

# Chapter 1

## Methodology

THis is an outline - draft what ever!

### 1.1 Nature of data

#### 1.1.1 Discrete occurrences

##### 1.1.1.1 Spatial databases

##### 1.1.1.2 Postgis

##### 1.1.1.3 Example the GBIF occurrences

THis will be changed because the research questions address this as a main topic.

### 1.1.2 Continuous analysis

#### 1.1.2.1 Raster handling in geospatial databases

#### 1.1.2.2 Raster manipulation in POSTGIS

#### 1.1.2.3 Density analysis

#### 1.1.2.4 Statistical analysis used

### 1.1.3 Object Relational Mapping

#### 1.1.3.1 Theoretical background

The importance of invariance and transformations between realms of paradigms

#### 1.1.3.2 Functional programming vs. object and query languages.

#### 1.1.3.3 Django, Geodjango

## 1.2 Tree implementation

## 1.3 Grid generation

### 1.3.1 Geographic vs geometric space

# References

- Amari, S. and Nagaoka, H. (2000). *Methods of information geometry*. Translations of mathematical monographs,. American Mathematical Society, Providence, RI. 00059362 Joho kika no hoho. English Shun-ichi Amari, Hiroshi Nagaoka ; [translated from the Japanese by Daishi Harada]. ill. ; cm. Includes bibliographical references (p. 187-202) and index.
- Glansdorff, N., Xu, Y., and Labedan, B. (2008). The last universal common ancestor: emergence, constitution and genetic legacy of an elusive forerunner. *Biol Direct*, 3:29. Glansdorff, Nicolas Xu, Ying Labedan, Bernard eng Research Support, Non-U.S. Gov't Review England 2008/07/11 09:00 Biol Direct. 2008 Jul 9;3:29. doi: 10.1186/1745-6150-3-29.
- Pavoine, S. and Bonsall, M. B. (2011). Measuring biodiversity to explain community assembly: a unified approach. *Biol Rev Camb Philos Soc*, 86(4):792–812. Pavoine, S Bonsall, M B eng Research Support, Non-U.S. Gov't Review England 2010/12/16 06:00 Biol Rev Camb Philos Soc. 2011 Nov;86(4):792-812. doi: 10.1111/j.1469-185X.2010.00171.x. Epub 2010 Dec 14.
- Smith, J. U. and Smith, P. (2007). *Introduction to environmental modelling*. Oxford University Press, Oxford ; New York. 2007296741 GBA685447 Jo Smith and Pete Smith. Environmental modelling ill. ; 25 cm. Includes bibliographical references and index.
- Wilson, E. O. (2010). *The diversity of life*. Questions of science. Belknap Press of Harvard University Press, Cambridge, Mass., 1st harvard university press pbk. edition. 2011420458 Edward O. Wilson. ill., maps ; 24 cm. With a new preface, dated 20 May 2010. Questions of science.