

- 1 An introduction to multivariate analysis.
Lecture 1. Exploring and presenting inter-relationships
- 2 Methods considered here
- 3 Methods not discussed here
- 4 The objectives of multivariate analysis
- 5 Multivariate methods are used in all disciplines
- 6 An example application – chalk stream ecology
- 7 An example - Summarising the differences
- 8 An example – identifying key variables
- 9 General organisation of the data
- 10 A typical data set and question
- 11 A second example
- 12 Types of data
- 13 Mixing different data types
- 14 Transformations
- 15 An example use of a transformation
- 16 Principal Components Analysis (PCA)
- 17 Reducing the dimensions with PCA
- 18 Not reducing the dimensions with PCA
- 19 An example application of PCA
- 20 An example application in 3 dimensions
- 21 An example from archaeology
- 22 Issues to consider when undertaking PCA
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- 24 Issues to consider when undertaking PCA
- 25 Non-Metric Multidimensional Scaling (nMDS)
- 26 How nMDS works
- 27 An example nMDS application
- 28 A second nMDS example from archaeology
- 29 The choice of similarity measure with nMDS
- 30 Interpreting an MDS plot
- 31 Correspondence Analysis
- 32 A simple example of CA

- 33 A simple example of CA the output
- 34 A typical example of CA
- 35 The Arch effect and DECORANA
- 36 Cluster Analysis
- 37 An example of tree clustering
- 38 A second example of tree clustering
- 39 Choosing a distance measure and linkage method
- 40 K-means a divisive method
- 41 Fuzzy K-means
- 42 TWINSpan
- 43 TWINSpan - a hybrid method
- 44 In conclusion