ON THE CD
● *Terragen 0.94, Apophysis 2.02, The Gimp 2.2*
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TERRAGEN, APOPHYSIS, THE GIMP

Fractal shores

Our exploration of the power of free software concludes with not one, but three, separate packages. Follow this walkthrough to discover how to recreate the fractal landscape above using the tools on the CD **BY CHRISTIAN HECKER**

FACTFILE

FOR
Terragen, Apophysis The Gimp

DIFFICULTY
Elementary

TIME TAKEN
One hour

ON THE CD
• Full-size screenshots
• *Terragen* scene files for the registered and unregistered versions of the software
• *Apophysis* fractal file
• *The Gimp* layered file

ALSO REQUIRED
N/A

O ver the next few pages, we'll create the fantasy landscape shown above. The image was originally produced as a commercial print, but we're going to recreate it without spending a penny on software! For this, we'll need the help of no less than three free applications. To begin with, we'll use *Terragen* to create the landscape itself. *Terragen* is a wonderful 3D fractal landscape generator that's capable of producing impressive, eye-catching vistas with stunning lighting effects and moody atmospheres.

The software comes in two editions: the free version included on the CD, and a more powerful commercial edition. Since we'll be working with the free version, we'll be somewhat restricted when it comes to adjusting quality settings. This means we can only use terrain files up to a specific level of detail, and our render output resolution is limited to 1,280x960 pixels.

As soon as we've finished creating our landscape, our next action will be to fire up *Apophysis*, which is a simple-to-use fractal flame generator. Normally, *Apophysis* is used to create highly detailed, complex and beautiful standalone fractal images, but it

can also be used to create swirling nebulae for a space picture. For the purposes of our tutorial, we'll use it to create cloud trails that we can place in the sky above our landscape. *Apophysis* works like any other image-generating software, so this can be achieved with a minimum of fuss: there is a good selection of presets to play with, settings to modify the results, and a range of render-quality options.

When we've worked through the process of creating our fractal, we'll switch applications and begin to combine the landscape and the cloud trails within the open source image-editing application *The Gimp*. This is where we'll create our beautiful unique sky effect. The great thing about *The Gimp* is that it's almost as powerful as *Photoshop*, which means you can unleash your imagination! It's a solid tool with which to manipulate photos, change colours, sharpen edges or soften and blur images. With our three applications at the ready, let's make a start.

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STAGE ONE | Creating the initial landscape
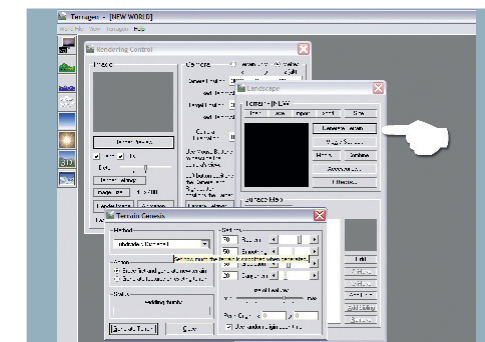
01 To create a terrain from scratch within *Terragen*, click Generate Terrain in the Landscape box. A window will open that allows us to configure our landscape. If we hover above the value fields, we can see information about what effect each option has. However, we have a pre-prepared terrain, 'ast513.ter', which can be loaded from the CD.

EXPERT TIP

File types
There are two important file types in *Terragen*, each of which is saved and opened separately. A TER file is the landscape model, while the TGW file represents the general set-up, such as camera data, water height, clouds, haze and the sun/lighting settings; plus the render settings for the final image. Since *Terragen* has a huge online community (www.terranuts.com, for example) you can find lots of pre-built content, such as the terrain we'll make use of in the next step, which was created by Lewis Moorcroft (www.theartoflewismoorcroft.co.uk)
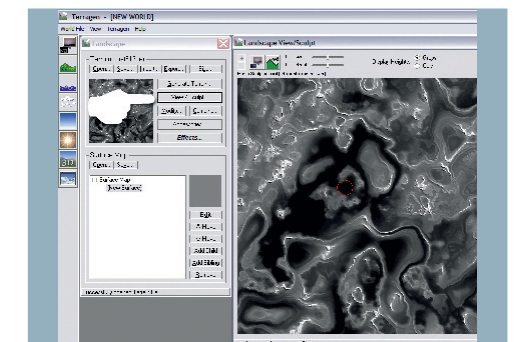
02 Click Open at top of the Landscape window to load in the ready-made terrain. With the help of the View/Sculpt tool, we can manipulate it. We can also use this tool to place our camera (switch between the cam and sculpt modes with the help of the two buttons at the top of this box).
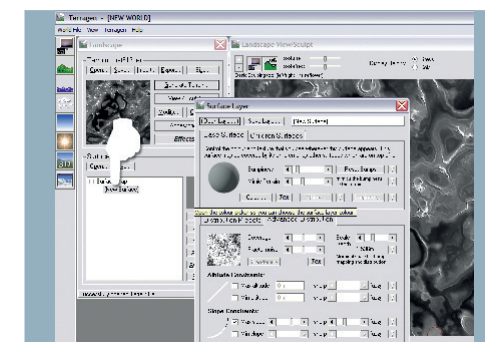
03 To progress with our terrain, we need to create a Surface Map. This tool is located beneath the terrain generator. To find out what each button does, briefly hover the mouse over it. Click on Child to add another texture layer, and double-click on New Surface to open the Surface Layer window. Here, we can edit the colour and behaviour of our texture.
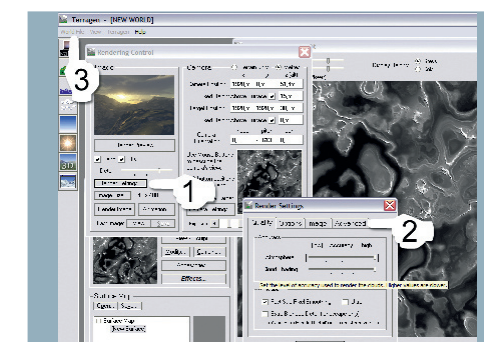
04 The Rendering Control dialog box allows us to adjust the quality of the render (see above for optimal settings). Click Render Settings, select the Advanced tab and type a number that represents one third of your installed RAM. Next, we can load our prepared world file (World File > Open World...), 'ast513.tgw', which includes the correct camera angle and atmosphere. Click Render Preview.
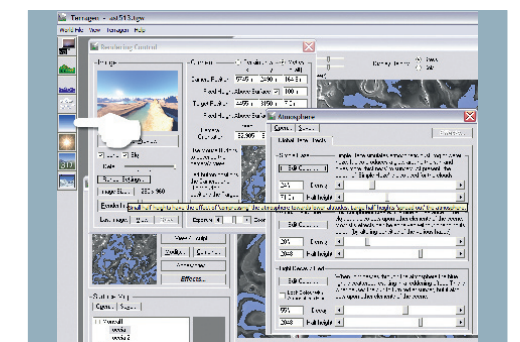
05 Lots of things have changed: there's a better Surface Map, and better water and atmosphere. Open the Atmosphere box (indicated above). The atmosphere is one of *Terragen's* strengths, with self-explanatory options. With the right settings, we can achieve wonderful sunbeams or glowing haze and fog. There are also plenty of atmosphere files on the Internet, so have a good look around.
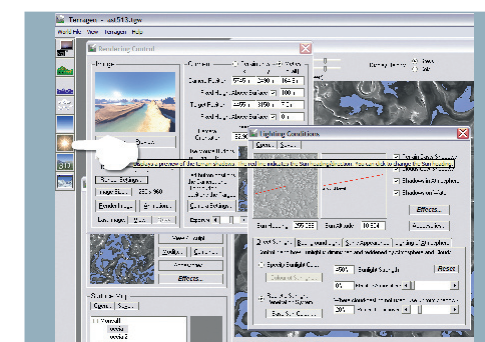
06 Next stop, the Lighting Conditions dialog box. This has so many available options, we could write a whole new tutorial about them. All options affect the behaviour of the sunlight or the atmosphere; we can change the size of the sun with Sun's Appearance, or the quality of the light by using Realistic Sunlight Penetration System and Multi-directional Shadow Lighting.
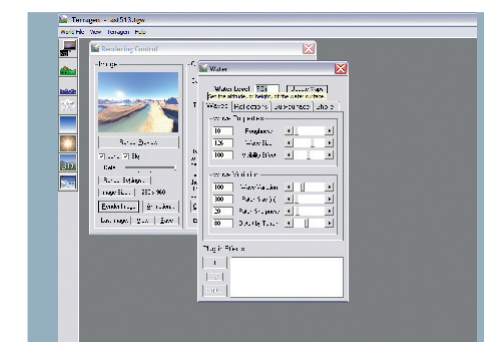
07 Open the Water dialog. Again, hover the mouse above the value fields for information about each effect. If you're using a registered commercial version of *Terragen*, avoid activating 'extra blended detail', which will effectively triple the time it takes to render without any noticeably significant results.
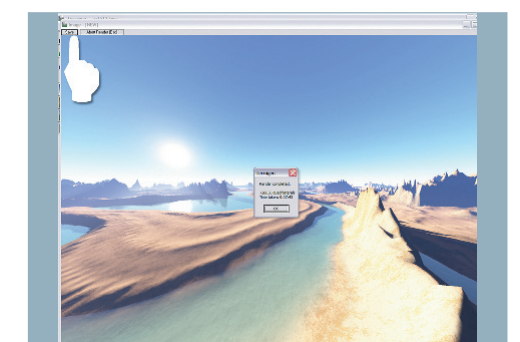
08 We've skipped the Clouds dialog box, because there are no clouds in the final image. If you've changed anything along the way, please reload 'ast513. tgw'. Let's render this big: Rendering Control > Render Image. Depending on CPU and RAM, this could take a while. Once the render is finished, save the image by clicking the button at the top left of the render window.