

# ExaminingCovariatesIII

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Repeat of covariance analysis without sites 23, 53 , 74.

Drop perimeter, meanLBA, sdmean\_dbh, sd\_treedensity, sd\_SOM

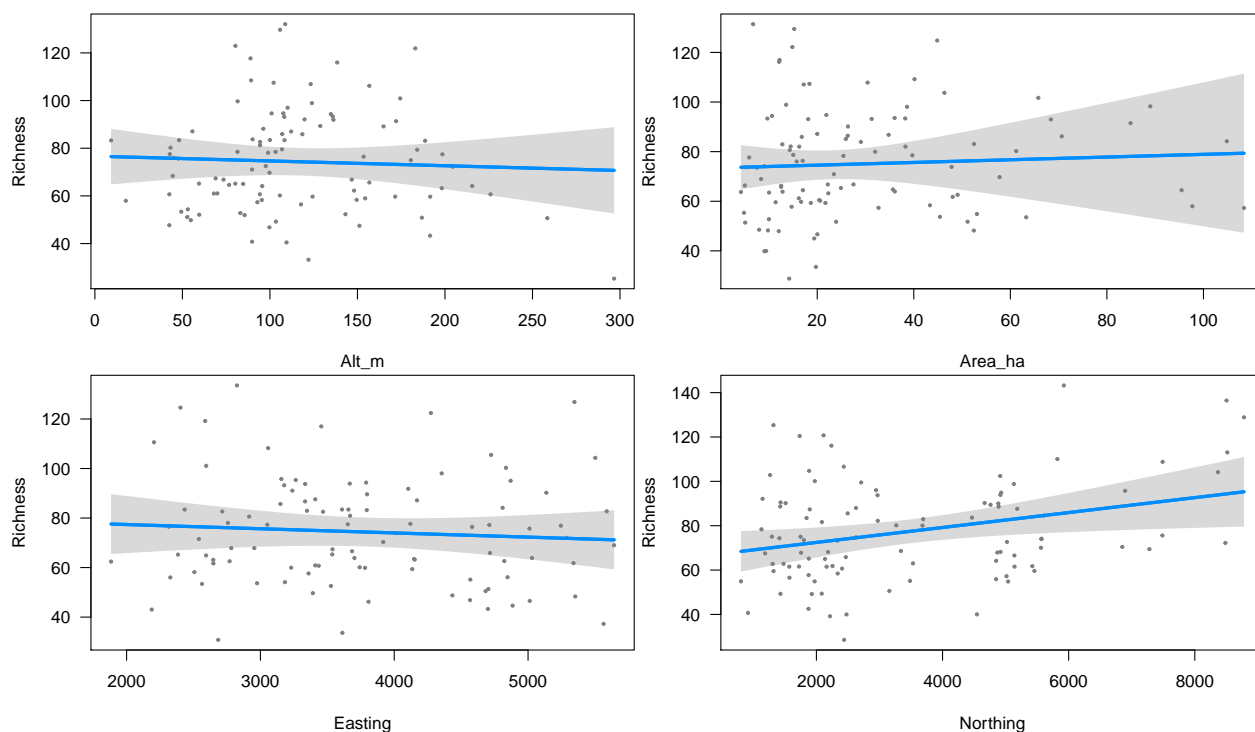
Physical Variables

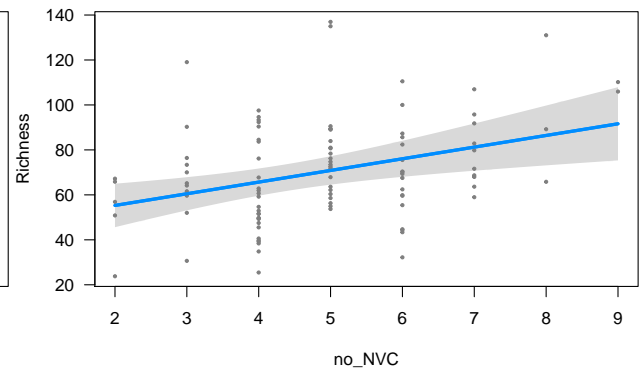
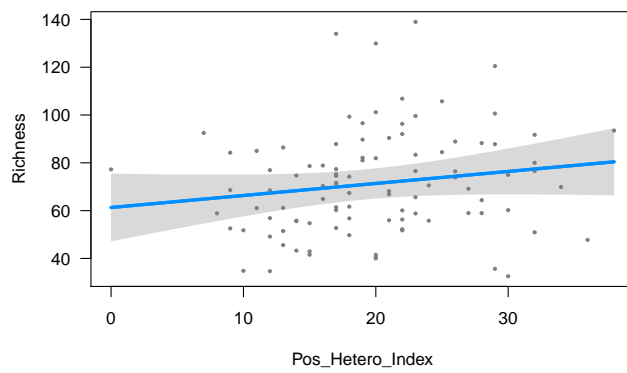
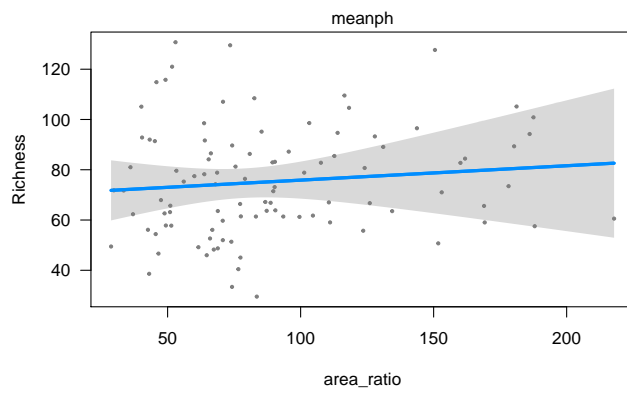
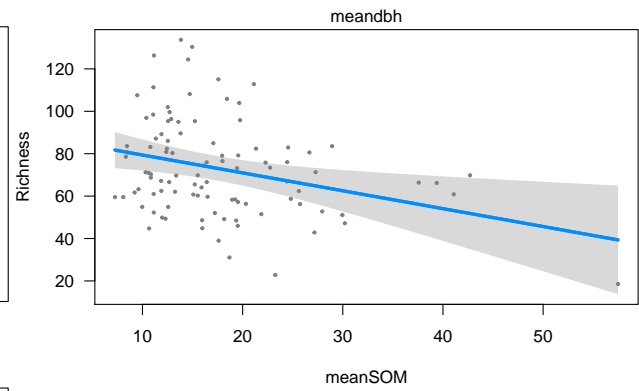
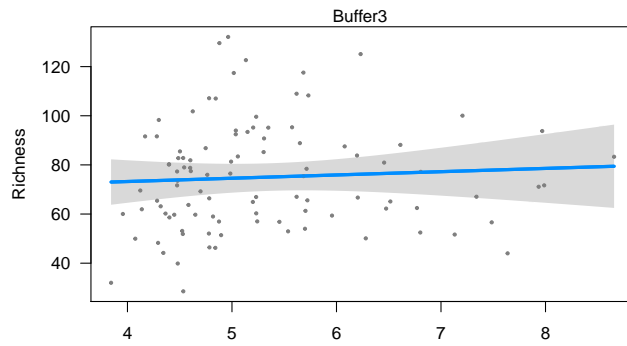
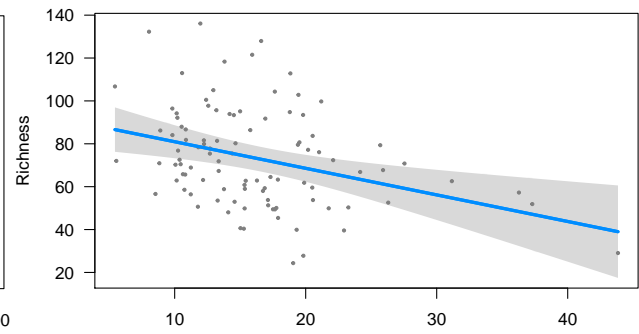
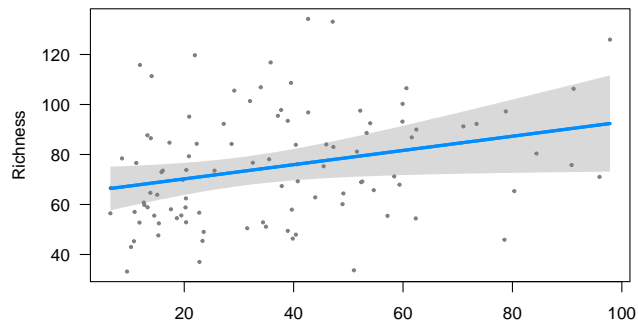
```
## [1] "Alt_m"      "Area_ha"    "Easting"    "Northing"   "Buffer3"
## [6] "meandbh"    "meanph"     "meanSOM"    "area_ratio"
```

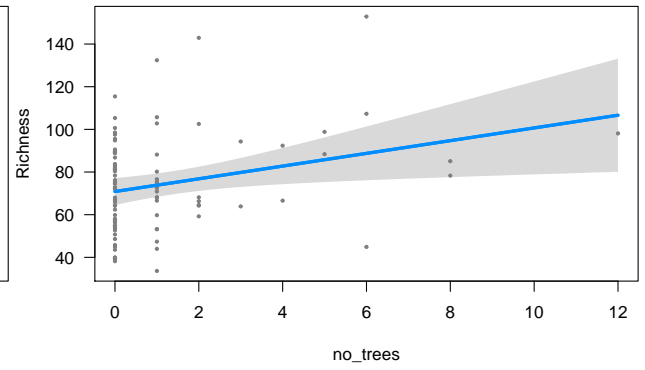
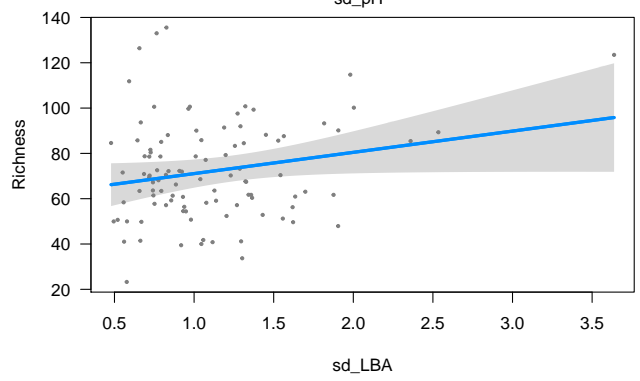
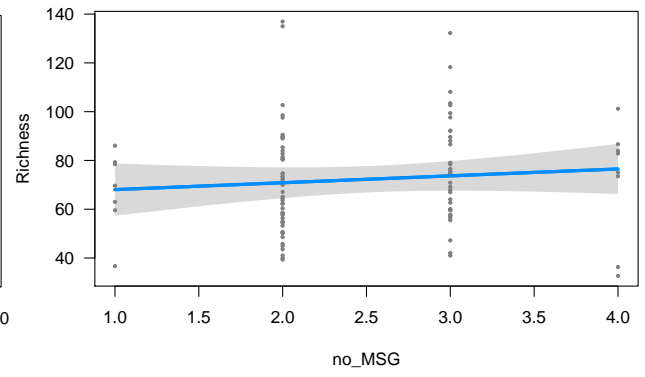
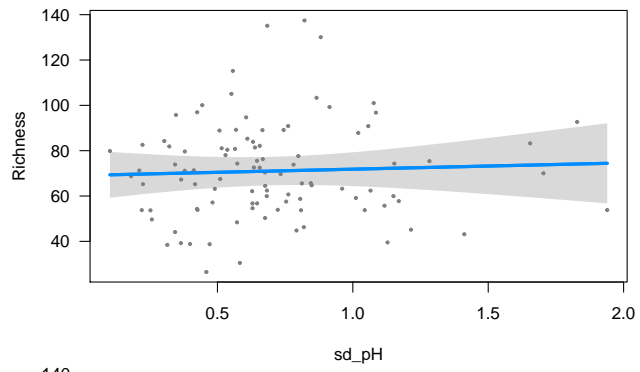
Heterogeneity variables

```
## [1] "Pos_Hetero_Index" "no_NVC"      "sd_pH"
## [4] "no_MSG"           "sd_LBA"      "no_trees"
```

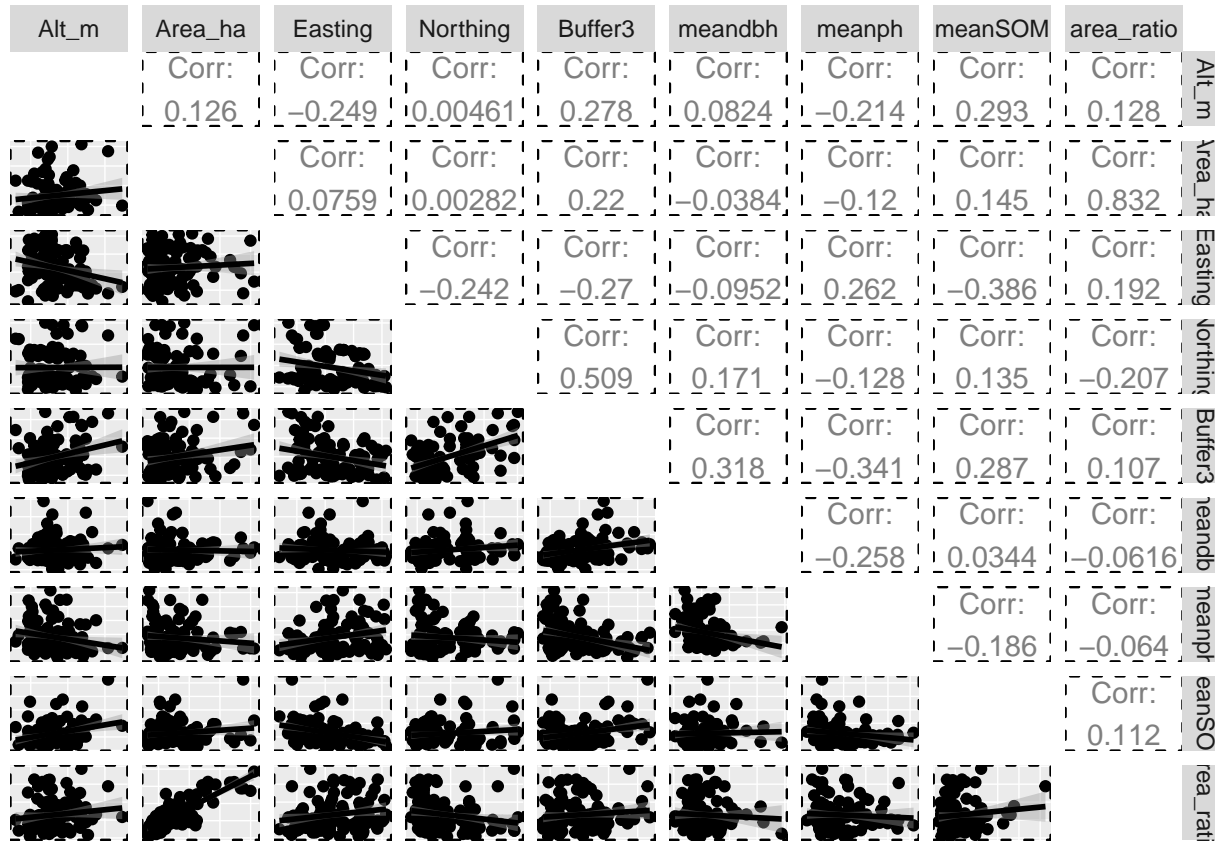
Effect of each variable on richness using multiple linear regression, simple additive model.

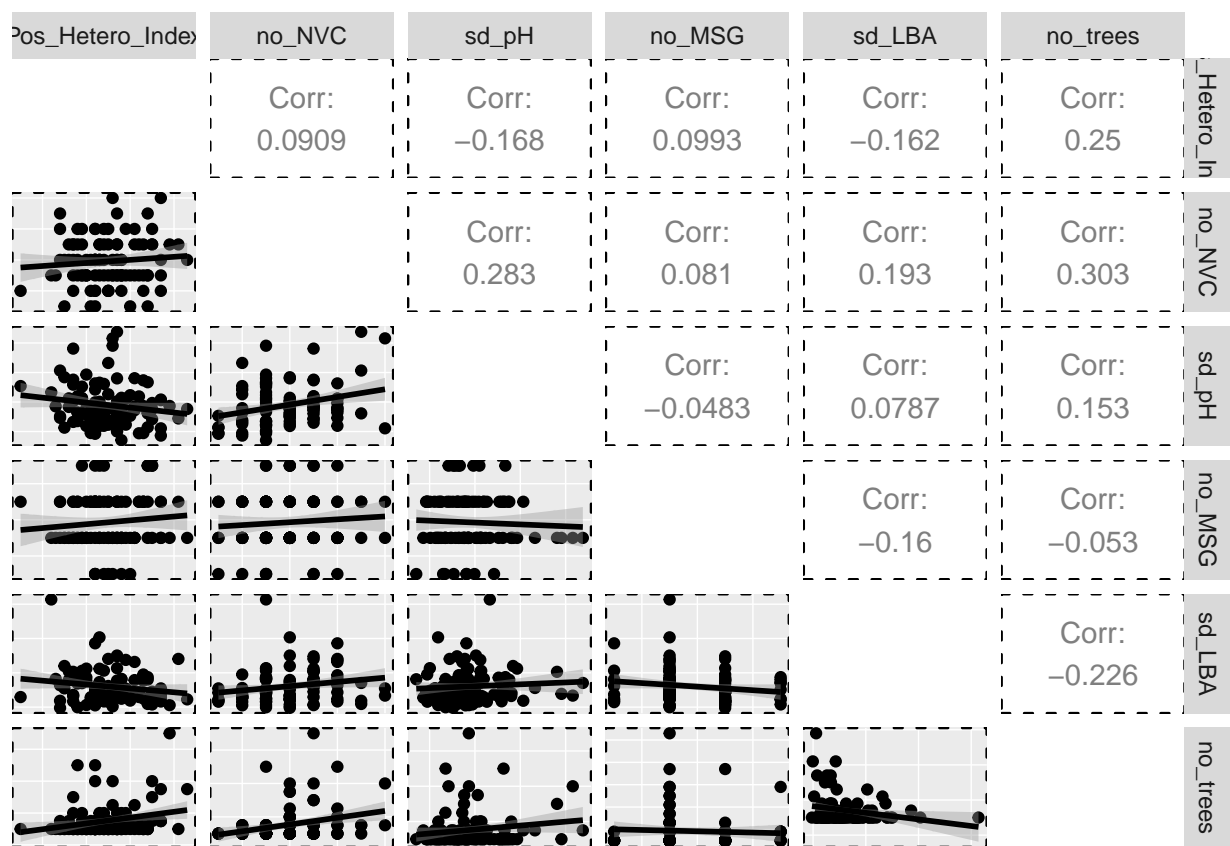






## Colinearity of variables using pair plots

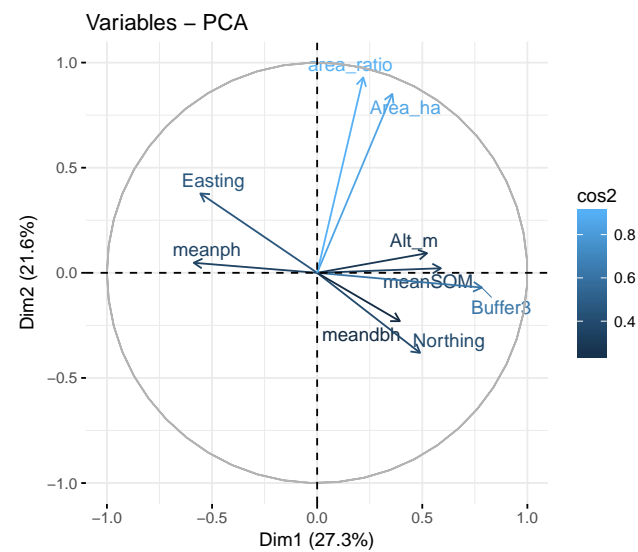
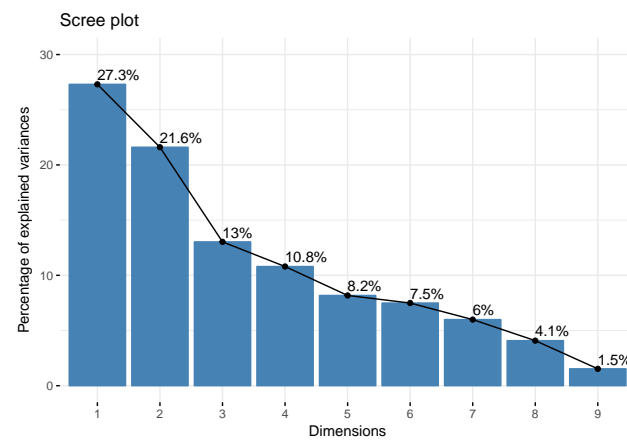


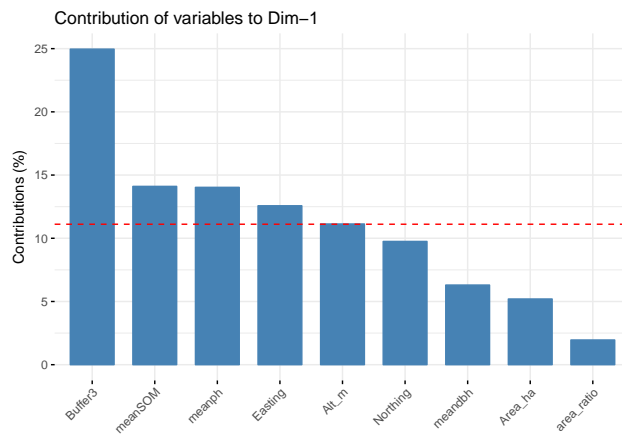
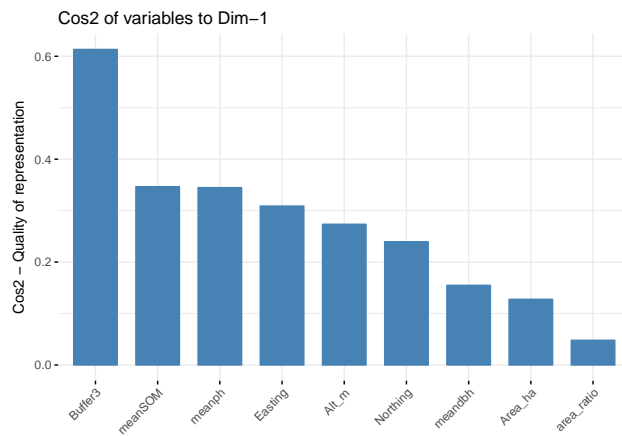
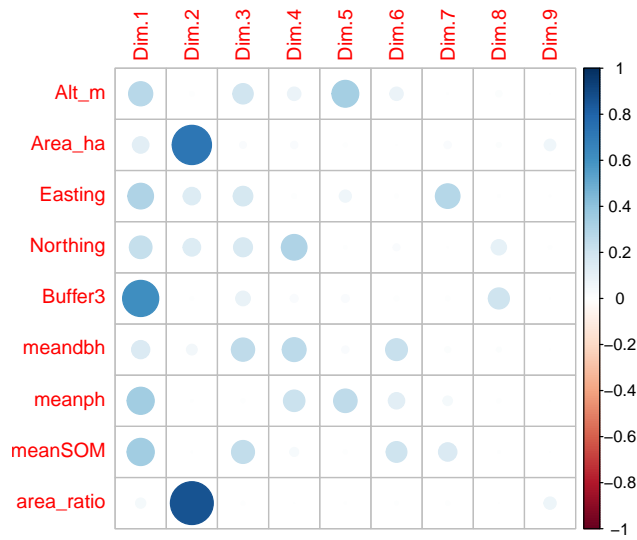


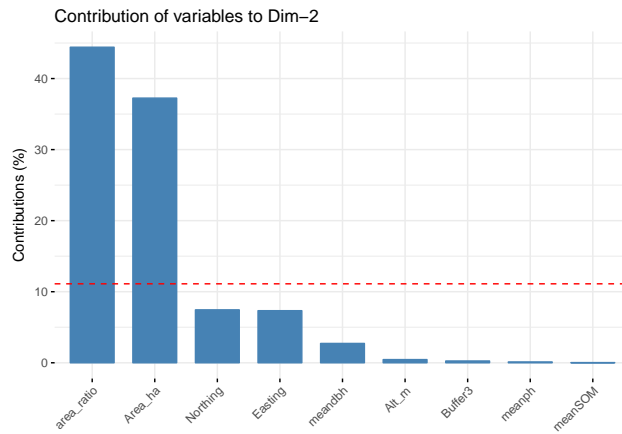
# PCA

## Physical variables

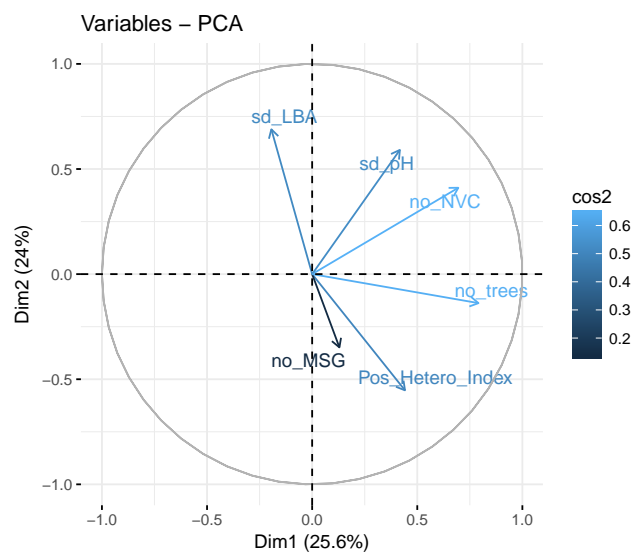
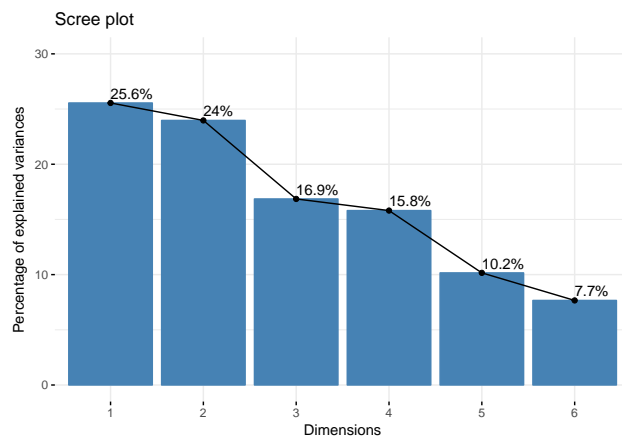
##	eigenvalue	variance.percent	cumulative.variance.percent
## Dim.1	2.4571555	27.301727	27.30173
## Dim.2	1.9442830	21.603144	48.90487
## Dim.3	1.1727301	13.030335	61.93521
## Dim.4	0.9717474	10.797194	72.73240
## Dim.5	0.7358330	8.175922	80.90832
## Dim.6	0.6740325	7.489250	88.39757
## Dim.7	0.5392184	5.991316	94.38889
## Dim.8	0.3673959	4.082176	98.47107
## Dim.9	0.1376041	1.528935	100.00000



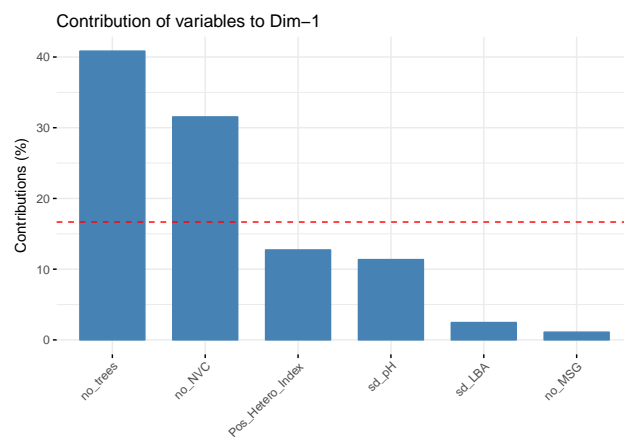
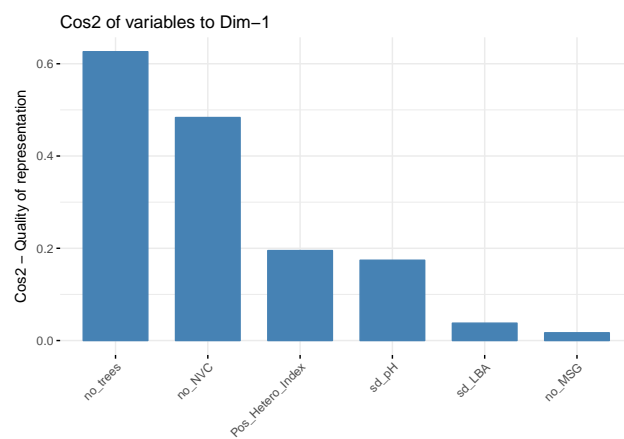


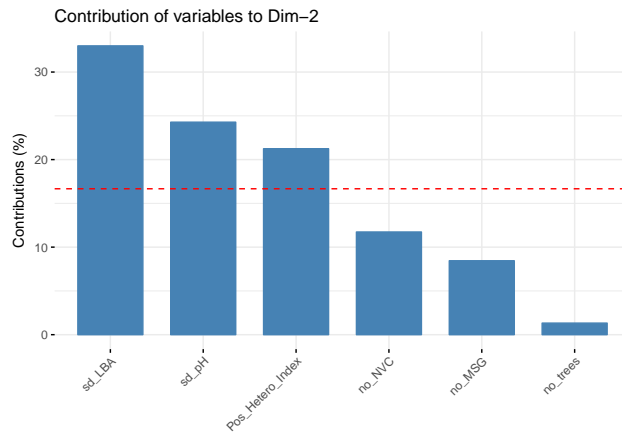


##	eigenvalue	variance.percent	cumulative.variance.percent
## Dim.1	1.5330526	25.550876	25.55088
## Dim.2	1.4381459	23.969099	49.51997
## Dim.3	1.0114122	16.856870	66.37685
## Dim.4	0.9481817	15.803029	82.17987
## Dim.5	0.6095045	10.158409	92.33828
## Dim.6	0.4597030	7.661717	100.00000









## Discussion

Regression of Richness: Abiotic Still positive correlations for Northing,buffer, negative correlations for mean dbh and mean SOM. Hetero Still positive for positive hetero index, no NVC sd LBA and no\_trees

**Since sd\_LBA is related to no\_trees, and I'm not sure about the sd variables (what happens when they are standardised??) maybe sd\_LBA should be dropped sd pH doesn't seem to be contributing to anything - drop this**

**Now combine all variables and look at correlations again**