Time Series Analysis

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Outline of the lecture
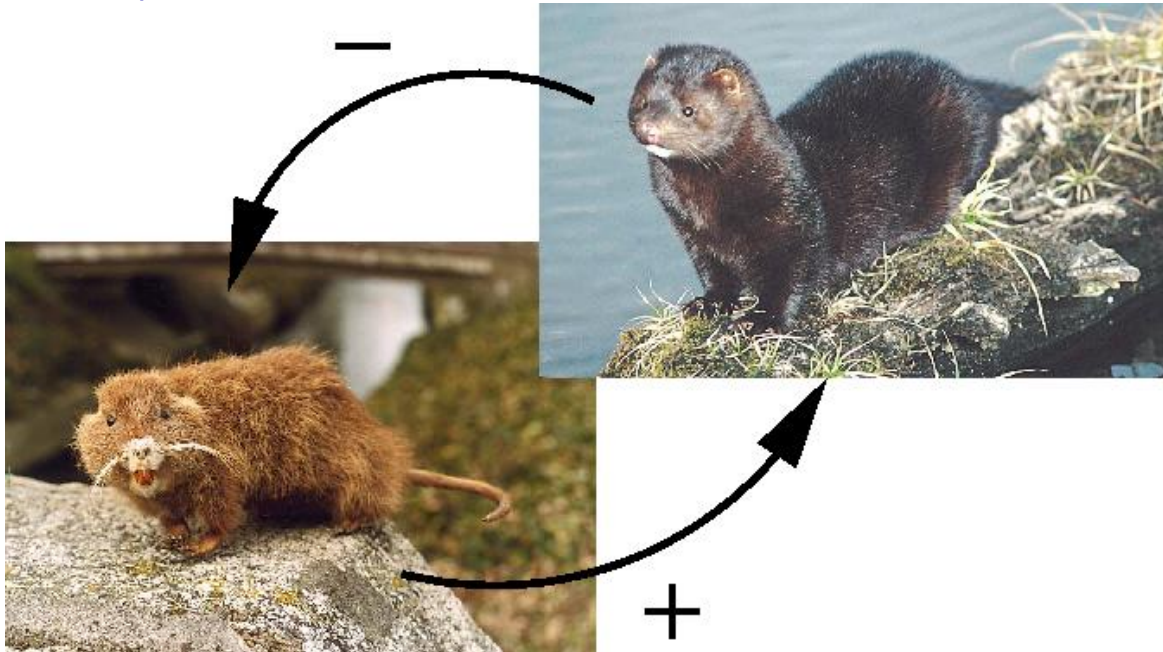
▶ Introduction to marima
▶ Examples

Reading material

▶ A Fast Estimation Method for the Vector Autoregressive Moving Average Model With Exogenous Variables, Henrik Spliid
Journal of the American Statistical Association, Vol. 78, No. 384 (Dec., 1983), pp. 843-849
`http://www.jstor.org/stable/2288194`

Data Analysis

- The first case relates to the interaction of mink and muskrats
- Data source:
  Jones, J.W. (1914) "Fur-farming in Canada", Commission of Conservation Canada, pp.209–214
  http://www.jstor.org/stable/2346944?origin=JSTOR-pdf
- Fur sales, 1850-1911

URL: http://robjhyndman.com/tsdldata/ecology1/

Example – Muskrat and Mink skins traded

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Model Validation

- For the individual residual series; all the methods from Chapter 6.
    - ACF, PACF
    - Sign tests
    - Marginal distribution of residuals
    - Possibly more. . .
- with the extension for the cross correlation as mentioned in Chapter 8.

Additional exercise

Use the marima package to fit a good model to the Mink-Muskrat data.