

Section: [Ordination analysis](#)

Variable selection (constrained ordination)

Theory **R functions** Examples Exercise 

R functions

- **ordistep** (library `vegan`) - forward selection function applicable with functions `rda`, `cca` or `cmdscale`. Comparison of variables is based on AIC criteria and P-values from Monte Carlo permutation test.
- **ordiR2step** (library `vegan`) - similar to previous, but based on R^2_{adj} , and implements three stopping criteria: selection of variables will stop if R^2_{adj} of the selected model starts to decrease, or R^2_{adj} of global model (defined in `scope`) is exceeded, or any remaining variable is not significant at predefined P-value. It can be used with `rda`, `cca` or `capscale` ¹⁾.
- **forward.sel** (library `adespatial`) - forward selection method using `rda` only, and containing stopping rules from Borcard et al. 2008. Has different logic for setting of arguments than the two functions above, but basically returns the same results as `ordiR2step`.

¹⁾

`ordiR2step` used to be limited to only `rda` and `capscale` before; recently, `vegan` implements the permutation method of estimating adjusted R2 for `cca` (Peres-Neto et al. 2006) into the function `RsquareAdj`, and since that time the `ordiR2step` function can handle also formula with `cca` function.

From:

<https://www.davidzeleny.net/anadat-r/> - **Analysis of community ecology data in R**

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Last update: **2019/04/06 00:30**