

Advanced Displacement Mapping: Fire



From the Anarchy Toolbox collection
of eight filters for Adobe After Effects
from Digital Anarchy



Fire!

How do you create fire from Photoshop files? Well, you could print them out and burn them. Or I guess, setting the computer on fire and burning that until it was a melted chunk of silicon and plastic would technically be setting your PS files on fire as well.

Of course, you probably want to know how to create fire in After Effects. It'd probably be a little expensive doing it the other way anyways. Although there's been plenty of times that I would heartily enjoy watching my computer burn. It crashes... might as well burn as well.

NOTE: To use this tutorial you'll need to buy the Anarchy Toolbox or download the demo from:

www.digitalanarchy.com

You will also need Acrobat Reader 5.0 or higher to view the links in this document.

So, let's get the fire started, so to speak, and look into how to make fire out of a gradient and a still image of 'clouds' rendered out of Photoshop.

If you open the 'fire.aep' project, you'll notice two images (grad.psd and clouds.psd) and two compositions. Main Fire-Start is the comp you'll start the tutorial with and Main-Fire-Final is the pre-made, finished version of this tutorial. You can take a look at Final if you wish to get an idea of what you're striving for. At any rate, take a look at both the two still images, so you know what we're going to start with.

The whole trick to all of this is to use the Advanced Displacement Map filter. The Clouds image will be used as a displacement map on the Gradient image. By animating the Clouds we will be able to displace the colors of the gradient in such a way that it looks like flames. Maybe not super realistic flames, but close enough for many uses.

- 1- Since we're going to create all of our animation in ADM, we don't need any pre-comps! Just apply ADM to the grad.psd image and we'll get rolling.

We do need to do some setup.

At the top of the filter, set the Multiple Maps pop-up to blended. This will blend the maps together and then use the blended version as the displacement map. If you leave it at Normal, the maps will be applied individually creating a different effect.

Set Map 1 to the clouds.psd layer. Set Vertical Opacity to 100.

Set Map 2 to the clouds.psd layer. Set Vertical Opacity to 100.

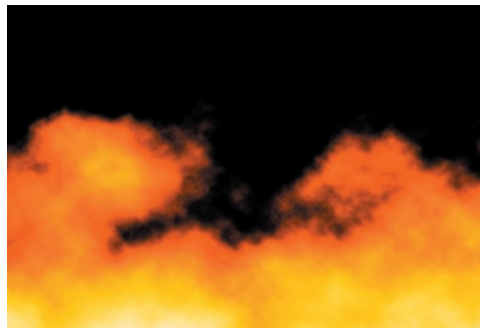
For Blended maps, Vertical Opacity turns the layer on. If you leave this to 0 the map will have no effect. In general, it doesn't matter what this is set to, so long as



all the maps have the same value. It can be 20, 50, 100 whatever.

- 2- In the Global Controls section, set Max Vertical Displacement to 200. This sets the amount of displacement that will be occurring. This should cause a nice distortion in the gradient, looking like fiery clouds. Not what we want, but nice.

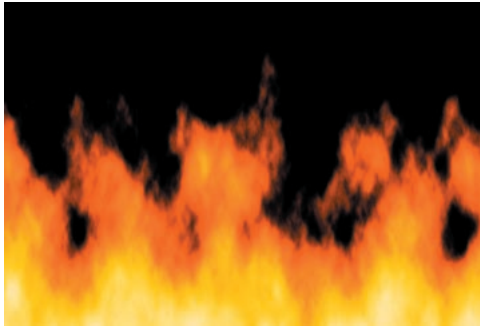
In the Edge Behavior section, set Edge Behavior to Repeat Edges. This will repeat the edges of the image as the pixels get displaced. Displacement effects always have problems around the edges, because as the pixels are displaced, there is nothing to fill the area where they originally were. If the pixels on the edge have nothing next to them to fill the space. This usually results in artifacts, but ADM has a lot of ways to deal with this. Repeat Edges is generally a good way of dealing with the edges of the image being displaced (but not necessarily a good way when dealing with this problem with the underlying displacement map... see step 3).



- 3- Now we need to get rid of the clouds, create something that looks a bit more fire like and get the flames animating. Easy enough.

For Map 1, set the X scale to 35. Set the Tiling pop-up to Wrap Around. This is a better solution for the underlying maps. This causes the pixels from one edge to wrap around to the opposite edge when the pixels are displaced. This is great for maps that seamlessly tile, like our clouds.psd. Generally, it is best to use maps that seamlessly tile for displacement maps.

For Map 2, set the X scale to 50. Set the Tiling pop-up to Wrap Around. We're setting a different X scale here because we want to vary the noise up a bit. This will create more interesting flames by having one noise larger than the other. Map 2 will create big flames, Map 1 will create smaller flames coming off the big ones.



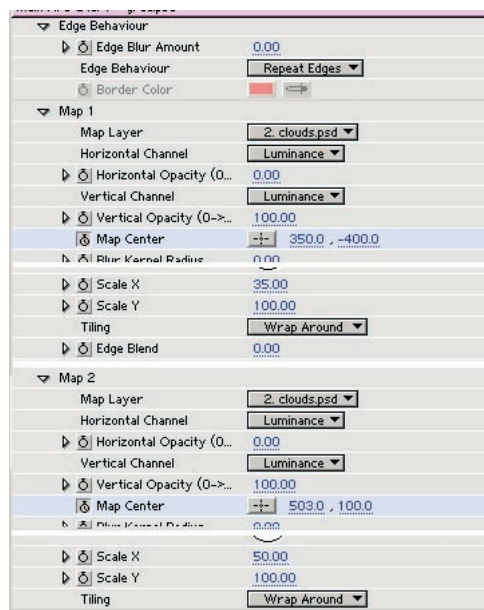
4- Let's animate! Set Map 1's Map Center to 350,400. Set a keyframe.

Set Map 2's Map Center to 500,750 and set a keyframe.

Move to Time 03:00.

Set Map 1's Map Center to 350,-400. This will move the map upwards.

Set Map 2's Map Center to 500,100. This will also move the map upwards, but at a different speed than Map 1, which should create a nice fire effect.



5- And that's it! Pretty cool... if you want to compare how you would do this with AE's Displacement Map filter, pick up Richard Harrington's Photoshop for Non-Linear Editors. A great book that I originally did this tutorial for. It's considerably more work without ADM.

[Click Here to see the final movie!](#)

