# Analysing effect of abiotic factors on intercept of mixed effect model

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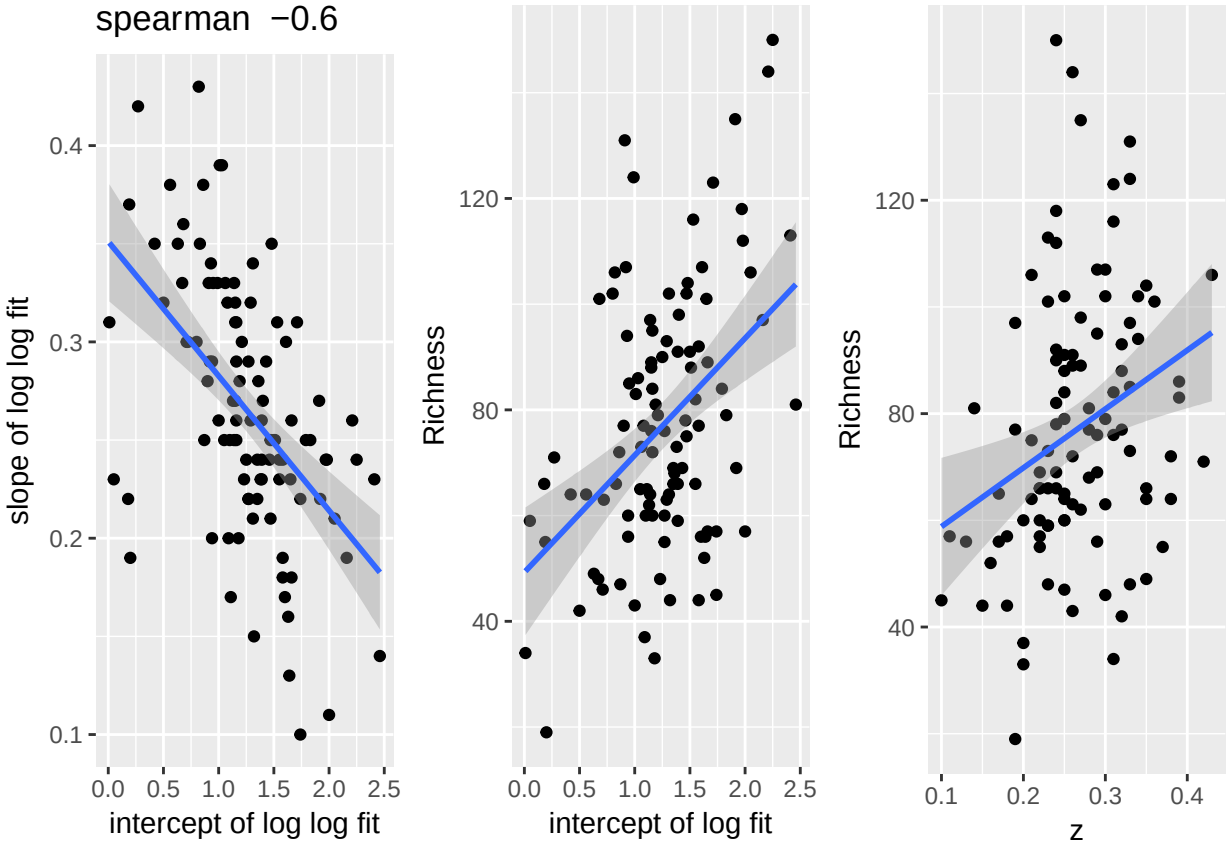
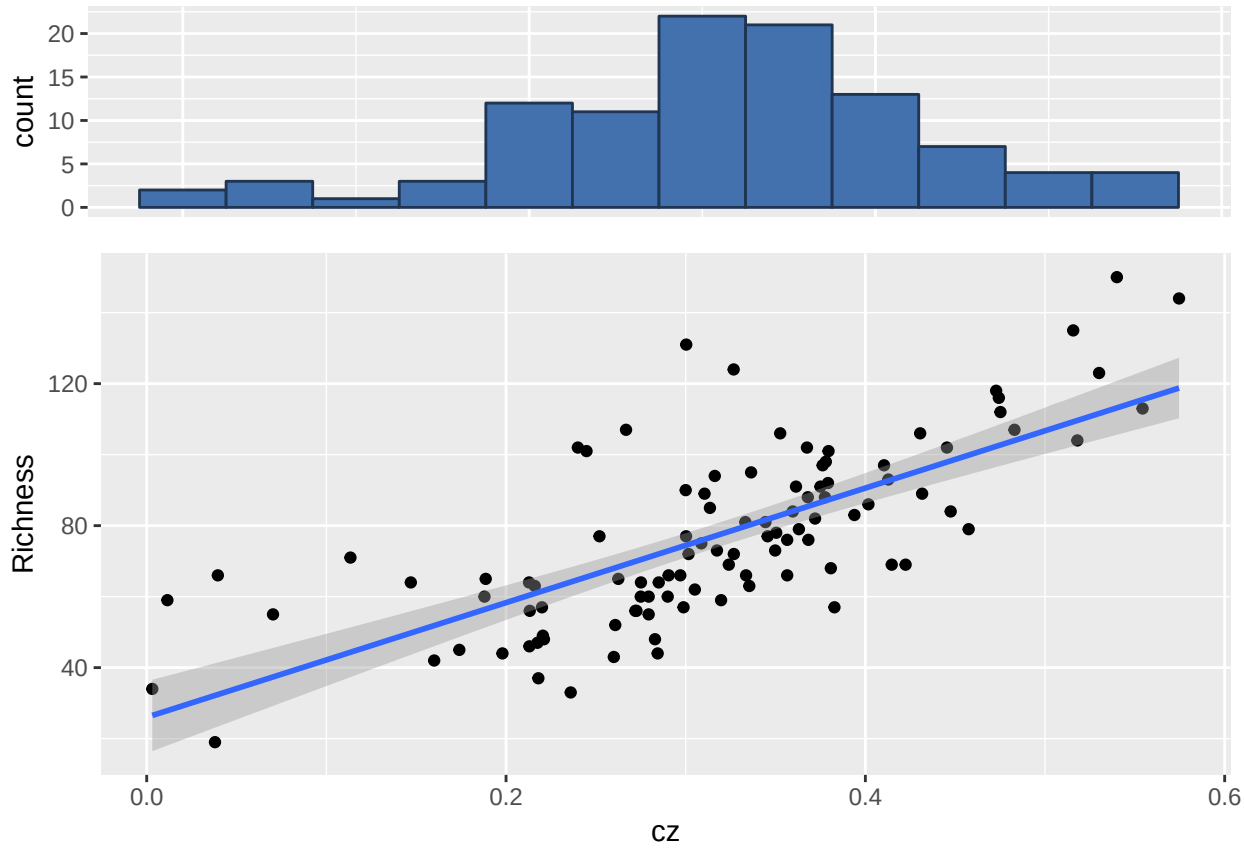
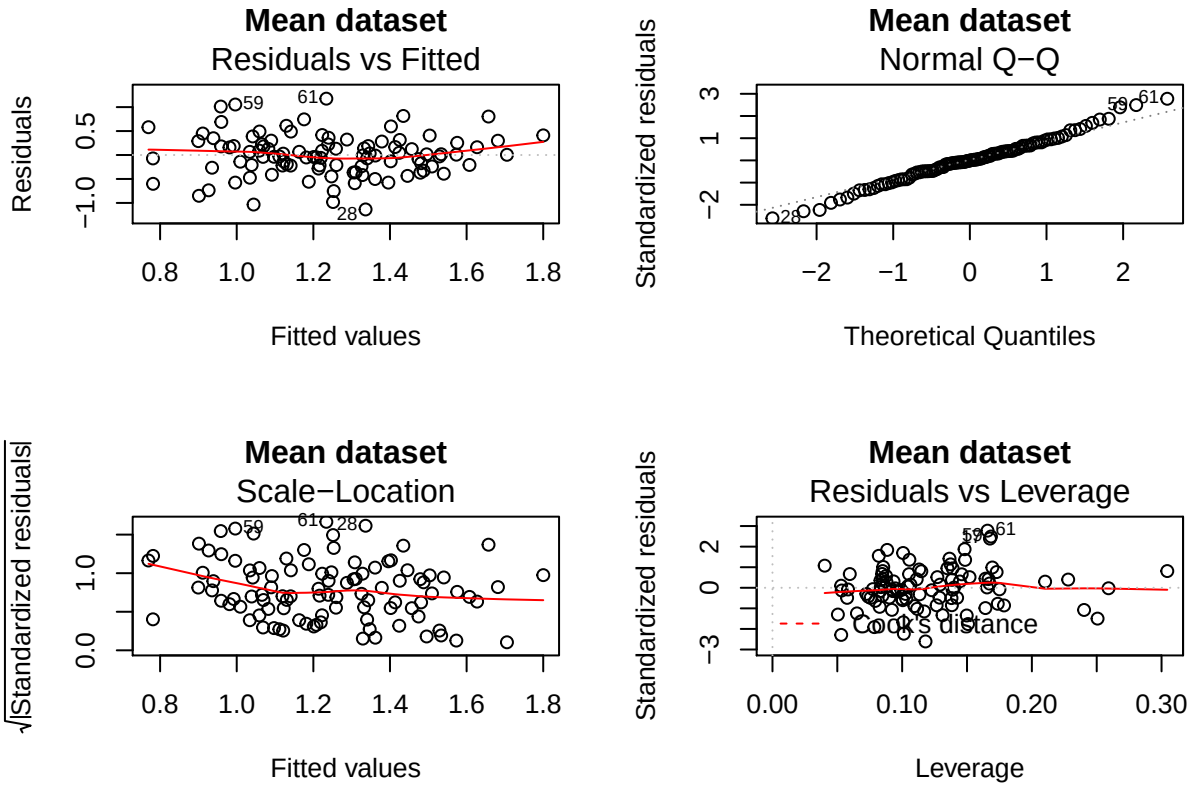
Her the intercept from the mixed model is anaysed. The data is split in the same way, and outliers from area and PHI are removed.



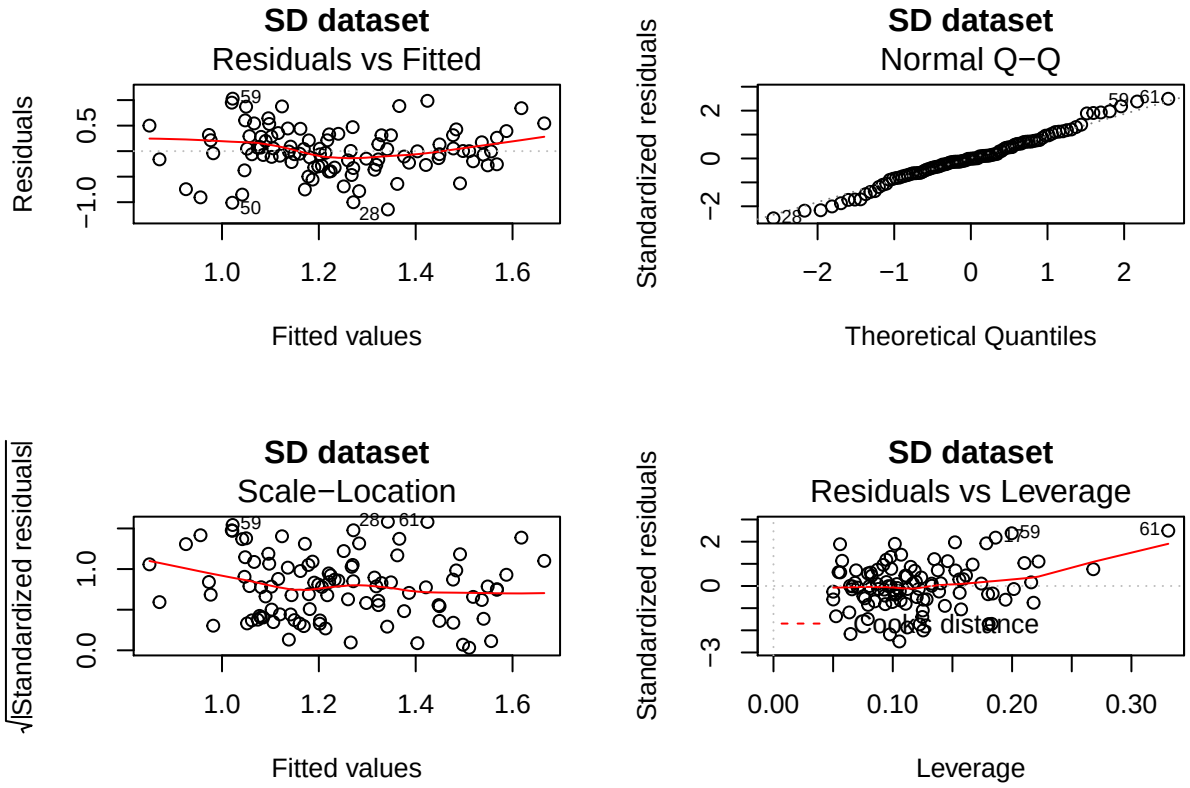

Having a quick look at the behaviour of the intercepts and slopes, as richness increases, slope and intercept increase, but the first graph shows that as the slope increases the intercept decreases. I have no idea what this means, if anything.




Since the gradient is a function of c and z, I thought it might be nice to look at richness with cz. But I have no idea what this means either.




The two site with the highest values of PHI had high leverage in this model and were therefore removed from the data in order to give normally distributed residuals, the plots above were created after these values were removed.



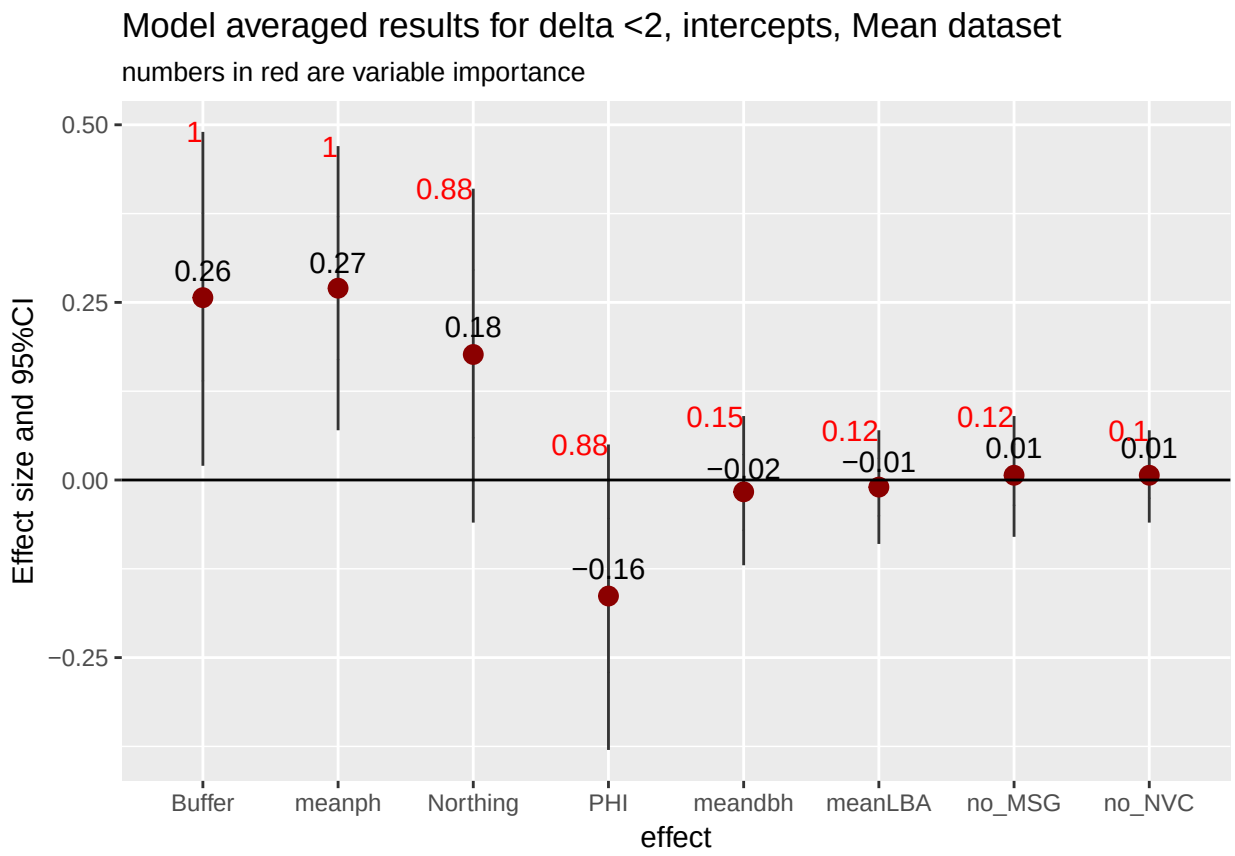

```
##   Northing        PHI    meandbh     meanph     Buffer    meanSOM
##   1.721261   1.219326   2.031493   1.356264   1.816954   1.158692
##    meanLBA     meanTD area_ratio     no_NVC     no_MSG
##   1.708121   1.955180   1.230977   1.292059   1.263801
```

The variance inflation factors in the mean dataset are low, suggesting that correlations between covariates are low and not likely to increase the variance of the paramater estimates.

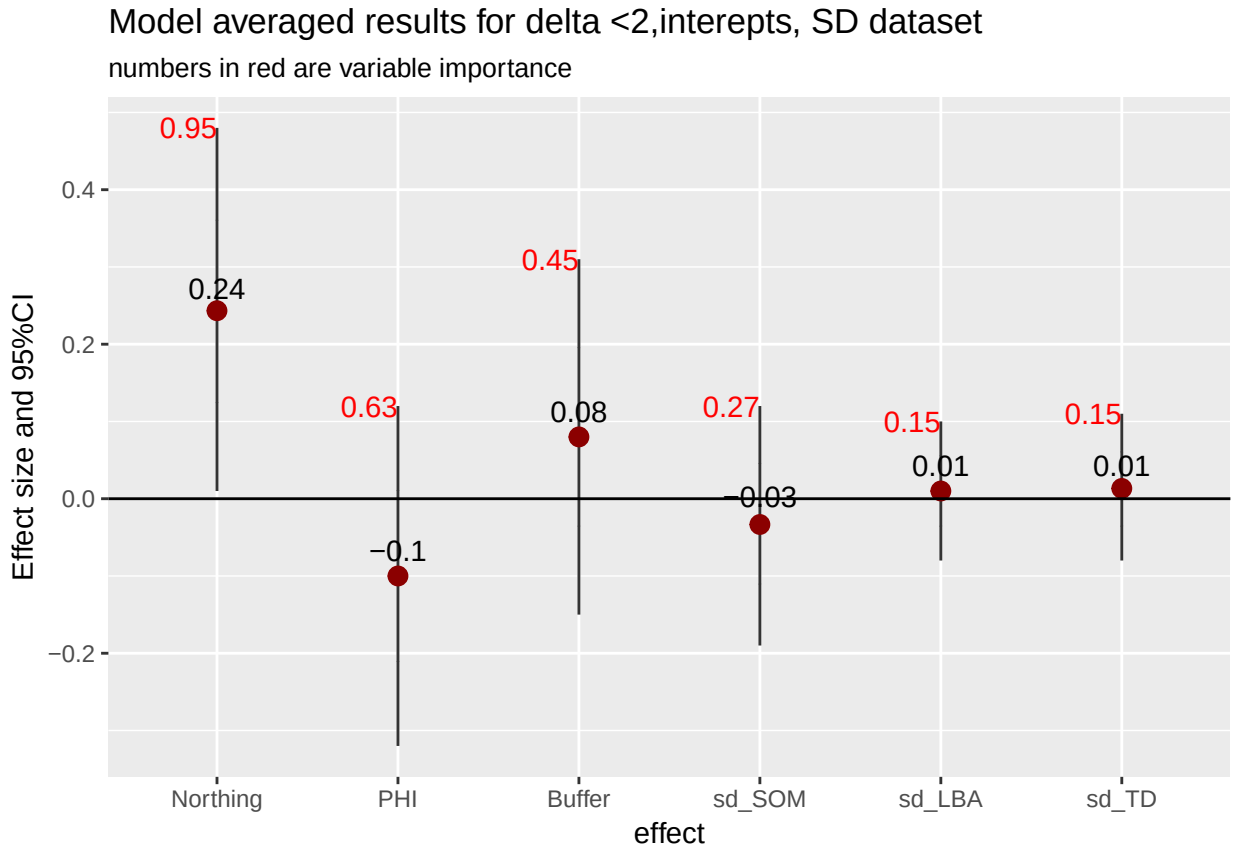
```
##   Northing        PHI     Buffer     no_MSG     no_NVC      sd_pH
##   1.713097   1.275714   1.860168   1.241747   1.277452   1.328220
##     sd_SOM     sd_LBA sd_meandbh      sd_TD area_ratio
##   1.412783   1.188175   1.521227   1.501602   1.257226
```

The variance inflation factors in the sd dataset are also low

The first twelve models from the mean dataset, which had a delta <2 were selected from the MuMin dredge funtion as the top model set.




The graph shows the averaged effect sizes of the model with delta $< 2$.The buffer and meanpH may effect the intercep of the log/log fit




The Northing is the only variable which may effect the intercepts of the log/log fit

**Using the model for prediction**