Weather Data Analysis

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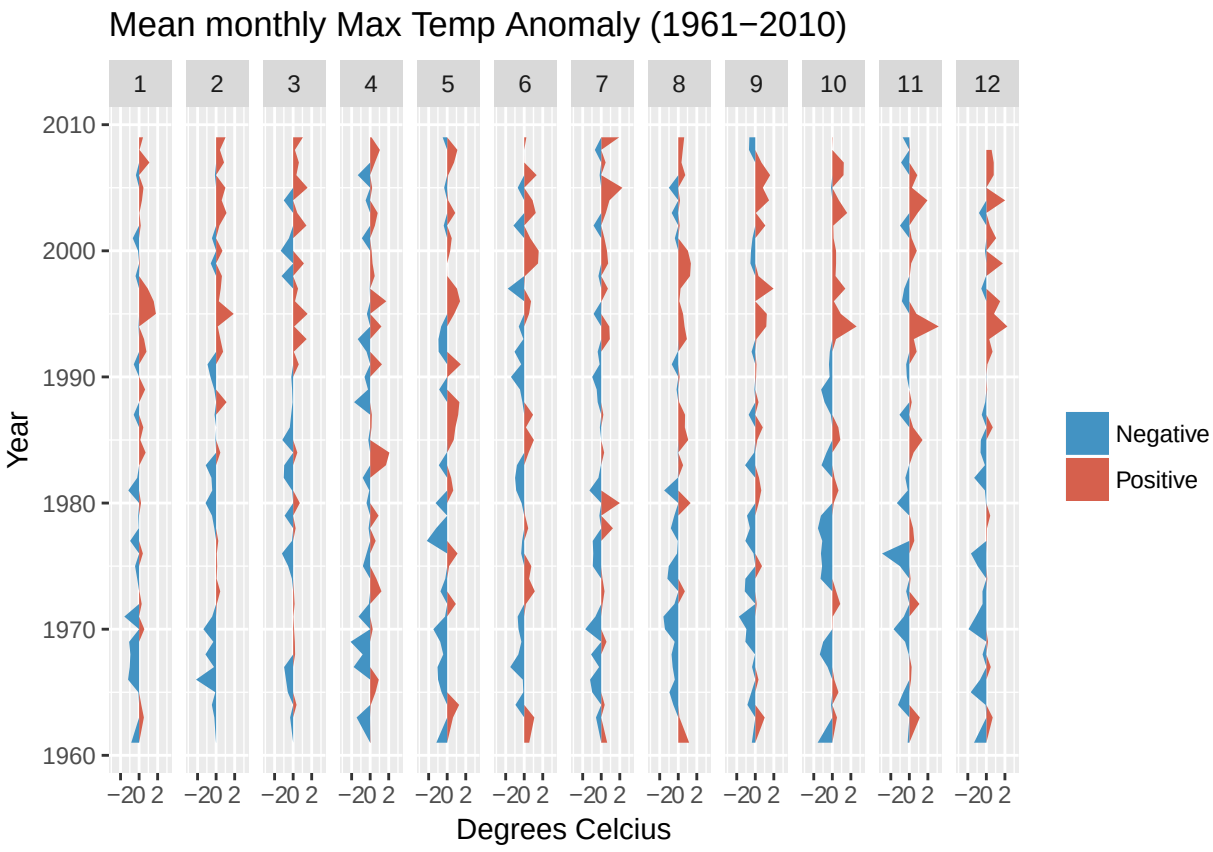
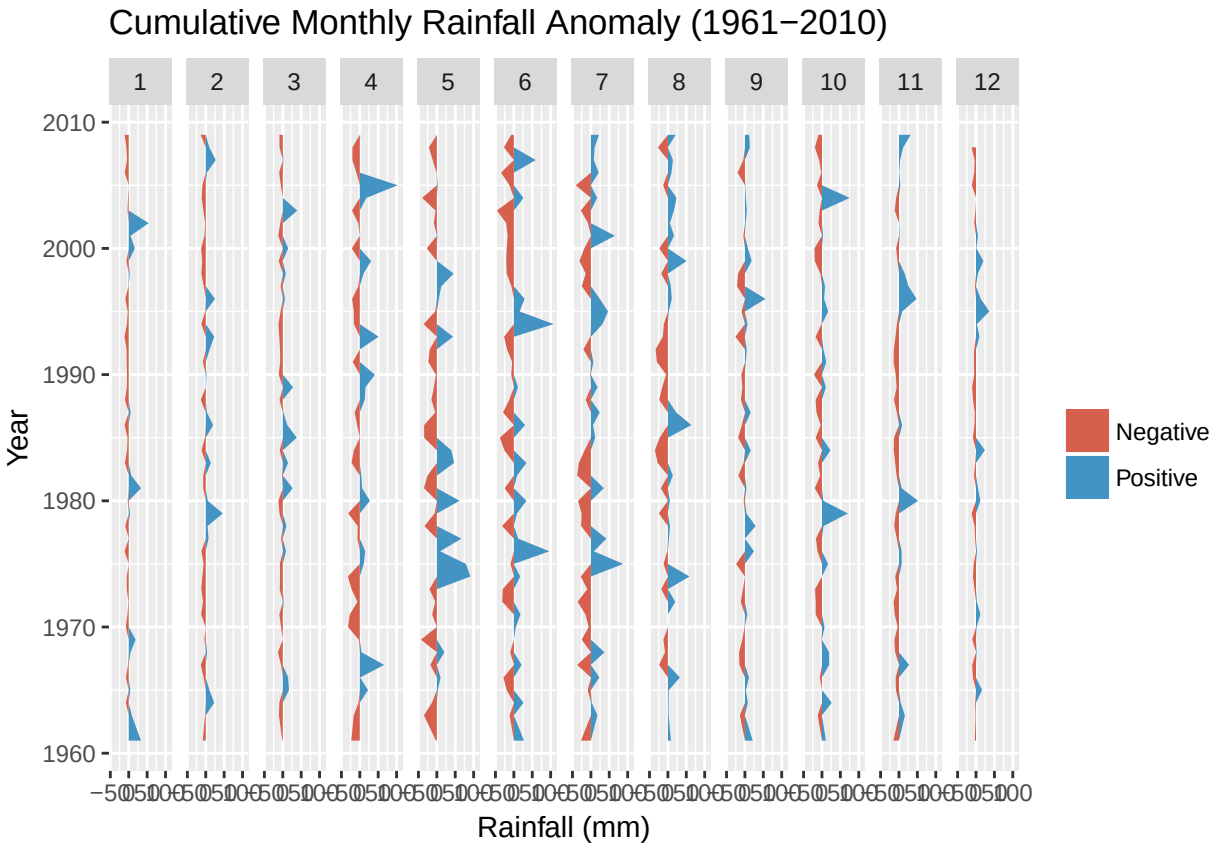
Trends in mean monthly maximum temperature anomalies:



Pretty clear increases in positive anomalies.

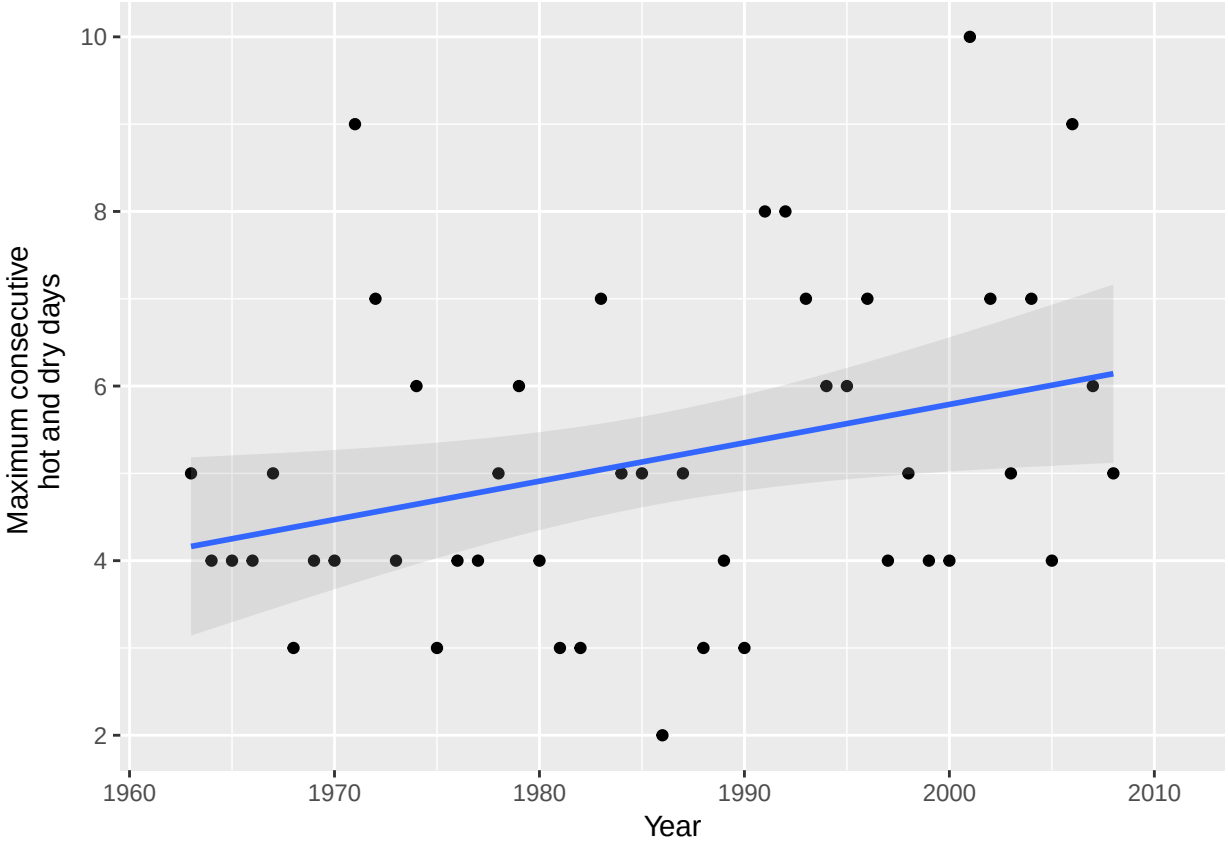
Trends in cumulative monthly rainfall anomalies:



Not much trend. There's bigger variance in April to September because this spans the wet season.

Analysis of maximum count of consecutive hot and dry days (1963-2009)

Let's look at the plot of consecutive hot and dry days and then model them as a function of year with MCMCglmm (default priors and normal errors).




```
##
##  Iterations = 3001:12991
##  Thinning interval  = 10
##  Sample size  = 1000
##
##  DIC: 185.8413
##
##  R-structure:  ~units
##
##       post.mean l-95% CI u-95% CI eff.samp
## units     3.171    1.957      4.6    869.9
##
##  Location effects: Consecutive_Hot_and_Dry_Days ~ Year
##
##              post.mean   l-95% CI   u-95% CI eff.samp pMCMC
## (Intercept) -8.294e+01 -1.620e+02 -7.261e+00     1000  0.04 *
## Year         4.437e-02  4.028e-03  8.194e-02     1000  0.03 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

Lastly, hidden code calculates the most extreme post fire weather (CDD and CHD) experienced in the first year after fire and outputs this as *postfireweather.csv*. This can be altered to change thresholds etc for downstream analyses if desired.