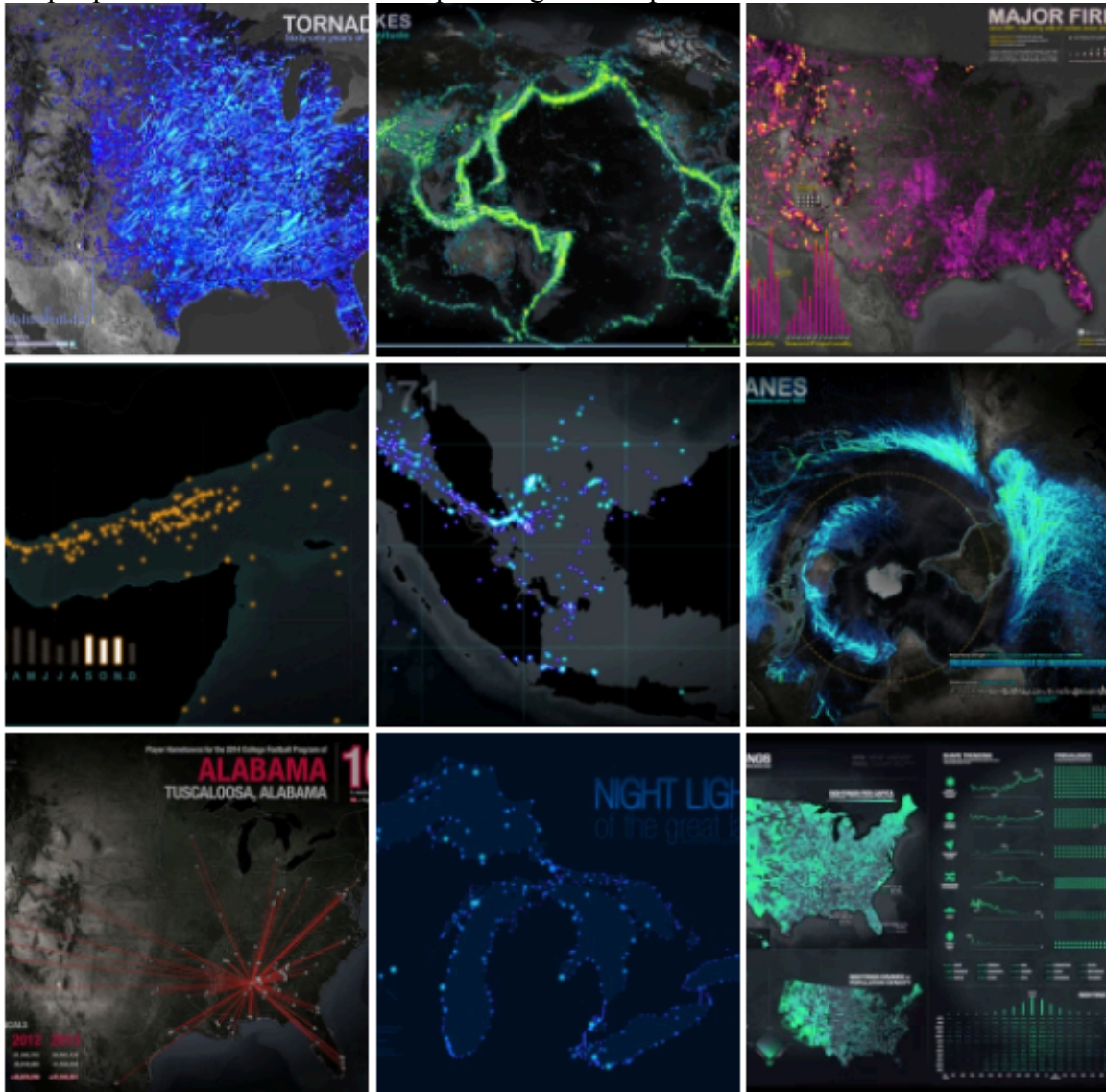


MAPPING OPEN CITY DATA

Firefly cartography is a technique developed by John Nelson to that combines a dark, de-saturated basemap, a vignette effect, and a single glowing data layer to create a unique and memorable final map. Firefly cartography offers an attractive style to represent a simple point data set that is both captivating and simple.



This project will also allow us to combine open city data with AI and Photoshop to create a nice product. My map will show community gardens in NYC.

Tools: ArcGIS, AI, Photoshop

Location of Data: City OpenData Portal

Output: Print

DIRECTIONS

*****These direction detail how I made my map. With each process make sure you fiddle around with the parameters to make your map look how you like it. Sometimes a certain combinations of settings will work well for one map and look horrible on another based on things like underlying geography, distribution of points, color choice, scale, etc. Use these directions as a guideline but feel free to venture off in other directions. *****

1. Go to a city open data portal and find a point dataset with around 200-500 data points. You want to make sure the data file is of point data, has the (x,y) coordinate in easily identifiable fields, and is something engaging that you can build your map around. Download this data as a .csv file.
2. Open your .csv file in arcCatalog and create a XY event to create a point shapefile. Load this shapefile in ArcGIS. Add a satellite image basemap. Once you get your extent right, export to AI.

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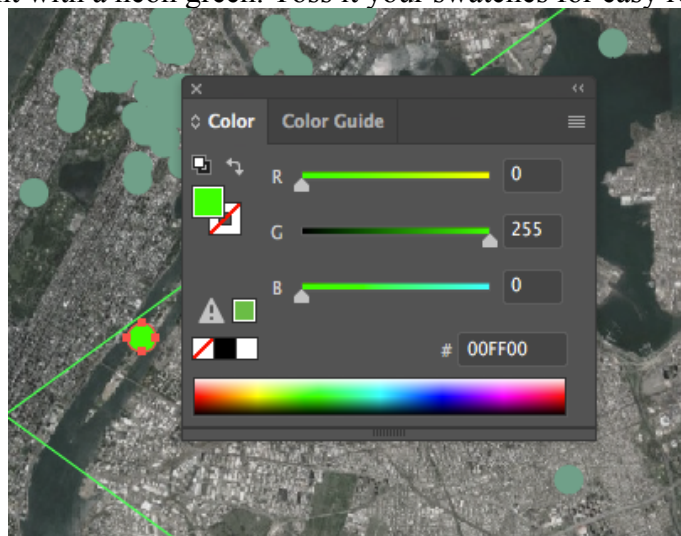
Alternative process for QGIS.

- a. Open Q and select *Add delineated text layer*. This will automatically project your coordinates into a point shapefile.
- b. Add the background image by using the OpenLayerPlugin. Google how to install this if not already installed.
- c. Go to Project->New Print Composer to create a map document. In map composer select add new map and draw a box on the blank page where your map will be. Your layers should automatically load into this map.
- d. Export as PDF. Open PDF in AI and remove clipping paths, save as AI file.

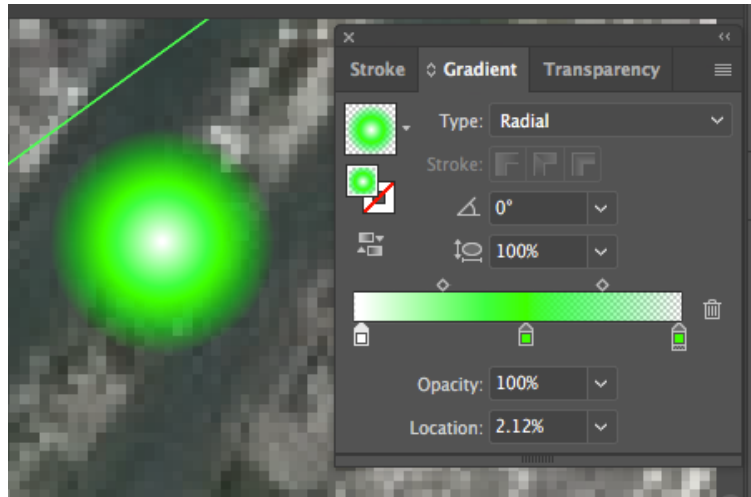
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3. Turn off the point data. Change the artboard to match the extent you want. Export your satellite background image as a .png 300 DPI. Open this image in photoshop. Go to layer->New Adjustment Layer->Hue/Saturation. Reduce the saturation of the image to -50.
 4. Now lets make a vignette. Create a new layer and use the paintbucket to make it black (Shift + f5). Use the marquee tool to either draw a box or circle where the extent of your vignette will be. Hit the mask button. (I used a rectangle marquee on my map, the circle is easier to see in the instructions).



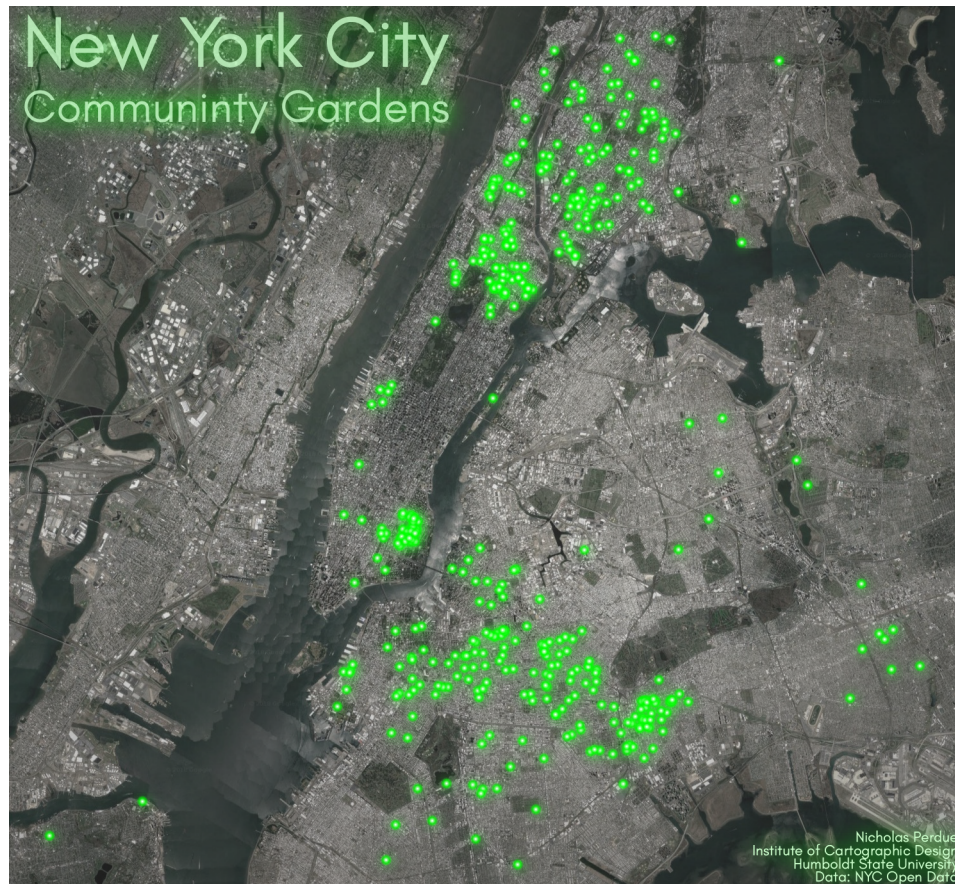
5. Now let's invert the mask. In the layers menu select the mask and hit (ctrl+I) to invert the mask. With the mask selected open the layer properties. Move the feather slider to the right until the edges are barely covered. I put mine at 400. Now drop the opacity of the mask to 50%. Save your image as a .psd file.
6. Now, return to AI and place your .psd file. It should fit exactly into your artboard in AI. I like to use the .psd file as this will link photoshop and AI. Now if you make edits in photoshop they will automatically update in AI.
7. Remove the old image. Now let's work on the points. First pick a color. For this I like to open my color menu and pick a color at the extreme ends of the slider. Move the RGB to either 0 or 255 to find a bold color you like that matches your data. I went with a neon green. Toss it your swatches for easy reference.



8. Select all the points. We want to create a radial gradient that goes from white through your color to transparent. My slider goes white, 100% opacity; green, 80% opacity; white 100% opacity. I set the intermediate sliders at 50% each. Reference the slider below.



9. Adjust the size of your points as needed. Select all and right-click->transform each. Change the vertical and horizontal scale to make the points smaller or larger as need be.
10. Now we want to create a subtle glow on the backdrop. Create a new layer called glow and place below the points on the layer menu. Copy the points and paste in place on the glow layer to create a set of glow points below your original points. Select all the glow points. Go to effects->blur->Gaussian blur. Move the slider to 2 and make the transparency 75%. This will create a nice subtle glowing backdrop to your points and allow close points to blend together a little.
11. Now create a title. Create a new layer and compose and position the title as you like. When complete, make a copy and place on top. On the bottom title, change the color to that of you point data, Gaussian blur to 4pts, and opacity 80%. On the top title, change the color to a lighter version of your point data color. Open the color guide to find your hue mixed with white. Change the opacity to 80%.
12. Include your name and data sources on the bottom. Here is what mine ended up looking like.



13. Printing: We will print these on the plotter, which means the image needs to be a .TIFF. Export as a TIF, 300DPI. Open in Photoshop to make sure it is the size you like. We are aiming for about 9"x9". I have found that it is tough to get good contrast on these maps when printing, but we can fix this to some degree in photoshop. Add a new brightness/contrast adjustment layer. Change the brightness to -20 and the contrast to 20.