

IDEAS  
Focus ~~Summer~~ School  
Visualization

Welcome!

# What we will do

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- 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

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- 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

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- 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

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- **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 project
  - 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
```