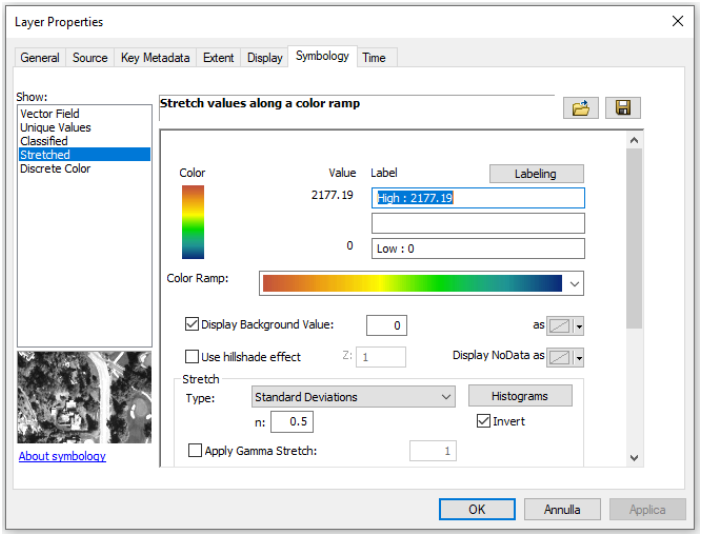
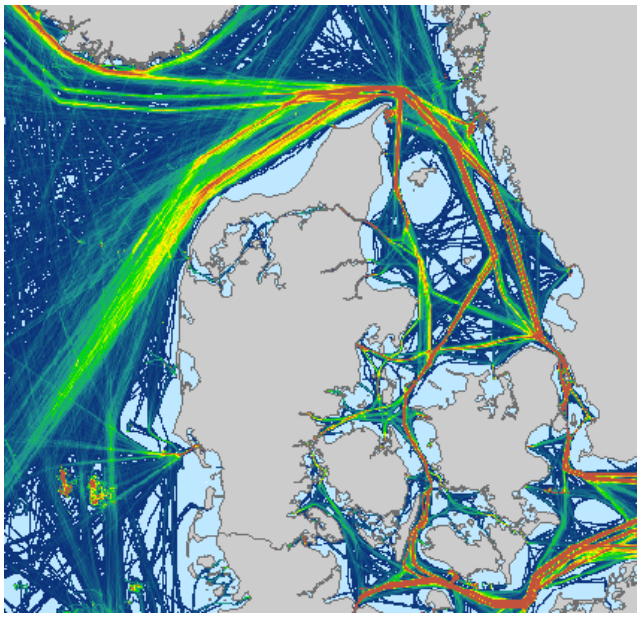
How to plot EMODnet vessel density maps in ArcGIS, QGIS and R

1 ArcGIS

- Set symbology type as “Stretched”
- Pick the colour ramp that is red/orange/yellow/green/blue (about half way down the drop down list)
- Tick “Invert” (otherwise the colour ramp will be the wrong way around)
- Tick “Display Background Value” and set 0 as ‘No Color’ or another color (e.g., light blue), in order to exclude the 0 values from the stretched simbology)
- Under stretch, choose type Standard Deviations
- Set the 'n' value to 0.5 (you can play about with this value to adjust)





2 QGIS

You can follow this tutorial
https://docs.qgis.org/2.8/en/docs/training_manual/rasters/changing_symbology.html

Make sure to:

- Set render type as 'Single band pseudocolor'
- Pick the colour you want to use (note that you might need to tick 'Invert', otherwise the colour ramp might be the wrong way around)
- Tick 'standard deviation' and set it to 0.5 and also minimum to 0. You can play with values here, until you get the desired result. Some users prefer to set standard deviation to 0.1

3 R

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#### Vessel density (EMODnet)
require(raster)
# list files to create the stack:
kk1 <- "pathtofile" # for example, "D:/EMODnet_HA_Vessel_Density_Avg_ 2017/"
# Geographic Coordinates System reference according to EMODnet metadata (EPSG:3035)
kk3 <- "+proj=laea +lat_0=52 +lon_0=10 +x_0=4321000 +y_0=3210000 +ellps=GRS80 +units=m +no_defs"
# open one geotiff file:
kk4 <- raster(paste0(kk1, "2017_st_All_avg.tif"))
# plot it
plot(kk4, breaks=c(0,1,5, 10, 43345), col=grey(c(9,7,5,2)/10))
crs(kk4) #check it. OK!
# get the list of tiff files to open
kk <- list.files(path=kk1, full.names=TRUE, pattern="*.tif")[2:13]
# get the full monthly rasters
plot(kk1 <- raster::stack(kk))
```