Untitled

```r
library(tidyverse)
```

```
## Warning: package 'tidyverse' was built under R version 3.3.3
```

```
## Loading tidyverse: ggplot2
## Loading tidyverse: tibble
## Loading tidyverse: tidyr
## Loading tidyverse: readr
## Loading tidyverse: purrr
## Loading tidyverse: dplyr
```

```
## Warning: package 'ggplot2' was built under R version 3.3.3
```

```
## Warning: package 'tibble' was built under R version 3.3.3
```

```
## Warning: package 'tidyr' was built under R version 3.3.3
```

```
## Warning: package 'readr' was built under R version 3.3.3
```

```
## Warning: package 'purrr' was built under R version 3.3.3
```

```
## Warning: package 'dplyr' was built under R version 3.3.3
```

```
## Conflicts with tidy packages ----------------------------------------------
```

```
## filter(): dplyr, stats
## lag():    dplyr, stats
```

```r
load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears2.Rdata")


rr <- year1$twenty_species %>%
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==2))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`2`) %>% group_by(smaller) %>%

realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V2) %>%

randompercent2 <- random2[2,2]/sum(random2$n)


highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V2) %>%

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_2_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randompercent2

load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears5.Rdata")

rr <- year1$twenty_species %>%
```

```r
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==5))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`5`) %>% group_by(smaller) %>%

realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V5) %>%

randompercent2 <- random2[2,2]/sum(random2$n)


highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V5) %>%

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_5_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randompercent2


load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears10.Rdata")

rr <- year1$twenty_species %>%
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==10))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`10`) %>% group_by(smaller) %

realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V10) %>%

randompercent2 <- random2[2,2]/sum(random2$n)


highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V10) %

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_10_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randompercen


load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears20.Rdata")

rr <- year1$twenty_species %>%
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==20))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`20`) %>% group_by(smaller) %
```

```r
realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V20) %>%

randompercent2 <- random2[2,2]/sum(random2$n)


highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V20) %>%

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_20_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randompercent

load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears50.Rdata")

rr <- year1$twenty_species %>%
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==50))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`50`) %>% group_by(smaller) %

realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V50) %>%

randompercent2 <- random2[2,2]/sum(random2$n)


highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V50) %

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_50_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randompercent

load(file="~/../Dropbox/negative_population_trends/10ksims_freq1_spp20_numyears100.Rdata")

rr <- year1$twenty_species %>%
 # get rid of those NULLs
 discard(is.null) %>%
  map( ~ filter(.x, year==1|year==100))

rrr <- do.call(rbind, rr)  %>% spread(year, value) %>% mutate(smaller=`1`>`100`) %>% group_by(smaller)

realitypercent2 <- rrr[2,2]/sum(rrr$n)


random2 <- do.call(rbind, year1$real_data_random)  %>% as.data.frame() %>% mutate(smaller=V1 > V100) %>

randompercent2 <- random2[2,2]/sum(random2$n)
```

```
highest2 <- do.call(rbind, year1$real_data_highest)  %>% as.data.frame() %>% mutate(smaller=V1 > V100)

highestpercent2 <- highest2[2,2]/sum(highest2$n)

table_100_years <- data.frame(type=c("all","random","highest"),percent=c(realitypercent2$n, randomperce
```

table_2_years

```
##      type  percent
## 1     all 0.499425
## 2  random 0.496800
## 3 highest 0.819200
```

table_5_years

```
##      type percent
## 1     all 0.50271
## 2  random 0.50610
## 3 highest 0.92265
```

table_10_years

```
##      type percent
## 1     all 0.49855
## 2  random 0.50070
## 3 highest 0.93175
```

table_20_years

```
##      type  percent
## 1     all 0.498965
## 2  random 0.497850
## 3 highest 0.924500
```

table_50_years

```
##      type  percent
## 1     all 0.501325
## 2  random 0.501800
## 3 highest 0.928400
```

table_100_years

```
##      type  percent
## 1     all 0.497245
## 2  random 0.500350
## 3 highest 0.927850
```