

Thank you

Thank you very much for choosing *Crest Ocean System* 4.2 for URP!

When upgrading *Crest*, make a backup of your project and remove the existing Crest files before installing the new package.

Please follow *@crest_ocean* on Twitter for news and updates, and drop in to the Crest Discord server <https://discord.gg/g7GpjDC> to say hello!

Crest began life as open source software hosted here: <https://github.com/crest-ocean/crest>. This may be a useful resource for issue searching/posting, for looking at experimental development branches, looking at commit history for files, and misc.

Note: Unity 2019.3.x and URP 7.1.2 or later are required. The most recent version of each is recommended due to the large volume of fixes and improvements that Unity are making.

Documentation

There is a getting started video available on YouTube here: https://www.youtube.com/watch?v=TpJf13d_-3E, and other tutorial videos on this channel.

Refer to *userguide.pdf* alongside this document for full documentation, including detailed setup steps.

Support

There are a number of channels to get support. First and foremost, you can contact us directly via email: support@waveharmonic.com.

Another support channel is the *Crest* Discord: <https://discord.gg/g7GpjDC>.

Finally issues can be searched and posted on the *Crest* GitHub: <https://github.com/crest-ocean/crest>.

Notes

- Some of the example scenes require a new layer to be added to your project called Terrain. *Crest* is unable to add this layer to your project automatically, so it will throw an error if this layer is not found.
- Custom sky assets may require their code to be added to the ocean shader for the fogging/scattering to work. The ocean shader *Ocean.shader* has a comment pointing out where such code may need to be inserted: "If you are using a third party sky package such as Azure, replace this with their stuff!". For additional info/discussion in the context of Azure[SKY] see Issue #62 on the *Crest* GitHub.

Release Notes

4.2

- Scale caustics intensity by lighting, depth fog density and depth.
- Show proxy plane in edit mode to visualise sea level.
- Fix leaked height query GUIDs which could generate 'too many GUIDs' error after some time.
- Validate ocean input shader, warn if wrong input type used.
- Fix for cracks that could appear between ocean tiles.
- Fix for null ref exception in SRP version verification.
- Warn if SampleHeightHelper reused multiple times in a frame.
- Metal - fix shader error messages in some circumstances.
- Fix for erroneous water motion if Flow option enabled on material but no Flow simulation present.
- Fix sea floor depth being in incorrect state when disabled.
- Fix caustics stereo rendering for single-pass VR

4.1

- Bump version to 4.1 to match versioning with *Crest HDRP*.
- Clip surface shader - add convex hull support
- Add support for local patch of Gerstner waves, demonstrated by GameObject *GerstnerPatch* in *boat.unity*
- Darkening of the environment lighting underwater due to out-scattering is now done with scripting. See the *UnderwaterEnvironmentalLighting* component on the camera in *main.unity*.
- Remove object-water interaction weight parameter on script. Use strength on material instead.
- Fix garbage allocations.
- Fix PS4 compile errors.
- Better retention of foam on water surface under camera motion.
- Fix NaN issues in height query code that could produce 'flat water' issues.

3.8

- Fix for missing shadergraph subgraph used in test/development shaders. This does not affect main functionality but fixes import errors.
- Refactor: Move example content into prefabs to allow sharing between multiple variants of Crest

3.7

- Clip surface shader - replaces the ocean depth mask which is now deprecated
- Removed the deprecated GPU readback system for getting wave heights on CPU
- Exposed maximum height query count in *Animated Wave Settings*
- Support disabling *Domain Reload* in 2019.3 for fast iteration

3.6

- Third party notices added to meet license requirements. See *thirdpartynotices.md* in the package root.
- VR refraction fix - ocean transparency now works in VR using *Single Pass* mode. This fix was actually in version 3.5 but we missed the release note item, so including here.

3.5

- Gizmos - color coded wireframe rendering of geometry for ocean inputs
- Object-water interaction: 'adaptor' component so that interaction can be used without a 'boat'. See *AnimatedObject* object in *boat.unity*.
- Object-water interaction: new script to generate dynamic waves from spheres, which can be composed together. See *Spinner* object in *boat.unity*.
- Fix visual pop bug at background/horizon when viewer gains altitude
- Input shader for flowmap textures
- Better validation of depth caches to catch issues
- Fix for compile errors for some ocean input shaders
- Documentation - link to new tutorial video about creating ocean inputs

3.4

- Ocean depth cache supports saving cache to texture on disk
- Ray trace helper for ray queries against water
- Fix for dynamic wave sim compute shader not compiling on iOS
- Input shader for flowmaps
- Shader code misc refactors and cleanup

3.3

- Fix for compute-based height queries which would return wrong results under some circumstances (visible when using Visualise Collision Area script)
- VR: Fix case where sea floor depth cache was not populated
- VR: Fix case where ocean planar reflections broken

3.2

- Add links to recently published videos to documentation
- Fixes for wave shape and underwater curtain on Vulkan
- Fix for user input to animated wave shape, add to shape now works correctly
- Fix for underwater appearing off-colour in standalone builds
- Fix garbage generated by planar reflections script
- Fix for invalid sampling data error for height queries
- Fix for underwater effect not working in secondary cameras
- Asmdef files added to make Crest compilation self-contained

3.1

- Made more robust against VR screen depth bug, resolves odd shapes appearing on surface
- Preview 1 of Crest URP - package uploaded for Unity 2019.3