Getting Started

HES 505 Fall 2023: Session 1

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Welcome to Space!!

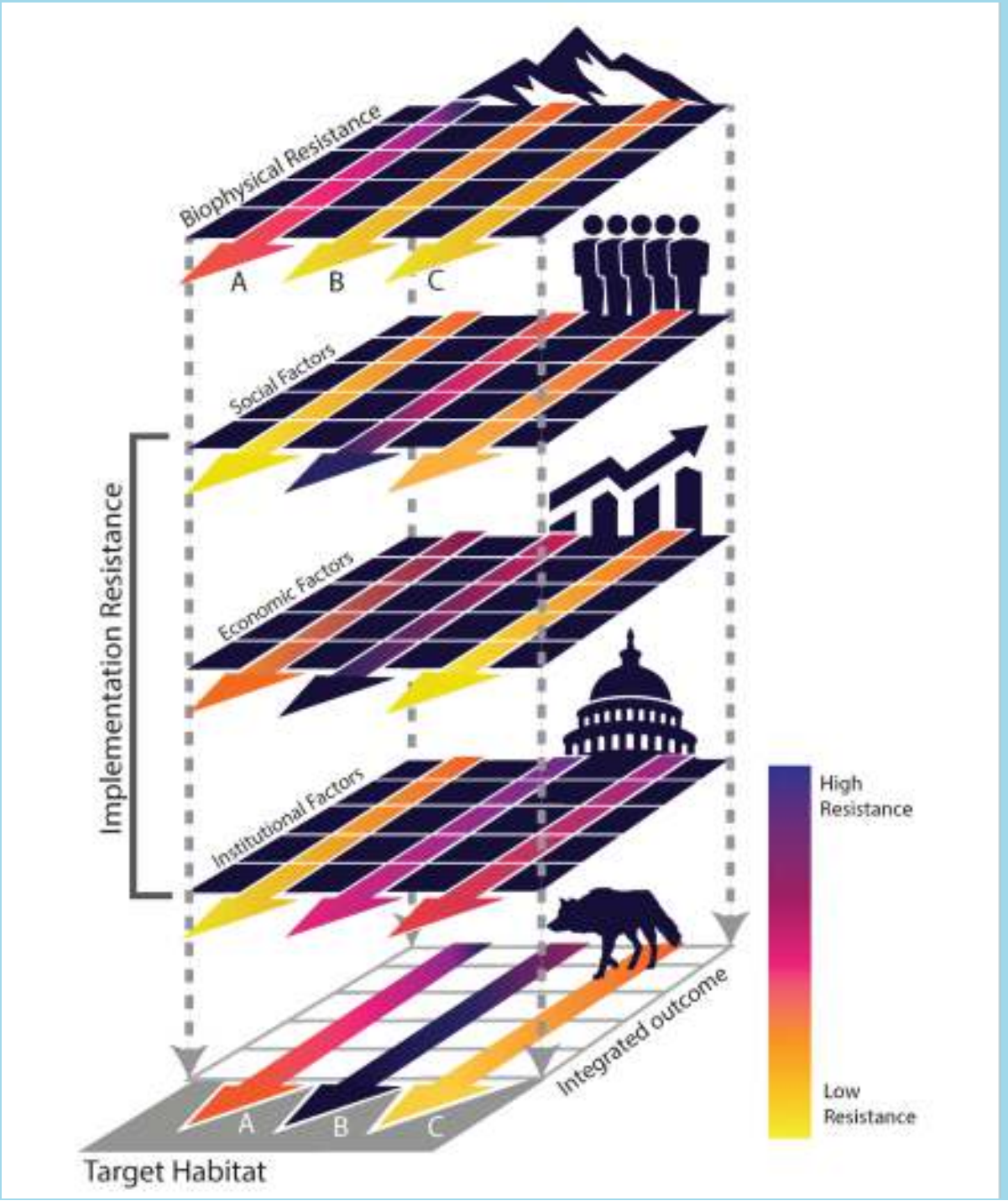
Today's Plan

- 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

```
library(maps)
library(socviz)
library(tidyverse)
party_colors <- c("#2E74C0", "#CB454A")
us_states <- map_data("state")
election$region <- tolower(election$state)
us_states_elec <- left_join(us_states, election)
p0 <- ggplot(data = us_states_elec,
             mapping = aes(x = long, y = lat,
                           group = group,
                           fill = party))
p1 <- p0 + geom_polygon(color = "gray90",
                        size = 0.1) +
    coord_map(projection = "albers",
              lat0 = 39, lat1 = 45)
p2 <- p1 + scale_fill_manual(values = party_colors
    labs(title = "Election Results 2016",
         fill = NULL)
```

Why not R?

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

- Coding can be hard…
- Memory challenges
- Speed
- Decision fatigue

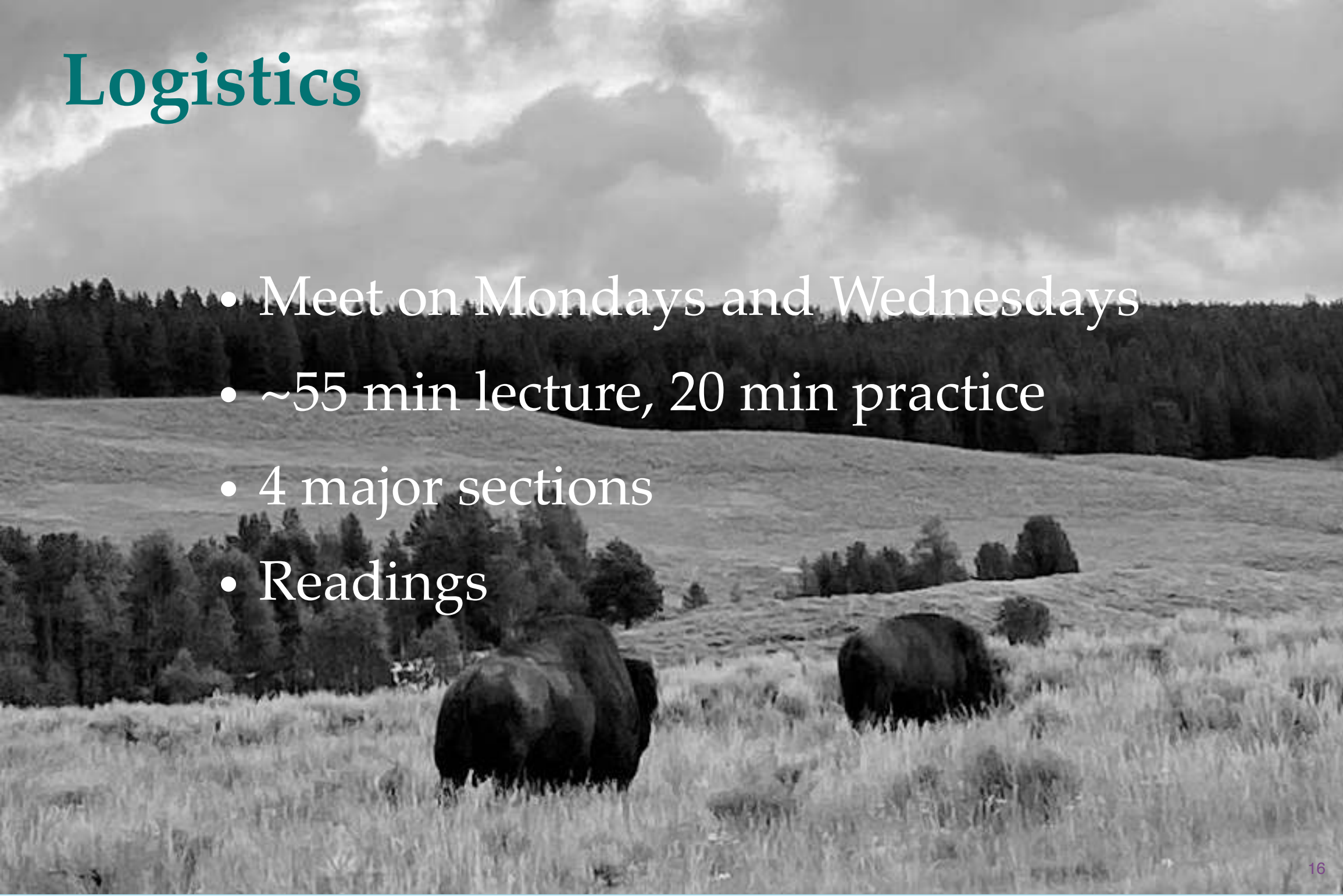
Getting Help

- 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.spaceslab.com/

- Syllabus
- Schedule
- Lectures
- Assignments
- Resources

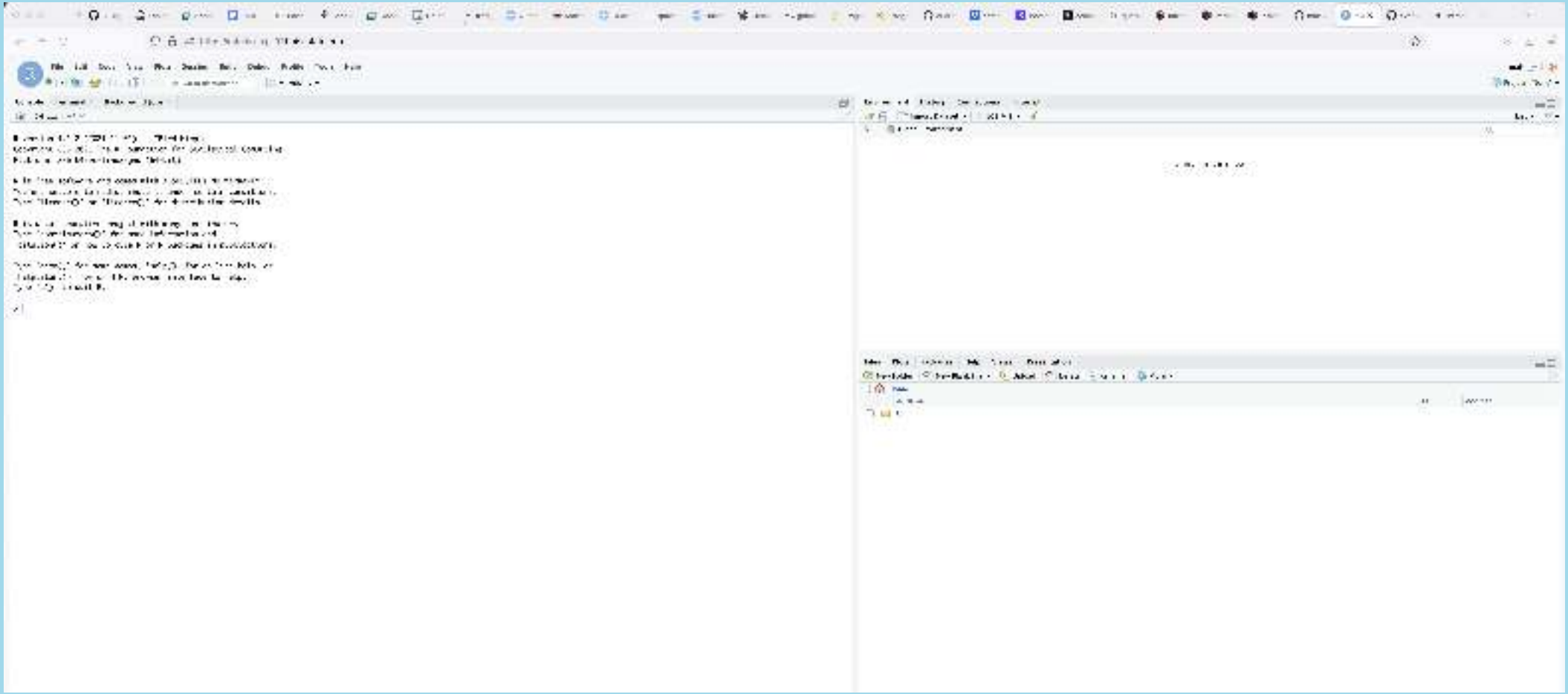
Assignments

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)

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

4. Verify

```
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

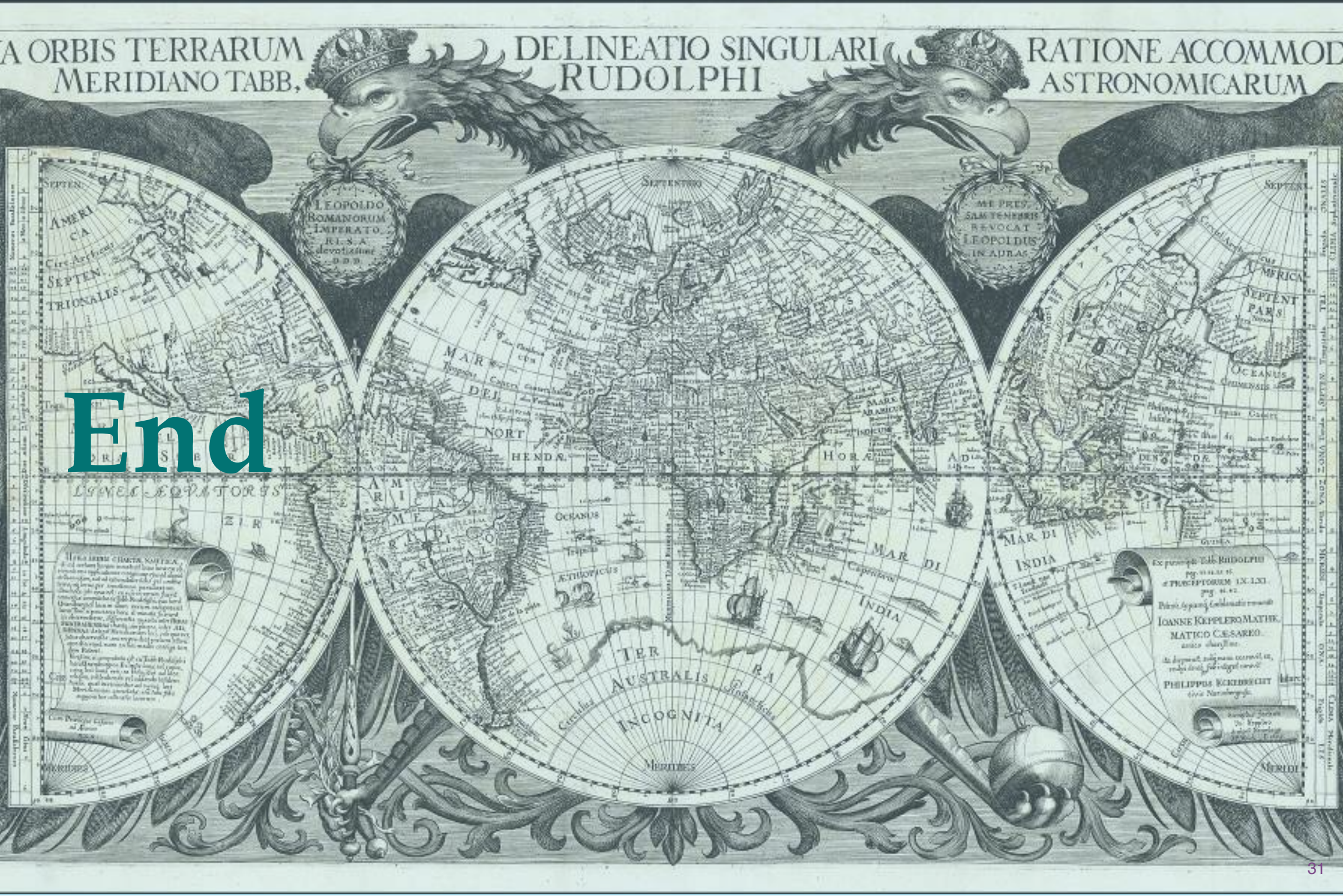
The git workflow

- 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?


A ORBIS TERRARUM MERIDIANO TABB,
DELINEATIO SINGULARI RUDOLPHI
RATIONE ACCOMMOD ASTRONOMICARUM
LEOPOLDO ROMANORUM IMPERATO
SEPTEN. AMERICA
SEPTENTRIO
MAR DEL NORT
HEMISPHERIUM
HORÆ
AMERICA MERIDIONALIS
OCEANUS
MAR DI INDIA
TERRA AUSTRALIS INCOGNITA
LINEA EQUATORIS
ZONA TORRIDA
AMERICA SEPTENTRIONALIS
OCEANUS CHINENSIS
MAR DI INDIA
IOANNE KEPPLERO MATHE.
PHILIPPUS ECKEBRECHT

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