

3.12.00

Official release

Date – 29 Oct, 2018

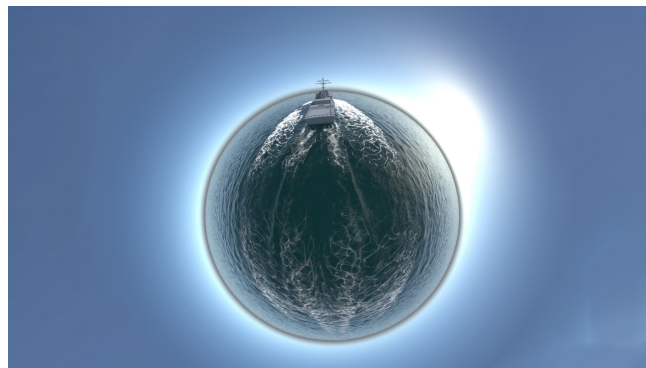
Download – [Build 3.12.00](#)

With Phoenix FD 3.12 we have focused on adding many frequently requested features, improving usability and integration in 3ds Max.

Ocean Mesh with Physical Camera and all V-Ray camera types

The ocean mesh in Phoenix is generated in camera space, so it needs to be aware of all the camera options and all camera types. With Phoenix FD 3.12, the Ocean Mesh mode now supports all parameters of the V-Ray Physical Camera and the built-in 3ds Max Physical Camera.

We've also added support for all V-Ray camera types that are available under the [V-Ray Render Settings](#) - Spherical, Cylindrical, Box, Fisheye, Warped spherical, Ortho, 360 Virtual Reality Spherical Panorama and Cube 6x1 cameras.



Instancing and referencing of Phoenix FD Simulators

In versions prior to 3.12, Phoenix FD could only instance Simulators in Mesh render mode. Now you can manually instance Simulators across the scene for preview and rendering in both Volumetric render modes, as well as the Isosurface and Ocean Mesh modes.

Additionally, now you can have Simulators instanced for simulation as well. This means all Simulators will share one cache sequence and the same simulation settings, but each Simulator instance will interact with the obstacles, emitters and forces inside its own grid.

Note that instancing of Simulators using V-RayInstancer is currently being implemented in V-Ray and will be available soon.



Support for Scene and Object XRefs

Adding the ability to instance Simulators in 3ds Max also paves the way for being able to XRef Simulators and Particle Shaders. Caches loaded by the Simulators will be correctly picked in object and scene XRefs by the volumetric shader and Particle Shaders when using explicit cache paths or using the default \$(...) Phoenix macros.

Note that if you manually merge the XRefs into a scene where they were XRef-ed into, any \$(dir) or \$(scene) macros of XRef-ed Simulators will be automatically unrolled to the full directory and scene name of the XRef-ed scene, so Simulators will be able to find their caches from inside the new scene they were merged into.



Textures support for volumes on V-Ray Next GPU

Now texture mapping the color and opacity of fire and smoke works on V-Ray Next GPU as well. Requires a V-Ray Next nightly build.



Complete changelog:

NEW	GPU VOLUMETRICS	Support for textures for volume rendering with V-Ray Next GPU
NEW	OCEAN MESHER	Support for all parameters of the V-Ray and 3ds Max Physical Camera types when creating an Ocean Mesh
NEW	OCEAN MESHER	Support for all V-Ray camera types when creating an Ocean Mesh - Spherical, Cylindrical, Box, Fish eye, Warped spherical, Ortho, Spherical panorama, Cube 6x1
NEW	SIM INSTANCING	Instancing and referencing for rendering and preview of Simulators in non-mesh render modes
NEW	SIM INSTANCING	Instancing and referencing of Simulators during simulation
NEW	3DS MAX INTEGRATION	Support for Simulators and Particle Shaders in Scene and Object XRefs
NEW	SCRIPTING	MaxScript interface for getting grid data and loading render presets directly from the Simulator nodes. The new functions are loadRenderPreset, setCoordSys, getVelocity, getRGB, getTemperature, getSmoke, getFuel
NEW	SCRIPTING	New MaxScript functions for saving a Simulator render preset to file - <node>.saveRenderPreset <path> and A_SaveRenderPreset <node> <path>
NEW	SCRIPTING	New MaxScript functions for saving and loading a Simulator's simulation preset to file - loadSimPreset, saveSimPreset, A_LoadRenderPreset, A_SaveRenderPreset
IMPROVED	FLIP SOLVER	WetMap now has different sticky effect against different liquid viscosities
IMPROVED	VOLUMETRIC SHADER	Exposed the hidden grid-based motion blur algorithm from Phoenix FD 3.00.01 for use via the 'mbgrid' script parameter
IMPROVED	SOURCES	Discharge Modifiers by Particle Size
IMPROVED	CACHE I/O	Support for the new transformation model of OpenVDB caches from FumeFX 5
IMPROVED	CACHE I/O	New default \$(scene_path) macro for simulation cache Output expands to "\$(scene)_Phoenix_frames" directory and does not use the node handle in the cache name
IMPROVED	PARTICLE NODES	Converted the Particle Group nodes to a new node type instead of being Simulator instances
IMPROVED	TOOLS	Cache Converter now requires source and destination files and is verbose by default
IMPROVED	USER INTERFACE	Particle Shaders created by enabling Foam or Splash, or by Quick Setup presets, are now named after the simulator with 'Foam/Splash/Mist Shader' appended
IMPROVED	USER INTERFACE	Renamed the Foam and Splash 'Outside Life' option to 'Max Outside Age'
IMPROVED	USER INTERFACE	Renamed 'Sticky Effect' and 'Sticky' to 'Sticky Liquid' and 'Sticky Foam' respectively
IMPROVED	USER INTERFACE	Renamed 'Boundary conditions' to 'Container Walls'

IMPROVED	SDK	Exposed a new function - <code>getVolRendSamplerFromNode()</code> which takes a node as an argument in order to support Simulator instances
IMPROVED	INSTALLER	Show a warning when installing Phoenix for V-Ray 3 together with V-Ray Next and vice versa
FIXED	FLIP SOLVER	Liquid particles got deleted on contact with deforming geometries, Alembic and Point Caches
FIXED	FLIP SOLVER	Liquid sources emitted in pulses when adaptive grid resizes, since Phoenix FD 3.11
FIXED	FLIP SOLVER	: Could not emit liquid from particle systems, since Phoenix FD 3.11
FIXED	FLIP SOLVER	If the Liquid Simulator's cache Output path could not be written to, no error was shown and the simulation continued, since Phoenix FD 3.11
FIXED	FLIP SOLVER	Surface Tension Droplet Breakup caused liquid drops in zero gravity to take diamond shapes
FIXED	FLIP SOLVER	Confine Geometries used by Liquid Simulators were not internally set to Solid like Fire/Smoke Simulators do
FIXED	FLIP SOLVER	Solid geometry without Clear Inside did not create liquid voxels under the Fillup for Ocean level
FIXED	FLIP SOLVER	Liquid was created in voxels covered by Confine Geometry when Fillup for Ocean was used
FIXED	FLIP SOLVER	Significant difference in the simulation between Sticky Liquid set to 0.001 and 0.002
FIXED	GRID SOLVER	Crash when Resimulating with Adaptive Grid with Preallocation and the result grid was over 2.1 billion voxels
FIXED	VOLUMETRIC SHADER	Missing buckets with moving Simulator in Volumetric Geometry mode and Motion Blur
FIXED	GPU VOLUMETRICS	Wrong cache file was rendered with V-Ray Next GPU when Resimulation was enabled, Play Speed was not 1.0 and Use Time Bend Controls was On
FIXED	GPU VOLUMETRICS	Warning about Emit light not supported on V-Ray Next GPU was shown when rendering in Mesh mode
FIXED	GPU VOLUMETRICS	Volumes didn't render in V-Ray Next GPU in scenes where Particle Shaders referenced missing caches
FIXED	GPU VOLUMETRICS	Incorrect light intensity with Approximate Scattering using V-Ray Next GPU
FIXED	PARTICLE SHADER	The Size Multiplier of a Particle Shader animated by Particle Age did not work correctly for particles born on negative frames
FIXED	PARTICLE SHADER	Rare infinite loop when rendering particles in Bubble mode with V-Ray Next
FIXED	PARTICLE SHADER	Point Mode and Fog Mode did not render when Render as Geometry was enabled
FIXED	PARTICLE SHADER	Rendering in Bubbles Mode, then rendering in Fog Mode, and then again rendering in Bubbles Mode still rendered the fog when Render as Geometry was enabled
FIXED	PARTICLE SHADER	Crash with Particle Shader in Geometry Mode and geometry with VRayMtl with V-Ray Edges Tex rounded edges bump since Phoenix FD 3.10
FIXED	ISOSURFACE RENDERING	Render Cutter in Isosurface mode of a Simulator with VRayMtl with Affect Shadows blocked GI rays for geometry inside the Cutter with V-Ray Next
FIXED	RENDER ELEMENTS	Buckets in VRayLightSelect render element when rendering the Simulator in Volumetric Geometry mode with Phoenix Light Cache enabled
FIXED	RENDER ELEMENTS	The Simulator's Shadow, Raw Shadow, GI, and Raw GI render elements didn't render correctly in Volumetric Geometry mode with Phoenix Light Cache enabled
FIXED	RENDER ELEMENTS	The Simulator's Shadow, Raw Shadow, GI, and Raw GI render elements didn't render correctly with enabled Phoenix Light Cache
FIXED	RENDER ELEMENTS	Random crash when rendering a Simulator in Volumetric Geometry mode with V-Ray Velocity Render element
FIXED	OCEAN MESHER	The Simulator surface appeared rougher than the Ocean extension in the distance at a low angle with low Ocean Subdivs and low Horizon Roughness

FIXED	OCEAN MESHER	Incorrect mesh velocity when rendering a moving Ocean or Cap mode Simulator with Motion Blur
FIXED	OCEAN MESHER	The Underwater Goggles option did not account for the Off-Screen Margin option
FIXED	OCEAN MESHER	Artifacts on the grid border when rendering in Ocean Mesh mode with Mesh Smoothing and Use Liquid Particles
FIXED	OCEAN MESHER	Black artifacts near the horizon in Ocean Mode with Horizon Roughness and the camera was far from the Simulator origin
FIXED	OCEAN MESHER	Noisy Phoenix Mesh displacement using an Ocean Texture when looking at tall waves from the side since Phoenix FD 3.03
FIXED	OCEAN MESHER	Missing mesh polygons on the container border when rendering in Ocean Mesh mode with Mesh Smoothness above 0
FIXED	OCEAN MESHER	Using Mesh Smoothing in Ocean Mesh or Cap Mesh render mode shrunk the mesh
FIXED	OCEAN TEXTURE	Artifacts when rendering Ocean with high Ocean Subdivs and high Ocean Texture Level of Detail
FIXED	GRID TEXTURE	Crash if using a Grid Texture sampling a 'Rendering ...' channel that used the same Grid Texture as Based On or Modulate texture
FIXED	GRID TEXTURE	Crash or a different render when re-rendering the same frame that used a Grid Texture
FIXED	GRID TEXTURE	Random crash after selecting a new Simulator in a Grid Texture
FIXED	GRID TEXTURE	Grid Texture did not update during sequence render if it was plugged into an Output map
FIXED	GRID TEXTURE	Grid Texture did not read the Rendering Color or Opacity channels from a Simulator in Mesh or Isosurface Mode
FIXED	PREVIEW	Incorrect preview when the Simulator's Pivot Point was Offset
FIXED	PREVIEW	The range for velocity preview was wrong then there was no velocity channel and auto-range was enabled
FIXED	CACHE I/O	Caches containing digits after the # format could not be loaded
FIXED	CACHE I/O	Caches containing a minus/dash sign before the # format could not be loaded
FIXED	PARTICLE NODES	Crash after deleting a Simulator and one or more of its hidden PG nodes together
FIXED	STOKE	Phoenix Simulators could not be used as a Velocity Field Source in Stoke MX since Phoenix FD 3.05
FIXED	STOKE	Crash when simulating with Stoke MX using a Simulator with a Grid Texture in its material as a Velocity Field Source
FIXED	PARTICLE FLOW	Emitting from Particle Flow systems where some events have no particles produces emission at coordinates 0,0,0
FIXED	PRT I/O	PRT Export in the interval from frame 0 to frame 0 exported the entire timeline range
FIXED	PRT I/O	After exporting once, the PRT Export dialogue became non-modal and another one could be opened, which could lead to crashes
FIXED	TOOLS	Cache Converter required a missing aurloader.dll
FIXED	PRESETS	Simulation or render presets had a different number of keyframes every time they were saved
FIXED	3DS MAX INTEGRATION	Crash while running a simulation if selecting 'New scene'