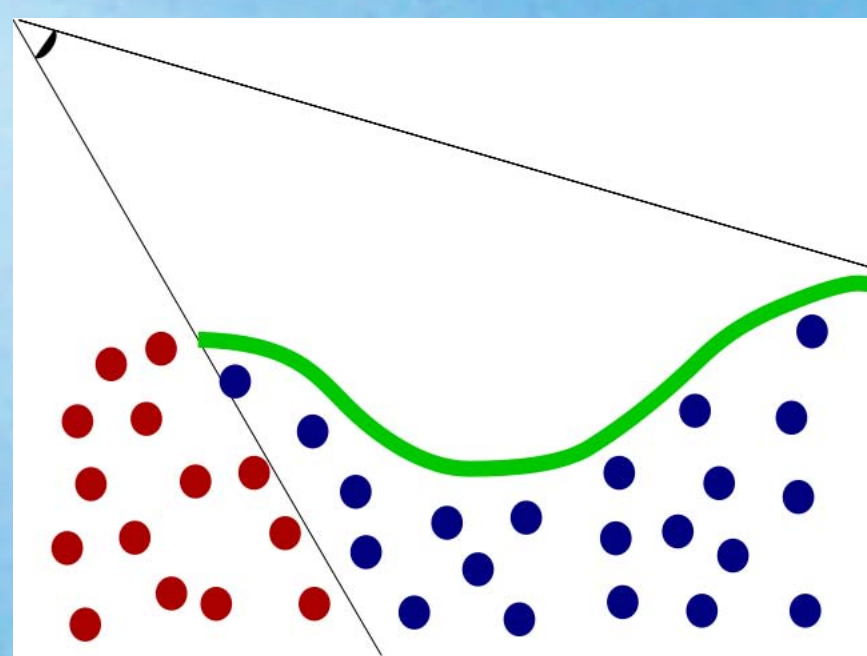
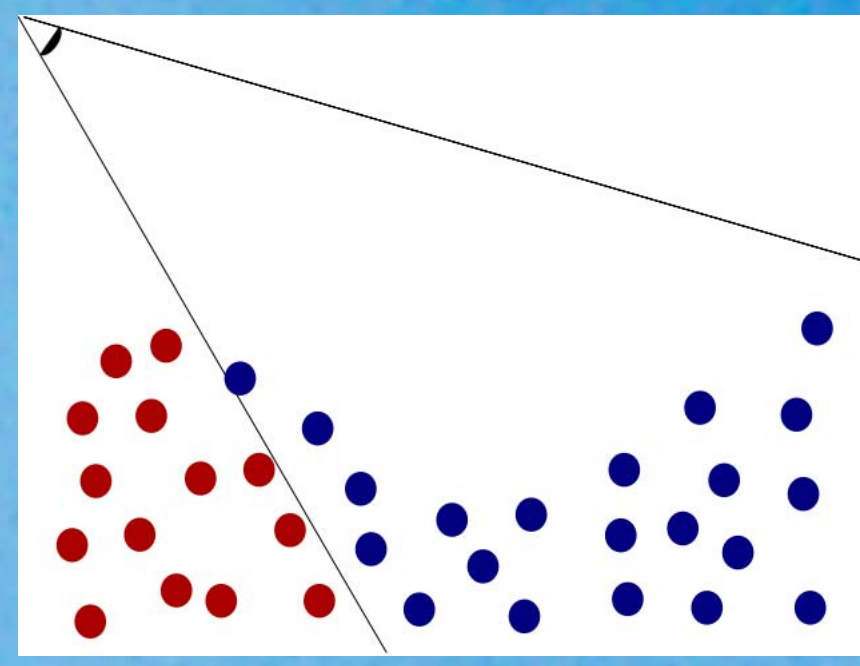


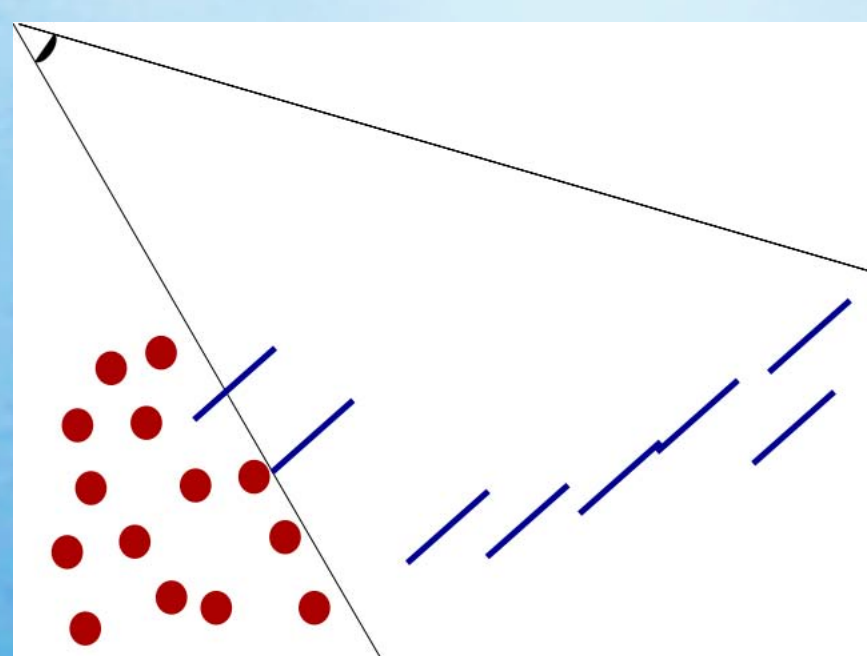
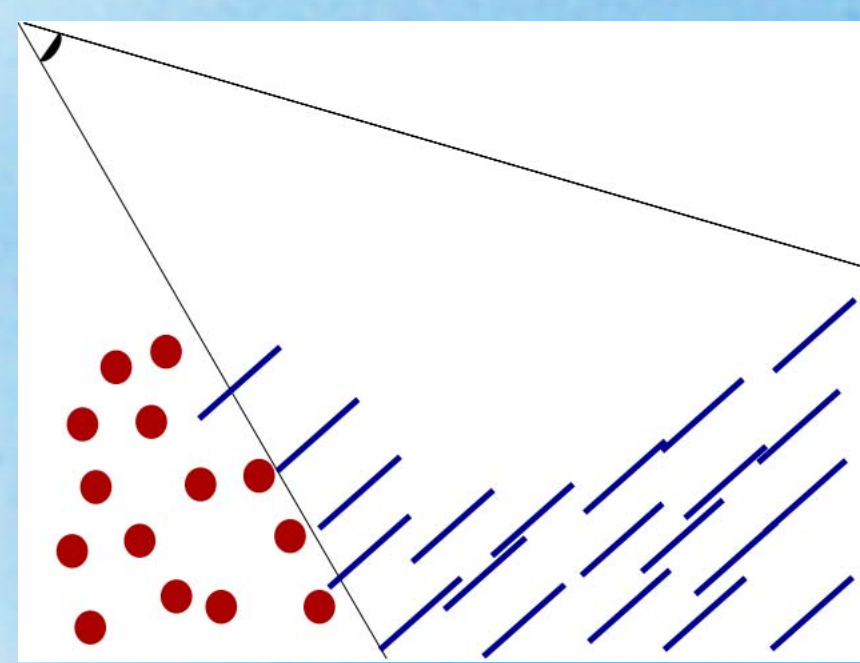
**Step 1**  
Render a collection of particles from the viewer's perspective.

**Step 2**  
No need to worry about particles outside the viewer's perspective.



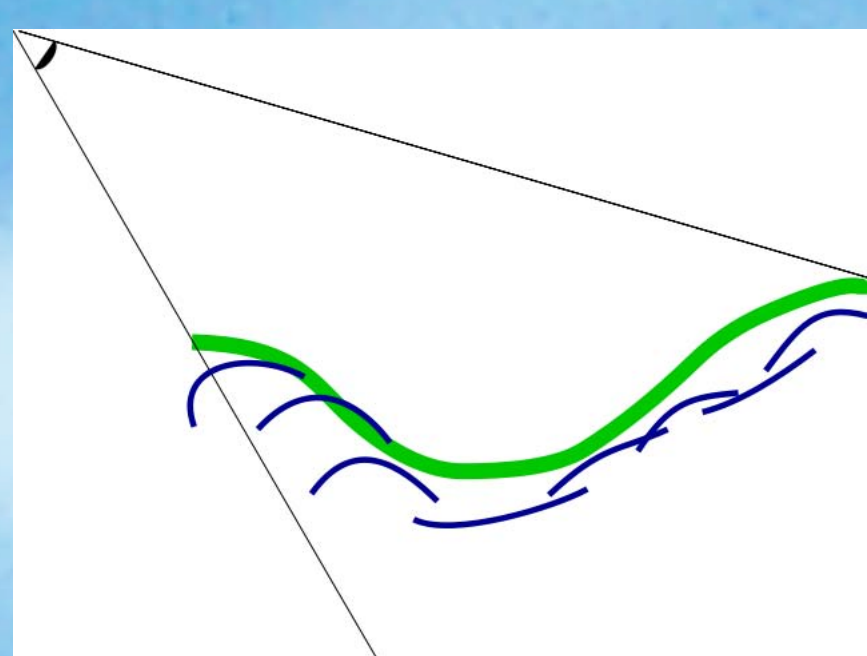
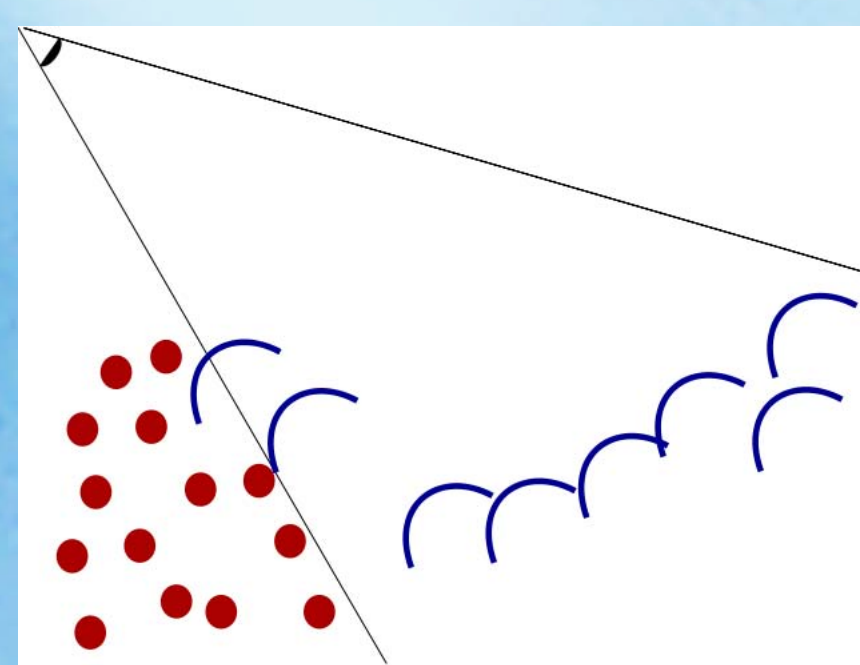
**Step 3**  
The goal is to obtain the fluid surface from a set of particles as shown by the green curve.

**Step 4**  
Instead of rendering points, render the particles as point sprites. A point sprite is a square texture which is always oriented toward the viewer.



**Step 5**  
Next, all obstructed point sprites are removed because the viewer can not see them and therefore should not spend time to render them.

**Step 6**  
Now turn the points sprites into spheres (more accurately hemispheres), that are oriented toward the viewer.



**Step 7**  
Next, use Gaussian blur to smooth the depths of the spheres. The effect produces a more continuous surface.

# SCREEN-SPACE FLUID RENDERING

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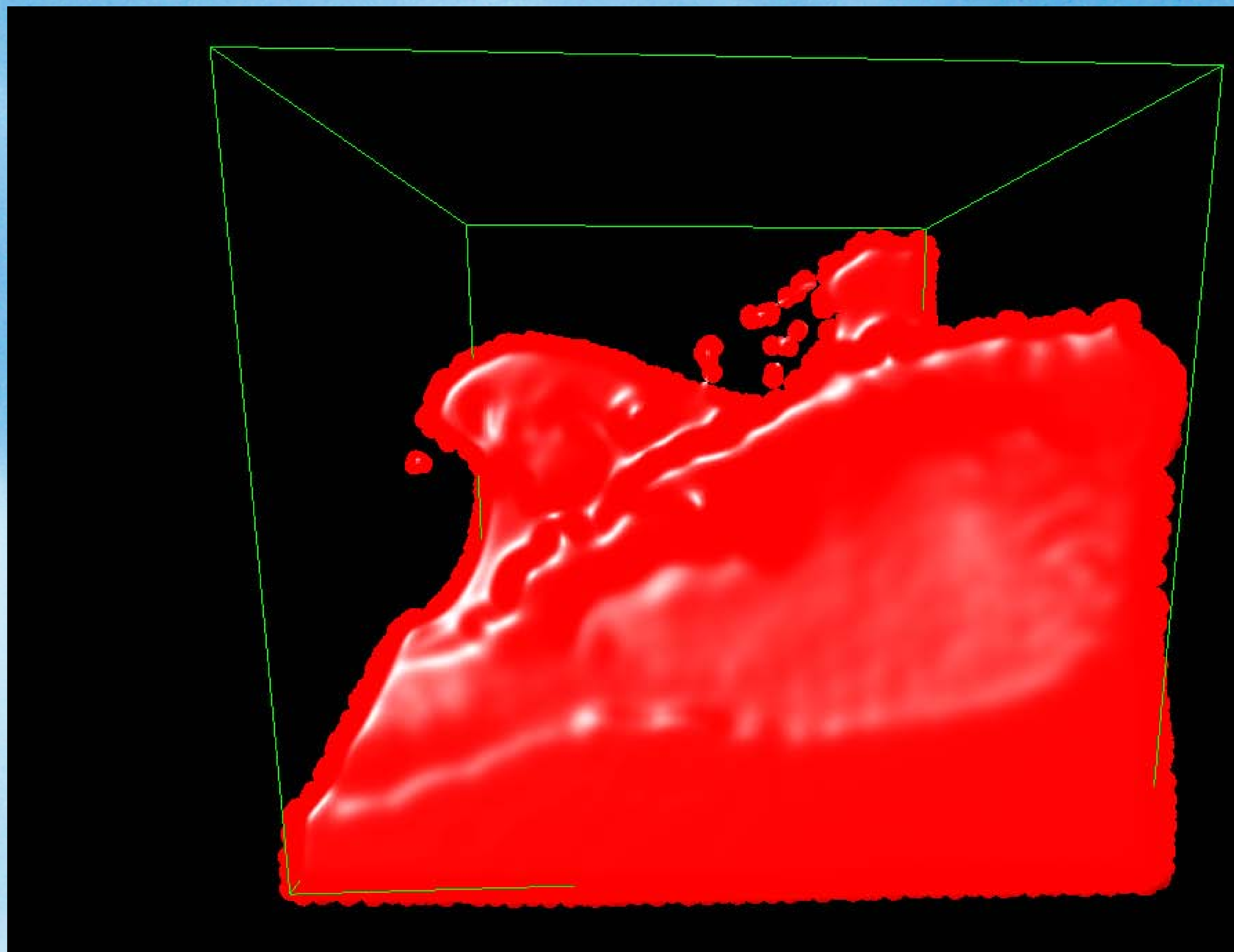


Figure 4: The final image with the smoothed depth values and lighting effects.



Figure 1:  
The points rendered as spheres with lighting effects. The result from Step 6 above.

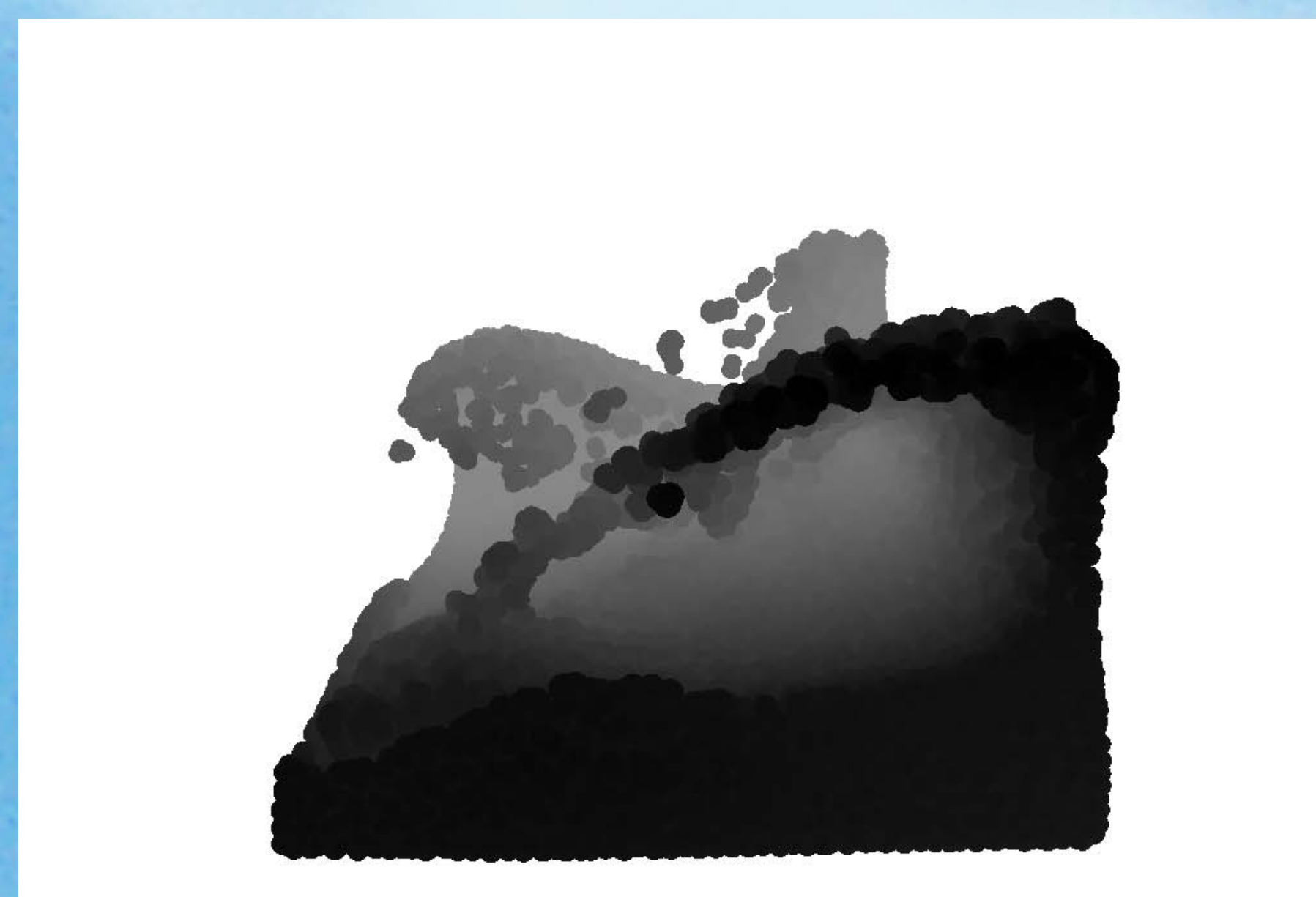


Figure 2:  
The depth map output from Step 6. The darker values represent objects closer to the viewer.

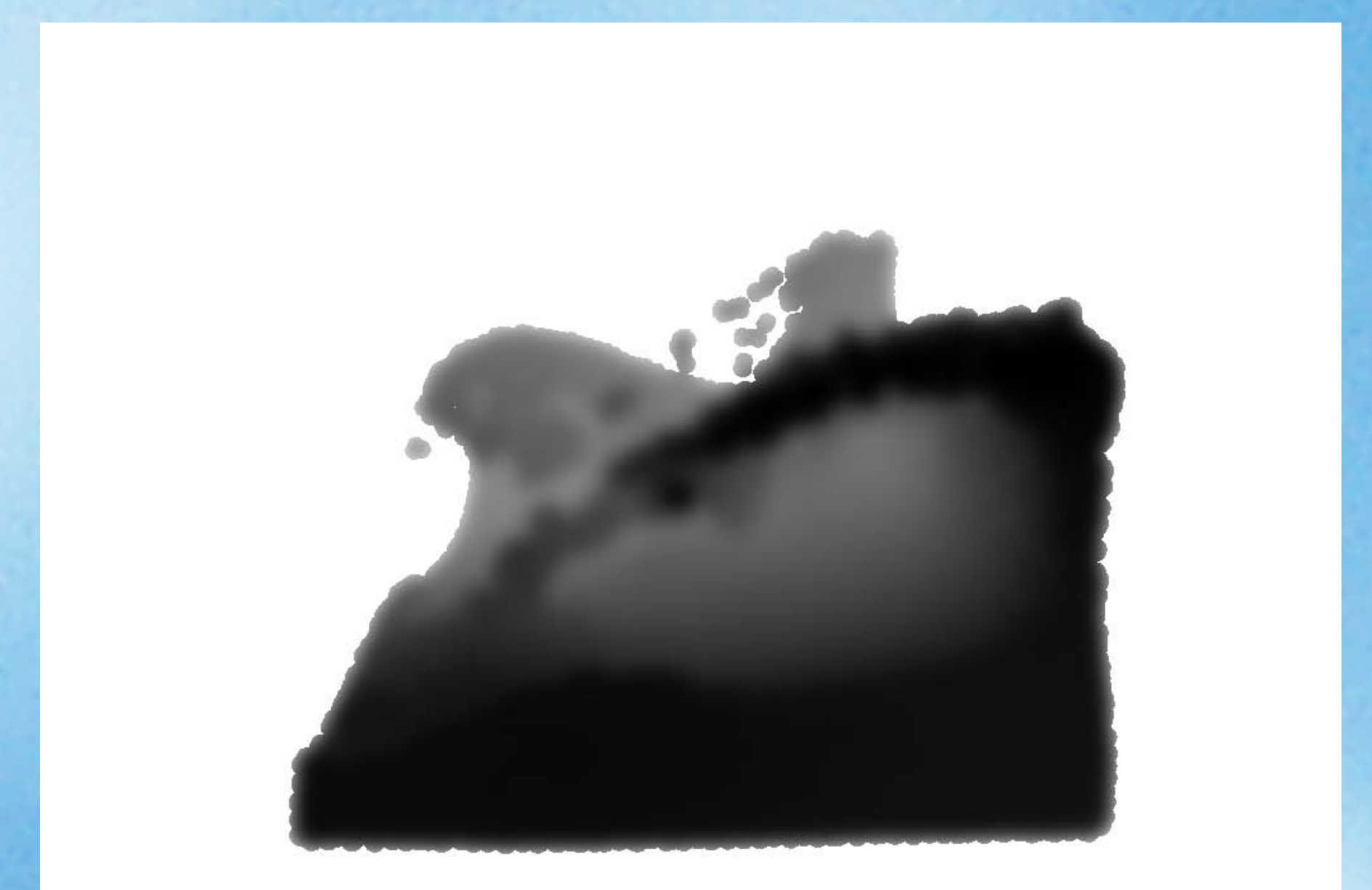


Figure 3:  
After blurring the depth map, the output is smoother and more representative of a surface.

