

# 3.13.00

*Official release*

**Date** – 27 Mar, 2019

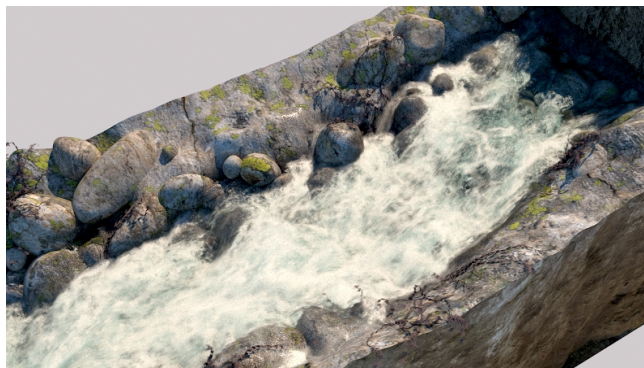
**Download** – [Build 3.13.00](#)

With Phoenix FD 3.13 we have focused on adding many frequently requested features, improving usability and support for 3ds Max 2020.

---

## Faster liquid simulations

FLIP simulations are 30% faster on average and up to 2x faster on some scenes.



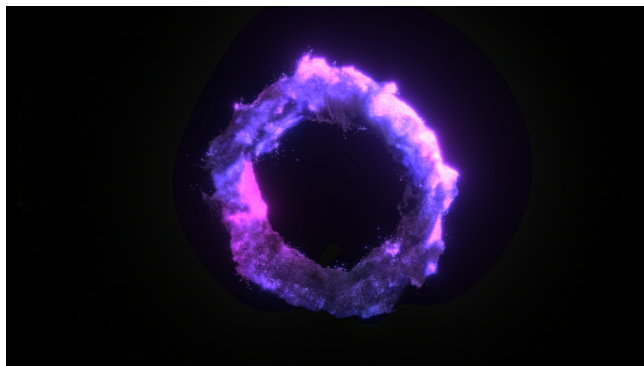
## Fire Opacity Texture

Now you can modify the Fire Opacity using textures in order to achieve more interesting shading results.



## Support for Loading and Saving OpenVDB Point Data

Save particles simulated by Phoenix FD to VDB cache files, and also import particles from other software via VDB caches



---

**Complete changelog:**

|          |                   |  |
|----------|-------------------|--|
| NEW      | PHOENIX FD        | Support for 3ds Max 2020   |
| NEW      | VOLUMETRIC SHADER | Modulate or replace the Fire Opacity with a Texture in 'Use Own Opacity' mode  |
| NEW      | CACHE I/O         | Saving of Phoenix simulated particles to OpenVDB caches  |
| NEW      | CACHE I/O         | Loading of OpenVDB point data for rendering using the Particle Shader or emitting from Sources   |
| IMPROVED | SIMULATION        | Option to allow only expansion of the adaptive grid, but disable shrinking for the Liquid Simulator  |
| IMPROVED | FLIP SOLVER       | Resimulation of the RGB channel for FLIP particles   |
| IMPROVED | FLIP SOLVER       | Export of Particle Velocity for WetMap over moving geometries  |
| IMPROVED | FLIP SOLVER       | Use less memory for simulation of WetMap when 'Sticky Liquid' is disabled  |
| IMPROVED | ANIMATION         | Grid RGB and Viscosity channels are now reconstructed from FLIP particles when using Time Bend Controls, preventing render flickering  |
| IMPROVED | VOLUMETRIC SHADER | Optimized volumetric rendering when Smoke Opacity is modulated by a texture  |
| IMPROVED | PARTICLE SHADER   | Motion Blur Interval Center support for the Particle Shader  |
| IMPROVED | PARTICLE SHADER   | Name new Particle Shaders "ParticleShader###" instead of "PHXFoam###"  |
| IMPROVED | OCEAN MESHER      | Support for rendering Ocean Mesh from multiple cameras via Batch Render  |
| IMPROVED | OCEAN MESHER      | Support for rendering Ocean Mesh with Stereoscopic camera  |
| IMPROVED | PREVIEW           | Show the force preview in the box of the loaded cache, if any, and in the simulation box otherwise   |
| IMPROVED | CACHE I/O         | Updated OpenVDB from version 3 to version 5  |
| IMPROVED | ABC I/O           | Export Phoenix meshes with vertex velocity using 3ds Max 2019+'s built-in Alembic export into the 'Max_Map_Channel velocity' color set. Used for motion blur rendering with V-Ray Next update 1.1 or newer |
| IMPROVED | ABC I/O           | Separate export to Alembic for the different particle systems of a Simulator by exporting the "Particles [] of []" nodes via 3ds Max's built-in exporter   |
| IMPROVED | USER INTERFACE    | Added the running Simulator's node name to the simulation viewport status  |
| IMPROVED | USER INTERFACE    | Renamed the Mapper's 'Time Constant' to 'Buildup Time'   |
| FIXED    | V-RAY SUPPORT     | The Phoenix FD 3ds Max plugin could not load together with V-Ray builds older than V-Ray 3.6. Restored compatibility with V-Ray 3.1  |
| FIXED    | GRID SOLVER       | Intersecting a moving obstacle with a Solid emitter left non-emitting voxels after the obstacle  |
| FIXED    | GRID SOLVER       | Clear Inside did not clear the volume of Non-Solid emitters in Surface Force mode in the Fire/Smoke Simulator  |
| FIXED    | GRID SOLVER       | Empty adaptive grid expanded by itself when Extra Margin was used and Expand and Don't Shrink was On   |
| FIXED    | FLIP SOLVER       | Crash with 'Simulate Air Effects' and forces affecting the 'Air' system of a Liquid Simulator, since Phoenix FD 3.04   |
| FIXED    | FLIP SOLVER       | WetMap was not equally generated over flat surfaces and might not appear on horizontal or vertical surfaces  |
| FIXED    | FLIP SOLVER       | Subsiding liquid at the front of a long moving ocean container with Motion Inertia   |
| FIXED    | FLIP SOLVER       | Fixed various issues with moving ocean containers producing disturbances and waves at their borders  |
| FIXED    | FLIP SOLVER       | Trying to resimulate over a liquid cache with no Liquid particles showed different messages the first and second time  |

|       |                         |  |
|-------|-------------------------|--|
| FIXED | SIMULATION GENERAL      | Simulation restore did not go back to the last backup frame and could cause a crash, since Phoenix FD 3.12   |
| FIXED | SCENE BODY INTERACTION  | Voxelization of a large amount of small bodies used excessive amounts of memory, since Phoenix FD 3.11   |
| FIXED | SCENE BODY INTERACTION  | Voxelization of hundreds of geometries with very small sizes was slower on many threads compared to simulating on 1 thread   |
| FIXED | SOURCES                 | Geometry with Initial Liquid Fill which was also selected in a Source in Volume Brush or Volume Inject mode created double amount of liquid particles and this caused explosions |
| FIXED | SOURCES                 | Particles with small size used as emitters for Liquid had random Discharge strength  |
| FIXED | SOURCES                 | Sources did not emit from Thinking Particles when simulating through Deadline or Backburner  |
| FIXED | ANIMATION               | Flickering FLIP liquid mesh near emitters when Input Play Speed was below 1  |
| FIXED | GPU VOLUMETRICS         | When two or more Simulators had any overlapping walls, volumetrics weren't rendered correctly with V-Ray GPU   |
| FIXED | GPU VOLUMETRICS         | Crash with instanced Simulators in Volumetric Render Mode during sequence render with V-Ray GPU [requires V-Ray Next update 1.1 or newer]  |
| FIXED | GPU VOLUMETRICS         | Crash when rendering a scene containing any Particle Shaders with V-Ray GPU  |
| FIXED | GPU VOLUMETRICS         | Crash when rendering a scene containing a VolumeGrid and a Simulator with V-Ray GPU  |
| FIXED | GPU VOLUMETRICS         | Shading volumes using only textures still required a loaded cache file with V-Ray GPU  |
| FIXED | GPU VOLUMETRICS         | Volumes loaded from OpenVDB caches that contain internal rotation rendered clipped with V-Ray GPU  |
| FIXED | VOLUMETRIC ILLUMINATION | Fire Lights kept illuminating the scene after the cache sequence ended during sequence render  |
| FIXED | VOLUMETRIC ILLUMINATION | Crash when rendering a volume with Create Lights intersecting a geometry with a Light Material   |
| FIXED | VOLUMETRIC SHADER       | Using many chained texture maps in the volumetric shader produced different renders of the same frame when rendering repeatedly  |
| FIXED | VOLUMETRIC SHADER       | Volumetric Light Cache still consumed additional memory even when it should have been disabled in Progressive V-Ray rendering  |
| FIXED | VOLUMETRIC SHADER       | Memory leak when rendering with GI and any V-Ray render elements   |
| FIXED | PARTICLE SHADER         | Particle Shader particles appeared smaller when exported and rendered from a VRScene   |
| FIXED | PARTICLE SHADER         | Crash when rendering a Particle Shader without a linked Liquid Simulator, since Phoenix FD 3.12  |
| FIXED | PARTICLE SHADER         | Slowdown of Particle Shader Bubble/Splash/Cellular rendering with linked Liquid Simulator and 'Use Light Cache', introduced in Phoenix FD 3.04                                   |
| FIXED | PARTICLE NODES          | Slowdown the second time you rendered a large amount of Foam particles   |
| FIXED | OCEAN MESHER            | Ocean Mesh used excessive amounts of memory when rendered with Spherical Panorama camera   |
| FIXED | OCEAN MESHER            | Ocean Mesh was not built correctly when the viewport was set to Orthographic mode  |
| FIXED | OCEAN MESHER            | Crash when rendering Ocean mesh with Cutter Geom and Motion Blur   |
| FIXED | OCEAN MESHER            | Missing mesh polygons on the container border when rendering in Ocean Mesh mode  |
| FIXED | OCEAN MESHER            | Flipped mesh polygons on the container border when rendering in Ocean Mesh mode with Mesh Smoothness above 0   |
| FIXED | GRID TEXTURE            | Crash if creating a circular dependency between a Grid Texture and a Simulator's displacement, when 'Skip the Displacement' was off  |
| FIXED | GRID TEXTURE            | Crash during fire/smoke simulation if using a Grid Texture reading the Temperature of the same Simulator in a Mapper affecting Temperature with 'Initializer' Off                |

|       |                     |   |
|-------|---------------------|---|
| FIXED | GRID TEXTURE        | Crash when rendering a scene with Grid Texture used as a mask in a Blend material with Motion Blur  |
| FIXED | GRID TEXTURE        | VRayVolumeGrid could be selected as a Phoenix Grid texture Source Node  |
| FIXED | WAVE FORCE          | Boiling effect on the open grid borders when using Wave Force with Fillup for Ocean and there was geometry over the bottom                    |
| FIXED | PREVIEW             | Voxel preview of temperature around 200 Kelvins with As Fire enabled displayed bright red and pink voxels                                     |
| FIXED | PREVIEW             | Preview Auto reduction did not work for the Force preview   |
| FIXED | PREVIEW             | Constant mesh rebuild in 3ds Max viewport when the timeline start was not an exact frame  |
| FIXED | PREVIEW             | When render viewport was locked, Ocean Mesh preview was drawn from that perspective in any viewport   |
| FIXED | CACHE I/O           | Min-max channel range of AUR caches randomly displayed very large numbers   |
| FIXED | PRT I/O             | Crash when repeatedly pressing Export PRT particles   |
| FIXED | 3DS MAX INTEGRATION | Forward scrolling the timeline slider while simulating and looking at the Simulation rollout hung the simulation                              |
| FIXED | 3DS MAX INTEGRATION | Selecting 'Don't show again' on dialogues caused some messages to not appear at all even on the first run                                     |
| FIXED | 3DS MAX INTEGRATION | The warning about DR and local paths still appeared even after all Simulators were deleted from the scene                                     |
| FIXED | INSTALLER           | The installer for V-Ray 3 placed vray_phoenix.dll into '3dsmax XXXX for x64/bin/plugins' instead of 'RT for 3ds Max XXXX for x64/bin/plugins' |