

1
2 UC Davis {Botanical
3
4 Conservatory
5

6 [Dataset Analysis] %>%
7
8
9

10 < Elisabeth Sellinger, Anastasia Karp,
11 Carrie, & Elyse >
12
13 }
14

```
read_csv("Final Project Presentation")
```

Data Glimpse:

- UC Davis Conservatory Data
 - Family, Genus, Species
 - Region
 - No conservation status
- Very messy
- Lots of NAs

```
Rows: 11,409
Columns: 42
$ accession_num
$ family
$ genus
$ species
$ variety_hybrid
$ synonym
$ common_name
$ x8
$ native_region
$ x10
$ origin
$ x12
$ information_source
$ x14
$ x15
$ date_brought_in
$ x17
$ form
$ x19
$ originally_plant_source
$ brought_to_conservatory
$ x22
$ x23
$ growing_notes
$ x25
$ x26
$ x27
$ x28
$ x29
$ latest_update
$ date_asseccionned_created
$ x32
$ x33
$ x34
$ x35
$ x36
$ x37
$ x38
$ x39
$ x40
$ x41
$ x42

<chr> "B2009.206", "B2016.087", "B2006.034", "B2009.011", "B...
<chr> "Zygophyllaceae", "Zygophyllaceae", "Orchidaceae", "Or...
<chr> "Zygophyllum", "Zygophyllum", "Zygopetalum", "Zygopeta...
<chr> "maculatum", "fabago", NA, NA, "reginae", "triste", "t...
<chr> NA, NA, "Artur Elle 'Tanza Night' FCC/AOS", "Eversprin...
<chr> NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA...
<chr> NA, "SYRIAN BEANCAPER", NA, NA, NA, NA, NA, NA, NA, NA...
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<chr> "South Africa", "Multiple Countries", NA, NA, "Brazil"...
<chr> "South African", "Multiple Regions", NA, NA, "South Am...
<chr> NA, NA, NA, "Brazil", "Brazil in the Southeast Atl...
<chr> "IPNI", "Web", NA, NA, "IPNI", "Web", "Web", "IPNI", N...
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<chr> NA, NA, "Zygopetalum Artur Elle = Z. blackii x Z. B.G....
<chr> "14-Jan-09", "09-Jun-16", "26-Feb-06", "06-Jan-09", NA...
<dbl> 25, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0,...
<chr> "seed(s)", "plant(s)", NA, "plant(s)", NA, NA, NA, NA,...
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<chr> NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA...
<chr> NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA...
<chr> NA, NA, "Any FCC/AOS orchid is nice, besides the Zygops...
<lg1> FALSE, FALSE, FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...
<lg1> FALSE, FALSE, FALSE, FALSE, FALSE, FALSE, FALSE, FALSE...
<dbl> 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 0, 0, 0, 1, 1, ...
<chr> "Zygophyllum maculatum", "Zygophyllum fabago", "Zygope...
<dbl> 1708176647, 309969307, 682582749, -1137481569, -163157...
<chr> "2/24/2023", "2/24/2023", "2/24/2023", "2/24/2023", "2...
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<lg1> NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA, NA...
```

[1] "accession_num"	"family"	"genus"
[4] "species"	"variety_hybrid"	"synonym"
[7] "common_name"	"x8"	"native_region"
[10] "x10"	"origin"	"x12"
[13] "information_source"	"x14"	"x15"
[16] "date_brought_in"	"x17"	"form"
[19] "x19"	"originally_plant_source"	"brought_to_conservatory"
[22] "x22"	"x23"	"growing_notes"
[25] "x25"	"x26"	"x27"
[28] "x28"	"x29"	"latest_update"
[31] "date_asseccionned_created"	"x32"	"x33"
[34] "x34"	"x35"	"x36"
[37] "x37"	"x38"	"x39"
[40] "x40"	"x41"	"x42"

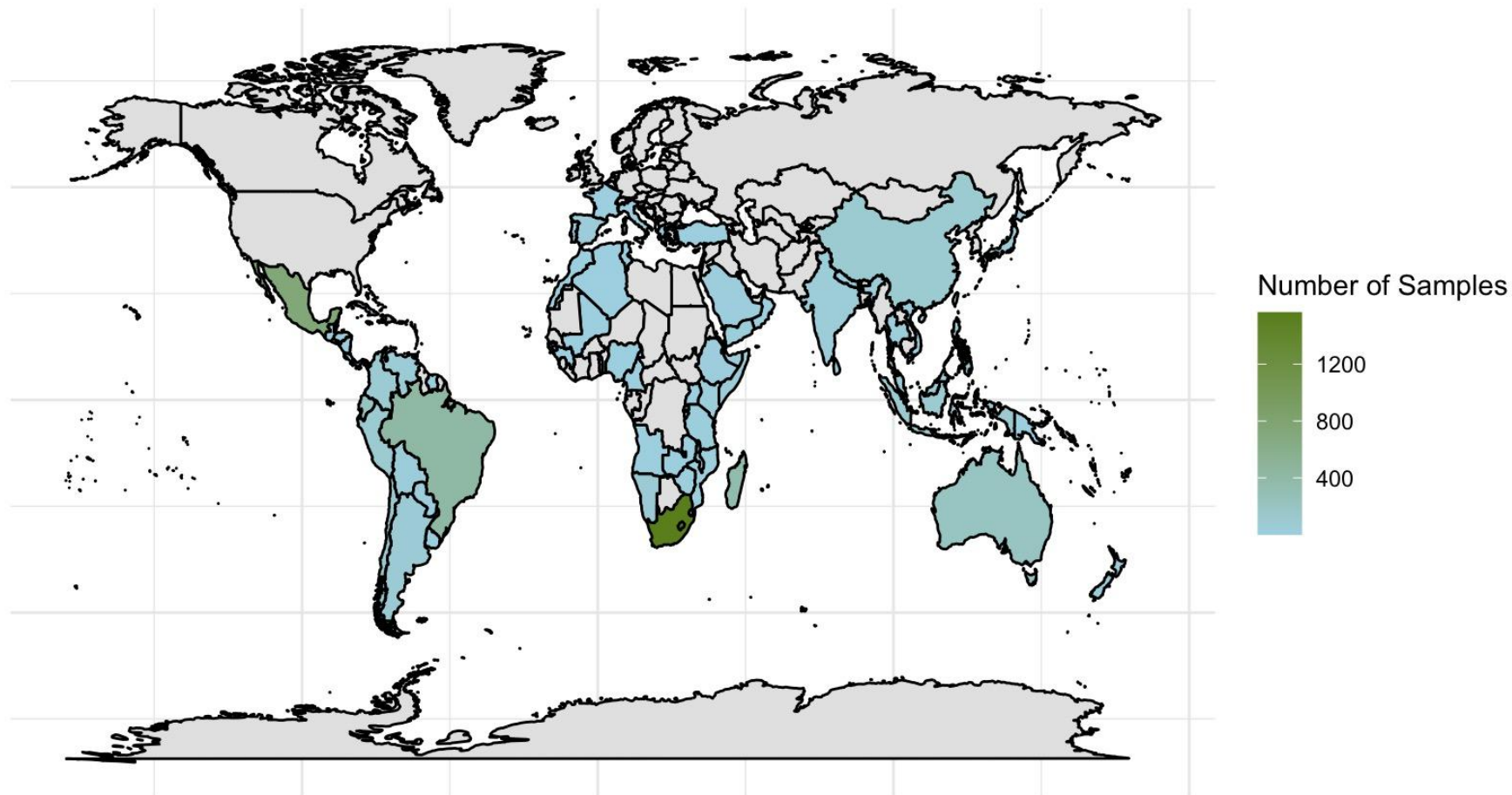
Cleaning:

- Columns without data
- Notes
- Unused data (common names)

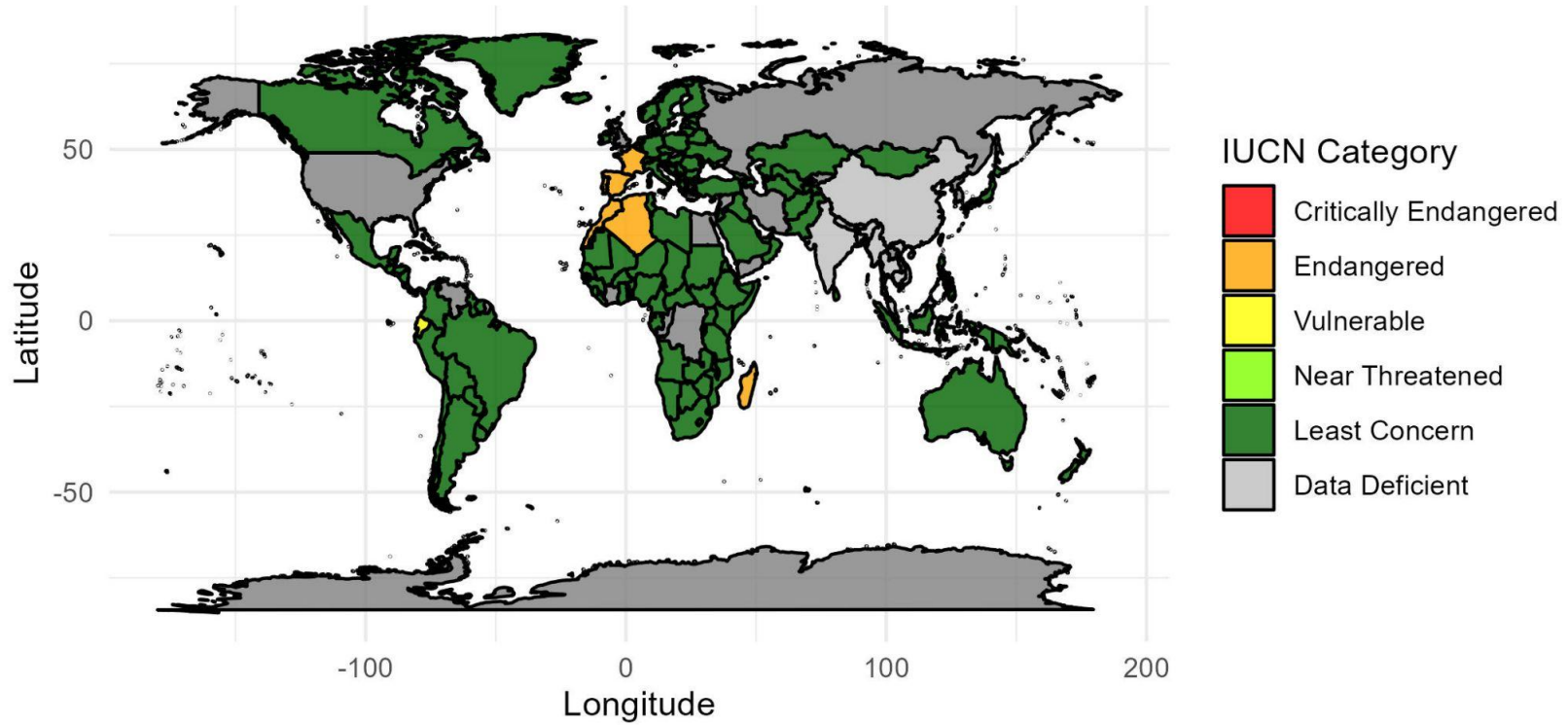
Merging:

- Map data
 - Built in
 - Manual
- Conservation status data

UC Davis Conservatory Data by Region



Map with IUCN Categories and Definitions



Shiny Apps:

App #1:

- Can view plant families by region on map
- Can view plant species conservation status

App #2:

- Bar plot showing number of species in each conservation status by family

Data Sources:

Conservatory Data:

<https://greenhouse.ucdavis.edu/conservatory/>

Conservation Status (NY):

<https://data.ny.gov/w/6x7f-k6wi/caer-yrtv?cur=M6Y7gMqSuwD&from=root>

Conservation Status (GLOBAL):

<https://datacatalog.worldbank.org/search/dataset/0063384/Global-Species-Database>