

# The "dismo" package (Version 0.1.8)

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## 1 Introduction

The 'dismo' package has a number of functions for species distribution modeling, and other similar modeling work (also known under other names including envelope-modeling and niche-modeling). In these models, locations of occurrence (and perhaps non-occurrence) of a species (or other phenomenon), are used to extract values from spatial predictor variables. These extracted values are used to fit a model predicting presence/absence, or another measure associated with the points. This model can then be used to predict the likelihood of presence at all locations of an area of interest (and perhaps in a future climate).

## 2 Data preparation

### 2.1 Presence data

`gbif()`

### 2.2 Absence data

### 2.3 Background data

### 2.4 Environmental data

`raster::getData`

- 3 Model fitting**
- 4 Model predictions**
- 5 Model evaluation**
  - 5.1 k-fold partitioning
- 6 Profile models**
  - 6.1 Bioclim
  - 6.2 Domain
  - 6.3 Mahalanobis
- 7 Regression models**
  - 7.1 Generalized Linear Models
  - 7.2 Generalized Additive Models
- 8 Machine learning models**
  - 8.1 Maxent
  - 8.2 Boosted Regression Trees
  - 8.3 Random Forest
- 9 Geographic models**
  - 9.1 Distance
  - 9.2 Convex Hulls
- 10 Package dependencies**