Carrara Environ Construction Kit: Badlands

Welcome to the Badlands!
The aim of this kit is to make for a fun experience in creating various scenes by using but a few carefully designed preset pieces along with a preset base that already contains a Carrara atmosphere and sky, clouds and fog, and a full-blown lighting system – each of which can be used or hidden to get what you want for your render. I have included several presets for several reasons. First, I wanted this set to include plenty of examples to help illustrate what can be done at some small level, using nothing but what the kit contains. In this, the presets also help to show differences in render times when using more or less of the base features. Second, I wanted the set to be useful for quick load and use functionality. To that end, you don't ever have to design your own scenes – simply use the presets. Third, I want to help newcomers to Carrara to see some of the many different styles of scenes that can be made using nothing more than what Carrara can give you – straight out of the box, so to speak.
That all being said, let's have a look inside the Badlands Construction Kit:

Finding the Presets

For this series, I intend to use the browser headings already included with the Native Content pack that comes with Carrara. To that end, you'll find the various presets in the following locations:

Scene Presets – There are two types of Scene Preset in this kit and can be found in the "**Landscapes**" heading of Carrara's Scene Tab, under "**Dartanbeck**".
The **Realistic Sky** heading within is the actual base of the product and uses Carrara's Realistic Sky and a Sun Light to help you to easily control the lighting of the scene according to where you position the sun in the sky. This is perhaps the easiest and quickest method to get the lighting of your scene set up according to time of day needs. Some of the presets are identical in scene layout, but use different features or have different lighting.

The **Background Map** heading uses background maps created using the scenes within the Realistic Sky heading. The two Base scenes in here have a basic terrain as a base to start from, since this provides greater flexibility for nearly any situation. However, the true magic of using background maps is to eliminate the need for extra geometry that must be rendered. Using one of these presets, try loading in a subject of interest, like Victoria or Michael, for example, delete or hide the provided terrain, and adjust the camera view to close in on the subject of interest. Notice how much quicker you can render with nothing but the main interest in the scene, backed up by a spherical image. This is the main reason to create background maps. Therefore, the main reason to include this category was to show how the process can work.

Object Presets – There are two types of Object Preset in this kit and can be found in the following three locations within Carrara's Object Tab:
Nature > Dartanbeck contains the three unique Woodlands blocks which are designed to enable us to quickly and easily create woodlands settings with point and click simplicity, while providing the beautiful results seen in the promo images.
Basic Plants > Dartanbeck contains a good selection of new plant presets designed for badland environments for you to use.

Shader Presets – There are five shader presets included. Two for terrain, and three for plants. They can be found in the Shaders Tab under **Terrain > Dartanbeck** and **Trees > Dartanbeck**
For more information on the scene presets, see below.

Scene Presets – Realistic Sky

Base Scene

There are three base scenes which form a great place from which to start creating your own scenes of any kind, but have been specifically developed for this Badlands Kit. Each give an entirely different starting place from where you might begin designing your scene. Base Badlands (Rough, dry, desolate), Canyon Mons (High Cliffs behind a deep gorge), and Cave Base (basically uses a duplicate of the entire flooring of the Base as a ceiling element for cave or cavern-type scenes) make up these three. While all of the other presets come from these, they may differ in actual scene contents.

These base scenes contain all of the environmental controls found in each of the presets in this, Realistic Sky heading, which is meant to help provide a good understanding of various ways to control lighting and effects within Carrara scenes. Any (or even all) of these controls or effects can easily be replaced by other methods, should you choose to do so. You will also notice that there is information included directly inside the instances tab. Any instance that begins with "►►►" is an information drop-down for convenience. When the time comes that these are no longer useful, simply save the file after deleting these out of your way.

Focus Group

This group has nothing in it by default with the exception of a lighting rig that only affects what is placed within the group. This is an easy way to add highlighting and focus lighting to objects of interest – like your character or beasts. To use this feature, simply drag any number of instances into the Focus Group. All preset Scenes come with this group and the lighting within has been set up according to the default lighting of that particular preset.

Environmental Controls

Cameras – This group contains the default cameras which includes Filming Camera, a pair of Scene Set-up Cameras, a Spherical Camera, and a 'Zero Coordinates Target Helper' – which isn't a camera at all, but rather an invaluable camera positioning aid.

Film Camera 1 – By default all presets, except for the Panoramic Makers, use Film Camera 1 as the default render camera.

Cloud Dome and **Outer Setup** – Both are provided to have a quick camera choice for looking at the scene from outside it's perimeter for ease in dealing with distant objects, the Clouds, and viewing the Light Dome setup, etc., which is invaluable when building detailed outdoor scenes.

Spherical – A preset spherical camera for those times when you've build the perfect scene for use as a 360 degree background image for use in the 'Background' scene setting of Carrara.

Artificial Global Illumination – This group contains a sunlight and two light rigs for use in artificial global illumination. Although the **sunlight** is part of Carrara's Global Illumination system, its default settings are setup for use with the light dome, so I placed it in this group, too.

Sunlight – This light works as Carrara's representation of the sun within its realistic sky atmospheric scene effect. There are two ways (that I am currently aware) to aim this light. The x,y,z coordinates make no difference. So moving the light model from side to side, or up and down will do nothing to change the placement or effect of this light type. So feel free to place it where it is most convenient for you. It is common to leave it within sight of the film camera or just above it, and uncheck “Show Object in 3d View” after you’re done aiming it.
To aim a Sunlight either edit the realistic sky (select “Scene” and scroll to Atmosphere), and maneuver the sun icon within the sky dome, or rotate the light model itself within the scene. It should be noted that if you have the light shown in 3d view, then you'll see a white sun icon outline in the workspace if the sun's disc is in the view of the current camera. This works well if you wish to “see” the sun in your render. I started this set with one of my favorite lens flare settings applied, but found that using a lens flare is not an ideal default preset. If you're interested in knowing what it was, I use the “glint” preset lens flare, and change the blue part of the perimeter of the color settings to various ranges of orange. This provides a very subtle effect, so I'll often crank the intensity up by varying amounts to get the look I want. But I also suggest that you try all of the lens flare presets when you have the time.

Artificial GI Distant Light – This light model is grayed out because I have unchecked the “Show Object in 3d View” box by default. This light is replicated over the Global Light Replication Dome eighty-eight times. It is set at a brightness of 1. This is simply to provide a low-level even distribution of shadow casting ambient light. The principal behind the dome of lights is to mimic, to a customizable degree, the effects of global illumination. The higher the number of lights, the lower the need to apply
'soft shadows' in the light's Effects tab. Using soft shadows on a single light in the scene adds significantly to the render time of the scene. As the sun light is only one, directional and high intensity light it makes sense to use soft shadows on it. By default, I've made this shadow very subtle by using 300' as the soft shadow light radius. I will often increase beyond that, for my own use, yet most of my Carrara friends prefer using settings under 50'. Use this 'Light Radius' setting in the Soft Shadows to define how sharp the line is between where there is shadow and where there is none. Raise the number to soften, lower to sharpen.

Setting this really high can make the shadows dissolve entirely, depending upon what makes the shadow. A really sharp shadow might make a distant twig form a detailed shadow upon the grass – something you'd never see in our, natural world. As the director, it is your eye that you should aim to please, however, regardless of real-world behavior.

Ambiance Direction Control – This is used to aim the ambient light rig that is parented to it. Note that, although this is actually a light model, it is set to affect nothing except the text that accompanies it. It is used due to its directional shape, only. In many cases, you'll likely leave it just where it is. Sometimes, however, you may have a specific need to have the ground's reflected light more predominant from a very specific direction. That's where using this comes into play.
What does it control? Glad you've asked! Parented to this model is a set of nine lights. These lights cast no shadows and are infinite. They are divided into three groups according to the direction they face. The lights are grayed out since they are set to not appear in 3d view. Each group contains Cool, Warm, and Neutral, which indicates their color.
Cool = Low Saturation Blue. Warm = Low Saturation Orange. Neutral = Medium intensity No Color.

High – Lights in this group are set to brightness 15 and face upwards towards the direction indicated by the directional control.

Medium - Lights in this group are set to brightness 5 and face up in a direction complimentary to the High group.

Low - Lights in this group are set to brightness 3 and face up in a direction complimentary to the High group, opposite Medium.

This Ambient Light rig is used in addition to the scene Ambient setting, which is set at “sky” at a brightness value of 10%. It is set up this way in an attempt to remove starkness from shadows, as well as to mimic the translucency of real world materials – like the leaves on trees, in this example. If you would like to increase the contrast of your shadows using this kit, try decreasing the scene's Ambient brightness to 0% first. This will leave the ambient light rig working toward creating your false translucency.
Remember that I have set the Sun Light to have very soft shadows too. A lower number in the soft shadows light radius on the sun light will also tighten up the edge of the shadows for a more stark, crisp edge. Turn of the soft shadows altogether on the sun light and you'll get a nice, crisp line between what is in shadow and what is not.
This Ambient Light Rig can also be useful for creating less than natural effects to your scene as well. By default in the provided scene presets, each group will make use of only one light. Feel free to experiment with the settings for various effects. Keep in mind that lights can be fully animated -0 as with nearly anything else in Carrara. For a quick example, I could set up a scene with the sun light low in the sky for a darker blue, or even darker sky and build a campfire in the

scene. I could use this rig to cast orange, red and yellow lights upwards at everything in the scene – flickering differently for each of the colors. I could also animate the colors to change, too. Tip: For an easy, non-uniform animation like this, we can do so with as little as two settings for each animated light. Set the start frame to be one thing and the end frame to be another setting. In the Sequencer, set the tweener to Noise or Oscillate or Formula, for example. Trying things like this can be very rewarding. If you get an effect that you like, find a place in the browser where you'd like to find it again and drag that whole light rig into the browser for use in any other scene.

Clouds – This group is made up of a single cloud used as the ground-level foggy mist, which has then been duplicated, with each duplication being placed in the sky according to my ‘vision’ of how I wanted the scene to look. These clouds have a very forgiving set up, making it easy to rotate, scale, and move them around to easily create various effects in the scene. Some scenes may have more clouds than others.

Badlands Base Terrain

Like the Woodlands Environ Kit, Badlands comes with some base terrain pieces and some water that can be found in all of the presets. However, Badlands actually has different versions altogether, in certain presets. Since these are all made directly within Carrara, you may open one preset, copy the terrain, and paste it into another, different preset. Just note that the original scene must stay open in Carrara until after the paste was made, or the clip board will empty of the Carrara assets.

Although the Primary Terrain piece, the central foreground piece, may differ from one preset to the next, the Background Terrain piece is the same. This background piece is very large, with a low center, so that it easily passes underneath the Primary Terrain in the center. It is also set to have a much lower fidelity in the terrain modeler. This makes it render faster as well as being easier in the work space viewing. If you ever find it getting difficult to navigate your scene, try double-clicking the Primary Terrain and lowering the working view fidelity down to, say, 512. This might make it somewhat less accurate for placing things that must touch the ground in a certain way – as it actually changes the viewed topology of the mesh, but it will make the view port much more responsive.

Replicated Water

Some of the presets use water or lava. Some of them did not require replication, so the replicator, itself, was removed and the Ocean primitive used for both water and lava, was moved into the appropriate position. The use of the Ocean Primitive gives us the ability to easily animate movement of waves. Both lava and water in Badlands use this and already have some parameters set so that, if you were to render an animation without changing anything, there will be movement by default.

The Lava Ocean is also available in the browser to add to any scene, as well as the shader which can be applied to any Ocean primitive. Just keep in mind that I went through a lot of work to get this shader properly set for use with the Ocean provided in this kit, so you may have a lot more work to do if you wish to use it on any other surface. Regardless, the Lava Ocean shader has been provided in the Terrain shaders category – mainly so that you may easily add the shader to the ocean primitive in any of the other presets – which will also work on the Ocean from Woodlands and possibly Underwater Realms.

Basic Plants

I made these plants to render quickly and to take up their space in the background. The less scaled and low density of the included plants really works to an advantage to creating the naturalized feel. I enjoy loading in some of these individual plants to place around where they're not included via the blocks. Alternatively, I'll sometimes just duplicate trees that I have already brought in with one of the blocks. I have also included presets that are accessible via the Plant Editor's Load feature. Then you can shape and tweak them, change them entirely!

Scene Presets – Background Maps

While you'll still see many of the common elements included in the Realistic Sky Base presets, these all use rendered spherical images in their scene's Background option as a Map. Another difference is that they use a Distant light in place of the sun light. No atmosphere settings are recommended for these – as the map replaces the realistic sky system. Don't let that stop you from experimenting on your own, though! But heed my advice above beforehand.

You'll still get the same great ground fog and clouds, etc., and using these scenes can be nearly identical. The biggest difference will be that rendering only a background map in a scene takes very little time – but you lose the advantage of being able to change or animate the background details. In these presets you'll see a couple of base scenes that use a simple ground terrain to give your subjects something to stand upon. This helps to make the scenes useable in a multitude of ways. But do keep in mind that the use of Background, Spherical Maps gets its main advantage from not requiring additional geometry to render. Within these scenes is an experiment written in the notes regarding the deletion of the base terrain, and just rendering your subject against the background. Give it a try and you'll likely amaze at how quickly you may render in this way.

Volumetric Clouds – It should be noted that volumetric clouds can add significantly to your render times. Many of us feel that they are well worth their wait. To that end, it is most fortuitous to turn the clouds visibility off while setting up and test rendering, and activating them again for final rendering needs.

Closing message

So that gives a brief detail about what you have by installing this kit. I feel that the presets are nice enough to use all by themselves without the need to read any of this – which was my intention. But for those who really want to dig in the dirt and scape out your own scenes, I want to make the process not just simple, but fun and unique – without plaguing your computer with days-long render times. Such long renders can easily be achieved using this kit, don't get me wrong! But you really shouldn't have to. Use the eye of your render camera to determine whether to add another block or just duplicate one more tree. Drag 'em around and up and down. Rotating a duplicated instance will give you a whole new block. Even the slightest change - especially if you sink one deeper than the other. Any tree or shrub that is used in any of the blocks can be duplicated for adding another instance, or copied and pasted as a separate model to become tweaked in the model room. Due to the already low resource levels of most of these presets, you'll find a lot of room to work with – without bogging down your system's precious memory.

I am a shopper at Daz3d – Big time! This is one of the biggest reasons to why I left the center point of the scene empty. This is an area that I consider to be the focal area. I consider this because any time you drop something into the scene by using the insert command or by dragging something into the scene tab, its default location is 0x, 0y, and 0z in 3d space – as far as Carrara is concerned. So if you want to insert a Target Helper Object, for example, so that you can select it for rotating your camera around, in this kit's presets, that's the focal area... 0,0,0. I try to make all of my scene creations that way – simply to save myself time. So now, when I buy my new thing from Daz3d, I can simply drag it into the scene and render it.
Some items I buy are not for the main focus, but should be within that area. So now I can bring it in, rotate it, and move it into position, according to where I need it in my camera. The Base Primary terrain accommodates everything I've tried so far.

The other huge reason is that I love the use of aniBlocks and other, purchased animated pose files to help save some time. Having such a flat terrain space in the center gives several seconds of walking, jumping, playing football or soccer, martial arts moves and fighting scenes – or maybe the character is frustrated and just having a bad day. The terrain accommodates, but also the shaders for the terrain help as well. With such shaders, you can group your animated character (Cntrl G / Cmd G) and 'sink' it down a bit, into the terrain shader to simulate their feet sinking into the sand.

What I really wanted was to help to show Carrara users a good assortment of techniques that we can use, simply by owning Carrara and nothing else.

I have avoided using Carrara's Global Illumination feature for a long time, thinking that it was a real time killer. It can take long times to calculate lighting simulations in a good many scenes, but so can adding too many lights. Replicators can save you a lot of time in the scene creation process but can slow your render times with their calculations as well. Sometimes it can be better to simply duplicate objects and place them by hand. In all, Carrara is capable of allowing the artist to use many methods to achieve a similar goal – which makes it incredibly versatile.
The Realistic Skies that I've included in this kit are nothing more than a near default setup, with some special consideration spent on the fog effect. I did not intend this kit to be a Realistic Sky preset product, since there are such good products for that already. I have used some of the presets from all of the Carrara Sky products that I own – and, as expected, they all work great to enhance the scene in addition to the presets I've provided. If you have sky domes or other background maps that you like to use, this kit can work beautifully in that way as well.
In the case of using sky domes from other products, I can provide this tip: I like to set my light dome light and sun light to ignore the sky dome – as these types of lights will be lighting the dome from the outside of it. To set the sky dome brightness, I copy the texture map of the color channel from the dome's shader, to the glow channel and use the brightness slider for that image to determine the brightness of the dome. I usually start at a brightness of 25% and work from there.
Just because I really like a certain feature, like the Realistic Sky, doesn't mean that I use it for everything. Carrara is the most unique software I've ever tried – in how many different methods it allows us to use – since it can load nearly anything made for Poser Software.

Lastly, I just want to wish you the enjoyment of success in all of your Carrara endeavors. I strive to make it as understandable and fun for everyone and any types of methods you'd like to try. If you have questions, I do my best to frequent the Carrara Discussion forum at Daz3d.com and am happy to assist whenever I can.

Happy rendering, my friend!
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