

Transcripts - Intro to Mapping and GIS Creating a choropleth map (QGIS)

What's up everybody? Welcome back to the hands-on portion of this class. Last week we got dated joined, so we took our country shapefile and joined it in with fertility rate data from the world bank.

In this video we're going to be creating what's called a choropleth map. Basically a choropleth map is you have values attached to different shapes on a map and those shapes on the map are shaded based on those values.

And so for this map, I think it always makes more sense to explain this with an example. So we're going to be doing that here, but for this map our choropleth map is going to basically show countries with high fertility rates are going to have darker colors and countries with lower fertility rates are going to have lighter colors.

So by the end of this you'll definitely know what a choropleth map has. So anyways, have the data pulled up that we had before which is the country shapefile joined in with the fertility rate data.

We still have this hospitals data hanging around, you can go ahead and just hide that by clicking the little arrow by it. We're not going to be using that in this video. We're going to come back to it later.

So just focus on the country's data and specifically the fertility data that we've joined into the country's shapefile. So go ahead and right click on the country's shape in this layer panel and go to properties. Open this up, you'll see the join field is still there.

We're actually going to go up to the symbology and this is where we're going to basically set the color for each country based on its fertility rate. To do that go ahead and click single symbol up here and go to graduated.

And so what this is going to do, it's going to be like, okay, you have one column what's color that column based on that value, which is exactly what we want, which is how we create the choropleth map.

So the first task then to accomplish that is to actually set the column that we want to color based on and for this it's going to be that 2016 fertility column that was originally in the world bank data that we downloaded, but is now merged into our country shapefile.

So, go ahead and click on this little arrow next to the column and it will remember it's at the very end. It was at the very right of the spreadsheet when we were looking at it earlier.

So listing it here, it's going to be at the very end and it's just going to be 2016_1, that's going to be our fertility rate for the year 2016 for every country in the shapefile. So that's exactly what we want.

So after we have selected that, go ahead and go down here and do this little classify button and go and hit it. This button is really nice because it will basically look at the high and low values in that particular column and automatically create color buckets.

As you can see it's already done that for us, so this is what it did after I had the classify is it created five column buckets, and basically this you have this white all the way to this dark red. If your fertility rate is between 0 and 1.4 you're going to get this white 1.4 to 2.8. You're going to get this one all the way up to 5.7 to 7.2, that's that dark red.

So basically what this is showing me is the lowest value is somewhere between 0 and 1.48 and the highest is about 7.2. So, the nice thing is that we don't have to go with this classify button. We don't have to like actually go through the data and figure that out on your own. I mean you can do that, there is the option if you want to start messing around you can, but I like the classify button because it takes care of a lot of the work for us.

And you can see it automatically put it into five buckets. If you want to change that, which I will for this case, just go over this classes on the right side and change it. It's set at five, I'm going to go ahead and do seven.

There's not a whole lot of hard and fast rules and what's the best amount of buckets, just always think what's easiest for readers to understand. You can't get into situation if you have too many buckets where all of the colors start kind of looking the same and it's kind of hard to tell the difference between like the 12th and 13th bucket.

So be mindful of that, I'd say for this map, you know anywhere between like four and six or seven is but good range. So go ahead and just play around with it. I'm just going to go ahead and go ahead and just pick six.

So if you want to see what it looks like, you can actually hit this apply button and you'll see some colors kind of change in the back here. If you want to close out of this go ahead and do that. You can hit okay, which I'm going to do here.

So now we have a pretty basic choropleth map, which is pretty nice as you can see fertility rates in African countries is higher than you know, other parts of the world. There are a couple countries that are the exception to that, but for the most part the dark red is here in these countries in Africa.

I'm going to go ahead and I don't really like the color red in this situation, I think indicates danger, which I don't think is fair for fertility data or accurate. I mean having children is a great

thing, right? So we're going to go ahead and change that red to just a neutral color because you don't want people thinking "oh man, this is bad," "oh, man, there's something to do here" because we're talking about children here.

So go ahead and right-click on the country's again and go back to properties. It should open in that sim biology panel. Again, if not, click on it and then go down to this little color ramp here and go ahead and click on that.

This is where you created this graduated scale of colors. Go ahead and lead if color one is white, so we still want the countries with the lowest fertility rates to be a light color.

Color two though I'm going to go ahead and pick more of like a... let's do a blue.

Green I often associate it with money, This obviously doesn't have anything to do with money, at least not you know.. specifically this dataset.

So we're not going to I'm not going to use that again, I'm not going to use the red or the orange. I'm going to go with the blue, I think that's a pretty solid color for this situation doesn't really indicate anything. It's just it's just kind of a nice neutral color. So I'm going to go ahead and select that and hit "OK" go ahead and hit "OK" again. Go ahead and hit "OK" one more time.

So as you can see, we've got a choropleth map here. We've got our dark blues in our light blues on the map. QGIS by default put these these black lines around the shapes, which I think can be a little distracting. It's a style preference, but for me, I'm not really a huge fan of them, so I'm going to go ahead and show you how to remove them real quick.

It's kind of up to you, but I'll show you what it looks like. So go ahead and right-click on the country shapefile go down to properties, you'll see this sim biology is once again open. It's the default, if it's not for whatever reason just click on it, and then go ahead and click on this symbol and hit the change button and then you're going to go down to simple fill, and then for stroke color you'll see this dark black right here of 000, it's the darkest black they have, so go ahead and double-click on that, we're going to go ahead and get rid of that.

You'll see that there's just a little opacity dragger right here. So we're going to go ahead and drag that all the way over to 0. You can play around with it, you can see what 50% looks like if you want. I'm just going to go and remove it altogether by moving the opacity to 0.

So go ahead and hit OK. One quick note, you'll see this fill color in here, this brown if you remember earlier the brown and sort of the default color that was brought up for these countries at least for me. It's probably going to be different for you, but you're going to have some sort of color in here.

It's basically getting overridden by this gradient color scale that we added to the map, the blues. So it's kind of a little confusing, but don't dwell on it too much. It's it don't it's that fill color is not active. So go ahead and hit "OK" and then hit "OK" again and you'll see the same map that I had only without those stroke lines removed.

So now you've got the choropleth map, and I think the country is kind of blend together a little bit better, but again play around with it, see what you like.

So, that's it for this video. We just made your first choropleth map, so that's awesome news. Next we're going to kind of just show how to edit some data in QGIS just real quickly and then next week, we're going to really dive into sort of analyzing data and saw all the cool things you can do here with the programs. So yeah, check them out!