

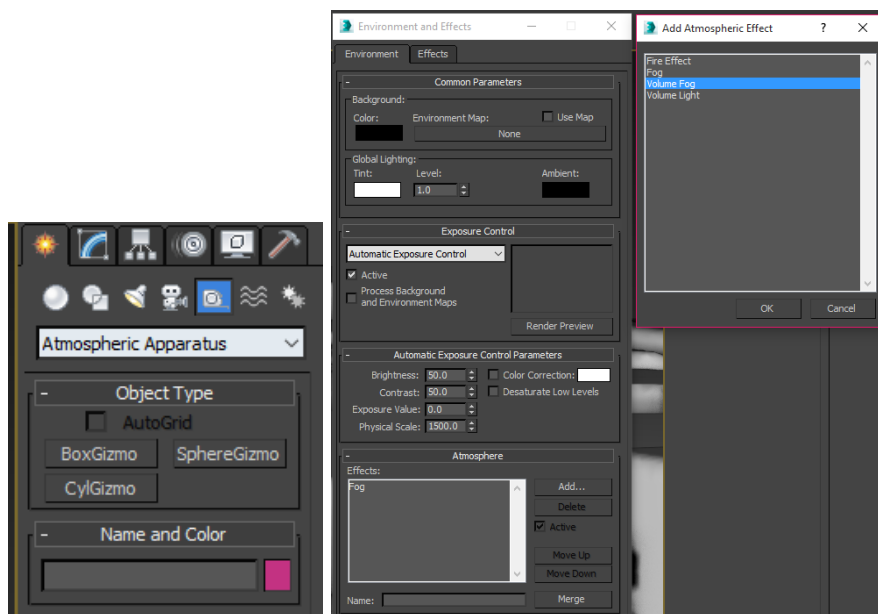
Environments

Atmospheres and effects

Atmospherics may disguise aspects of a design; however, they may also enhance the level of realism, especially given natural phenomena.

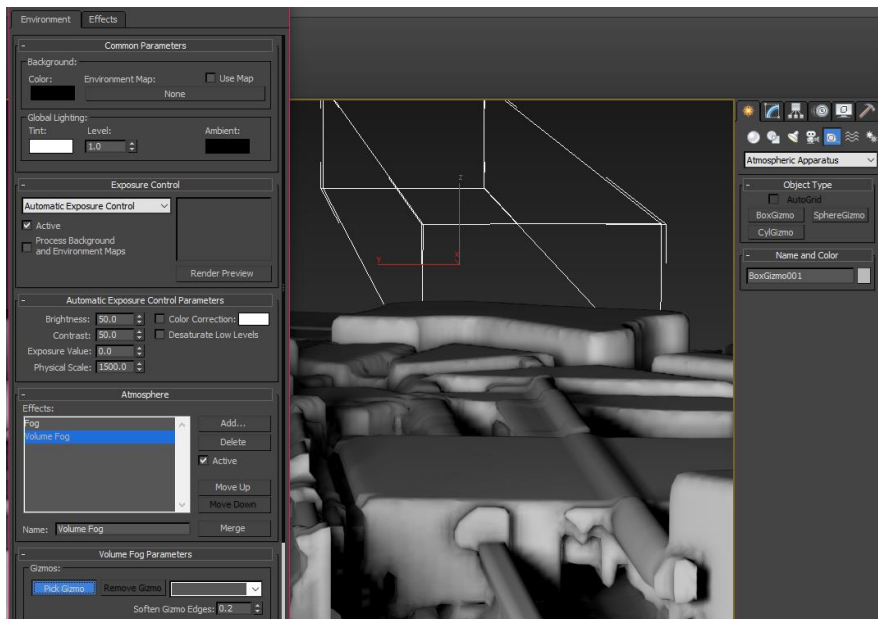
Interoperability note: The scanline render with 3DS Max suits the volume light atmosphere, while the Mental Ray rendering engine requires setting up the parti-volume photon shader. Autodesk Revit has the scanline render and Mental Ray, though its render options are limited and most adjustments should be made in graphic display and visibility graphics windows.

Software: Autodesk 3DS Max 2016

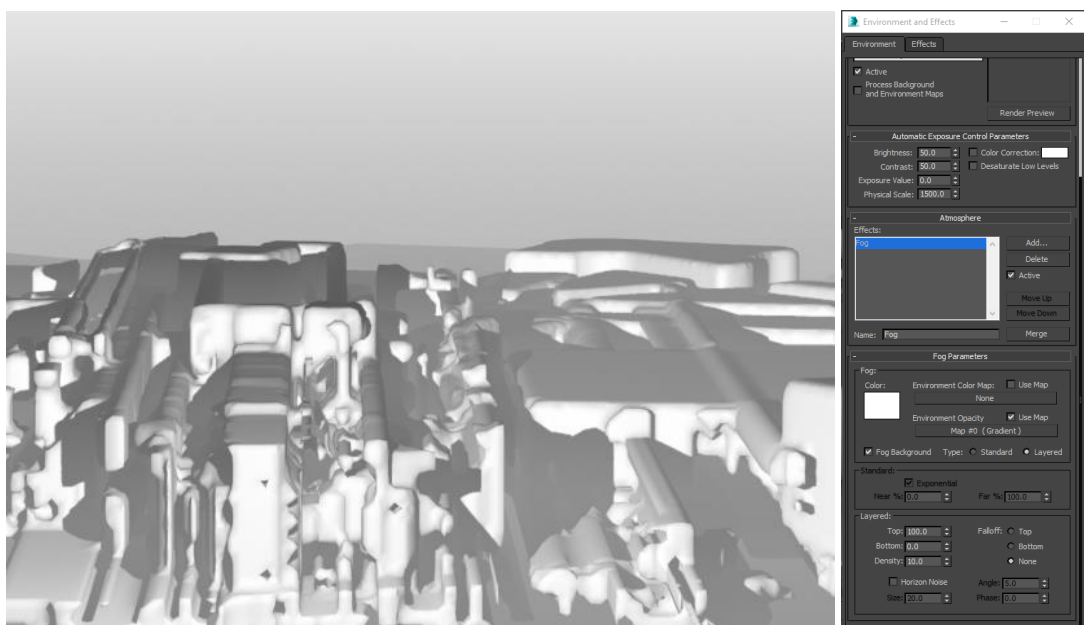


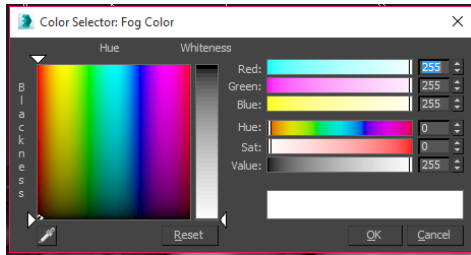
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Material to be used for educational purposes and with book companion.

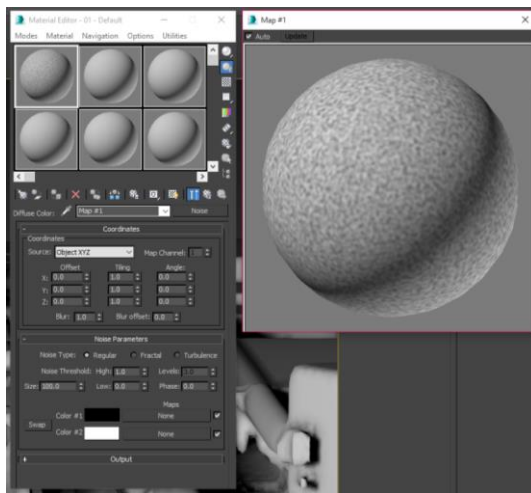


1. Load fog effects in 3DS Max. Two atmospheric effects can be added here, volume fog and fog. A volume fog requires a gizmo under atmospheric apparatus. This can be an alternative to particle flow cloud systems. Press 8 on the keyboard to bring the environment control forward. Draw a box gizmo in the scene. In the environment window, click *Add* under atmospheric effects and add a volume fog. Below is a tab called *Volume fog parameters*. The *Pick gizmo* button lets you assign the effect to the box you have drawn in the scene. You can control the density, size and exponential settings below.





2. In this scene, a fog effect is the only atmosphere added. Add a fog and choose the fog as a background. Assign a gradient map to the environment opacity and select 'layered'. Adjust the fog density to 10.0. Layered fog has parameters that control the vertical limits. You may wish to have ground fog, for example. Setting the falloff to 'top' means the fog gets thinner. Click on the colour swatch of the fog setting. Experiment with settings. Finally, add horizon noise; the angle value determines the amount of noise below the horizon.



3. Adding a noise map as a diffuse colour in the material editor and then assigning it to the environment opacity map in the environment settings will disrupt the fog system so it is not consistent to the scene and more natural.

Additional links

Fog effect <https://knowledge.autodesk.com/support/3ds-max/learn-explore/caas/CloudHelp/cloudhelp/2016/ENU/3DSMAX/files/GUID-3E2DD837-66B9-4BA5-BEDB-CF72CBF185EB-htm.html>

Environment panel: <http://help.autodesk.com/view/3DSMAX/2016/ENU/?guid=GUID-EF33AEB1-44BE-403E-B4CC-3C29495988C2>

Volume fog: <http://help.autodesk.com/view/3DSMAX/2016/ENU/?guid=GUID-F7B3EB42-74EE-4CB4-A2DA-762AC5A71EE4>

Volume light: <http://help.autodesk.com/view/3DSMAX/2016/ENU/?guid=GUID-D75475E4-4CD2-4A8C-9141-54A0A3CD9D62>

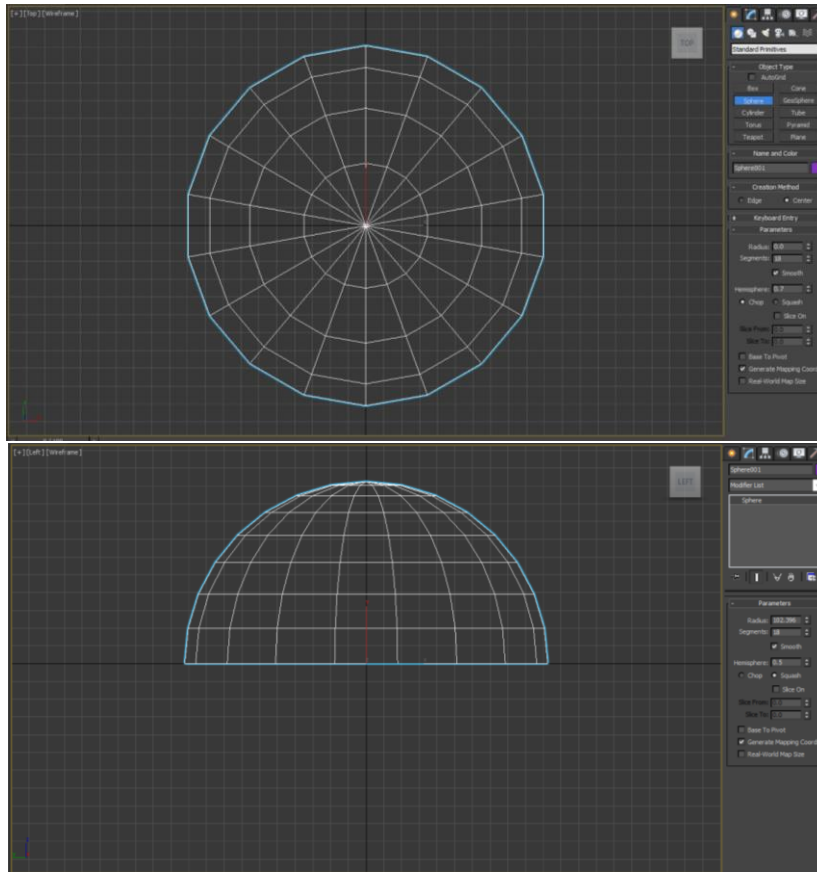
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Skydomes

You can simulate sky systems using a flat bitmap image in a sphere.

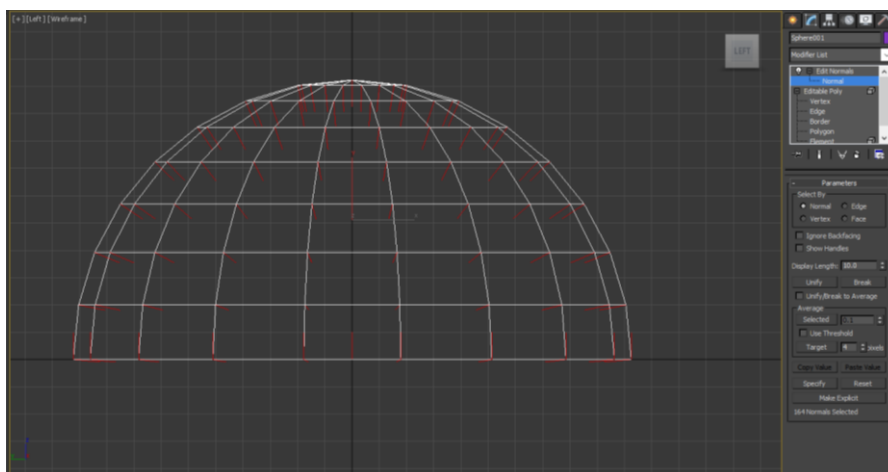
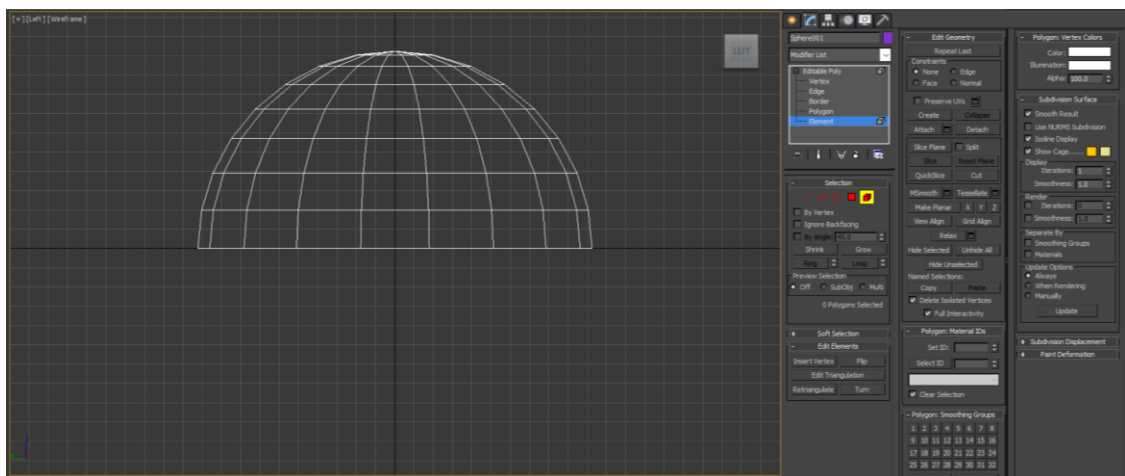
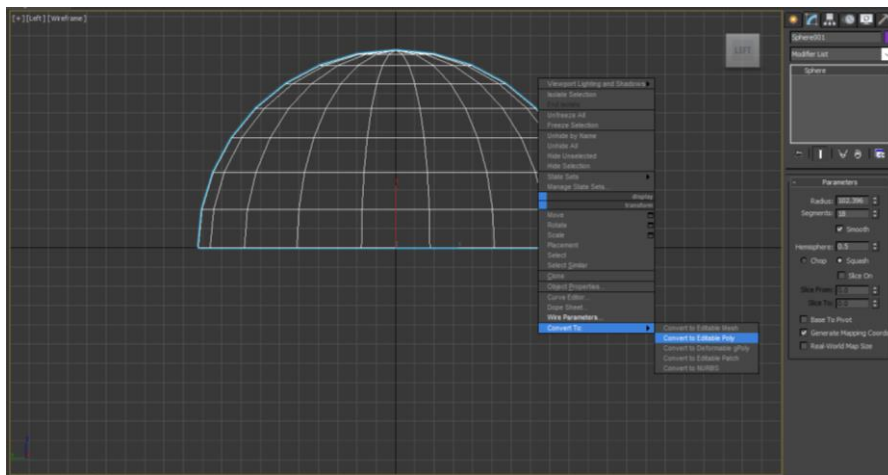
Software: Autodesk 3DS Max 2016



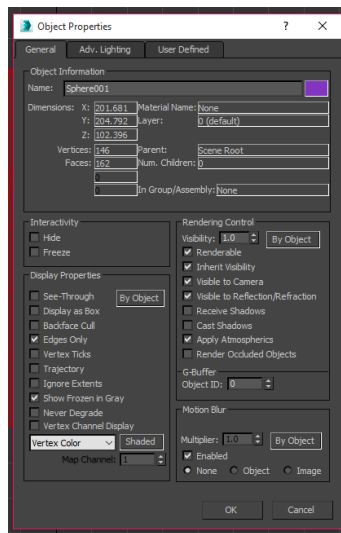
1. Load 3DS Max and maximise the top view. In the *Create* tab, select the sphere primitive and draw this in the centre (it should cover the object). Change the number of segments to 18. Change the hemisphere value to 0.5 and click *Squash*. You may also wish to squash the sphere depending on the object to give a more expansive sky effect.

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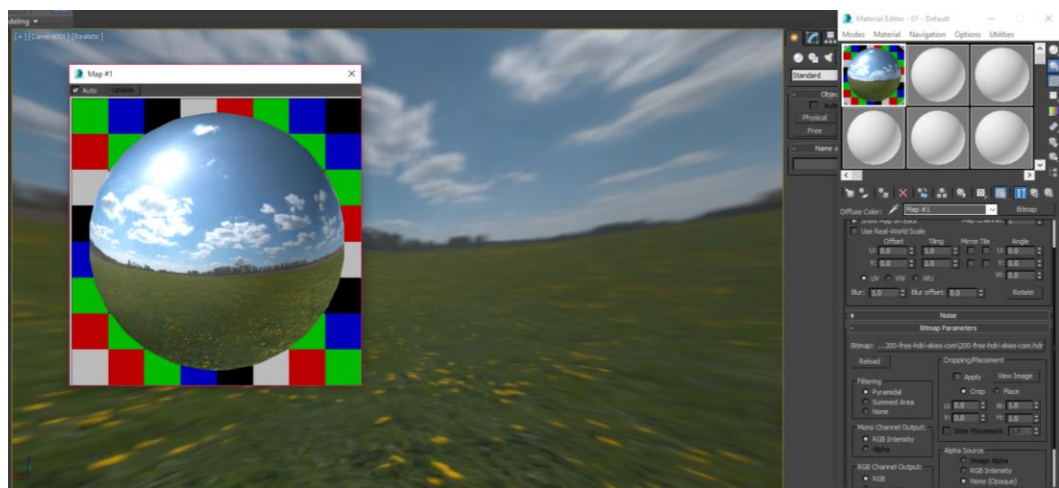
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2. Right-click and convert to editable poly. Go to the *Modify* tab and select *Element*. Go to the *Edit elements* window and select *Flip*. This reverses the normal so the sky image will appear inside the sphere.



- Right-click on the object and select *Object properties*. Unclick *Receive shadows* and *Cast shadows*. Open the material editor and maps window, assigning a bitmap skydome. Ensure U&V tiling is 1.0 and assign it to the dome. Finally, create a new modifier to the skydome, a UVW map. Ensure this is planar; press *Fit* in the modify parameters of the UVW map.



- You can assign an omni-light inside the dome to illuminate the background skydome texture or self-illuminate the texture. In the general parameters, exclude other objects apart from the dome. A similar method can be applied to a perspective match process. Applying atmospheric effects and particle clouds to the skydome can also enhance the output.



Additional links

Skydomes: www.cgskies.com

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