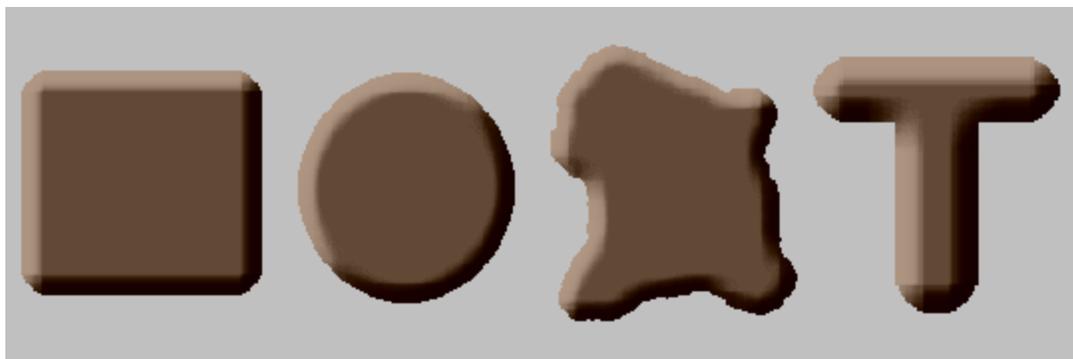


To apply a bevel to an object, select the object with the pointer tool. Then, select a bevel style, its width, the light elevation, and light angle for the bevel, and click the Apply button.

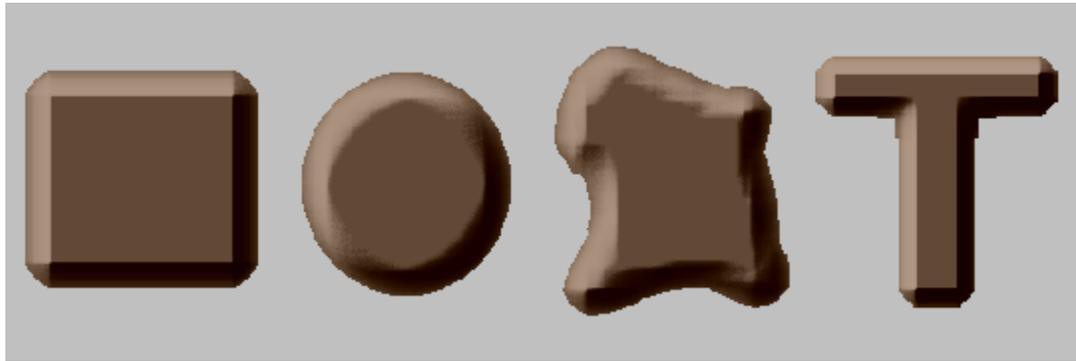
There are several bevel styles - Flat, Rounded, Slope up, Stepped, Small steps, and Frame. To remove a bevel, select No Bevel and click Apply.



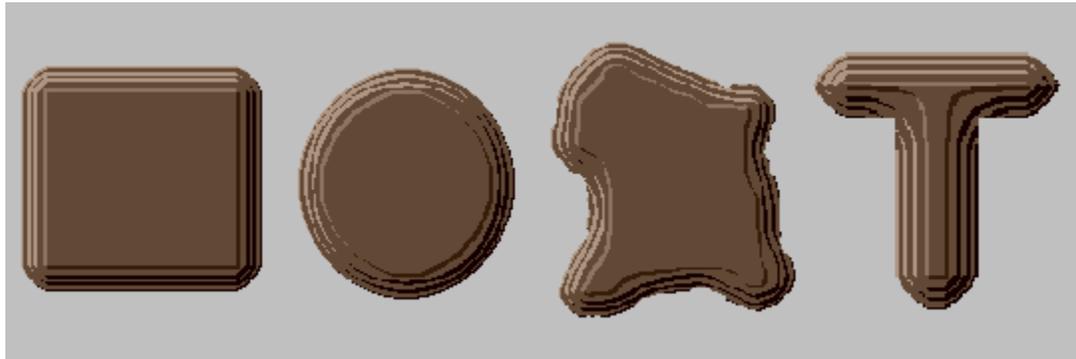
Flat bevels appear with a flattened edge.



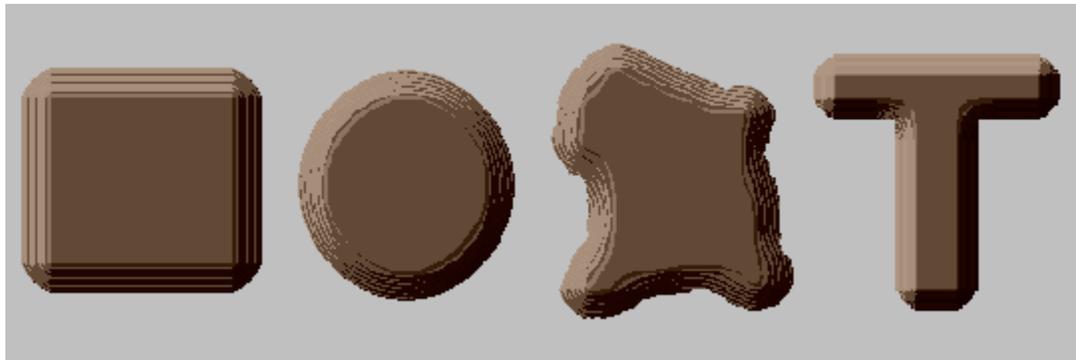
Rounded bevels taper as they reach the top, for a softer, rounder look.



Slope Up bevels start flatter at the edge, and get steeper towards the top



Stepped bevels progress up in stepped increments



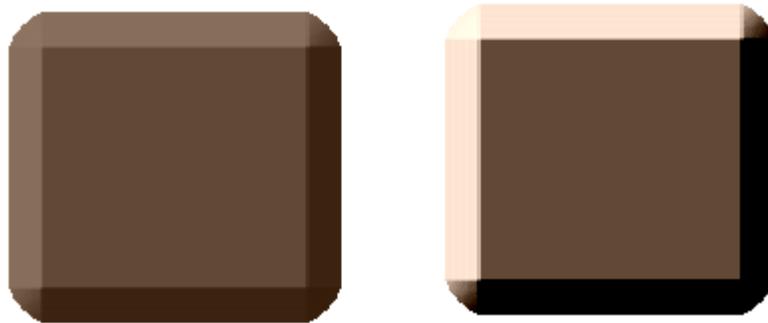
Small Stepped bevels progress up in smaller stepped increments



Frame bevels produce a picture frame along the object's edge

The size of the edge is controlled by the bevel's Width. Slide the slider left or right to decrease or increase the width of the beveled edge.

The elevation angle of the simulated lighting is controlled with the bevel's Light setting. As the slider is moved to the right, the simulated elevation of the light source is lowered. The effect of this is that the farther to the right the Light bar is set, the more intense the shading effect you'll get.



Different light elevation settings

The Angle setting controls the angle, 0-360, from which the simulated light source is coming. As this value is changed, different sides of the object will be lit, and different sides shaded.



Different bevel angles

Hint: By changing the Angle setting, you can create both a raised and inset bevel effect.

Uses for bevels

Bevels have a wide array of uses. For example, you can make great walls with a 3d look by applying a bevel and shadow to them.

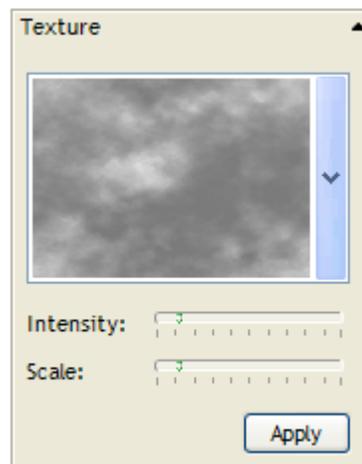


Other uses include creating steps inside a dungeon, creating boulders from polygons, creating tables and other furniture, and creating statue pedestals.

2.21.3 Textures

The Texture special effects allow you to define the surface texture of objects. For example, you might give an object a rough, stone-like texture, or a texture of engraved runes. Textures are related to bevels, and use the bevel lighting settings to control how they are shaded.

Textures are controlled in the Texture box on the special effects panel.



To assign a texture to an object, select the object with the Pointer tool. Then, select a texture image from the texture box, a texture intensity, its scale, and then click Apply.

Textures are defined using grayscale images. When applied to an object, the parts of a texture that are dark represent parts of the object that are inset, and the parts of the texture that are lighter represent areas of the object that are raised.

A texture's Intensity controls how big an impact the texture has on the object. The higher the intensity setting, the more pronounced the texture is when applied to the object.

The Scale setting controls at which width the texture is applied to an object. This is similar to the Scale setting for fill patterns.



Texture Samples (with bevels added)

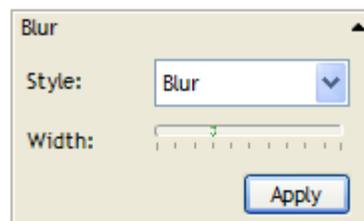


A stone floor simulated with a texture. The floor is a normal, solid filled rectangle that had a tile texture applied.

2.21.4 Blurs

Fractal Mapper supports three types of blur special effects - a standard blur, a feather blur, and an inverse feather.

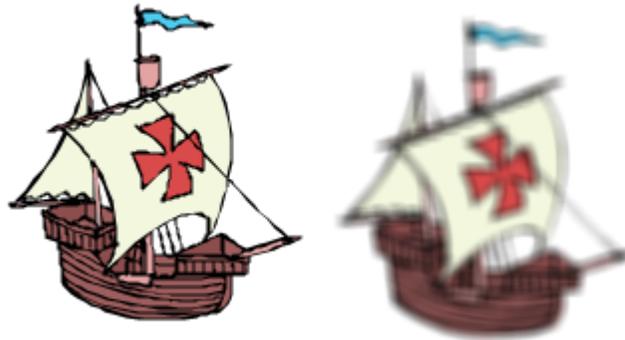
Blurs are controlled in the Blur box on the special effects panel.



To blur an object, select it with the Pointer tool. Then select a blur style and blur width, and click the Apply button. To remove a blur, select None as the blur style and click the Apply button.

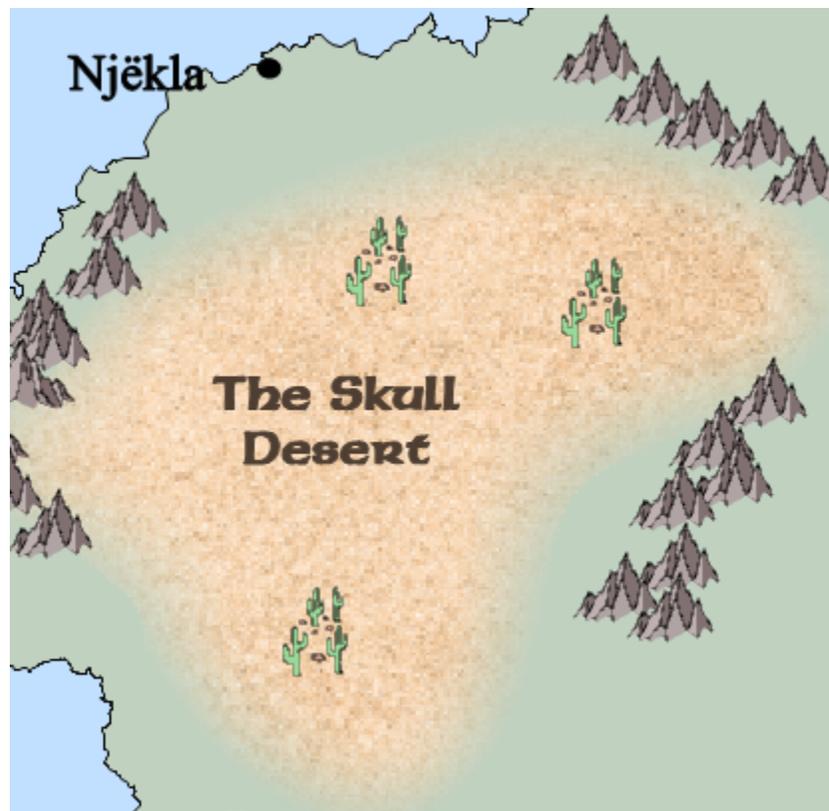
A blur's Width controls how distorted the picture will be. The higher (as the slider progresses to the right) the blur width, the more distorted the object will be.

The *Blur* style is a standard blur effect. When applied, the entire object is blurred.



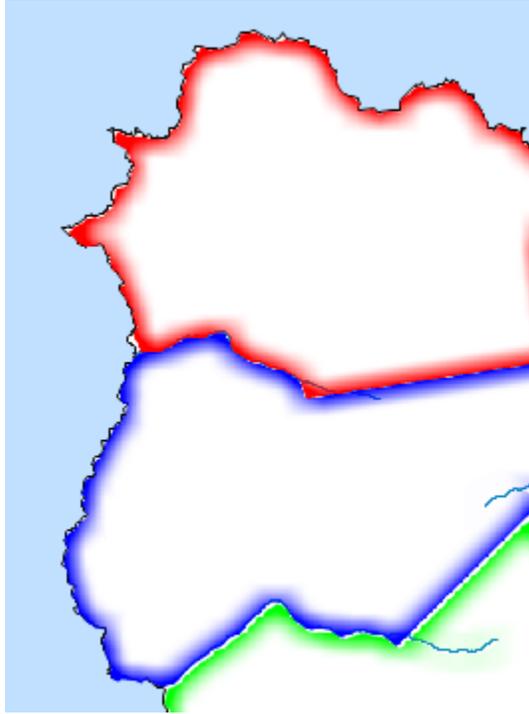
A standard blur

A *Feather* is a special type of blur that only blurs the edges of an object to transparency. Feathers are a very useful way to show a gradual border between two terrain types.



A desert region with a feathered edge

An *Inverse Feather* is a special type of blur that blurs to transparency the interior of an object, leaving the edges as is. Among other uses, an Inverse Feather is useful for stylized political boundaries.

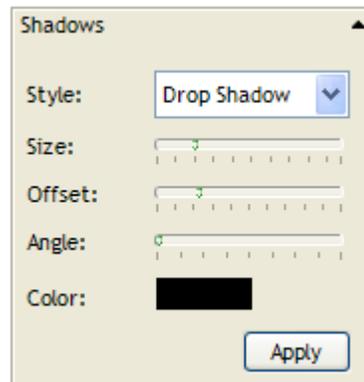


Inverse feather applied to borders
creates a blurred inner edge.

2.21.5 Shadows

Special Effect shadows let you give objects on your map a three dimensional perspective. These shadows are different from the [Vector Drop Shadows](#)^[75] in that they are rendered at a fixed pixel resolution and feature a more realistic blurred shadow edge.

Special effects shadows are controlled in the Shadows box on the Special Effects panel. To add a shadow to an object, select the object with Pointer tool, select the shadow settings, and click Apply.



Fractal Mapper supports two styles of special effects shadows - Drop Shadows and Inner Shadows.

Drop shadows are simulated shadows that appear to be cast from an object. The shadow is drawn in a semi-transparent color that blurs at the edges.



A standard shadow

An Inner Shadow casts a shadow onto the object, giving it an inset appearance.



An inner shadow applied to a dungeon room, giving it an inset appearance.

The shadow's Size setting controls the overall spread of the shadow. The higher (to the right), the larger the area the shadow encompasses.

The Offset setting controls how far the shadow is shifted from the object. The higher this setting, the farther away from the object the shadow lands. If the Offset is set all the way to the left, the shadow is cast all around the object.

The Angle setting is the angle, 0-360, from which the simulated light is hitting the object. The shadow will thus be cast opposite of the light angle.

You can also control the Color of the shadow. While typically black is what is desired, by setting the shadow to some other color you can do things like add a glow to text or show radiated heat from lava.

3 Viewing Maps

3.1 Zooming

You can zoom in and out on your map for finer or lesser detail. Zooming is usually performed in one of three ways - with the Zoom tool, with the Zoom To window, or with the

Zoom Back menu item.

The Zoom Tool

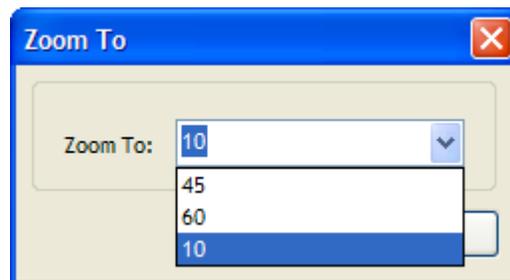
Most zooming in and out on your map is controlled by the [Zoom](#)  tool found on the mapping tools tool bar. With this tool selected, you can:

- **Zoom in:** left click on a spot on your map, and the Mapper will zoom in an increment on that point. Zoom percentages from 1% to 10% zoom in 1% increments. Zooming in the range of 10% to 50% zooms in increments of 5%. Zooming in the range of 50% to 150% zooms in 10% increments. Zooming in the range above 150% zooms in 50% increments.
- **Zoom in to an area:** select an area on your map by dragging a rectangle with the left mouse button. When you release the button, the mapper will zoom in to the area. This is called 'Region of Interest' or 'ROI' selection.
- **Zoom back to the previous zoom level:** If you right click on your map (while using the zoom tool), you will zoom in/out to the previous zoom level you had selected. For example, if you zoom in on your map using a ROI selection (above), you can zoom back to whatever the last zoom level was by right clicking on your map.
- **Fitting the map to the window:** right clicking *twice* anywhere on your map with the Zoom Tool will zoom the map to a size such that the entire map is displayed in the extents of the main window.

Note: Right clicking with the zoom tool is **not** a 'zoom out', but rather returns you to the zoom level you were at - this might be at a higher or lower zoom.

The Zoom To Window

If you know the exact zoom level you want to go to, you can use the Zoom To window. To open the Zoom To window, select [Map-Zoom To...](#) from the main window, or press **Ctrl-W**. When this window is displayed, you can type in a zoom level to go to (in percent, such as 45), or use the drop down list to select one of the previous zoom levels that you've jumped to.



Hint: Use the Zoom To when placing symbols on your map. Placing the same symbols on your map at the exact same zoom level makes for a sharp, consistent look.

The Zoom Back Menu Item

The Zoom Back menu item (and corresponding toolbar button) allow you to zoom out on your map 1%. This is helpful when you want to zoom back a bit after zooming in on a

Region of Interest (ROI). To zoom back 1% on your map, select Map-Zoom Back from the menu, or click the  button on the toolbar.

3.2 Color Themes

For an additional artistic touch, Fractal Mapper lets you alter the look of your map by letting you display it in several alternative color themes. To select between the several color themes, use Map - Color Theme on the menu. In addition to display, when printing or exporting a map to an image file, the selected color theme is used.

The supported color themes are:

Full Color:

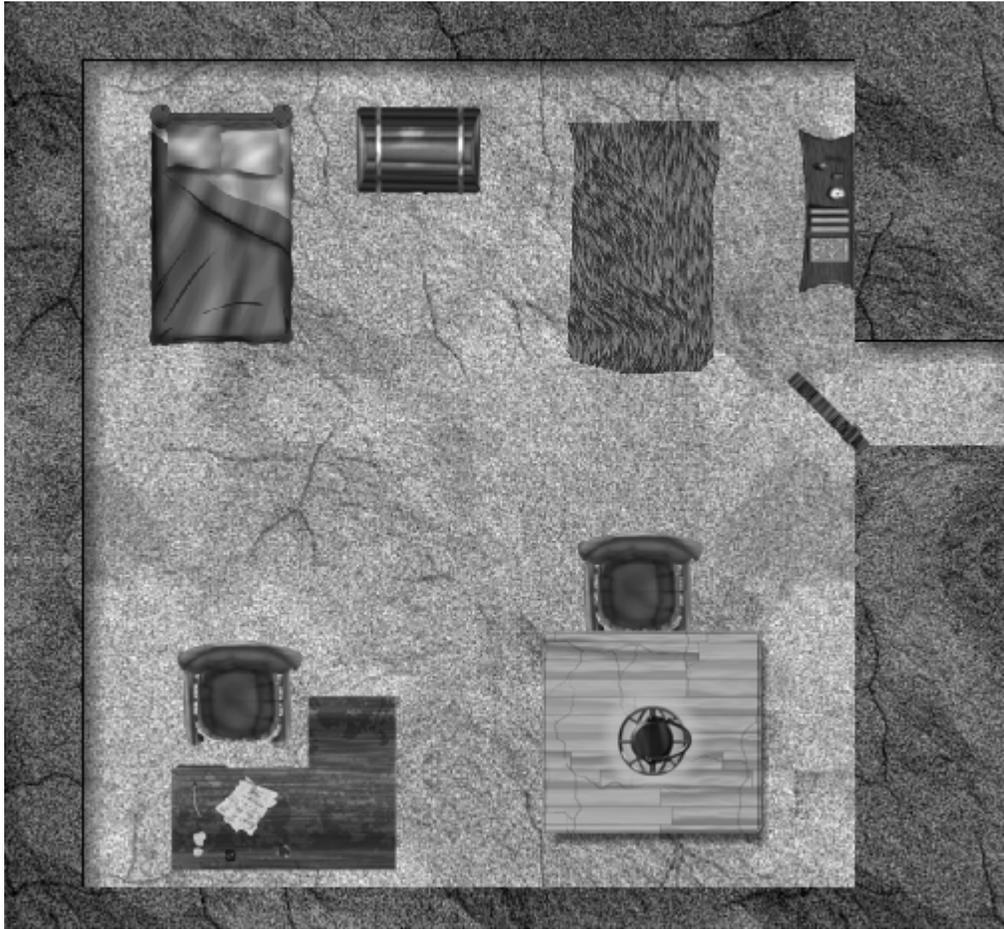
Full color display is the default color theme, and probably what you'd want to use most of the time. In this theme, the full range of colors on your map is displayed.



Full Color image - the default color theme

Grayscale:

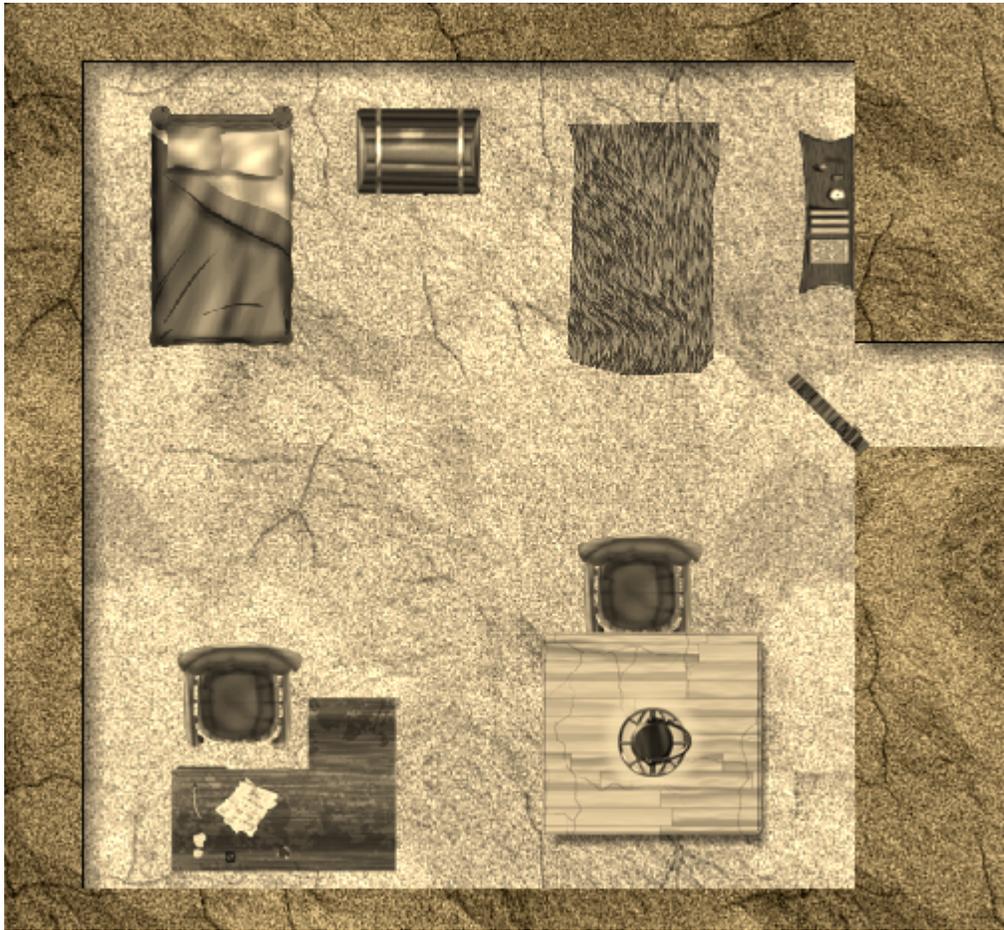
All colors on the map are converted to a grayscale palette. This is color palette with 256 different shades of gray, ranging from black to white.



Same as above, as displayed in grayscale

Sepia:

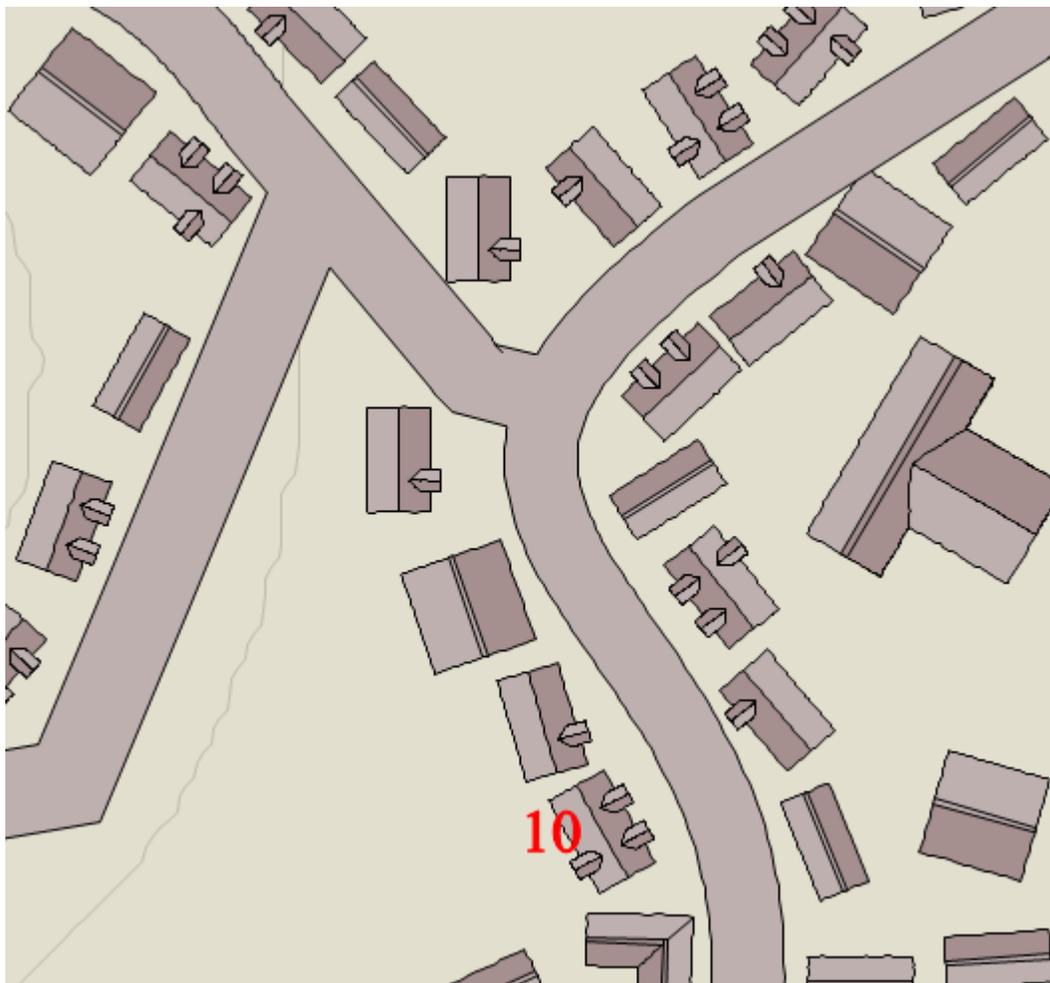
Colors on the map are processed with a sepia filter, creating an antique photo appearance.



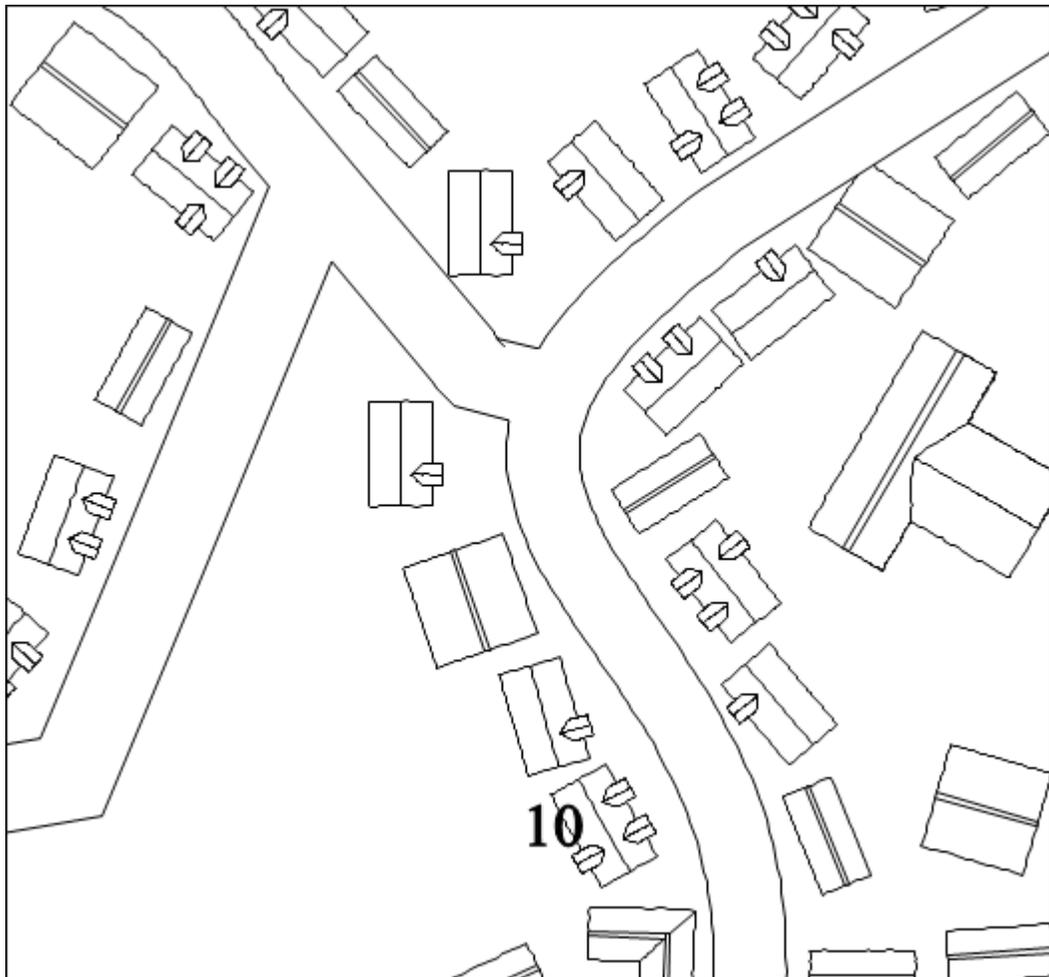
The map displayed in the Sepia color theme.

Black and White:

Colors on vector objects are converted to either black or white, depending upon their brightness. Images on the map (for example, .png symbols) are displayed in grayscale.



A map with vector based objects



Same map, viewed in Black and White mode

3.3 Saved Views

Fractal Mapper lets you create 'Saved Views' so you can quickly return to a specified zoom level and position on your map. Up to 10 saved views can be created. When a saved view is created, it is placed as an item on the main menu under Views.

To create a saved view, zoom and position the map to display a desired area on screen, and select Views-Add as View from the main menu. Enter a name for this view. The current zoom and position of the map will be recorded, and the view will be added to the bottom of the Views menu.

When you select a view from the Views menu, the mapper will reposition itself to the same zoom and position recorded by that saved view.

To delete a saved view, select Views-Saved Views from the menu. This will display a dialog which will allow you to select the views to be deleted.

To modify a saved view, delete the view, and then recreate it.

Saved views are an excellent way to quickly display areas of interest on your map. You can, for example, create saved views for each of the major regions on a continent. Or, you could create saved views for important areas of an extensive underground complex.

3.4 Map Display Quality

FM allows you to select one of several Display Quality settings. These let you display your map in a higher quality (for printing or exporting, for example) or in a lower quality (to increase speed).

To select a Display Quality, select Map-Display Quality from the main menu, and then one of the following sub menu items:

Draft

The Draft mode is the fastest available display quality. When in this mode, the mapper will not anti-alias lines or text, will not draw gradients, will not apply transparency to objects, and will not draw pattern fills within objects. By not doing these, the program can draw the objects on your map quicker. You can use this on big maps to speed up the performance of the map, and make it easier to zoom about your map.

Fast

The Fast mode does not anti-alias lines or text, but does draw gradient fills and patterns, and applies transparency to objects. This is the default setting for the program.

Good

The Good mode does not anti-alias lines, but does anti-alias text. It also draws gradients and applies transparency.

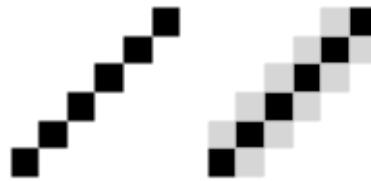
Highest

In the Highest mode, all lines and text are anti-aliased, and all gradients and transparency effects are applied. This is the best quality, but is also the mode with slowest performance. Use this mode when exporting or printing for the best possible image quality.

In addition to the Display Quality setting, you can also choose to specifically disable the display of [pattern fills](#)^[27] within objects. Large maps with extensive use of pattern fills look great, but will refresh much slower than maps that do not use such fills. You can toggle the display of fill patterns on and off by selecting Map-Display Quality-Patterns Enabled from the main menu.

What exactly is *Anti-Aliasing*?

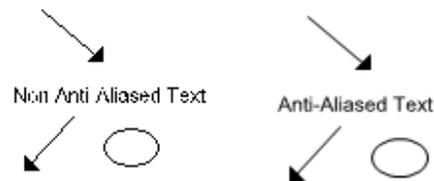
Anti-Aliasing is a method of smoothing lines and text. Since computer monitors can only display graphics on a per-pixel basis, anti-aliasing techniques are required to make lines that look smooth. Here's an example of the technique, zoomed in a number of times so you can get the idea of what's happening:



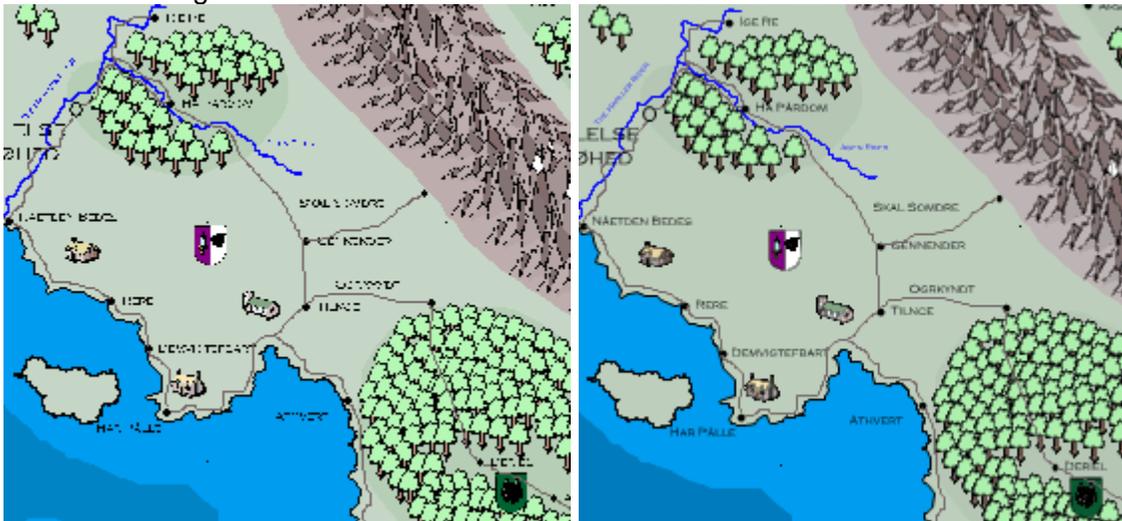
Anti-Aliasing a line

The effect of anti-aliasing on display quality is usually quite noticeable, for the better. Text will be more readable - especially at smaller font sizes, and lines and curves will be smoother.

Left: lines and text are not anti-aliased,
Right: lines and text are anti-aliased.



Left: non-antialiased map display.
Right: anti-aliased lines and text. Much clearer text and lines!



3.5 Printing

Fractal Mapper offers a number of ways to print the maps that you have created. To print your map, select File-Print... from the main menu. When you do this, the Print window is displayed.



Size

Maps can be printed Fit to Page or at a scale to fill a specified number of pages across.

When Fit to Page is selected, the map is printed at a scale that best fills a single page (this is probably the most common selection).

When Pages Across is selected, the map is printed at a scale that will fill the desired number of pages across. The number of pages across can be a fraction, so it's quite alright to tell the program to print at 2.54 pages across, for example.

The Overprinting option exists to make maps printed across multiple pages easier to tape together. If selected, the edges of each page of a print are shifted a bit to the left and top.

Printer and Page Orientation

In the Printer section you can select the printer to use, configure it's settings, and select the page orientation (Portrait/Landscape). To open up your printer's driver settings, select the printer from the drop down box, and press the Properties button.

Fixed Scales

If Square or Dot Grids are displayed on the map, Fractal Mapper can calculate the necessary print scale to print at various predefined scales, such as one inch squares, 25mm squares, etc. When a scale is selected from the Fixed Scales drop down box, a calculated fixed scale will be displayed in the Pages Across box, and the Pages Across option will be selected.

If you print at a fixed scale and find the grids to not be exact, simply adjust the pages across box by increasing or decreasing the number of pages across to use. FM relies on information from the printer to get the correct scale, but sometimes this can be off by a little bit.

Specific Tiles

There are times you may wish to only print off a segment of a multi-page map. For example, if a players of yours spills cola on one of the pages of your painstakingly taped together maps. You can do this by entering a specific page to print out by typing in the row and column number. This way, you wont have to re-print the entire 25 page map out! Simply enter in which tile to print. For example, row 2, column 2. If this is left blank or set to zero, the entire map will print.

Print Area

In most cases, you'll probably want to print out your entire map. But, should you desire just a print out of a particular section of your map, Fractal Mapper is happy to oblige.

If you select Full Map in the Area box, the entire map will be printed.

If you select Displayed Extents, the portion of the map that is currently displayed *in the main Mapper window* will be printed.

If you select Selected Area, you can drag out a selection rectangle on the map thumbnail to the right to define the area to print.



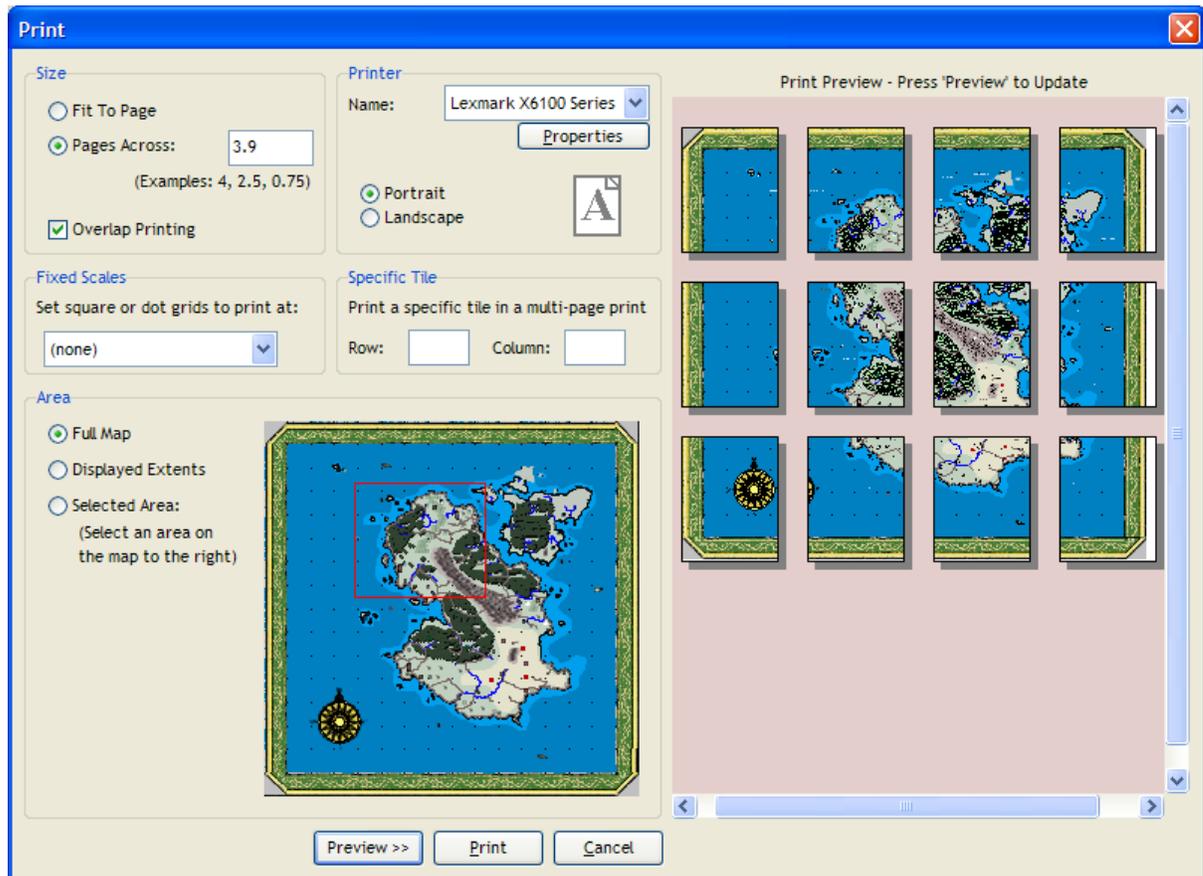
Selecting an area to print

Print Preview

But exactly how many pages across do I need to print the map so that my favorite city

doesn't end up on one of the page edges? This is the kind of problem that the Print Preview feature helps answer.

Once you've made your print setting selections, you can press the Preview >> button to get a preview of how you map will print across multiple pages. When you do this, the window expands to show you how each tile will print.



If you go back and make changes to the settings, you can press Preview >> again to get an updated preview.

When you're done selecting the settings, press Print to print the map.

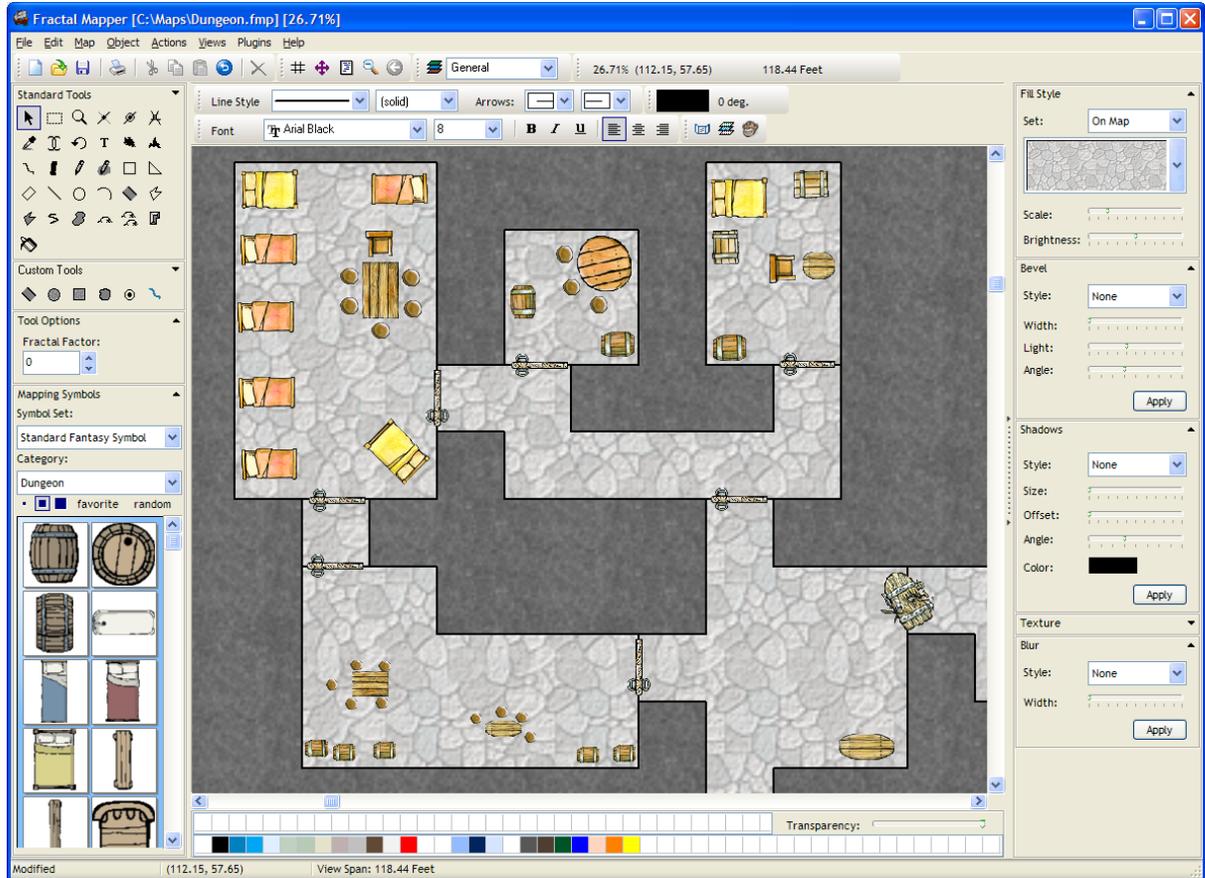
3.6 The GM Screen - Multiple Monitor Support

If you use a laptop or desktop computer during your game, you may find the GM Screen feature of great use. Using this feature you can display a player version of your map on a second attached monitor. This is useful for showing areas of interest to your players without having to dig through piles of printed maps. You could also use this feature to walk a group through a dungeon or scenario by progressively hiding/showing objects on your map.

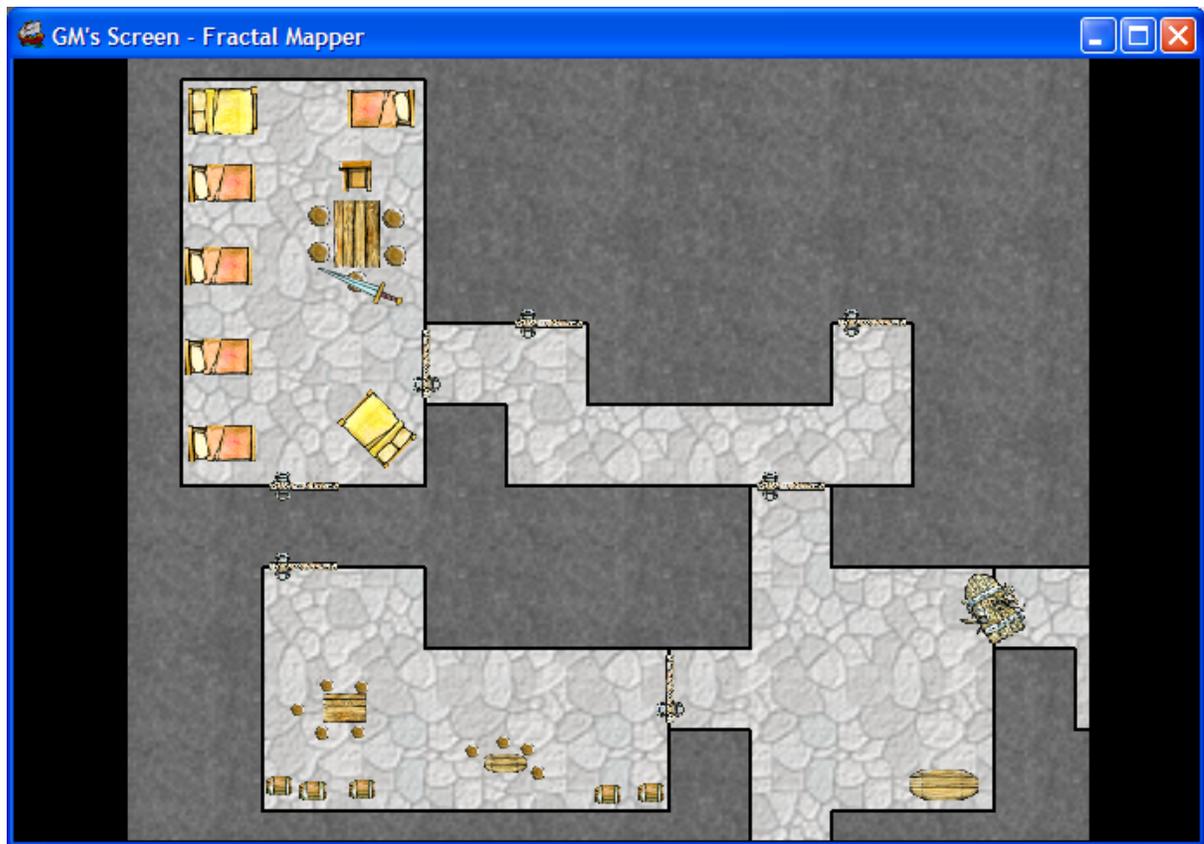
The GM Screen displays the complete map - with one exception. Any objects on [layers marked as secret](#)⁸³ are not displayed on the second monitor. In addition, as you move

your mouse over your map, a pointer will display on the player version of the map in the same place. This allows you to use this pointer to highlight areas as you describe them.

What the GM Sees:



What the Players See:



Showing the GM's Screen

Enabling this multi-screen display from within the mapper is easy...just select Map - GM Screen from the menu. To turn the feature off, just toggle the same menu item.

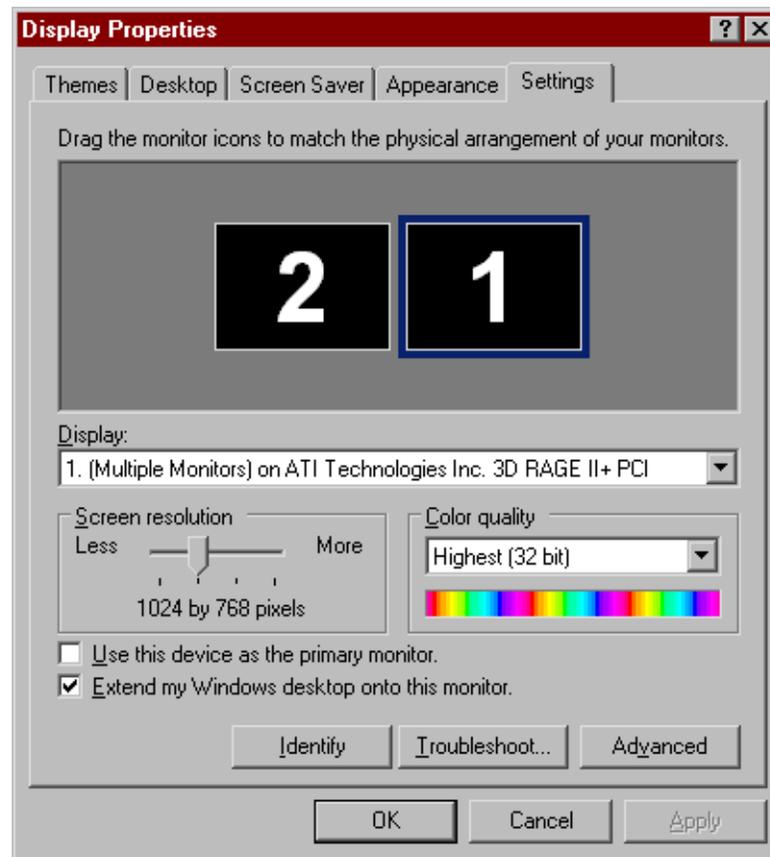
Alternatively, you can use the  button on the tool bar. It's located just to the right of the color and rotation indicators. There's also a convenient toolbar button next to the GM Screen button, , that will toggle on and off the display of secret layers so you can get a quick look at what the players are seeing.

System Requirements

Using this feature does require either:

- A video card that supports more than one monitor
or
- More than one video card in your computer.

If you have this, you should be able to enable multi-monitor support in Windows by selecting Start -> Settings -> Control Panel -> Display from the Window's Start Menu. Select the 'Settings' tab. You should see something similar to:



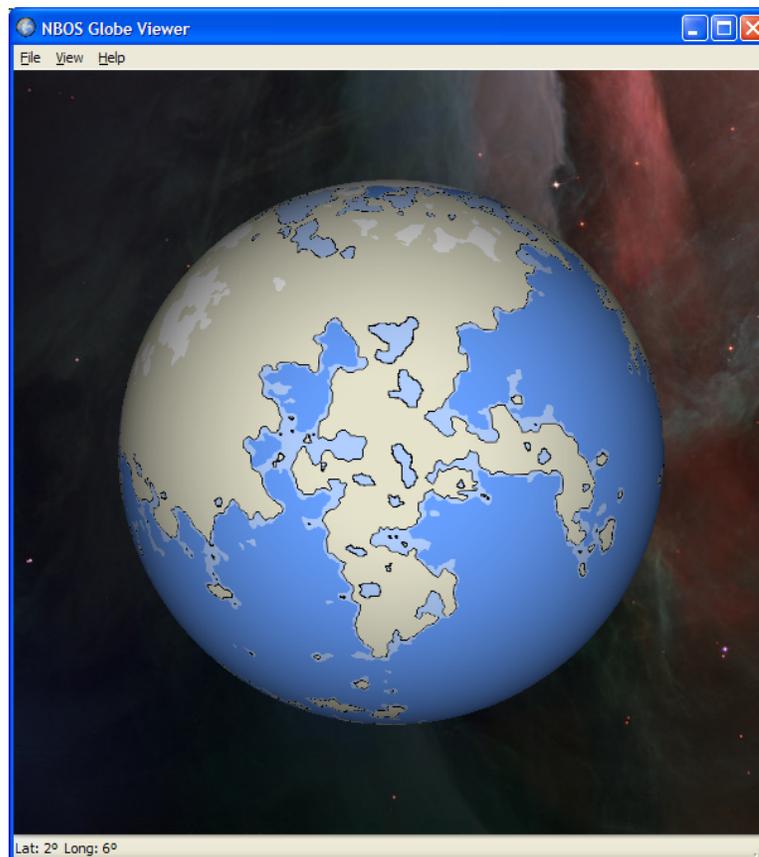
This is the Windows XP version of the display properties box, but other Windows versions should look similar. Choose the secondary monitor/card. In this example, it's the ATI video card. Note that it's listed as display #1 in this case - so don't just go by the display number. Select the 'Extend my Windows desktop onto this monitor' check box, and press Ok. Windows will then extend your screen onto the 2nd monitor as if it was lined up right next to your main monitor.

If you do not have a window like the one above, consult your operating system help file or computer's user guides for information on how to enable multiple monitor display. Some video cards will have their own interface for enabling multiple monitors.

If for some reason the mapper cannot detect a second monitor, and you enable this feature, the GM Screen window will still display - it'll just show the GM Screen window on your main monitor. This is done to support those output devices that might otherwise not be automatically detected by the mapper. If you have more than one monitor, but the second one isn't detected by the mapper, you can show the GM's Screen window and then drag it to the second monitor.

3.7 Globe Viewer

3.7.1 Displaying Your Map in a Globe



Fractal Mapper can project your map onto a globe for display. This is a great way to show off your campaign world!

To display your map in a globe, select Views-Show in Globe from the menu. When it does this, it opens a secondary 'Globe' window. In this window you can zoom in and out, pan around, select backgrounds, and even create animations!

3.7.2 Panning and Zooming

The Globe Viewer lets you pan and zoom around your planet, looking at it from 'orbit' at any angle.

With the Mouse:

To pan / rotate the planet, drag the mouse left, right, up, or down on the globe, and the planet will rotate in that direction.

To zoom with the mouse, hold down the shift key, and drag the mouse up or down on the globe. You can also zoom in and out by rolling the mouse wheel.

With the Keyboard:

To pan / rotate the planet, use the arrow keys. The planet will rotate in the direction of the key you press.

To zoom in and out, hold down the Ctrl key and press up or down arrow keys. The up arrow zooms in, the down arrow zooms out.

Auto Rotation:

You can have the program automatically rotate the planet either forwards or backwards by selecting View - Auto Rotate Forward or View - Auto Rotate Backwards from the menu.

3.7.3 Exporting Images and Animations

The Globe Viewer can export the planetary view to either standard image files or animations. Image file export includes .PNG, .JPG, and .BMP formats. Animations are output either as an .AVI movie file, or as an image series of .PNG/.JPG/.BMP images, with each image being a 'frame' of the animation.

When creating an image series, select a .PNG, .JPG, or .BMP file to create, and then check the Create image series box. 360 images will be generated (it exports a full rotation of the planet, one frame per degree), each using the base name you selected, and having a frame number appended to the file name.

3.7.4 Other Features

Custom Backgrounds

You can add your own background 'star field' very easily. Just select an image to use (you can find many star field and astronomy images online), and copy it into the 'Backgrounds' directory under the directory where the Globe viewer executable is installed. Typically this would be 'c:\program files\nbos\globe2\backgrounds'. When you restart the program, the new background will be available under View - Background on the menu.

4 Notes and the Scenario Builder

4.1 Map Notes

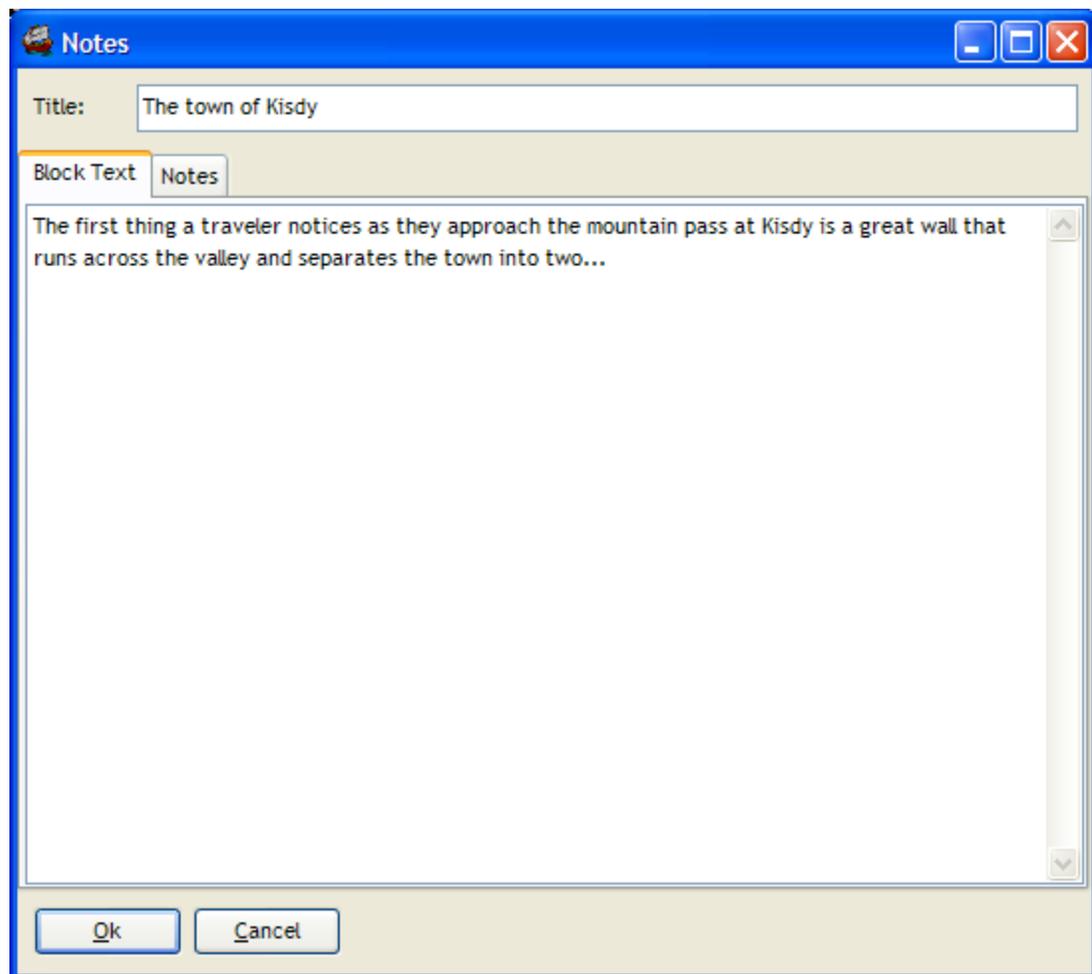
You can assign notes to the overall map by selecting Map-Map Notes from the main menu. Map notes are useful for such things as scenario introductions and general notes for the region/place/thing being represented by the map.

Fractal Mapper lets you store two types of notes at the map level - Block Text and Notes.

Block Text is text that is meant for your player's to read or to have read to them. You'll often see block text used in published RPG scenarios. It's usually a section of text placed aside in a special block that is meant to be read by the GM to the players. Sometime people call it Flavor Text.

Notes are your GM'ing notes. This is where you keep stats, encounters, and secret information.

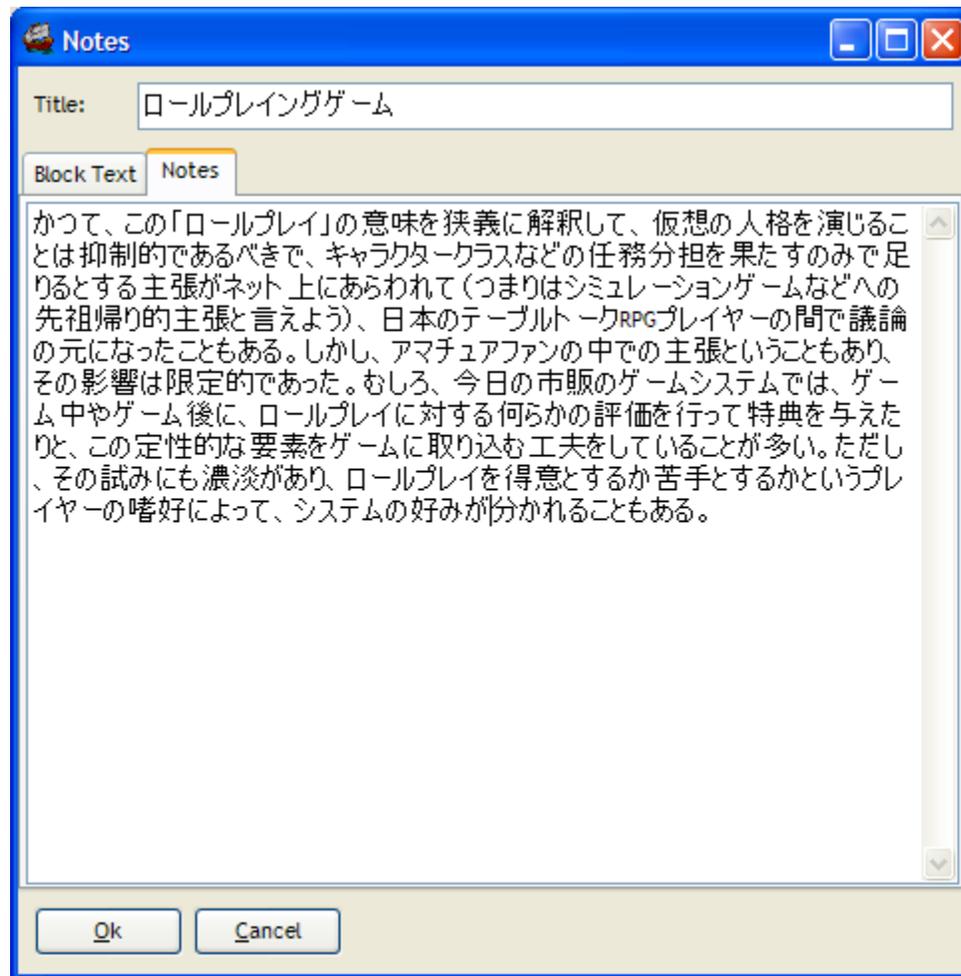
This breakdown of two types of notes is used by the [Scenario Builder](#)^[120] when compiling a scenario or atlas.



In addition to notes at the map level, each object placed on a map can also be assigned notes. See [Object Notes](#)^[116] for more information.

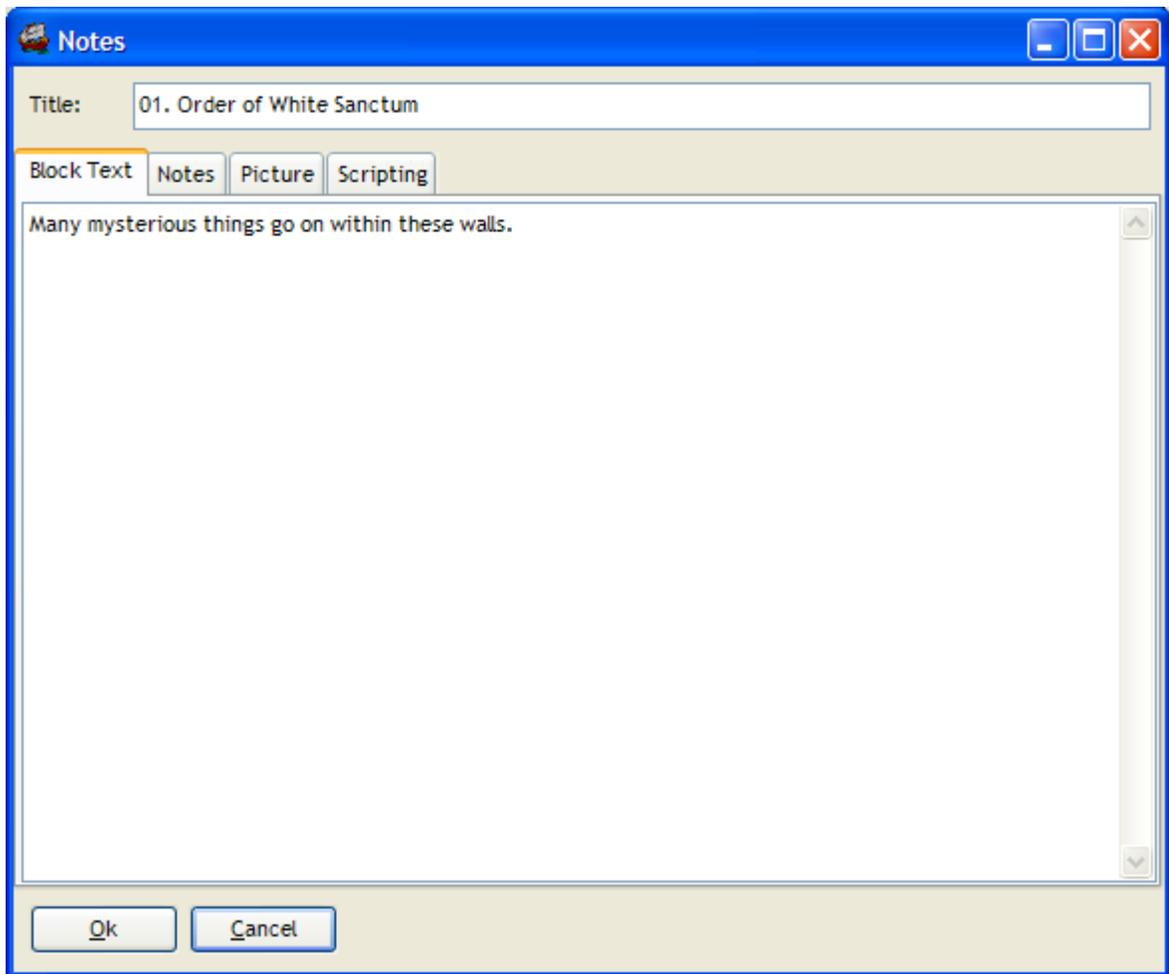
Unicode

Fractal Mapper can accept Unicode text in notes. Just type in the text as normal, or if you don't have the appropriate input device, copy the Unicode text from its source and paste it into one of the notes boxes.



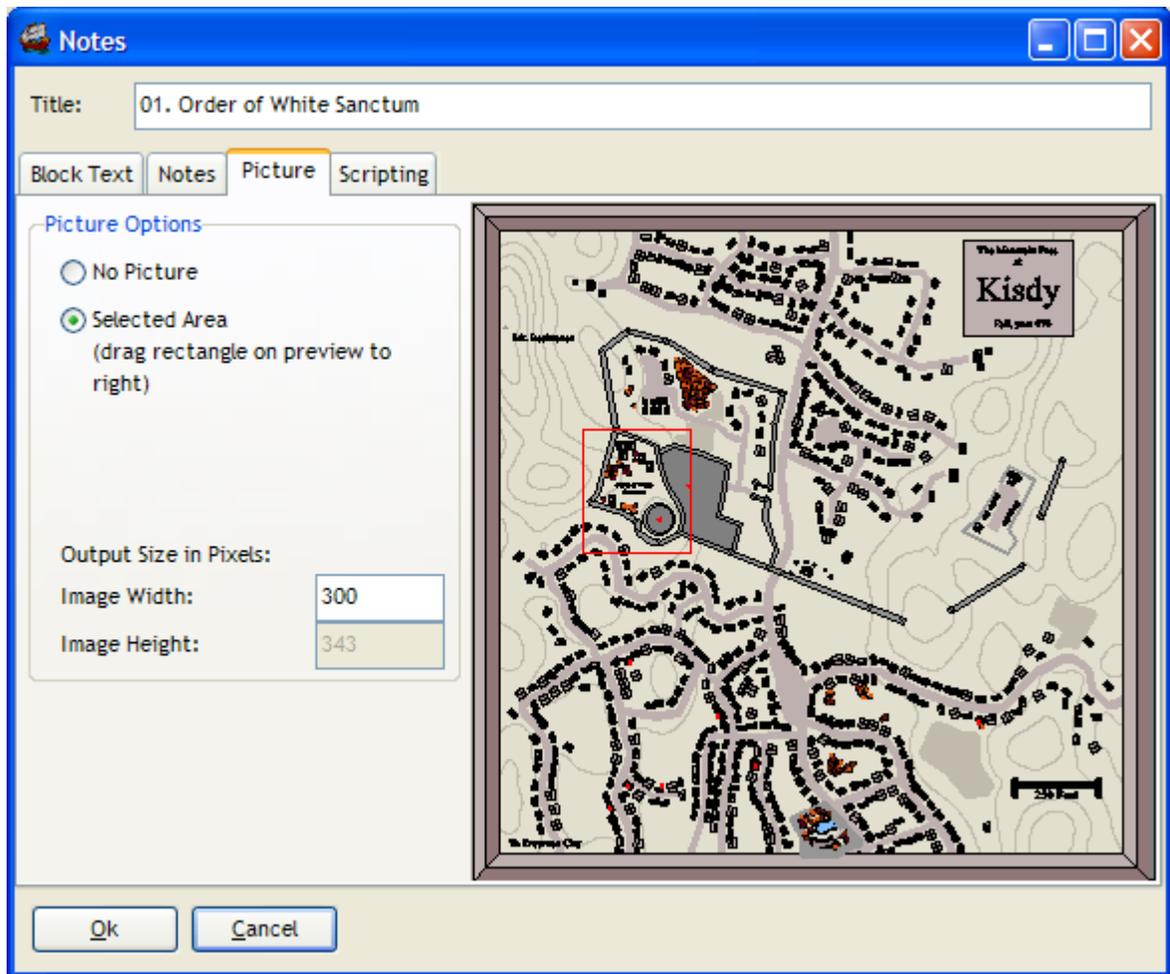
4.2 Object Notes

Each object placed onto a map can have a title and notes assigned to it. To access the notes for a particular item, select the item with the Pointer tool, and select Object-Edit Notes... from the main menu. Alternatively, you can right click on the map object and select Edit Notes from the pop-up menu. The Notes window will be displayed.



Just like the [Map Notes](#)^[114], you can enter in two types of notes, Block Text and Notes. See the [Map Notes](#)^[114] section for a description of each type.

In addition, you can also assign an Illustration to the object's notes. An illustration is a section of your map that is to be printed out by the [Scenario Builder](#)^[120] right next to this object's notes.



To assign an Illustration, select a region on the map thumbnail displayed on the Picture tab. Also, select an image size, in Pixels, for the image that gets generated by the [Scenario Builder](#)¹²⁰. If you're not sure of a size, that's ok. Just set it to 200 or 300, and see how it looks when you've generated your scenario or atlas. You can always go back and modify it.

If you don't want an illustration, be sure the 'No Picture' option is selected.

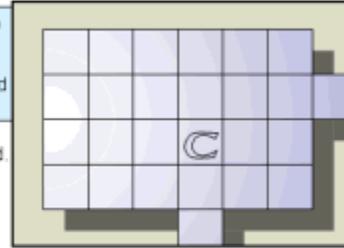
Here's a sample of what an Illustration looks like in the [Scenario Builder](#)¹²⁰'s output. In this case, the Block Text is in the area with a blue background, and the normal GM notes are in plain black on white text.

C. Workshop

Tool covered benches and gadgets fill the room. This was obviously a workshop of some sort. In the southeast part of the room, numerous mining tools and machines are seen - wheeled crank drills, picks, conveyors and belts. To the north stand a pair of human sized mechanical men. To the west smaller tools and gadgets.

The two constructs were a present to Leid from a gnomish village he once saved. They stand guard to protect the room, and will animate when anyone approaches. A good spot check (18+), and the characters might notice that the dust and cob-webs around the constructs is disturbed.

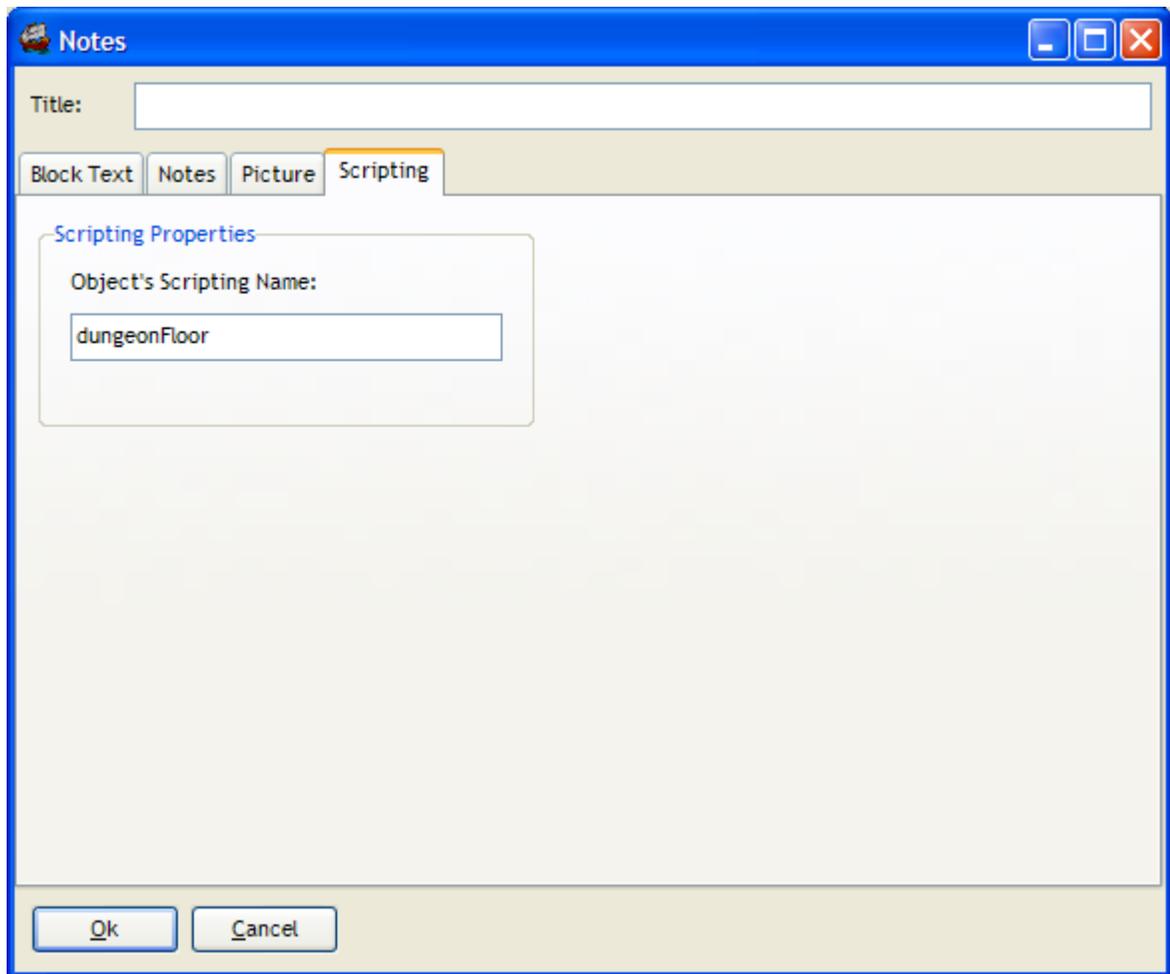
Mechanical Men:
HD: 5 (30 hp each)
AC: 17
ATT: +5/+5 1-6x2 - they flail their mechanical hands.



Object notes are often the target of interest when developing scripts with the GoblinAPI. Scripts can be used to generate notes for an object. For example, you could write a script that populates a tavern with patrons (sticking such information in the object notes), a dungeon room generator, etc.

Scripting Name

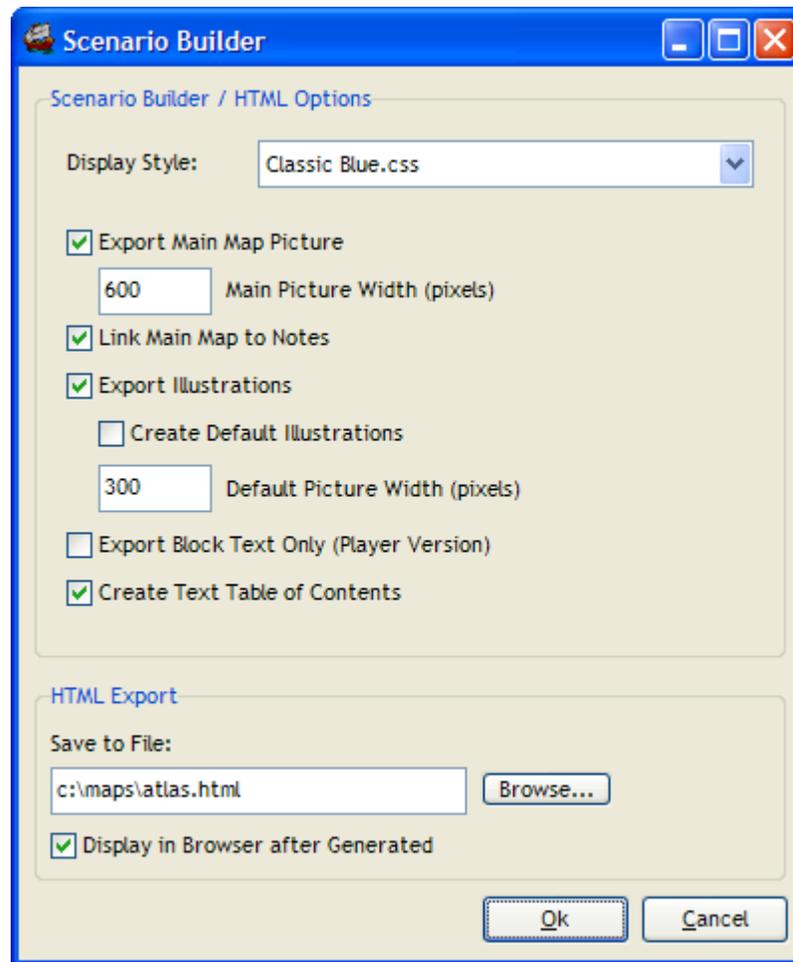
There's one other tab on the notes window, the Scripting tab. Here you can assign a variable name to this object if it is to be referenced in a GoblinAPI script. If you set an object's scripting name here, a variable of that name will automatically be created and made available to any scripts that run. This is strictly optional with scripts, as all objects will always be accessible via the `GetObject()` GoblinAPI function. But it is a convenient way to name special objects so that you don't have to cycle through the list of objects looking for it.



4.3 The Scenario Builder

The Scenario Builder allows you to easily compile all the notes on your map, and output a scenario listing or atlas of your campaign world. With the Scenario Builder, you can output a document that consists of your notes in various forms, [illustrations](#)^[116] with your notes, and an overview picture of your map. The documents that the Scenario Builder creates are HTML documents - web pages - so it's easy to upload your document right to your web site!

To open the Scenario Builder, select File-Scenario Builder from the main menu. The Scenario Builder window will be displayed:



First select the display style of your document from the list. If you're not sure, it's no problem...try each one and see what they're like! Several styles will have 'one per page' in their name. If you select these, special HTML codes will be inserted into your output that will cause your printer place a page break between each object's notes

After this, there are a number of other options you have in generating the output.

If you check the Export Main Map Picture box, an image of your full map will be placed at the top of your document, at the specified width in pixels.

If you check the Link Main Map to Notes box, the Scenario Builder will add hyperlinks from the main map picture (from above) directly to the notes. For example, if you're generating an atlas of your continent, and you have notes for each kingdom, then a hyperlink will be generated on the main map overview that links directly to the corresponding city's notes!

If you check the Export Illustrations box, an image of any [illustrations](#)¹¹⁶ assigned to an object will be generated and placed next to the corresponding object's notes.

If you check Create Default Illustrations, a default illustration for any object that you have not defined an illustration for will be created. The illustration will be sized at the specified width in pixels. The illustration will be a clipping of the map of the area that surrounds the object.

If you select the Export Block Text Only option, you can generate a document that contains **only** the block text that is assigned to objects. This is useful for generating a player version of your scenario or atlas.

If Create Text Table of Contents is checked, a hyperlinked table of contents is generated for your document.

Next, if desired, select a file name to save your document. This is an optional step, and only really needed if you plan on copying the document someplace (uploading to a web site, emailing to a friend, etc). If you just want to generate a document to print, you don't need to select a file - FM will simply create a temporary file to use.

If you wish the document to be displayed after you create it, be sure the Display in Browser After Generated option is selected.

Saving your Scenario Builder document to a file

If you are saving your Scenario Builder document to a file, all associated images that go along with the generated HTML document are saved into the same directory as the file you're making. For example, if you make a file called 'c:\documents\myatlas.htm', then all the images that would go into that HTML file will also be saved into the 'c:\documents' directory. These images are in a PNG format, and will usually be named similarly to your HTML file. In the above example, the images will be named something like 'myatlas-0.png', 'myatlas-1.png', etc. If you're sending the document to someone, or are uploading to a web page, be sure to include all the images!

Customizing and Adding Styles

If you're familiar with HTML, and in particular Cascading Style Sheets (CSS), it's easy to add your own styles. The styles you see in the style list come from the files in the 'Styles' subdirectory under where FM is installed. To alter a style, open up the corresponding .css file in that directory and tweak it as desired. You can change fonts, colors, borders, etc. You may want to look at the source for the final document created by the Scenario Builder to get an idea of what class names are expected, and how they are used. To create an entirely new style, open one of the existing ones, and save it to another file name in that directory. Then edit that new file as you'd like.

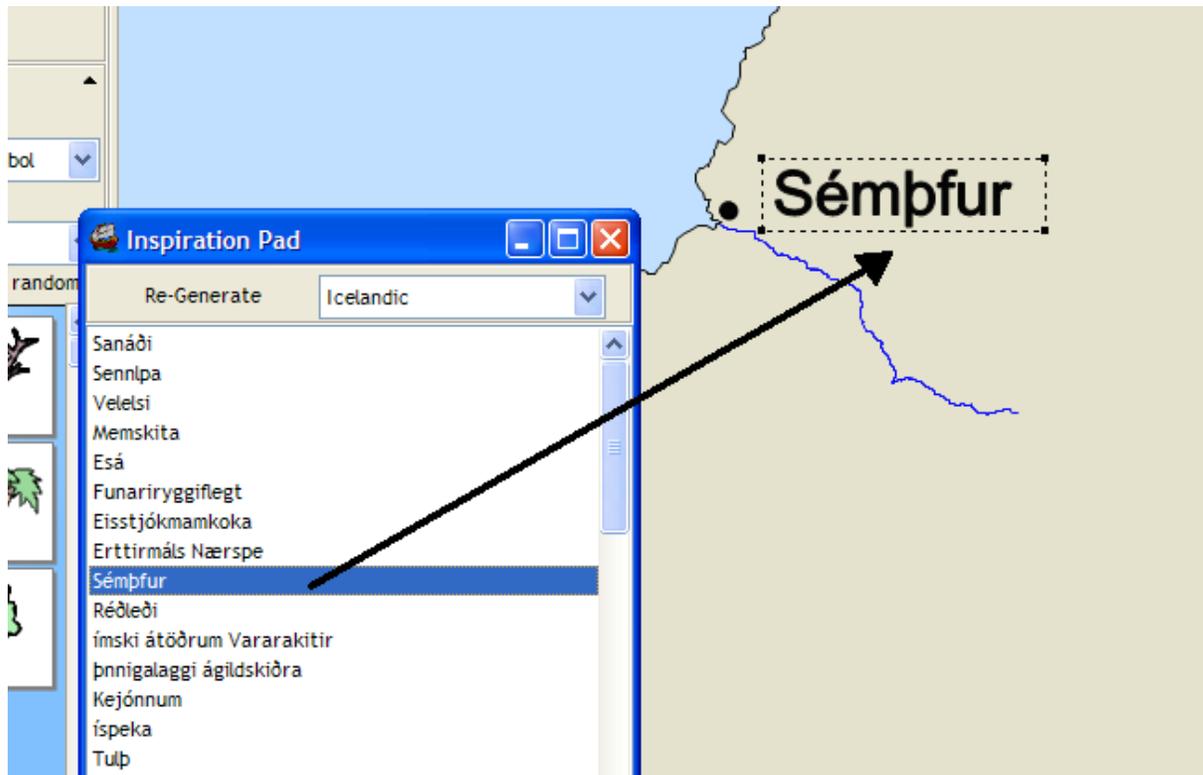
5 Advanced Topics

5.1 The Inspiration Pad

Everyone needs a little bit of inspiration now and then when trying to come up with place or character names. Fractal Mapper gladly offers this inspiration in the form of the "Inspiration Pad". The Inspiration Pad offers a number of name generators that you can use to create an unlimited supply of random names based on real or imagined languages. And, to make things even better, these names can be *dragged and dropped* right onto your map!

To display the Inspiration Pad, select Scripts-Show Inspiration Pad from the main menu, or press F8. Alternatively, a number of quick access Inspiration Pad scripts are available under

the [Scripts-Inspiration Pad](#) menu. When you do any of these, the Inspiration Pad will be displayed.



To generate a list of random names, just select a language from the drop down (or press the Re-Generate button if a generator has already run). Scroll through the list of generated names until you find one you like. Once you have a name you want to use, simply drag and drop the name onto your map - a text object using the currently selected font settings is created with the name you chose! This text object can then be manipulated and edited as any other text object would be.

How it works

The Inspiration Pad is actually a link into the GoblinAPI scripting interface. When you select one of the entries, such as "Icelandic Names", a GoblinAPI plug-in script is executed. This plug-in generates the list of names you see. You can add your own Inspiration Pad plug-ins. See the GoblinAPI documents for information about how to do this.

5.2 Creating Submaps

Once you have your large campaign map under development, you might find that you want to create a separate map that focuses on just a smaller area of your larger map. For example, you may want to create a political map of a region that your players are exploring, or use different types of symbols for a different look, or you just may find the large campaign map unwieldy and wish to break it up into smaller ones so you can add more detail. You can do this in Fractal Mapper by using the *Create Submaps* feature.

To create a submap, select File - Create Submap from the menu. When you do this, you will be able to create a new map of a selected area of your current map.

First, select the name of the map file you want to create. This will be the name of the new file that is created - **so don't select the current map's file name!**

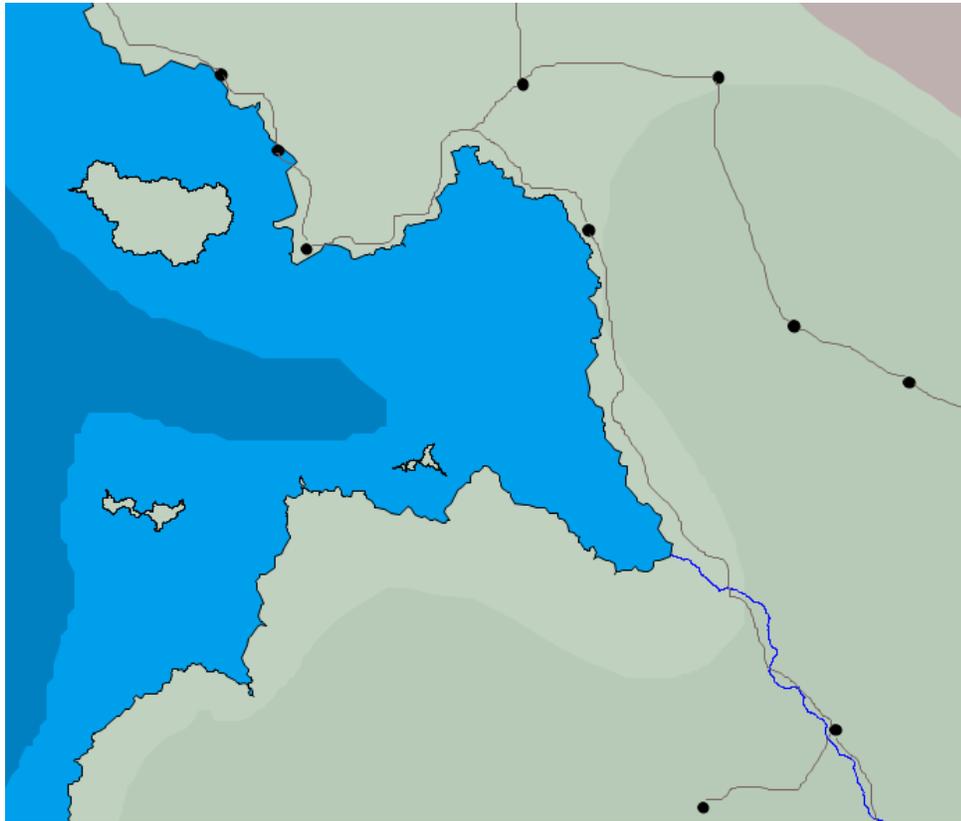
Then, tell Fractal Mapper what types of objects you want to copy over onto the new map - buildings, symbols, text, and polygons and lines (which includes all other types of objects not included in the preceding types). When the submap is created, Fractal Mapper will only copy over those objects of the selected types. That is, if you don't tell it to copy over buildings, then none of the buildings on your current map will appear on the new map.

You can also tell Fractal Mapper what layers to copy over. When the submap is created, only objects on the selected layers will be copied to the new map. When the new map is created, it will have the same set of layers as the original map.

Finally, select the area for the new map. In most cases, you'll probably want to select a specific area by dragging a selection rectangle over the area you want to export on the map thumbnail . You can also create a new map from the currently displayed extents in the main window. Or, you can even create a new submap based off the entire current map. This is something you might want to do if you want to create, say, a political map of your main continent without all the symbols.



Selecting the area of the submap



What the new map looks like

5.3 Exporting Maps

Maps made with Fractal Mapper can be exported to different file types for use in other programs. Fractal Mapper can export your map to the following file types: Bitmap, JPEG, .PNG, and Windows Metafiles (*.EMF), . See the file format notes below.

Once exported, you can then use your raster or vector file in many different graphics, word processing, and web development programs. To export your map, select File-Export... from the main menu. The Map Export window will be displayed.



The Map Export window will prompt you for the following information.

File Name: This is the name of the file you want to create. If this file exists already, it will be overwritten when the graphic is created. The type of graphic that will be created depends on the file extension you select. E.g., if you use .bmp a bitmap will be created.

Image Size: This is the size of the graphic file you wish to create, in pixels. Select only the width - the Mapper will calculate the corresponding height based on your map's shape.

Note: This is only used when exporting to one of the raster formats (Bitmap, JPEG, PNG), as it doesn't apply to vector graphics files (.EMF).

Extents: This controls what part of the map is exported - either the whole thing or a specific area. If you select Export Entire Map, then the entire map will be exported. If you select Displayed Extents, then the portion of the map that is currently displayed *within the Mapper's main window* will be exported. If you select Selected Area, you can select an area to export on the map thumbnail to the right by dragging a rectangle.

Remember: Exporting your map does not save it! All it does is create a graphic of the current map. You'll still need to use File-Save to save your map in the Mapper's native file format.

File Format Notes:

Bitmap Files: The bitmap files created when a map is exported are uncompressed, 24-bit graphic files. So, they can get quite large. But, they're also very easy to work with when importing into other graphics programs.

JPEG Files: JPEG files are compressed, 24-bit graphic files. JPEG files are usually much smaller in size than bitmap files. Unfortunately, compression will often cause a slight deterioration of the image quality. JPEG files are used extensively on the web.

PNG Files: These are 'Portable Network Graphics' files. This is a 32-bit color image format well supported by most graphics programs and web browsers. Unlike JPEG files, there is no loss in quality when the image gets compressed. This is the recommended export format for high quality images that are to be used in other programs.

.EMF Files. These are 'Enhanced Windows Metafile' files. This is a vector based file format best used when you need to scale a graphic larger and smaller. Also, many graphics programs can import .EMF files, meaning .EMF files often make a suitable format for exchanging vector data.

5.4 Templates

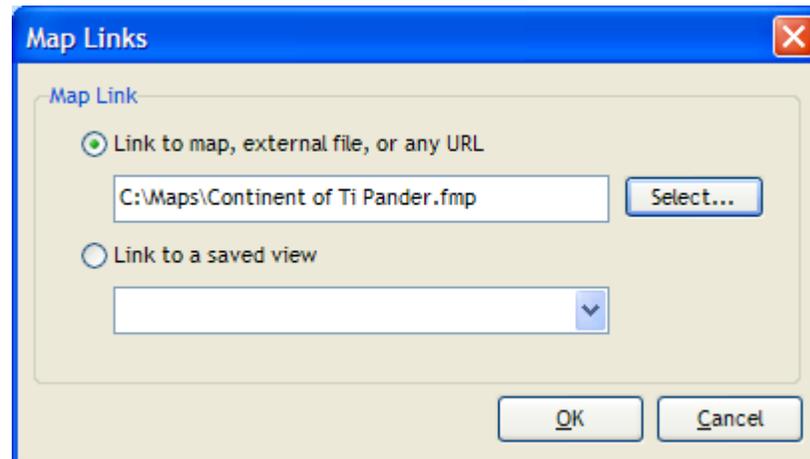
Templates are an easy way to pre-configure the basic look and feel of the various maps you create. For example, if you will be creating several dungeon maps, you can create a 'Dungeon' template. Then, whenever you want to make a dungeon, select Open Template, and Select 'Dungeon'. The background color, size, grids, and common mapping symbols are then loaded.

Creating a template is easy. Just create a new map, configure it as you'd like, and save it in the 'Templates' directory under the Mapper's directory. For example, if your copy of the Mapper is installed to c:\nbos\Mapper8, then save your map into the c:\nbos\Mapper8\Templates directory.

5.5 Hyperlinking Maps

Fractal Mapper allows you to link objects on your maps to other maps, other areas on your map, or even external files and URL's. Using map links you can set up interactive atlases - doing such things as linking continent maps to city maps, and city maps to building maps.

To assign a link to an object on your map, select the object with the pointer tool and then select Object-Edit Links from the main menu.



Linking to maps, files, or URL's

You can link your map to another Fractal Mapper map, an external file (such as a .pdf or spread sheet), or a URL. To link to a map or file, click the Select button and select the file to link. To link to a URL, type the URL in, including the *http*:

When you click on an object that is linked to another map using the Map Link tool , that map is opened in Fractal Mapper. If instead you click on an object linked to a file, such as a .pdf, that file would be opened in the default application for that file type. If you click on an object that is linked to a URL, that URL is opened in the default web browser.

Linking to saved views

You can also link an object on your map to one of the map's [Saved Views](#)¹⁰⁴ (if there are any). If an object is linked to a saved view, when you click on the object with the Map Link tool , the display will shift to that saved view as if it was selected from the menu.

Getting Back

When you use the Map Link tool to view a different map, you can move back to the previous map by selecting Map-Back from the menu (or by pushing the Back button  on the main toolbar).

5.6 Adding New Map Symbols

Fractal Mapper uses two types of files for its mapping symbols: raster and vector. Raster symbols are standard image files. They can be bitmaps (*.bmp), JPEG's (*.jpg), or Portable Network Graphics (*.png) image files. Vector symbols are Fractal Mapper files (.fmp) - just the plain old files created with Fractal Mapper itself.

Creating New Symbols

Since there are two types of files used as mapping symbols within Fractal Mapper, there are two ways to make symbols.

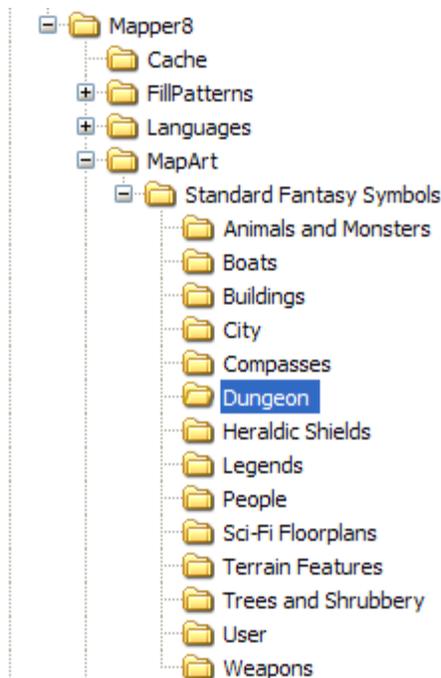
Vector based symbols are made with Fractal Mapper itself. Since any Mapper file can be used as a symbol, all you have to do is create a graphic of your symbol using Fractal Mapper. Once complete, you can save it into the appropriate subdirectory so that it appears on the symbol palette (see below for more information).

Raster symbols can be created with any of a number of image editing programs such as Adobe Photoshop or Paint Shop. While most any image can be used as a symbol, it is recommended that you use 32-bit .png files (i.e., an image with an alpha channel). In addition, images of any size can be used. For best results, images of at least 512x512 pixels in dimension should be used.

Which format to use when you make your own symbols? Generally, it's suggested that you use the first method if possible. Vector symbols scale better and draw faster (making your map more responsive). Bitmap symbols are good for things that don't need to scale a lot (miniature maps, for example), or when a particular grainy or hand drawn look is desired.

Adding New Symbols

Once created or downloaded, adding new symbols to the Mapper's symbol library is easy. All you need to do is copy the file into one of the directories under the 'MapArt' subdirectory that represents the symbol set and category that you want the symbol to be part of.



The Mapper's directory structure - note that the symbol sets and categories are really just subdirectories.

Symbol sets and categories are subdirectories under the directory that Fractal Mapper is running from. In Fractal Mapper's directory (usually c:\program files\nbos\mapper8) is a

subdirectory called 'MapArt'. Immediately below this subdirectory, are a series of other directories such as 'Standard Fantasy Symbols' or 'Battlemap Symbols'. Those are the symbol sets. Beneath *those* directories are additional directories that represent the symbol categories. Within those symbol category directories are the actual symbol files themselves.

So to add a new symbol to the 'Dungeon' category in the 'Standard Fantasy Symbols' set, the location of the file might look like: 'c:\program files\nbos\Mapper8\MapArt\Standard Fantasy Symbols\Dungeon\treasure.fmp'.

To add a new symbol set or symbol category, create the directory structure that represents the set and category.

Fractal Mapper must be restarted before new symbols or symbol sets can be displayed.

Windows Vista users: You may need to perform the file copy with administrator rights to be sure the files are actually copied into the 'MapArt\' directory, and not into the Virtual Store directory for that path.

5.7 Adding New Fill Patterns

Fill Patterns are standard image files. They can be bitmap (.bmp), JPEG (*.jpg), or PNG formatted image files. The best pattern images are *seamless*. This means when the pattern is repeated, the edges meet to form an unbroken pattern. Pattern images have no set restrictions on their dimensions, but are typically at least or greater than 32x32 pixels in size. If there's a lot of detail in the pattern, even images as large as 512x512 or 1024x1024 pixels can be used.

Fill patterns are stored by Fractal Mapper in the 'FillPatterns\' directory structure located under the directory that the program is installed into (typically that is 'C:\program files\nbos\Mapper8'). Each pattern set has it's own directory under the 'FillPatterns\' directory, and each pattern file in that set is placed into that directory.

To add an image as a fill pattern, copy the image into the desired directory that represents the pattern set you want it to be in. If you want to create a new pattern set, create a new directory under the 'FillPatterns\' directory with the set name, and then copy the image into it. You will need to restart the program to see the new patterns.

Windows Vista users: You may need to perform the file copy with administrator rights to be sure the files are actually copied into the 'FillPatterns\' directory, and not into the Virtual Store directory for that path.

5.8 Uploading to NBOS Online Exchange

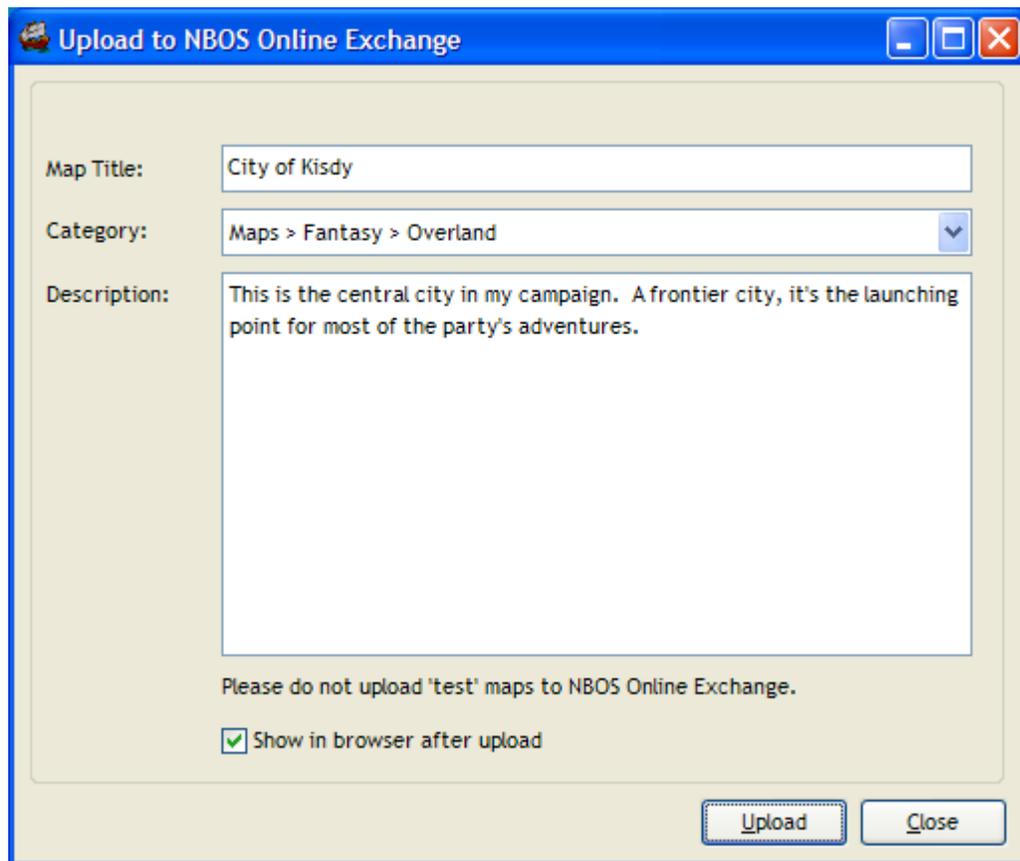
Fractal Mapper integrates with the web based *NBOS Online Exchange*, also known as *NOX*. *NOX* is NBOS Software's online map and resource sharing community. Now, sharing maps with others is as easy as saving a file to disk! To upload a map to *NOX*, select File-Upload from the main menu. To browse the maps and other files that have been uploaded to *NOX* by the Fractal Mapper community, visit <http://www.nbos.com/nox/>

Note: You'll need an access code in order to access NBOS Online. An access code is

generated and sent to you when you register your copy of Fractal Mapper via the web at www.nbos.com. The first time you upload a map, you will be asked for your registration code and this access code. So be sure to write them down someplace when you get them!

Before the map is uploaded, you will be prompted for some information about your map. You'll be asked for a map title, to select a category, and for a brief description. This information will be used by NOX when generating previews for other Fractal Mapper users browsing NOX.

If you upload the same map again, it will replace the previous copy of that had been uploaded. This allows you to maintain just the most recent map on the site.



Upload to NBOS Online Exchange

Map Title: City of Kisdy

Category: Maps > Fantasy > Overland

Description: This is the central city in my campaign. A frontier city, it's the launching point for most of the party's adventures.

Please do not upload 'test' maps to NBOS Online Exchange.

Show in browser after upload

Upload Close

Note: There's a 5 megabyte file size limit when uploading Fractal Mapper maps (.fmp files). This limit applies to the size of the map *after* Fractal Mapper compresses it for upload. So often it's possible to upload maps who's file sizes are significantly larger than 5 megabytes.

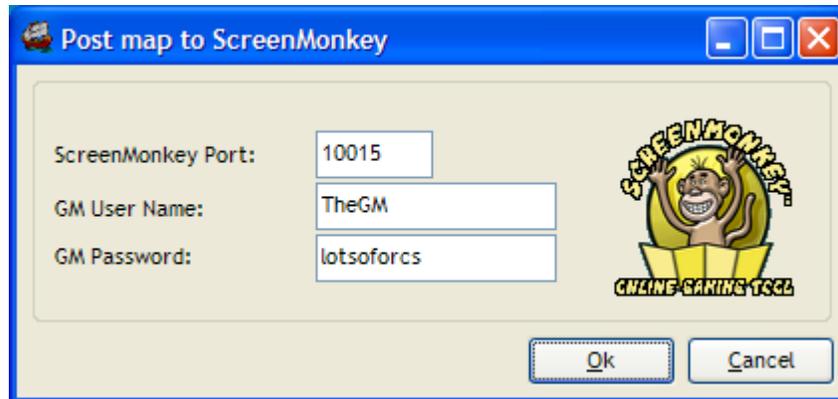
5.9 Posting your map to ScreenMonkey

Fractal Mapper integrates with NBOS's ScreenMonkey Online Gaming program. ScreenMonkey is a tool GM's use to moderate traditional paper and dice RPG campaigns

played online. Fractal Mapper can send the currently displayed portion of your map right to ScreenMonkey. For this feature to work, ScreenMonkey must be running on the same computer as Fractal Mapper.

Configuring the Link

To make the link from the mapper to ScreenMonkey, you'll need to tell the mapper some information. Select File-Posting Configuration from the main menu. This will display the necessary configuration window:



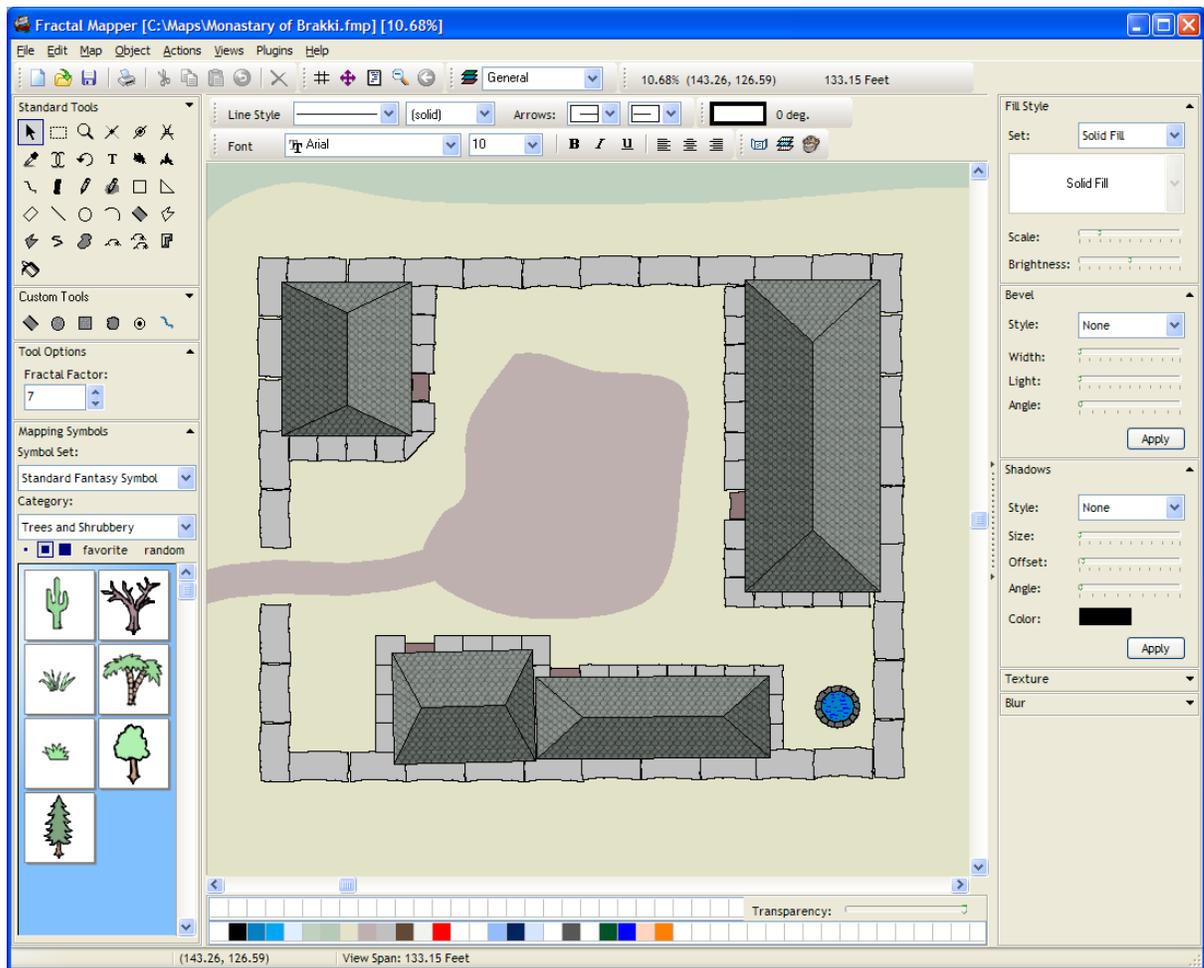
Enter the networking 'Port' being used by your copy of ScreenMonkey. Usually this is 10015, but if you've changed it (to get the program to work from behind a firewall, for example), you'll need to be sure you have the correct port assigned here.

Then, enter the GM User Name and GM Password. These are the values assigned within ScreenMonkey's Preferences window, accessible by selecting File-Preferences on ScreenMonkey's menu. Be sure to enter the GM User Name and GM Password, **not** the GM and Player Passwords settings.

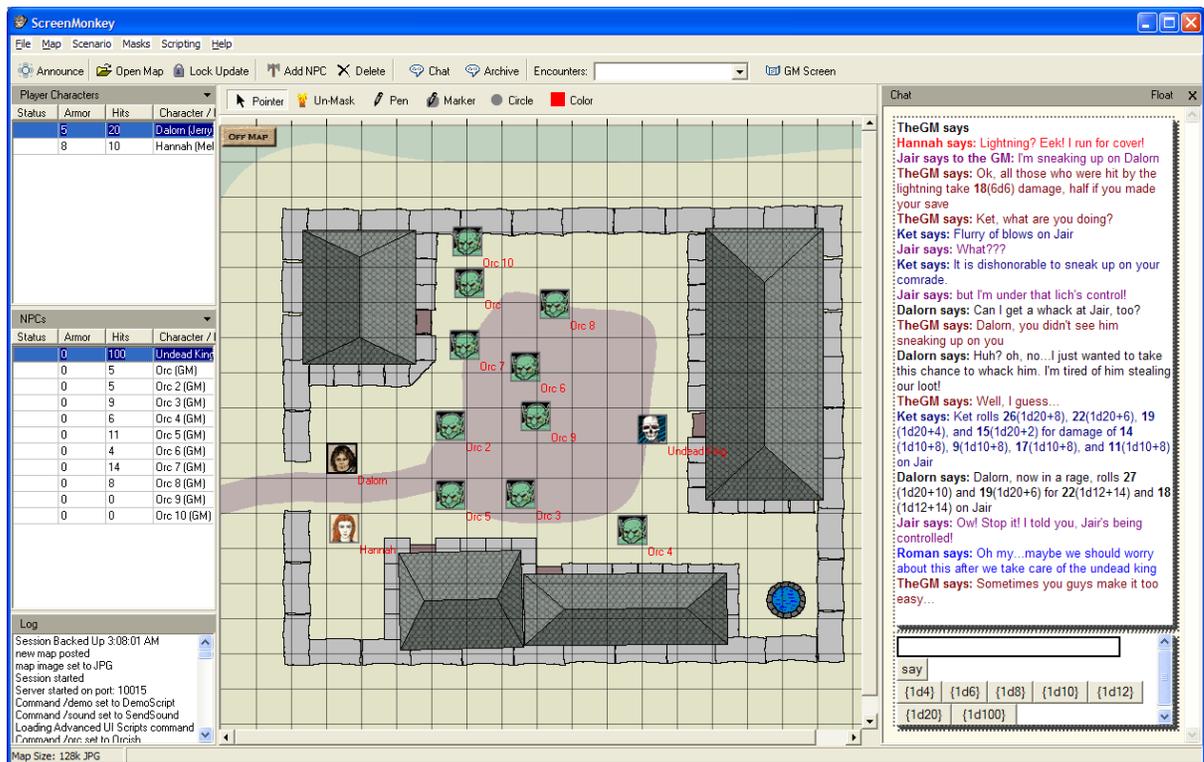
Posting the map

Once this is completed, press Ok, and you're ready to post your maps right to ScreenMonkey. Be sure the ScreenMonkey program is running on your computer, and select File-Post to ScreenMonkey from the main Fractal Mapper menu. Alternatively, you can press the  button on the main mapper toolbar. When you do this, your map is displayed within ScreenMonkey, ready for use!

Your map....



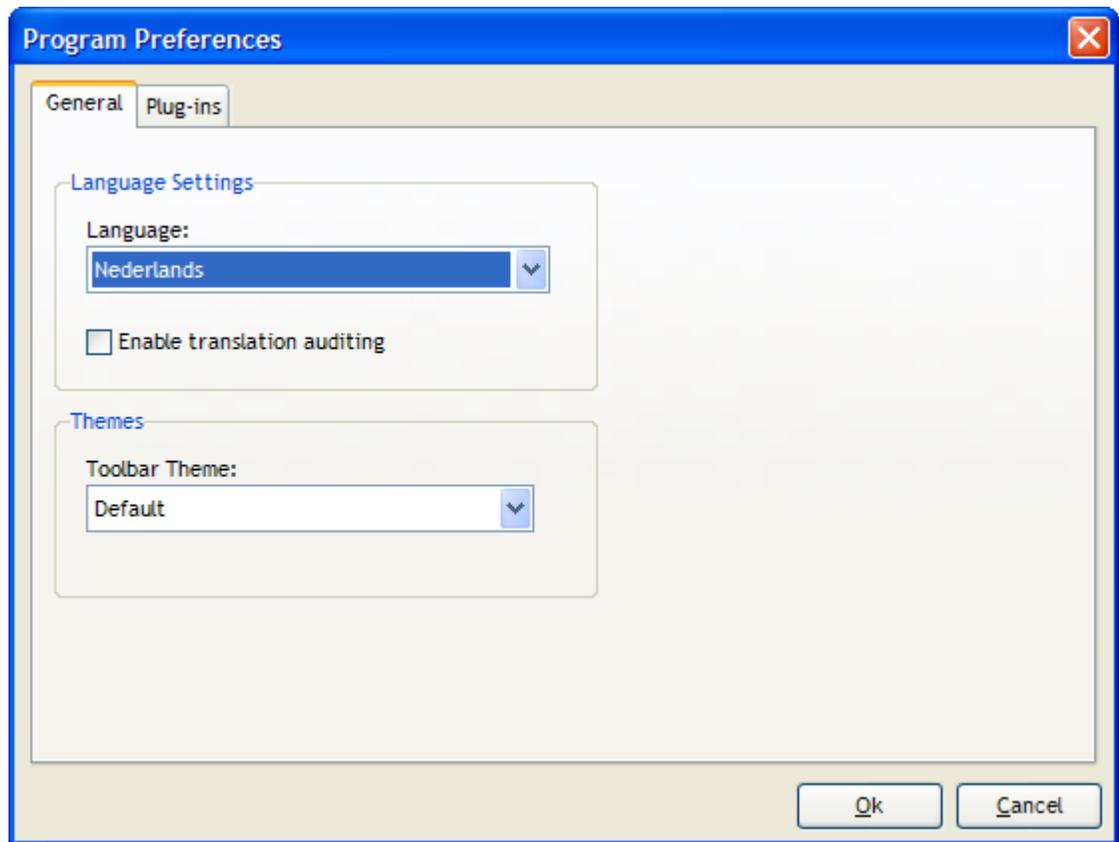
Gets sent to ScreenMonkey!



5.10 Localizing Fractal Mapper

Fractal Mapper can display its user interface in languages other than English. The language that is used can be selected in the Program Properties window, which you can display by selecting **File - Program Preferences** from the menu. Select the language you wish to use from the Language box, and click the **Ok** button. You will then need to restart the program for the changes to take effect.

Note: Fractal Mapper cannot display in languages that require a Unicode character set.



Adding a new language

If a translation is not available for your language, a translation file is very easy to add. Translation files are stored in a directory structure under the 'Languages\' directory (usually 'C:\Program Files\nbos\Mapper8\Languages') . Each language has it's own directory under 'Languages\' , and within that directory is the translation file.

Translation files are simple text files which contain the terms used within the program, and are named for their language and have a '.dict' file extension. For example, a Dutch (Nederlands) translation file would be called 'Nederlands.dict', and would be located in the 'C:\Program Files\nbos\Mapper8\Languages\Nederlands\' directory.

Each line in the translation file contains the English term found in Fractal Mapper, an equals sign ('='), and then the translated term. All you need to do is add the translation of the English word or phrase after the equals sign. *Each translation is stored on a single line.* Multi-lined messages are formatted as discussed below.

```
&File=&Bestanden
&New=&Nieuw
&Open...=&Openen...
Open Template...=Open Sjabloon...
Place...=Plaats...
&Save=&Opslaan
Save &As...=Opslaan &als...
Export...=Exporteren...
Create Submap...=Subkaart Maken...
Upload=Uploaden
&Print...=A&fdrukken...
```

An example of entries in a Dutch translation file

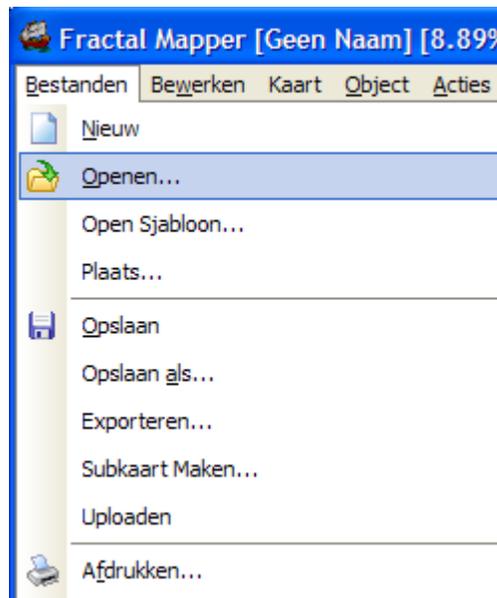
Because the translation is for software use, you'll see a few special symbols in the English translations.

The first is the ampersand character, '&'. In software, the ampersand represents the 'hot key' in a menu or on a button, and causes the program to underline the letter that follows it. For example, '&File' would tell the program to display the text as 'File' in the menu. When adding a translation of a term that includes the ampersand character, be sure to place an ampersand character in your translation before a letter that would be suitable as a hot key.

Another thing you might see is entries for message parameters. These are displayed as numbers preceded by a percentage symbols, such as %1, %2, etc. When you see these in the English term, it means that the program will place some text or number at that location. When translating a term like that, carry over the parameter marker and place it in the appropriate place in your translation. For example, in Dutch, an entry such as "Size in %1" might thus be translated as "Grootte in %1". The program might then substitute 'Feet' or 'Kilometers' of '%1' when the message is displayed, outputting the message as 'Grootte in Kilometers'.

If you see '\r\n' in a translation line, this means that a line break would be inserted at that location by the program. Carry the line break over in an appropriate location in your translation as well.

Lastly, lines that start with a semi-colon, ';', denote a comment, and are ignored by the translation system. You can use this to make comments about specific translations, and insert author and update information at the top of a translation file.



Language Auditing

Fractal Mapper includes a Language Auditing system which will report on any messages or terms it comes across that do not have a corresponding translation in the current translation file (if other than English). If you see a English text that is not translated into your language and you want to translate it, check the Enable translation auditing box on the Program Preferences window. Then perform the action again that caused the English text to be displayed (this may require you to restart the program). Any text that does not have a corresponding translation will be logged to a file called 'audit.dict' in the 'Languages\' directory. An Italian audit file, for example, would be named 'Italiano-audit.dict'. The audit file can be opened, and the contents of the file can be copied into the existing (or new) translation file.

6 Menu Reference

6.1 Menus

The following is a quick reference for Fractal Mapper's menu.

Plug-ins can alter the menu structure, so if you see a menu option in your menu that is not listed here, it may be a plug-in.

6.2 File Menu

New

Creates a new, blank map. If the previous map has been modified, you will be prompted to save it.

Open

Allows you to open a Fractal Mapper map.

Open Template

Creates a new map based on the template selected from the sub-menu. See [Templates](#)^[128] for more information.

Place

Allows you to place a Fractal Mapper map into the current map (as if it was a symbol). Placed maps are not embedded into Fractal Mapper map, but rather are linked. This means if you distribute a map that has placed maps in it, you'll need to distribute all the additional maps.

Save

Saves the current map. If necessary, prompts for a file name as well.

Save As

Prompts for a file name to save the current map as.

Export

Exports the current map to a graphic file. See [Exporting Maps](#)^[126] for more information.

Create submap

Allows you to [create a submap](#)^[123] - a new map based on a selected area of the current map.

Upload

Uploads your map to the NBOS Online map sharing repository. See [Uploading Maps](#)^[131] for more details.

Print

Presents the [Print](#)^[106] dialog box, and allows you to print your map.

Print Setup

Displays a printer setup dialog box where you can set things such as paper size, paper orientation, etc.

Scenario Builder

Opens up the [Scenario Builder](#)^[120] window to let you select options for generating your Scenario Builder document.

Post to ScreenMonkey

If you have a copy of ScreenMonkey, this map [posts](#)^[132] the currently displayed portion of your map to ScreenMonkey program for use in your online game.

Posting Configuration

This opens up a configuration window that allows you to edit [connection parameters](#)^[132] for your copy of ScreenMonkey.

Program Preferences

Opens the Program Preferences window which lets you manage Language and Plug-in settings.

Exit

Exits Fractal Mapper.

Most Recently Used files

The 3 most recently opened files are available on the File menu for quick access.

6.3 Edit Menu

Undo

Undoes the last operation on map.

Cut

Cuts the currently selected map object to the mapper's internal clipboard. Mapper objects cut or copied cannot be pasted into other applications. To use a mapper graphic in another application, see [Exporting Maps](#)^[126].

Copy

Copies the currently selected map object to the mapper's internal clipboard.

Paste

If a mapping object is in the mapper's clipboard, this will paste it onto the map.

Paste Special

Allows you to paste text or bitmap graphics that are stored within the Windows clipboard as text or bitmap objects. If text from the clipboard is pasted, the text is added to the map as a Text object with the font/size/style/color that is configured via the text tool bar and color selector. If a bitmap is pasted into the map, it is added as a transparent map symbol (transparency can be disabled as normal). Pasted objects always display in the top left hand portion of the current view. Once pasted, you can then work with the objects like any other object on the map.

Delete

Deletes the currently selected object from the map.

Select All

Selects all objects on your map (excluding those that are on layers that are hidden or set as unselectable).

Invert Selection

Selects all objects that aren't currently selected, and de-selects all objects that are currently selected. This is useful when trying to select all but a few specific objects on a map.

Select-Containing Text

Finds and selects text objects that contain the specified text, or any object that contains the specified text as part of its notes.

Select by Example-Same Object Type (Same Line Type, etc)

Selects any object that shares the specified attribute (Object type, Line type, etc) with any of the currently selected objects.

Move Forward

Moves selected objects forward one spot in the top-bottom order.

Move Back

Moves selected objects back one spot in the top-bottom order.

Bring to Front

Brings the currently selected map object to the 'top' of the list of objects on the map. The topmost object displays above all other objects on the map.

Send to Back

Places the currently selected map object at the 'bottom' of the list of objects.

6.4 Map Menu

Map Setup

Displays the [Map Setup and Configuration](#)^[77] dialog box.

Grids

Displays the [Grid Setup](#)^[79] dialog box.

Map Notes

Displays and allows you to edit the current map's [notes](#)^[114].

Layers

Displays and allows you to select which [layers](#)^[83] are active.

Show GMs Screen

Displays a player version your map on a [second monitor](#)^[109]. Useful for using the mapper at the game table.

Color Theme

Allows you to select the [color theme](#)^[100] in which to display your map.

Display Quality - Patterns Enabled

Toggles the display of fill patterns on your map. When checked, fill patterns are drawn (where assigned). If unchecked, patterns are not drawn. This is useful to speed up the responsiveness on maps that contain many objects with pattern fills (which slow things down).

Display Quality - Draft / Fast / Good / Highest

Sets the current [display quality](#)^[105] settings (line and text antialiasing).

Display Quality - Low Res / Medium Res / High Res

Sets the special effects [DPI resolution](#)^[88].

Zoom To

Opens a window that allows you to select a zoom level by typing in the specific desired zoom setting.

Zoom Back

[Zooms](#)^[98] back on the map by 1%. You can use this to 'fine tune' the zoom setting.

Back

If you've opened the current map by clicking on a [link](#)^[128] in another map, this will return you to the previous map. It works similar to a browser's 'back' button.

Snap-To Square Grids

Toggles whether all objects align themselves to the grid when square or dot [grids](#)^[79] are displayed. See [Snapping](#)^[81] for more information.

Proximity Snap

Toggles whether or not objects line themselves to other nearby objects when placed on the map. See [Snapping](#)^[81] for more information.

Intersection Snap

Toggles whether or not lines truncate themselves to the nearest line segment intersection on your map. See [Snapping](#)^[81] for more information.

6.5 Object Menu

Edit Text

Allows you to edit the contents of the currently selected [text object](#)^[39].

Font

Opens the [font style window](#)^[39] that allows you to set the font style for selected text objects.

Gradient Fill

Displays the [gradient fill window](#)^[33] that lets you define a color gradient to fill an object.

Grid Fill Style

Allows you to define a [grid](#)^[27] to be used to fill the currently selected closed objects.

Drop Shadows

Opens the [drop shadows](#)^[75] window that lets you enable/disable and configure drop shadows for an object.

Ellipse Settings

Allows you to set the [properties](#)^[44] of the currently selected ellipse objects.

Line Style

Lets you define the [line style](#)^[24] of the currently selected objects.

Arrow Settings

Lets you specify the [arrow](#)^[26] tip attributes for the currently selected line objects.

Clear Palette Edits

When selected this menu item removes all [color changes](#)^[21] made to selected mapping symbols.

Group

Places the currently selected objects into a 'group'; When one object in that group is selected, all others are selected automatically.

Ungroup

Removes the group connections that are assigned to the currently selected objects.

Locked

[Locks](#)^[87] the currently selected object so that it can't be moved.

Auto-Lock

Toggles whether new objects placed on the map will automatically be [locked](#)^[87].

Change Layer

Changes the [layer](#)^[83] on which the currently selected object resides.

Edit Links

Allows you to edit the [hyperlink](#)^[128] assigned to the currently selected object.

Zoom Limits

Sets the [zoom ceilings and floors](#)^[86] for the currently selected object.

Edit Notes

Displays and allows you to edit the currently selected [map object's notes](#)^[116].

6.6 Actions Menu

Show Effects Panel

Displays the Special Effects panel if has been collapsed.

Rotate

Lets you [rotate](#)^[37] the currently selected object(s).

Scale

Lets you [scale](#)^[17] the currently selected objects a specified percentage.

Re-Render

[Re-renders](#)^[18] the currently selected objects.

Mirror

[Mirrors](#)^[37] the currently selected objects, with all points swapped along the vertical axis.

Flip

[Flips](#)^[37] the currently selected object(s), with all points swapped along the horizontal axis.

Clone

Makes an exact copy, or '[clone](#)'^[65], of the currently selected object.

Clone To

Creates a polygon, polyline, or polypath [clone](#)^[65] of an object, depending on which sub-menu is selected.

Combine Polygons - Add / Subtract / Exclude (XOR)

[Combines](#)^[71] the currently selected closed objects (polygons, ellipses, etc) in using the selected method.

Combine Polygons - Break Apart

Breaks the currently selected [complex polygons](#)^[71] (PolyPolygons) back into their component pieces.

Merge Lines

[Merges](#)^[70] the currently selected line objects (when they match start and end points) into a single polyline object.

Flush Against

[Flushes](#)^[46] Nudges selected objects up against other nearby objects

Create Array

Opens the [array](#)^[66] window so you can create an object array.

Create Symbol

[Creates a mapping symbol](#)^[70] from the currently selected objects.

Explode Symbol

[Breaks](#)^[70] a selected mapping symbol apart into it's component objects.

Export Symbol

[Saves the currently](#)^[70] selected symbol to a stand alone file.

6.7 Views Menu

Show in Globe

Displays the current map as an [interactive globe](#)^[113] in a new window.

Add as View

Adds the current view of the map (zoom level, scroll values) as a [saved view](#)^[104]. The views that are saved are available at the bottom of this menu for quick access.

Saved Views

Opens the [saved view dialog box](#)¹⁰⁴ where you can delete and select views.

Saved Views Quick Select

The first ten saved views stored for the map are accessible here inline in the menu.

6.8 Plugins Menu

Run From File

Loads a GoblinAPI script file and executes it.

Run Command

Executes a scripting command. Allows you to enter and execute a scripting statement without having to define it first with [Scripts - Define Map Scripts](#).

Edit Map Scripts

Displays the map script editor where you can add functions and event handlers (see the GoblinAPI manual).

Show Inspiration Pad

Displays the [Inspiration Pad](#)¹²².

Disable Scripting

Turns off all scripting. Useful for debugging OnSelect and OnTimer event. Also useful for looking at a newly acquired map's scripts before running them.

Clear Timer

Turns off the internal timer so that OnTimer events are not fired.

Plug-ins

By default, any installed plug-ins will appear at the bottom of the [Plugins](#) menu for easy access.

6.9 Help Menu

Contents

Displays this document as a help file. This one right here.

About

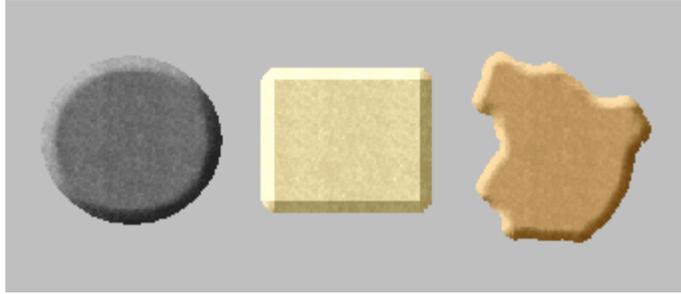
Displays program credits and version information.

7 Appendix

7.1 Glossary

7.1.1 Bevel

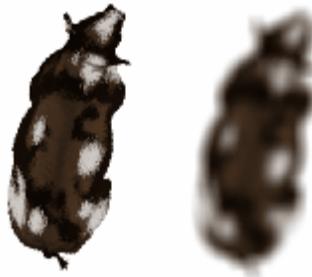
A bevel is a type of [special effect](#)⁸⁸ that gives the edge of a polygon a 'raised' edge.



Objects with Beveled edges

7.1.2 Blur

A Blur is a type of [special effect](#)⁹⁴ that blurs an object so that it is not displayed as clearly.



A cow symbol - normal on the left, blurred on the right.

7.1.3 Cloning

Cloning is a technique found in Fractal Mapper to convert objects of one type to another. It is often used when creating uniquely shaped objects. See the [cloning](#)⁶⁵ section of this manual for more information.

7.1.4 Closed Objects

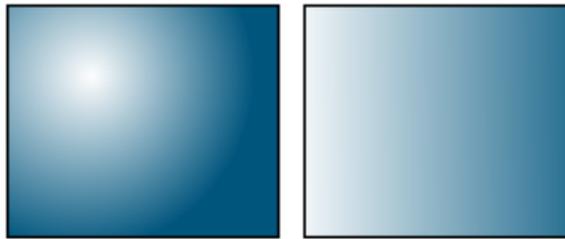
Some mapping objects - fractal polygons (land masses), fractal triangular polygons (land masses), fractal freehand polygons, ellipses (circles), rectangles, and angled rectangles - are considered to be Closed objects. Closed objects have brush and fill styles, and can be displayed as filled objects instead of outlines.



Sample Closed Objects

7.1.5 Gradients

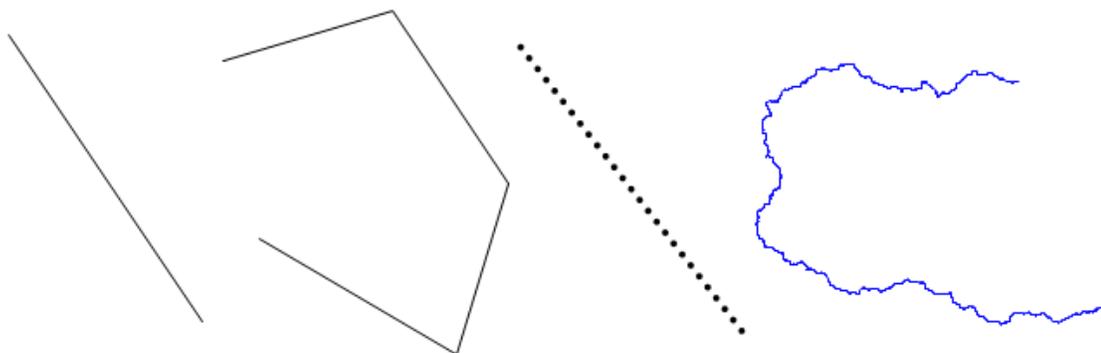
Gradients are a style of filling a closed object, such as a polygon, with a blend of colors. Fractal Mapper supports two types of gradients, Linear and Radial.



Radial (left) and Linear (right) Gradients

7.1.6 Line Objects

Certain mapping objects - namely straight lines, fractal polylines, freehand polylines, spline curves, and arcs - are considered to be Line Objects. None of these objects have a brush color or fill style, and are drawn as an 'outline'.



Line Objects

7.1.7 Mapping Symbols

Mapping symbols are images or other Fractal Mapper maps that are placed on your map. Mapping symbols are either bitmap graphic files or other Fractal Mapper maps.



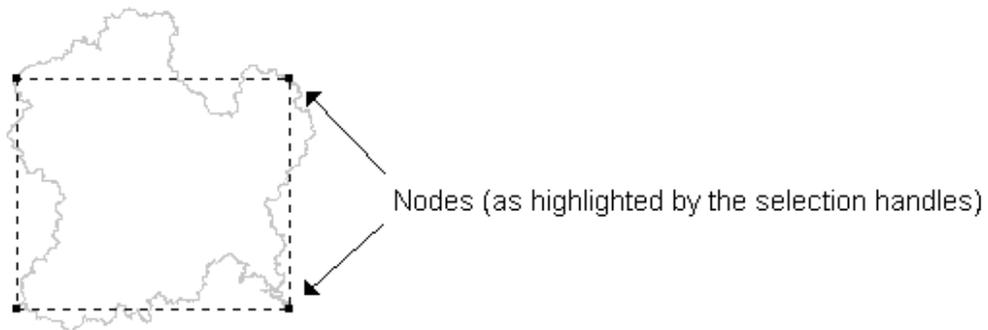
Sample Mapping Symbols

7.1.8 Mapping Tools

The buttons on the Standard and Custom Tool Palettes specify which Mapping Tool is active. The active mapping tool determines what type of object is placed on your map.

7.1.9 Node

The points you define while placing an object on your map are called 'nodes'. When you pick 5 points for a polygon on your map, for example, you're defining that polygon's 5 nodes. Nodes can be moved around with the Pointer tool, and added or deleted with the Add Node or Delete Node tools. Also called **Draw Points**, or **User Defined Points** in the scripting interface. "Selection Handles" are displayed at a object's nodes when the object is selected with the Pointer tool.

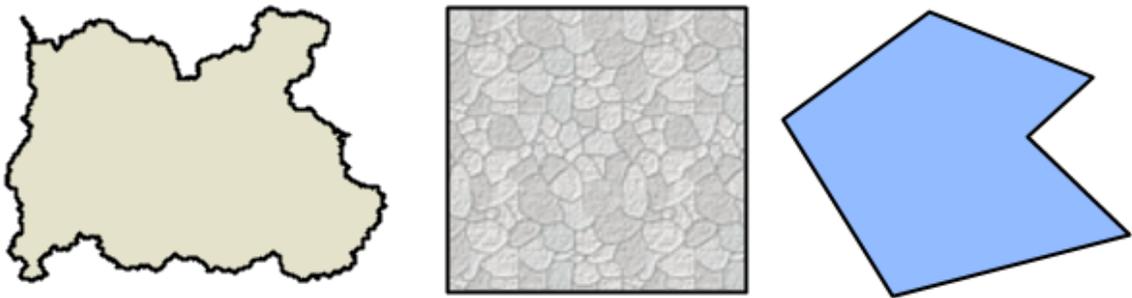


7.1.10 Plug-in

A plug-in is a user created GoblinAPI script that can be installed into Fractal Mapper to enhance its functionality. Plug-ins can perform many tasks, such as adding features to the main program menu or tool bars or creating custom drawing tools.

7.1.11 Polygon

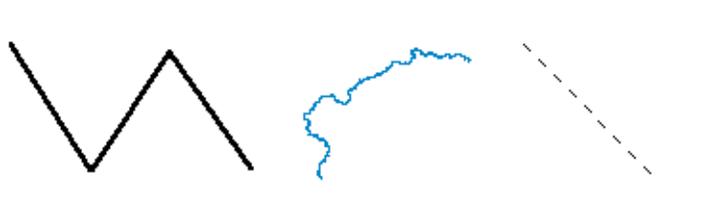
A polygon is a closed figure (like a rectangle, triangle, etc) consisting of three or more line segments, with the first and last points of the polygon meeting to close the figure. The areas enclosed by the line segments are the interior of the polygon, and are colored using the polygon's brush or fill style.



Polygons - both 'Fractal' and 'Non Fractal'

7.1.12 Polyline

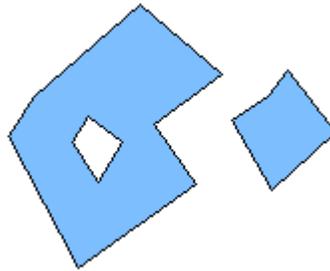
A Polyline is a line comprised of one or more line segments. Since polylines are not closed (even if their start and end points meet), they do not have brush or fill styles.



Polylines

7.1.13 PolyPolygon

A PolyPolygon is a complex polygon that is made up of several parts. PolyPolygons may have multiple, unconnected segments, or even holes!



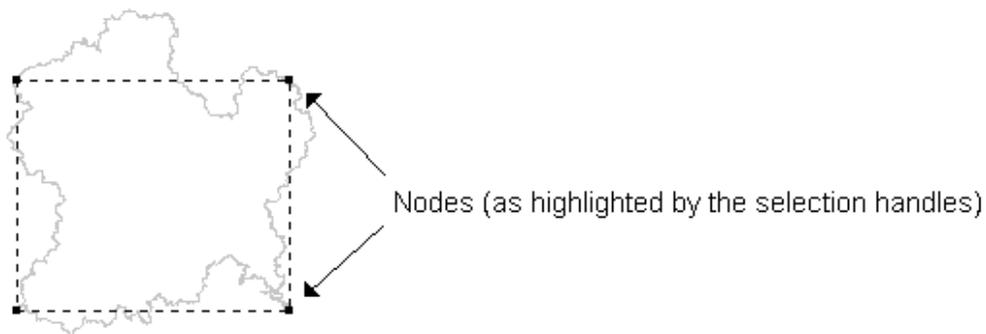
A PolyPolygon consisting of 2 parts,
one of which has a hole.

7.1.14 Rendered Node

On fractal objects (objects with a FractalFactor greater than 0), objects have a second series of nodes called 'Rendered Nodes'. Rendered nodes are the points along the fractalized line or polygon. Rendered nodes are created 'on the fly', and cannot directly be edited without first cloning an object. Also sometimes called **Rendered Points**.

7.1.15 Selection Handles

Selection handles are the small squares that indicate an object's nodes when the object is selected with the Pointer tool.



7.1.16 Shadows

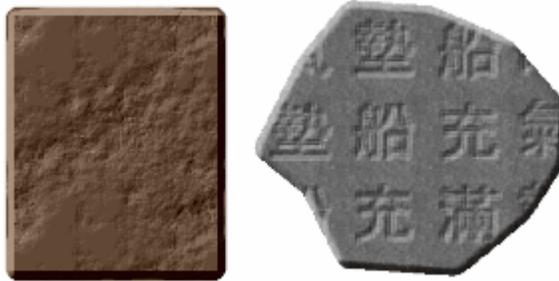
Fractal Mapper lets you create the illusion of light casting shadow off an object. Fractal Mapper supports two types of shadows - [Drop Shadows](#)^[75] and [Special Effect Shadows](#)^[96]. Drop shadows are simple vector based shadows that draw a grayed out version of the object to create the effect of a shadow. These are best for technical style drawings (blue prints, floor plans, etc). Special Effect Shadows are raster based shadows designed to create a more realistic shadow, with blurred edges. Special Effect Shadows are best for battle maps where you are trying for a sense of realism.

7.1.17 Submap

A Submap is a new map created from a region of an existing map. See [Creating Submaps](#)^[123].

7.1.18 Textures

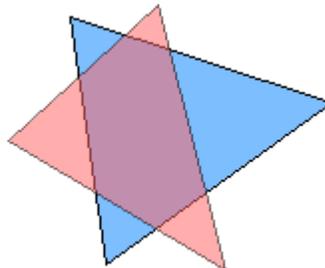
A texture is a type of [special effect](#)^[92] that defines the surface texture of an object. Textures are related to [Bevels](#)^[88] in that they provide a means of applying a pseudo-3d look to an object by defining areas that look inset or raised.



Texture examples

7.1.19 Transparency

Objects can have varying levels of transparency applied. The more transparent an object is, the more you can see through it. Transparency is sometimes also referred to as the object's *Alpha* setting.



A transparent peach colored triangle placed over a blue object with about 50% transparency.

7.2 Example Custom Tools Reference

Fractal Mapper ships with several example 'custom tools'. These drawing tools are found on the 'Custom Tools' palette (located just under the set of standard drawing tools). To see and tweak the source code for these tools, select [File-Custom Tools](#) from the main menu.

The custom tools are as follows:

River Tool

This is a simple example tool that automatically sets a fractal line to blue and sets the FractalFactor to 4. This tool is based off the Fractal Line tool , and operates in the same way.

City Name Tool

The City Name tool generates a random city name, and then places the text for the city and

a marker on the map. To use the tool, just select it and then click on your map. A city marker and name will be placed at the location where you clicked. (It does this in a small font, so if nothing appears where you clicked, zoom in a little bit and you will see it).

Dungeon Hallway Tool

This tool works just like the hallway tool, only it automatically sets the fill to a gray stone pattern.

Dungeon Room, Dungeon Room - Round Tools

These tools are based off the Rectangle and Circle tools, and work the same way. The only differences are that the tools set the fill to a gray stone pattern.

Fifteen Foot Wide Road Tool

This tool creates, strangely enough, a fifteen foot (or meter or mile) wide road and sets its color to brown. It sets the width of the road equal to 15 of the map's units of measure. So if your map is set to meters, a 15 meter wide road is created. This tool works identically to the PolyPath tool.

Random Building Tool

This tool places a randomly selected building where you click on the map. It works by randomly selecting one of the various building symbols in the City symbol category (of the [Symbol Gallery](#)^[48]). The tool is weighted to create more simple, single section buildings - but the more complex ones will be placed by the tool from time to time. To use this tool, simply select it and click on your map. A building will appear at the point you clicked.

Creating a road full of buildings is easy to do with this drawing tool. As you place buildings along a road, the buildings are rotated based on the position of the previous building. For best effect, place buildings along roads in a clockwise manner.

Note: Because these buildings are set to specific sizes in real units (ranging from 15 to 60 feet wide), your map needs to have an appropriate unit of scale set for the tool to work. For example, if you have a map that's 4000 miles wide, the tool will work, but the building will be very, very small! FM will convert units of measures if possible (meters to feet, etc), but you need to have that unit of measure set! If you're not sure your map is set right, just open up the Town template by using the [File - Open Template](#) menu item.

Random Tree Tool

This tool is similar to the Random Building Tool. Just select it, and click on your map. A tree will be placed on the map at that point. The trees are randomly selected from the various tree symbols found in the City symbol category (of the [Symbol Gallery](#)^[48]). The same note from the Random Building Tool applies to the Random Tree tool as well - the units of measure on your map must be set accordingly!

Fractal Circle

The Fractal Circle Tool is very useful for creating rocks, trees, and other somewhat round shapes. It works just like the Circle tool.

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