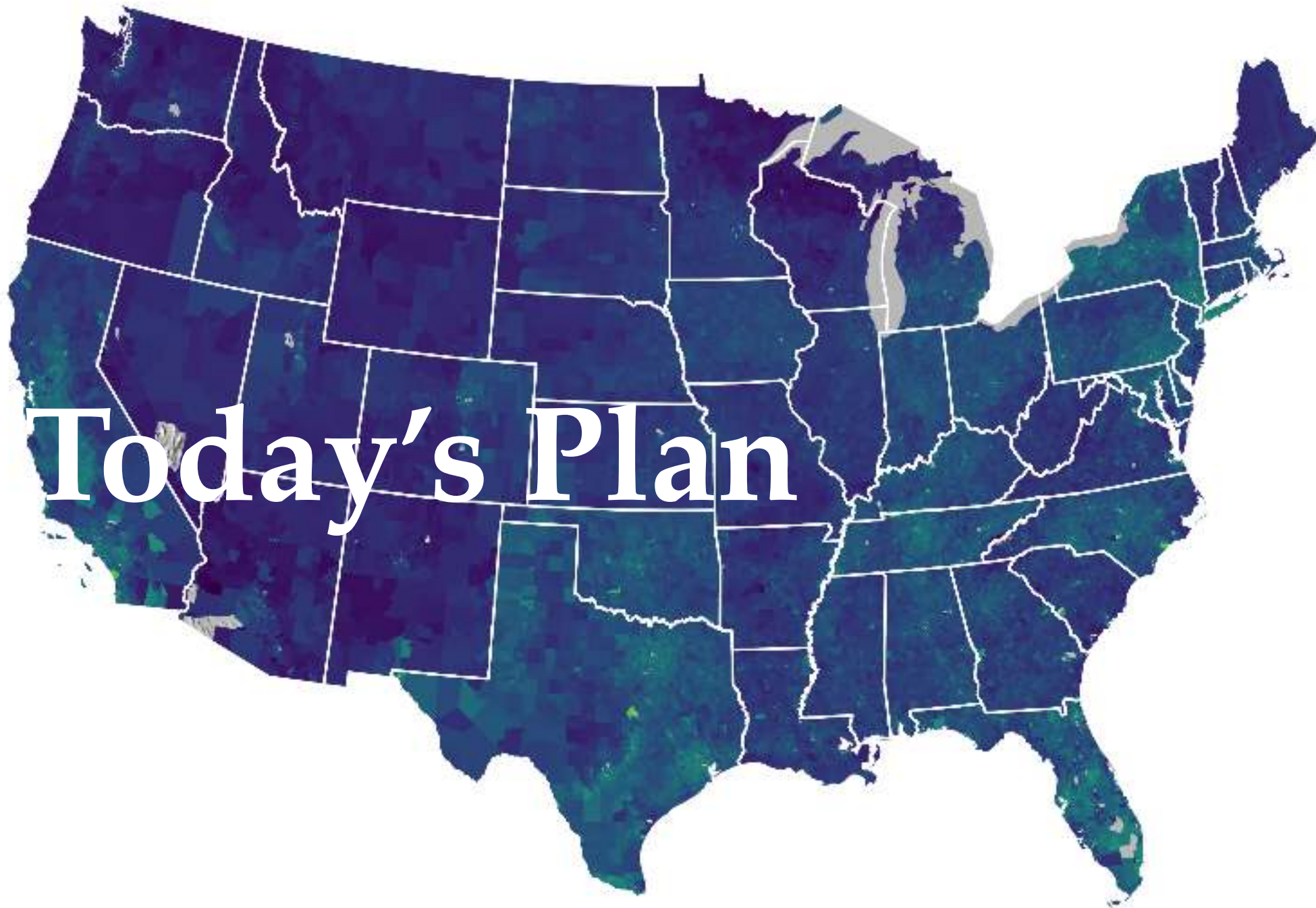


Integrating Rasters and Vector Data

HES 505 Fall 2023: Session 16

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Objectives

- Use `dplyr` with `predicates` and `measures` to subset and manipulate data
- Use `extract` to access raster data
- Use `zonal` to summarize access data
- Join data into a single analyzable dataframe

Motivating Question

How do Collaborative Forest Landscape Restoration projects compare to other National Forest lands with respect to social and wildfire risks?

Setting up some pseudocode

Subsetting to the relevant data

- Where are the National Forests?

```
1 tmp <- tempfile()
2 fs.url <- "https://data.fs.usda.gov/geodata/edw/edw_resources/shp/S_USA.Adm
3 download.file(fs.url, tmp)
4 temp2 <- tempfile()
5 unzip(zipfile = tmp, exdir = temp2)
6 fs.bdry <- read_sf(temp2)
7 all(st_is_valid(fs.bdry))
```

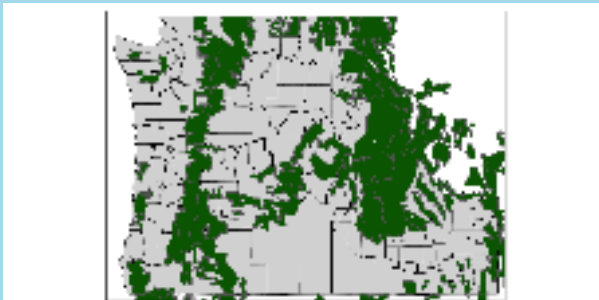
```
[1] FALSE
```

```
1 fs.bdry.valid <- st_make_valid(fs.bdry)
```

Subsetting to the relevant data

- Where are the National Forests?
- Using `[]`

```
1 pnw <- counties(c("ID", "WA", "OR"), progress_bar=FALSE) %>%  
2   st_transform(, crs=st_crs(fs.bdry))  
3 fs.pnw <- fs.bdry.valid[pnw,]  
4  
5 tm_shape(pnw) +  
6   tm_polygons(border.col = "black") +  
7   tm_shape(fs.pnw) +  
8   tm_polygons(col="darkgreen")
```



Getting the CEJST tracts

- Load from server

Choose the CEJST tracts

Select the appropriate variables

Extract raster data

