funbiogeo: an R package for functional biogeography

Principles & Roadmap

Matthias Grenié & Nicolas Casajus, et al. - FREE CESAB Group
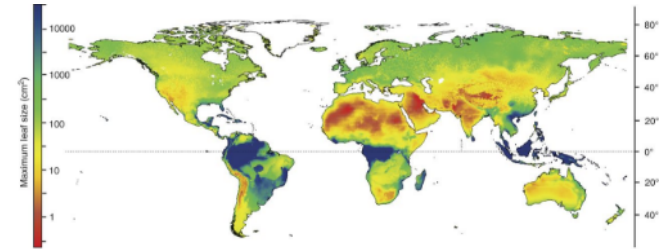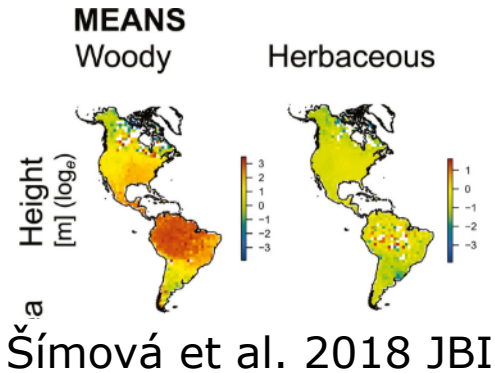
Functional Biogeography: close to than 10 years old?

The emergence and promise of functional biogeography

Cyrille Violle[a,b,1], Peter B. Reich[c,d], Stephen W. Pacala[e], Brian J. Enquist[f,g,h], and Jens Kattge[i,j]

Violle et al. 2014 PNAS

Šímová et al. 2018 JBI

Wright et al. 2017 Science

Increasing availability of data

Occurrences/Plots

Traits

Climate (+other environmental layers)

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Standard workflow... but no standard tool!

Traits   Site-species   Environment

funbiogeo

Traditionally managed by FD packages

Well-covered sites

FD indices

FD maps

FD-environment correlations
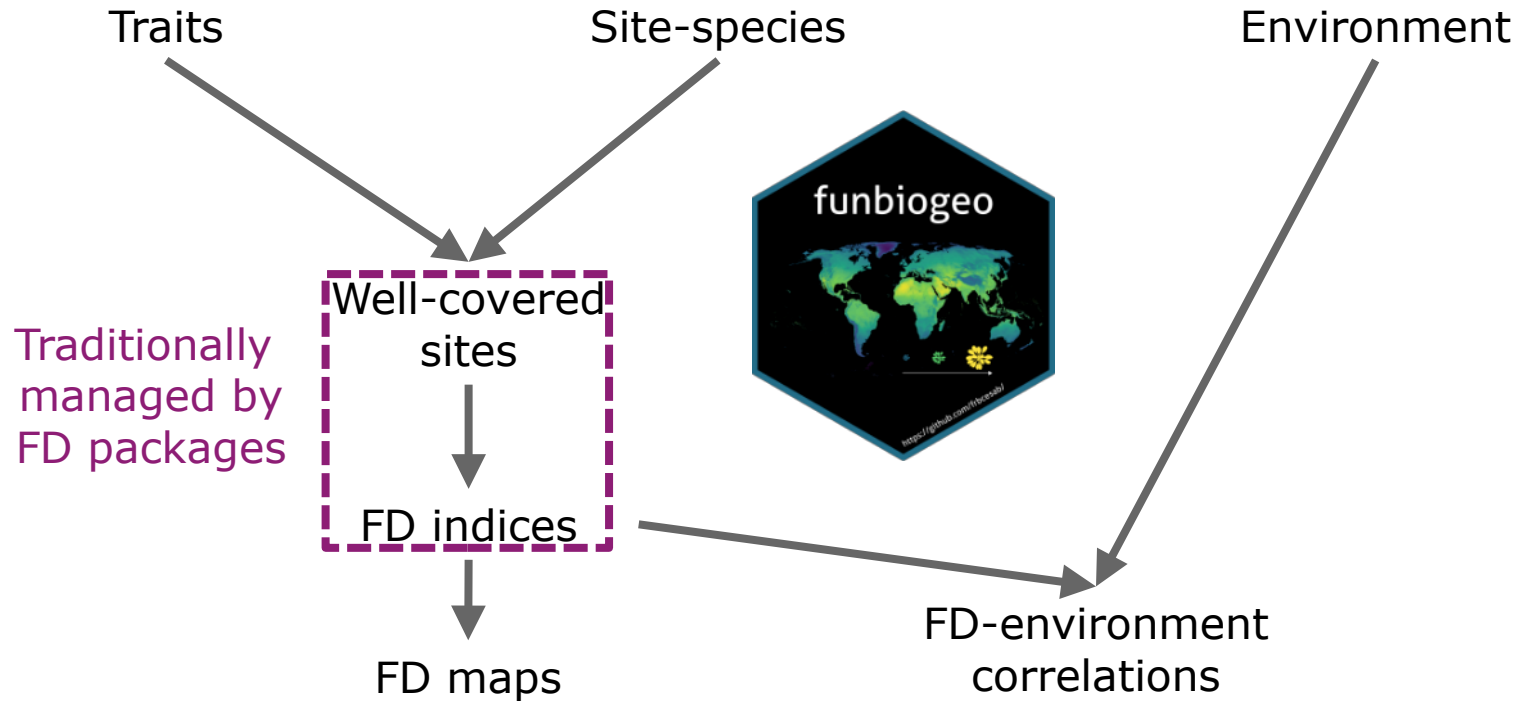
What should funbiogeo do?

1. Provide **standardized functions** to help build a standard workflow for functional biogeography

2. Be a **learning tool** for students and researchers interested in functional biogeography

3. Provide **diagnostic plots** to help functional ecologists navigate their analyses

4. Be **agnostic** about nature of functional diversity indices computed (many other good tools exist for that)

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Previously discussed roadmap
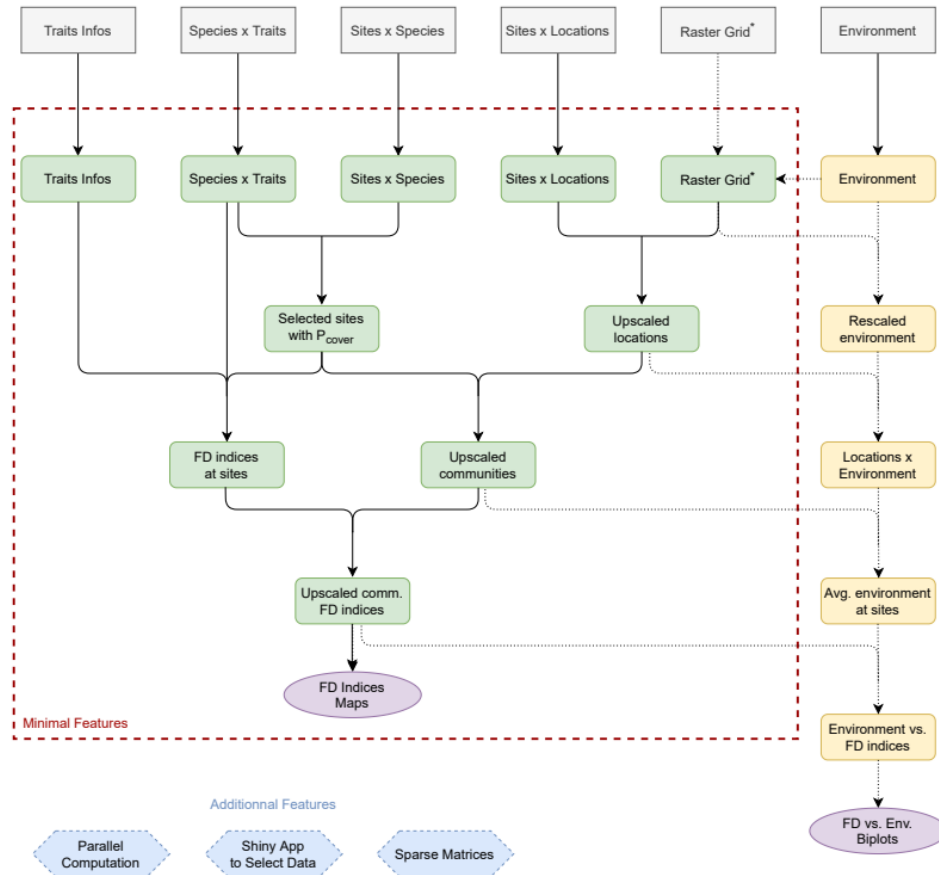
Previously discussed roadmap: what has been achieved
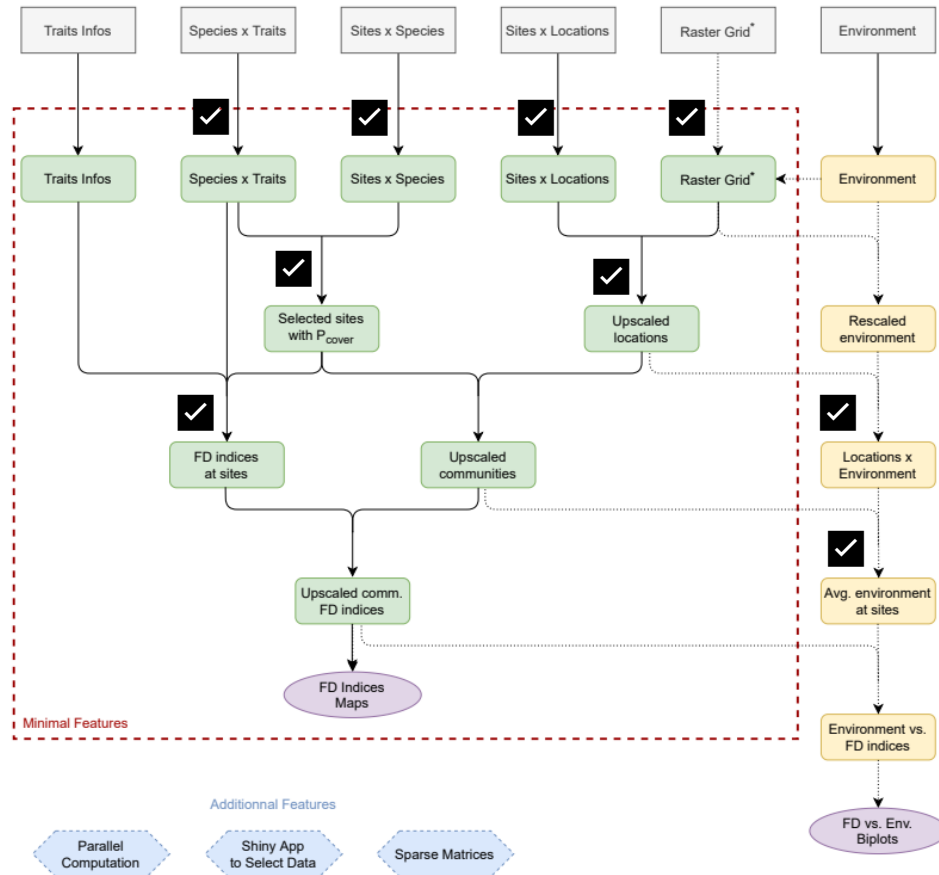
What still needs to be done

Works with **non-continuous traits**

Add **nice default helper plots**:
1. Trait coverage visualization
2. Site-mapping visualization
3. Actual sites environmental coverage visualization

Add **discrete categorization** between **sites** and/or **species** (groups of sites/species)

Temporal dimension of sites

Think about **local trait measurements** inclusion

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@LeNematode

https://rekyt.github.io/

Thank you!

**We welcome any contribution
ideas, suggestions, or even code
https://github.com/FRBCesab/funbiogeo**

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