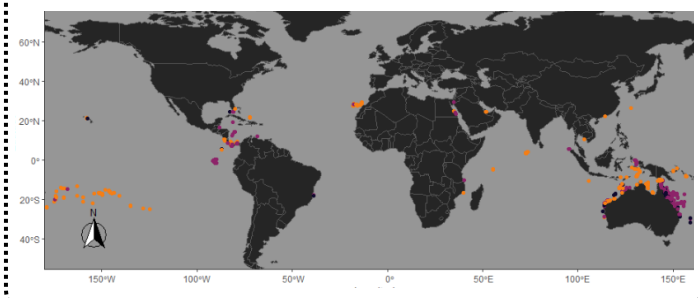
STEP 1

Occurrences & abundance data



Input Matrices

- Site-species Occurrence matrix
- Site-species Abundance matrix
- Site-species Biomass matrix
- Site-covariates matrix: *(Environment + Habitat + Socio-economy + Protection)*

STEP 2

Input

- Input matrices
- Protection status
- Site-covariates matrix

Spatial Linear Mixed Models

- ***N*** species-specific spatial logistic regressions
- ***N*** species-specific spatial Negative Binomial regressions
- ***N*** species-specific spatial Gaussian hurdle regressions

Output

- ***N*** responses to protection in Occurrence
- ***N*** responses to protection in Abundance
- ***N*** responses to protection in Biomass

STEP 3

Input

- Species responses *(Effect size of protection)*
- Species traits *(Trophic level, Maximum length, Rarity)*

Generalized Linear Models

- 1 GLM for species responses in Occurrence
- 1 GLM for species response in Abundance
- 1 GLM for species response in Biomass

Output

- Influence of traits on species response