

The tail issue

Sasha D. Hafner

25 August, 2023 Aug:08

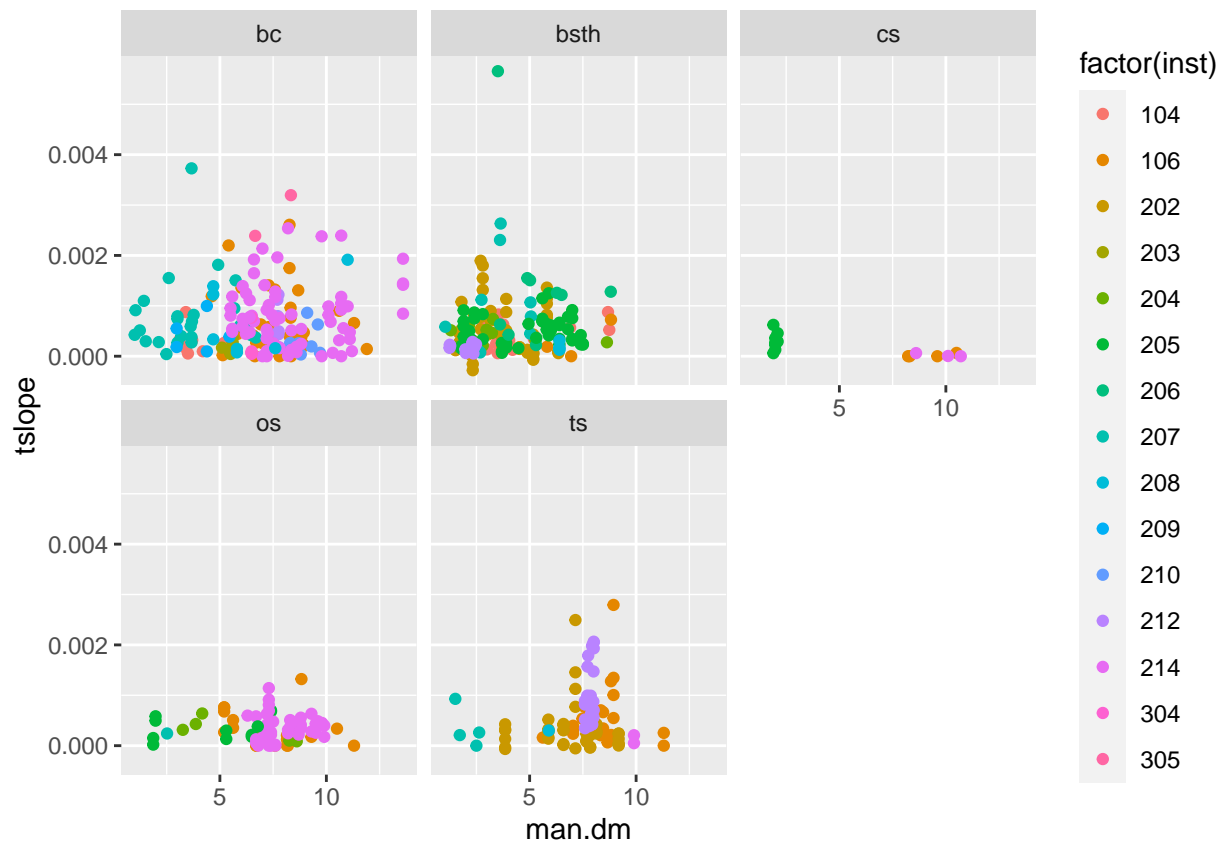
lm function

```
tailslope <- function(x, y) {  
  m <- lm(y ~ x)  
  return(as.numeric(coef(m)['x']))  
}
```

```
tailsumm <- idat1[cta >= 24, .(tslope = tailslope(cta, er)), by = .(institute, country, inst, pmid, app
```

```
ggplot(tailsumm, aes(man.dm, tslope, colour = factor(inst))) +  
  geom_point() +  
  facet_wrap(~ app.mthd)
```

```
## Warning: Removed 13 rows containing missing values (`geom_point()`).
```

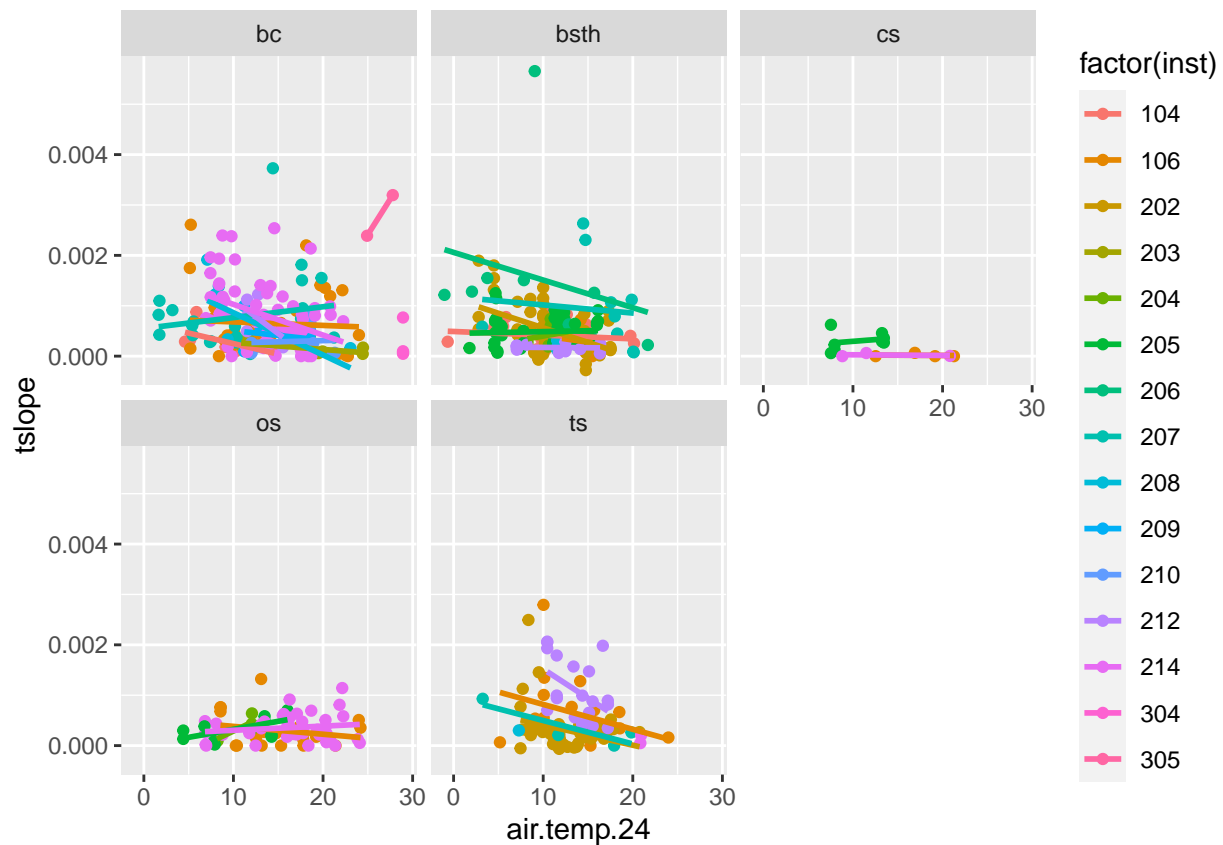


```
m1 <- lm(tslope ~ inst + app.mthd + man.dm + man.ph + air.temp.24 + wind.2m.24 + e.rel.final, data = ta
summary(m1)
```

```
##
## Call:
## lm(formula = tslope ~ inst + app.mthd + man.dm + man.ph + air.temp.24 +
##     wind.2m.24 + e.rel.final, data = tailsumm)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.0010832 -0.0002907 -0.0000818  0.0001755  0.0049852
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   7.429e-04  3.730e-04   1.992  0.04691 *
## inst          1.561e-06  5.137e-07   3.039  0.00249 **
## app.mthdbsth   9.149e-05  6.991e-05   1.309  0.19119
## app.mthdcs    -1.042e-05  1.491e-04  -0.070  0.94433
## app.mthdos     6.367e-05  8.092e-05   0.787  0.43171
## app.mthdts     1.027e-04  7.329e-05   1.402  0.16162
## man.dm        -9.818e-06  1.157e-05  -0.849  0.39645
## man.ph        -6.858e-05  4.529e-05  -1.514  0.13051
## air.temp.24   -2.289e-05  4.773e-06  -4.795 2.09e-06 ***
## wind.2m.24    -1.202e-05  1.328e-05  -0.905  0.36566
## e.rel.final    1.172e-03  1.220e-04   9.603 < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.0005161 on 549 degrees of freedom
## (13 observations deleted due to missingness)
## Multiple R-squared:  0.2189, Adjusted R-squared:  0.2047
## F-statistic: 15.39 on 10 and 549 DF,  p-value: < 2.2e-16

ggplot(tailsumm, aes(air.temp.24, tslope, colour = factor(inst))) +
  geom_point() +
  facet_wrap(~ app.mthd) +
  geom_smooth(method = lm, se = FALSE)

## `geom_smooth()` using formula = 'y ~ x'
## Warning: Removed 13 rows containing non-finite values (`stat_smooth()`).
## Warning: Removed 13 rows containing missing values (`geom_point()`).
```



```
ggplot(tailsumm, aes(e.rel.final, tslope, colour = factor(inst))) +
  geom_point() +
  facet_wrap(~ app.mthd) +
  geom_smooth(method = lm, se = FALSE)
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

```
## Warning: Removed 13 rows containing non-finite values (`stat_smooth()`).
```

```
## Warning: Removed 13 rows containing missing values (`geom_point()`).
```

