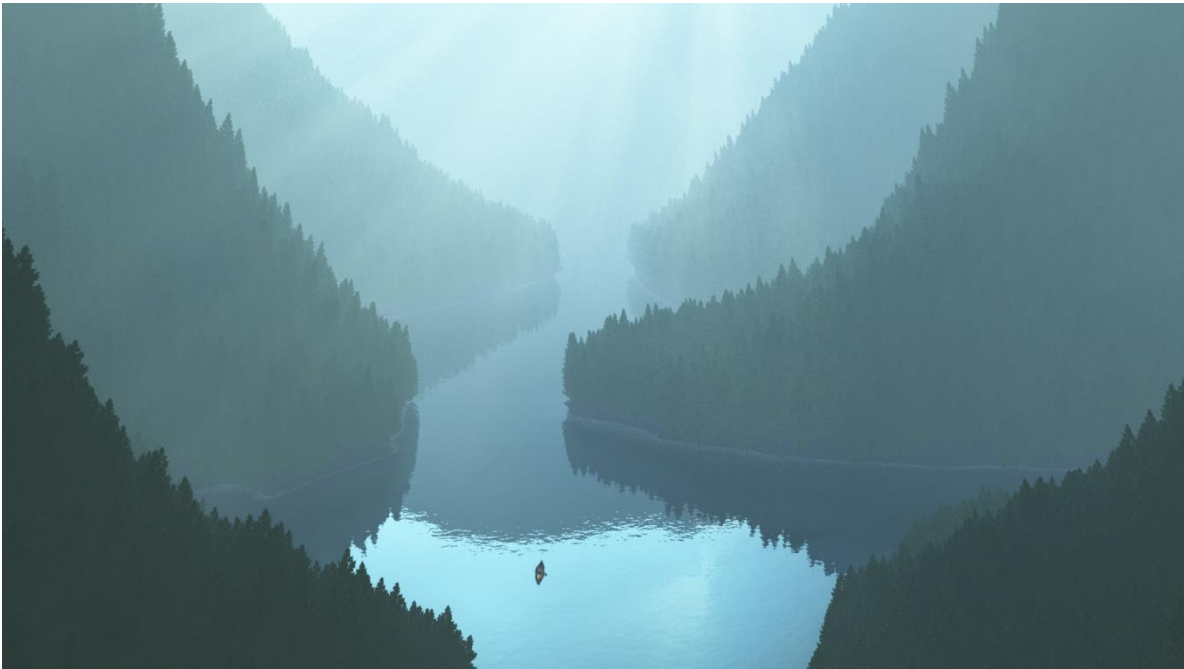
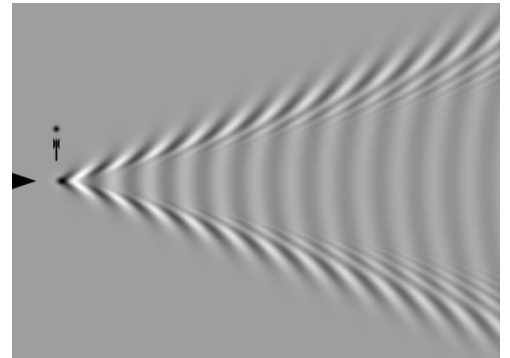
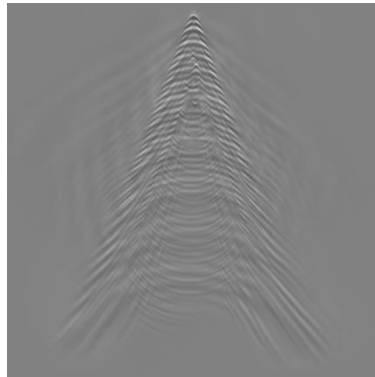
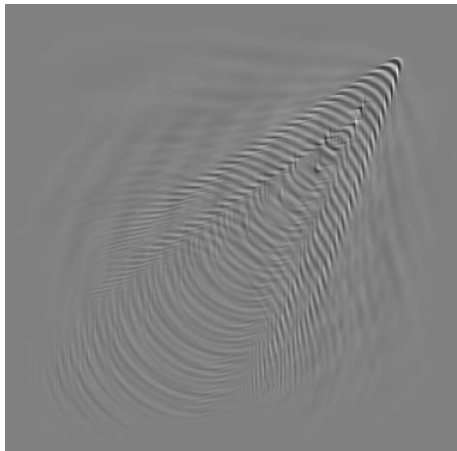


## Creating a Canoe Wake in the Water in Vue

I created a really great scene of a paddler on an ocean inlet between the forest covered hills:

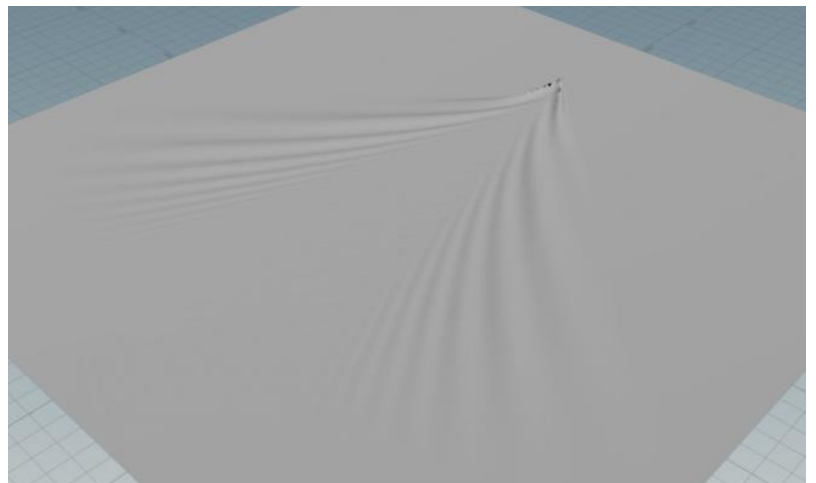


A great enhancement to this would be to have a subtle wake expanding out behind the canoe. This requires disturbing the look of the water in the current **sea** element of the scene, maybe by using a Displacement or Bump map. First, I need to find an image of a water wake, preferably in a neutral gray Height-map format. Following a tip, I found a few links to wake height-maps:



These height-maps can be found under a google image search with the subject: **Kelvin Wakes**

The most pleasing wake version for the canoe purposes was the last, mildest one.



The left side of the wake was better than the right side so I cropped it to just the left side and then made a flipped copy in Photoshop. Then the two halves are stitched together to make the final wake image. All these wake height-maps are saved in bitmaps/displacement maps/Water Wakes.




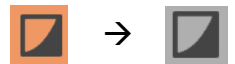
### Applying the wake to the scene water.


I've looked at using the wake height-map as a displacement map or a bump map to be placed behind the canoe but the results were unsatisfactory.

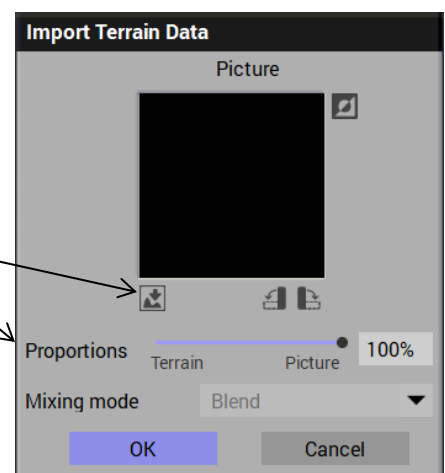
Finally, I decided to use the wake height map to create a distinct wake object that could be placed behind the canoe, just at or slightly below the water line. Then I would make the wake-object's material very close to the water's.

### Create the Wake Object

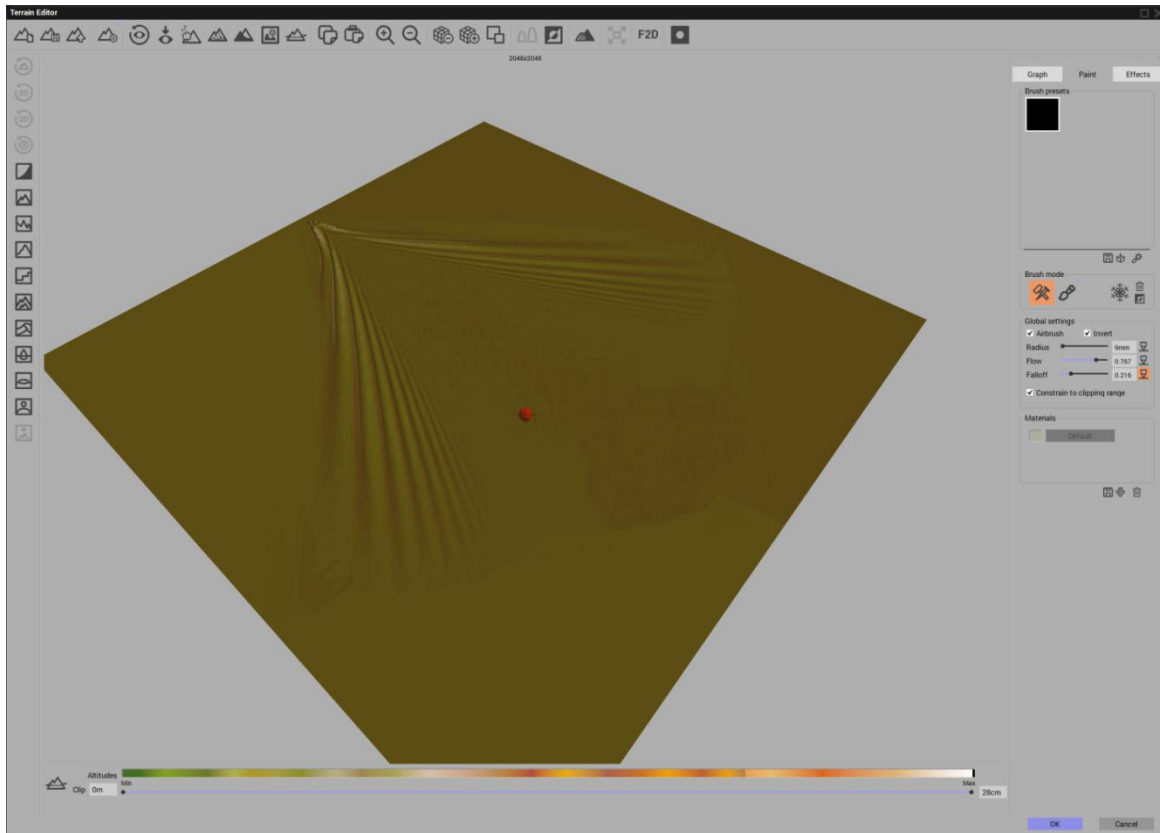
- Create a new height-field (not procedural) terrain at 100m x 100m
- In World Browser, double-click the terrain to open the Terrain Editor.
- Turn the "Zero Edges" icon off
- Click the picture icon  to open the **Import Terrain Data** window:



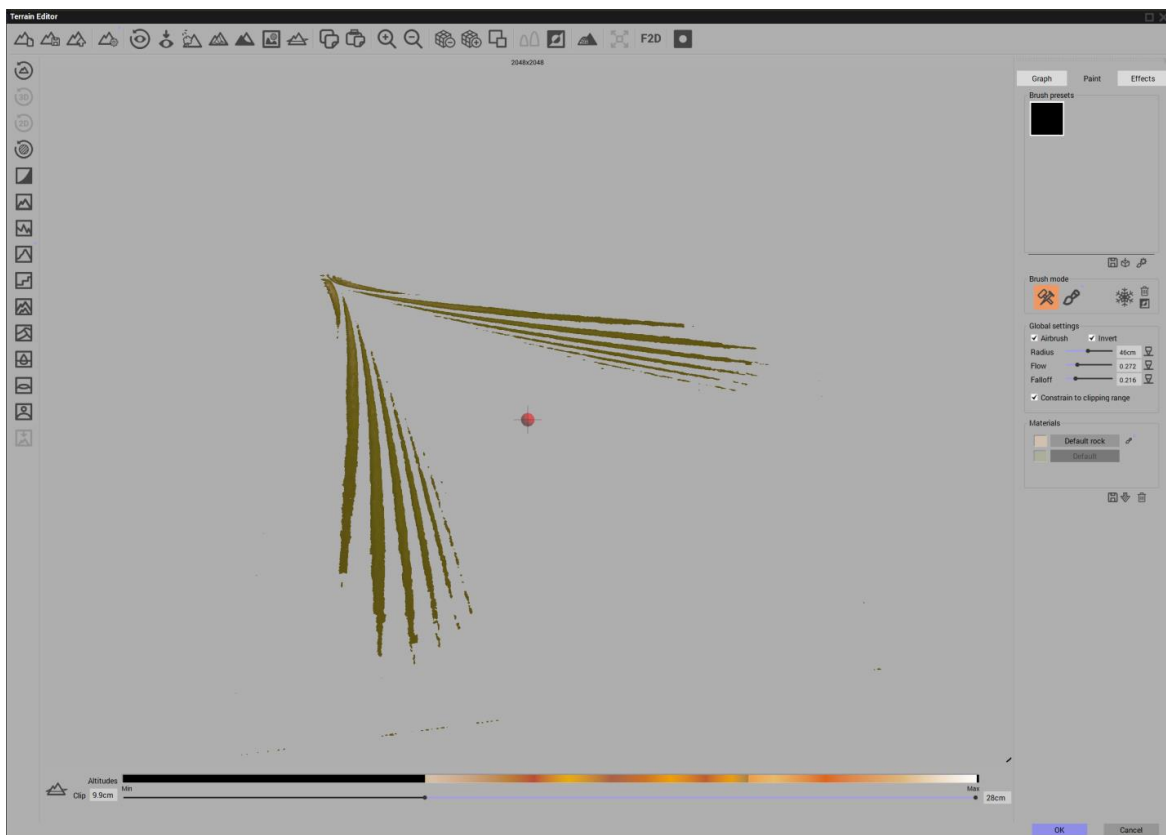
- Set the **Proportions** to 100% picture
- Click the **Load Picture** icon: 
- Load the wake bitmap.
- Press OK to close the **Import Terrain Data** window



The wake height field should now be imposed onto the existing terrain.

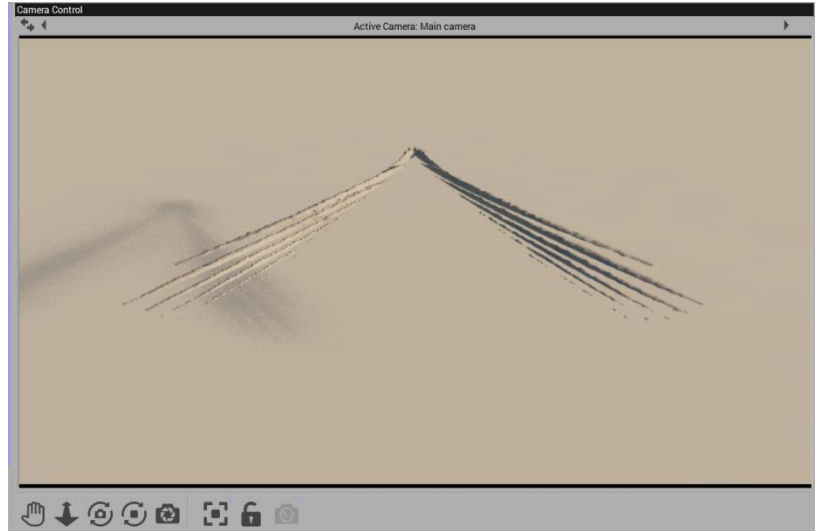


Raise the left = lower clip value until the terrain begins to disappear. Click OK when satisfied.

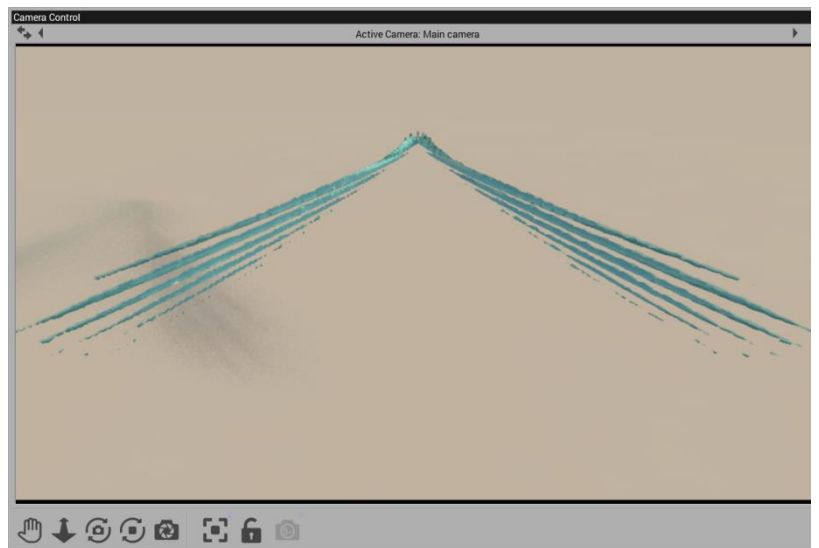


The resulting terrain may be shown floating above the ground:


- Rename the item from the default “terrainX” to something more descriptive like “Canoe Wake” for later saving.
- The wake thickness and size can be manipulated here or later once it has been placed in a scene.



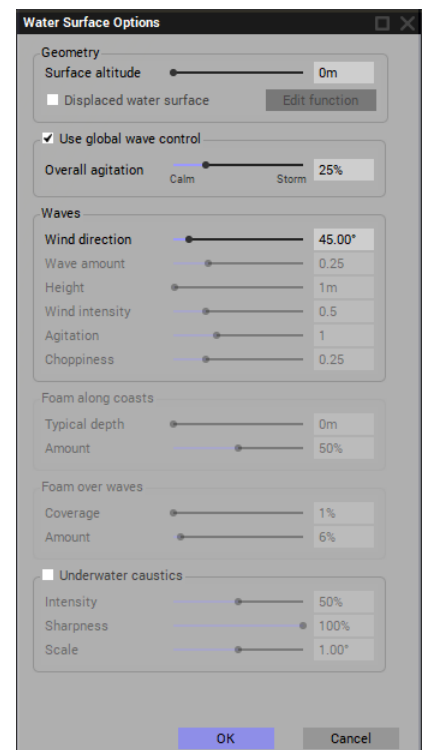
- Change the wake material to one of the default liquid or glass materials. Experiment with these materials until the wake looks close to the look desired for the scene (This can be adjusted later, in the scene as well).
- Save the wake as a .VOB object in Vue so it can be loaded and used in other scenes.



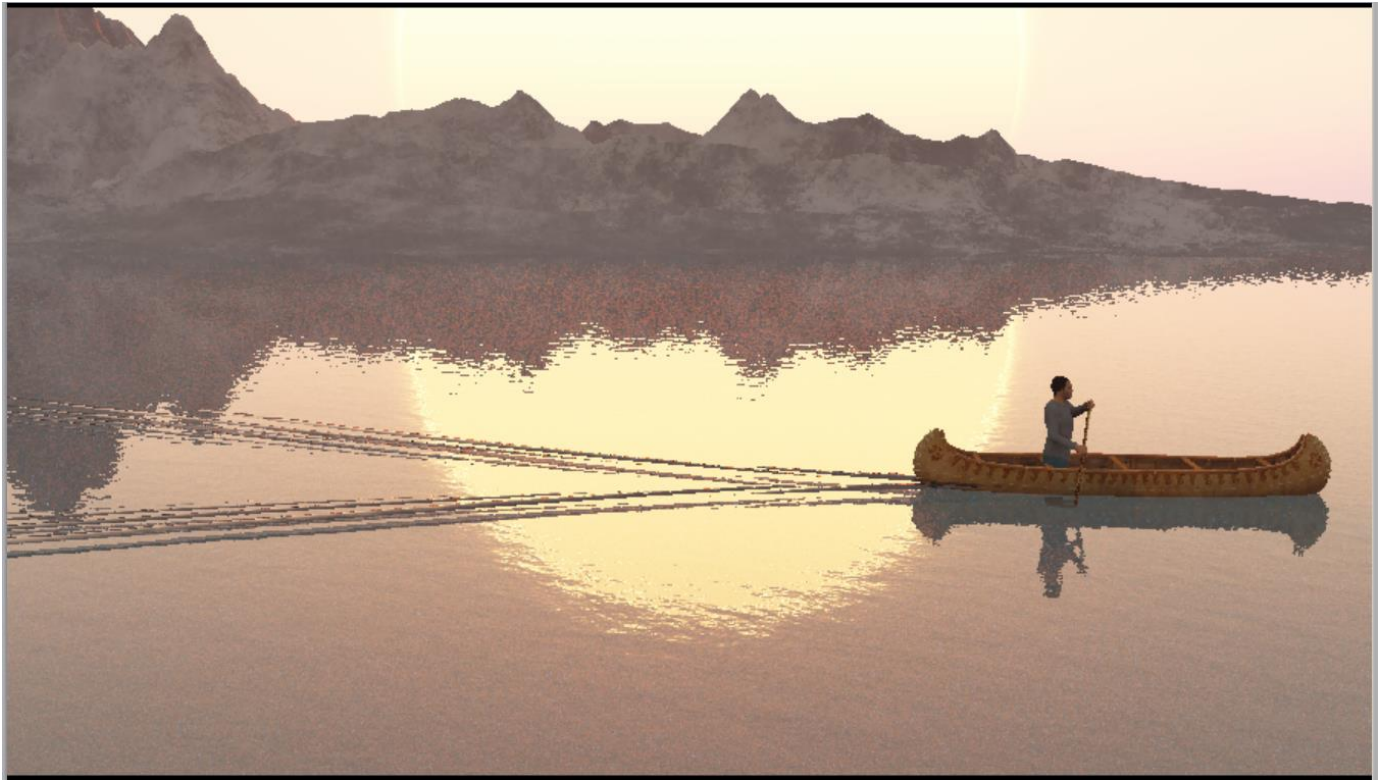
## Create a Scene

- Test the wake in a scene
- Use the default sea icon:  and use global wave control to set the Overall agitation to about 25%
- Place the new Wake object in the scene. Make it level on the water plain and adjust its size to suit.
- Place something that's creating the wake in front of it.

Enhance the scene in any way. A particularly realistic effect is when the scene is constructed such that the wake passes through light and also shaded reflected areas of the base water plain. The wake will exhibit the darker and lighter highlights in a way that shows the wake in part of the water, not just painted on the water.







As various wakes are created and saved, more elaborate wake systems can be constructed. Simply load more than one wake .VOB object and place them together in a way that enhances the overall appearance of the wake.

