

Pacific Islands Fisheries Science Center  
National Oceanic and Atmospheric Administration (NOAA)  
Honolulu, Hawaii, USA, December 10-14, 2007

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WWWWeb page for free software: <http://www.bio.umontreal.ca/legendre/>

WWWWeb pages for this course : <http://biol09.biol.umontreal.ca/Hawaii07/> (faster) and  
<http://biol10.biol.umontreal.ca/Hawaii07/> (slower)

*Short course on*

## **Recent Advances in Spatial Ecology: Theory and Practice**

0. Introduction to data analysis.
1. Ordination in reduced space: principal component analysis (PCA), principal coordinate analysis (PCoA), correspondence analysis (CA).
2. Transformation of species abundance data tables prior to linear analyses.
3. Measures of similarity and distance, especially for community composition data.
4. Multiple regression. R-square and adjusted R-square. Partial regression.
5. Statistical testing by permutation.
6. Canonical redundancy analysis (RDA) and canonical correspondence analysis (CCA).  
Multivariate analysis of variance by canonical analysis.
7. Forward selection of environmental variables in RDA.
8. Spatial modelling: Origin of spatial structures. Multi-scale modelling of the spatial structure of ecological communities (PCNM). Extensions: MEM, AEM.
9. Spatial structure functions: correlograms, variograms.
10. Cartographic interpolation, kriging.

⇒ *Practicals for these topics using the R statistical language.*