Bangladesh Flood Statistics

Abrar Yaser

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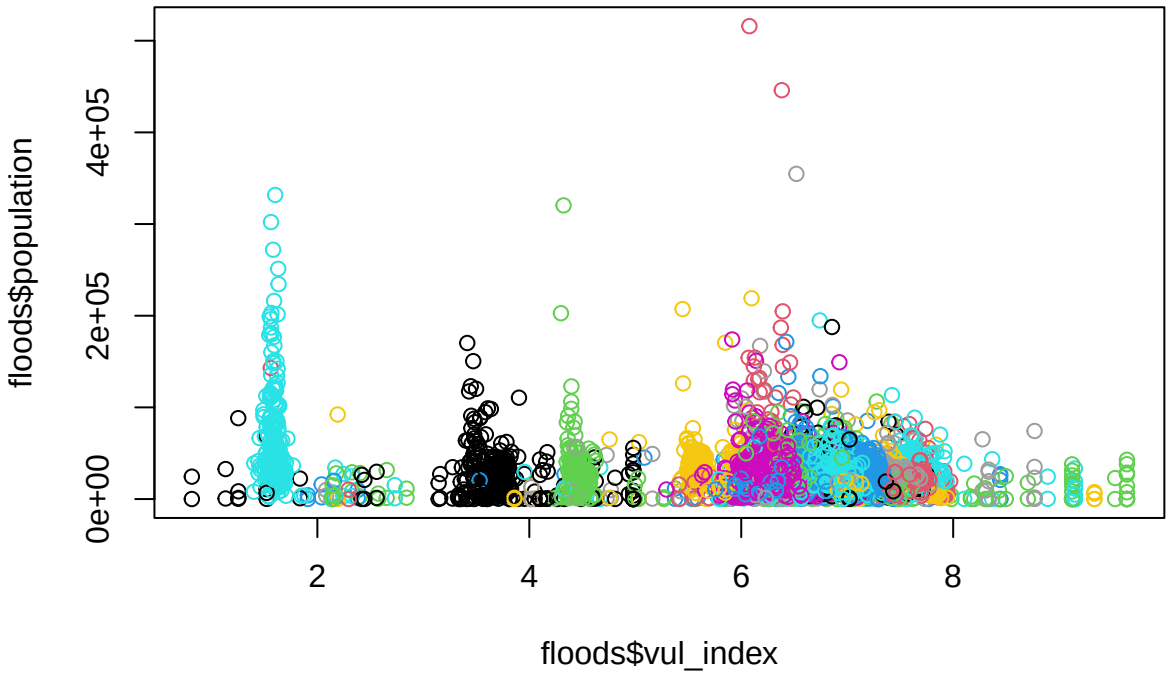
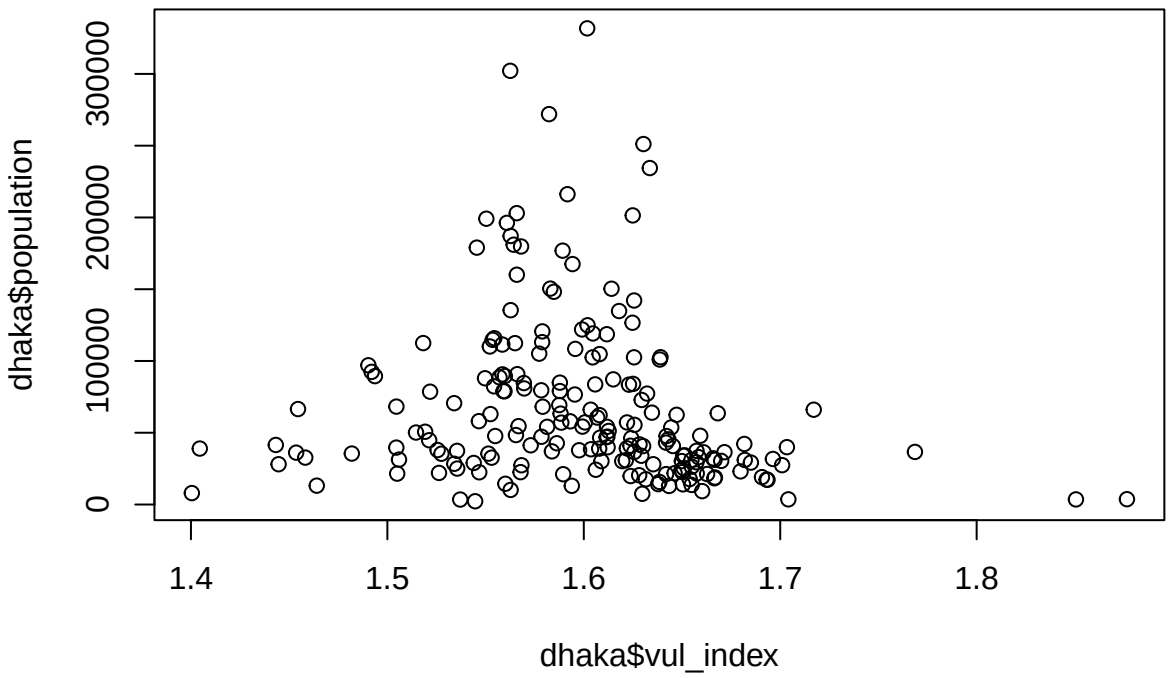
```
floods <- read.csv("~/R/floods.csv")
floods <- floods[complete.cases(floods),]
plot(floods$vul_index, floods$population, col=as.numeric(as.factor(floods$District)))
```



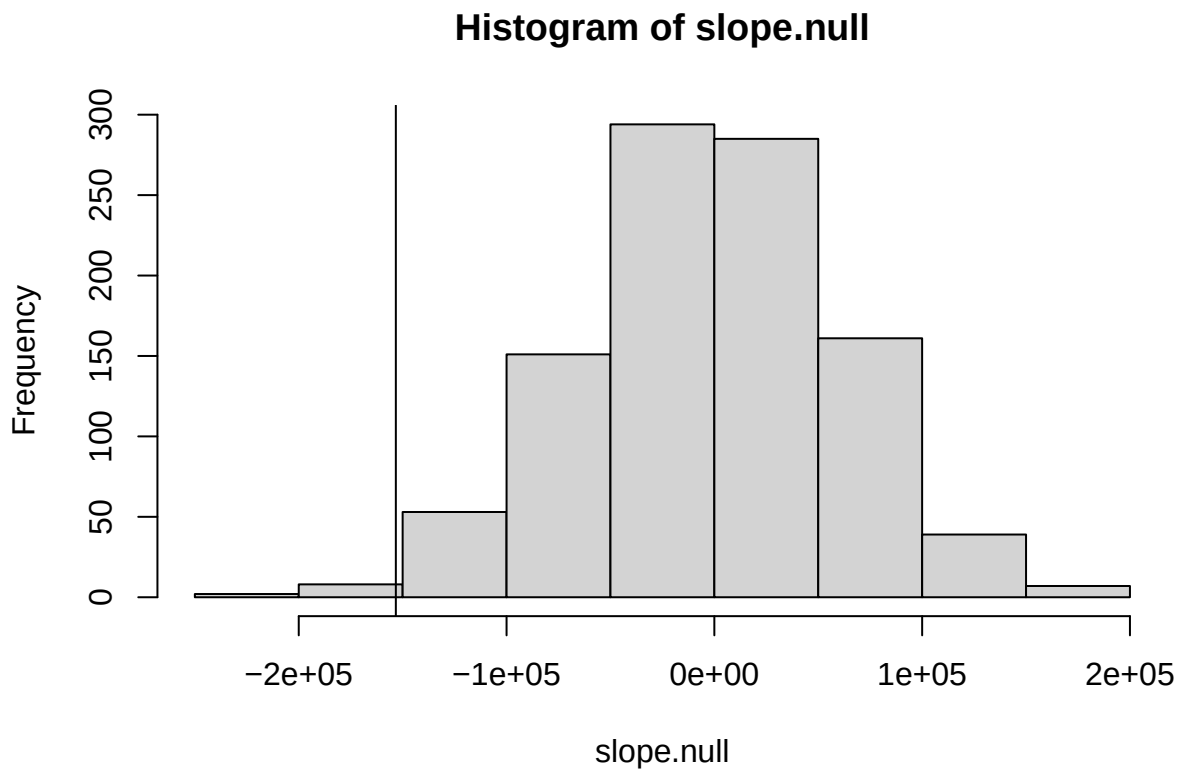

```
dhaka <- floods[floods$District=="Dhaka",][-119,]
plot(dhaka$vul_index, dhaka$population)
```



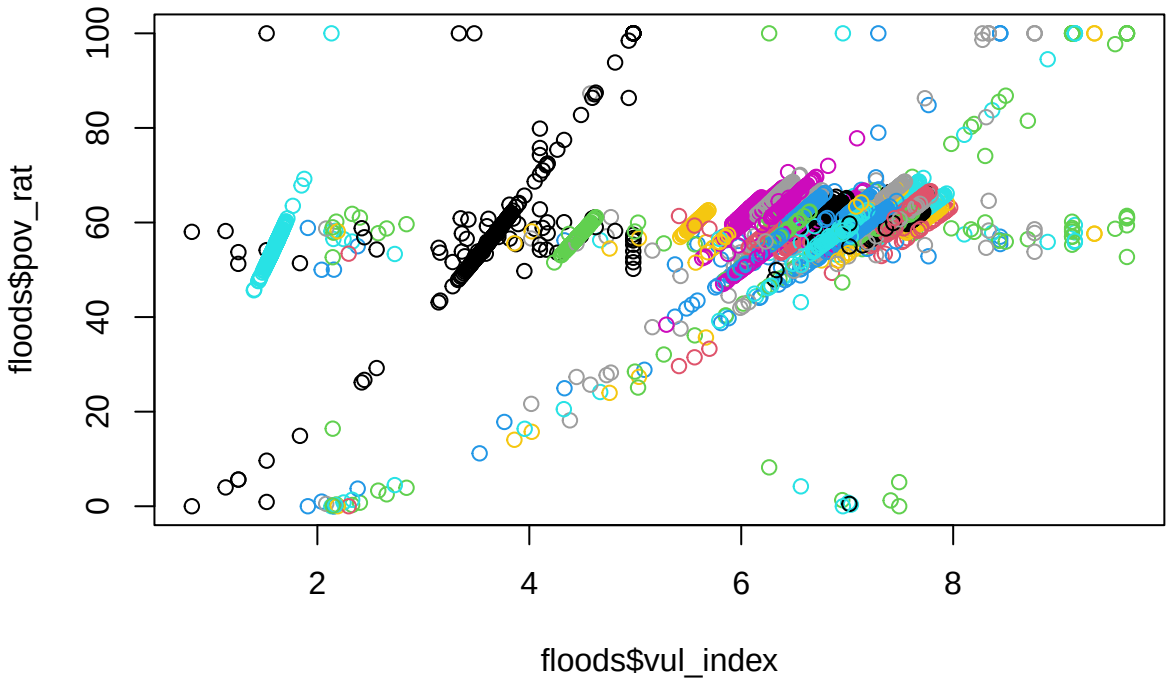

```
fit <- lm(population~vul_index, data=dhaka)
summary(fit)
```

```
##
## Call:
## lm(formula = population ~ vul_index, data = dhaka)
##
## Residuals:
##    Min     1Q Median     3Q    Max
## -89546 -35372 -18014  16329 265077
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   312172      98485    3.17  0.00177 **
## vul_index    -153272      61544   -2.49  0.01357 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 56720 on 200 degrees of freedom
## Multiple R-squared:  0.03008,    Adjusted R-squared:  0.02523
## F-statistic: 6.202 on 1 and 200 DF,  p-value: 0.01357
```

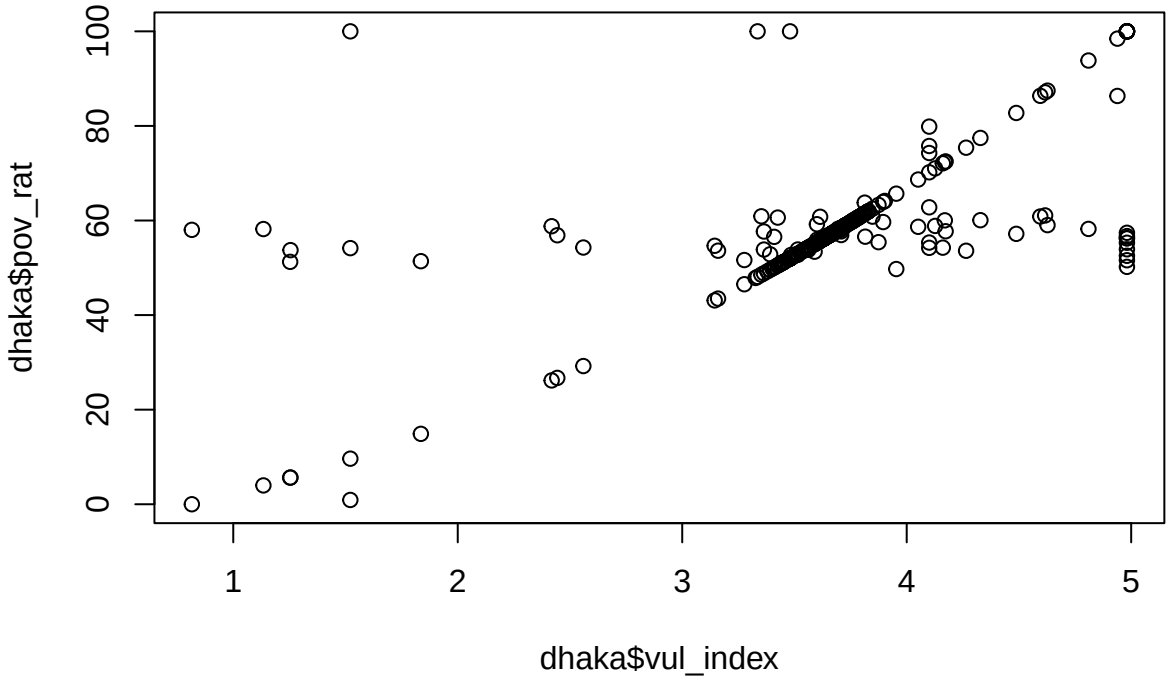
```
slope.null <- c()
for (i in 1:1000)
  slope.null[i] <- lm(population~sample(vul_index), data=dhaka)$coef[2]
hist(slope.null)
abline(v=fit$coef[2])
```




```
floods <- read.csv("~/R/floods.csv")
floods <- floods[complete.cases(floods),]
plot(floods$vul_index, floods$pov_rat, col=as.numeric(as.factor(floods$District)))
```




```
dhaka <- floods[floods$District=="Chittagong",]
plot(dhaka$vul_index, dhaka$pov_rat)
```


dhaka$pov_rat
0
20
40
60
80
100
1
2
3
4
5
dhaka$vul_index