# Getting Started

HES 505 Fall 2023: Session 1

Matt Williamson

Welcome to Space!!

# Today's Plan

- Introductions

- Why (not) R?

- Course logistics and resources

- Testing out RStudio, git, and GitHub Classroom

# Introductions

# About Me

- What I do
- My path to this point
- Why I teach this course

# What about you?

- Your preferred pronouns

- Where are you from?

- What do you like most about Boise?

- What do you miss most about "home"?

- What is your research?

# Why (not) R?

# Why R?

- Open Source
- Huge useR community
- Integrated analysis pipelines
- Reproducible workflows

Code | Plot

```
1   library(maps)
2   library(socviz)
3   library(tidyverse)
4   party_colors <- c("#2E74C0", "#CB454A")
5   us_states <- map_data("state")
6   election$region <- tolower(election$state)
7   us_states_elec <- left_join(us_states, election)
8   p0 <- ggplot(data = us_states_elec,
9                mapping = aes(x = long, y = lat,
10                             group = group,
11                             fill = party))
12  p1 <- p0 + geom_polygon(color = "gray90",
13                          size = 0.1) +
14     coord_map(projection = "albers",
15               lat0 = 39, lat1 = 45)
16  p2 <- p1 + scale_fill_manual(values = party_colors
17     labs(title = "Election Results 2016",
18          fill = NULL)
```

# Why not R?

```
 1  ## ---
 2  ## Error: could not find function "performance"
 3  ## ---
 4  ##  [1] "Error in if (str_count(string = f[[j]],
 5  ##  pattern = \"\\\\S+\") == 1)
 6  ##  { : \n  argument is of length zero"
 7  ## ---
 8  ## Error in eval(expr, envir, enclos) : object 'x' not found
 9  ## ---
10  ## Error in file(file, "rt") : cannot open the connection
11  ## ---
```

- Coding can be hard…

- Memory challenges

- Speed

- Decision fatigue

# Getting Help

- Google it!!
  - Use the exact error message
  - Include the package name
  - include "R" in the search

- Stack Overflow
  - Reproducible examples
- Package "issue" pages
- r_spatial slack channel
- Common errors

## Ask Me

# Class Details

# Logistics

- Meet on Mondays and Wednesdays

- ~55 min lecture, 20 min practice

- 4 major sections

- Readings

# Course Webpage

https://isdrfall23.classes.spaseslab.com/

- Syllabus

- Schedule

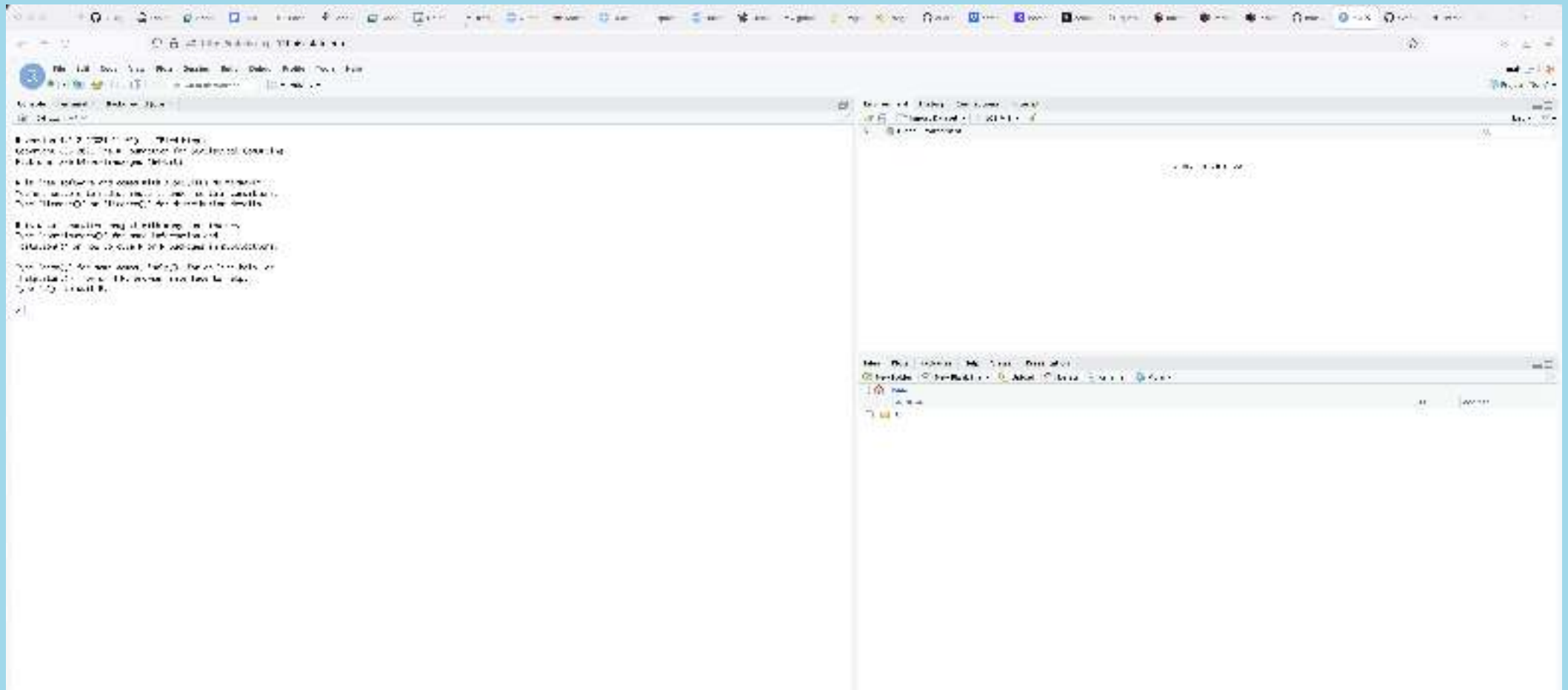- Lectures

- Assignments

- Resources

# Assignments

## Check out the syllabus for more on grading!

- **Self-reflections** (2x)
  - Your goals for the course
  - Evaluation criteria

- **Coding exercises** (10x)
  - Problem solving
  - Reproducible workflows
  - Muscle memory

- **Code Revisions** (3x)
  - Digging deeper
  - Common issues
  - More extensive feedback

- **Final project** (1st draft, final draft)
  - Practice a full analysis workflow
  - Integrate analysis & visuals to tell a story

# Getting started

# Orientation to RStudio and our RStudio server

# Git and Github classroom

# Introduce yourself to Git

1. Lots of ways, but one easy way is:

```
1  library(usethis) #you may need to install this using install.packages('uset
2  use_git_config(user.name = "Jane Doe", user.email = "jane@example.org") #yo
```

2. Generate a PAT token if you don't have one **(make sure you save it somewhere)**

```
1  usethis::create_github_token()
```

# Introduce yourself to Git (cont'd)

3. Store your credentials for use (times out after 1 hr)

```
1  gitcreds::gitcreds_set()
```

4. Verify

```
1  gitcreds::gitcreds_get()
```

# Joining the assignment and cloning the repo

1. Click this link

2. Bring the project into RStudio

- Go to File>New Project and choose the "Version Control" option

- Select "Git" (Not Subversion)

- Paste the link from the "Clone Repository" button into the "Repository URL" space

# The git workflow

- Make sure to **pull** everytime you start working on a project

- Make some changes to code

- Save those changes

- Commit your changes

- Push your work to the remote!

# Wrapup

# Checking in

1. What are some advantages and disadvantages of using R for spatial analysis

2. What can I clarify about the course?

3. How do you feel about git and github classroom? How can I make that easier for you?

**End**