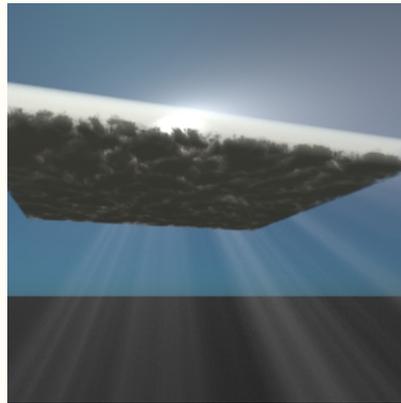# Atmosphere Volume

Rollover image

This shader simulates light scattered by a thin, uniform atmosphere. It produces shafts of light and volumetric shadows cast from geometric objects. It works with point, spot, and area lights, but not with distant or skylights. This is a scene-wide volume shader (or an atmosphere shader in Arnold's terms).

⚠️

⚠

- *atmosphere_volume* used to be called *volumetric_scattering* and should not be confused with volume rendering of fluid type objects.
- *atmosphere_volume* only works with 'local' lights that have a precise location and size and inverse-square decay. It does not support lights at an infinite distance, such as the Skydome light or directional light.
- Currently, *atmosphere_volume* does not compose well against volumes. This is because atmospheres return a single flat result that is opacity mapped on top of whatever is in the background of the pixel.


Atmosphere Volume cannot 'penetrate' through the cloud volume

ⓘ

ⓘ *atmosphere_volume* should be composited using an 'additive' mode such as 'screen' because volumetric scattering is the light that cannot be represented in the alpha channel.
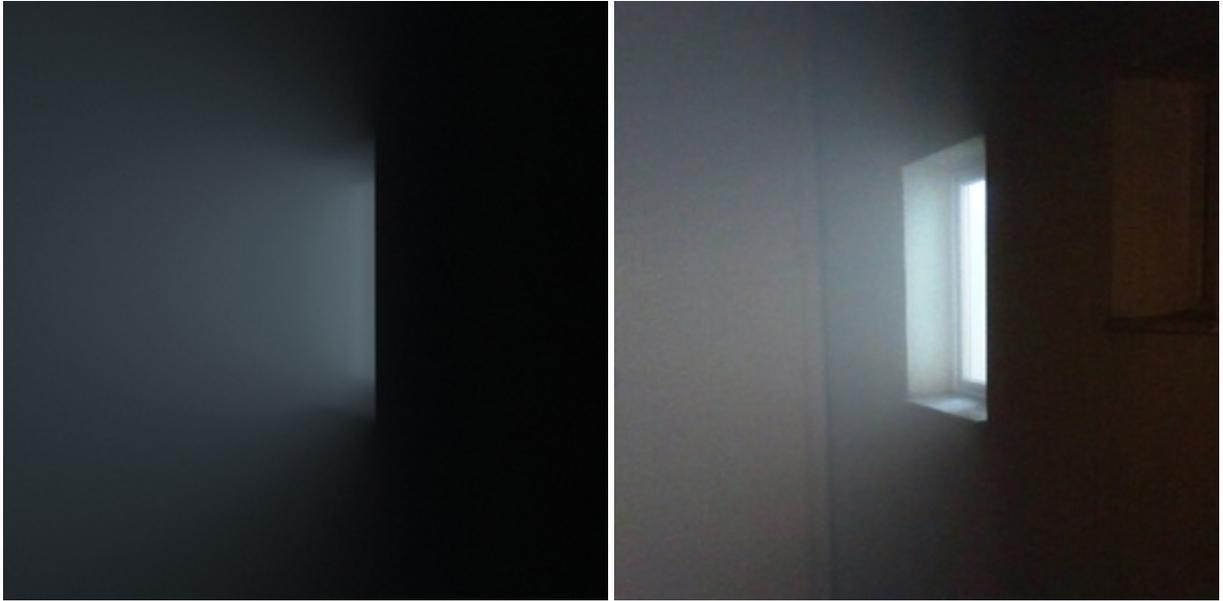
Enable Matte **enabled for** *standard_surface* **shader assigned to wall geometry (left). Atmosphere Volume render composited using 'screen' (right). Rollover images.**

The example below demonstrates the effect of *atmosphere_volume* through a medium. It consists of a polygon plane with a circular ramp texture connected to the opacity of a *standard_surface* shader. The spotlight is pointing at the plane and *atmosphere_volume* is enabled.
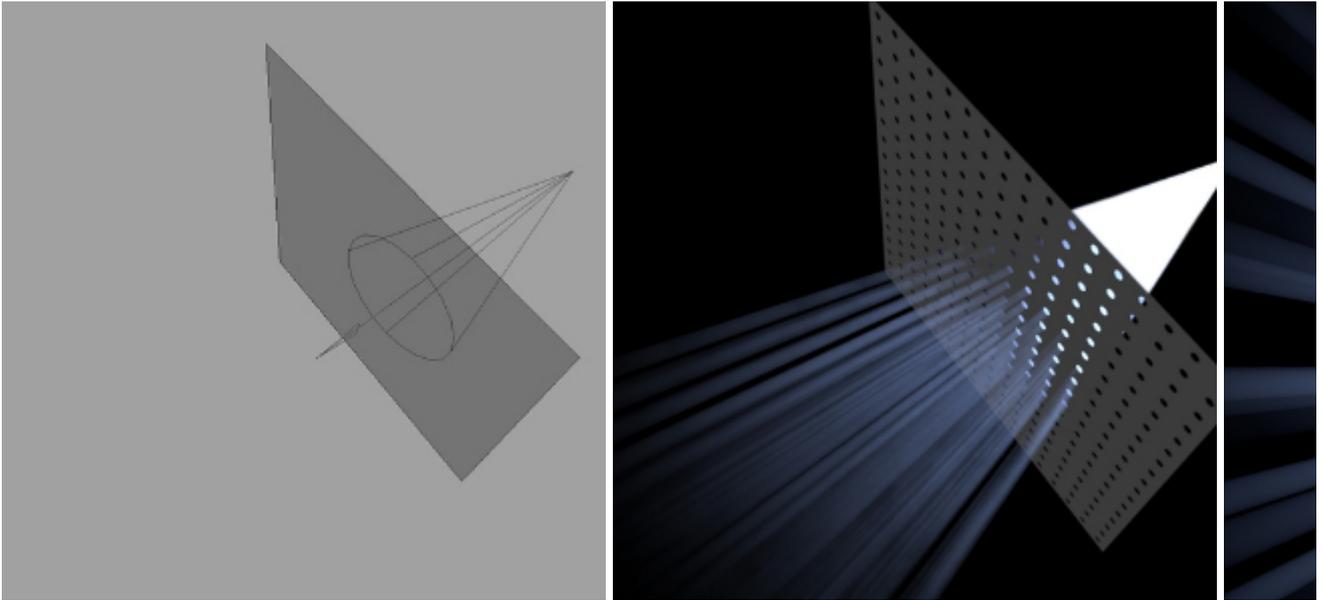
Polygon plane with circular ramp texture -> *opacity* of a *standard_surface* shader

The parameters are divided into two groups and are described in more detail in the pages below:

- Volume Parameters
- Contribution Parameters
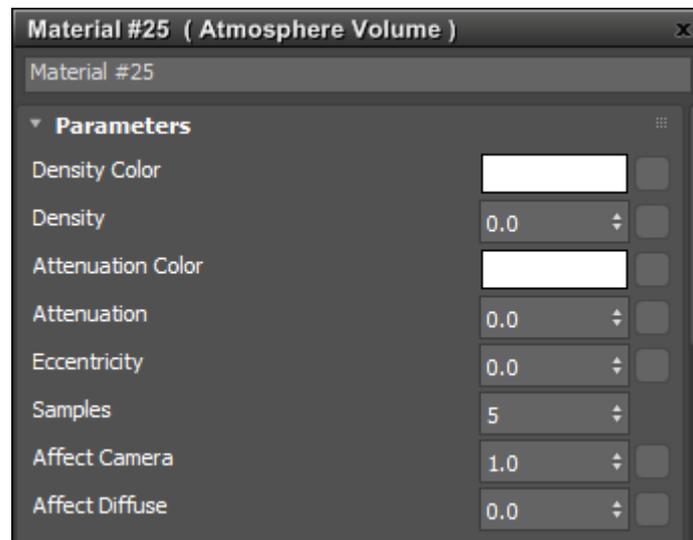
Atmospheric Volume shader

- To use, in the Render Setup dialog, in the Scene Atmosphere button select *No Mat* and choose an *Atmospheric Volume* shader. Drag the *Atmospheric Volume* shader onto the Slate Material Editor

and increase its *Density* to see the effect. (Alternatively, you can create an *Atmospheric Volume* shader in the Slate Material Editor and drag it onto the button.)
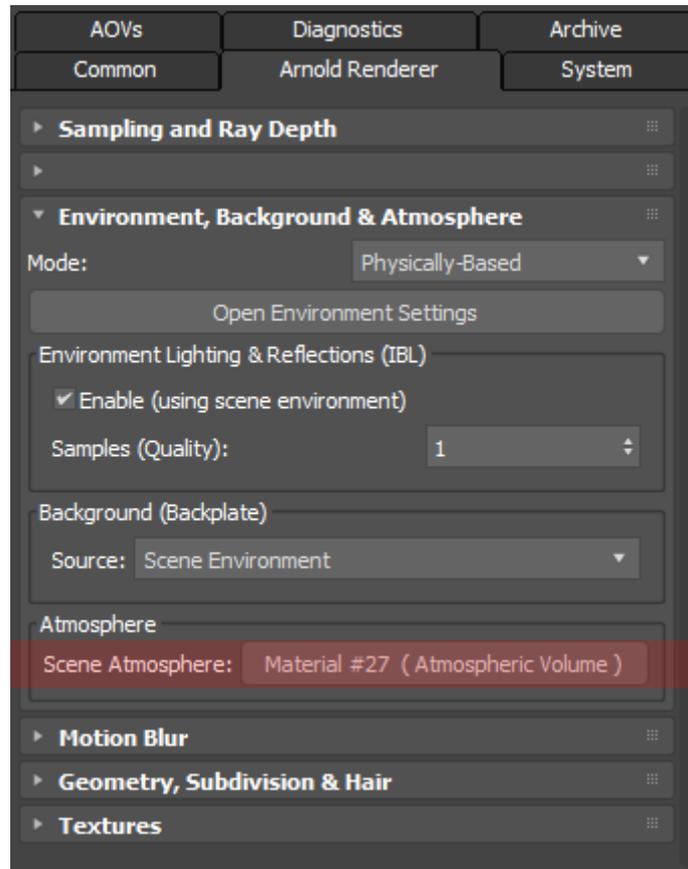
Atmospheric Volume* shader connected to *Scene Atmosphere