Greenup Plots

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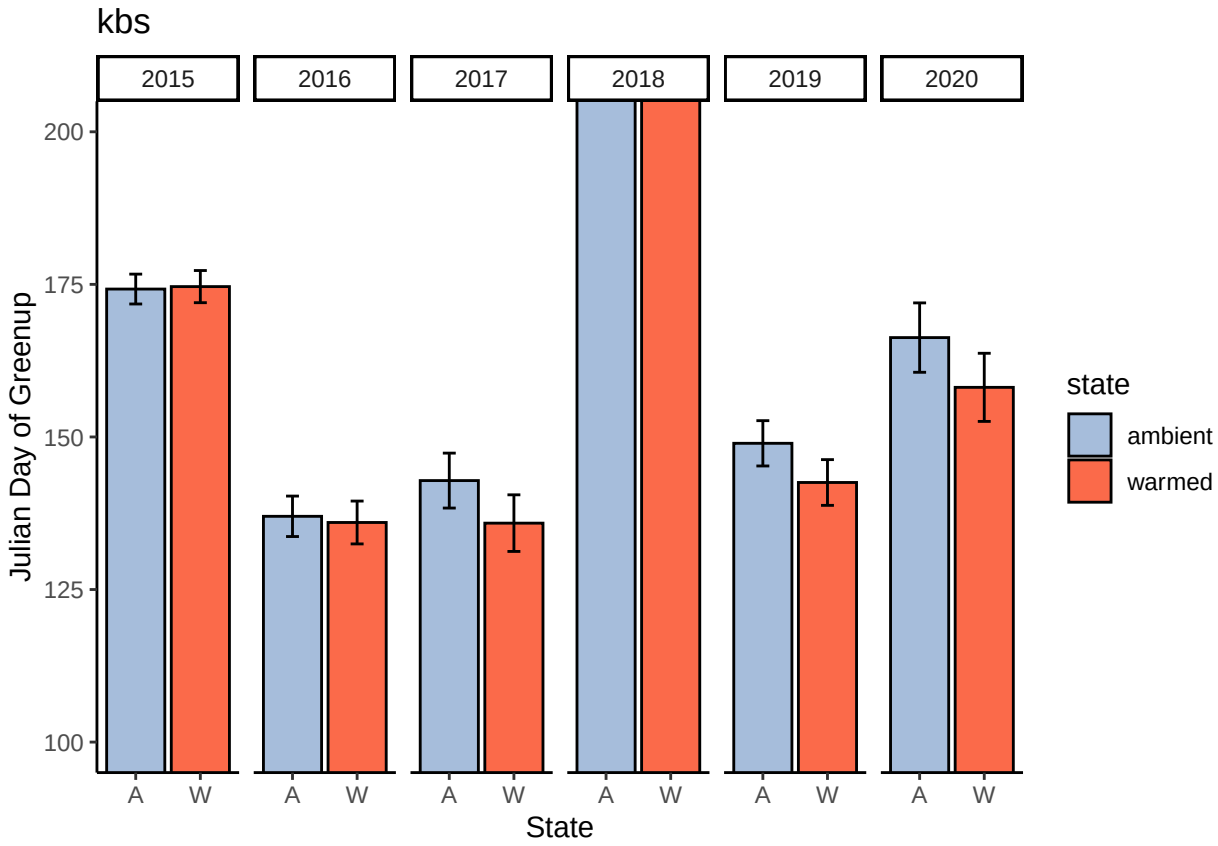
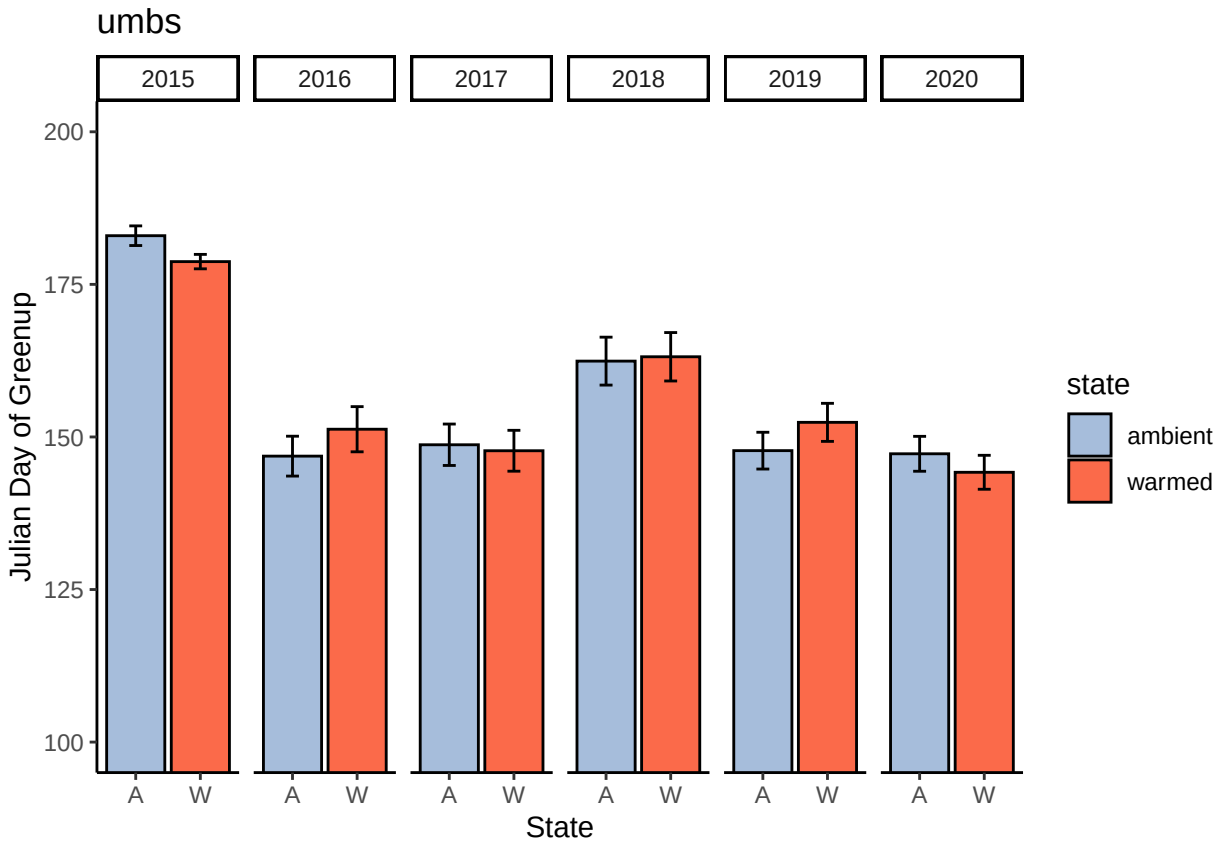
DATA INPUT: Clean & plot plant comp csv from the shared Google drive
DATA OUTPUT: Code and Rmd are in the scripts folder in Github
PROJECT: warmXtrophic

Makes a plot for a given site

```
greenup_plot_all <- function(loc) {
  greenup_spp <- subset(sum_green_site, site == loc)
  return(ggplot(greenup_spp, aes(x = state, y = avg_julian, fill = state)) +
           facet_grid(.~year) +
           geom_bar(position = "identity", stat = "identity", color = "black") +
           geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
                         position = "identity") +
           labs(x = "State", y = "Julian Day of Greenup", title = loc) +
           scale_fill_manual(values = c("#a6bddb", "#fb6a4a")) +
           scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
           coord_cartesian(ylim = c(100, 200)) +
           theme_classic())
}
greenup_plot_all("kbs")
```

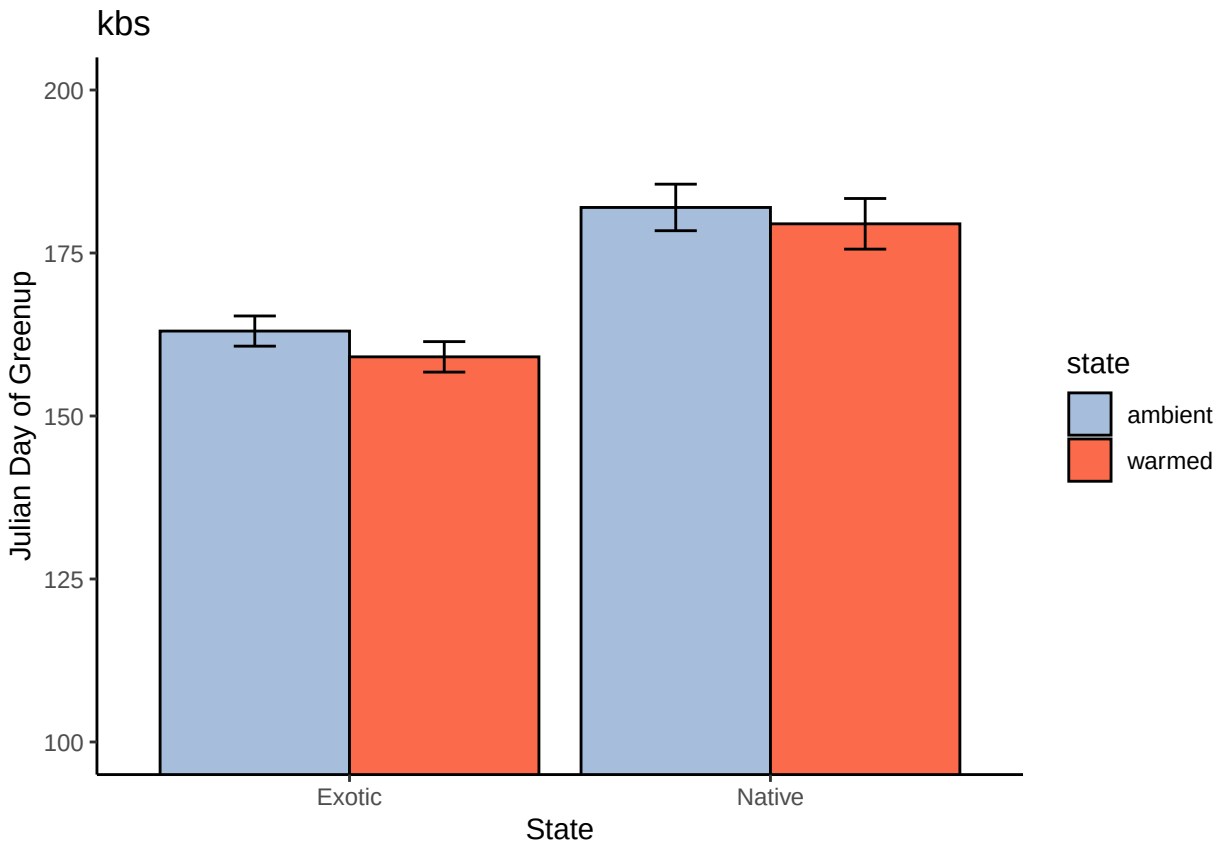



```
greenup_plot_all("umbs")
```

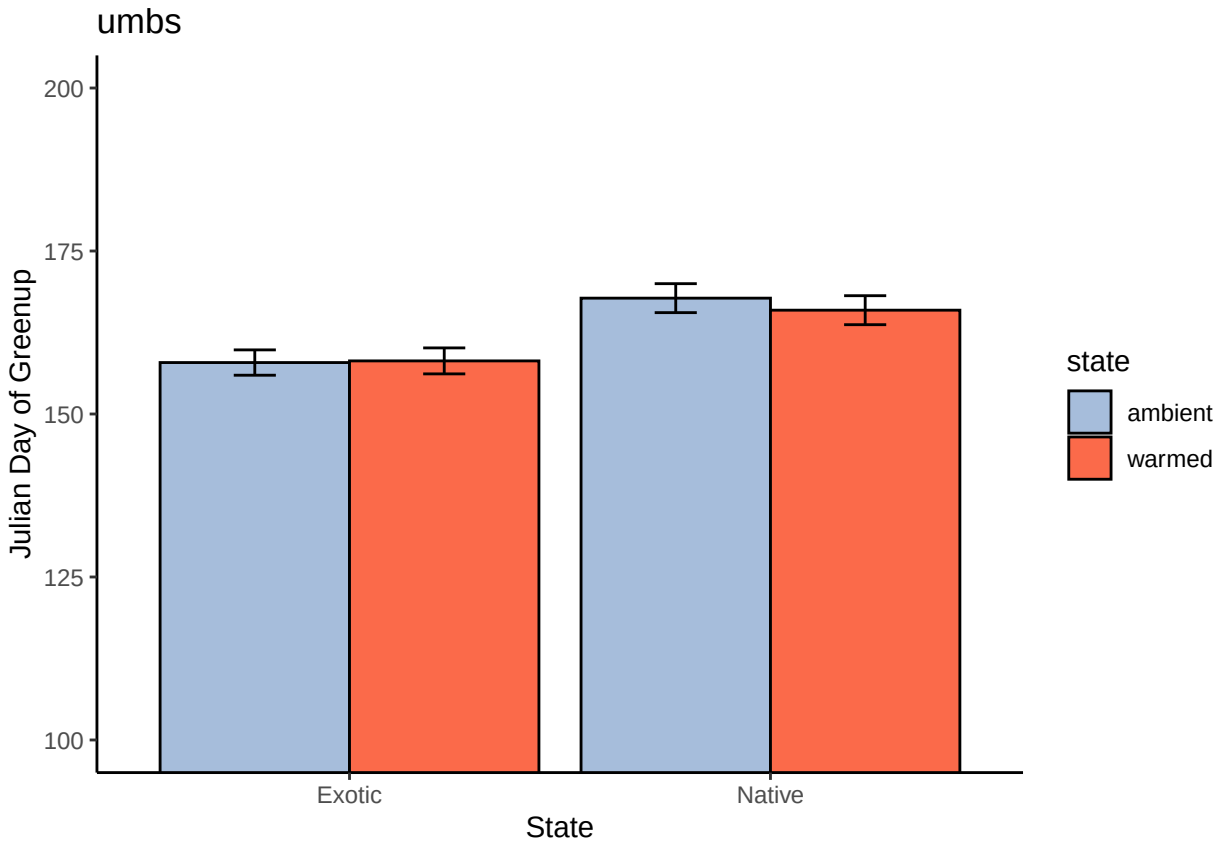


Plot for warmed vs ambient between native and exotic

```
greenup_plot_org <- function(loc) {
  greenup_spp <- subset(sum_green_org, site == loc)
  return(ggplot(greenup_spp, aes(x = origin, y = avg_julian, fill = state)) +
           #facet_grid(.~year) +
           geom_bar(position = "dodge", stat = "identity", color = "black") +
           geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
                         position = position_dodge(0.9)) +
           labs(x = "State", y = "Julian Day of Greenup", title = loc) +
           scale_fill_manual(values = c("#a6bddb", "#fb6a4a")) +
           scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
           coord_cartesian(ylim = c(100, 200)) +
           theme_classic())
}
greenup_plot_org("kbs")
```

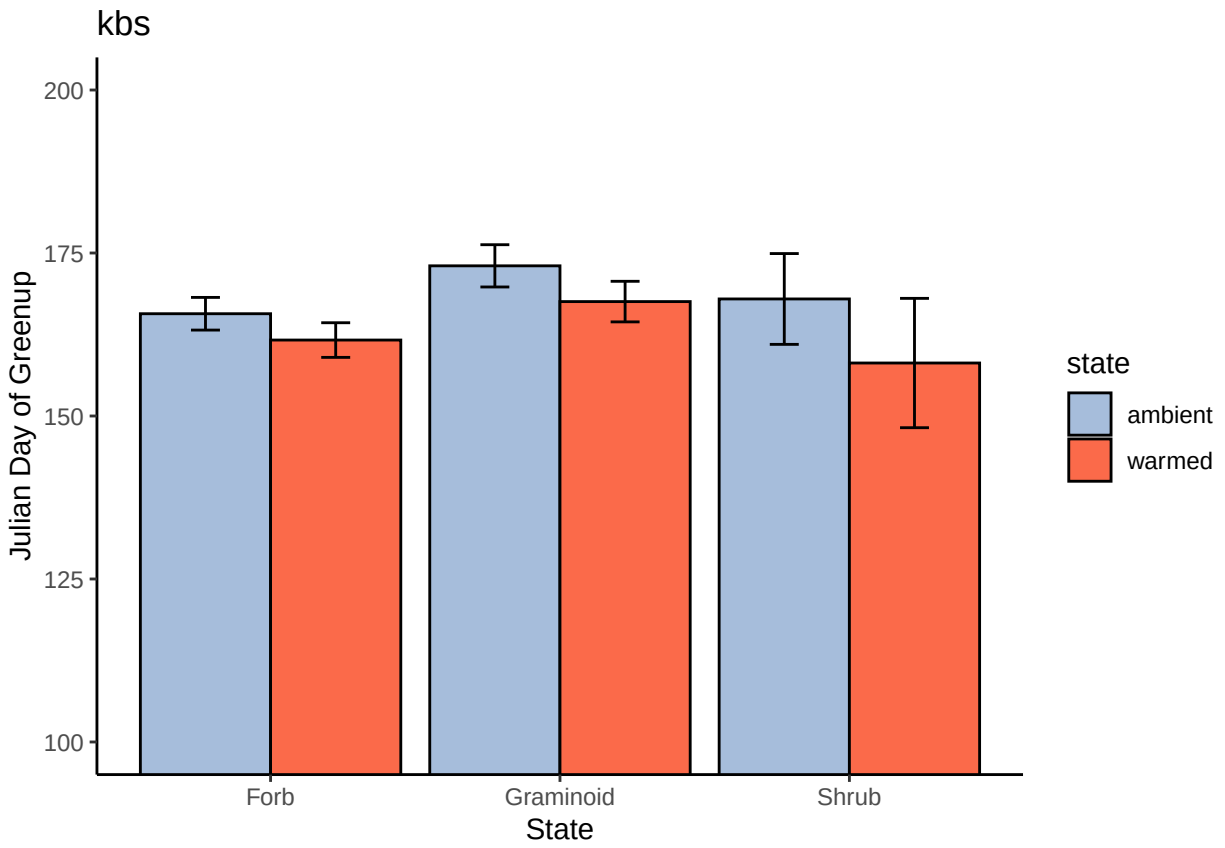



```
greenup_plot_org("umbs")
```

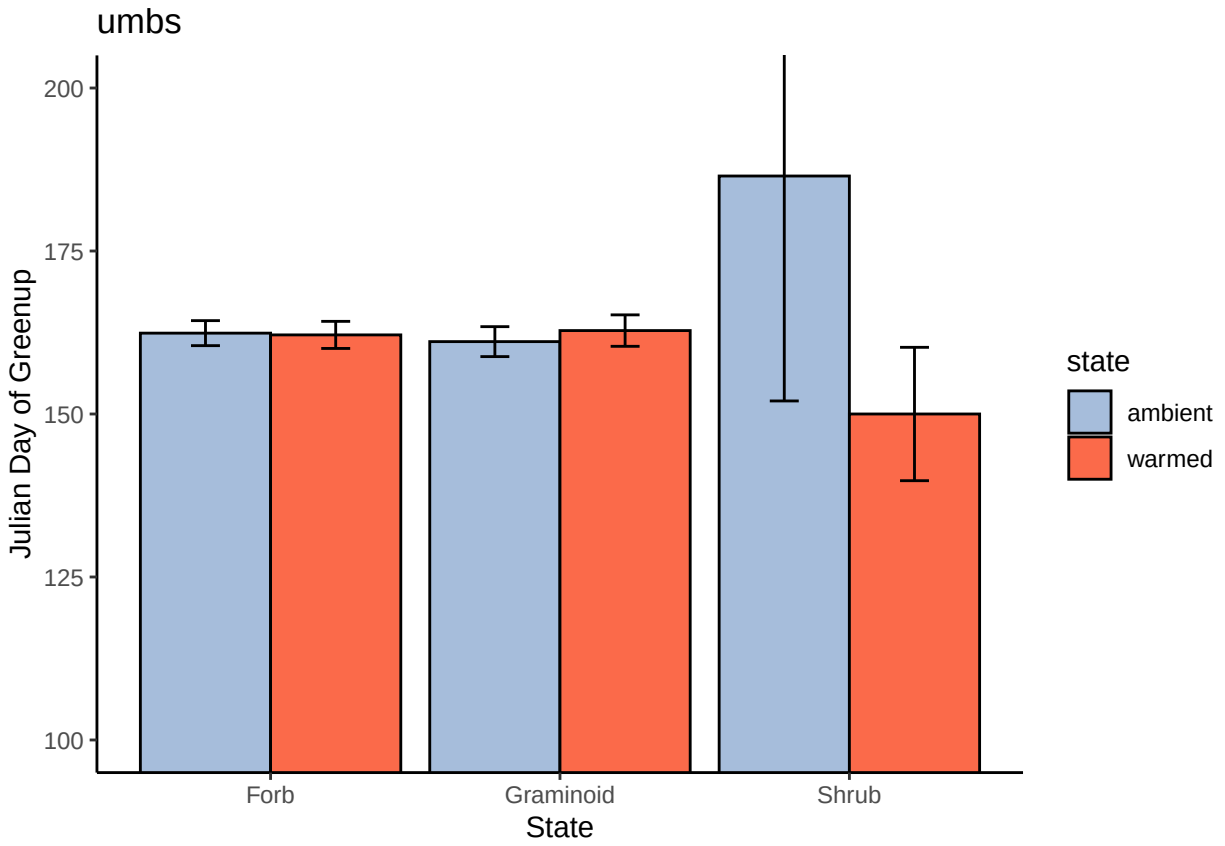


Plot for warmed vs ambient between growth types (forb, graminoid, shrub)

```
greenup_plot_habit <- function(loc) {
  greenup_spp <- subset(sum_green_habit, site == loc)
  return(ggplot(greenup_spp, aes(x = growth_habit, y = avg_julian, fill = state)) +
           #facet_grid(.~year) +
           geom_bar(position = "dodge", stat = "identity", color = "black") +
           geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
                         position = position_dodge(0.9)) +
           labs(x = "State", y = "Julian Day of Greenup", title = loc) +
           scale_fill_manual(values = c("#a6bddb", "#fb6a4a")) +
           scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
           coord_cartesian(ylim = c(100, 200)) +
           theme_classic())
}
greenup_plot_habit("kbs")
```

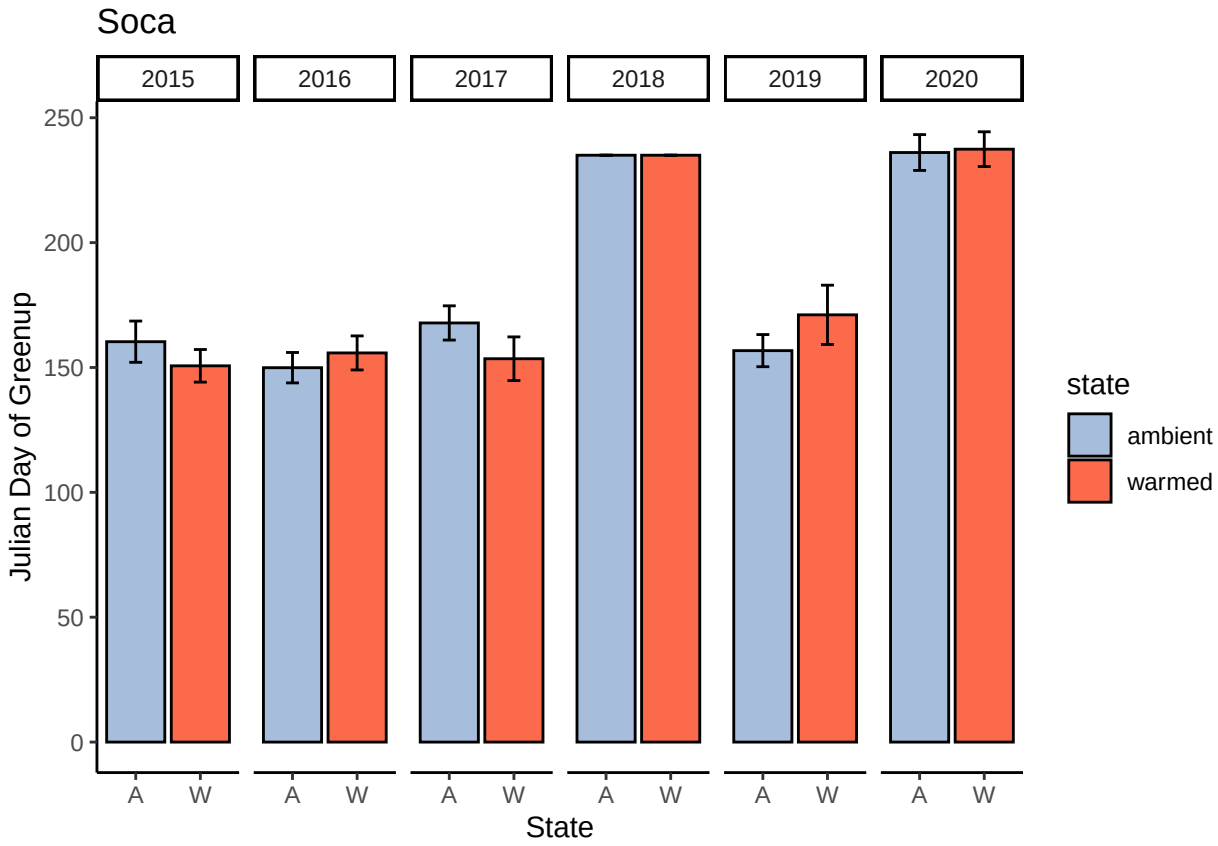



```
greenup_plot_habit("umbs")
```

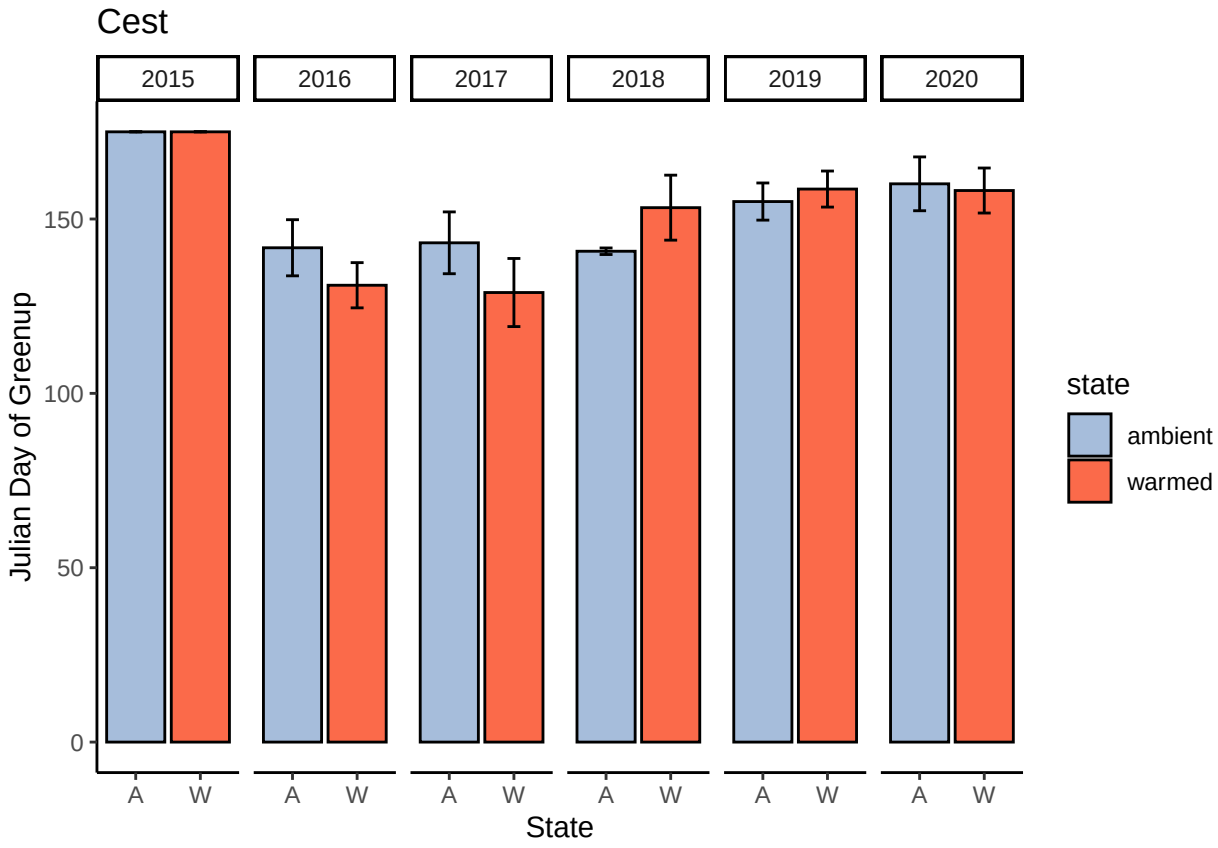


Makes a plot for a given species & site ### Ex: Soca at KBS, Cest at UMBS

```
greenup_plot <- function(spp, loc) {
  greenup_spp <- subset(sum_green_spp, species == spp & site == loc)
  return(ggplot(greenup_spp, aes(x = state, y = avg_julian, fill = state)) +
           facet_grid(.~year) +
           geom_bar(position = "identity", stat = "identity", color = "black") +
           geom_errorbar(aes(ymin = avg_julian - se, ymax = avg_julian + se), width = 0.2,
                         position = "identity") +
           labs(x = "State", y = "Julian Day of Greenup", title = spp) +
           scale_fill_manual(values = c("#a6bddb", "#fb6a4a")) +
           #coord_cartesian(ylim = c(100, 250)) +
           scale_x_discrete(labels=c("ambient" = "A", "warmed" = "W")) +
           theme_classic())
}
greenup_plot("Soca", "kbs")
```




```
greenup_plot("Cest", "umbs")
```


Cest
2015
2016
2017
2018
2019
2020
Julian Day of Greenup
150
100
50
0
A
W
State
state
ambient
warmed