

# Table of Contents

<b><i>Forward selection (constrained ordination)</i></b> .....	1
R functions .....	1



Section: [Ordination analysis](#)

## Forward 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` <sup>1)</sup>.
- **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`.

<sup>1)</sup>

`ordiR2step` used to be limited to only `rda` and `capscale` before; recently, `vegan` implements the permutation method of estimating adjusted  $R^2$  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.

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