

Getting Data together

My R scripts and inputs/outputs are [here in Google Drive](#). I can put them in GitHub, but need to discuss permissions for data first.

I do these in R Studio, I didn't test them as 'just run it' scripts. It is expected you do them and check as you are going along. There is some Leaflet code so you can check if you got the right stations on a map.

r-for-fvcom

- 1) Step0_reformat_Pothoven.R, Step01_reformat_CSMI.R - reformat csvs with measured data, restricts area by lat/lon, removes GH45 and the ones in the river
- 2) PreStep1.R - gets just the dates mentioned, and makes a 'VisIt' dataframe with adjacent days copied to each other (see the numbers file)

The rest of these just make text files with stations and make a script to extract times from the netCDF data, so the VisIt script can read them.

- 3) Step1_save_stations.R
- 4) Step2_mitimes.R
- 5) Step3_reformatstations.R
- 6) Step4_ncks_notes.R

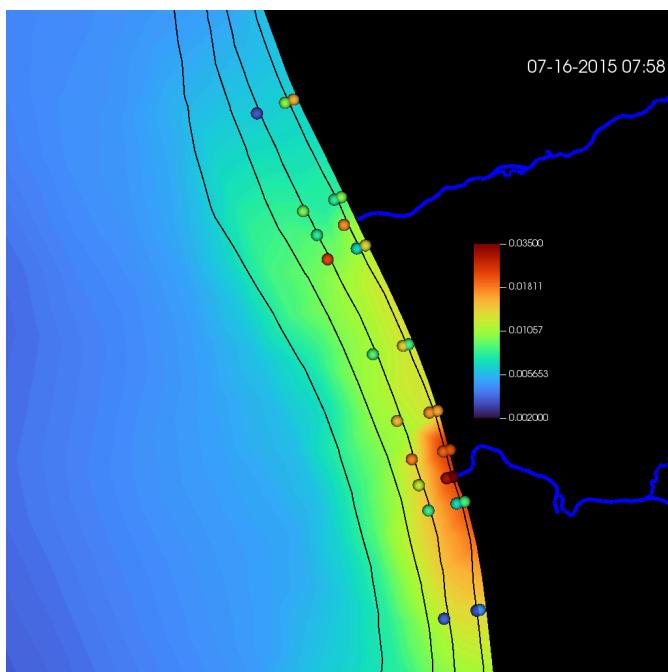
The dates

Here is [pdf of my \(Numbers for mac\) spreadsheet](#), it has every day there is measured data, and highlighted in green or blue are the dates used for plots.

VisIt scripts

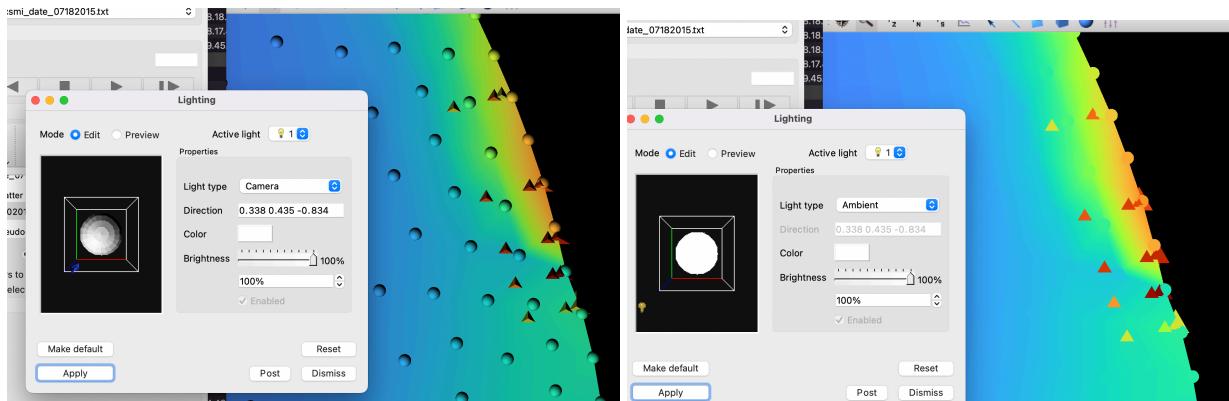
[In the usual place](#), but just written hard-coded for my computer.

Plots - [are here](#) for discussion

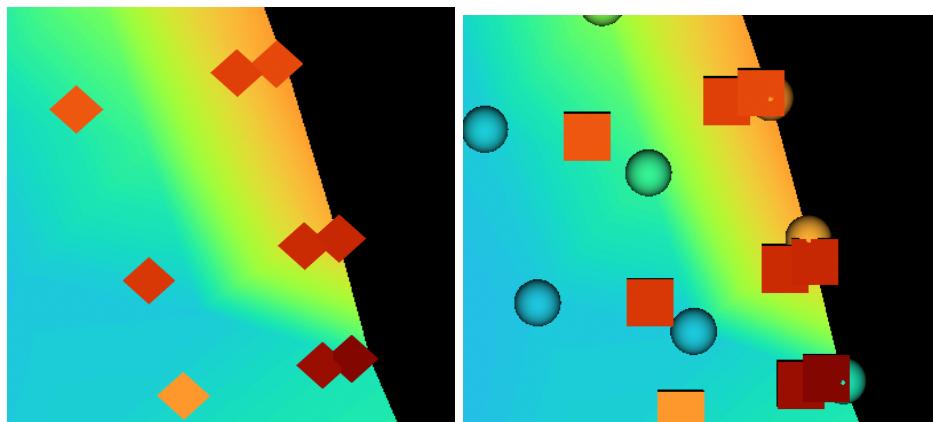


Station markers

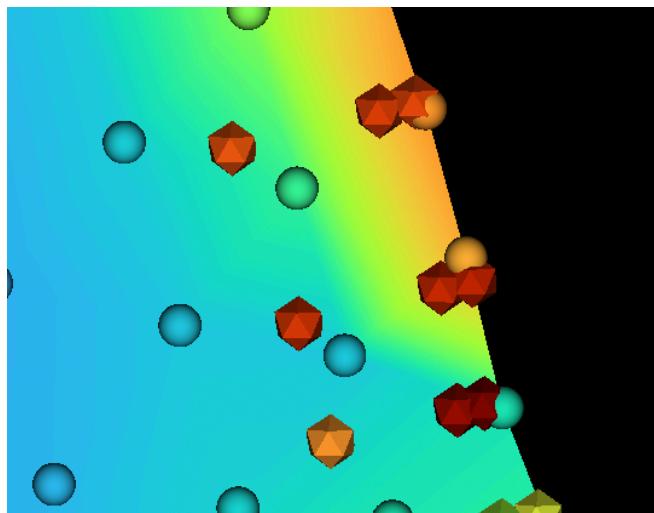
Visit is really for 3D visualization...it is weird to get different 'shapes' because Visit is plotting glyphs, and uses lighting.



But you can do it

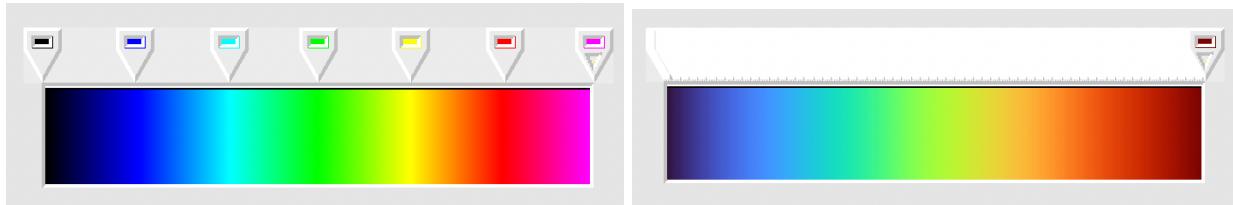


I think spheres and icosahedron look the best in visit, but not sure about 2D published paper plots

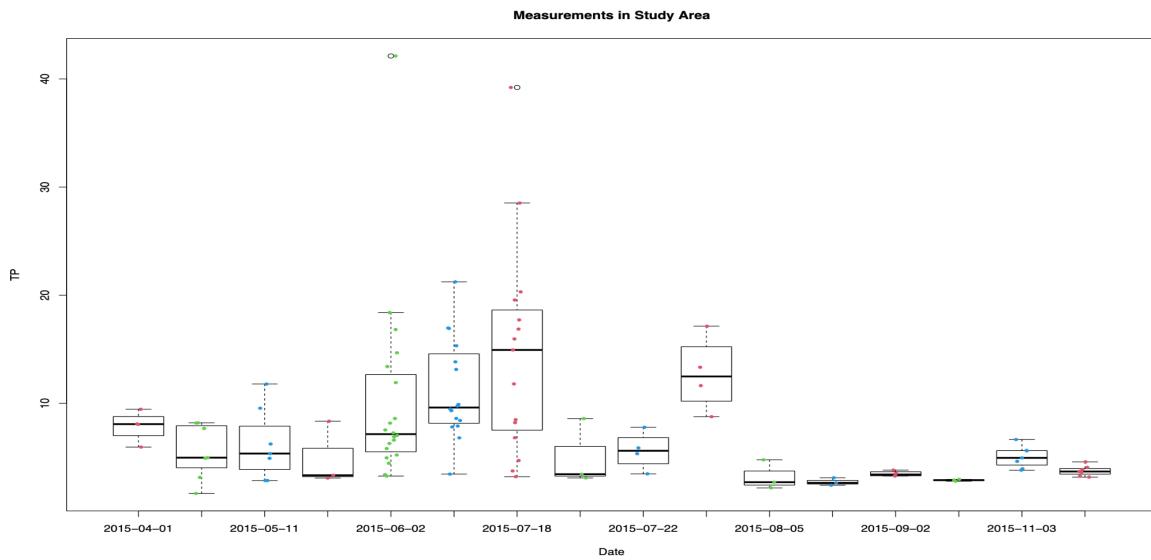


The Colormap

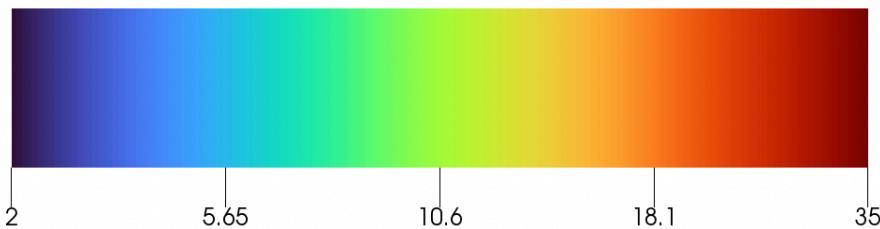
I had been using a 'discrete' colormap, which added the look of extra contour lines. I replaced it with a continuous one.



I had been adjusting the colormap based on the model values, which necessitated a high skew to fit the ranges. After looking at the limits for *measured* data, I made a colormap with less skew that shows a better range of values. (More differently colored spheres.)



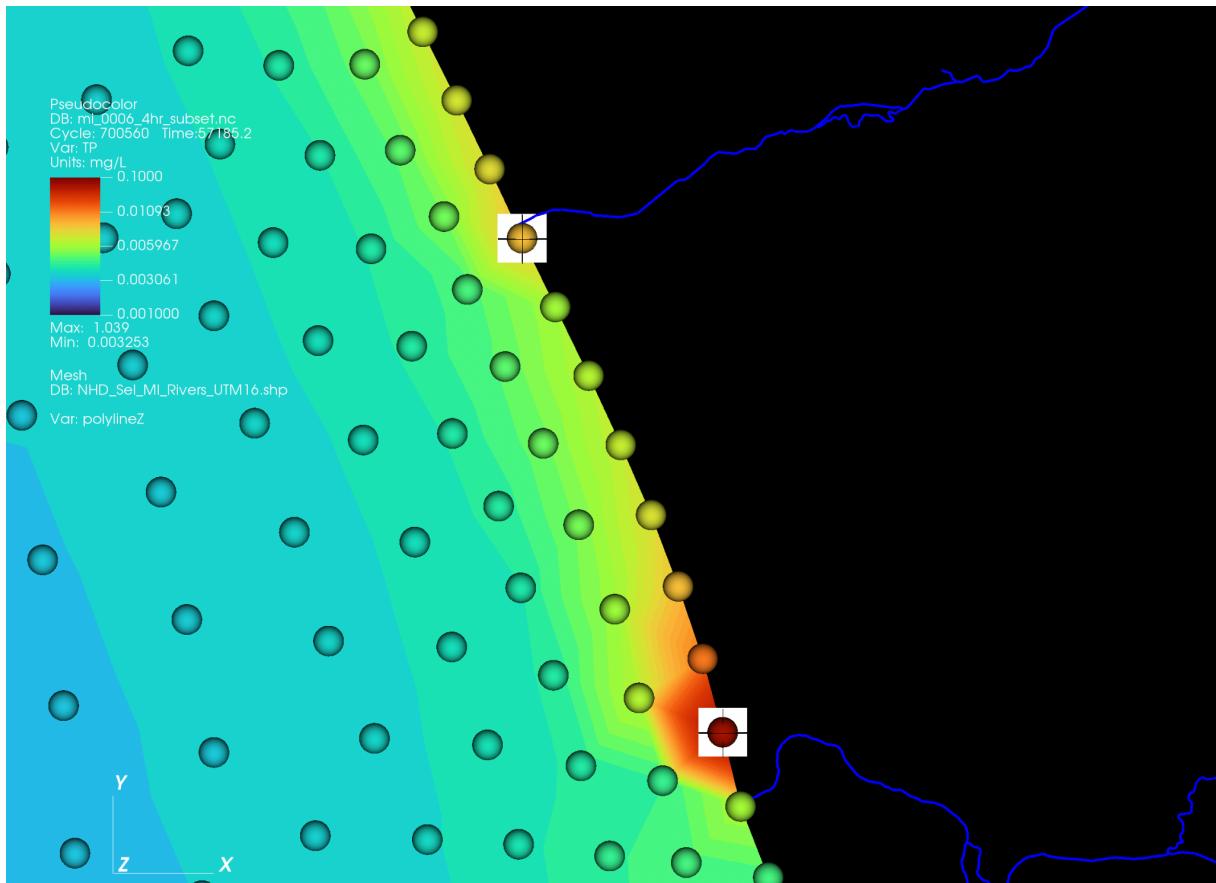
This is the colormap I have now



It is actually only very good for summer. It would be better to use a different range for the other dates.

Model Loads

It looks like the model's tributary load is not going to the model point closest to the river for that particular (GIS) river. Spheres are model grid data, on top of contours of modeled data, both with the same colormap. White boxes are on coordinates I have for rivers.



Other

I think I did find an example of the numerical instability Mark was talking about, but it wasn't close to our stations.

