

Cartographie Systématique

Jonathan Bonfanti et C. Sylvie Campagne

La recherche de références bibliographiques appropriées

1. L'équation de recherche
2. La recherche: les bases de données (WOS, Scopus) et les moteurs de recherche (Google Scholar)
3. La Test-list : construction et intérêt



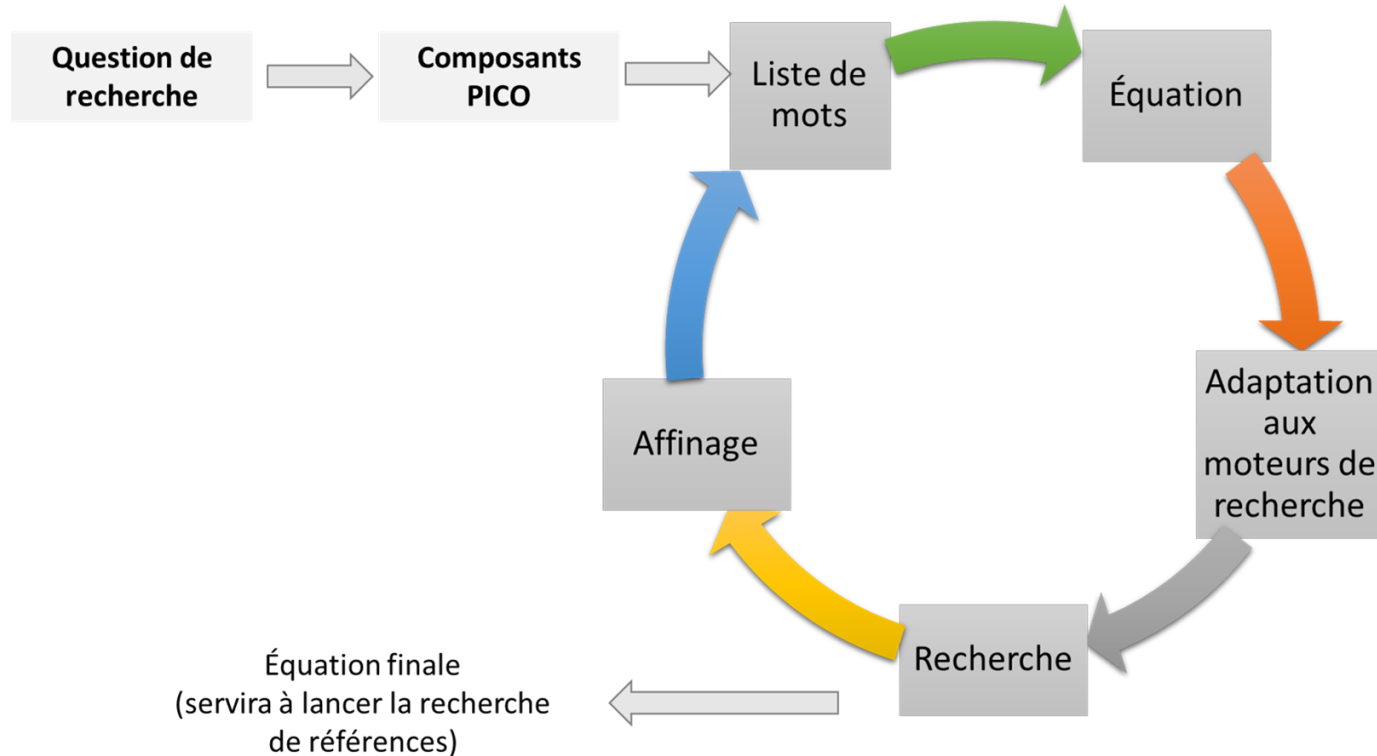
4. À vous de jouer!

Vous devrez définir l'équation de recherche à partir d'une question de recherche

Intervenants : Sylvie, Jonathan

Durée : 1h30

1. Équation de recherche



1. Équation de recherche

Composants PICO (Richardson et al. 1995)

Population : *effet sur quoi ?*

Intervention / Exposition : *effet de quoi ?*

Comparator : *comparé à quoi ? à quelle référence ?*

Outcome : *effet mesuré grâce à quoi ?*

(Context : *quel type d'étude ?*)

1. Équation de recherche

Composants PICO (Richardson et al. 1995)

Population : *effet sur quoi ?*

→ Toute taxon non-planifié / non cultivé

Intervention / Exposition : *effet de quoi ?*

→ Toute pratique agricole

Comparator : *comparé à quoi ? à quelle référence ?*

→ Témoin agricole ou milieu naturel de réf.

Outcome : *effet mesuré grâce à quoi ?*

→ Effect-size représentant une métrique de biodiv.

(Context : *quel type d'étude ?*)

→ Méta-analyses uniquement

Exemple avec le projet Agri-TE :
Quel est l'effet des pratiques agricoles sur la biodiversité au niveau global ?

1. Équation de recherche

Établir la liste de mots qui servira à construire l'équation de recherche

biodiversity, soil fauna, birds, butterflies

→ Toute taxon non-planifié / non cultivé

tillage, fertilisers, pesticides

→ Toute pratique agricole

croplands, forest

→ Témoin agricole ou milieu naturel de réf.

species richness, biomass, Shannon's diversity

→ Effect-size représentant une métrique de biodiv.

meta-analyses

→ Méta-analyses uniquement

Exemple avec le projet Agri-TE :
Quel est l'effet des pratiques agricoles sur la biodiversité au niveau global ?

1. Équation de recherche

Construire l'équation de recherche en s'adaptant aux moteurs de recherche (ex : WoS)

TS=((biodiversity OR soil fauna OR birds OR butterflies)

AND (tillage OR fertilisers OR pesticides)

AND (croplands OR forest)

AND (species richness OR biomass OR Shannon's diversity)

AND (meta-analyses))

Topic (title, abstract,
keywords, keywords plus)

Opérateurs logiques et
booléens

1. Équation de recherche

Lancer la recherche dans le Web of Science

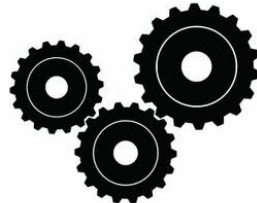
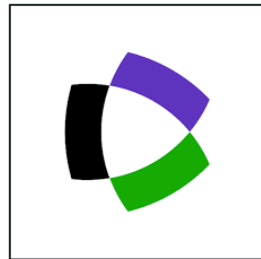
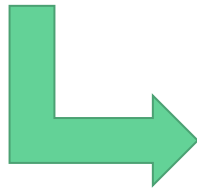
TS=(biodiversity OR soil fauna OR birds OR butterflies)

AND (tillage OR fertilisers **OR** pesticides)

AND (croplands OR forest)

AND (species richness OR biomass OR Shannon's diversity)

AND (meta-analyses)



200 résultats, c'est pas assez !
20 000 résultats, c'est trop !
Affinage nécessaire...

1. Équation de recherche

Explorer les différentes pistes d'affinage

TS=((biodiversity OR soil fauna OR birds OR butterflies)

AND (tillage OR fertilisers OR pesticides)

AND (croplands OR forest)

AND (species richness OR biomass OR Shannon's diversity)

AND (meta-analyses))

Expression exactes

“soil fauna”

Troncatures

pesticid* , pesticide\$

Exclusion

NOT (medical science OR
economy)

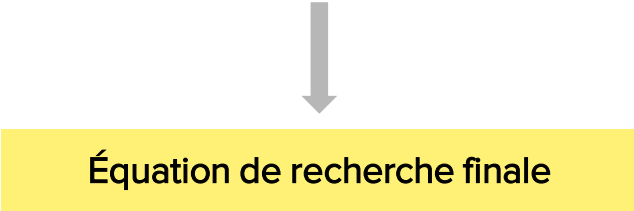
Thématique

soil fauna OR (earthworms
OR spiders OR collembola
OR springtails)

1. Équation de recherche

Processus itératif qui peut (doit ?) être long

Ex : Foo et al. (2021)



Moteurs de recherche

Initial search string	1	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation") AND ("immune challeng*" OR "immunochalleng*" OR "infect*")) NOT (load OR human OR people))
159 results		
Add inclusion terms	2	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "fitness") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
4,360 results		
Edit inclusion term	3	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
493 results		
Add inclusion terms	4	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "Life History Trade-Off*" OR "life history") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
2,489 results		
Change inclusion term	5	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "Life History Trade-Off*" OR life-history OR "trade off") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
1,819 results		
Delete inclusion term	6	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "reproductive success" OR "Life History Trade-Off*" OR trade-off) AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
1,155 results		
Add inclusion term	7	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "reproductive success" OR "Life History Trade-Off*" OR "Phenotypic Plasticity") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people))
1,429 results		
Add exclusion terms	8	TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "reproductive success" OR "Life History Trade-Off*" OR "Phenotypic Plasticity") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin*)) NOT (load OR human OR people OR men OR women OR infant* OR rat OR rats OR mouse OR mice OR pig* OR pork OR beef OR cattle OR sheep OR lamb* OR chicken* OR calf* OR horse*))
1,141 results		
Pilot 100 papers to check hit rate. 6% hit rate. Continue refining.		
Final search string		TS = ((("terminal investment" OR "reproductive effort" OR "fecundity compensation" OR "reproductive compensation" OR "reproductive fitness" OR "reproductive investment" OR "reproductive success" OR "Life History Trade-Off*" OR "Phenotypic Plasticity" OR "pre-copulatory NEAR/5 trait*" OR "sexual NEAR/5 weapon*" OR "sexual NEAR/5 ornament*" OR "post-copulatory NEAR/5 trait*" OR "ejaculate quality" OR "sperm quality" OR "mating effort" OR "parental care") AND ("immune challeng*" OR "immunochalleng*" OR "infect*" OR lipopolysaccharide OR lps OR phytohemagglutinin OR pha OR "sheep red blood cells" OR srbc OR implant OR vaccin* OR nylon OR sephadex)) NOT (load OR human OR people OR men OR women OR infant* OR rat OR rats OR mouse OR mice OR pig* OR pork OR beef OR cattle OR sheep OR lamb* OR chicken* OR calf* OR horse* OR infective))
1,567 results (~10% hit rate)		

2. Où chercher les articles ?

- Bases de données Bibliographiques
 - e.g. WoS, Scopus, Pubmed
- Outils de recherche web
 - e.g. Google, Google Scholar
- Sources de littérature grises
 - Organisational websites
 - Thesis repositories

Scopus®

PubMed

WEB OF SCIENCE™



ETHOS
ELECTRONIC THESES ONLINE SERVICE
Opening access to UK theses



2. Où chercher les articles ?

Les Bases de données Bibliographiques

- Web of Science
- Scopus
- Agricola
- AGRIS (FAO)
- Academic Search Premier
- Biological Abstracts
- CAB Abstracts
- etc.

3. Où chercher la littérature grise?

- ‘File drawer’ research / résultats de recherche non publiés
 - Les articles non finis/ publiés/ acceptés
 - Les thèses
 - Les résultats “inintéressants”
 - Etudes non académiques
 - Les rapports techniques
 - Les documents gouvernementaux
 - Les rapports internes
- tous les résultats non destinées à une publication académique

3. Où chercher la littérature grise?

- **‘File drawer’ research**
 - Calls for evidence (social media, networks)
 - Thesis databases (e.g. eThOS)
 - Google Scholar, Google
 - Pre-print servers (e.g. ArchivX)
- **Etudes non académiques**
 - Calls for evidence
 - Organisational websites
 - Google Scholar

3. Où chercher les articles ?

Attention aux variations des bases de données dans l'équation de recherche !!!

- Certaines utilisent un langage différent pour la recherche
- Par exemple, \$ au lieu de *.
- Options supplémentaires (à l'intérieur ou à proximité)
- Les fichiers d'aide sont utiles !
- Vérifiez les options
- Demandez l'aide d'un spécialiste si nécessaire
- ENREGISTREZ TOUT

Example with web of science

WEB OF SCIENCE™ THOMSON REUTERS™

Search Web of Science™ Core Collection My Tools Search History Marked List

Welcome to the new Web of Science! [View a brief tutorial.](#)

Basic Search

Example: oil spill* mediterranean Topic Search

[Click here for tips to improve your search.](#)

[+ Add Another Field](#) | [Reset Form](#)

TIMESPAN

All years

From 1945 to 2017

MORE SETTINGS

Web of Science Core Collection: Citation Indexes

- Science Citation Index Expanded (SCI-EXPANDED) --1945-present
- Social Sciences Citation Index (SSCI) --1956-present
- Arts & Humanities Citation Index (A&HCI) --1975-present
- Conference Proceedings Citation Index- Science (CPCI-S) --1990-present
- Conference Proceedings Citation Index- Social Science & Humanities (CPCI-SSH) --1990-present
- Book Citation Index- Science (BKCI-S) --2005-present
- Book Citation Index- Social Sciences & Humanities (BKCI-SSH) --2005-present
- Emerging Sources Citation Index (ESCI) --2015-present

Data last updated: 2017-02-07

Auto-suggest publication names
(The Autosuggest service is not available.)

Default Number of Search Fields to Display
1 field (Topic)

Example with web of science

The screenshot displays the Web of Science search interface. At the top, the Clarivate logo is on the left, and 'English' and 'Products' are on the right. Below the logo, 'Web of Science' and a search bar are visible. The main search area is titled 'DOCUMENTS' and 'RESEARCHERS'. The search criteria are 'Web of Science Core Collection' and 'Editions: All'. There are three tabs: 'DOCUMENTS', 'CITED REFERENCES', and 'STRUCTURE'. The search input field contains the text 'Example: liver disease india singh systematic map france'. Below this, there are two rows of search filters, each with an 'And' dropdown and an 'All Fields' dropdown. The first filter row contains 'Example: liver disease india singh' and the second filter row contains 'Example: liver disease india singh'. A 'Publication Date' filter is set to 'All years (1900 - 2022)'. There are '+ Add row' and 'Advanced Search' buttons. At the bottom right of the search form, there are 'Clear' and 'Search' buttons. A promotional banner at the bottom of the page reads 'Jump back into your research - try out our new personalized homepage dashboard.' with a 'Sign in to access' button. The footer shows the date 'jeudi, 29 septembre 2022' and the time '16:47 29/09/2022'.

Example with web of science

The screenshot displays the Web of Science search interface. At the top, the Clarivate logo is on the left, and 'English' and 'Products' are on the right. Below the logo, 'Web of Science' and a search bar are visible. A navigation menu on the left includes icons for home, search, and notifications. The main search area has two tabs: 'DOCUMENTS' (selected) and 'RESEARCHERS'. Below the tabs, the search scope is set to 'Web of Science Core Collection' and 'Editions: All'. There are three sub-tabs: 'DOCUMENTS', 'CITED REFERENCES', and 'STRUCTURE'. A search input field is highlighted with a red border, containing the text 'systematic map france'. To the left of the input field is a dropdown menu set to 'All Fields'. Below the search field are buttons for '+ Add row', '+ Add date range', and 'Advanced Search'. To the right of the search field are 'Clear' and 'Search' buttons. At the bottom, there is a promotional banner for a personalized homepage dashboard with a 'Sign in to access' button. The footer includes 'Universite Pierre et Marie Curie' and 'Institution Image'.

Example with web of science

The screenshot displays the Clarivate Web of Science search interface. At the top, the search bar contains the query "systematic map france (All Fields)", which is highlighted with a red box. Below the search bar, the results are summarized as "2,139 results from Web of Science Core Collection for:". The interface includes navigation options like "Analyze Results", "Citation Report", and "Create Alert". On the left, there are filters for "Refine results" and "Filter by Marked List". The main results area shows two entries:

- 1 Mapping of Soils and Land-Related Environmental Attributes in France: Analysis of End-Users' Needs**
Richet-de-Forges, AC; Arrouays, D; Le Gall, M
May 2 2019 | SUSTAINABILITY 11 (10)
The 1,250,000 soil mapping program of France is nearly complete. Although mapping has been conducted using conventional methods, there is a discernible need to obtain more precise soil data using other methods, and this is attracting considerable attention. However, it is currently not possible to implement a conventional and systematic program throughout the French territory, as the cost of ac
Context Sensitive Links Free Full Text from Publisher ***
10 Citations
41 References
- 2 KPIs for Software Ecosystems: A Systematic Mapping Study**
Fotrousi, F; Fricker, SA; Le Gall, F
5th International Conference on Software Business (ICSOB)
2014 | SOFTWARE BUSINESS: TOWARDS CONTINUOUS VALUE DELIVERY 182, pp.194-+
To create value with a software ecosystem (SECO), a platform owner has to ensure that the SECO is healthy and sustainable. Key Performance Indicators (KPI) are used to assess whether and how well such objectives are met and what the platform owner can do to improve. This paper gives an overview of existing research on KPI-based SECO assessment using a systematic mapping of research publications
Context Sensitive Links ***
12 Citations
44 References

The bottom right corner of the screenshot shows the system clock: 16:47 on 29/09/2022.

Example with web of science

DOCUMENTS CITED REFERENCES STRUCTURE

Example: water consum*
systematic map france

+ Add row + Add date range Advanced Search

Clear Search

Clarivate

Web of Science™ Search

Results for systematic map ... Results for systematic map france (Title)

3 results from Web of Science Core Collection for:

systematic map france (Title)

Analyze Results Citation Report Create Alert

Copy query link

Publications You may also like...

Refine results

Search within results...

Filter by Marked List

Quick Filters

- Review Article 1
- Open Access 1

Authors

- Show Researcher Profiles
- Bispo, Antonio 1
- Saby, Nicolas P. A. 1
- Moncel, Marie-Helene 1
- Briand, Olivier 1
- Boulio, Yves 1

See all >

Publication Years

0/3 Add To Marked List Export

Sort by: Relevance < 1 of 1 >

1 Systematic surveys of a valley between Rhone and Loire Rivers (France). Mapping of the human occupation at the end of the Acheulean?

Moncel, M-H; Arzarello, M and Boulio, Y

Nov-dec 2017 | ANTHROPOLOGIE 121 (5) , pp.428-450

40 References

Systematic surveys on the Rhins Valley, a little tributary of the Loire River (South East France), have yielded lithic assemblages for more than 20 years. The number of open-air localities totals at that moment 28. The assemblages are composed for the most of bifaces, cores, including many Levallois cores, and flakes. Although the number of pieces varies in localities, data recorded for more th

... Show more

Context Sensitive Links Full Text at Publisher ***

Related records

2 The Early Stage of the COVID-19 Outbreak in Tunisia, France, and Germany: A Systematic Mapping Review of the Different National Strategies

Laffet, K; Haboubi, E; (-); Bothan-Tondeur, M

Aug 2021 | INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH 18 (16)

1 Citation

59 References

The multitude of national strategies used against the COVID-19 pandemic makes it necessary to review and synthesize them in order to identify potential gaps and shortcomings, and to help prioritize future control efforts. This systematic mapping review is aimed at identifying the coronavirus pandemic management strategies adopted by France, Tunisia, and Germany during the early stage of the CDV

... Show more

Context Sensitive Links Free Full Text from Publisher ***

Related records

Example with Scopus

The screenshot displays the Scopus search homepage. At the top left is the Scopus logo. The top right contains navigation links for Search, Lists, Sources, and SciVal, along with 'Create account' and 'Sign in' buttons. The main heading is 'Start exploring' with the tagline 'Discover the most reliable, relevant, up-to-date research. All in one place.' Below this are tabs for 'Documents', 'Authors', and 'Affiliations', and a 'Search tips' link. The search area features two input fields, each with a dropdown menu set to 'Search within Article title, Abstract, Keywords' and a 'Search documents' button. A logical operator 'AND' is positioned between the two fields. At the bottom of the search area are links for '+ Add search field', '+ Add date range', and 'Advanced document search >', along with a 'Search Q' button. Below the search area is a 'Search History' section with a 'Saved Searches' link. A message states: 'Start searching and your history will appear here. If you need help to start searching, see our [search tips](#).' At the bottom, a section titled 'Learn more about what Scopus can do for you' includes four icons and their descriptions: 'Get noticed by the right people' (Claim your author profile to better showcase your work), 'Find and follow experts' (Discover and follow peers and experts. Use alerts), 'Discover and get inspired' (Dive into curated, relevant and linked content. Use alerts), and 'Browse with ease of mind' (To ensure your safety we only index quality).



Example with Publish or Perish

Harzing's Publish or Perish (Windows GUI Edition) 8.2.3883.8074

File Edit Search View Help

My searches

- Trash

Search terms	Source	Papers	Cites	Cites/year	h	g	hI,norm	hI,annual	hA	acc10
(marine OR coastal OR ocean) A...	Google Scho...	500	132703	5529.29	155	361	92	3.83	55	278

No search selected [Help](#)

Select an existing search to inspect or modify it, or click one of these buttons to create a new search.

Crossref*
OpenAlex*
Import External Data...

[About importing external data](#)

* Free data source

** Free registration required

*** External subscription

Google Scholar*
Scopus**

Google Scholar Profile*
Semantic Scholar**

PubMed*
Web of Science***

Tools

Preferences...

[Online User's Manual](#)

[Frequently Asked Questions](#)

[Training Resources](#)

[YouTube Channel](#)

[Become a PoP Supporter](#)

Cites	Per year	Rank	Authors	Title	Year	Publication	Publisher

Citation metrics [Help](#)

Publication years:

Citation years:

Papers:

Citations:

Cites/year:

Cites/paper:

Authors/paper:

h-index:

g-index:

hI,norm:

hI,annual:

hA-index:

Papers with ACC >= 1,2,5,10,20:

Copy Results ▾

Save Results ▾

Paper details [Help](#)

Select a paper in the results list (to the left of this pane) to see its details here.

Copy Paper Details ▾



Example with Publish or Perish

Harzing's Publish or Perish (Windows GUI Edition) 8.2.3883.8074

File Edit Search View Help

My searches

- Trash

Search terms	Source	Papers	Cites	Cites/year	h	g	hI,norm	hI,annual	hA	acc10
(marine OR coastal OR ocean) A...	Google Scho...	500	132703	5529.29	155	361	92	3.83	55	278

Google Scholar search [Help](#)

Authors: Years: 0 - 0

Publication name: ISSN:

Title words:

Keywords:

Maximum number of results: Include: CITATION records Patents

Tools

- [Online User's Manual](#)
- [Frequently Asked Questions](#)
- [Training Resources](#)
- [YouTube Channel](#)
- [Become a PoP Supporter](#)

Cites	Per year	Rank	Authors	Title	Year	Publication	Publis
<input checked="" type="checkbox"/> h 184	15.33	1	SR Cooley, HL Kite...	Ocean acidification's potential to ...	2009	Oceanography	JSTOF
<input checked="" type="checkbox"/> h 417	34.75	2	H Mooney, A Larig...	Biodiversity, climate change, and e...	2009	Current opinion in ...	Elsevi
<input checked="" type="checkbox"/> h 413	19.67	3	CM Duarte	Marine biodiversity and ecosystem...	2000	Journal of experimental m...	Elsevi
<input checked="" type="checkbox"/> 51	4.64	4	KMA Chan, M Ruck...	Characterizing changes in marine ...	2010	F1000 biology reports	ncbi.n
<input checked="" type="checkbox"/> h 200	33.33	5	C Hattam, JP Atkin...	Marine ecosystem services: linking...	2015	Ecological ...	Elsevi
<input checked="" type="checkbox"/> 56	9.33	6	RK Turner, M Scha...	Coastal zones ecosystem services	2015	Valuation of Ecosystem Ser...	Spring
<input checked="" type="checkbox"/> h 272	22.67	7	SR Palumbi, PA San...	Managing for ocean biodiversity t...	2009	Frontiers in Ecology ...	Wiley
<input checked="" type="checkbox"/> h 319	29.00	8	EF Granek, S Polask...	Ecosystem services as a common l...	2010	Conservation ...	Wiley
<input checked="" type="checkbox"/> 42	31.50	9	ID Lau, CC Hicks, G...	What matters to whom and why?	2018	Ecosystem services	Elsevi

Citation metrics [Help](#)

Publication years: 1997-2021

Citation years: 24 (1997-2021)

Papers: 500

Citations: 132703

Cites/year: 5529.29

Cites/paper: 265.41

Authors/paper: 3.65

h-index: 155

g-index: 361

hI,norm: 92

hI,annual: 3.83

hA-index: 55

Papers with ACC >= 1,2,5,10,20: 493,476,396,278,168

Paper details [Help](#)

Select a paper in the results list (to the left of this pane) to see its details here.

4. La test-list

Test-list : Issue du scoping préliminaire, elle rassemble des études que vous souhaitez inclure à votre revue systématique et dont vous savez qu'elles respectent les critères d'inclusion.

- Discuter la liste (faire intervenir les partenaires/co-auteurs/collègues) pour la construire puis la consolider
- Extraire les métadonnées
- Ordre de grandeur, ca. 30 articles

Intérêt : Permet de vérifier la capacité d'une équation de recherche à capter des études correspondant au but de notre revue systématique

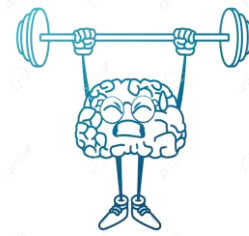
- Calculer le taux d'évitement (*miss rate*) = le % d'articles appartenant à la test-list non captés par l'équation

Il doit être minimisé, i.e. l'équation doit s'approcher de 100% de la test-list captée... Affinage possible.

Les mesures complémentaires d'efficacité de l'équation

- *Miss-rate* : grâce à la test-list, doit être minimisé
- *Hit-rate* : Pourcentage d'articles pertinents, se calcule sur un échantillon (par exemple, sur 100 résultats tirés au sort)
→ viser au moins 10%
- *Nombre de résultats* : Viser entre 1000 et 3000

Adapter en fonction du moteur de recherche utilisé et/ou de la stratégie employée.



Equation et question de recherche?

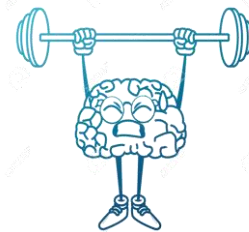
Objectif: définir l'équation de recherche à partir d'une question de recherche

A partir de la question de recherche ci-dessous:

- définir les différents éléments du PECO (Population; Exposure; Comparator; Outcomes)
- définir l'équation de recherche pour Web of Science (WOS) avec le détails des différents termes de l'équation
- si vous avez le temps, testez la dans WOS

Vous avez 30/45 min.

What are the impacts of spatio-temporal dynamics of marine ecosystems and biodiversity on the ecosystem services they provide?

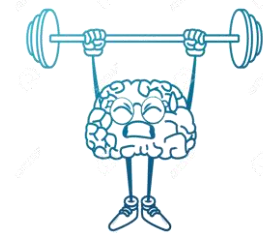


Equation et question de recherche?

What are the impacts of spatio-temporal dynamics of marine ecosystems and biodiversity on the ecosystem services they provide?

Les différents éléments du PECO
(Population; Exposure;
Comparator; Outcomes)

PECO éléments	
Population	
Exposure	
Comparator	
Outcomes	

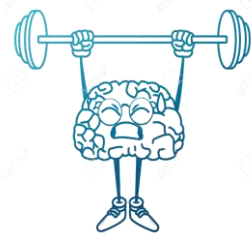


Equation et question de recherche?

What are the impacts of spatio-temporal dynamics of marine ecosystems and biodiversity on the ecosystem services they provide?

Les différents éléments du PECO
(Population; Exposure;
Comparator; Outcomes)

PECO éléments	
Population	Marine ecosystems and biodiversity
Exposure	Types of changes in marine biodiversity
Comparator	Spatial difference - temporal difference
Outcomes	Marine ecosystem services



Equation et question de recherche?

What are the impacts of spatio-temporal dynamics of marine ecosystems and biodiversity on the ecosystem services they provide?

Search terms

Sub-string	Search terms
Term 1 POPULATION Ecosystem	(marine OR coast* OR ocean OR sea OR littoral OR maritime) AND (species OR biodiversity OR ecosystem OR ecological)
Term 2 OUTCOMES Ecosystem service	("ecosystem service\$" OR "contribution to people" OR "ecosystem function\$" OR "ecosystem process" OR "landscape service\$" OR disservice\$ OR "provisioning service\$" OR ((provision OR production OR exploitation) AND (food OR fisher* OR macro-algae\$ OR molecules)) OR "biomass for nutrition" OR "biomass for materials" OR "genetic materials" OR "raw materials" OR "maintain* food webs" OR "life cycle maintenance and habitat protection" OR "habitat provision" OR "nursery function" OR "regulation service\$" OR "climate regulation" OR "carbon sequestration" OR "weather regulation" OR "atmospheric composition and conditions" OR "air quality regulation" OR "coastal protection" OR "water retention" OR "nutrient regulation" OR "nutrient cycling" OR "pathogen regulation" OR "pest and disease control" OR "mediation of waste" OR "mediation of mass" OR "cultural service\$" OR "intellectual interaction" OR "physical interaction" OR "experiential interaction\$" OR tourism OR recreation OR amenity OR aesthetic OR heritage OR symbolic OR "cognitive effect\$" OR "knowledge production" OR education)
Term 3 EXPOSURE Dynamic	(dynamic\$ OR impact\$ OR effect\$ OR variation\$ OR interaction\$ OR evolution OR change\$)

Le tri et les critères d'éligibilités

1. Les différentes étapes de tri
2. Les critères d'inclusion et d'exclusion
3. Les outils existants pour gérer le tri
4. Tests statistiques entre les évaluateurs (test de kappa)



5. À vous de jouer!

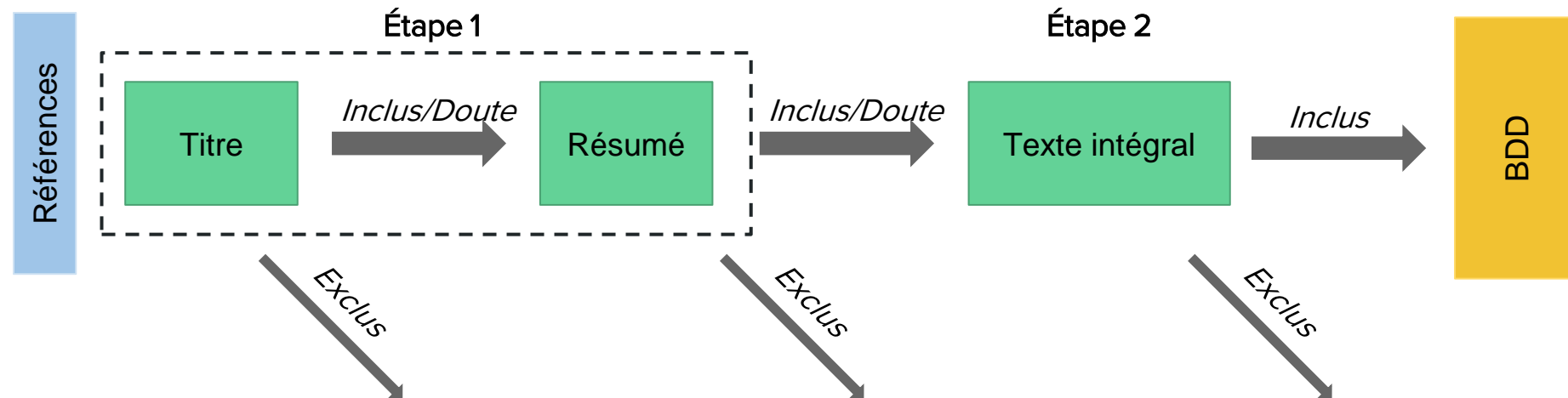
En reprenant l'exemple d'hier, définissez les critères d'inclusions et d'exclusions et tester les sur des articles extraits.

Intervenants : Sylvie, Jonathan

Durée : 2h

1. Les différentes étapes de tri

En 2 (ou 3) étapes, selon quantité d'articles à trier



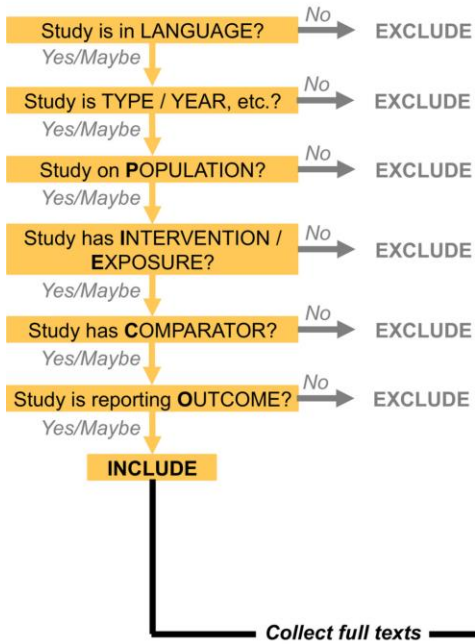
Chaque étape requiert l'établissement préalable d'un **arbre de décision**

1. Les différentes étapes de tri

Arbres de décision (Foo et al. 2021)

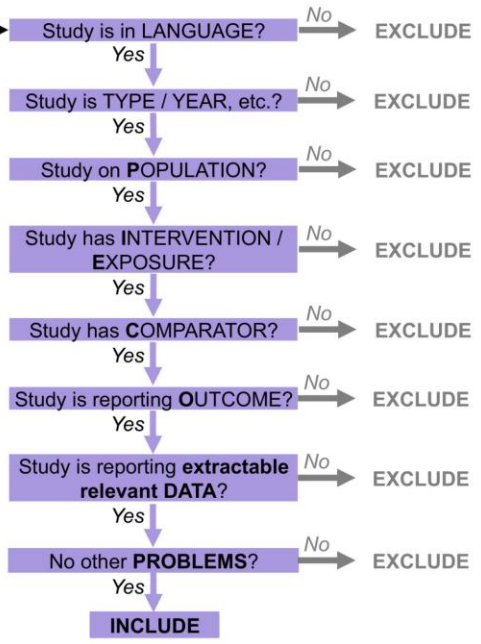
Étape 1

(a) Initial screening flowchart (decision tree) for assessing title, abstract and keywords



Étape 2

(b) Full-text screening flowchart (decision tree) for assessing all available study information



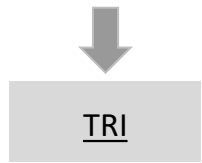
Idéalement, à chaque étape :

→ générer l'arbre de décision grâce aux **PICO** et aux **critères IN/OUT**

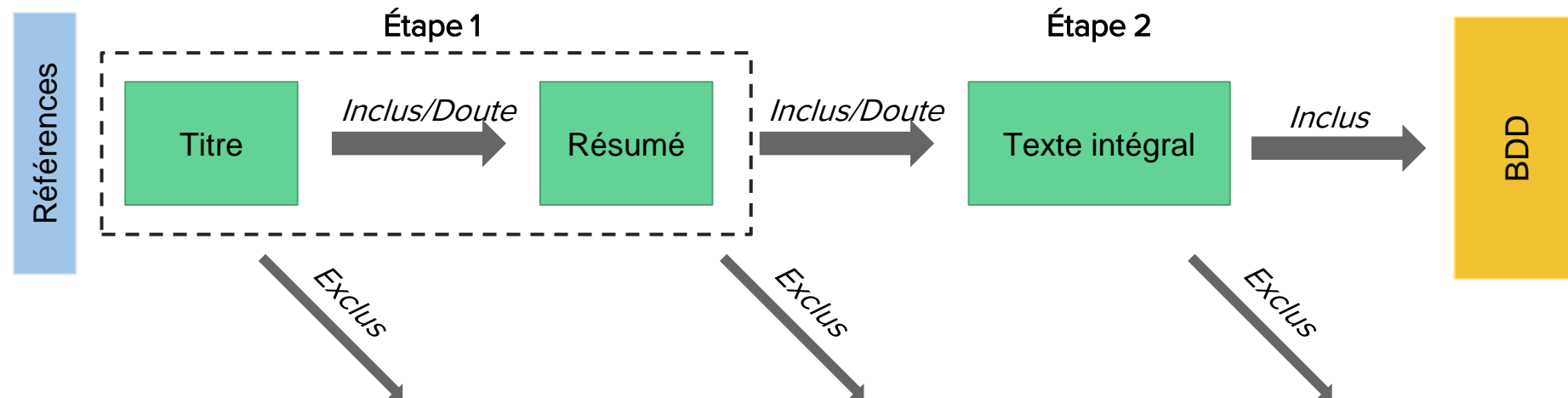
→ **discuter** l'arbre de décision (avec au moins 1 autre évaluateur)

→ **benchmarker** l'arbre de décision (sur quelques articles, 2+ évaluateurs, comparer les résultats)

→ **affiner** l'arbre de décision

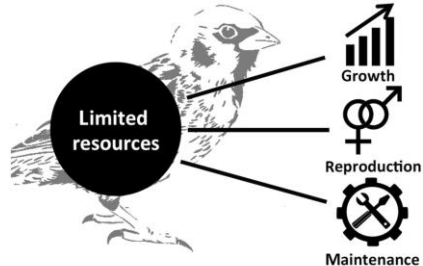


1. Les différentes étapes de tri



Conserver une trace à chaque étape (lister les inclus/douteux, les exclus, avec un justificatif de décision)

1. Les différentes étapes de tri

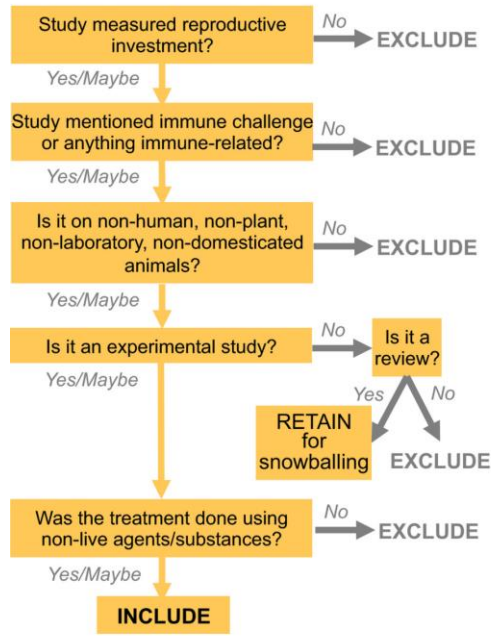


Broad theoretical relevance

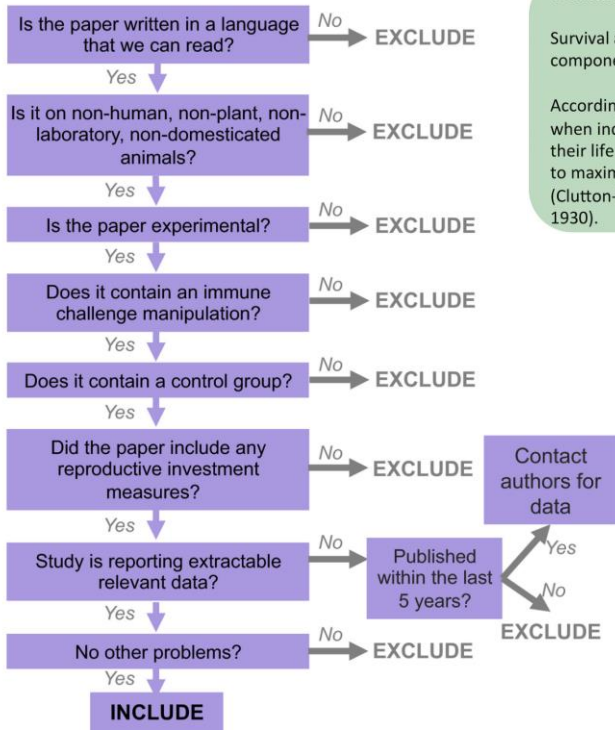
Different life-history traits (e.g. reproduction, growth and maintenance) are subject to trade-offs with each other.

So, how do individuals adjust investments in different traits? (Stearns & Koella, 1986)

(a) Initial screening decision tree



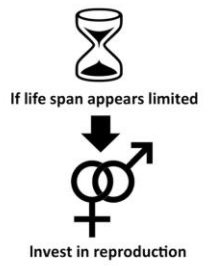
(b) Full-text screening flowchart (decision tree) for assessing all available study information



Terminal Investment hypothesis

Survival and reproduction are two fundamental components of fitness (Stearns, 1992).

According to **terminal investment hypothesis**, when individuals perceive a sufficient threat to their life span, they will invest more in reproduction to maximize their remaining reproductive potential (Clutton-Brock, 1984; Duffield et al., 2017; Fisher, 1930).



2. L'importance des critères d'inclusion et d'exclusion

- Les critères à priori préservent la transparence et la répétabilité et minimisent les biais.
- En cas d'incertitude, être inclusif
- Les décisions à prendre selon les différentes situations et doivent être retranscrites pour la transparence et la répétabilité
- Des critères de plus en plus précis à chaque étape du tri tout en gardant les critères antérieurs
- Il peut y avoir des critères non liés au PECO, sur la langue de l'article, le type d'articles (e.g. review), la qualité ou le type de données

2. L'importance des critères d'inclusion et d'exclusion

- Scoping et affinement des critères d'inclusion

Tester les critères sur un échantillon aléatoire d'articles

- Prise de décision sur les tests avec les critères d'inclusion

Assurer la clarté et la répétabilité

- Affiner les critères d'inclusion et refaire un essai (si nécessaire)

Rapport sur les améliorations et leur justification

2. L'importance des critères d'inclusion et d'exclusion

Conseils pour un tri efficace

- Recherchez dans la bibliothèque les mots-clés pertinents - filtrez ces articles pour les trier ensemble
- Journaux manifestement erronés > trier sur le titre du journal et trier.
- Travaillez par blocs de 30-45 minutes
- Travaillez simultanément avec d'autres personnes (facilite la consultation rapide)
- MAIS ATTENTION à toute exclusion sans qu'un humain ne lise l'article!



3. Quels sont les outils existants ?

Excel Microsoft / WPI / Office - gratuit

Besoin d'être très organisé - difficulté en cas d'évaluation avec plusieurs reviewers.

N° articles	Titre article	Tri au titre	Tri abstract	Pdf trouvé	Tri texte entier
23	Evaluation of	Yes	NO	-	-
24	Ecosystem...	NO	-	-	-
2X	Mapping...	Yes	Yes	Yes	No

Le tri et les critères d'éligibilités



ALL_references_with_duplicates_10_05_2022_V19_Sans_resultat.modSylvie.xlsx - Excel

Fichier Accueil Insertion Mise en page Formules Données Révision Affichage Aide WPS PDF

Partager

A1

	A	B	N	O	P	Q	R	S	T	U	V	W	X
1						Screen_title							
2	biblio_int ernal_id	biblio_authors	screen_dup licates	screen_dupl icates_date	screen_ka ppa_test title	screen_ti tle_decisi on_SC	screen_title _date_SC	screen_title _who	screen_title_d ecision_ET	screen_title_d ate_ET	screen_ti tle_who	screen_title_ decision_fina l	title_just SC
40651	26329	Hempel, G.	/	16_08_21	No	yes	13/10/2021	Sylvie Campagne				yes	
40652	20329	Calle, Z. and Mur	/	16_08_21	No	no	06/10/2021	Sylvie Campagne				no	
40653	31943	Mootapally, C.S.	/	16_08_21	No	no	18/10/2021	Sylvie Campagne				no	
40654	18692	Barnard, A. and L	/	16_08_21	No	no	01/10/2021	Sylvie Campagne				no	
40655	36310	Sayer, M.D.J. and	/	16_08_21	No	no	20/10/2021	Sylvie Campagne				no	
40656	13678	Sayer, MDJ and E	Duplicates	16_08_21									
40657	14502	Soto-Rojas, RL ar	/	16_08_21	No	no	30/09/2021	Sylvie Campagne				no	
40658	41424	C Torres, N Hanle	/	16_08_21	No	yes	22/10/2021	Sylvie Campagne				yes	
40659	39591	VuÄĚĀĀ, L.I. and /	/	16_08_21	No	no	21/10/2021	Sylvie Campagne				no	
40660	27751	KÄĀmpf, J. and C	/	16_08_21	No	yes	14/10/2021	Sylvie Campagne				yes	
40661	38895	Tynybekov, A. ar	/	16_08_21	No	no	21/10/2021	Sylvie Campagne				no	
40662	25282	Goudey, C.A. anc	/	16_08_21	No	no	11/10/2021	Sylvie Campagne				no	
40663	22704	Diez, J.J.	/	16_08_21	No	yes	07/10/2021	Sylvie Campagne				yes	
40664	23630	Faggi, A. and Per	/	16_08_21	No	no	08/10/2021	Sylvie Campagne				no	

WOS_Scopus_GS Sht 1. Bibliographic Coding Sht 2. Meta-data Coding for Map test.kap ...

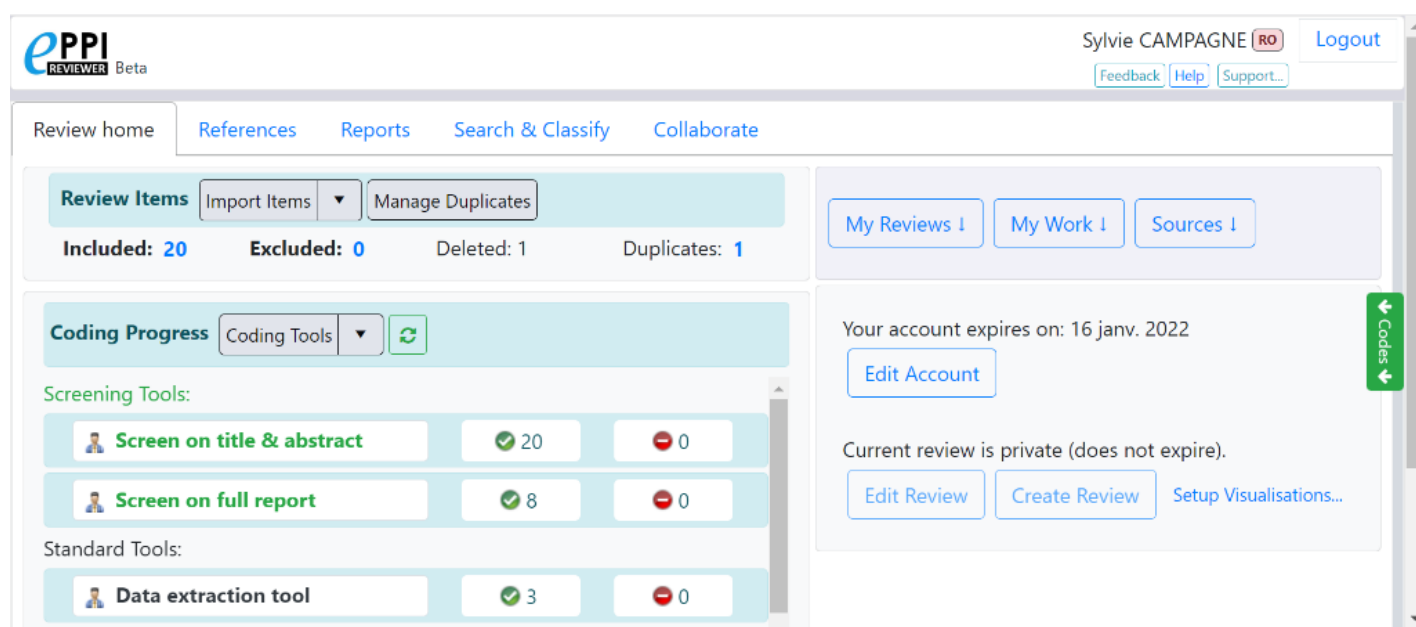
Prêt Paramètres d'affichage 100%

3. Quels sont les outils existants ?

EPPI reviewer

- Outil en ligne - Payant
- Très pratique pour une revue avec plusieurs reviewers
- Permet de tout avoir à un seul endroit

= version gratuit
CADIMA



The screenshot shows the EPPI Reviewer Beta web interface. At the top, the user is identified as Sylvie CAMPAGNE (RO) with a Logout button. Navigation links include Feedback, Help, and Support. The main menu has options for Review home, References, Reports, Search & Classify, and Collaborate. The 'Review Items' section shows 'Included: 20', 'Excluded: 0', 'Deleted: 1', and 'Duplicates: 1'. The 'Coding Progress' section lists 'Screening Tools' and 'Standard Tools' with their respective counts and status icons. A sidebar on the right contains buttons for 'My Reviews', 'My Work', and 'Sources', along with account and review management options.

Tool	Count	Status
Screen on title & abstract	20	0
Screen on full report	8	0
Data extraction tool	3	0

3. Quels sont les outils existants ?



Abstrackr - En ligne, gratuit

Travail à plusieurs évaluateurs possible. Guide pas à pas en "Aide" avec vidéos.

<http://abstrackr.cebm.brown.edu/account/login>

Pré-requis :

→ créer un compte

→ un tableau Excel avec au moins en colonnes :
title, abstract, keywords, authors, journal

ID	keywords	title	abstract	journal	author	doi	year
1	Albre_2020	Agroecology, agr	The effectiveness of flower	Floral plants Ecology	Letti Albrecht, M.	10.1111/ele.13576	2020
3	Almei_2017	Agriculture, Defs	Primate responses to anthro	Rapid human Biological	Ce Almeida-Rox 10.1016/j.bioco	2017.08.018	2017
4	Andre_2017	Cocoa swollen sh	Combating Cocoa swollen s	Cocoa Swollen Crop protect	Andres, Chen 10.1016/j.cropro	2017.03.020	2017
5	Attwo_2008	Agricultural inter	Do arthropod assemblages d	Aim: To dete Global Ecolo	Attwood, S.J 10.1111/j.1466-8218	2008.00399.x	2008
6	Bai_2018	AGGREGATE STAT	Effects of agricultural manag	In this paper AGRICULTUR	Bai, ZG and K 10.1016/j.agee	2018.05.028	2018
7	Batal_2011	agri-environmen	Landscape moderated biotic	Agri-environ Proceedings	Batali, P. a 10.1016/j.proph	2011.0121	2011
8	Bata_2004	edge type, edge	Evidence of an edge effect	rapid frag: CONSERVAT	Batory, P a 10.1111/j.1523-1779	2004.00184.x	2004
9	Beckm_2019	agricultural inter	Conventional land-use inten	Most current Global Chan	Beckmann, A 10.1111/gcb	14606	2019
10	Bengt_2005	density, diversity	The effects of organic agricul	1. The effects Journal of A	Bengtsson, J 10.1111/j.1365-2664	2005.01005.x	2005
11	Breid_2013	carbon sequestr	Bocher and its effects on gl	Bocher is a GLOBAL CHA	Breiderman, M 10.1111/gcb	12017	2013
12	Buha_2020	abundance, com	The effects of forestry and a	The increas LAND DEGRA	Buhača-Mur 10.1002/for	3478	2020
13	Bowle_2017	arbuscular mycor	Ecological intensification an	Reliance on -Journal of A	Bowles, T.M 10.1111/1365-2664	12815	2017
14	Brinc_2017	agricultural man	Conventional tillage decreas	The adoption Global Chan	Briones, M.E 10.1111/gcb	13746	2017
15	Carey_2016	amOA, Fertiliza	Meta-analysis reveals ammo	Shifts in miso Soil Biology	Carey, C.J. a 10.1016/j.soilbio	2016.05.014	2016
16	Chap_2011	Abundance, agr	A meta-analysis of crop pest	Many studie Ecology Letti	Chaplin-Karr 10.1111/j.1461-0268	2011.01642.x	2011
17	Chen_2019	aerobic metabo	Meta-analysis shows possib	Soil microorg Nature Com	Chen, C. and 10.1038/s41467-019	09259-9	2019
18	Chen_2014	ANALYTICAL ADV	Effects of herbicide applicati	on C/PBAI BIV Phas. C. and 10.1007/s12042-014			2014

3. Quels sont les outils existants ?

Étape 1 : Créer un projet, input le tableau

project name:

project description:

upload file (what can I import?): Test_CIRAD.xlsx

screening mode (what?):

order abstracts by:

pilot round size (huh?):

tag visibility (what?):

Étape 2 : Commencer à screener

The screenshot shows the 'abstrackr' web application interface. At the top, there's a navigation bar with 'home', 'my account', and 'sign out'. The main content area displays the 'abstrackr' logo with a 'BETA' badge. Below the logo, there are 'review labels' and 'review terms' buttons. The central focus is a review card for an abstract titled 'Monstrous infants and vampyric mothers in Bram Stoker's "Dracula".' by Almond BR. The card includes a 'tags' sidebar with 'tag 1' and 'tag 2' buttons, and 'tag study...' and 'edit tags...' options. The abstract text discusses psychoanalytic interpretations of 'Dracula'. Below the text, there are 'keywords' and 'ID: 1'. At the bottom of the interface, there's a status bar showing 'you've screened 0 abstracts thus far (keep it up!)' and a control panel with a 'term:' input field, a green checkmark button, a question mark button, and a red X button, all enclosed in a dashed oval labeled 'A'. A label 'B' points to the bottom navigation area, and a label 'C' points to the 'tags' sidebar. An arrow labeled 'current abstract' points to the abstract text.

3. Quels sont les outils existants ?

A : Inclus / Douteux / Exclus

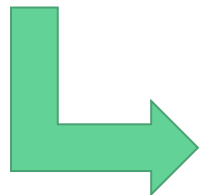
B : mots-clés à mettre en valeur grâce à un code couleur (positivement, négativement)

C :

- Tag : affilié à chaque article, par exemple une raison d'exclusion

- Notes : PICO

Review labels/terms



Toutes ces données sont extractibles à tout moment en format Excel

The screenshot shows the 'abstrackr' web application interface. At the top, there's a navigation bar with 'home', 'my account', and 'sign out'. The main content area displays an abstract titled 'Monstrous infants and vampyric mothers in Bram Stoker's "Dracula".' by Almond BR. The abstract text is visible, along with a 'keywords' section. A 'tags' sidebar on the left shows 'tag 1' and 'tag 2' buttons, and a 'tag study...' button. A green circle labeled 'C' highlights this sidebar. Below the abstract, there's a 'current abstract' label with an arrow pointing to the 'ID: 1' field. At the bottom, a search bar with 'term:' is visible, and a dashed oval labeled 'A' and 'B' highlights the search filters and results area, including a green checkmark icon, a question mark icon, and a red X icon.

3. Quels sont les outils existants ?

A : Inclus / Douteux / Exclus

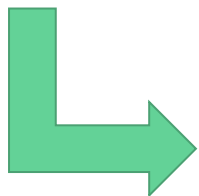
B : mots-clés à mettre en valeur grâce à un code couleur (positivement, négativement)

C :

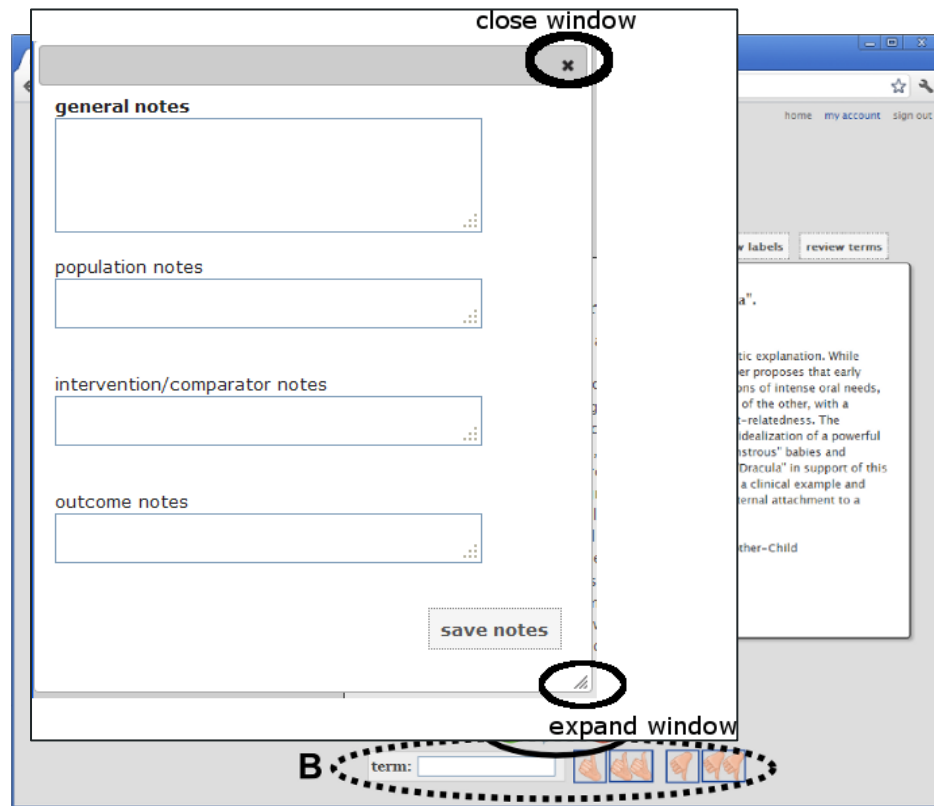
- Tag : affilié à chaque article, par exemple une raison d'exclusion

- Notes : PICO

Review labels/terms : visualisation et modification



Toutes ces données sont extractibles à tout moment en format Excel



4. S'accorder sur le tri entre différents évaluateurs

Test de Kappa de Cohen pour 2 évaluateurs

(voir aussi Kappa de Light, Kappa de Fleiss)

→ Résultats de tris +/- disparates malgré les critères IN/OUT

→ Effectuer les décomptes des évaluations et les rassembler dans un tableau de contingence



Exemple : sur 110 articles

		<u>Jon</u>		
		OUI	NON	DOUTE
<u>Damien</u>	OUI	15	2	3
	NON	0	69	8
	DOUTE	0	4	9

4. S'accorder sur le tri entre différents évaluateurs

Test de Kappa de Cohen pour 2 évaluateurs

(voir aussi Kappa de Light, Kappa de Fleiss)

→ Calcul du Kappa
$$\kappa = \frac{P_o - P_e}{1 - P_e}$$

N : la somme totale de toutes les cellules du tableau

P_o : *proportion de concordance observée*, la somme des proportions diagonales, ce qui correspond à la proportion de cas où les deux évaluateurs ont assigné les mêmes catégories

P_e : *proportion d'un accord aléatoire*, la somme des produits des proportions marginales des lignes et des colonnes

Exemple : Round 1 (Jon, Damien)

k = 0,68

```
# Tableau de contingence
xtab <- as.table(rbind(c(15, 2, 3), c(0, 69, 8), c(0, 4, 9)))
# Statistiques descriptives
diagonal.counts <- diag(xtab)
N <- sum(xtab)
row.marginal.props <- rowSums(xtab)/N
col.marginal.props <- colSums(xtab)/N
# Calculer kappa (k)
Po <- sum(diagonal.counts)/N
Pe <- sum(row.marginal.props*col.marginal.props)
k <- (Po - Pe)/(1 - Pe)
k
```

4. S'accorder sur le tri entre différents évaluateurs

Test de Kappa de Cohen pour 2 évaluateurs

(voir aussi Kappa de Light, Kappa de Fleiss)

→ Interprétation

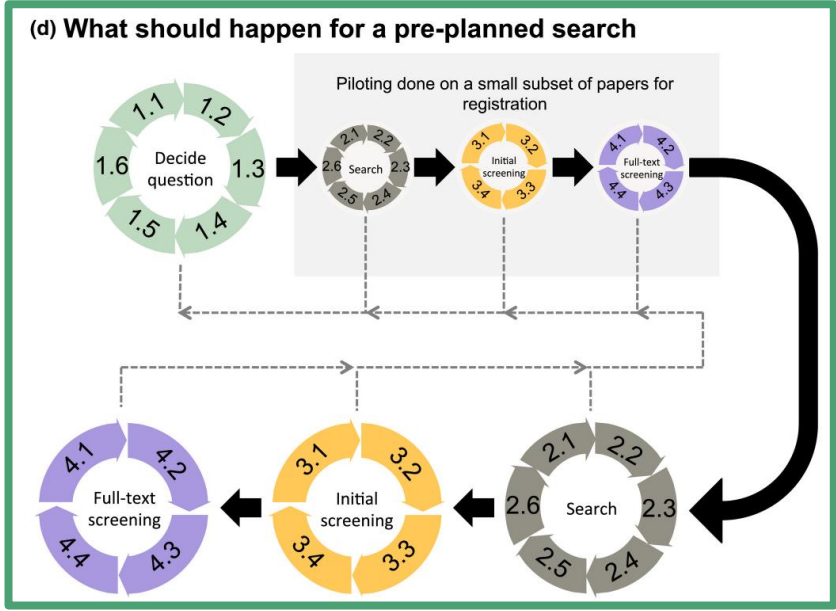
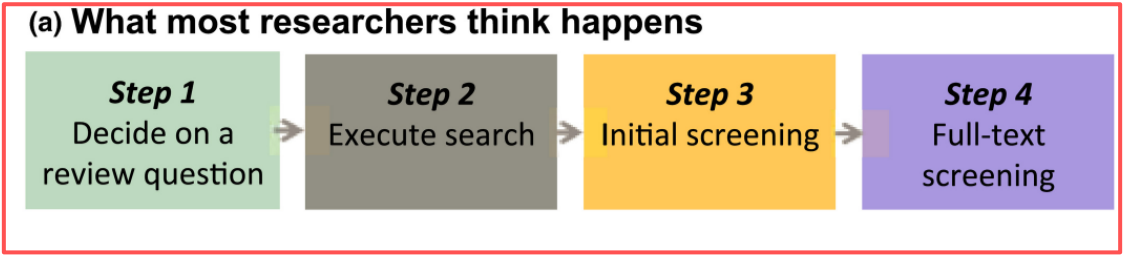
Exemple : on a dû discuter avant un second round... :)

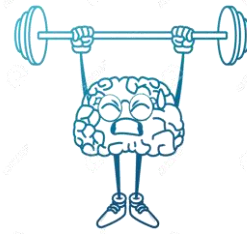
Moins punitif : % de concordance, dans notre cas

93/110= 85%

Valeur de k	Force de l'accord
< 0	Médiocre
0,01 - 0,20	Léger
0,21 - 0,40	Passable
0,41 - 0,60	Modéré
0,61 - 0,80	Substantiel
0,81 - 1	Presque parfait

Conclusions sur les étapes de recherche et de tri





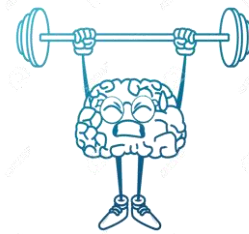
Le tri et les critères d'éligibilités

Objectif: définissez les critères d'inclusions et d'exclusions et tester les en triant des articles extraits

A partir de la question de recherche, du PECO et de l'équation de recherche définis hier:

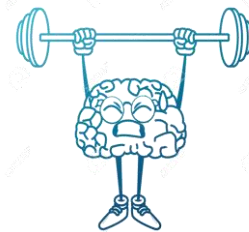
- définir les critères d'inclusions et d'exclusions à chaque étape du tri (titre, abstract, full text)
- tester vos critères d'inclusions et d'exclusions sur quelques articles en justifiant votre choix

Vous avez 45min.



Le tri et les critères d'éligibilités

Criteria	Screening Steps	Inclusion criteria	Exclusion criteria
<i>Population</i>	Title		
<i>Outcomes</i>	Abstract		
<i>Exposure</i>	Full-text		
<i>Comparator</i>			



Le tri et les critères d'éligibilités

Criteria	Screening Steps	Inclusion criteria	Exclusion criteria
<i>Population</i>	Title	titles on any marine biodiversity, marine species, habitats and ecosystems	OUT: any title referring to ecosystem services provided by terrestrial and/or freshwater ecosystems.
<i>Outcomes</i>	Title	titles on any marine ecosystem service (as well as related terms of ES like "nature contributions to people" and all the relevant terms in the search string) no matter the types of values. titles on ecosystem service of food supply in terms of indicators of stock or population size of commercial species.	OUT: titles that address commercial species criteria with indicators other than the stock or the population size of the species.
<i>Exposure</i>	Abstract	abstracts have to present a change (spatial or temporal change) in marine biodiversity, marine species, habitats and ecosystems or in ecosystem services	OUT: abstracts presenting an assessment - a one-time state - of the population or of the outcomes.
<i>Comparator</i>	Abstract	abstracts presenting temporal and spatial differences.	OUT: abstracts only assessing ES.
<i>Temporal period</i>	Abstract	abstract analysing data covering period at least part of the Twentieth century and/or the twenty-first century	OUT: abstracts analysing data covering period ended before 1900 (e.g., Palaeoecology analysis).
<i>Outcomes</i>	Full-text	full-texts have to contain qualitative or quantitative values of marine ecosystem services and disservices	OUT: full-texts without qualitative or quantitative values of marine ecosystem services and disservices

Merci pour votre attention!

Jonathan Bonfanti et C. Sylvie Campagne