Welcome to:

“Tools for Data Handling and Analysis in Water, Weather, & Climate ”

August 26, 2024

Hello and introductions

- You can tell that picture is me by the pixels
- Largely my research interests are focused around hydrologic modeling, machine learning, and understanding how meteorologic data is used in making hydrologic predictions
- I'm also interested in open source science
- I write a lot of code, most of it python
- Just call me Andrew

Hello and introductions

- I want to get to know all of you today as well, but want to get a couple of things out of the way as far as logistics
- Let’s circle back on this at the end of class and start to build a community
- But first, why are you here and what can you expect to learn?

What is this class about?

- Teach core concepts of data science and computational methods
- Provide a formal baseline for understanding modern tools and techniques
- Elevate code and data literacy by teaching best practices

Some important disclaimers:

It is okay if something doesn’t “click” right away in this class!

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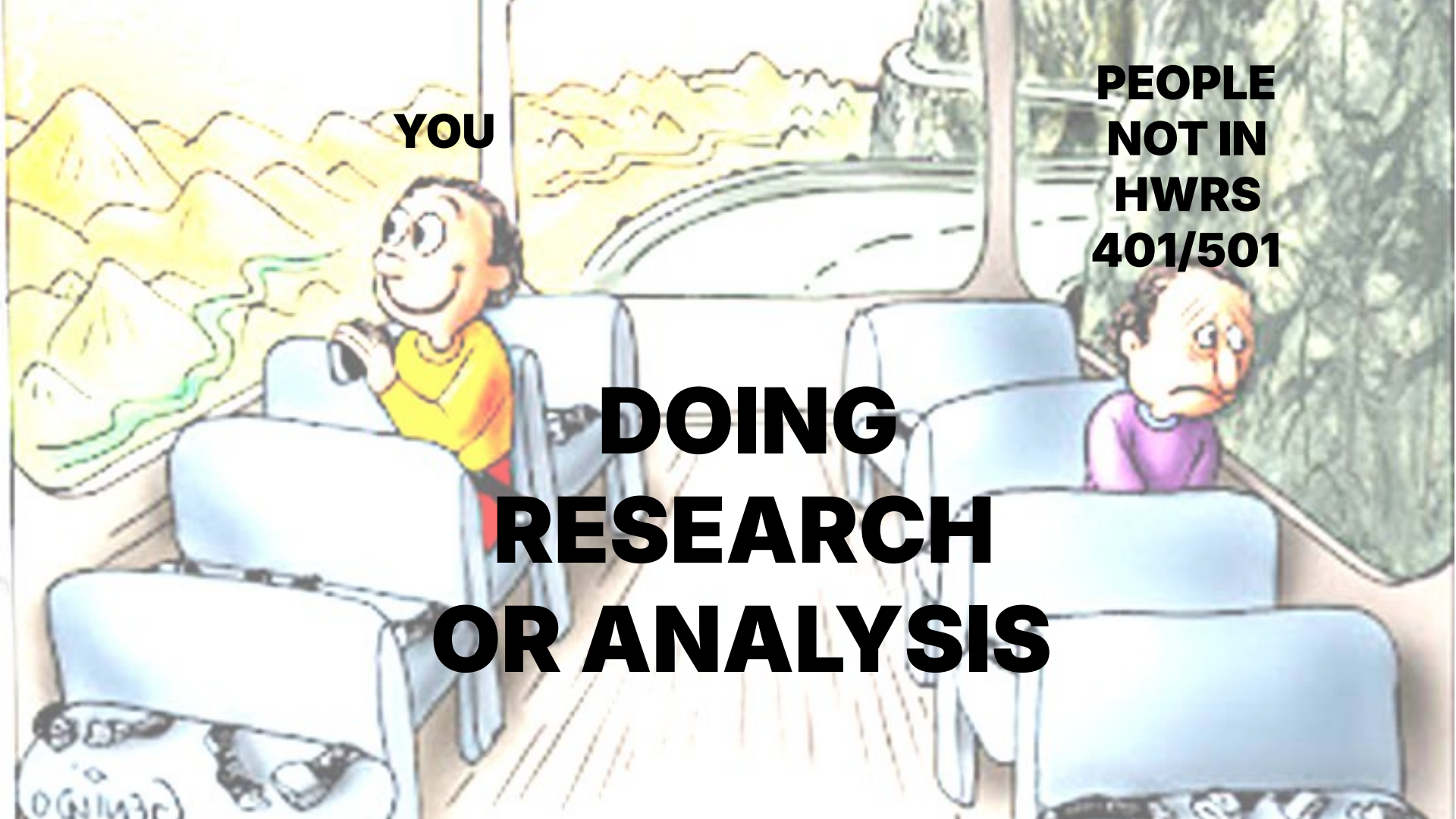
Software used for research is not designed for usability and building intuition/understanding is less about being smart and more about building familiarity

So, let’s make this our motto:

Research in our field is collaborative. Seeking out help and solutions is the norm. Let’s be open when things get difficult or confusing.


YOU
PEOPLE NOT IN HWRS 401/501
DOING RESEARCH OR ANALYSIS

Syllabus time!!!

- Grades will be posted via D2L, but all other materials will be shared via github (to be explained)
- Office hours -
  - Let’s see if we can do this without a poll...
  - I am also open to individually arranged meetings
- Class times are split into three types:
  - Lecture, hands-on, lab
- I want this to be collaborative - we have a curriculum, but if needs/interests arise let’s respond and adjust!!!

Grading & late work

Item	Grade %
Participation	20
Coding assignments	50
Verde river forecasts (2x semester)	15
Mini projects (2x semester)	15

Late work is not accepted unless explicitly arranged with me

Your lowest scored coding assignment will be dropped from the overall grade

You will need to create two accounts for this class

This will be our computational platform and coding interface

This will be our content distribution platform and version control system

Your first assignment: Create your CyVerse and GitHub accounts & send me your usernames

Links to sign up for accounts:

- CyVerse: https://user.cyverse.org/signup
- GitHub: https://github.com/signup
- Additionally, as a student you get free access to GitHub Pro with the student developer pack - please also sign up for that
- GitHub student developer pack: https://education.github.com/pack
- Please do this **before the next class period** so that we can get started!

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- Have you used GitHub before?

Introductions & discussion time