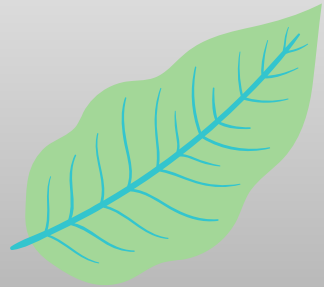


# ANIMATING CLIMATE DATA

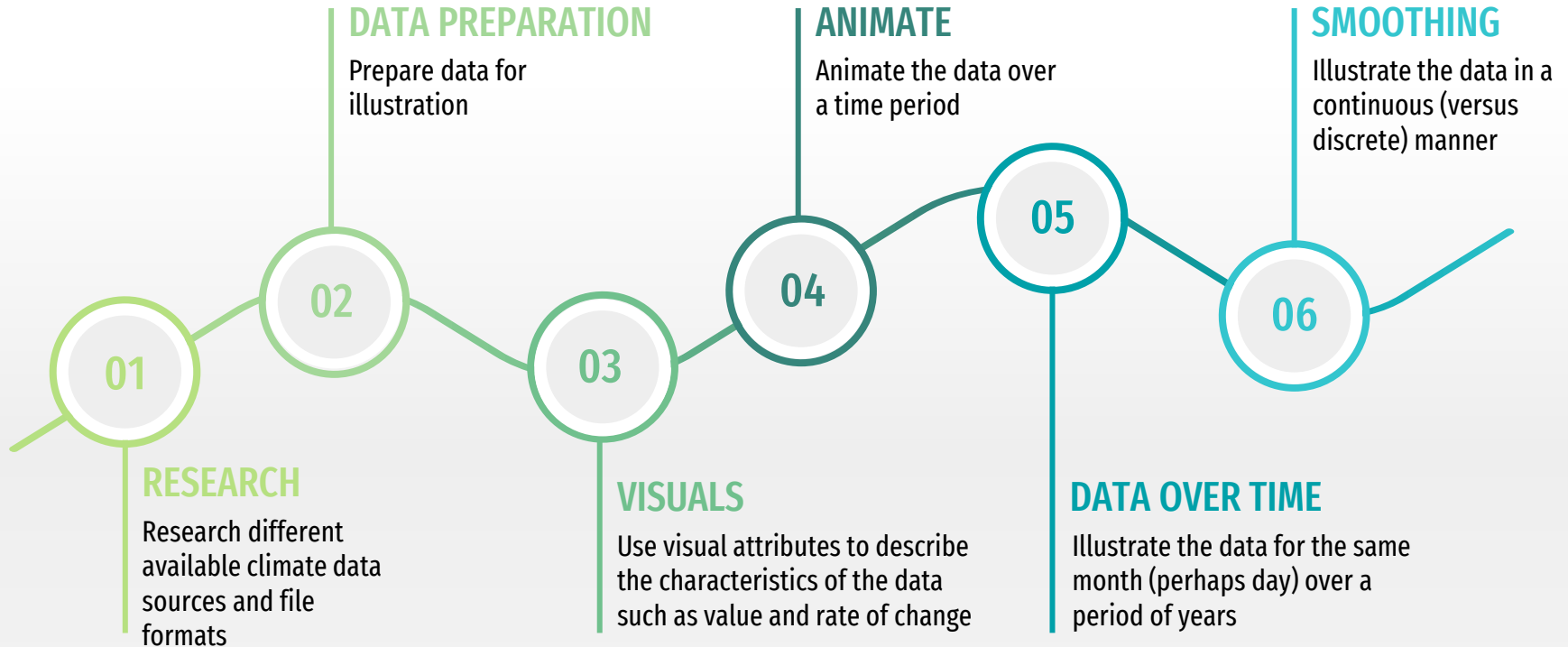
Cassie Nooyen



# Project Description

Build software that visually illustrates regional trends in climate data such as wind speed and temperature using large data sets.

# Project Requirements

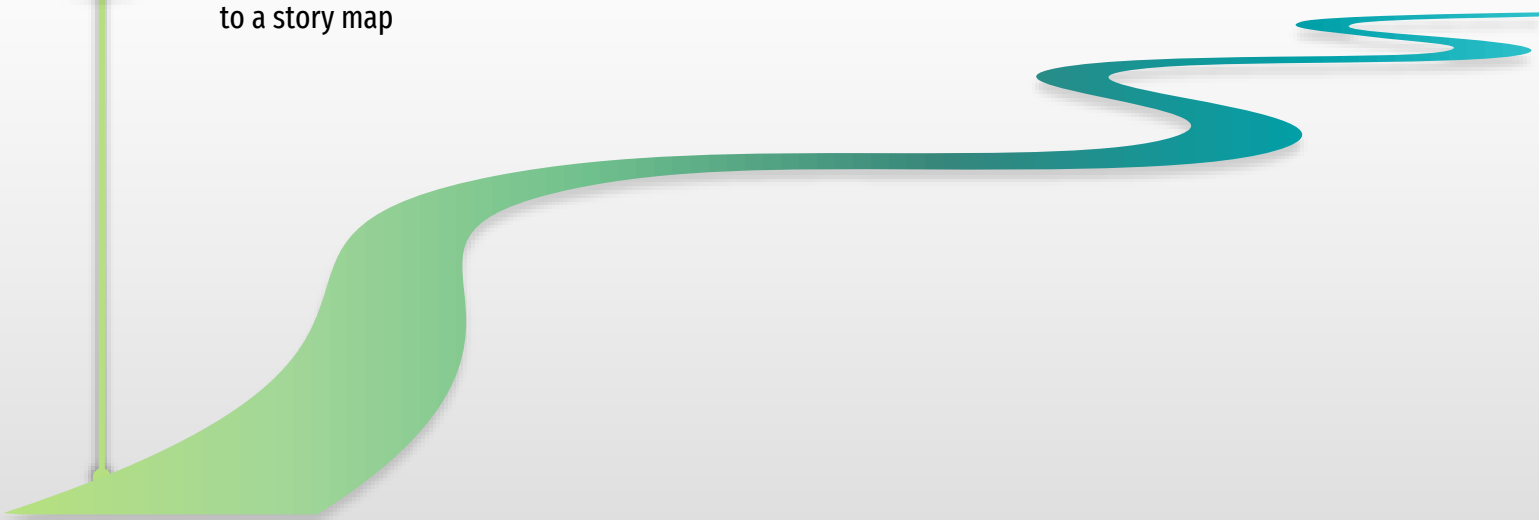


# The Journey



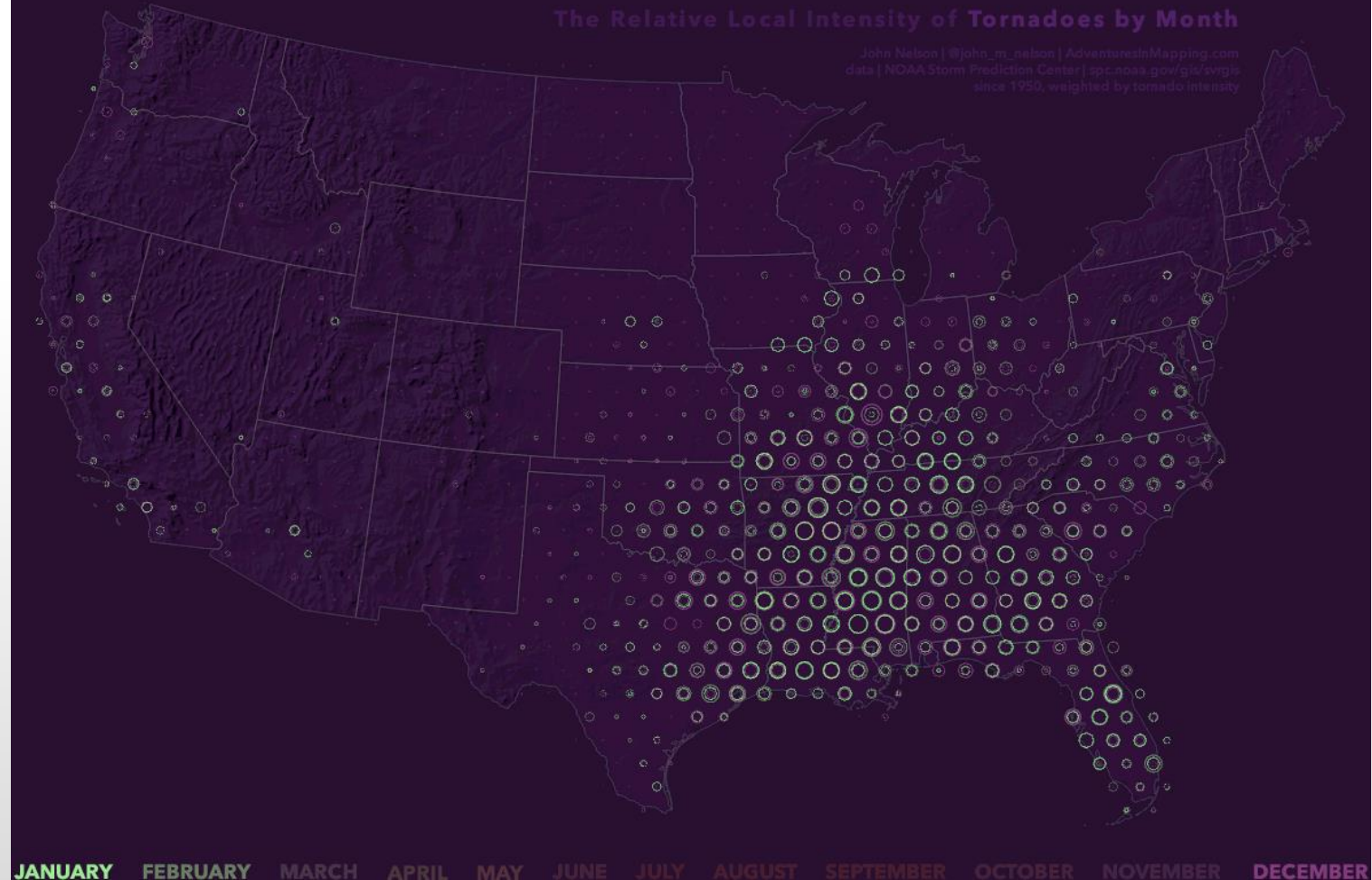
## INITIAL THOUGHTS

Originally thought about doing a mobile app that was similar to a story map

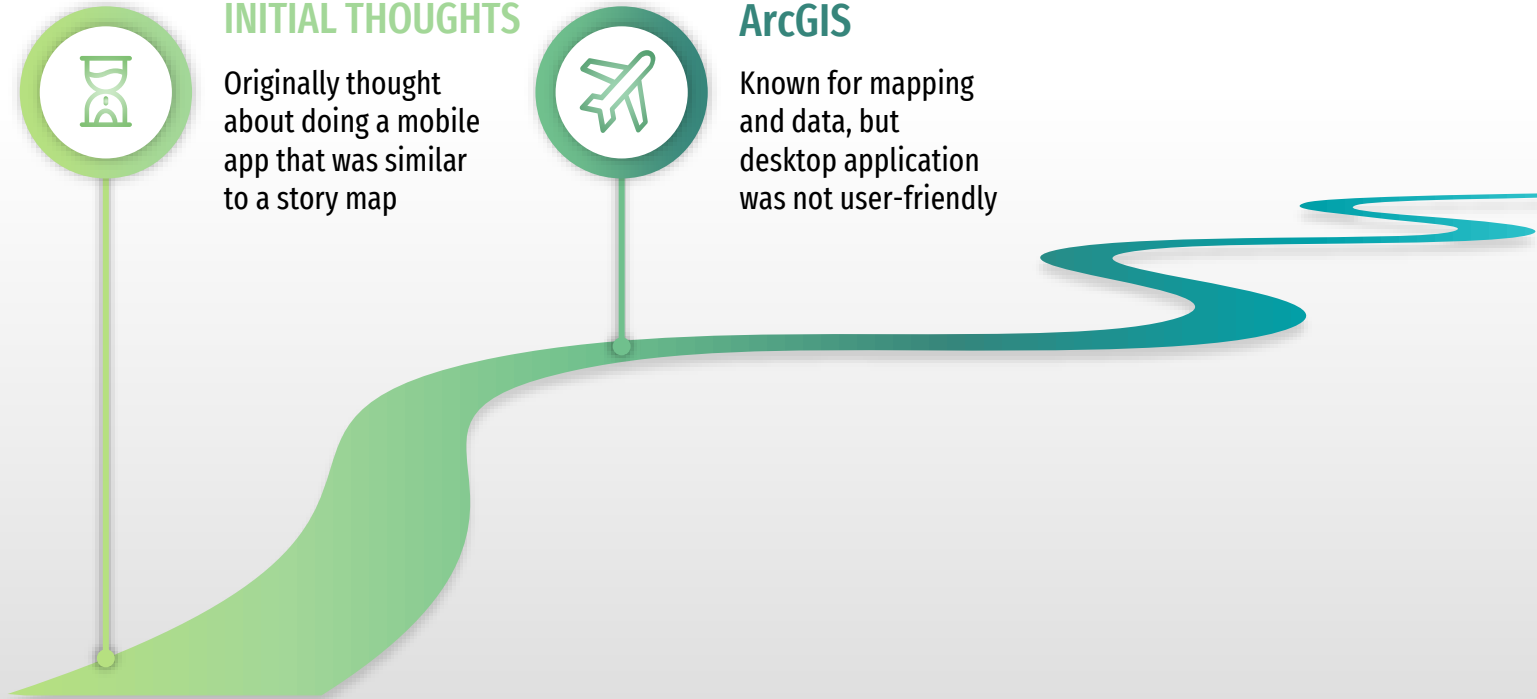


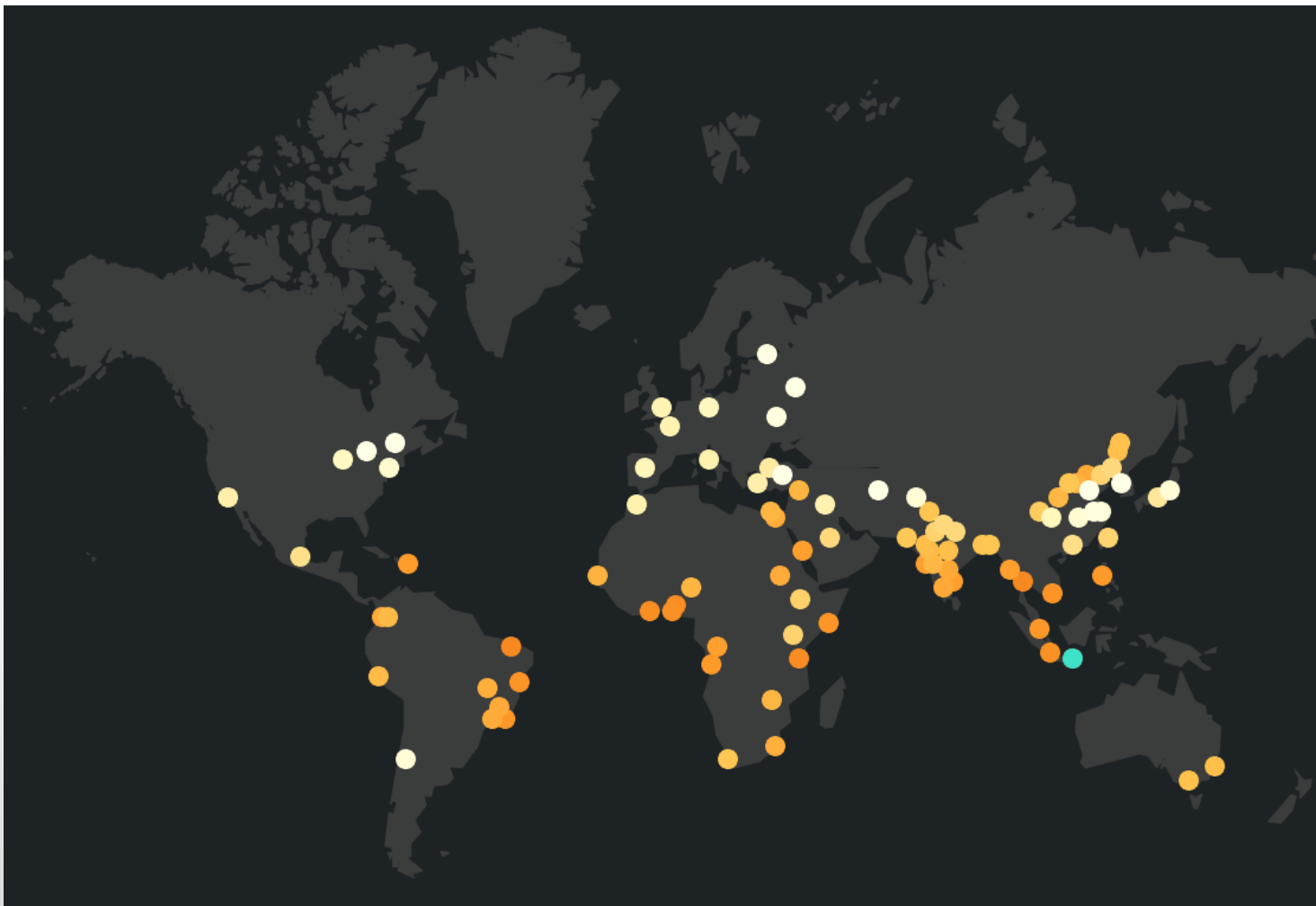
## The Relative Local Intensity of Tornadoes by Month

John Nelson | @john\_m\_nelson | AdventuresInMapping.com  
data | NOAA Storm Prediction Center | [spc.noaa.gov/gis/svr/gis](https://spc.noaa.gov/gis/svr/gis)  
since 1950, weighted by tornado intensity

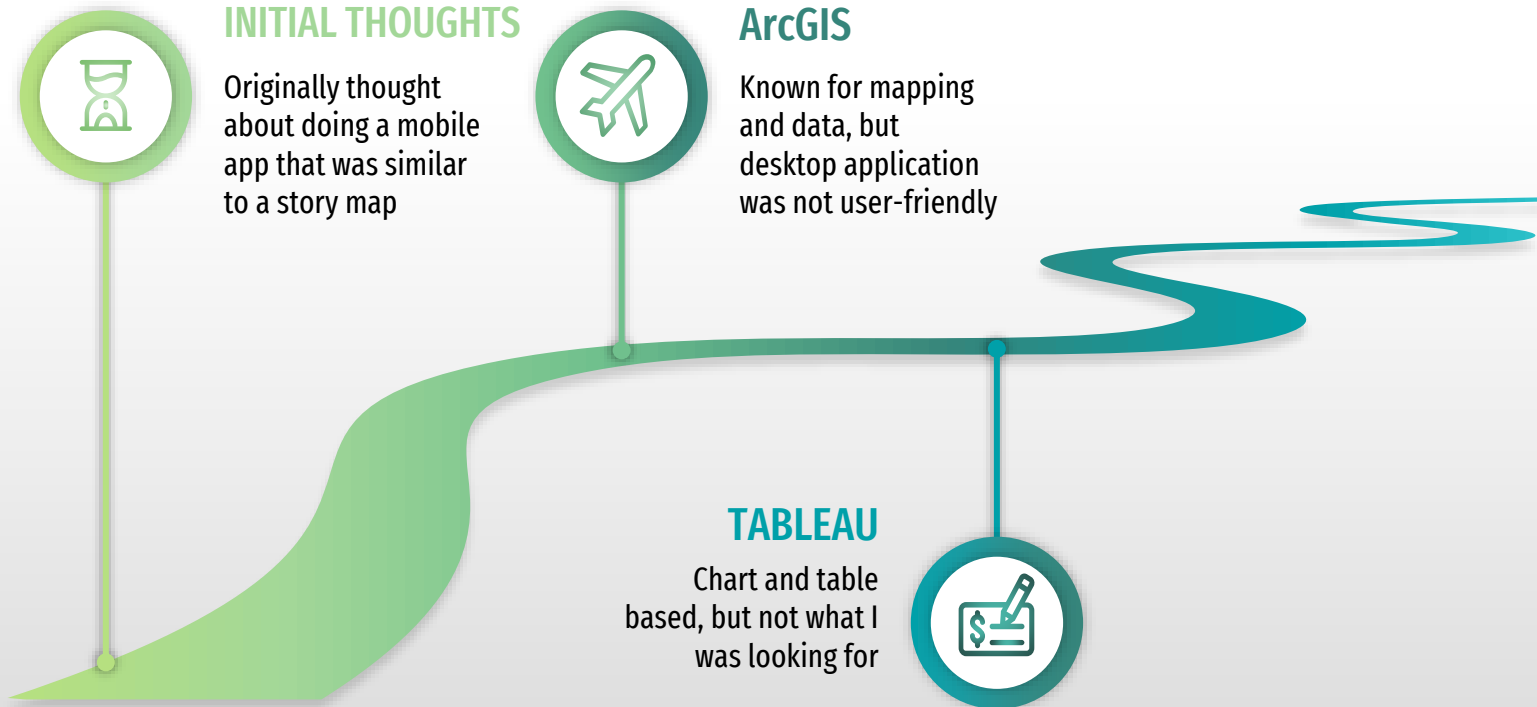


# The Journey



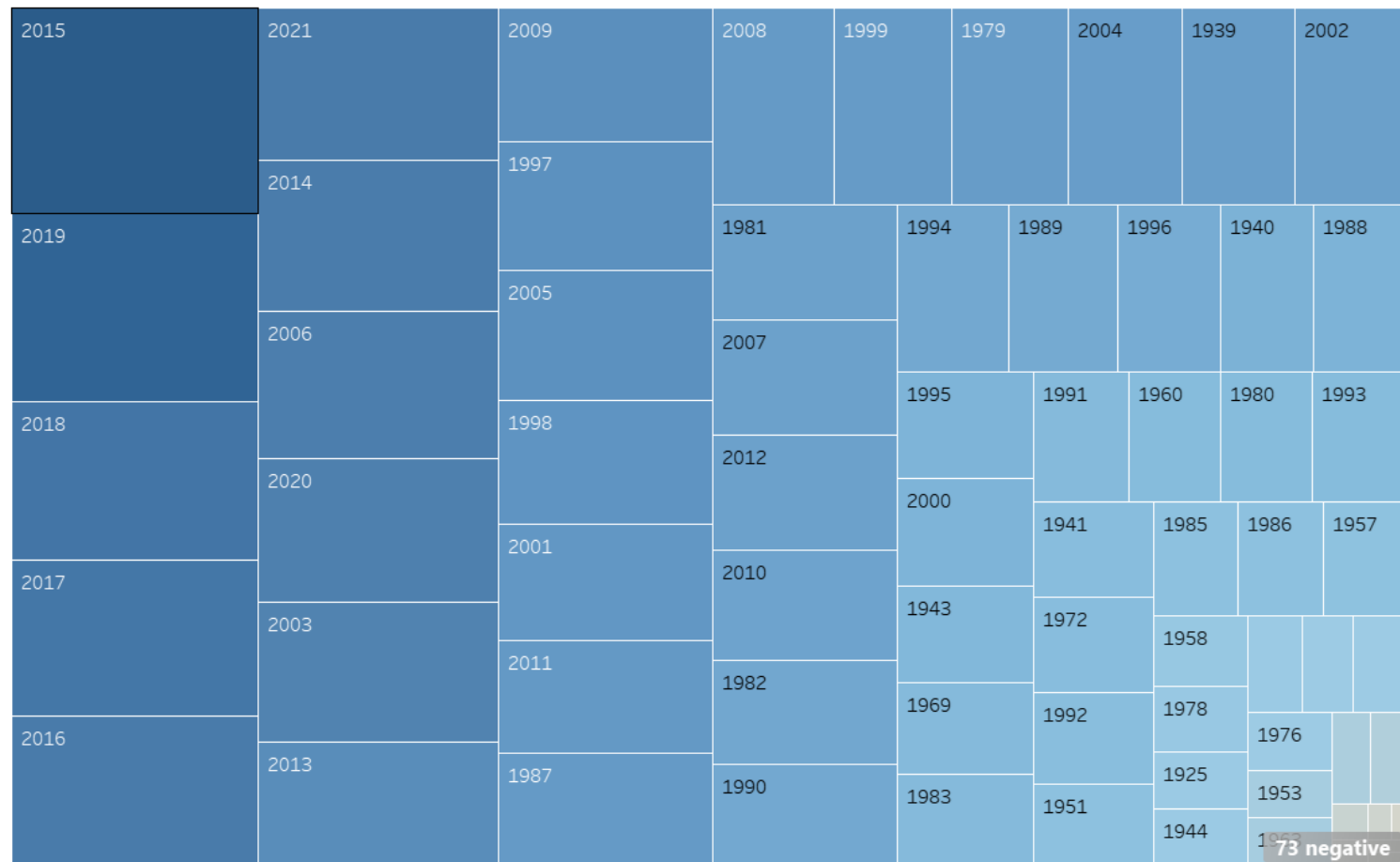


# The Journey

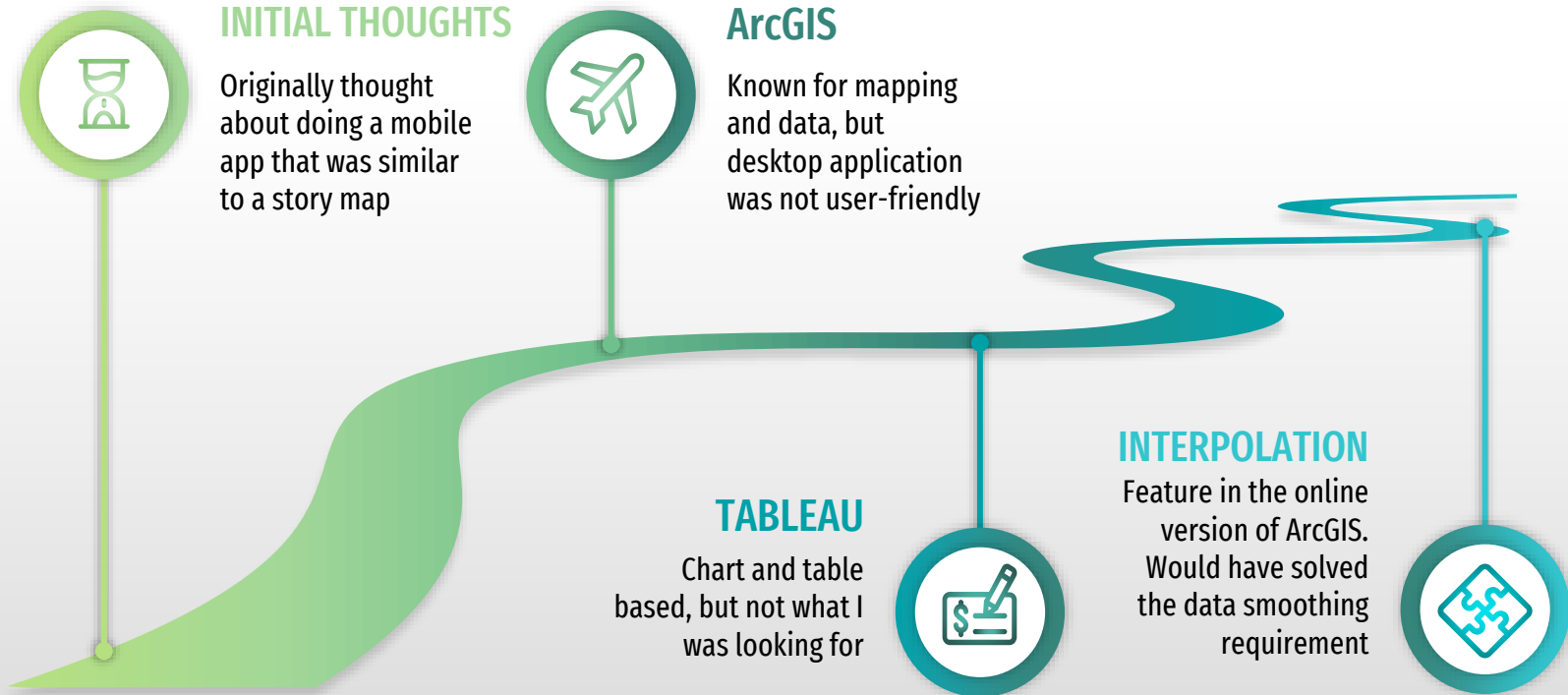


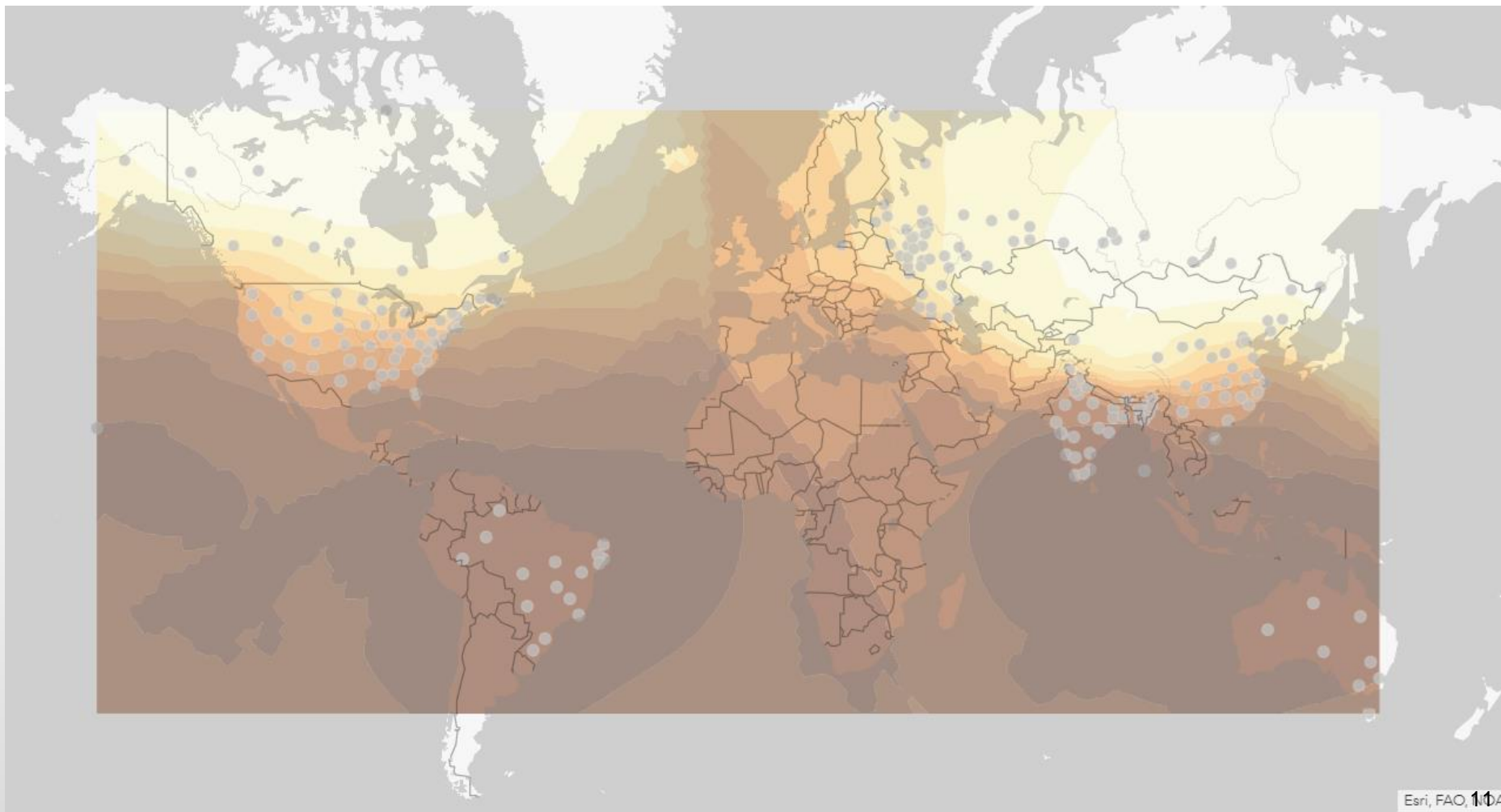


## Global Annual Land and Ocean Surface Temperature Anomalies from 1880 to 2020



# The Journey





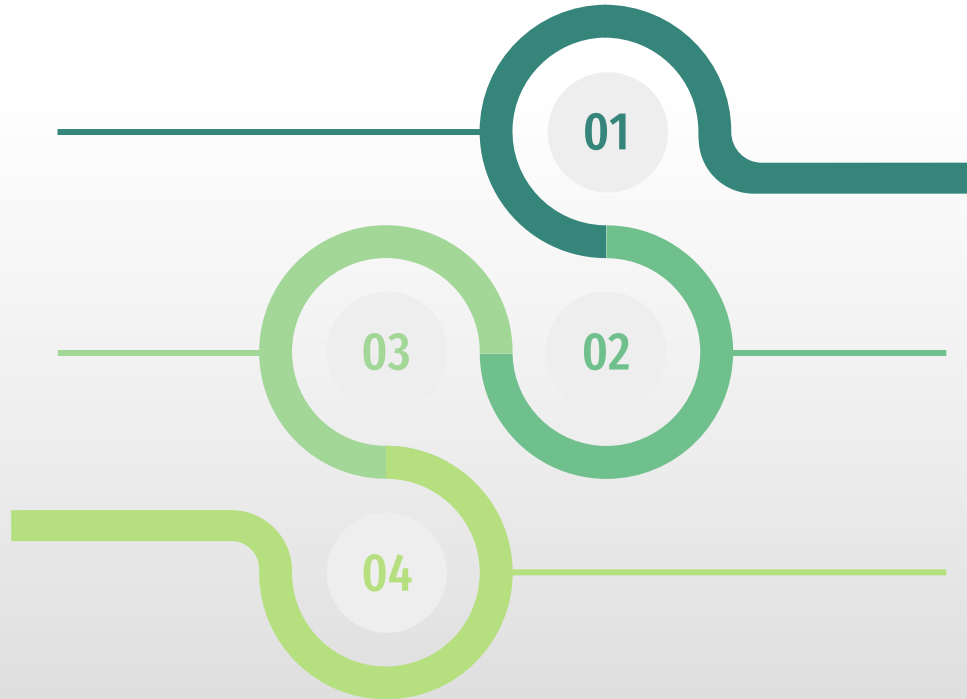
# Google Maps Developer

## GRABBING DATA

Passing of a data array from a PHP to JavaScript

## CREATE ANIMATION

Create a looping function that changes the colors each year



## DATA COLORING

Two color sets: temperature and change

## ADD FEATURES

Info box, pause, rewind, clear, etc.

```
var colorsTemp = ["#d0d0d0", "#321c67", "#452a84", "#53398b",  
    "#373a8b", "#4246ad", "#3c75b9", "#4985c5", "#3799c1", "#12a4a2", "#189e66",  
    "#279d3e", "#64b445", "#bad02c", "#efe62e", "#fed632", "#f6a730", "#ef7b23",  
    "#e6491f", "#e52a2b", "#e20230", "#b60025", "#93001e", "#600014"];  
  
var valuesTempSummer = [-1000, -998, -100, 8.999, 9, 9.999, 10, 10.999, 11, 11.999, 12, 12.999, 13,  
    13.999, 14, 14.999, 15, 15.999, 16, 16.999, 17, 17.999, 18, 18.999, 19, 19.999, 20, 20.999,  
    21, 21.999, 22, 22.999, 23, 23.999, 24, 24.999, 25, 25.999, 26, 26.999, 27, 27.999, 28,  
    28.999, 29, 29.999, 30, 1000];
```

9, 9.999

Between index 4 and 5

Divide first index by 2 to get the  
color index 2

"#452a84"



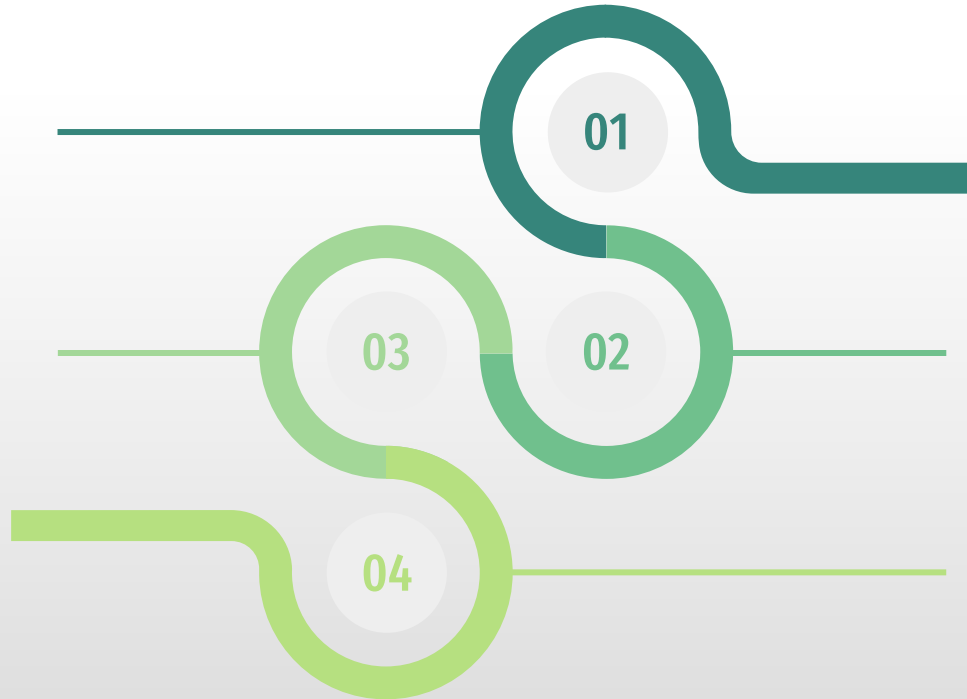
# Google Maps Developer

## GRABBING DATA

Passing of a data array from a PHP to JavaScript

## CREATE ANIMATION

Create a looping function that changes the colors each year



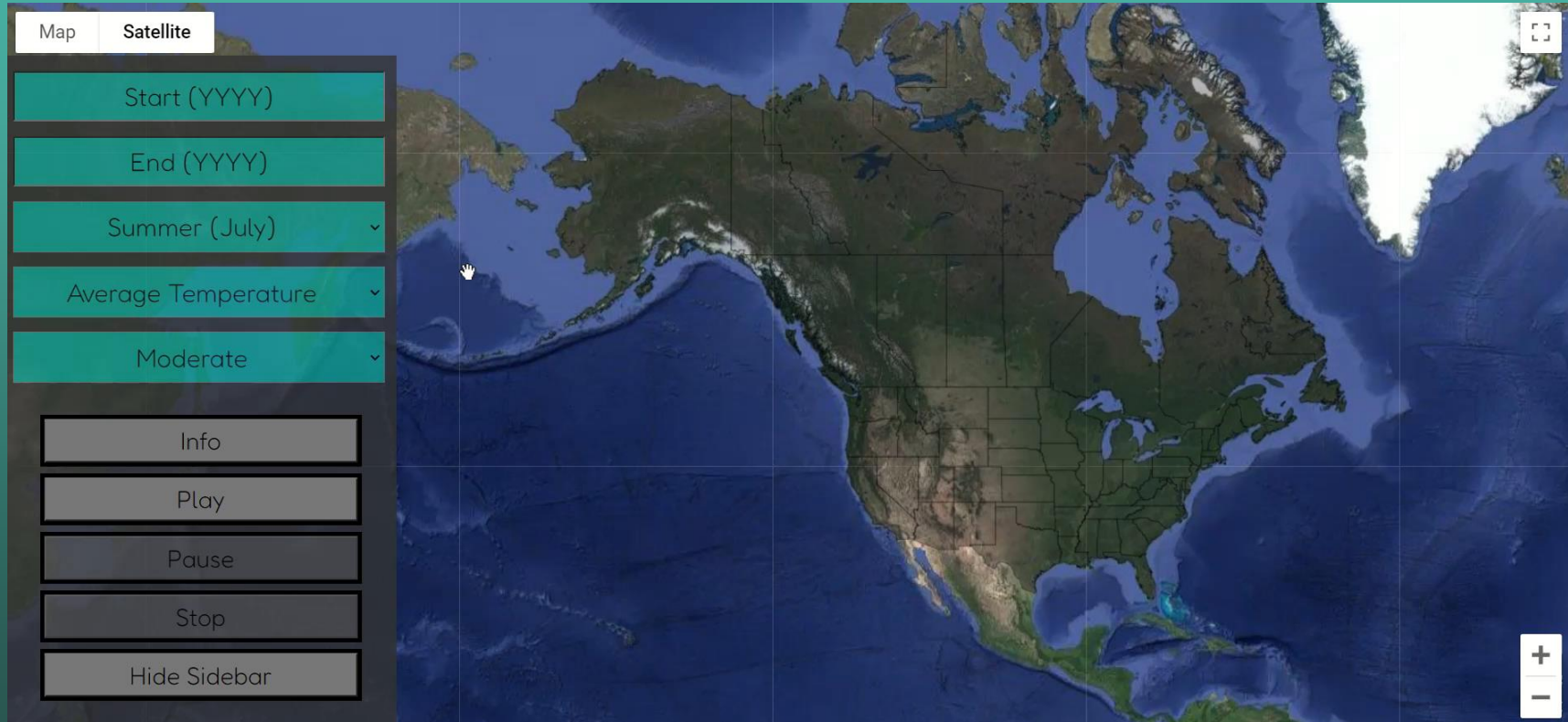
## DATA COLORING

Two color sets: temperature and change

## ADD FEATURES

Info box, pause, rewind, clear, etc.

# Project Demo



# Strategies



## Tyler Sobacki

*Animating Wisco Data*  
Capstone in 2020



## Kaggle

Climate Change: Earth  
Surface Temperature  
Data



## Outside Help

Google Developers  
explained overlays and  
W3 Schools explained  
PHP and JavaScript



## Inside Help

Dr. McVey with  
receiving the data  
request and the  
Academic Technology  
team with platforms  
and errors

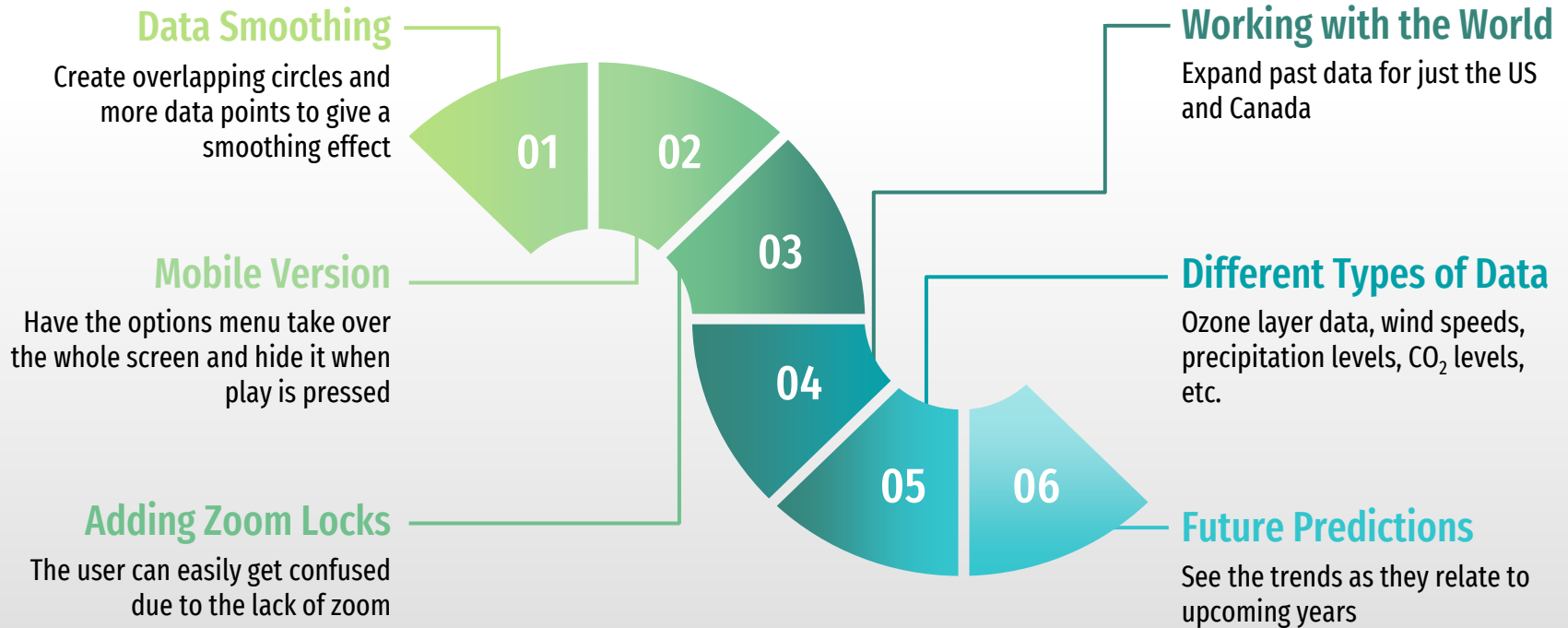


## Taking a Break

Take a day or two off to  
reset when the project  
is stressful

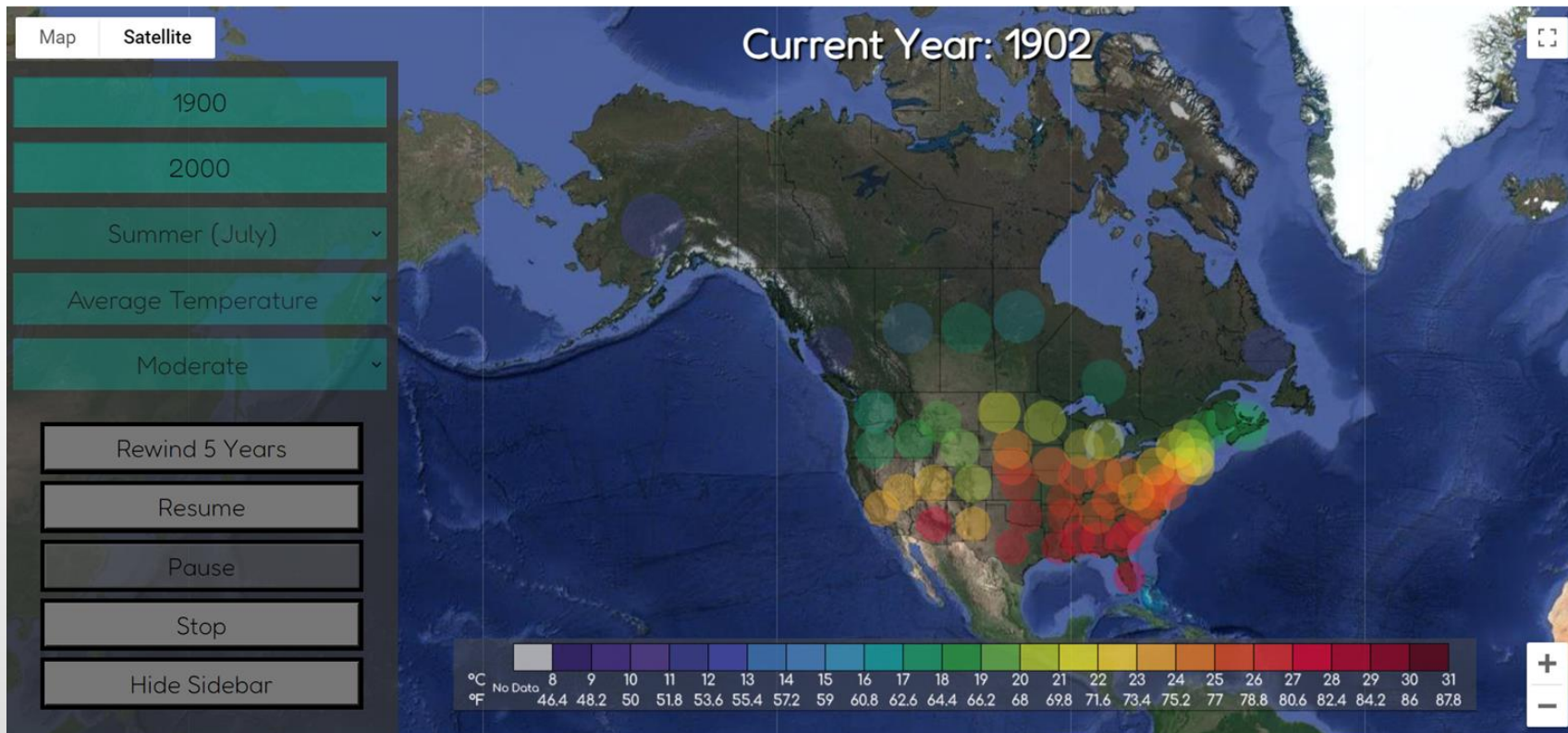


# What is Next?

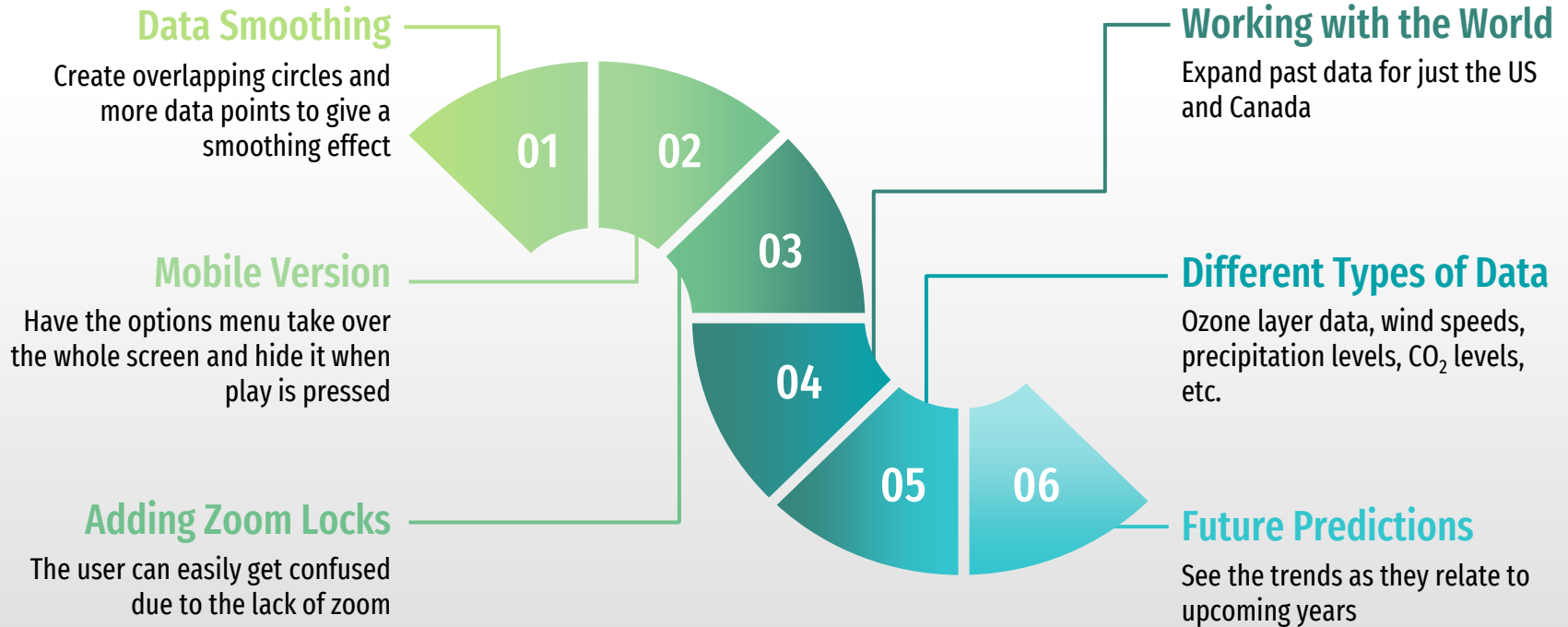


# Data Smoothing Attempt

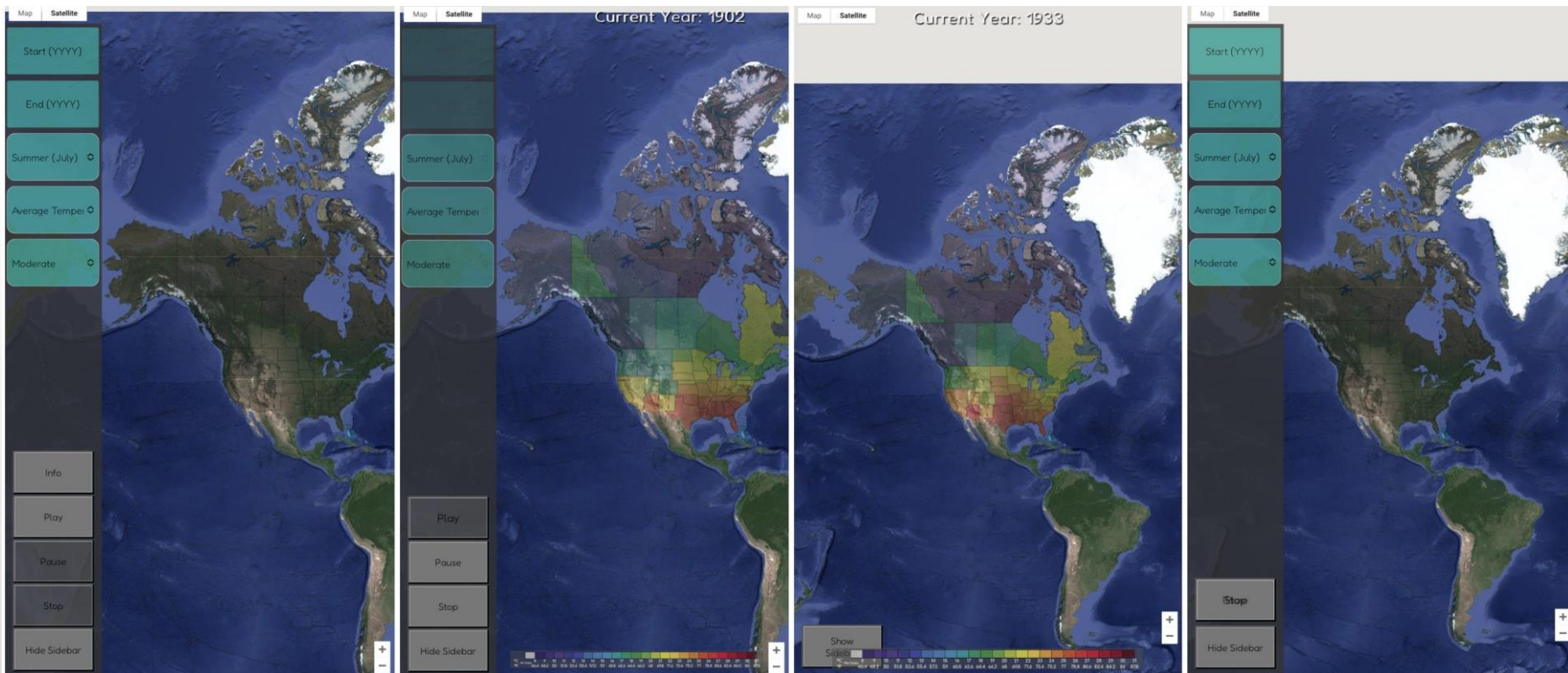
<https://compsci04.snc.edu/cs460/2022/nooycr/circles/>



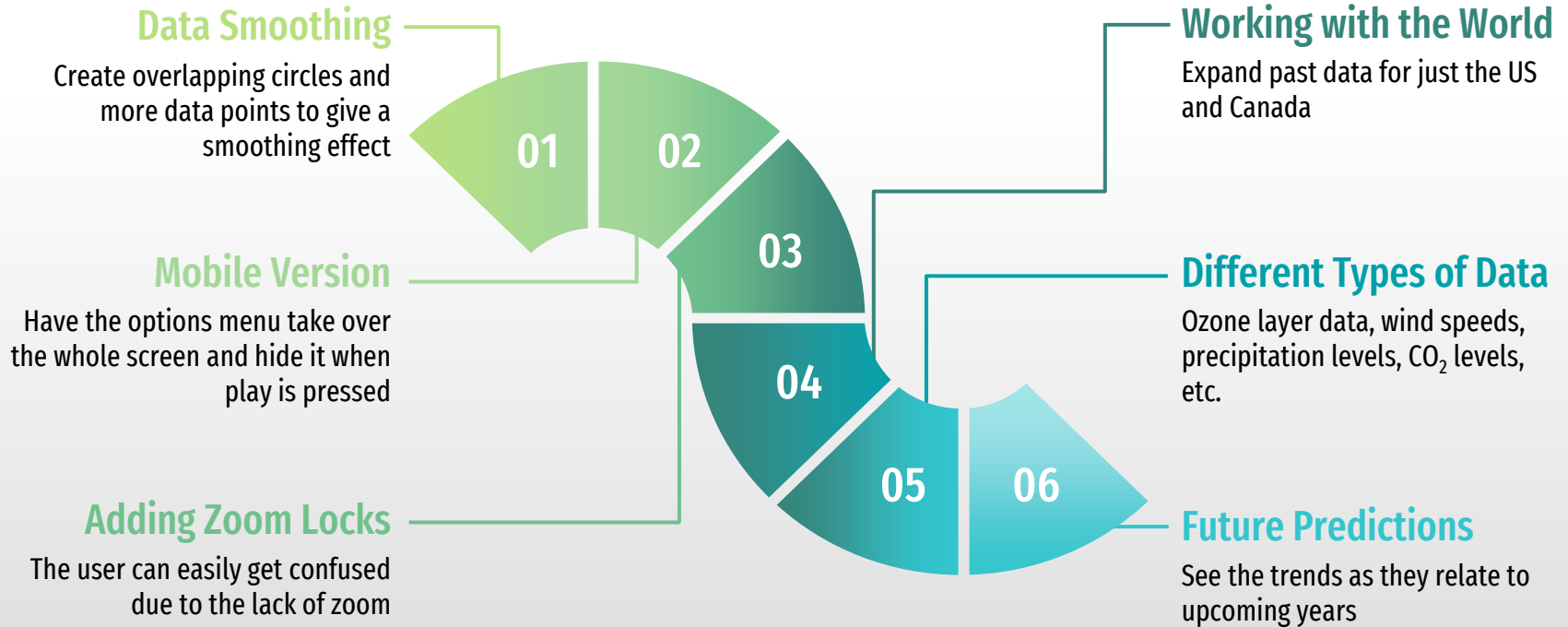
# What is Next?



# Current Mobile Version



# What is Next?



Play

Pause

Stop

Hide Sidebar

Show Sidebar

Rewind 5 Years

Info

 KeySmall

Average Temperature ▾

Moderate ▾

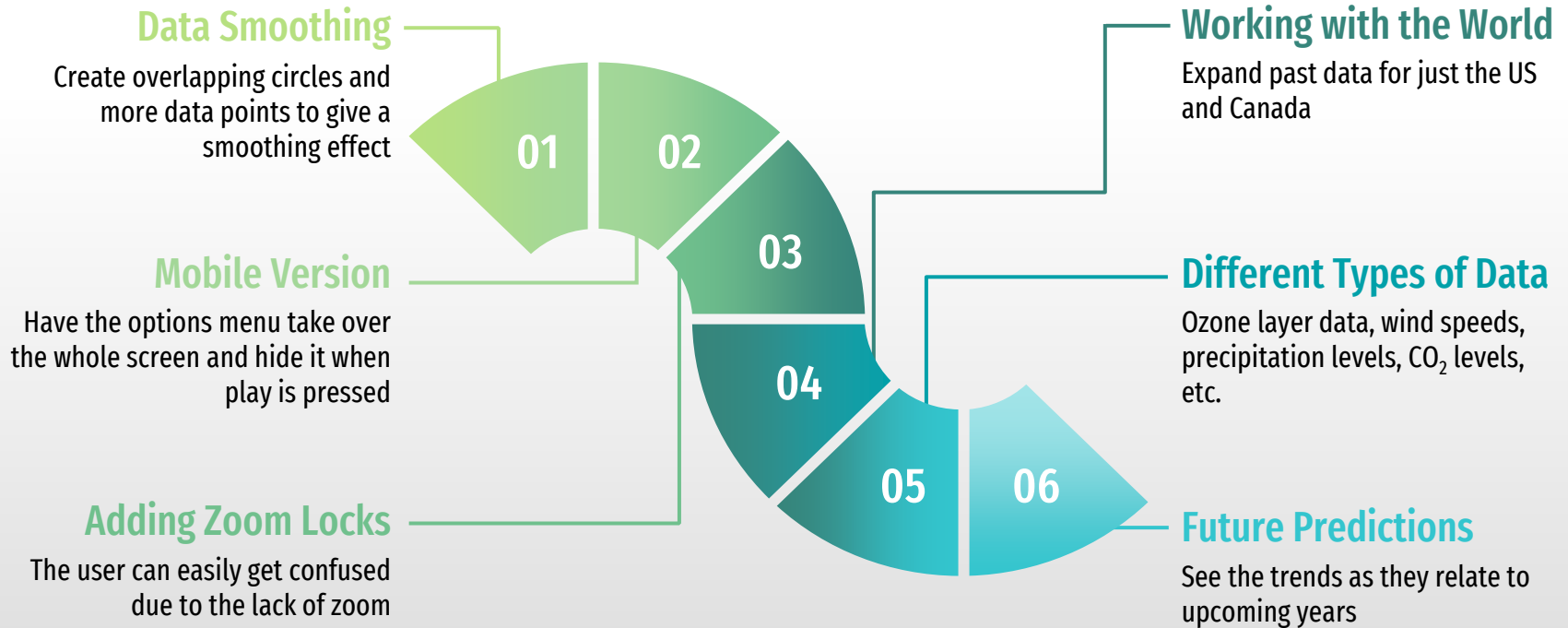
 KeyLarge

Start Date - The year the animation starts. If Temperature Change Over Time is selected, also the baseline year. Default is 1900. Currently set to 1900.

End Date - The year the animation ends. Default is 2000. Currently set to 2000.

Summer - Uses data from July of each year

# What is Next?



# QUESTIONS?