

# Revisiones Sistemáticas y Análisis Bibliométrico en biodiversidad: "PRISMA, bibliometrix, y otras herramientas de IA"

Simposio BIODATA, 10 diciembre 2024

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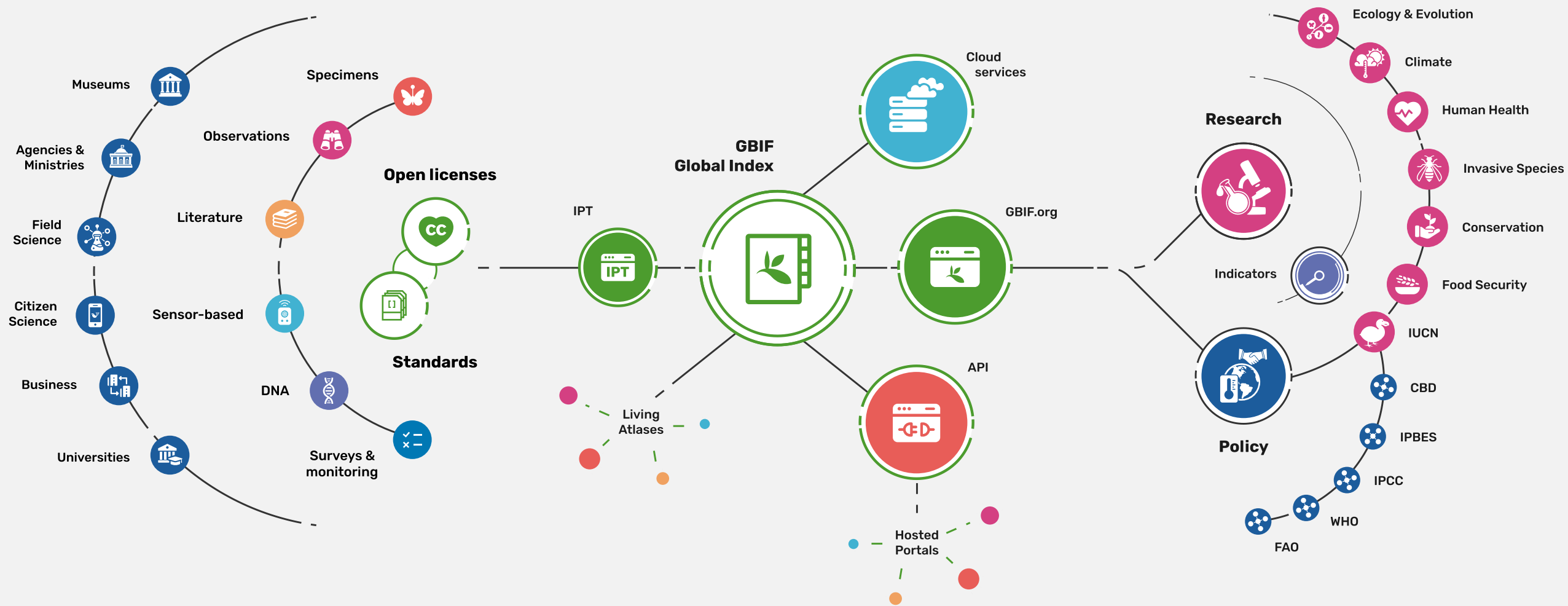
Alonso Jara Riquelme, [ajara2019@udec.cl](mailto:ajara2019@udec.cl)



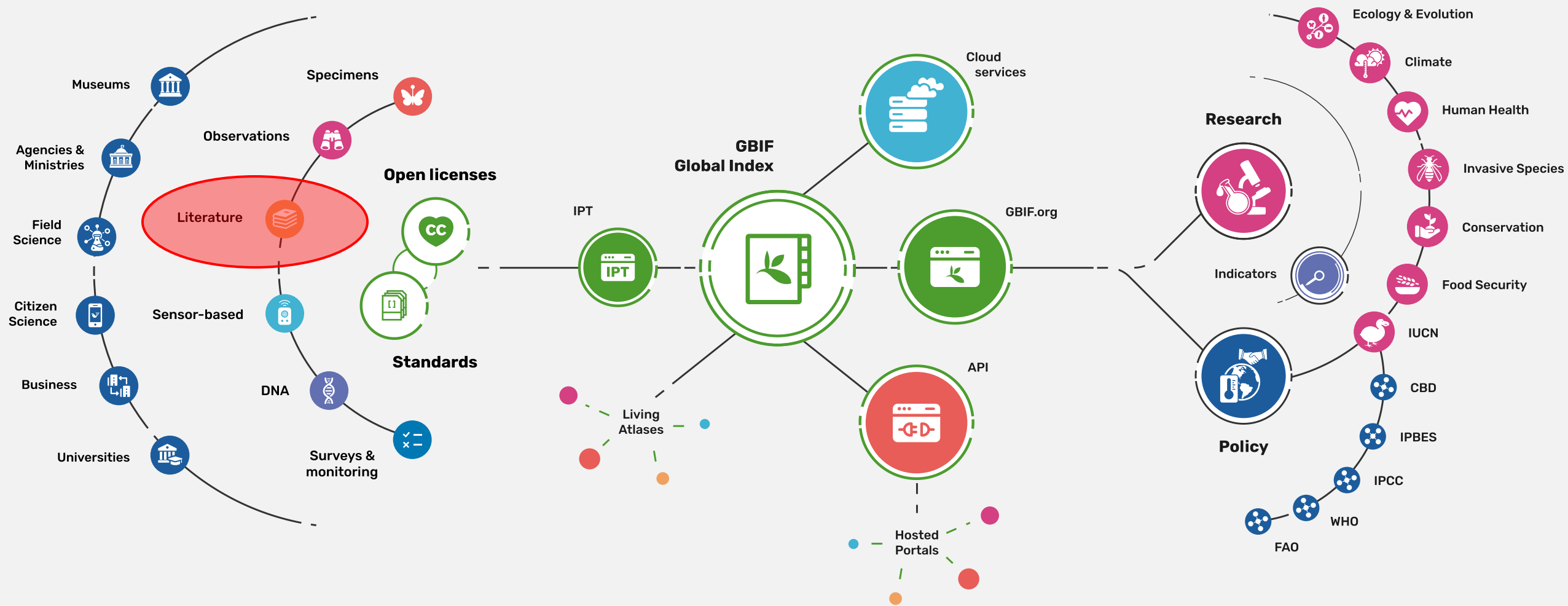
# OBJETIVOS

- Explorar herramientas para **revisiones bibliográficas sistemáticas** rigurosas (**fuentes de datos** de biodiversidad)
- Aplicar **análisis bibliométricos** para mapear el estado de la investigación en biodiversidad

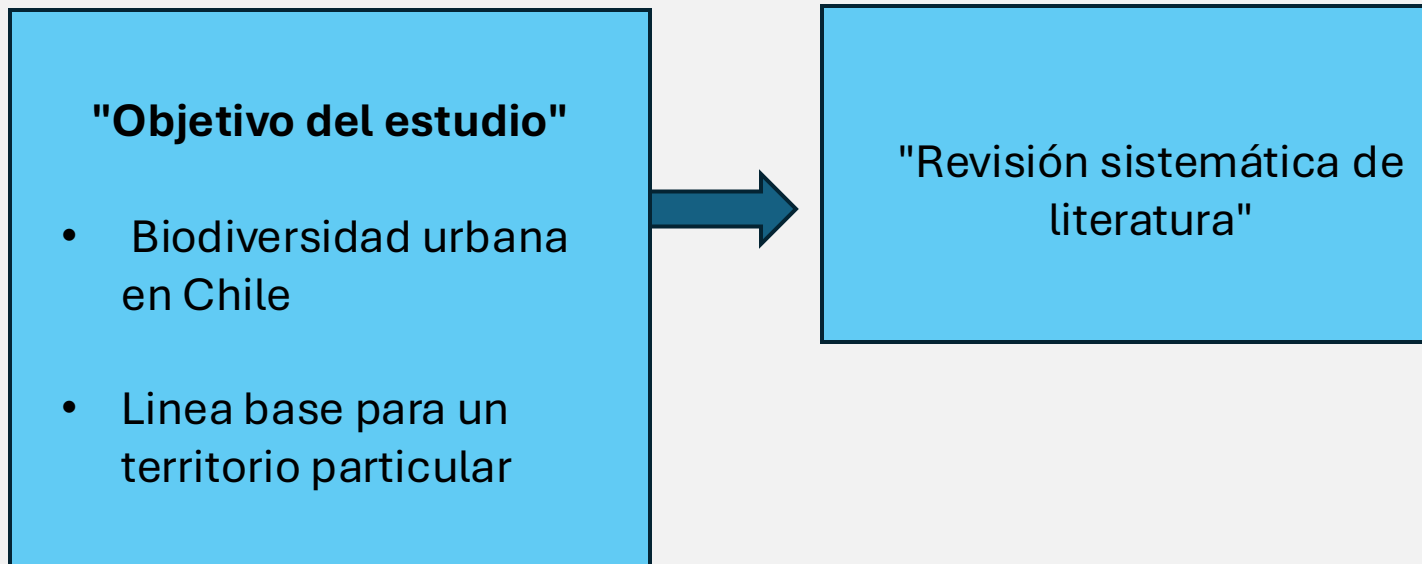
# Evidencia de Biodiversidad para Investigación y Política (GBIF Secretariat 2024)



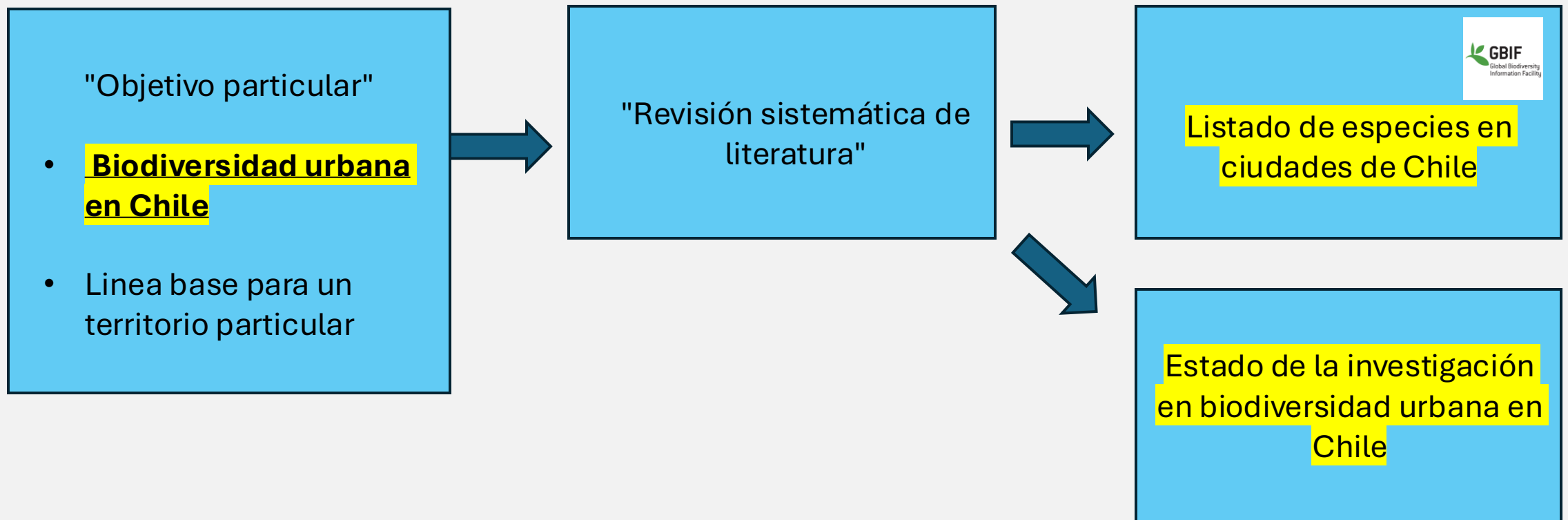
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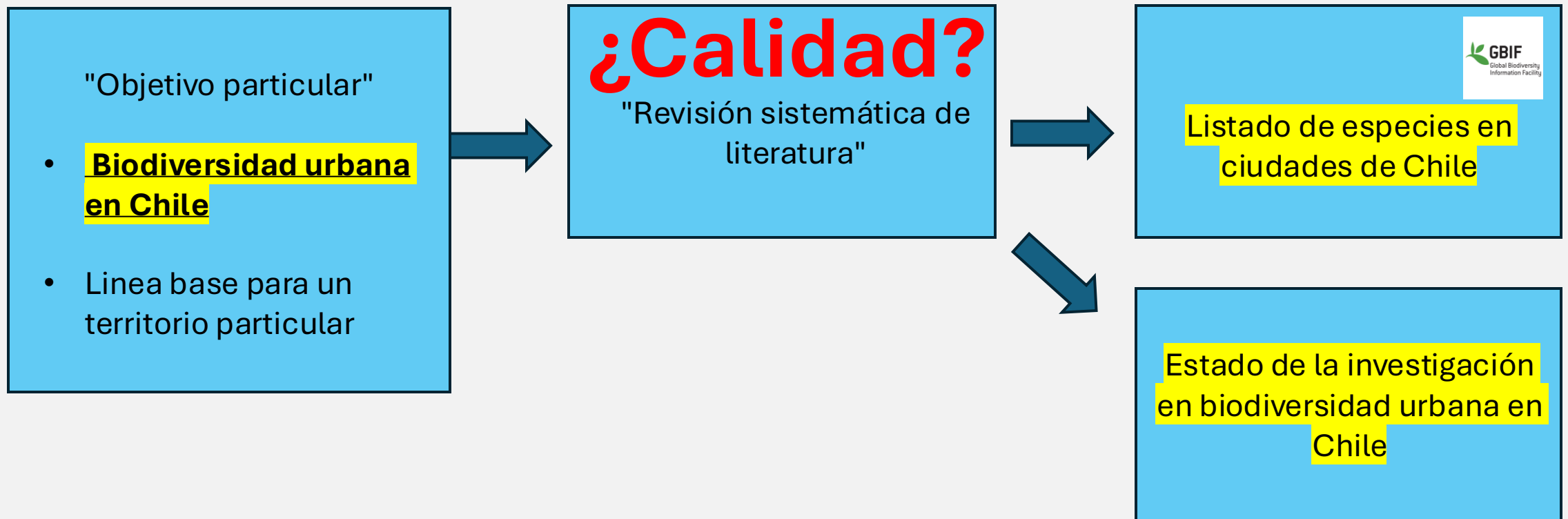
# Revisiones bibliográficas y datos sobre biodiversidad



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# Revisiones bibliográficas y datos sobre biodiversidad



# PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)

"Métodos estructurados, transparentes y reproducibles para cribar y resumir la evidencia"



[PRISMA 2020 statement](#) [PRISMA Extensions](#) [PRISMA Translations](#) [PRISMA Endorsement](#)

## Welcome to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) website

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The main PRISMA reporting guideline (the [PRISMA 2020](#) statement) primarily provides guidance for the reporting of systematic reviews evaluating the effects of interventions. PRISMA 2020 is complemented by various [PRISMA extensions](#), which provide guidance for the reporting of different types or aspects of systematic reviews and other types of evidence synthesis (e.g. scoping reviews).

Development, updating and implementation of the PRISMA reporting guidelines is overseen by the [PRISMA Executive](#), which is currently co-chaired by Prof Joanne McKenzie and Dr Matthew Page at Monash University.

## Key documents

[PRISMA 2020 checklist](#)

[PRISMA 2020 flow diagram](#)

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# PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)...in ecology and evolutionary biology: a PRISMA extension

BIOLOGICAL  
REVIEWS

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## Preferred reporting items for systematic reviews and meta-analyses in ecology and evolutionary biology: a PRISMA extension

Rose E. O'Dea , Malgorzata Lagisz, Michael D. Jennions, Julia Koricheva, Daniel W.A. Noble, Timothy H. Parker, Jessica Gurevitch, Matthew J. Page, Gavin Stewart, David Moher, Shinichi Nakagawa 

First published: 07 May 2021 | <https://doi.org/10.1111/brv.12721> | Citations: 151

 SECTIONS



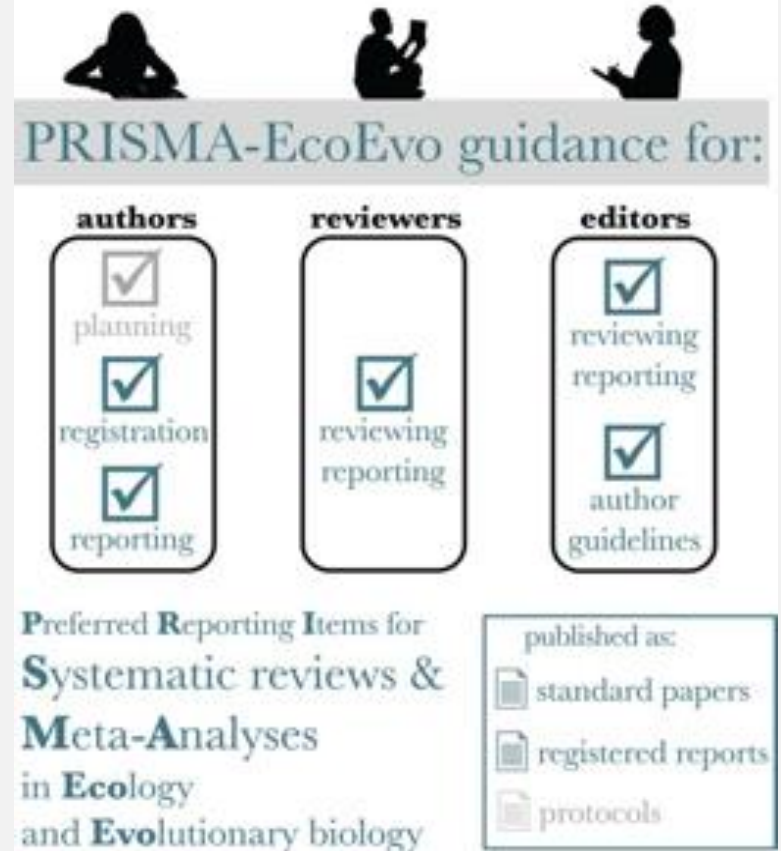
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[RE O'Dea](#), [M Lagisz](#), [MD Jennions](#)... - Biological ..., 2021 - Wiley Online Library

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[Nature Communications](#) **14**, Article number: 4463 (2023) | [Cite this article](#)

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### Pest suppression by bats and management strategies to favour it: a global review

[Carme Tuneu-Corral](#), [Xavier Puig-Montserrat](#), [Daniel Riba-Bertolín](#), [Danilo Russo](#) , [Hugo Rebelo](#), [Mar Cabeza](#), [Adrià López-Baucells](#)

First published: 09 May 2023 | <https://doi.org/10.1111/brv.12967> | Citations: 3



Biological Conservation

Volume 277, January 2023, 109842



### Psychological and physical connections with nature improve both human well-being and nature conservation: A systematic review of meta-analyses

[Gladys Barragan-Jason](#) <sup>a</sup>  , [Michel Loreau](#) <sup>a</sup> , [Claire de Mazancourt](#) <sup>a</sup> ,  
[Michael C. Singer](#) <sup>a b</sup> , [Camille Parmesan](#) <sup>a b c</sup> 

# Introducción al Proceso PRISMA

## ETAPAS

### IDENTIFICACIÓN

- Bases de Datos (Scopus, Pubmed, Dimensions, WOS, Google scholar)
- Estudios previos (*Alonso Jara IA ppt*)
- Sitios web, Organizaciones

Gestores de referencia:

- Zotero
- Mendeley, etc

### CRIBADO

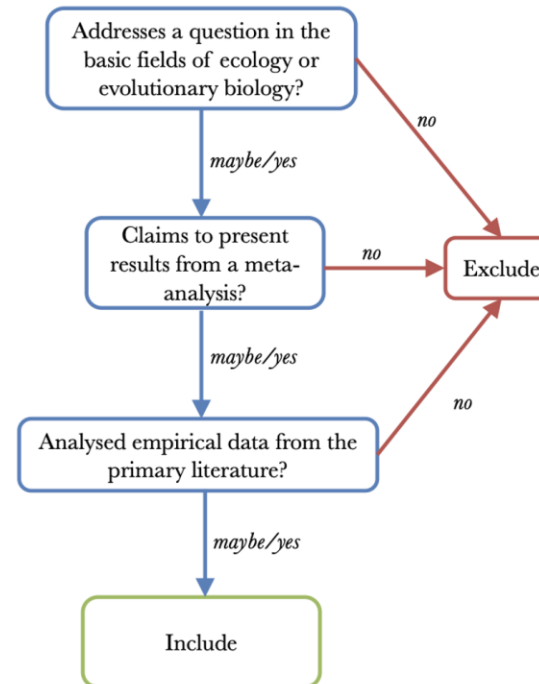


Figure S1.

Decision tree for abstract screening.

### SELECCIÓN

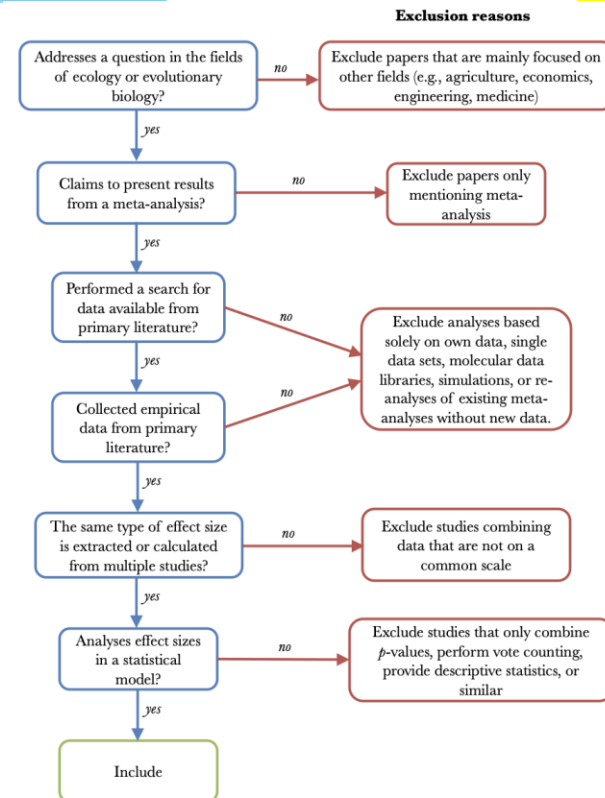


Figure S2.

Decision tree for full-text screening.



# Introducción al Proceso PRISMA

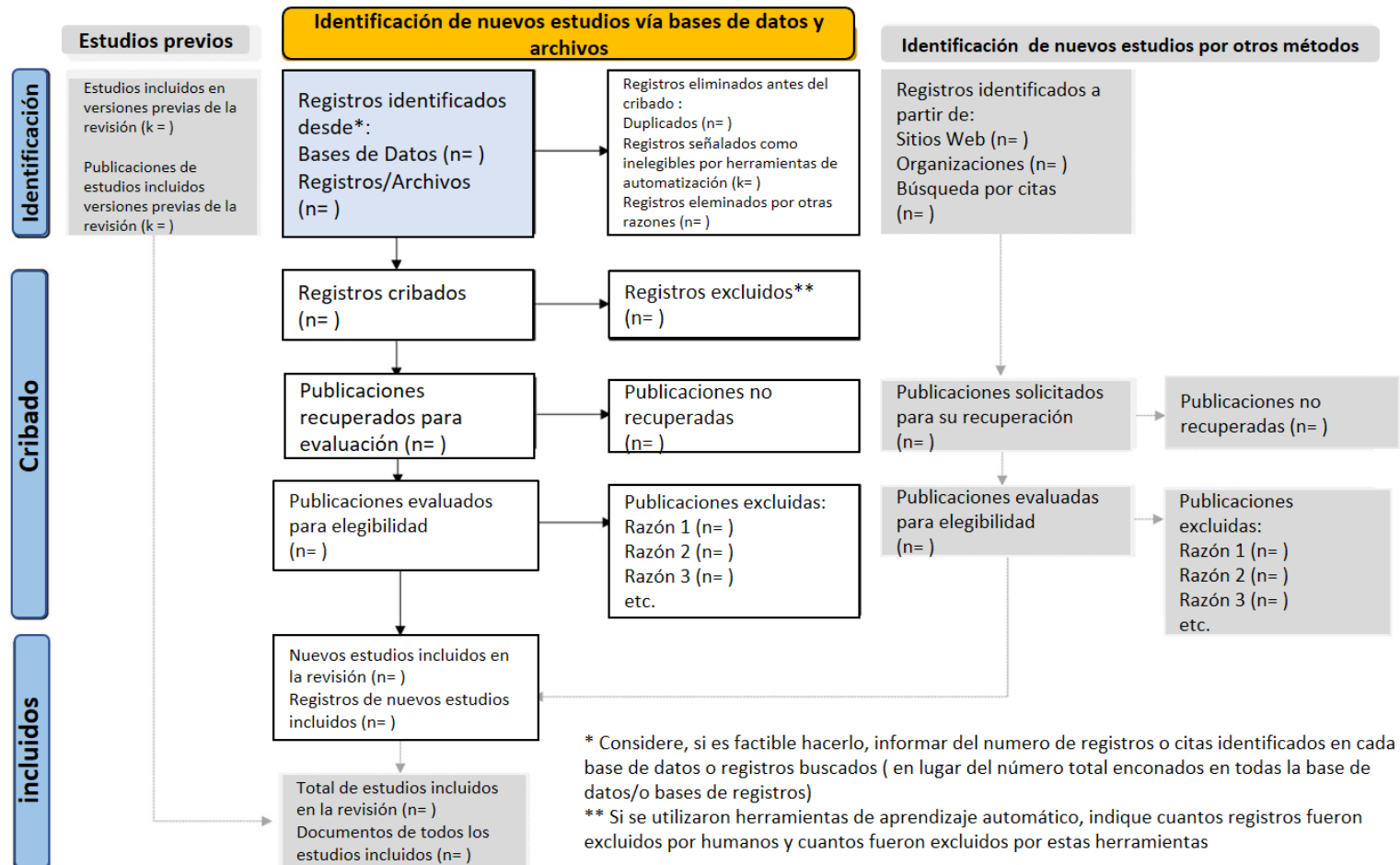
## (1) Check list

Checklist item	Sub-item number	Sub-item	Reported by authors?
Finding studies	5.1	Define the type of search (e.g. comprehensive search, representative sample)	
	5.2	State what sources of information were sought (e.g. published and unpublished studies, personal communications)	
	5.3	Include, for each database searched, the exact search strings used, with keyword combinations and Boolean operators	
	5.4	Provide enough information to repeat the equivalent search (if possible), including the timespan covered (start and end dates)	
Study selection	6.1	Describe how studies were selected for inclusion at each stage of the screening process (e.g. use of decision trees, screening software)	
	6.2	Report the number of people involved and how they contributed (e.g. independent parallel screening)	

Checklist item	Sub-item number	Sub-item	Reported by authors?	Notes
Title and abstract	1.1	Identify the review as a systematic review, meta-analysis, or both		
	1.2	Summarise the aims and scope of the review		
	1.3	Describe the data set		
	1.4	State the results of the primary outcome		
	1.5	State conclusions		
	1.6	State limitations		
Aims and questions	2.1	Provide a rationale for the review		
	2.2	Reference any previous reviews or meta-analyses on the topic		
	2.3	State the aims and scope of the review (including its generality)		
	2.4	State the primary questions the review addresses (e.g. which moderators were tested)		
	2.5	Describe whether effect sizes were derived from experimental and/or observational comparisons		
Review registration	3.1	Register review aims, hypotheses (if applicable), and methods in a time-stamped and publicly accessible archive and provide a link to the registration in the methods section of the manuscript. Ideally registration occurs before the search, but it can be done at any stage before data analysis.		

# Introducción al Proceso PRISMA

## (2) Diagrama de Flujo"







# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

**Objetivo general:** Obtener una visión de las especies que habitan ciudades en Chile, explorando patrones y vacíos de información.

**Preguntas de investigación clave:**

- ¿Qué especies se han registrado en ciudades chilenas?
- ¿Cuáles son las ciudades más estudiadas?

**Potenciales productos:**

- Lista de ocurrencia de especies (Darwin Core- GBIF)
- Reporte sobre la investigación en el tópico (Informe consultoría/paper)

# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

## 1. Estrategia de búsqueda bibliográfica

*-Bases de datos:*

- Scopus: Para literatura académica confiable.

*-Términos clave de búsqueda:*

- ( "biodiversity" OR "species" ) AND ( "cit\*" OR "urban" ) AND Chile

*-Filtros aplicables:*

- Tipo de documento: Artículos científicos
- Área de estudio: excluyendo tópicos no relevantes
- Territorio: Limitado a Chile
- Acceso: Priorizar artículos con acceso abierto.

# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

## 1. Estrategia de búsqueda bibliográfica

**Acción:** Implementar la búsqueda en Scopus

[www.scopus.com](http://www.scopus.com)

**Producto:** Base de datos bibliográfica ([link a datos formato "bib"](#)) (gestor de referencias)

# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

## 2. Generando el checklist PRISMA

Un checklist simple guiará la "identificación, cribado e inclusión" y permitirá documentar cada decisión:

### Criterios de inclusión:

- Estudios realizados en ciudades chilenas.
- Artículos con datos empíricos (i.e., ocurrencias especies urbanas).
- Artículos con coordenadas geográficas; o permite inferir localización
- Estudios en biodiversidad urbana (no rural ni periurbana).

### Criterios de exclusión:

- Estudios en otros países.
- Revisiones sin datos empíricos específicos de Chile.
- Publicaciones sin acceso al texto completo.

# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

## 2. Generando el checklist PRISMA

**Acción:** Generar Checklist (Link aplicación Shiny [PRISMA EcoEvo](#))

**Productos:** Checklist

O'Dea, R.E., Lagisz, M., Jennions, M.D., Koricheva, J., Noble, D.W.A., Parker, T.H., Gurevitch, J., Page, M.J., Stewart, G., Moher, D. and Nakagawa, S. (2021), Preferred reporting items for systematic reviews and meta-analyses in ecology and evolutionary biology: a PRISMA extension. Biol Rev, 96: 1695-1722. <https://doi.org/10.1111/brv.12721>

# PRISMA EcoEvo: "Biodiversidad Urbana en Chile"

## 2. Generando el checklist PRISMA

### Acción:

- Aplicar pasos PRISMA a base de datos bibliográfica ([Link a aplicación Shiny Diagrama PRISMA](#) )

### Productos:

Diagrama de Flujo PRISMA

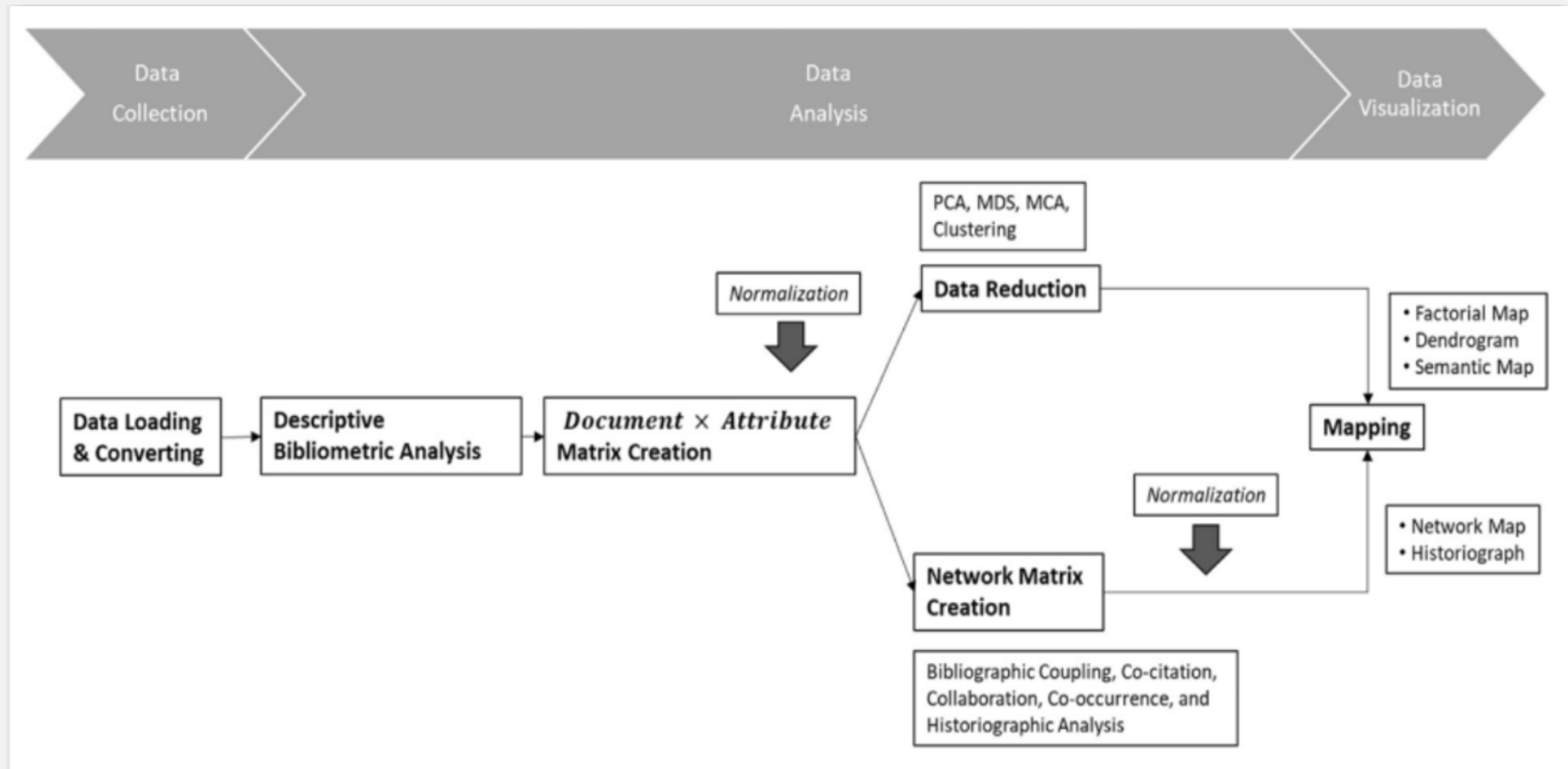
Base de datos depurada -> ocurrencias DwC-GBIF y análisis bibliométrico

Haddaway, N. R., Page, M. J., Pritchard, C. C., & McGuinness, L. A. (2022). PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis Campbell Systematic Reviews, 18, e1230. <https://doi.org/10.1002/cl2.1230>

# Análisis bibliométrico (bibliometrix)

## Análisis bibliométrico: uso métodos estadísticos para

- Cuantificación de la productividad científica, calidad e impacto
- Análisis de estructura intelectual, social y conceptual (dinámica y evolución)





# Análisis bibliométrico (bibliometrix)

## Análisis bibliométrico:

Acción: Análisis bibliometrico en Biblioshiny

- Abrir R (Rstudio)
- Library(bibliometrix)
- Biblioshiny()

*Aria, M. & Cuccurullo, C. (2017) bibliometrix: An R-tool for comprehensive science mapping analysis, Journal of Informetrics, 11(4), pp 959-975, Elsevier.*

# Resultados

## Insumos

- Una lista final de artículos relevantes seleccionados con criterios claros (.bib)(Etapas IDENTIFICACIÓN PRISMA)
- Un checklist simulado utilizando Prisma EcoEvo (Reporte de pasos PRISMA)
- Un diagrama de flujo Prisma (Reporte de pasos PRISMA)
- Ejemplo rápido de análisis bibliométrico aplicado (Vacíos y tendencias en la literatura)

## Productos

- Listado de ocurrencia de especies DwC (checklist y diagrama de flujo)
- Informe / Paper (Vacíos y tendencias en la literatura, checklist, diagrama de flujo)