IDEAS
Focus ~~Summer~~ School
Visualization

Welcome!

What we will do

- Visualization theory & practice

- Part 1: In-depth instruction with visualization tools
  - Mornings = Lecture / Discussion / Hands-on tutorials
  - Afternoons = Independent work + "Show and Tell"

- Part 2 : Independent projects
  - See Syllabus for notes on required attendance.
  - Files due to Aaron by 10am on April 25.
  - Final demos on April 25 10am – noon.

Topics : Part 1

- 4/4 – 2D Visualization : Design + Matplotlib
- 4/5 – 2D Interactives with Bokeh and Plotly
- 4/11 – 2D Intro to web and interactives with D3.js
- 4/12 – 3D Interactives with ParaView and WebGL
- Optional activity : explore other software...

Additional Software

- I encourage you to explore these independently. There are walkthroughs and notebooks for many of these on our GitHub repo.

  - *Volumetric Data* : VisIt
  - *Web-facing Tools* : x3dom, Plotly, shiny, datawrapper
  - *General Interactives* : OpenGL, Processing, Unity
  - *Artist Tools*: Photoshop, Illustrator, Maya, Blender, ffmpeg, Image Magick
  - *Python Tools* : Seaborn , Glue
  - *Mapping* : GMT, NASA WorldWind, cartopy, basemap
  - *R* : ggplot2, Shiny
  - *Other utilities:* WebPlotDigitizer, Fiji

Project : Part 2

- **Objective:** apply the skills you learn from this course to a visualization project of your choice (ideally related to your research).

- **Important Dates:**
  - April 18 – Project proposals (informal 1-on-1 with Aaron)
  - April 18 – 22 – Work ~40 hrs on your visualization proejct
  - April 25 – Project files due to Aaron by 10am
  - April 25 – Final demos 10am - noon

- **Submission Material:**
  - 1-page description (e.g., a README file)
  - Pictures / videos / website showing your work
  - Any necessary files / materials

- **Demos – NOT POWERPOINT PRESENTATIONS !! :**
  - 10 minutes each = 7 + 3 for questions

GitHub

- **Clone my repo with our class materials:**

```
git clone --recursive https://github.com/ageller/IDEAS_FSS-Vis
```

- **If/when there are updates:**

```
git pull --recurse-submodules
```