

# Preview

This page provides information about the Preview tab of the V-Ray Volumetric Grid.

## Overview

The parameters in this rollout control the representation of the cache files in the viewport. All enabled values are drawn if the content is within the specified range.

## Parameters

**Read Cache for Preview** | *prvReadCache* – Allows to completely disable reading of cache files in order to speed up the viewport. When cache files are not read, neither voxels and particles, nor the grid bounding box or the **Cache File Content** under the **Frame Info** rollout are shown. This way scrolling the timeline is quick as there is no access to hard disk or the network. If you still need to see the grid bounding box and the **Cache File Content** info, you can leave this option to **Always**, and instead disable all voxel preview options, the **Mesh Preview**, **GPU Preview** and all particle previews. The intended use for this parameter is as a last step performance optimization.

**Always** – Cache files are always read by the preview.

**Don't Preview Caches** – Cache files are never read for the preview. They are only read during rendering.

**Detail Reduction** | *detailReduction* – Decreases the grid and particle detail in the preview. A value of 0 means no reduction. Increase this value if the interface starts to lag due to the cache files being very large. This parameter controls both the viewport preview and the GPU preview.

**Auto Reduction** | *viewAutoReduction* – Enables automatic adjustment of the **Detail Reduction** parameter to improve display performance. The preview detail is reduced up to a point where the preview displays fast without blocking the interface. Note that the detail only decrease automatically, but does not increase.

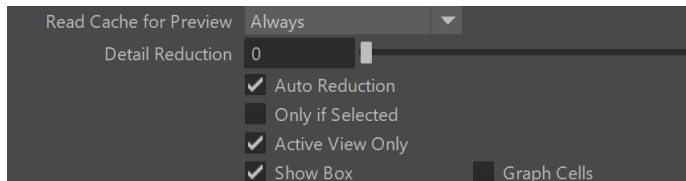
**Only if Selected** | *onlyIfSelected* – When enabled, the contents of the cache file are only shown when the V-Ray Volume Grid is selected.

**Active View Only** | *activeViewOnly* – When enabled, the contents of the cache file are only shown in the active viewport.

**Show Box** | *showGrid* – When enabled, displays the Volume Grid's loaded cache bounding box in the viewport.

**Graph Cells** | *showGridCells* – When enabled and **Show Box** is enabled, displays a lattice with the cell sizes on the sides of the Volume Grid's box.

The Volume Grid can only preview the channels present in the cache file for the current frame. To see the list of available channels and their ranges, go to the **Cache File Content** section of the Frame Info rollout.



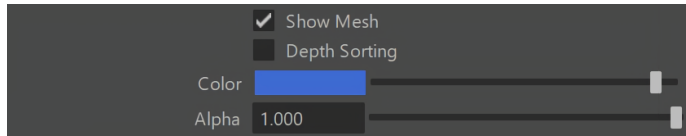
## Mesh Preview

**Show Mesh** | *viewMesh* – Turns the mesh preview on or off. This mode overrides the Voxel Preview mode. Note that if **Render Mode** is set to **Ocean Mesh**, the ocean has lower detail in the preview than in the render in order to speed up the viewport display.

**Depth Sorting** | *viewMeshAlphaSort* – When enabled, turns on precise mesh drawing when using transparency.

**Color** | *viewMeshColor* – Specifies the color of the preview mesh.

**Alpha** | *viewMeshAlphaSort* – Specifies the alpha of the preview mesh, allowing transparent mesh preview.



## GPU Shade Preview

Produces a render-like preview in the viewport calculated on the GPU. Note that the video card must support at least [OpenGL 2.1](#). Known limitations:

- Does not support textures
- Ignores emissive lights
- 8-bit color depth (but since the color is premultiplied with the alpha, the actual color range is bigger).

The default rendering settings are not suitable for previewing liquids. First, you must disable Fire if there is no burning in the simulation. Second, enable **Solid** mode in the Extra Attributes, and set the proper **Surface Level** in the Surface section of the Rendering rollout. Finally, clicking the Reset button in the Smoke Opacity rollout sets up the right settings for the preview.

**Show** | *gpuViewEnbl* – Enables the GPU shading preview. Note that geometries that intersect or exist inside the bounding box of the Volume Grid may appear behind the fluid or in front of it. Another limitation of the viewport preview is that it won't be visible if the camera goes inside the Volume Grid.

**Required GPU memory** – Shows the approximate texture RAM that is used for the preview. Note that the GPU can allocate textures that exceed the available GPU memory but at the cost of speed. Also, there is no way to tell if the GPU can handle the texture without trying.

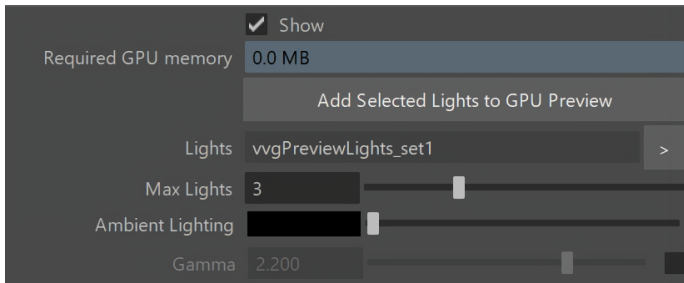
**Add Selected Lights to GPU Preview** – When a light and a Volume Grid are selected, the selected light is added to the GPU preview. This button is a shortcut for adding the selected light to the **Lights** phxlight\_set# which is automatically created with the Volume Grid. You could do this manually by Middle-Mouse-Button drag & drop of the light into the **Lights** set in the Outliner.

**Lights** | *gpuViewLight* – A set that specifies the exact lights used in the preview. If empty, the Maya viewport lights are used, which can be controlled by the viewport **Lighting** menu. You may need to select **Use All Lights** to enable the actual lighting. Note that V-Ray lights may not be used as Maya viewport lights and you should add them to the **Lights** set explicitly. If no lights are selected neither for the Maya viewport, nor added to the **Lights** set, the Volume Grid uses one default directional light.

**Max Lights** | *gpuViewMaxLights* – Sets the maximum number of lights used in the GPU preview. If there are more eligible lights depending on the conditions described in the **Lights** option above, only the closest lights to the Volume Grid are used, and the directional lights are always with lowest priority.

**Ambient Lighting** | *gpuViewAmbient* – Specifies the color of the ambient light.

**Gamma** | *gpuViewGammaEnbl*, *gpuViewGamma* – Specifies the gamma for the GPU preview. Affects the viewport preview only.



## Voxel Preview

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The default preview mode that displays the individual content of each cell. All enabled channels are drawn if their content is between the corresponding thresholds.

**Only the Overlap Of** | *andReduction* – When enabled, all channels in a cell must meet the selected threshold conditions to visualize the cell.

**Temperature** | *viewTemp*, *viewTempColor*, *viewTempColor2*, *viewTempThreshold*, *viewTempThreshold2* – Enables the representation of the temperature.

**As Fire** – When enabled, the natural color of a hot black body is used for coloring the temperature. Otherwise the color ramp is used.

**Smoke** | *viewSmoke*, *viewSmokeColor*, *viewSmokeColor2*, *viewSmokeThreshold*, *viewSmokeThreshold2* – Enables the representation of the smoke.

**Fuel** | *viewFuel*, *viewFuelColor*, *viewFuelColor2*, *viewFuelThreshold*, *viewFuelThreshold2* – Enables the representation of the fuel.

**Velocity** | *viewVel*, *viewVelColor*, *viewVelColor2*, *viewVelThreshold*, *viewVelThreshold2* – Enables the representation of the velocity.

**Velocity Streamlines** | *viewVelStreamlines*, *viewVelStreamlinesThreshold*, *viewVelStreamlinesThreshold2*, *viewVelStreamlinesColor*, *viewVelStreamlinesColor2* – Traces the velocity field of the cache files to generate a streamline preview.

**As Rainbow** | *viewVelStreamlinesColorCurve* – Represents the Velocity Streamlines in rainbow colors.

**Streamlines Length** | *viewVelStreamlinesMaxIterations* – Signifies the maximum length of each streamline in the preview. Adjusting the value will provide you with a guide/preview of the velocity field's motion. The Streamline's length is measured in voxels and at the lowest setting, the Streamlines will be no larger than a voxel.

**RGB** | *viewUVW*, *viewUVWThreshold*, *viewUVWThreshold2* – Enables the representation of the RGB channel or the Wavelet channel, depending on which one is being used.

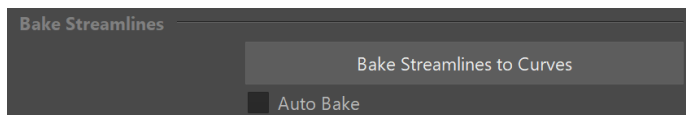
**Auto Range** | *viewAutoRange* – When enabled, automatically adjusts the preview ranges of visible channels for the current frame so that important data is always visible and the preview is always quick.



## Bake Streamlines

**Bake Streamlines to Curves** – Button for converting the currently shown Streamline preview (either Velocity Streamlines or Force Streamlines) into native Maya curves. The baked curves can be rendered like any regular Maya curve by using the [V-Ray Renderable Curves](#) node.

**Auto Bake** | *autoBakeStreamlineCurvesOnPreviewChange* – Enables automatic Streamlines to Curves baking on any change in the Streamlines Preview. While the Auto Bake option is enabled you don't have to press the Bake Streamlines button in order for scene changes to be applied to the curves and changing the timeline frame will update the baked curves.



## Slice Preview

The **Slice preview** displays only a single plane of voxels which can be convenient for debugging and fine-tuning a simulation.

**Draw a Slice** | *viewSliceAxis* – When enabled, only a voxel-thick cross-section of the grid becomes visible. This allows for a better view of occluded details and can help when previewing very rich data such as velocity fields.

**Along X / Y / Z axis** – Slices the grid along the specified axis.  
**Disabled** – Turns the Draw Just a Slice feature off.

**Slice Level** | *viewSliceLevel* – Specifies the offset of the slice from the bottom center of the grid in voxels.

**Slice Width** | *viewSliceWidth* – Specifies the width of the slice in voxels.

Slice Preview

Draw a Slice

Along Axis X

Slice Level

0

Slice Width

1