

# Species distribution models (SDM)

AZTI

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# Chapter 1

## About

This is a short tutorial for constructing species distribution models in R. It describes the whole process from downloading OBIS and GBIF data, generating pseudo-absence data, including environmental data, fitting the model, validating the model and generating the resulting maps for visualization.

The code is available in the [<https://github.com/Fundacion-AZTI/SDM>] repository and the book is available in



## Chapter 2

# Introduction

Some introduction about SDMs





## Chapter 3

# Data preparation

Bla bla bla

**3.1** Download presence data

**3.2** Create pseudo-absence data

**3.3** Download environmental data

**3.4** Final data set



# Chapter 4

## Model fit

Some introduction about SDMs

### 4.1 Generalised linear models

### 4.2 Generalised additive models

### 4.3 Shape-constrained generalised additive models

One citation is [Citores et al., 2020]



## Chapter 5

# Model selection

Bla bla



## Chapter 6

# Model validation

Bla bla





## Chapter 7

# Prediction and maps

predict from fitted models and produce maps



# Bibliography

L. Citores, L. Ibaibarriaga, D. J. Lee, M. J. Brewer, M. Santos, and G. Chust. Modelling species presence–absence in the ecological niche theory framework using shape-constrained generalized additive models. *Ecological Modelling*, 418:108926, 2020.