

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.