

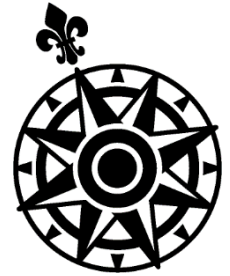
Mapping Guide: The One Day Worldbuilder

Introduction

Welcome to the November issue of the 2019 Cartographer's Annual!

This month we are happy to present a new *Fractal Terrains 3* issue, written by Sue Daniel.

Here Sue acknowledges the wonderful work of Joseph Slayton in writing so many useful and entertaining tutorials for both *Fractal Terrains* and *Wilbur*, the program from which *Fractal Terrains* is derived, and in providing generous support for users over the years – without which she might never have attempted the project that led to this issue.



This extract of the Jerion world map (left) is the result of completing the process through Stage 3a to produce a CC3 vector map that can be used as a base map for a range of other information.

Aim

The aim of this issue is to provide the tools and instructions that will enable you to quickly produce a new fantasy world with believable geography, and which should result in a world map similar in quality to the extract shown above.

The process is laid out in three stages with an alternative outcome (Stage 3b):

- Stage 1** Creating your world in *Fractal Terrains 3*;
- Stage 2** Eroding your world in *Wilbur*;
- Stage 3** Using *FT3* and *Wilbur* to make a *CC3* vector map;
- Stage 3b** Using images from *Wilbur* in *CC3*;

Should you wish to sculpt your own world from scratch, the *CA155 Supplementary Notes* provides alternative instructions for stages 1 and 2 of the process, though it is recommended that you read this Mapping Guide first.

The main CA155 color scheme installed with this issue of the annual is designed to make editing FT3 worlds a little easier. It has 30 separate contour colors for land and sea, with an extra 'out of gamut' warning band at the top and bottom of the range.

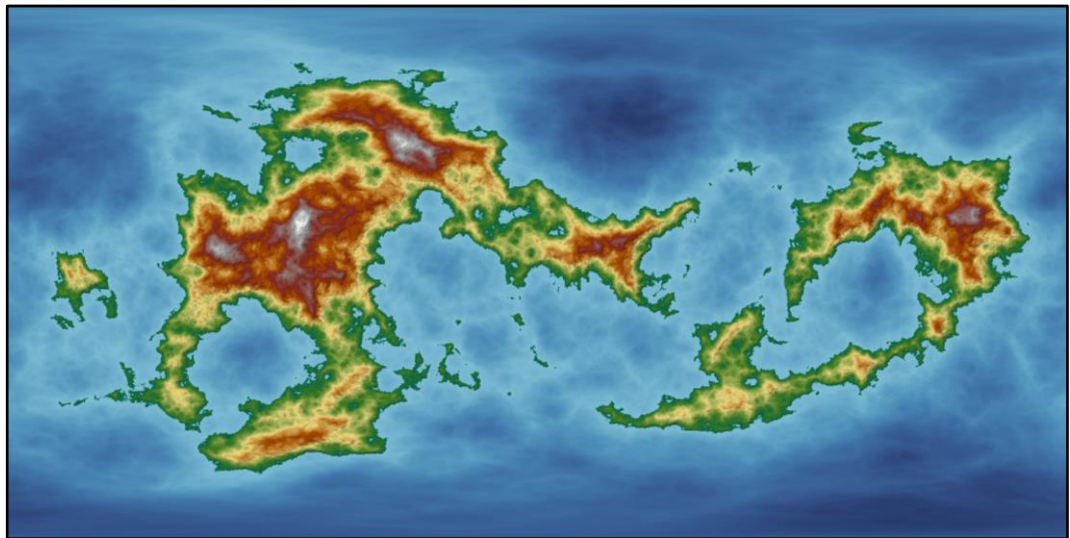
To access this color scheme, open the *World Coloring* dialog, click the *Select Coloring Scheme* tab, and pick *CA155 – HC Gamut*. Click *Load* and *Apply*.

Steps 1 and 2 of Stage 1 are closely based on the first half of the *Tutorial for Cartographer's Guild*, by Joseph Slayton.

Stage 1 – Creating your world in *Fractal Terrains 3*

First you need to choose an FT3 world to work on. You can use any world you wish, draw your own in a blank FT3 world, or use one of the worlds in the *FT worlds to play with* folder included with this issue. If you feel happier following along more closely, you can use the same world used as the example in this Mapping Guide.

The file is called *Jerion.ftw* and is available in the Jerion folder.

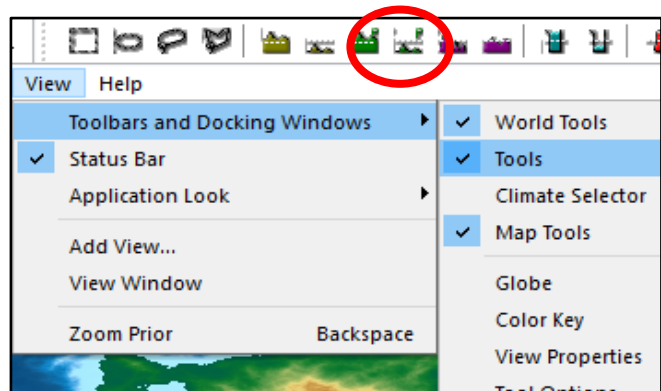


Step 1 – Sculpting

Open the *World Settings* dialog and click the *Editing* tab. Set the resolution to *Custom*, and at least 2000 samples. Check the little box called *Allow Prescale Offset Editing* and *Apply* the setting before saving your world to ensure the settings stay set.

Use the prescale offset mode brushes to do your work. These brushes are located on the *Tools* toolbar, have green icons, and are shown ringed in red on the right.

Before you start, click each of the prescale offset brushes and use



the controls in the *Tool Options* docker to set the initial brush size to between 40 and 60 pixels in *Height* and *Width*, and the *Value* to 0.005. A few dabs of either brush should give visible results.

Sculpting Tips

1. Work at adding lowlands one side or the other of existing mountains to offset the mountains from the center of the continent.
2. Avoid deliberately editing the mountain ranges. It is nearly impossible to balance the relative altitudes of different ranges across the world. Editing one usually results in the rest looking too small in comparison.
3. Avoid leaving small lakes, since these will distort the drainage pattern created in *Wilbur* at Stage 2. Lakes the size of the Caspian Sea are fine.
4. Work to a very general level of detail and don't worry too much if a plain is slightly bumpy. Erosion in *Wilbur* at Stage 2 of the process will dramatically smooth a lot of the low-lying terrain.
5. Don't worry if your coastline is not as sharp or clear as you would like. This will be rectified in stage 2.
6. When you think you have finished, zoom in and reduce the size and value of your brush. Carefully level any ridges which may have appeared along the coastline. These will not be erased by stage 2 and will look unnatural if they remain.

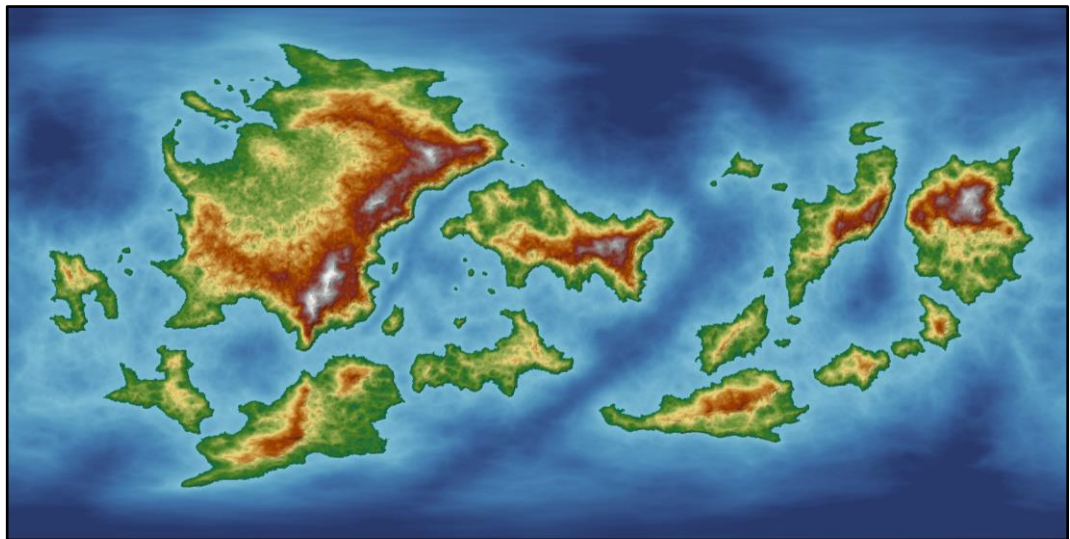
When saving FT3 worlds it is necessary to type the *.ftw* file extension if you have accidentally deleted it when naming the file during the save operation, or the file will be named without an extension and will not be recognised by your Operating System as an FT3 file. It will not have the FT3 icon.

Important

Look closely at your world after you have filled the basins. If you have any green patches of a circular nature that are not directly connected to a coastline you may have a tiny pinhole going down to sea level in the middle of a continent. This will distort the drainage pattern generated in Stage 2, so if you have any pinholes undo the fill basins operation, fill in the hole, and redo the fill basins operation to check that it is gone. Repeat this process for all the pinholes in your world map until there are none left.

You may if you wish use the default setting of 8192, which will produce a much sharper result in Wilbur. However, the resulting file will be in the region of 128MB in size and the FT3 file that will result from porting it back will be nearly a GB if you wish to preserve the level of detail.

Setting the *Width (samples)* to 5000 will generate a more portable file of around 50MB.



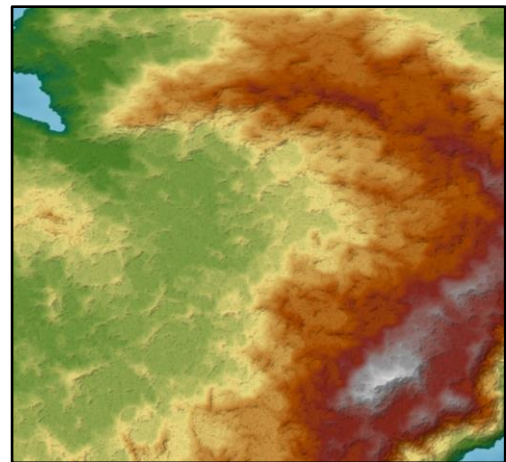
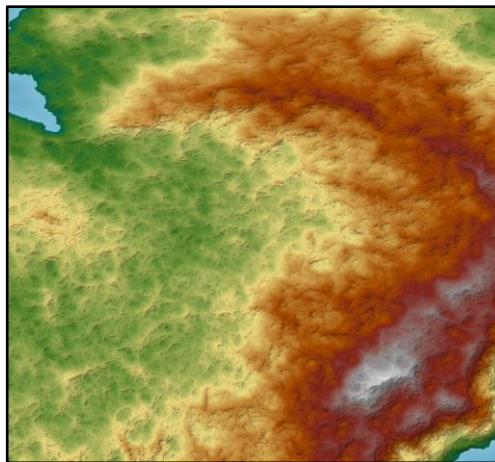
By the end of Step 1 your continents should be their final shape.

Save this file as: *[Your filename] sculpted.ftw*

Step 2 – Fill the Basins

From the Tools menu, run *Actions->Fill Basins in Offset...*

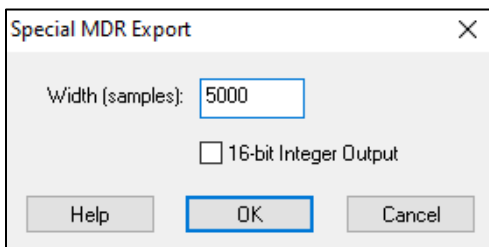
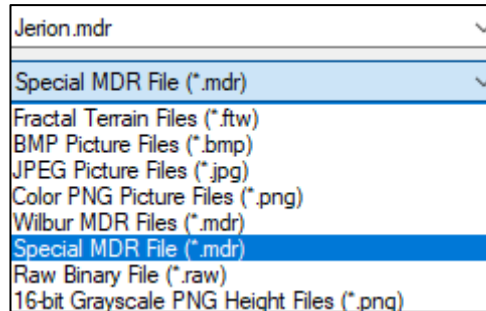
Here is a before and after screen shot from Jerion done using the *CA 155 - HC Blend* color scheme (a blended and shaded version of the *CA 155 - HC Gamut* scheme, also installed with this issue).



Save the modified FT3 world as: *[Your filename] filled.ftw*.

Step 3 – Export a data file for use in Wilbur

From the *File* menu use *Save as...* and save the file as an MDR file by selecting the file type *Special MDR Files (*.mdr)* from the *Save as type* dropdown box.



In the dialog that pops up when you click *Save*, make the *Width (samples)*: at least 2000, but leave the *16-bit Integer Output* box unchecked.

Save this file as: *[Your filename].mdr*

This file will be your starting point for Stage 2 of the process.

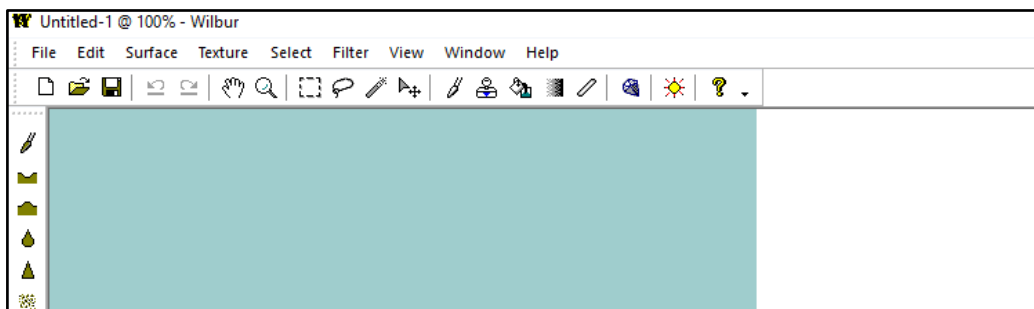
Stage 2 – Eroding your world in Wilbur

If you are new to Wilbur you can download it here:
<http://www.fracterra.com/wilbur.html>.

There are several pdf tutorials at the bottom of this page. They are a lot of fun, so you might want to break off here for a couple of hours to familiarize yourself with the way Wilbur works by having a look at them before we continue with this exercise.

Once you have downloaded the software, extract the files and right click the setup.exe file to 'run as administrator'.

When you first open Wilbur this is what you will see:



Important Note:

Win 10 can sometimes fail to add Wilbur to the list of recently-installed software on the Start page, or to add the necessary icons to run the app.

To find Wilbur and add icons to all the relevant places, use your file browser to navigate to *C:\Program Files\Slayton Software\Wilbur [version number] (64-bit)*, then right-click the *Wilbur.exe* file and pick *Pin to Start*, and/or *Pin to Taskbar* to create the missing icons.

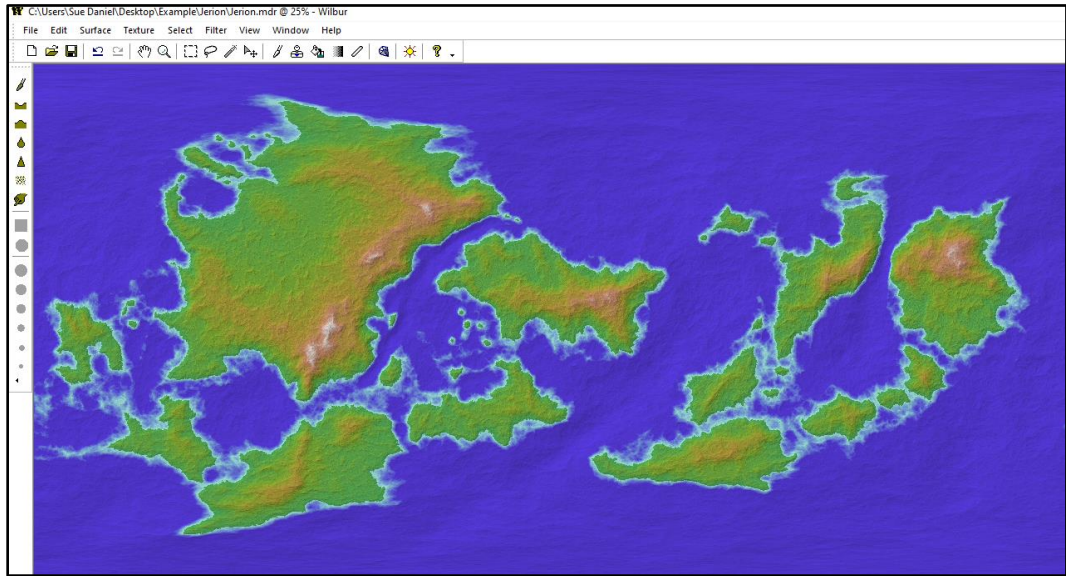
Wilbur's open file dialog is set by default to search for a *Grayscale Image Surface (*.bmp)*. Change this to *MDR Surface (*.mdr)* using the *File type:* dropdown box.

Similarly, Wilbur's *Save* and *Save as* dialogs are set by default to open or create a .png file type.

Whenever you save your work make sure you are saving it as an MDR file, or you will not be able to open the result in FT3.

Open the MDR file you exported from FT3 at the end of Stage 1. The file may or may not be upside down. If it is upside down you can right this by running *Rotate->Flip Vertically* from the *Surface* menu. Save the MDR file to preserve it the right way up.

Use the pan and magnification tools to have a look at your map and get familiar with the way it is being represented in Wilbur.



Pick *Shader Setup...* from the *Texture* menu and click the *Altitude* tab. Click the *Color List...* button on the *Land* side of the dialog, and then in the *Edit Color List* dialog that pops up, click the *Load...* button. When *Wilbur* asks you for a file, navigate to CA155/Wilbur Color Schemes, and pick *Wilbur HC Blend - land*.

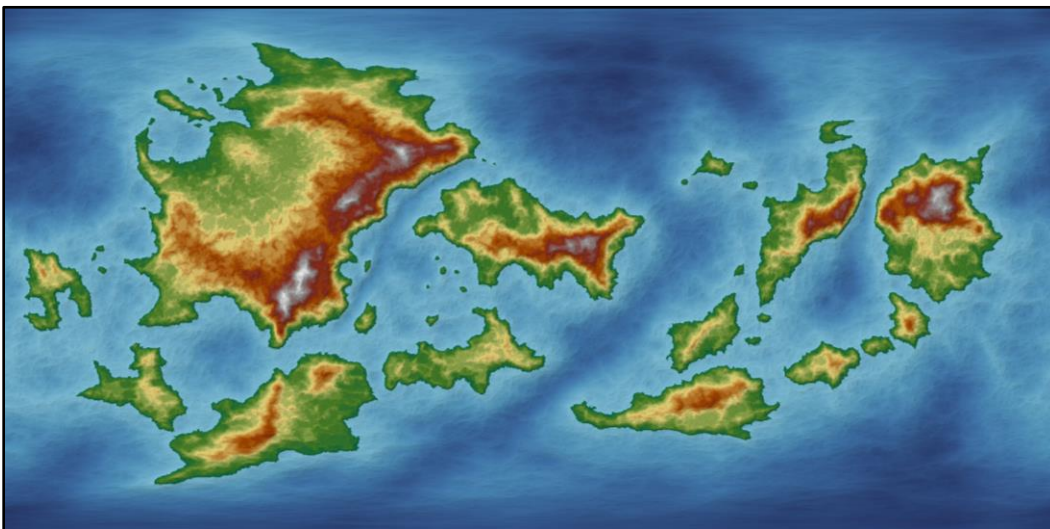
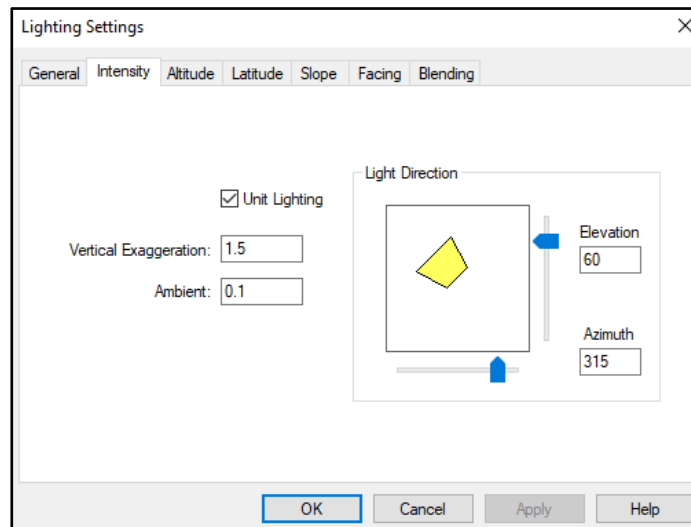
Click the *Color List...* button on the *Sea* side of the panel and load *Wilbur HC Blend – sea*. On this side of the panel also set the *Lightness Max* value to zero.

Wilbur does not automatically save this color setup. You will need to repeat this process each time you reopen Wilbur if you wish to use the CA155 color scheme with other projects.

These shifts are most likely caused by accidentally pressing the SHIFT key while using the pan tool in FT3.

Go to the *Intensity* tab and modify the settings there to match those shown on the right.

Ok all these settings and give Wilbur a moment to adjust the view, at which point you should have something similar to the view you were working with in FT3 during Stage 1.

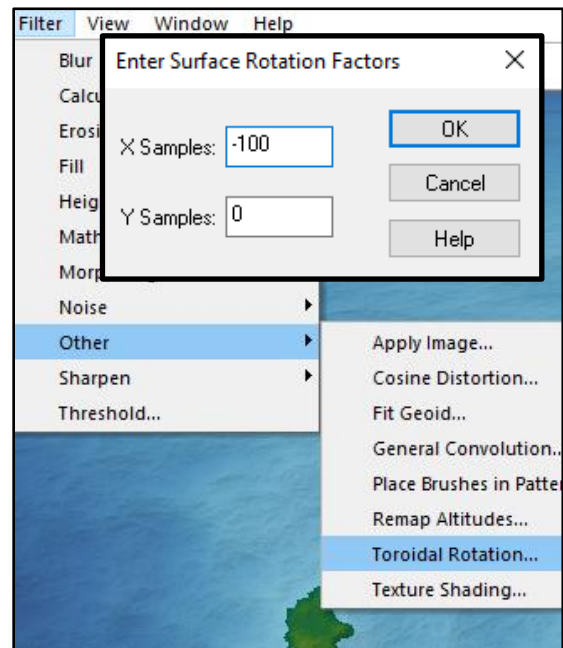


If your map appears to have shifted sideways relative to the frame when the MDR file opened in Wilbur, you can move it around in the projection using Wilbur's toroidal rotation tool.

From the *Filter* menu pick *Other -> Toroidal Rotation...*

The number of X and Y samples relates to the samples in the MDR file. If you saved this MDR file from FT3 at 5000 samples, then 100 samples would be $1/50^{\text{th}}$ of the width, and $1/25^{\text{th}}$ of the height.

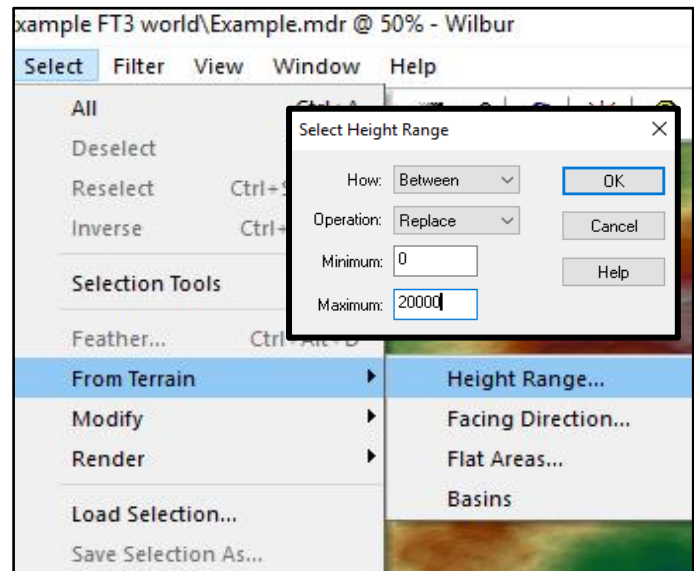
Jerion had shifted 500 miles to the west in the MDR file exported from FT3 at 5000 samples, so a correction of -100 X Samples nicely repositioned it.



Step 1 – Preparing the surface for erosion

From the *Select* menu pick *Terrain->Height Range...* Set the minimum to zero, the maximum to 20000, and click ok. The result should be a moving dashed line around the land. This is the selection mask.

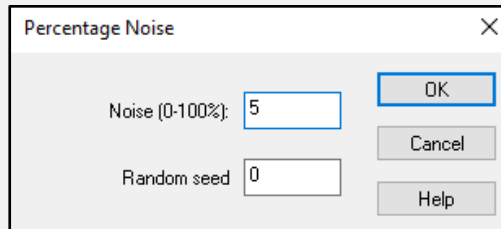
From the *Filter* menu run *Fill->Fill Basins...* (CTRL+B) and ok the default settings in the popup that appears.



Filling the basins is a necessary process, though it results in some unnaturally flat areas over which a river might run in a very straight line. To prevent this from happening you need to add some bumpiness, which in Wilbur is called *noise*.

Add Noise Cycle (repeat three times)

1. From the *Filter* menu run *Noise->Percentage Noise...* Make sure you are adding 5% noise, and OK.

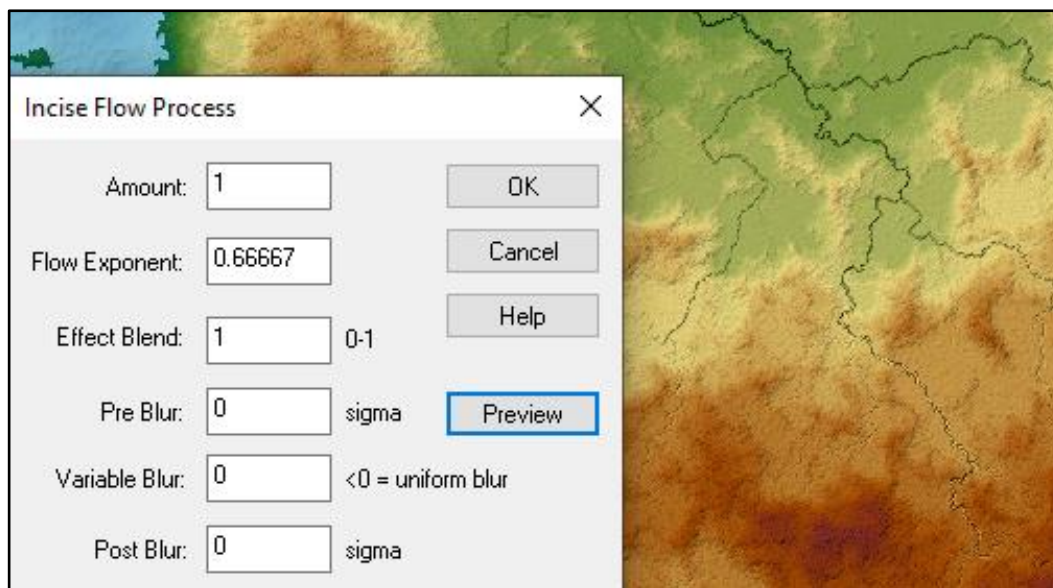


2. From the *Filter* menu run *Fill->Fill Basins...(CTRL+B)*. Ok the default settings and wait for the selection mask to start moving again.

Save your modified MDR file as: *[Your filename] with noise.mdr*.

Step 2 – Erosion

The erosion of your world will take place in three stages. First, you will use an incise flow process to define the sweeping lower valleys and plains, then you will use a precipitation-based process to erode all the sharp edges, and finally you will use incise flow a second time with different settings to create a network of river beds.



The selection mask will freeze while Wilbur is busy. Wilbur is an immensely powerful heightfield editor, but it will still take several minutes to calculate where all the water will flow and how deep each river section will cut the land. And remember – it has to do this for an entire world.

Quite a lot of your world's 30,000 ft altitude will have been lost as a result of the erosion processes carried out so far, so it is necessary to adjust the span before going any further, or you will end up with a very flat world.

Less noise is required the second time because some noise will still remain from the first Add Noise Cycle.

In the final stage of erosion try to avoid using any more than 0.5 in the *Amount* box. Deeply-gouged rivers might look fantastic in *Wilbur*, but they are not very realistic and will not look good in the CC3 vector map you will be making at Stage 3.

This page was revised 7/9/2022 by Sue Daniel to add the set wrap mode instruction and replace the Erosion (Precipitation) Setup illustration to show the correct settings.

From the *Filter* menu run *Erosion->Incise Flow...*

When Wilbur is ready to present the work it has done you will see the rivers appear, the selection mask start moving again, and a new popup box full of control settings. Adjust the figures to match this dialog on the right.

Click *Preview* to see what your world looks like. Remember that you are creating the broad lowland plains and river valleys in this first step, and not the rivers themselves.

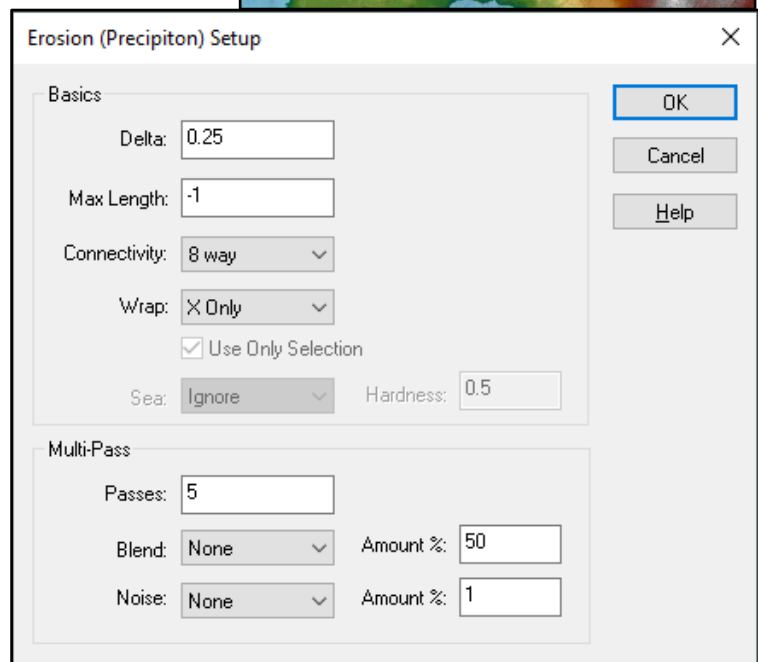
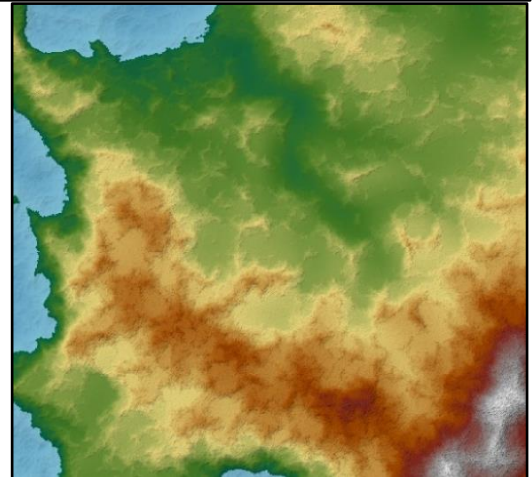
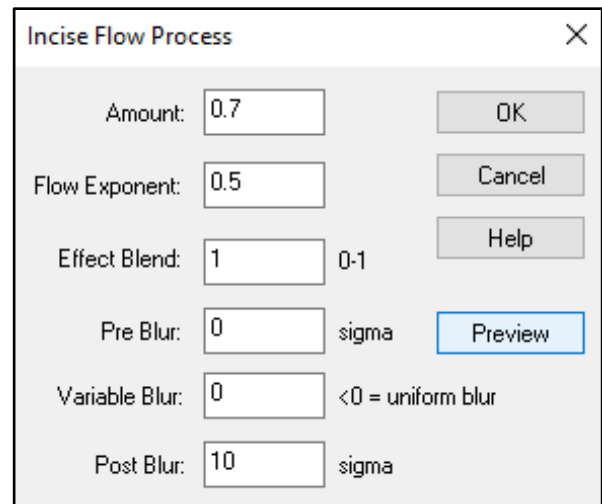
Check that the tops of the mountains haven't been eroded away, and if you are happy with the preview click OK.

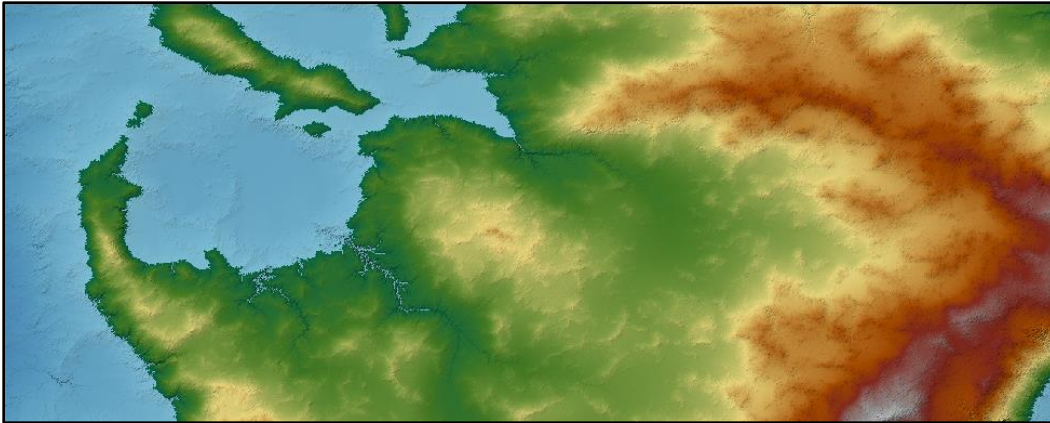
De-select the land.

From the *Filter* menu run *Erosion -> Precipitation Based...*

Set the *Wrap* mode to *X Only*, and the number of passes to 5, and OK.

You will see the effects more on the coast and in places where the slopes are steep.





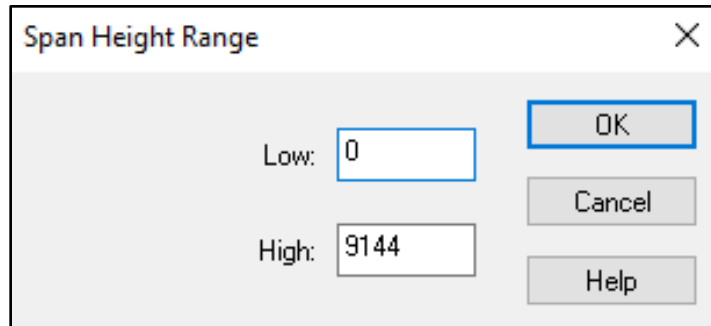
To tidy up the coastline run *Filter -> Blur -> Gaussian Blur...* set to 0.5, three times.

Now to add the rivers.

Re-select the land using the height range method described at the start of this Step on page 8.

Reset the span of the land altitudes from 0 to 30,000 ft by running *Filter -> Mathematical -> Span*

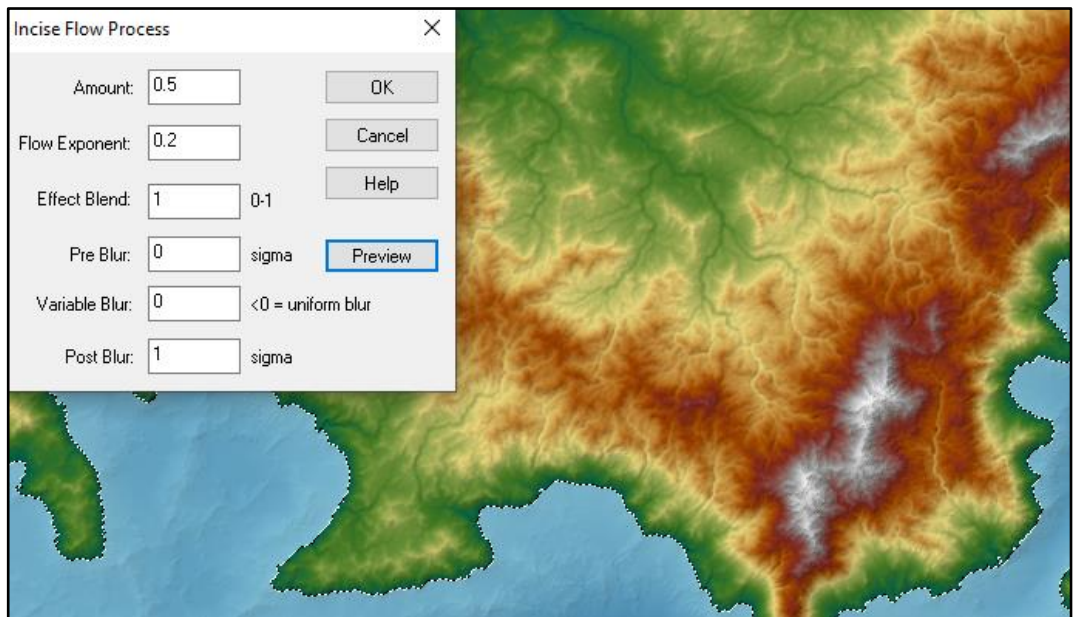
9,144 meters = 30,000 feet.



Fill the basins again and repeat the *Add Noise Cycle* in the grey box on page 8, but this time use only 1% noise instead of 5%.

From the *Filter* menu, run *Erosion->Incise Flow...* again. The settings dialog will initially appear with the last settings you used.

Adjust the settings until you have a fine network of rivers, using the *Preview* button to see what each adjustment looks like.



When you are happy with your adjustments click OK.

Correct the altitude span again in the same way that you did just before the last *Add Noise Cycle* (page 11).

Use the Gaussian Blur three times with a value of 0.5, as before, to remove the last of the noise and blend the new rivers properly into the landscape.

Invert the selection mask (Select -> Inverse), and set the span of the ocean from -9,144 to -1.

Deselect everything and admire your work.



If you are intending to bypass Stage 3 and go straight to Stage 3b, keep your Wilbur file open and go straight to page 15.

Save this file as *[Your filename] complete.mdr*.

Make sure you are saving it as an MDR file, or you will not be able to open it in FT3 in Stage 3.

Now is the time you should decide whether you are going to finish your map as a CC3 vector map, as a CC3 map with a bitmap background, or both. The difference between the two options is explained at the beginning of Stage 3 on the following page.

Stage 3

Stage 3 is divided into two possible CC3 outcomes. You may choose to do one, the other, or both, depending on which style you prefer and the functionality you require.

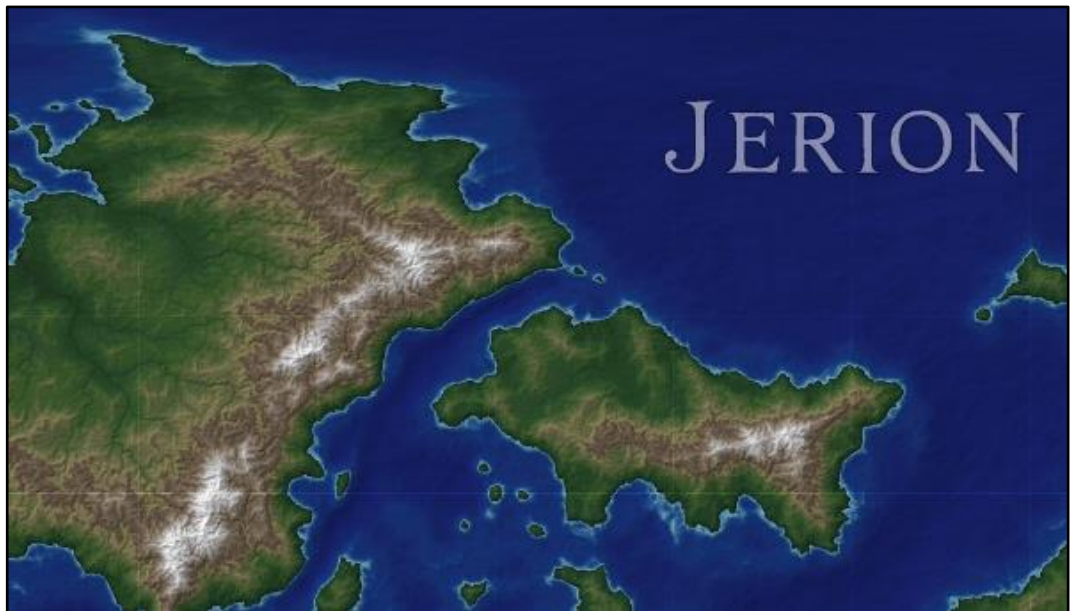
The following images below have been taken from the 2 alternative versions of Jerion.

Stage 3a involves importing the MDR file created in Wilbur at the end of Stage 2 back into FT3 and then exporting a CC3 map from FT3. The exported map is copied to a special template provided in this issue, and further work carried out on it. The result is, however, self-contained and does not require any additional files to function as a perfectly normal CC3 map.



Above – Stage 3: self-contained vector map exported from FT3.

Stage 3b involves choosing or making a colour scheme in Wilbur to create a visually pleasing bitmap image that can be imported to CC3 as a background map. The result is a beautiful shaded topography map in less time. The drawback is that at least one rather large image file must always be kept in the same folder as the CC3 map, and it cannot be edited from within CC3.



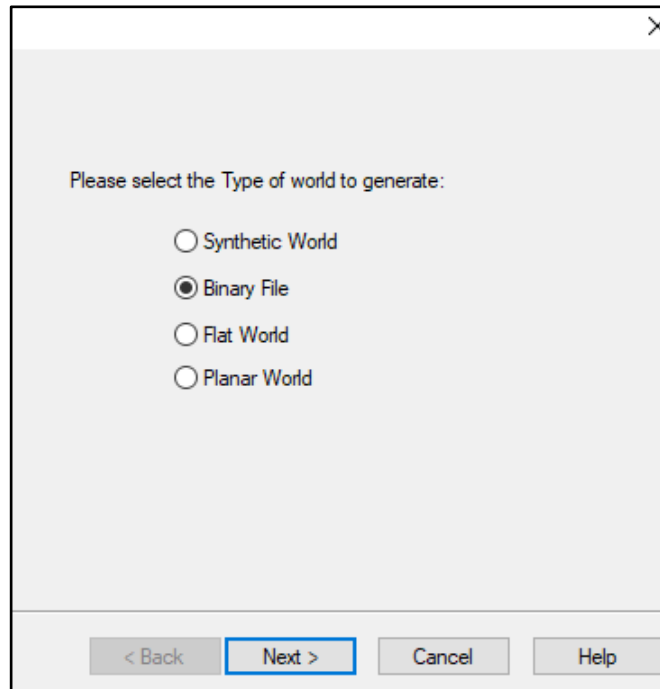
Below – Stage 3b: an imported bitmap image background map.

Using *FT3* and *Wilbur* to make a *CC3* vector map.

Step 1 – Importing the MDR file into FT3

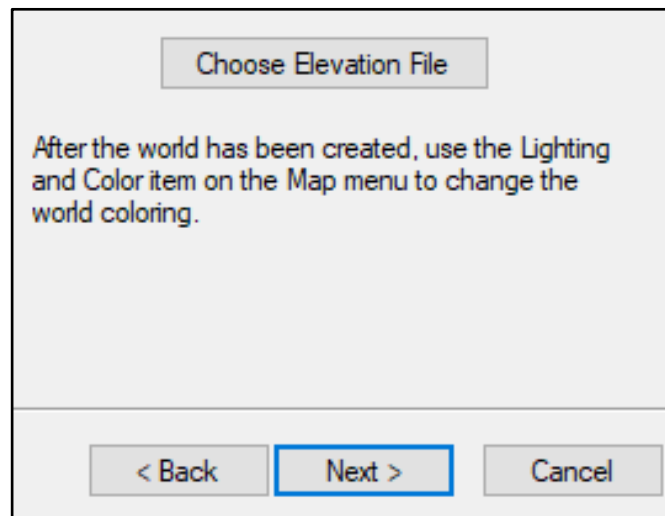
Open *Fractal Terrains 3* and click the new world button, or from the *File* menu pick *New*.

In this initial *Type* dialog, select the *Binary File* option and click *Next*.



In the second dialog that appears, click the *Chose Elevation File* button, and navigate to the final MDR file you saved from *Wilbur* at the end of Stage 2.

Once you have selected the file, click *Next* again.



You will be presented with a much larger dialog which should be mostly filled in where FT3 has read the information directly from the MDR file.

The only boxes you need to concern yourself with are the four Map Edges, since they may or may not have been read from the MDR file. Make sure these four values are correct as shown.

Click OK, and your eroded map should appear in FT3.

If for any reason the map is upside down, go to *World Settings*, find the *Fractal Function* tab and check or uncheck the *Flip Vertical* box – whichever is the opposite to the way it was set up when you opened the tab.

Step 2 – making the data permanent

Open the *World Settings* dialog and check that in the *Editing* tab the resolution is set to *Custom* and the same sample size as your MDR file. Apply this setting and close the dialog.

From the *Tools* menu, run *Actions->Burn In to Surface*.

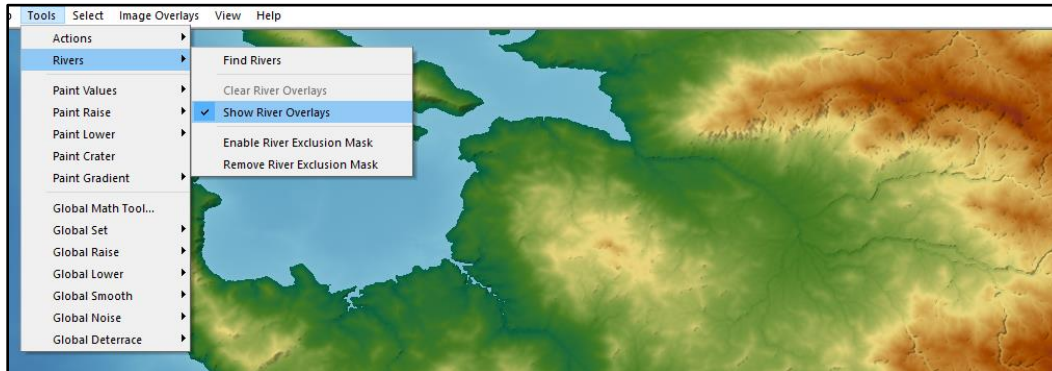
It is worth pointing out here that, while the completed FT3 file of Jerion is not included in the annual due to the size of an FT3 file set to 5,000 sample resolution, it would take seconds to import the finished MDR file (which *is* included in the CA 155 folder) into FT3 and make your own copy if you want to see how Jerion turned out when it was burned into the surface at 5,000 sample resolution.

At this stage the data being used to display the map is wholly contained in the MDR file and referenced by FT3. If you were to save and close this file, then move or rename either file, the saved FT3 file would be blank when reopened. To make the data permanent you need to 'burn' it into the surface of the FT3 file.

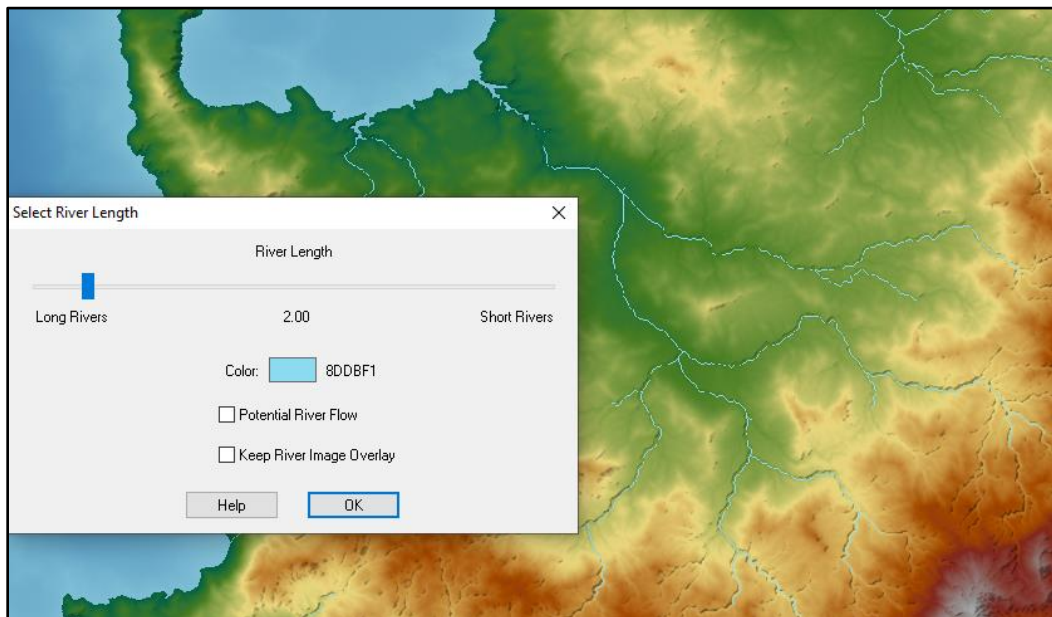
Step 3 – Rivers

Now that the data is stored in the file, FT3 can calculate the rivers.

Zoom in enough to be able to see the riverbeds in one of the largest drainage areas, and from the *Tools* menu make sure that *Show River Overlays* is checked in the *Rivers* submenu, then pick *Find Rivers*.



In the dialog that appears pick *Custom*, set the resolution to the sample size of your MDR (also the editing resolution of the FT3 file), and *OK*.



You don't have to check the *Keep River Image Overlay* box. The rivers will be saved with the file regardless of this check box, and will export to a CC3 map as long as they are visible at the time of export.

This will set the process running and produce another dialog in which you can control the river length on a slide bar, choose the

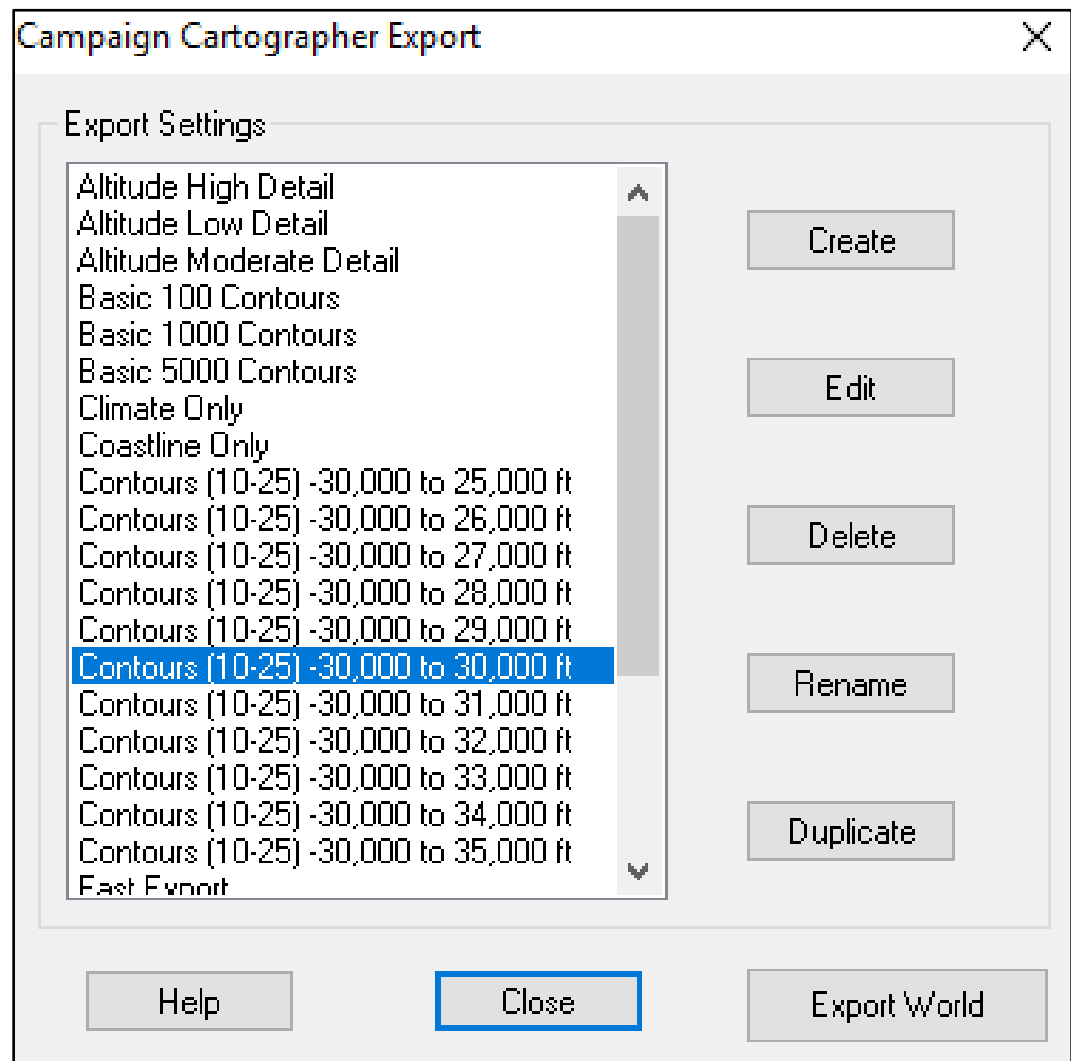
color of the rivers, whether to show potential river length, and/or store the river overlay.

The choices here are yours to make, but bear in mind that too many rivers will look a little odd on a world map. Think of how many rivers you would normally see on a world map of the Earth.

Save your FT3 file as: *[Filename] complete.ftw*.

Step 4 – Exporting the CC3 file

From the File menu, run *Save Campaign Cartographer File...*



You will be presented with a choice of export settings. Like this (above).

If you have followed the Stage 2 instructions precisely, the altitude range of your map should be -30,000 feet to 30,000 feet.

The correct export setting to use for this altitude range is highlighted in the image above, but you will see that there are 10 similar export settings that can be used if you want to export from another FT3 map that wasn't made using the instructions in CA155, and which has a different range of altitudes than does Jerion.

Below is a table showing when to use each setting. These settings all assume that the ocean remains constant at 30,000 ft deep at the deepest point.

Export setting name	Use at maximum land altitude of
Contours (10-25) -30,000 to 25,000 ft	Up to 25,999 ft
Contours (10-25) -30,000 to 26,000 ft	26,000 ft - 26,999 ft
Contours (10-25) -30,000 to 27,000 ft	27,000 ft - 27,999 ft
Contours (10-25) -30,000 to 28,000 ft	28,000 ft - 28,999 ft
Contours (10-25) -30,000 to 29,000 ft	29,000 ft - 29,999 ft
Contours (10-25) -30,000 to 30,000 ft	30,000 ft - 30,999 ft
Contours (10-25) -30,000 to 31,000 ft	31,000 ft - 31,999 ft
Contours (10-25) -30,000 to 32,000 ft	32,000 ft - 32,999 ft
Contours (10-25) -30,000 to 33,000 ft	33,000 ft - 33,999 ft
Contours (10-25) -30,000 to 34,000 ft	34,000 ft - 34,999 ft
Contours (10-25) -30,000 to 35,000 ft	35,000 ft - 35,999 ft

It is important that you use the right template for your map. If the export setting you choose has a range that is too small you will run out of contours and have flat topped mountains. If it is too big your mountains will fail to achieve the maximum altitude in the CC3 map.

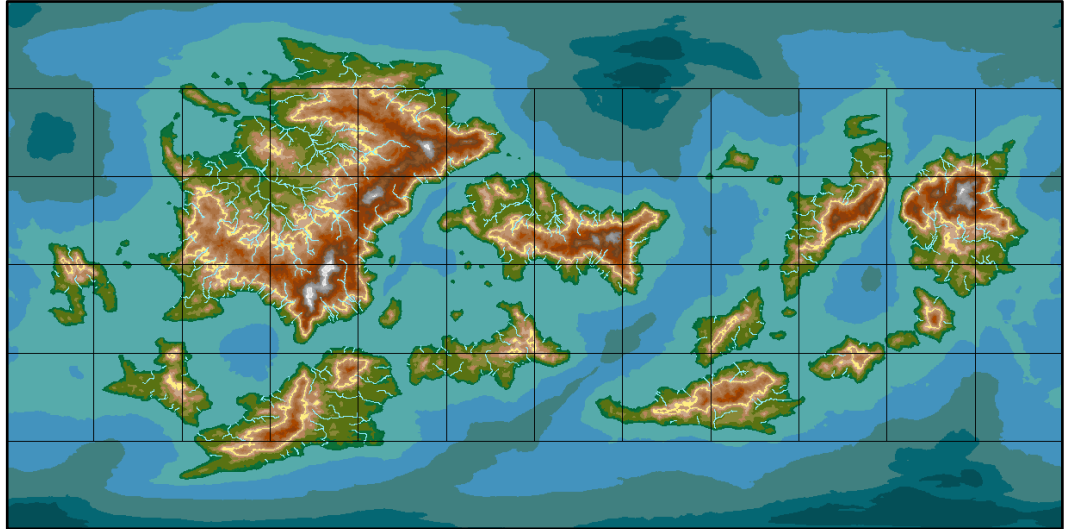
The detail level in all these templates has been set to 768 so that even the most complex world will export without any problems.

Should you wish to try a higher level of detail, you will need to edit the settings from within FT3 using the Edit button in the Campaign Cartographer Export dialog.

Pick the most appropriate export setting for your map in the open dialog box and then click the *Export World* button. When the export is done, close the export dialog and the FT3 file.

Step 5 – Processing the exported CC3 map

Open the exported CC3 file and zoom to extents to view the map.

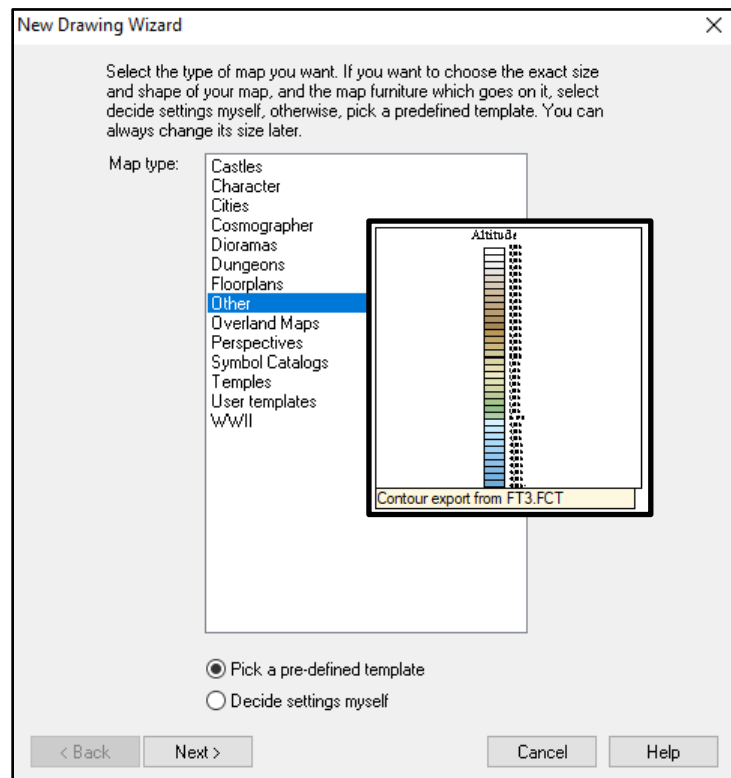


This file contains a whole lot of information that you don't need. In addition to this, you don't have the custom palette you need to create the vector topography map shown on the first page.

The simplest way to put everything right in a matter of seconds is to copy what you need from this file and paste it into a purpose-built template.

To open a second CC3 window right-click the CC3 icon you normally use to open CC3 and pick *Open*.

In a new CC3 window start a new file. Pick the *Other* folder from the list and set *Pick a pre-defined template*. Pick the *CA 155 Contour export from FT3* template.



This is an extremely simple template and does not require any special settings to be applied by the user – hence no need for a more complex wizard version. There is no frame and no map border – only a pre-prepared Altitude bar and a custom color palette.

Click once on the template to create your new file.

In the original CC3 export, hide all but three of the sheets. Leave **CONTOURS SEA**, **CONTOURS (LAND)** and **GRID** visible.

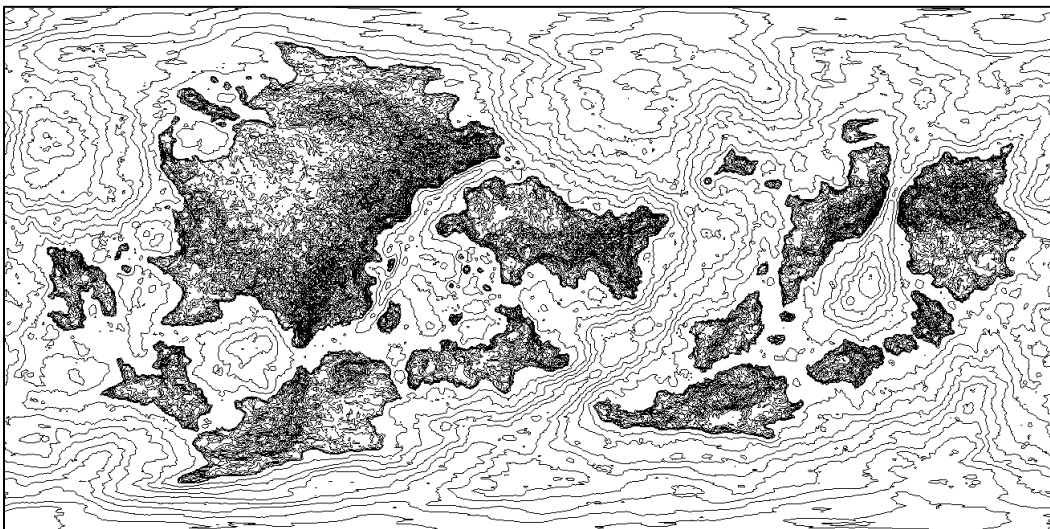
Zoom to extents, and from the *Edit* menu use *Copy* (CTRL+C) and select everything visible, then right-click and 'do it'. When you are asked for the copy origin in the command bar, switch on *Attach* and zoom in to click the bottom left corner of the map.

Go back to your new map, and from the *Edit* menu pick *Paste* (CTRL+V). When you are prompted for the paste coordinates, type 0,0 (zero comma zero) on your keyboard and press Enter. Then press ESC to get rid of the ghost world that will still be attached to your cursor.

Save your new map and close the original export map – with or without saving it. This map has served its purpose and will only be required again if you ever lose or accidentally corrupt the new map.

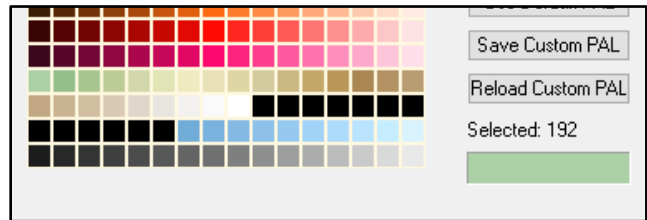
Step 6 – topographical coloring

Hide the **GRID** sheet and use the *Change Properties* tool to convert all the contours to hollow black polygons.



The pasting process is extremely slow because there are probably tens of thousands of nodes in this map. It will flash and redraw itself many times over – even after you have pasted it. Be patient and wait for your commands to be registered and acted upon by the software.

Hide the CONTOURS SEA sheet and select color number 192 from the palette. This should be a pale green shade at the left-hand end of the fourth row up from the bottom of the palette. This is the color that represents the sea-level land contour.

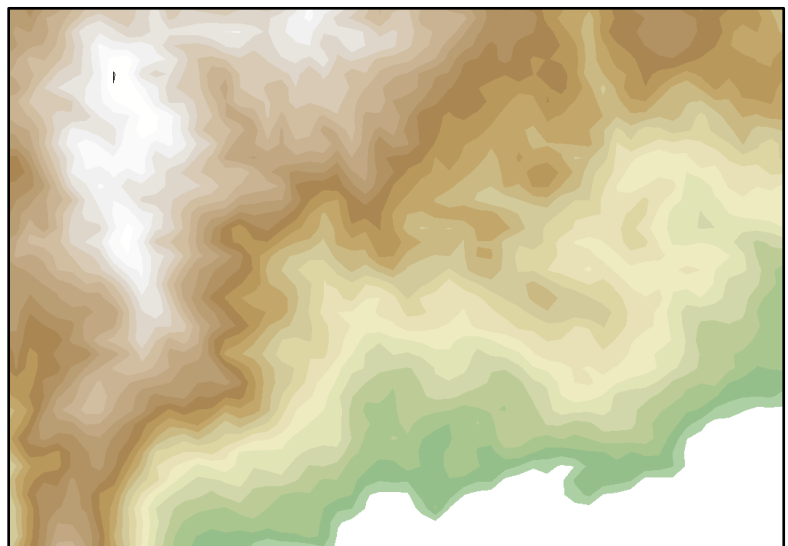
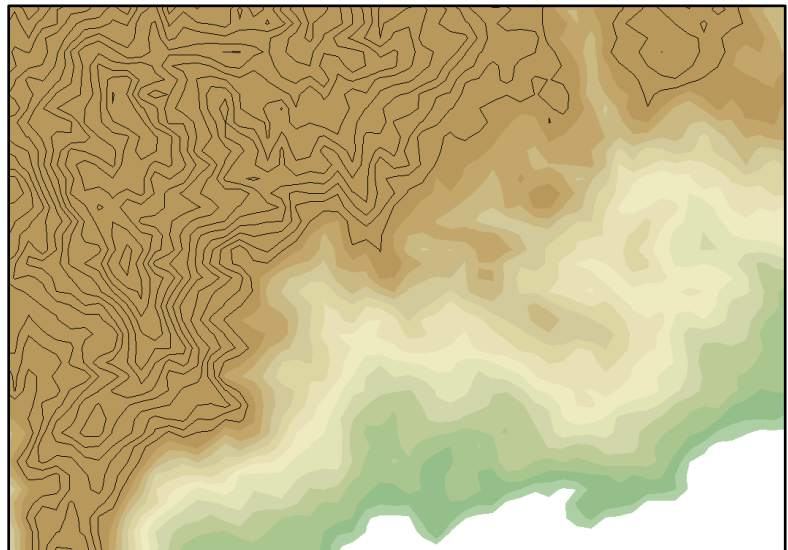


Use *Change Properties* to make the first contour solid in this color.

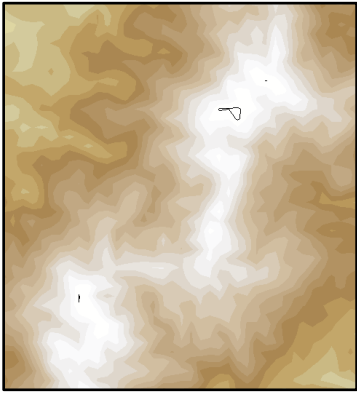
Next, select color 193 – the second shade of green on the scale. Change the properties of the second contour to this color.

Progress in this manner up through the land contours, shading each successive contour the next color in the series from left to right on the color palette, and then continuing along the row beneath until you have colored all the contours and have something like this (right).

You might see that there is an extra contour remaining in this example that goes



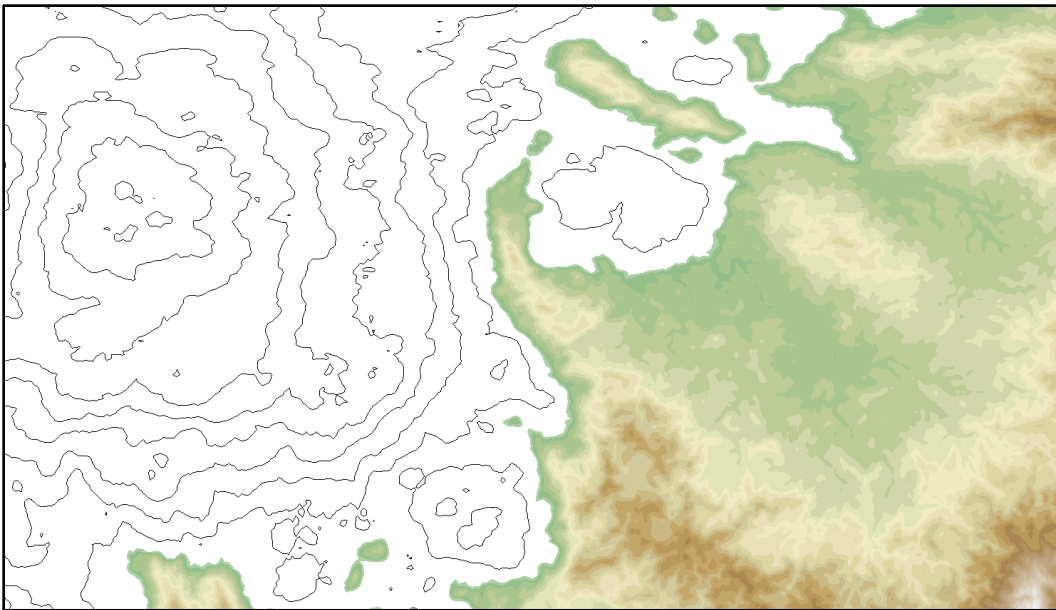
higher than the maximum white shade – a tiny black dot at the top of the mountain.



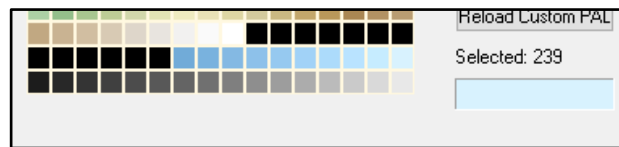
Fortunately, the extra contour in the Jerion map was so small that it was possible to delete it without too much harm being done. This (left) was the largest part of the extra contour on the tallest mountain.

Once you have completed the land contours, show the CONTOURS SEA sheet, while keeping the CONTOURS (LAND) sheet visible.

Pick a spot to zoom into where you can see one of the deepest spots in the ocean as well as some of the coast.



Work on the sea contours in the same way that you did with the land contours, starting with the topmost contour and the palest blue color (number 239) at the right-hand end of the second to last row of the palette.



Work left from this point so that the sea contours become gradually darker the deeper you go.

It is virtually impossible to select the bottom-most contour of the sea, since it exists over the extent of the map like a background but usually cannot be selected without selecting at least one of the other contours. However, since it is no longer visible as an outline anywhere inside the map, you can safely ignore it.

Draw a rectangle with a solid fill of the deepest blue on the scale on the BACKGROUND sheet, using Attach to pin the corners to the exact extent of the sea contours. This will give you the color fill of the lowest contour and complete the topographical shading.

Step 7 – Making a frame

Make the MAP BORDER layer active and hide all but the BACKGROUND sheet. Copy the background rectangle onto the FRAME sheet. Hide all but the FRAME sheet and from the *Draw* menu pick *Offset*. Ok the default settings, and when prompted at the command line for a distance, enter a substantial number. 200 was right for the width of the frame around Jerion.

You will be asked to pick an entity. Pick the rectangle. Then you will be asked to pick a side. Click once outside the rectangle and rock the mouse wheel a fraction to force a refresh.

You now have a second rectangle that is identical to the first but larger all the way around by whatever distance you defined. Use the MultiPoly tool to create a frame from these two rectangles, move the altitude bar into place, and show the rest of the map.



From this point the rest is up to you. A finished copy of the Jerion vector map is available in the CA 155 folder if you are looking for ideas.

Stage 3b - Using images from *Wilbur* in CC3

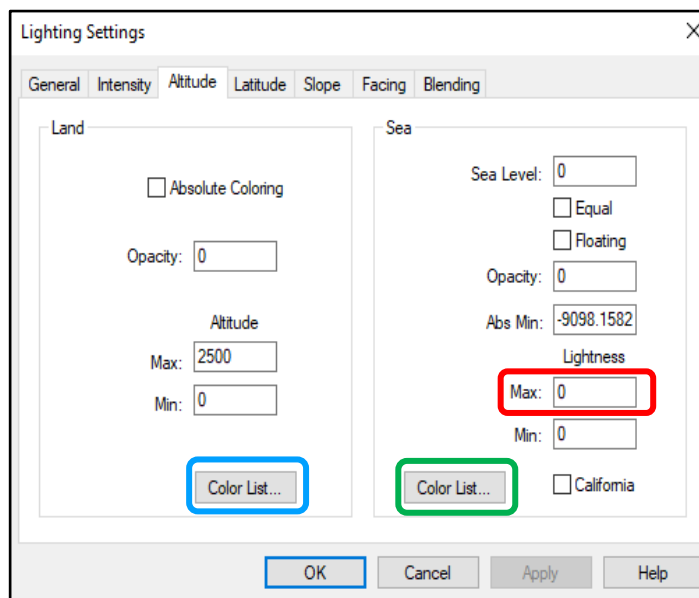
You have already done all the sculpting and eroding to make your world look good. With a little extra color work in Wilbur you can bypass the FT3 stage and produce a regular bitmap image for use in CC3 as a background.

Step 1 – Setting the land and sea color schemes

Open *[Your filename] complete.mdr* in Wilbur, and from the *Texture* menu click *Shader Setup...* This will open the *Lighting Settings* dialog. Go to the *Altitude* tab and set *Lightness Max:* to zero (ringed red on the right).

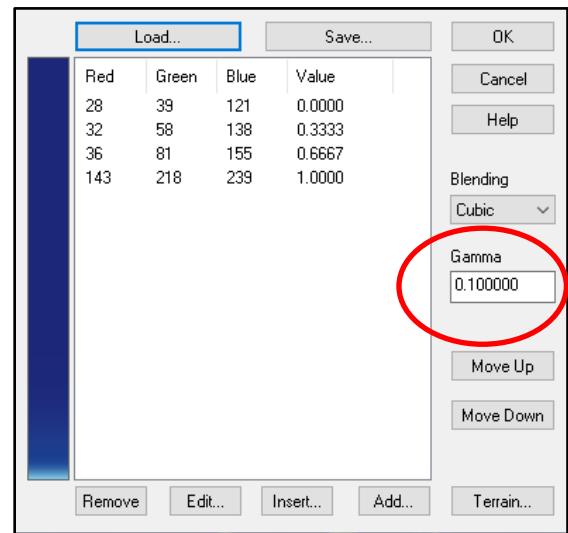
Click the *Color List...* on the *Land* panel (ringed blue), and in the *Edit Color List* popup (below, right) click *Load...*

Navigate to the *Wilbur Color Schemes* folder within the CA 155 folder, and pick any one of the files that have *land* as the second part of the file name.



Repeat the process for the *Color List...* on the *Sea* panel (ringed green, above right). Pick one of the color schemes with 'sea' in the second part of the file name.

Some of the sea color schemes have extended file names that indicate specific gamma settings. For example, *Natural – sea (gamma 0 point 1)* looks a lot better if you change the default gamma value in the *Edit Color List* dialog to 0.1, instead of the default value of 1. Gamma values either side of 1 have the effect of shifting the colors in the selected color scheme towards the end of the scale.



Wilbur color schemes available in CA 155:

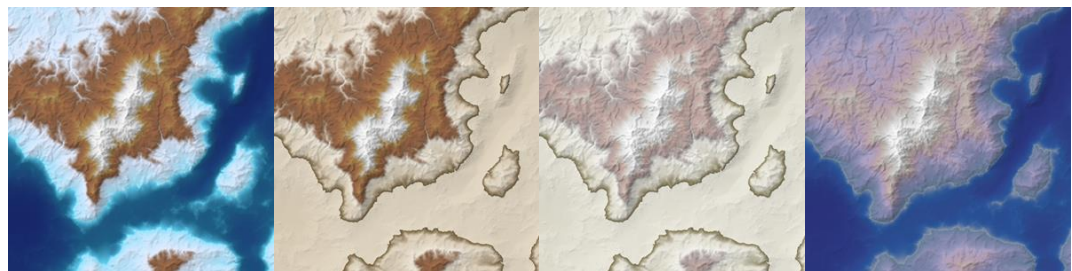


Atlas

Old map

Natural

Desert



Arctic

Parchment dark

Parchment light

Volcanic

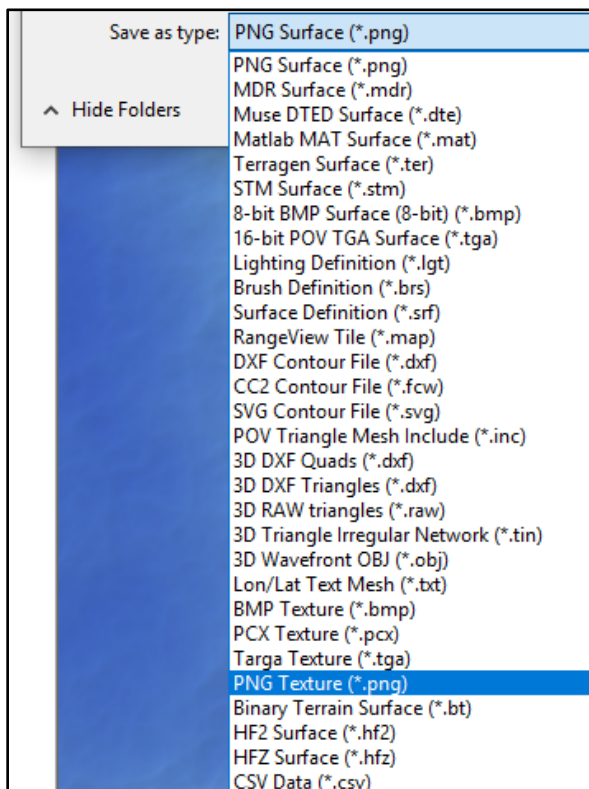
There are no rules about having to use a sea that is paired by name with the land you like. Mix and match – pick a combination that you like.

You can modify the schemes or make your own by deleting/adding or editing the individual colors that are listed in the *Edit Color List* popup. You do this by picking the color you want to modify. The way your edits affect the color scheme are

immediately reflected in the sample bar on the left-hand side of the dialog. If you make one you like you should save it with its own name in the Wilbur Color Schemes folder. Changes made to color schemes in Wilbur will vanish beyond recall if they are not saved using the *Save...* button.

There is no undo button, so if you have made a scheme that is nearly but not quite perfect, it is best to save it regularly so that you can reload the saved scheme if anything goes wrong with the very next edit.

Step 2 – Exporting the bitmap



From the *File* menu pick *Save as...* In the *Save as* dialog open the *Save as type* dropdown box and pick *PNG Texture (*.png)*.

Save the png file in the same folder in which the resulting CC3 map will be saved, with a relevant name like *[map name] atlas.png*, or *[map name] volcanic.png*, according to which color scheme has been used.

Do not confuse the *PNG Texture* file type with the *PNG Surface*, which is a greyscale height map.

You can have several backgrounds in a single map. Jerion has 8, inserted on 8 BACKGROUND* sheets.

Step 2 – Create the new map file

Open CC3 and start a new file using a template of your choice. The Jerion map has a default CC3 template. This choice was affected by a desire to use one of the attractive fills of that style as a frame.

Set the dimensions of the new map to match the proportions of the image or images you just exported from Wilbur.

This will give you a resolution of 1 pixel per map unit when you import the map, which is a little on the low side. You can halve the proportions if you wish, but as you are no doubt aware, it is not the actual size of the map within the CC3 window that matters but the size at which you choose to export the map.

Save your map with an appropriate name in the same folder as the background images.

Step 3 – Import the background image(s)

If you have more than one background image to insert in the new CC3 map, create as many new BACKGROUND sheets as you need. Name each one according to which file you intend to insert on it; for example *BACKGROUND volcanic* or *BACKGROUND Atlas*.

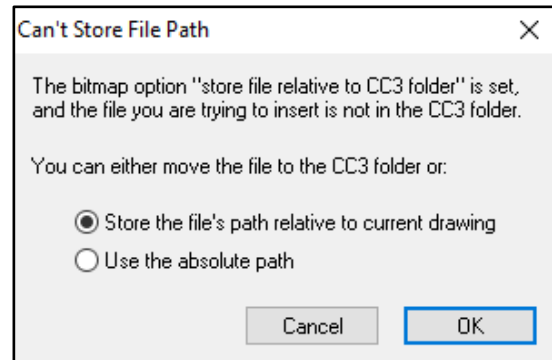
Make a new layer called BITMAPS and make this the active layer.

Switch on the snap grid, and by right-clicking the *Grid* button pick a suitably large-scale grid that is visible at zoom extents and which gives you a snap point at all the corners.

Make one of the BACKGROUND sheets active, and from *Draw* pick *Insert File...*

Pick the background image for the selected BACKGROUND sheet and ok.

A popup will appear, warning you that CC3 can't store the file path. Pick *Store the file's path relative to current drawing* and click OK. This will mean that if you move the CC3 file you will need to move the background images with it.



Place the first corner of your inserted map at the origin. You can either click the origin if you know where it is, or you can type 0,0 on your keyboard and hit Enter. Extend the image outline to the top right corner of your map to fill the background, and click to finish the operation. Repeat this process for all the background

images, placing each on its own BACKGROUND sheet so that you can hide and show whichever one you want.

Step 4 – Exporting the map

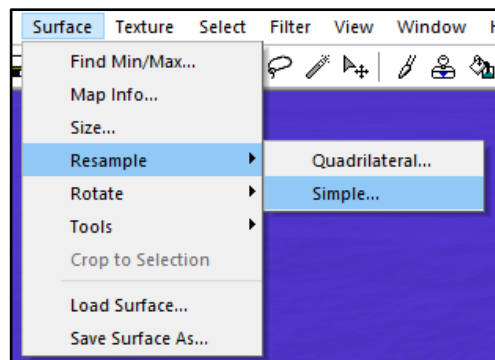
When you start to add information to your map bear in mind that the maximum size at which this map can be exported and remain nice and sharp is dictated by the bitmap background. For maps created according to the instructions in this mapping guide, an export of around 2000 x 1000 px from the Jerion map will produce a reasonable image, but if you go larger the bitmap may start to look fuzzy or pixelate.



If you want to make a larger background image you will need to go back to the beginning of Stage 2, open the MDR file that was exported from FT3, and scale it up in size before erosion.

You can scale an image in Wilbur from the *Surface* menu, by picking *Resample* and *Simple*.

Enter your desired height and width in the boxes provided and click ok.



A larger file will take much longer to process through each step of Stage 2, so you will need to be very patient.

All such larger maps will also result in images that are potentially many tens of MB in size.

References and further reading

This is by no means an exhaustive list of the reference material I have called upon, from memories of countless forum comments, and the many things I have learned from private emails and blog articles over the last 3 years, but it lists the publications that form the very foundation of my personal knowledge of Wilbur, and in some part FT3.

Fractal Terrains

Tutorial for Cartographer's Guild, by Joseph Slayton

Wilbur

Wilbur, by Joseph Slayton

Doing Stuff With Wilbur, by Joseph Slayton

Fun With Wilbur (Volumes 1 – 7), by Joseph Slayton

Ink Blots to islands using Wilbur, by Joseph Slayton

Mild Amusement with Wilbur Volume 6a, by Joseph Slayton

There and Back Again, by Joseph Slayton

Volcano, by Joseph Slayton

Publications by Joseph Slayton listed on this page are available from:

<http://www.fracterra.com/wilbur.html>