```
## Loading required package:  shiny
##
## This is shinystan version 2.4.0
## Warning:  package 'reshape2' was built under R version 3.4.3
## Warning:  package 'dplyr' was built under R version 3.4.4
##
## Attaching package:  'dplyr'
## The following objects are masked from 'package:stats':
##
##    filter, lag
## The following objects are masked from 'package:base':
##
##    intersect, setdiff, setequal, union
```

```
##  [1] "betulent" "popugran" "fagugran" "querrubr" "acerpens" "betupapy"
##  [7] "fraxnigr" "robipseu" "pseumenz" "prunpens" "poputrem" "betualle"
## [13] "acersacr" "alnurugo" "acerrubr" "corycorn" "piceglau"
```

```
## Joining, by = "species"
```

```
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Geo.Mean * mod.dat2$Geo.SD)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -19.9415  -3.7240   0.1157   3.1848  22.2002
##
## Coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                      -1.199e+02  6.880e+01  -1.743   0.0985 .
## mod.dat$Geo.Mean                  1.449e-01  5.594e-02   2.590   0.0185 *
## mod.dat2$Geo.SD                   5.623e+00  3.112e+00   1.807   0.0875 .
## mod.dat$Geo.Mean:mod.dat2$Geo.SD -6.892e-03  2.464e-03  -2.797   0.0119 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 8.749 on 18 degrees of freedom
## Multiple R-squared:  0.6578,Adjusted R-squared:  0.6007
## F-statistic: 11.53 on 3 and 18 DF,  p-value: 0.0001888
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Temp.Mean * mod.dat2$Temp.SD)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
```

```
## -41.069  -1.547   2.777   3.773  21.241
##
## Coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                       92.318414  79.014060   1.168    0.258
## mod.dat$Temp.Mean                 -0.079977   0.051195  -1.562    0.136
## mod.dat2$Temp.SD                  -3.636352   4.030432  -0.902    0.379
## mod.dat$Temp.Mean:mod.dat2$Temp.SD  0.002715   0.002525   1.075    0.296
##
## Residual standard error: 12.38 on 18 degrees of freedom
## Multiple R-squared:  0.3145,Adjusted R-squared:  0.2003
## F-statistic: 2.753 on 3 and 18 DF,  p-value: 0.07268
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Geo.Mean * mod.dat2$Temp.SD)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -40.840  -1.747   2.774   3.848  20.680
##
## Coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                       95.220212  79.682218   1.195    0.248
## mod.dat$Geo.Mean                  -0.082128   0.051618  -1.591    0.129
## mod.dat2$Temp.SD                  -3.696945   4.066457  -0.909    0.375
## mod.dat$Geo.Mean:mod.dat2$Temp.SD  0.002765   0.002545   1.086    0.292
##
## Residual standard error: 12.33 on 18 degrees of freedom
## Multiple R-squared:  0.3203,Adjusted R-squared:  0.207
## F-statistic: 2.828 on 3 and 18 DF,  p-value: 0.06778
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Geo.Mean * mod.dat3$Geo.SD)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -41.295  -0.522   1.531   2.904  17.364
##
## Coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                       45.670007  37.042535   1.233    0.233
## mod.dat$Geo.Mean                  -0.038674   0.027892  -1.387    0.183
## mod.dat3$Geo.SD                   -5.309401   8.853698  -0.600    0.556
## mod.dat$Geo.Mean:mod.dat3$Geo.SD  0.002759   0.008277   0.333    0.743
##
```

```
## Residual standard error: 12.62 on 18 degrees of freedom
## Multiple R-squared:  0.2886,Adjusted R-squared:   0.17
## F-statistic: 2.433 on 3 and 18 DF,  p-value: 0.09834
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Temp.Mean * mod.dat3$Temp.SD)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -29.315  -5.701   1.748   5.770  13.810
##
## Coefficients:
##                                     Estimate Std. Error t value Pr(>|t|)
## (Intercept)                         223.34345   65.02995   3.434  0.00296
## mod.dat$Temp.Mean                    -0.20060    0.05678  -3.533  0.00238
## mod.dat3$Temp.SD                   -126.83210   38.97591  -3.254  0.00441
## mod.dat$Temp.Mean:mod.dat3$Temp.SD    0.11476    0.03791   3.028  0.00724
##
## (Intercept)                         **
## mod.dat$Temp.Mean                   **
## mod.dat3$Temp.SD                    **
## mod.dat$Temp.Mean:mod.dat3$Temp.SD **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.26 on 18 degrees of freedom
## Multiple R-squared:  0.5294,Adjusted R-squared:  0.451
## F-statistic: 6.751 on 3 and 18 DF,  p-value: 0.003025
##
## Call:
## lm(formula = mod.dat$mean_b_chill ~ mod.dat$Geo.Mean * mod.dat3$Temp.SD)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -28.994  -5.602   1.837   5.960  13.952
##
## Coefficients:
##                                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)                        228.67929   65.18794   3.508  0.00251
## mod.dat$Geo.Mean                    -0.20458    0.05660  -3.615  0.00198
## mod.dat3$Temp.SD                  -130.43066   39.36133  -3.314  0.00386
## mod.dat$Geo.Mean:mod.dat3$Temp.SD    0.11755    0.03788   3.103  0.00614
##
## (Intercept)                        **
## mod.dat$Geo.Mean                   **
```

```
## mod.dat3$Temp.SD                   **
## mod.dat$Geo.Mean:mod.dat3$Temp.SD **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.16 on 18 degrees of freedom
## Multiple R-squared:  0.5382,Adjusted R-squared:  0.4612
## F-statistic: 6.993 on 3 and 18 DF,  p-value: 0.002572
```