

Adding error bars to a plot using ggplot2::qplot()

```
qplot(y = mean.bar.top,  
      x = category,  
      data = df) +  
  geom_errorbar(aes(ymin = error.bar.bottom,  
                    ymax = error.bar.top))
```

“+” goes between qplot()
and geom_errorbar()

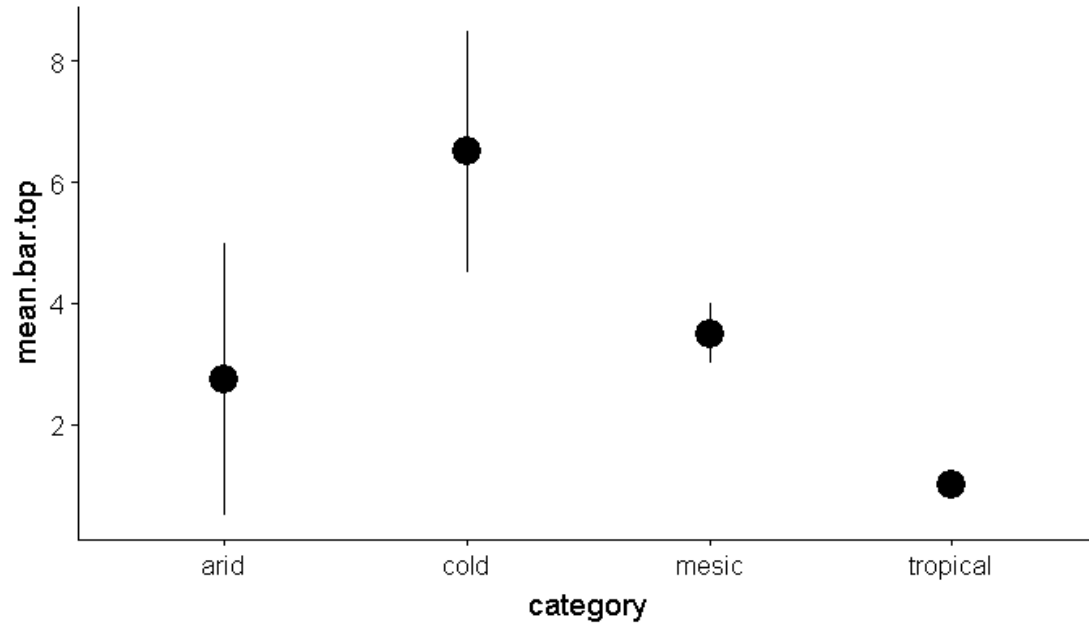
Comma!

Add-on
function
that makes
error bars

Argument
aes() to set
up the min
and max

2 parentheses!
One for aes(),
The other for
geom_errorbar()

Make points bigger



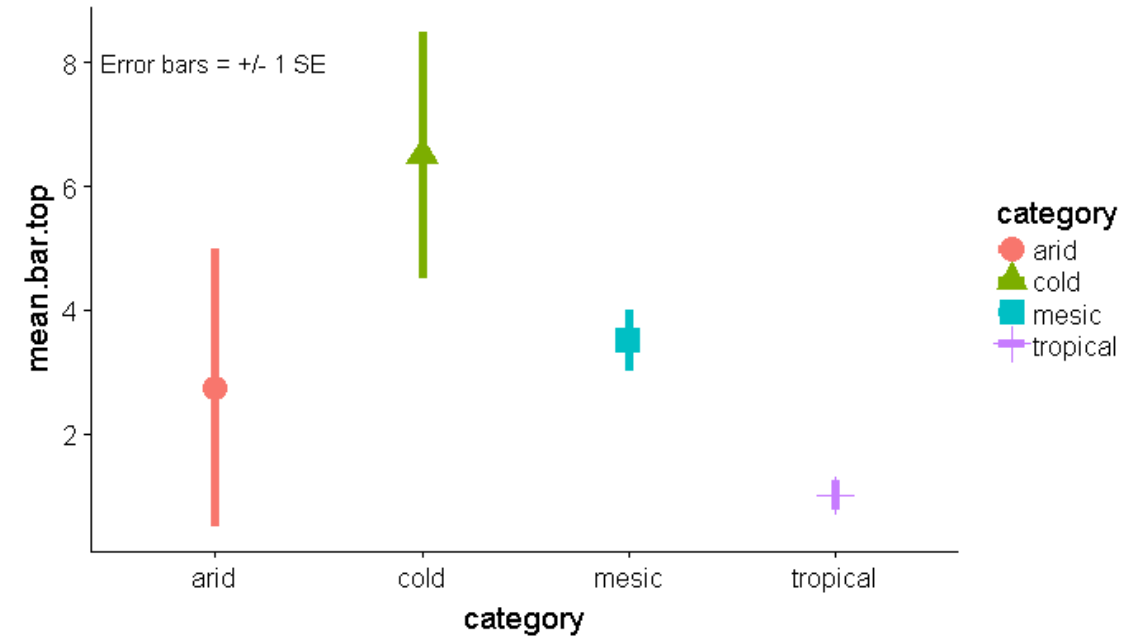
```
qplot(y = mean.bar.top,
      x = category,
      data = df) +
  geom_errorbar(aes(ymin = error.bar.bottom,
                    ymax = error.bar.top),
               width = 0) +
  geom_point(size = 6)
```

“+” goes between qplot()
and geom_errorbar()

Another “+”

New geom to
modify size of
points

Changing colors & annotating



```
qplot(y = mean.bar.top,
      x = category,
      color = category,
      shape = category,
      data = df) +
  geom_errorbar(aes(ymin = error.bar.bottom,
                    ymax = error.bar.top),
               width = 0,
               size = 2) +
  geom_point(size = 5) +
  annotate("text", x = 1, y = 8,
          label = "Error bars = +/- 1 SE")
```

Change color

Change shape

Another “+”

And another “+”

Add annotation with in
plot with annotate()