

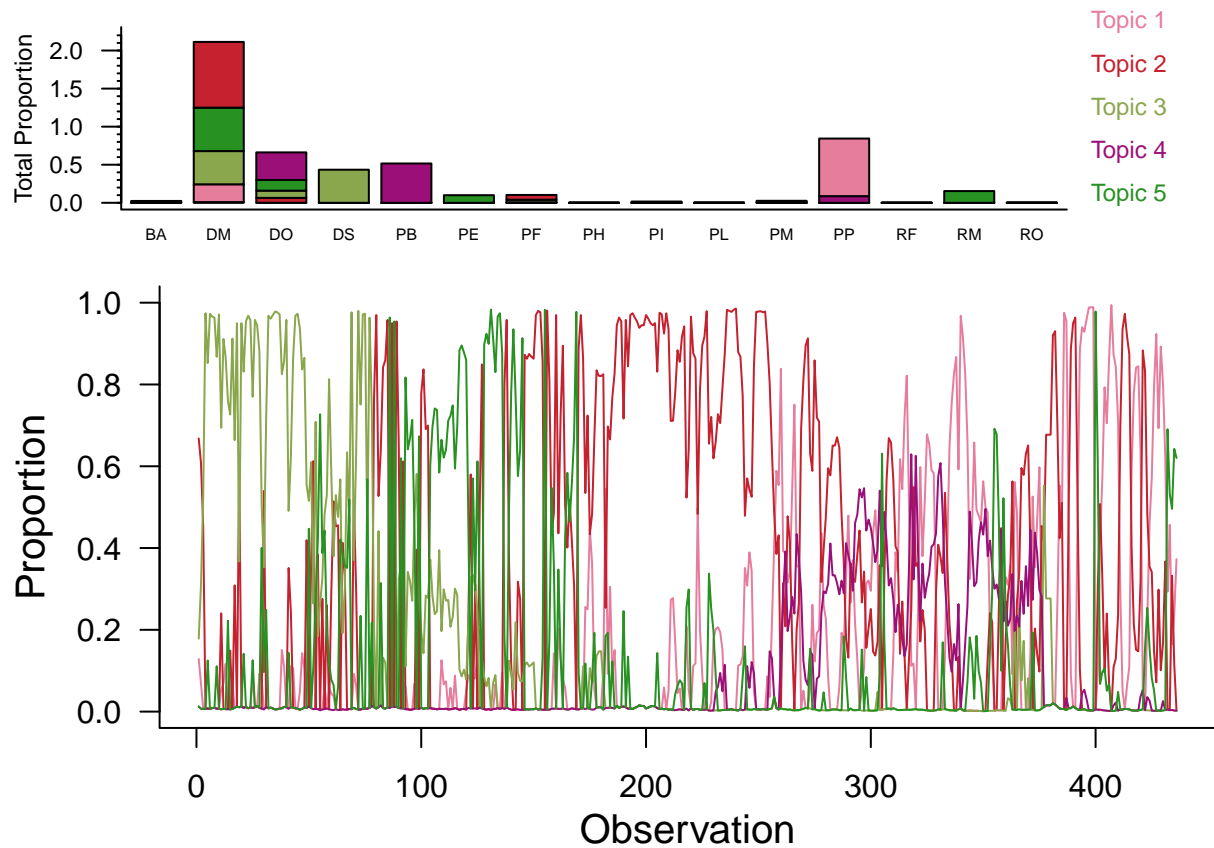
Comparing weights

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LDATS data and model - control plots - all weights = 1

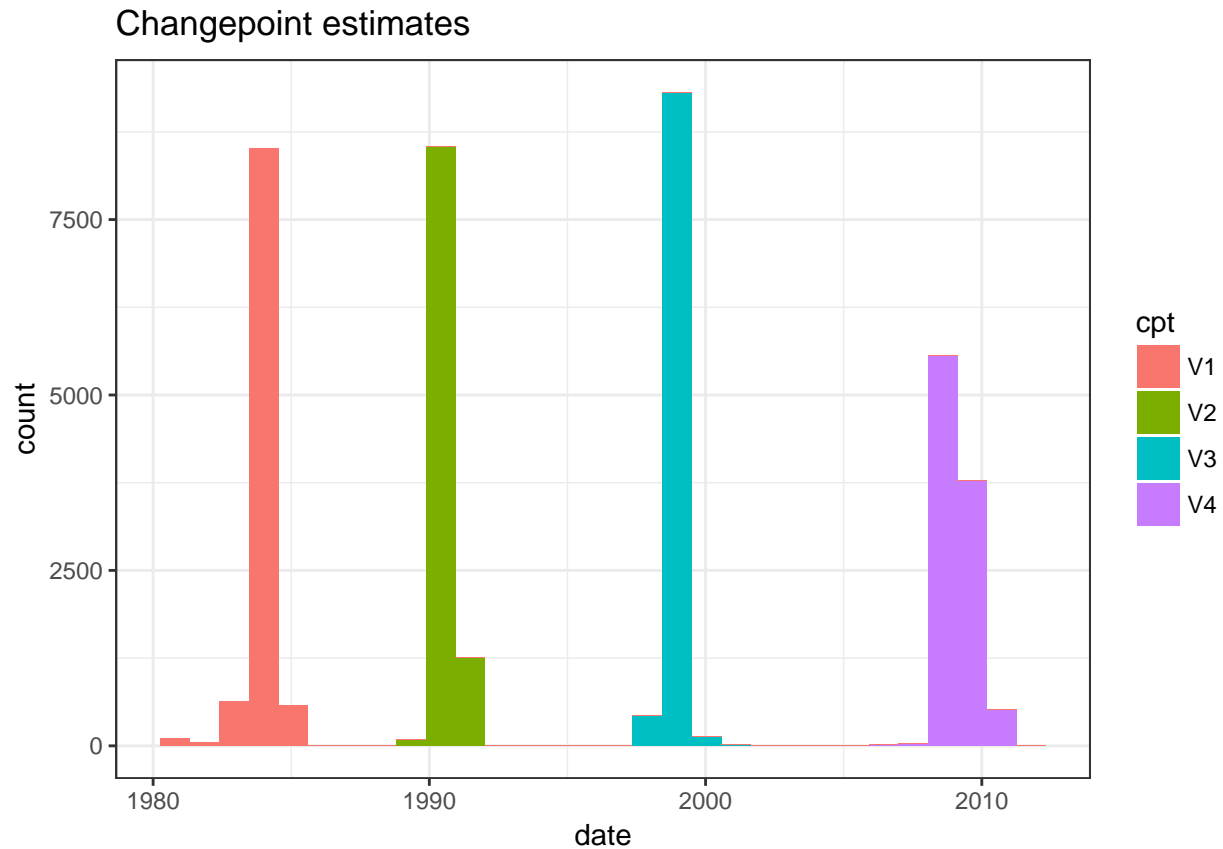
LDA



Changepoint model

```
summarize_cps(changepoint$cps, prob = 0.95)
```

```
##           Mean Median Lower Upper   SD MCMCerr  AC10    ESS
## Changepoint_1  78.74    78    74    88  4.74  0.0476  0.5948 137.7167
## Changepoint_2 149.33   146   141   171  8.45  0.0849  0.6697 152.1148
## Changepoint_3 255.86   256   250   260  3.01  0.0303  0.4110 419.8131
## Changepoint_4 380.08   380   373   390  4.67  0.0469  0.2574 588.3058
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```



From Christensen et al 2018:

Using these distributions, we located the 95% confidence interval for when each of these transitions occurred: December 1983-July 1984, October 1988-January 1996, September 1998- December 1999, and June 2009-September 2010

So this model is locating qualitatively the same changepoints.

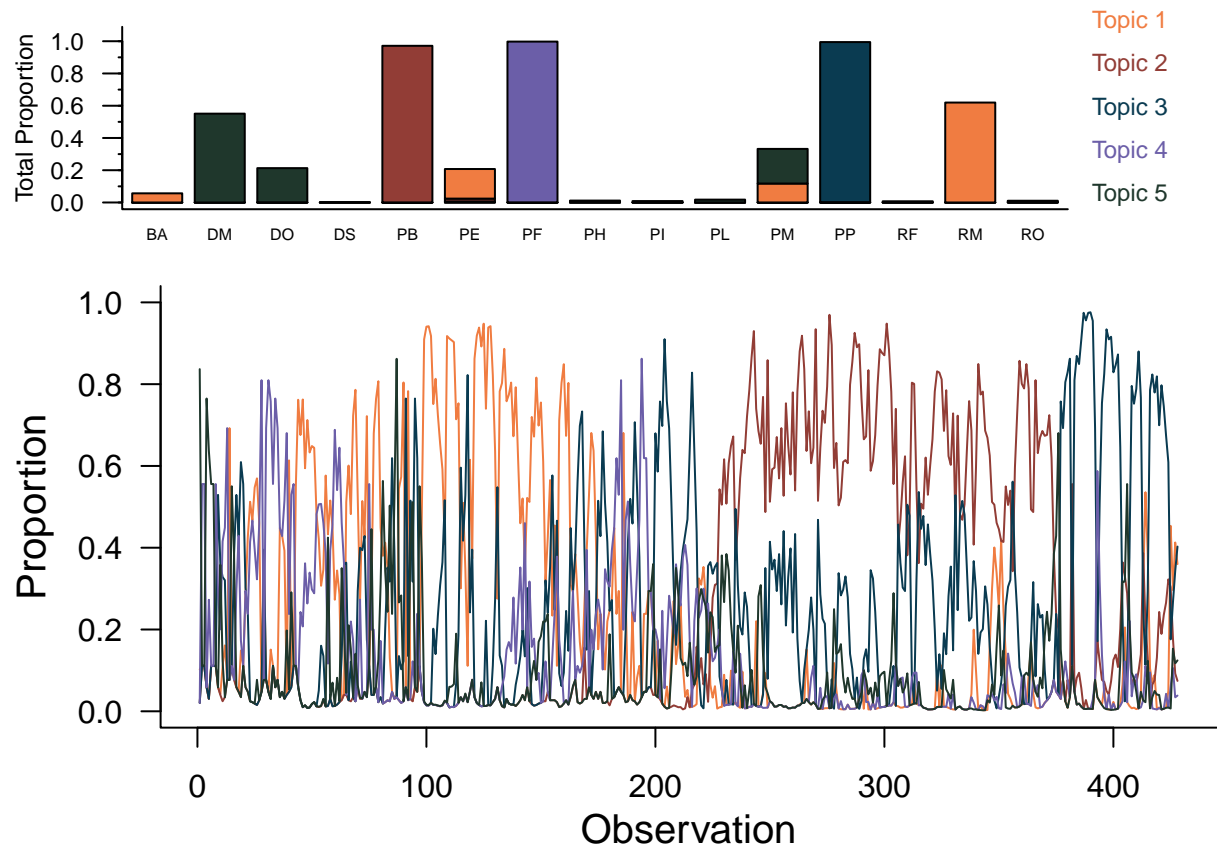
MCMC diagnostics

```
changepoint$MCMCdiagnostics
```

```
## $acceptance_rates
## [1] 0.2458586 0.5534343 0.7905051 0.8741414 0.9051515 0.9053535
##
## $swapping_rates
## [1] 0.1041414 0.1683838 0.4984848 0.7573737 0.8182828
##
## $strip_counts
## [1] 8 10 12 7 6 9
##
## $strip_rates
## [1] 0.0008080808 0.0010101010 0.0012121212 0.0007070707 0.0006060606
## [6] 0.0009090909
```

LDATS data and model - exclosure plots - all weights = 1

LDA



Changepoint model

```
summarize_cps(changepoint$cps, prob = 0.95)
```

```
##           Mean Median Lower Upper   SD MCMCerr  AC10      ESS
## Changepoint_1 224.31   224   221   229 4.22  0.0424 0.1489 1033.0471
## Changepoint_2 373.68   374   369   379 6.85  0.0688 0.4330  404.3194
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

