

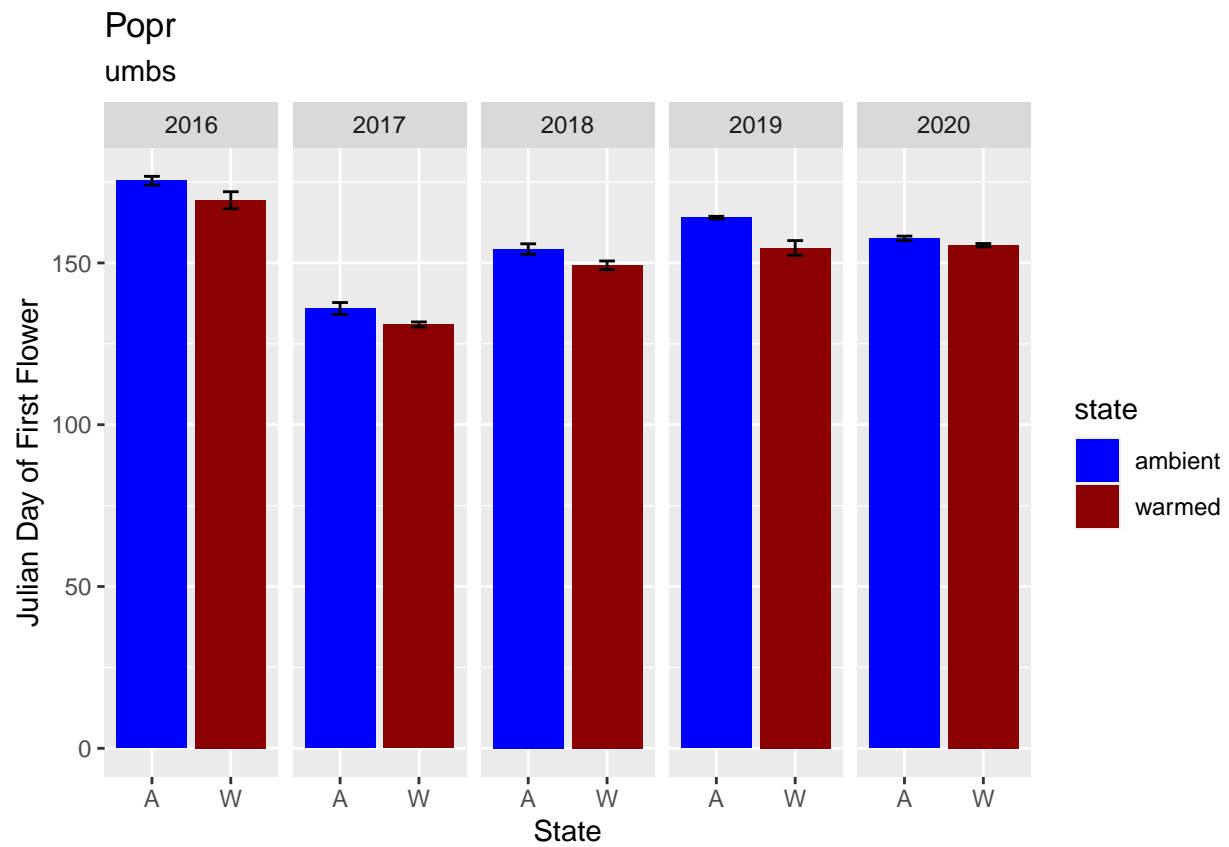
# Phenology Visualization

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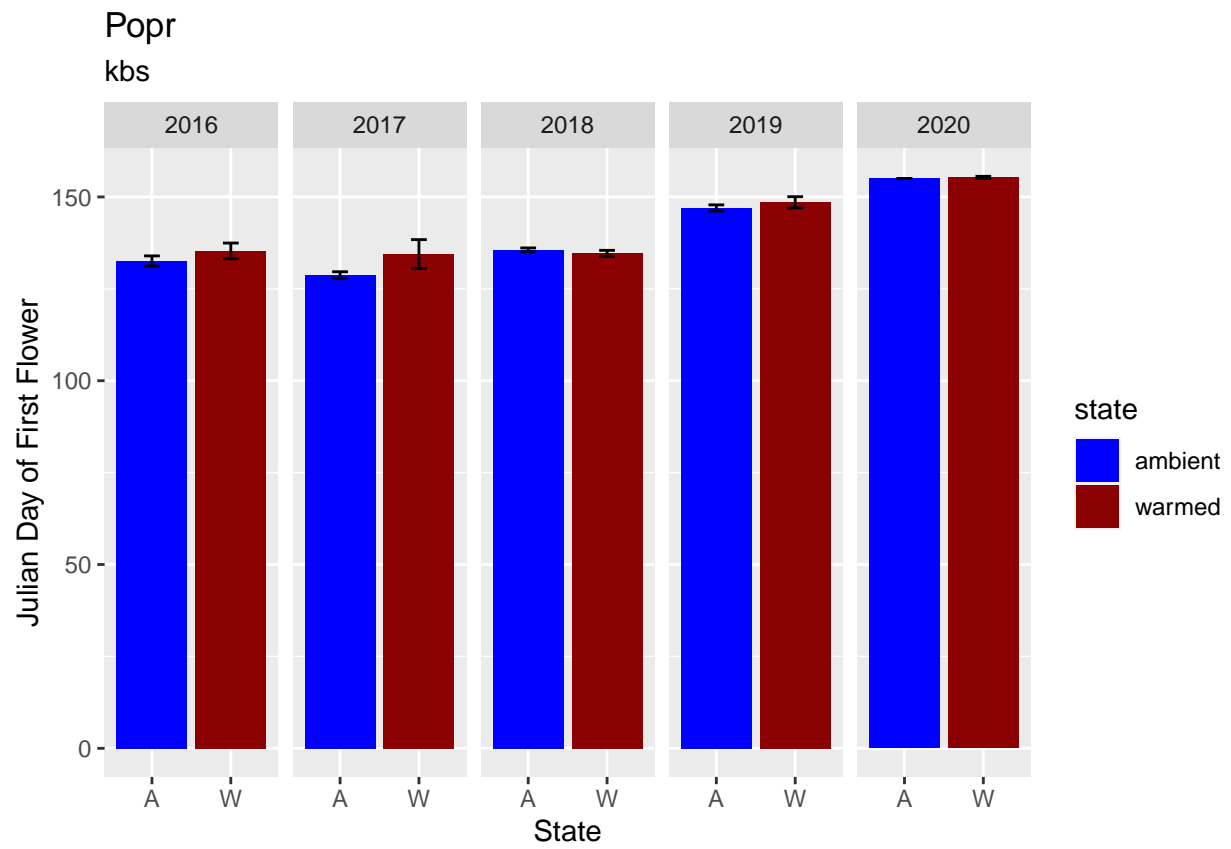
1/19/2021

This creates a plot for a given species and site

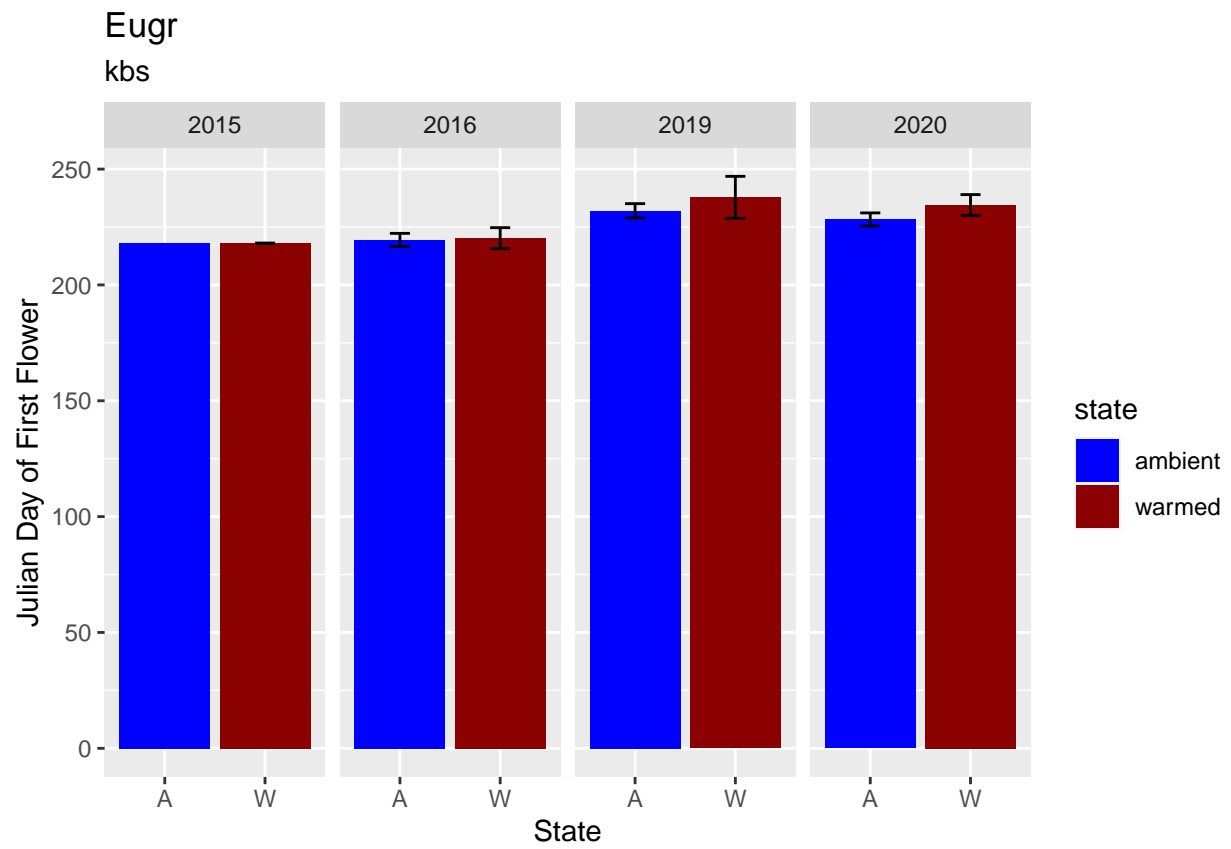
```
FirstFlower_plot <- function(spp, loc) {  
  FirstFlower_spp <- subset(sum_FirstFlower, species == spp & site == loc)  
  return(ggplot(FirstFlower_spp, aes(x = state, y = avg_julian, fill = state)) +  
    facet_grid(.~year) +  
    geom_bar(position = "identity", stat = "identity") +  
    geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,  
      position = "identity") +  
    labs(x = "State", y = "Julian Day of First Flower", title = spp, subtitle = loc)  
    scale_fill_manual(values = c("blue", "darkred")) +  
    scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +  
    theme_grey()  
}  
FirstFlower_plot("Poppr", "umbs")
```



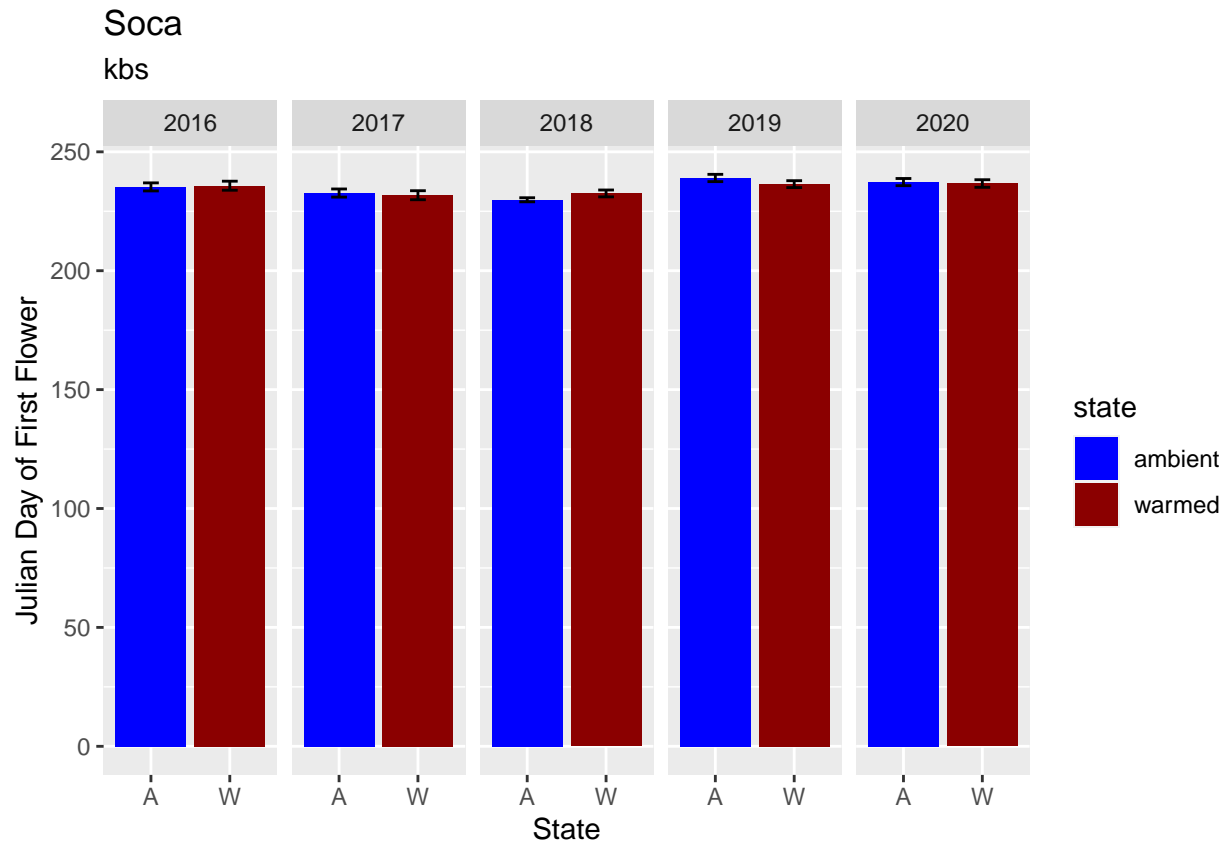
```
FirstFlower_plot("Popr", "kbs")
```



```
FirstFlower_plot("Eugr", "kbs")
```



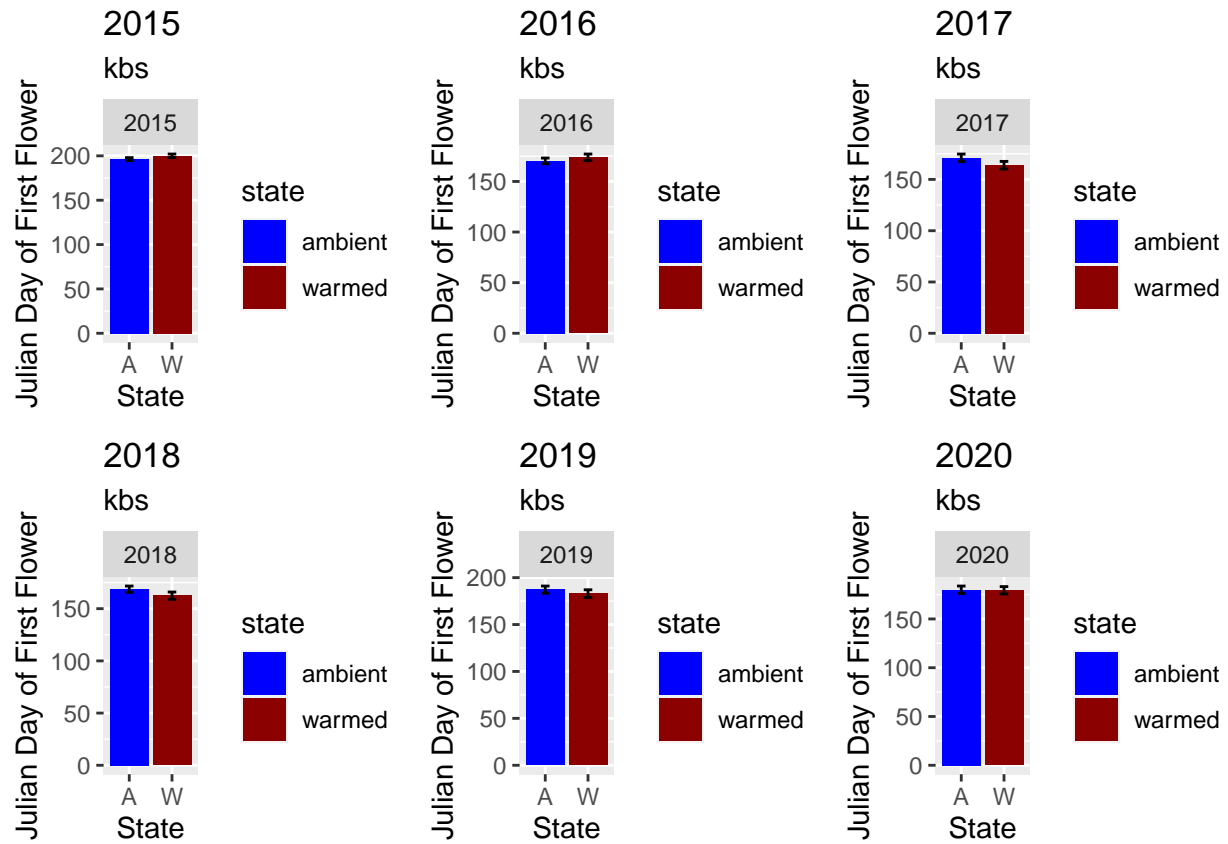
```
FirstFlower_plot("Soca", "kbs")
```



This creates a function that returns plots for a given site and year for average first date of flower comparing ambient vs warmed plots

```
sum_FirstFlwr_plot <- function(loc, yr) {
  FirstFlwr_sub <- subset(sum_FirstFlwr, site == loc & year == yr)
  return(ggplot(FirstFlwr_sub, aes(x = state, y = avg_julian, fill = state)) +
    facet_grid(.~year) +
    geom_bar(position = "identity", stat = "identity") +
    geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
      position = "identity") +
    labs(x = "State", y = "Julian Day of First Flower", title = yr, subtitle = loc) +
    scale_fill_manual(values = c("blue", "darkred")) +
    scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
    theme_grey())
}
```

## KBS Plots



## UMBS Plots

