

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 or 26 (TBD).

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:**
 - Mon. April 18 – Project proposals (informal 1-on-1 with Aaron)
 - April 18 – 22 – Work ~40 hrs on your visualization project
 - April 25 – Project files due to Aaron by 10am
 - April 25 or 26 – Final presentations (day + time TBD)
- **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
```