Class 2: Stochastic volatility models and heteroskedasticity

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Learning outcomes

- Show you some of the things that Bayes can do that `forecast` can't
- Switch to Stan rather than JAGS
- Show you how Stan differs from JAGS
- Mix-up some of the methods we've used so far
  - An AR(1)-SVM model
  - A repeated measures time series
- Do some model comparison with Stan
- Show we can do shrinkage rather than model selection

Which method should I use?

- If your time series is pretty straightforward and you're interested in the results/application then `forecast` is probably your best choice
- If your time series is more complicated and you want to go for

Plot the best fit model

```
with(geese, plot(int_days[o], scale(d13CPl[o])[,1],
                                        ylab = 'd13C',
                    xlab = 'Day of year'))
mu_post = summary(stan_run_rm, pars = c("mu"))$summary[,c(
lines(1:365, mu_post[,1], col = 'red', lty = 2)
lines(1:365, mu_post[,2], col = 'red', lty = 1)
lines(1:365, mu_post[,3], col = 'red', lty = 2)
```