**Morning -> Wallace (2.30)**

Explain theory while going through Wallace workflow

**Afternoon -> application of SDMs to IUCN (AOO, EOO) (1.30)**

30 min lecture, 1 h hands on

<https://www.iucnredlist.org/resources/spatial-data-download> get some data

compare IUCN current practice with SDMs

**Modeling algorithms**

* Maxent
* Bioclim
* GLMMs
* Forests
* HMs

**First step is always the ecological rationale of a study**

* Temporal scale
* Spatial scales
* Processes (Johnson 1980)
  1. Ecological rationale
     1. Scale
     2. Thematic resolution

1. Occurrence data

* Spatial and temporal resolution
* Biases
  + Sampling bias
    - Way to address biases
      * Data filtering
      * Replicating bias in background locations
      * Model detectability or biases processes
  + Detectability
  + Taxonomic biases
* Data types
  + Presence only
  + Presence/absence
  + Detection/non-detection
* Extent of background locations

1. Environmental data
2. Xx
3. xx

General topics for Antoine or us in Introduction

* What is an SDMs
* What is a species ranges – potential and realized
* Niche – Grinnellian and Eltonian (<https://www.science.org/doi/10.1126/science.abl7242> - biotic interactions shape biodiversity in the tropics, perhaps) and Hutchinsonian