Methodology of the dissertation

PhD candidate: François Leroy

Programme: Environmental Earth Sciences

Department: Applied Geoinformatic and Spatial Planning

"Mapping biodiversity changes across spatio-temporal scales"

Advisor: doc. Ing. Petra Šímová, Ph.D.
Consultant: Mgr. Petr Keil, PhD
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Outline

Literature review about the link between biodiversity facets trends and spatial/temporal scales.

The idea is to take every paper that talk about biodiversity trends (so far using just the species richness seems already a lot of paper) and to list **1)** which biodiversity metric they use **2)** which taxon/taxa they use, **3)** the spatial scale, **4)** the temporal scale and **5)** what is the dynamic (does the biodiversity metric increase/decrease/doesn't change over time/unclear).

Make a table of all these papers and `group_by(taxa) %>% order_by(spatial_scale | temporal_scale)`. Then see if for each taxa we can find a trend (a bit like in Chase *et al.* 2019 Oikos paper | Jarzyna *et al.* 2015 but here I am not making the analysis, just taking the analysis from papers). Best example found so far: Hill & Hamer 2004 (https://besjournals.onlinelibrary.wiley.com/doi/10.1111/j.0021-8901.2004.00926.x)

I am using the "Advanced Research" tab of Web of Science which allows me skim through the entire literature using a convenient syntax. For instance:

```
AB = ((biodiversity OR species richness OR diversity) AND
(temporal trend* OR dynamic*) AND
(bird* OR avia*))
```

From this code, I could change the taxon.

1. Introduction

Dornelas et al. (2014)

References

Dornelas, Maria, Nicholas J. Gotelli, Brian McGill, Hideyasu Shimadzu, Faye Moyes, Caya Sievers, and Anne E. Magurran. 2014. “Assemblage Time Series Reveal Biodiversity Change but Not Systematic Loss.” *Science* 344 (6181): 296–99. https://doi.org/10.1126/science.1248484.