

Build Your Own Map *Tutorial*

Purpose

To build or modify a map and then manage the map components.

What is a map made up of?

A map consists of just three components (hereafter called 'map objects'): **lines**, **shapes** and **text**.

Line. This is the line joining two or more points. TUMONZ lets you choose **line style** (e.g. dot, dash, solid); **thickness**; **colour**. We use lines to show features like streams, tracks and section boundaries. Adding a line displays its length; useful for working out distances to travel and so on.

Shape. A shape is a closed line. Because it is closed it can now be filled with a **fill type** (e.g. solid or cross hatch); and a **colour**. The line making up our shape can also have its properties set as above. We might for instance use a 'shape' to show our house or a stand of trees. Shapes display their area.

Text. TUMONZ lets you add text to the map to name 'lines' and 'shapes' and generally add information. You can of course choose text **font**, **style** and **colour**. We also have to **position**, **size** and perhaps **orientate** the text so that it is appropriately located, yet not clutter the view.

Building a map

Whenever you are adding a map object or changing an existing one (editing), an **editor dialogue box** will be displayed. Within the editor box, you can change the map object's name, type, fill, colour, font, styles, and so on. The fields and buttons within the editor are detailed in the **Appendix** at the end of this tutorial OR refer to the Interactive HELP Guide. Click HELP on the Toolbar (OR F1) and follow the path 'Features'/Map Building' & 'User Objects'.

Getting Started. Try these actions and functions.

1. Firstly zoom to an appropriate scale. The scale bar at the bottom of the screen will help. You will likely need to 'zoom' and 'pan' while building and editing a map.
2. To add a map object, select the Edit/Draw menu OR just use the *Quick Keys* (e.g. *Ctrl+Alt+L* to add a line). Choose any of; lines, shapes or text and you are immediately in edit mode and ready to start mapping.
3. For **Lines** and **Shapes**, choose the edit mode. The cursor indicates which function it will apply on left mouse action. You can change this function by left clicking the 'small Toolbar' buttons along the top of the editor box.



- Move Around the Map

Moves the map as in normal browse mode. **Note**; this functionality swaps to right mouse when in any other edit mode.



- Add Points

For building or adding to an existing line. This is the default mode when adding a new map object. Left click to add a point or hold left mouse button down and move the mouse to stream points. (Note; the frequency at which points are streamed is set under Settings, *F10 'Options'/Map Editing*).



- Move Point

Left click the point you wish to move and with left mouse button down drag to desired location. Note, you will need to zoom in close to do this successfully.



- Insert Point

Adding additional points. Left click to add a point between the two closest existing points.



- Delete Points

Left click the point you wish to remove. You will need accuracy so zoom in close.



- Move Object(s)

Move the selected map object by left clicking, holding left mouse down and dragging. Note, you may select multiple map objects when in 'move around the map' mode (with Shift and Left click) and move them simultaneously.



- Centre Map on Selected Objects

Re-centres the map on the selected map object.

4. Adding **text map objects** is very similar to adding 'lines' and 'shapes'. After selecting 'Add New Text', the words 'New Text' will appear in the middle of your screen. You will be replacing these words with whatever text you enter in the 'Map Text' field in the editor. You will automatically be in 'Move Object' mode so you can position the text. Next, select 'Size the selected object(s)' button and dragging up or down with left mouse button depressed will resize the text. Rotate text after clicking the 'Rotate Object(s)' button. Experiment! **Note**, all map browsing functions (Zooming, Panning, etc.) are switched to the right mouse button in modes other than 'Move Around the Map'.



- Move Around the Map

Moves the map as in normal browse mode.



- Move Object(s)

Left click and hold left mouse button down to drag text to desired location. All map browsing functions (Zooming, Panning, etc.) are switched to the right mouse button. You may select and move multiple objects.



- Rotate Object(s)

Rotates the selected text around the top left point of the border. Hold down the left mouse button and move the mouse forward and back to rotate the text. You may select and rotate multiple objects.



- Size the selected Object(s)

Sets the size of the selected text. Hold down the left mouse button and move the mouse forward to increase the size of the text and move the mouse back to decrease the size of the text. You may select and re-size multiple objects.



- Centre Map on Selected Objects

Re-centres the map on the selected text map object..

5. Adding **Pre-defined Shapes**. A number of pre-defined shapes are available and will be added to the centre of your screen on the 'Add' command. Before adding the shape you can select what shape, set its dimensions (this is 'real world size in metres') and in the case of the ellipse (this is a circle when height and width are equal) you can define the number of points – a very large ellipse will require many points to give it smooth edges when zoomed in. You may also set the orientation of an ellipse with the slider bar. The edit modes available are all described above under 3) and 4).
6. **Close** the editor box and you are out of edit mode.
7. **Delete** unwanted map objects. All map objects will stay visible on the TUMONZ map unless you 'Hide' or 'Delete' them. There are two immediately available ways of deleting map objects without opening the '**User Objects Manager**' window (this will be covered next). Left click any Map Object and choose 'Delete'. You will be prompted to make sure you want to delete. Alternatively, left click the object and choose 'Edit', then the '*All*' tab in the Editor Dialogue Box and then select 'Delete'.

Managing your Map

Map Objects stay visible on the TUMONZ map until you 'Delete' or 'Hide' them. You can very quickly create an untidy map so some housekeeping is required. As you 'Add' a Map Object it gets automatically added to a default folder in the right-hand side tree structure in the '**User Objects Manager**' window (*Ctrl U* OR select under the *Windows/General Tools* menu). In the case of Shapes and Lines, these will appear within the bottom 'New User Defined Lines' folder and for Text, within the bottom 'New User Defined Text' folder.

What you need to achieve! You should aim to have all your permanent and important map objects named and located within a well structured and intuitive folder tree in exactly the same way as you manage your files using MS Windows explorer. This is how you go about it:

1. Name the map object while in edit mode by overwriting the default name in the 'Name' field in the Editor Dialogue Box.
2. Open the '**User Objects Manager**' window (*Ctrl U* OR select under the *Windows/General Tools* menu). Expand by left clicking the + beside a folder (Note, you can expand/contract the entire branch by Holding down *Ctrl* and left clicking the +.)
3. Add folders using the 'Add Shapes Text Folder' button on the Quick Bar to the left of the folder tree. Select a folder and change its name by left clicking the 'Properties' button at the bottom of the window.

4. Now move Folders and Map Objects to create a Folder Tree structure. You will need to be able to 'drag' or 'shift' objects and folders. This is achieved by switching 'Allow Dragging' on. Just Right Mouse click anywhere within the window and Select 'Options'/'Allow dragging'. (Note, this function is turned off by default.) Select an object or folder and with left mouse button down, 'drag' it into another folder and release the left mouse button. You can precisely shift a folder or object by holding down the *Shift* key while dragging. A message will indicate just what your options are and if your action is not allowed an Access Violation message will result. Don't be concerned with these just experiment until you have mastered this very important capability.

What else do I need to know? There are some other important functions worth knowing:

- **Search.** 'Find' and 'Find Next' buttons on the 'User Defined Icons/Lines/Shapes/Text' Quickbar will allow you to search on words in the name of Folders and Map Objects.
- **Hide** all items within a selected folder including sub-folders by selecting the Properties Button in the Window and the tick box 'Show subitems'. Individual Map objects can be hidden and their 'zoom level' at which point they become visible can be set within the Editor Dialogue box.
- **Double click** any object within the 'Tree' and the map will re-centre on this object retaining the current zoom level.
- **Export/Import** by selecting a folder and using right mouse 'Export'. This will wrap the Folder with its Map Objects up in a small dat file which can be exported and stored or sent to another user. To import just create a blank folder, select it and right mouse 'Import'. **Note**, if you want to export one or more map objects do so by copying them into a temporary Folder and Export/Import the folder. (To copy, select one or more objects and then right mouse 'Copy', select the folder and right mouse 'Paste').
- The order of **drawing**. Objects are drawn in the order they appear (top down) in the 'Tree'. A filled shape may hide an object that appears above it in the tree. Manage this by changing the position in the tree or using a clear or transparent fill. Note, the 'Bring to Front' and 'Send to Back' buttons in the Editor Dialogue Box 'All' page simply alter the position of the edited map object within its folder.
- **Adding General Text** to an object. Note, this text does not display on the map as 'text map objects' described above, but appears in its own comments window. Either click on your object in the main map and select 'Attach Comments' (this will be 'Edit Comments' if there is already associated text) OR select the object in the 'Tree' and then select "Attach Comments" button at the bottom of the window. A comments window will open and you can View OR enter OR edit text. This text can be saved to file and printed (use the 'Print' toolbar button; select 'Map Print Options'/'Other'/tick 'User Info'. You will be prompted to name a .txt file.) Typical uses for "Attach Comments" would be to add a treatment history to a paddock OR information on a walking track OR information about a school camp, and so on.
- **Instant Mapping.** TUMONZ provides a very quick and powerful means of copying existing map objects within the standard TUMONZ map and within the Properties Boundary module. Just left click any object and select "Make Editable" (you will need to have 'Show Information for Map Object at Mouse Position'/'On Map Click' turned on under *Settings-Options/Map Display*). The object is immediately copied and will appear within the 'User Defined Icons, Shapes...' window under a New User Defined Lines (OR Text) folder. You can then alter the properties of the copy. The Properties Boundary module is excellent for building an instant & exact property map.
- **Uploading to GPS.** Map objects can be sent to the GPS manager and from here uploaded to your GPS. Left click the object on the map and select Send to GPS manager (before you do, open the GPS manager and highlight any of ;Waypoints, Tracks, or Routes because this is where they will be copied to).
- **Saving.** You personal map objects are saved into the Tumonz.umd file located in the Tumonz folder (default, C:\Program Files\Vision Software\Tumonz). Back this up from time to time. You may also Export any or all of your Map Objects folders using the Export/Import function described above.

Which modules will help map building

You may build maps with just Standard TUMONZ. However some of the modules will be very useful. For land based mapping, the various Aerial Photos modules and the Property Boundaries are excellent. High resolution photos may also be available and it will pay to ask. The farm map displayed on the web site was built in a few hours using the aerial photos as a background. The Property Boundaries module displays the LINZ boundary definition of a property providing a very useful template. For Marine mapping the Seabed Contours will be most useful. You can also build or assist in building your map directly from a GPS download.

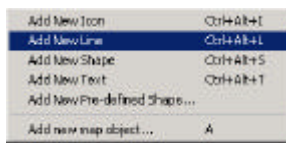
Appendix The TUMONZ Editor Dialogue Box

Adding a new Line or Shape

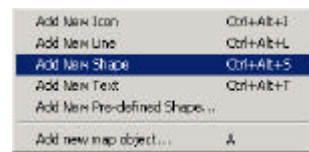
1. Add using **Quick Key: Ctrl+Alt+L or S**
2. Add using **Using the Toolbar**



Add a line

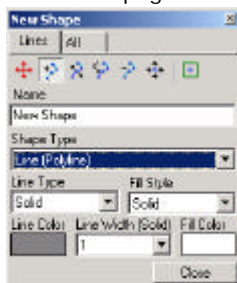


Add a shape



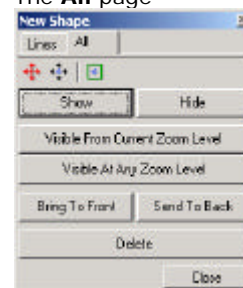
3. The Editor Dialogue Box

The **Lines** page



- **Name**
Names the Map Object.
- **Shape Type**
Change shape type. Choose between Closed line (Polygon), Line (Polyline) or Point (Polypoint) style of line.
- **Line Type**
Set the line type. Solid, Dash, Dash Dot, etc.
- **Fill Style**
Set the Fill Style for your line. Applies only to Closed Line (Polygons).
- **Line Color**
Set the Color.
- **Line Width (Solid)**
Set line Width.
- **Fill Color**
Click this box to set the Fill Color for this line. Applies only to Closed Line (Polygons).

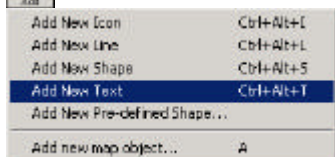
The **All** page



- **Show**
Set by default; click to show the current line.
- **Hide**
Click to hide this line.
- **Visible from current zoom level**
To set this line to show from the current zoom level, click this button.
- **Visible at any zoom level**
To set the line to show at any zoom level, click this button.
- **Bring to Front**
The line being edited will display over other map objects within the relevant folder.
- **Send to Back**
The line being edited will display under other map objects within the relevant folder.
- **Delete**
Deletes the object

Adding new Text

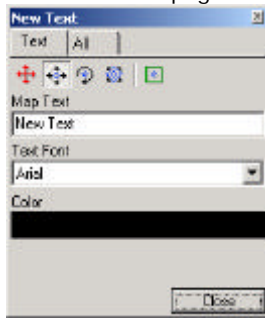
1. Add using **Quick Key: Ctrl+Alt+T**
2. Add using **Using the Toolbar**



is added to the centre of your screen.

3. The Editor Dialogue Box

The **New Text** page

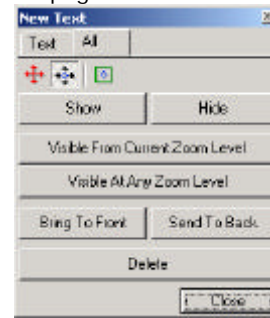


Map Text

Overwrite the existing default with your text.

- **Text Font**
Choose any of the installed fonts as your font type.
- **Color**
Choose font colour.

The **All** page



Show

Set by default; click to show the current line.

Hide

Click to hide this line.

Visible from current

zoom level

To set this line to show from the current zoom level, click this button.

Visible at any zoom level

To set the line to show at any zoom level, click this button.

Bring to Front

The line being edited will display over other map objects within the relevant folder.

Send to Back

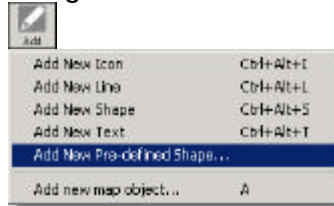
The line being edited will display under other map objects within the relevant folder.

Delete

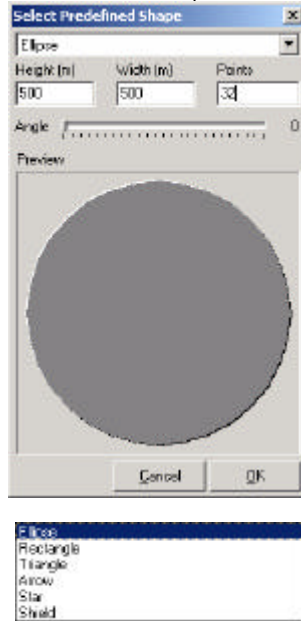
Deletes the object

Adding a new Pre-defined Shape

1. Add Using the Toolbar



2. Select Predefined shape



3. Set height and width and number of points