



Mercator Research Institute on  
Global Commons and Climate Change gGmbH

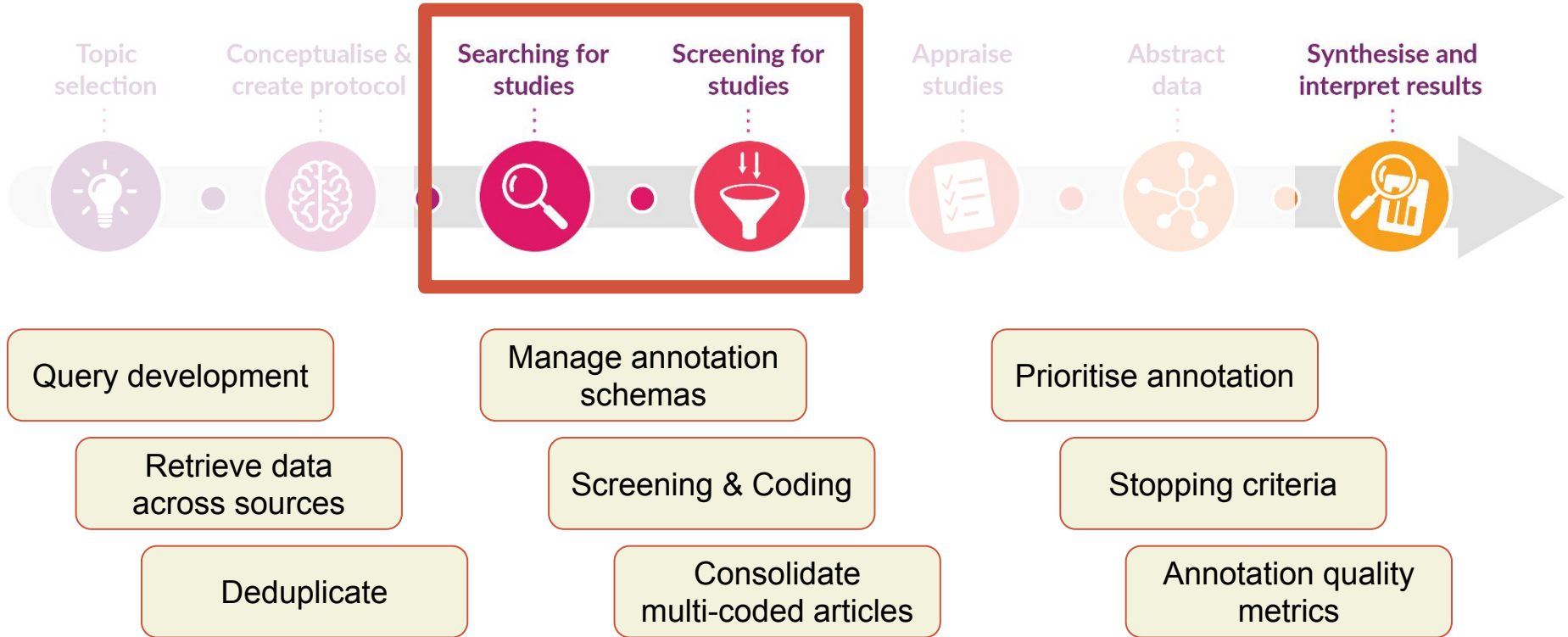
# Computer-aided research synthesis

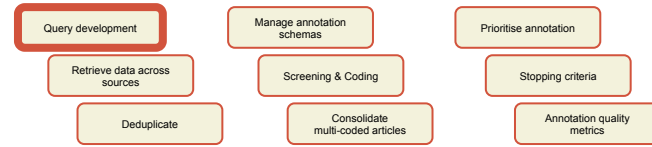


Overview of the *NACSOS* screening platform  
developed in the *APSYS* group

Max Callaghan  
Tim Repke

# Steps in a systematic review



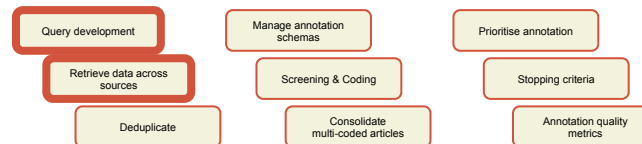


# Query development

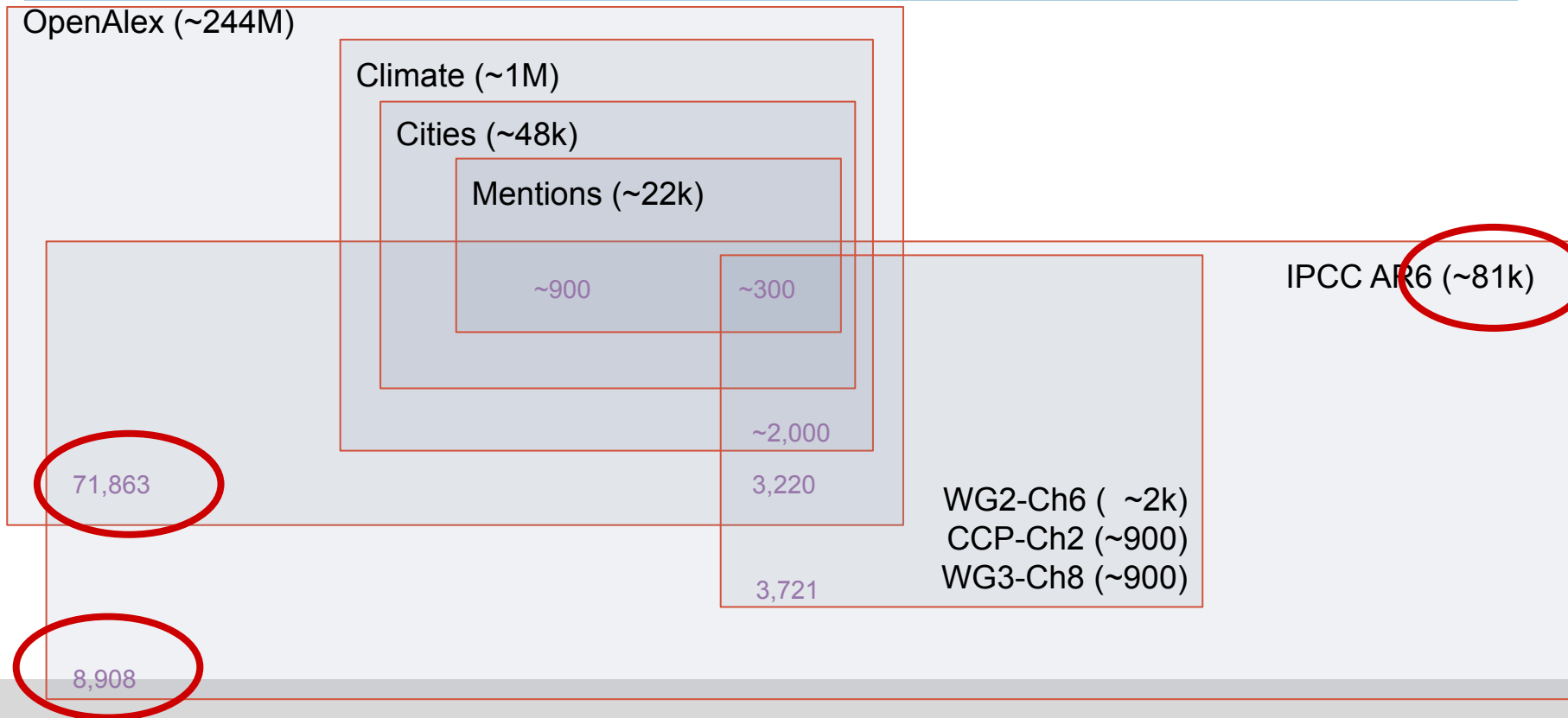


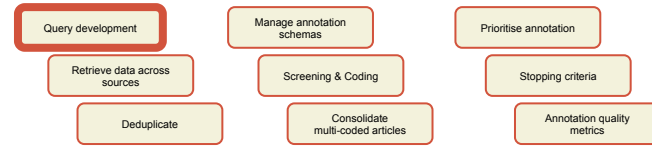
## OpenAlex

- Open source scientific database
- 244M publications (bibliographic meta-data, citations, ...)
- Self-hosted mirror for full control (solr and postgres)
  - Snowballing via citations or similarities (vector search)
  - Better understanding of wildcard expansion
  - Reference metrics on entire fields or all of science



# Coverage of OpenAlex

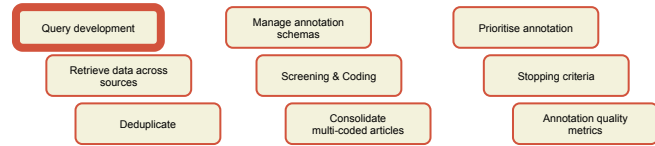




# Query development

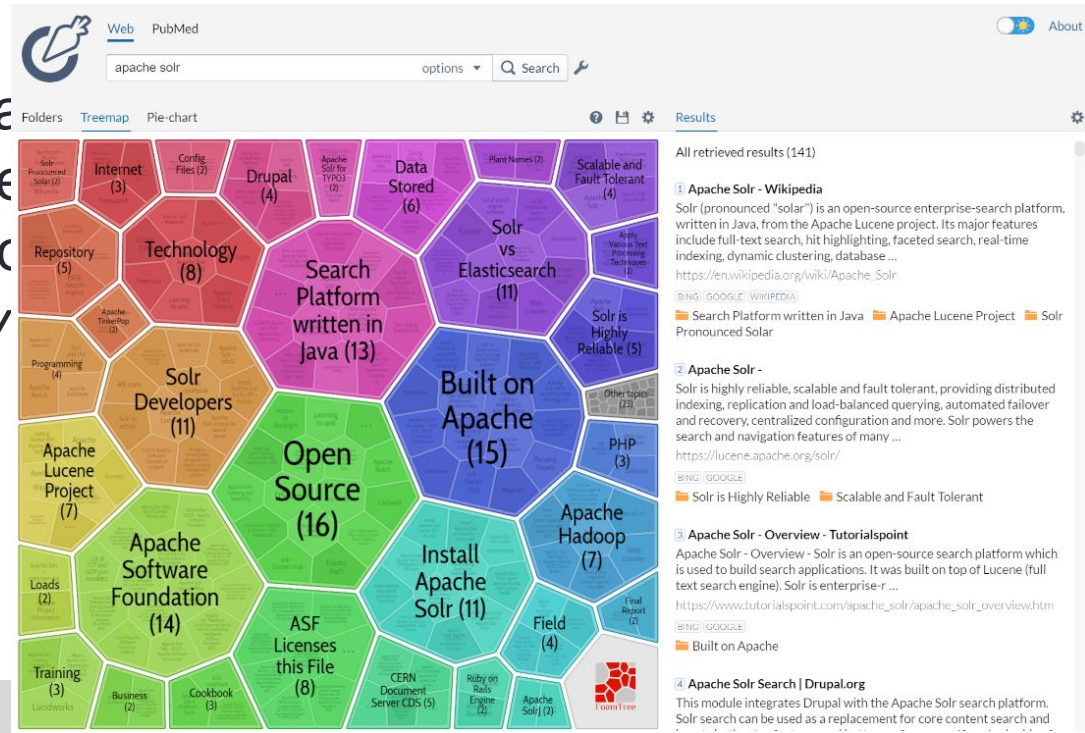
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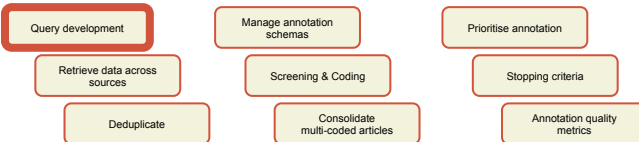
- Query OpenAlex (our solr mirror) directly from the platform
- Compare to “gold standard” references (*soon, probably*)
- Compare different queries (*soon, possibly*)
- Keyword recommendations (*let's see*)
- Similar documents (*maybe*)
- Follow citations (*likely*)




# Query development

- Query OpenAlex (our solr mirror) directly from the platform
- Compare to “gold standard”
- Compare different queries
- Keyword recommendations
- Similar documents (*may*)
- Follow citations (*likely*)
- Instant topic maps (*??*)





# Query development

- 
- Overview
- Import
- Imports
- OpenAlex Solr
- Dataset
- Annotation
- Artefacts
- Pipelines
- Annotations
- Project

## Search OpenAlex (Solr)

### Query setup

"climate change" and "CDR"

Limit:     Offset:     OP:     Field:     Parser:

Histogram

-

Found 321 works in 1123ms



### Is carbon dioxide removal 'mitigation of climate change'?

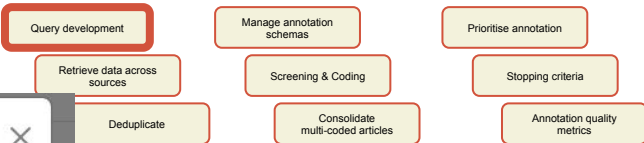
Carbon dioxide removal (CDR) is often characterized as separate from climate change mitigation. Discussion of CDR governance – despite enjoying growing interest – tends to overlook how key provisions on mitigation apply. Similarly, many climate policy processes have ignored CDR. CDR may have been discursively held separate from 'mitigation' due to a partial conceptual overlap with 'geoengineering'. We unpack how the 'mitigation of climate change' – as defined in the United Nations Framework Convention on Climate Change and its Paris Agreement – includes CDR as defined by the Intergovernmental Panel on Climate Change. We point to important implications and opportunities for strengthening governance by enhanced clarity regarding parties' obligations, principled equitable distribution of removal efforts, prioritization of rapid emissions reductions and careful paths to long-term removals, and a need for considering sustainability and human rights issues in the pursuit of CDR.

2021 Matthias Honegger · William C. G. Burns · David R. Morrow

### The influence of learning about carbon dioxide removal (CDR) on support for mitigation policies

A wide range of carbon dioxide removal (CDR) strategies has been proposed to address climate change. As most CDR strategies are unfamiliar to the public, it is unknown how increased media and policy attention on CDR might affect public sentiment about climate change. On the one hand, CDR poses a potential moral hazard: if people perceive that CDR solves climate change, they may be less likely to support efforts to reduce carbon emissions. On the other hand, the need for CDR may increase the perceived severity of climate change and, thus, increase support for other types of mitigation. Using an online survey of US adults (N = 984), we tested these competing hypotheses by exposing participants to information about different forms of CDR. We find that learning about certain CDR strategies indirectly reduces support for mitigation policies by reducing the perceived threat of climate change. This was found to be true for participants who read about CDR in general (without mention of specific strategies), bioenergy with carbon capture and storage, or direct air capture. Furthermore, this indirect cooperation pattern was more pronounced among political conservatives than liberals – although in some cases, it partially offset by positive





## Token Wildcard Expansion

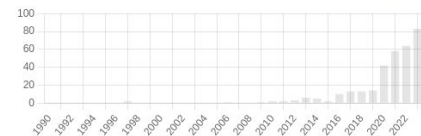
Wildcards (e.g. `clim*`) are very bad for query performance and add a lot of uncertainty. It is much better to explicitly expand those (e.g. `(climate OR climatic)`) and in the process exclude false-positives like `climb, climax, ...`

Results include term frequency (tf) and document frequency (df).



<b>traditional</b> (4,367,640   3,336,034)	<b>trade</b> (2,283,075   1,258,966)	<b>tradition</b> (741,911   571,371)
<b>traditionally</b> (469,056   452,426)	<b>traditions</b> (344,721   277,624)	<b>trading</b> (473,445   267,987)
<b>tradicional</b> (127,853   106,850)	<b>tradeoff</b> (104,027   84,757)	<b>traded</b> (91,789   68,194)
<b>traders</b> (102,810   61,627)	<b>traduction</b> (83,917   57,091)	<b>tradeoffs</b> (68,101   56,926)
<b>tradicionalles</b> (63,504   55,028)	<b>tradisional</b> (108,371   54,205)	<b>trades</b> (63,587   48,194)
<b>traduit</b> (47,691   45,129)	<b>tradicionalis</b> (45,346   36,977)	<b>traducción</b> (44,601   34,270)
<b>tradición</b> (34,400   30,833)	<b>trademark</b> (57,896   30,607)	<b>tradicionalmente</b> (31,277   30,366)
<b>tradisi</b> (73,246   28,825)	<b>tradicion</b> (31,723   26,931)	<b>traditionnelle</b> (24,946   22,342)
<b>tradição</b> (30,221   19,116)	<b>traditionnelles</b> (20,291   18,486)	<b>tradiciones</b> (20,334   17,648)
<b>tradição</b> (19,750   16,574)	<b>traduccion</b> (28,661   16,187)	<b>trader</b> (21,439   15,380)
<b>traditionnels</b> (16,714   15,022)	<b>traditionnel</b> (15,655   14,048)	<b>trademarks</b> (19,576   12,831)
<b>traduire</b> (14,010   12,736)	<b>tradicao</b> (15,428   12,401)	<b>tradizione</b> (13,908   12,394)
<b>trad</b> (17,082   11,847)	<b>tradable</b> (18,884   11,597)	<b>traditionellen</b> (12,698   11,532)
<b>traditionnellement</b>	<b>traductions</b> (13,149   10,265)	<b>traduzione</b> (12,246   10,032)

Projects About tim.repke

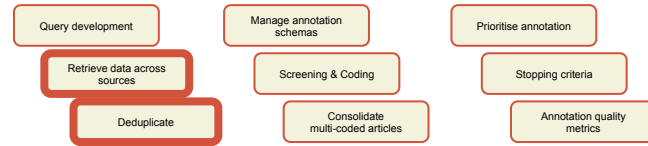


... of CDR governance – despite enjoying growing interest – tends to overlook how key provisions on ... held separate from 'mitigation' due to a partial conceptual overlap with 'geoengineering'. We unpack ... Change and its Paris Agreement – includes CDR as defined by the Intergovernmental Panel on Climate ... rity regarding parties' obligations, principled equitable distribution of removal efforts, prioritization of ... y and human rights issues in the pursuit of CDR.

... most CDR strategies are unfamiliar to the public, it is unknown how increased media and policy ... tial moral hazard: if people perceive that CDR solves climate change, they may be less likely to support ... ty of climate change and, thus, increase support for other types of mitigation. Using an online survey of ... ifferent forms of CDR. We find that learning about certain CDR strategies indirectly reduces support for ... ants who read about CDR in general (without mention of specific strategies), bioenergy with carbon ... d among political conservatives than liberals – although in some cases, vice partially offset by positive ...



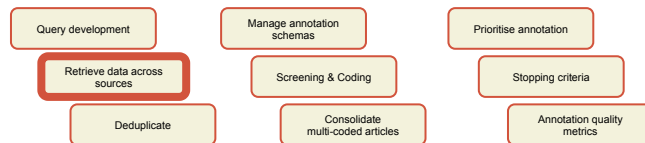
# Data gathering (importing queries)



- Import data from
  - Scopus (via CSV)
  - Web of Science (via RIS)
  - OpenAlex (via solr)
  - Any other source (you just need to translate it to the platform format)
- Automatic deduplication of publications during import

The screenshot shows the 'Create new data import' interface in the NAC SOS system. The left sidebar contains a navigation menu with options: Overview, Import (selected), Imports, OpenAlex Solr, Dataset, Annotation, Artefacts, Pipelines, Annotations, and Project. The main content area is titled 'Create new data import' and includes a description: 'An "import" provides the scope for how data enters a project. You can either configure a query to import from external scholarly databases, Twitter, or upload files directly. Please note, that only one "type" of data can exist in a project. This project is configured for academic.' Below this, there is a 'Basic information' section with a 'Name for this import' field containing 'New import' and a 'Description of this import' text area. The 'Select import type' section features a dropdown menu with options: 'Select import type', 'Select import type', 'Upload JSON file (AcademicItemModel)', 'Upload OpenAlex file', 'Import from OpenAlex (Solr)', 'Upload Scopus CSV file(s)', and 'Upload Web of Science text file(s)'. The 'Import stats' section at the bottom has a 'load' button.

# Dataset insights



\*more to come!



Overview

Import

Dataset

Explore

Statistics

Export

Annotation

Artefacts

Pipelines

Annotations

Project

## Project statistics

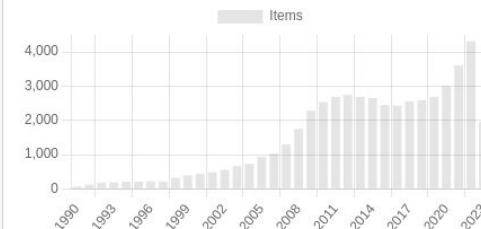
### Core stats

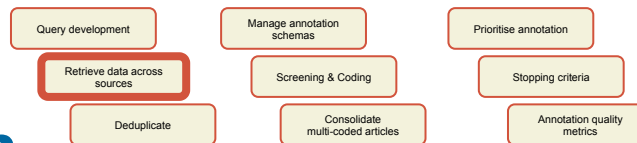
This project contains 51625 items imported via 8 imports. There are 3 annotation schemes and 22 assignment scopes amounting to a total of 129236 labels for 5491 (10.64%) unique documents.

### Annotator Leaderboard

- Niklas Döbbling:** 94954 labels for 4385 items
- Alessandra Landa:** 4827 labels for 1758 items
- Arianna Avallone:** 2217 labels for 1057 items
- Klaas Miersch:** 12534 labels for 868 items
- Jan Minx:** 10140 labels for 591 items
- Finlay Hatch:** 2398 labels for 361 items
- Leonhard Schneider:** 2166 labels for 360 items

### Histogram

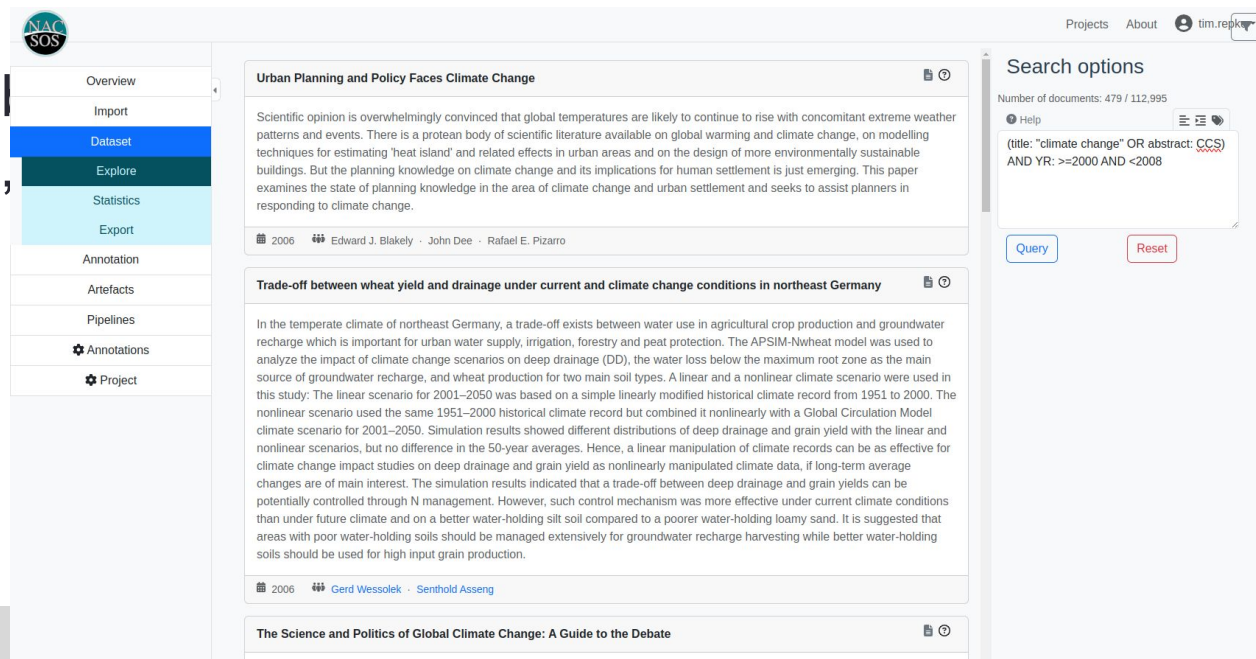




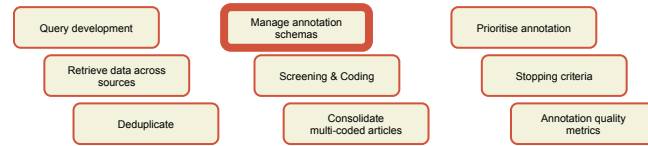
# Searching on the platform

Search the project dataset with our expressive query language, e.g.

- Title, abstract, publication year, annotations,



The screenshot shows the NAC SOS platform interface. On the left is a navigation menu with options: Overview, Import, Dataset (highlighted), Explore, Statistics, Export, Annotation, Artefacts, Pipelines, Annotations, and Project. The main content area displays search results for articles related to climate change. The first article is titled "Urban Planning and Policy Faces Climate Change" by Edward J. Blakely, John Dee, and Rafael E. Pizarro, published in 2006. The second article is "Trade-off between wheat yield and drainage under current and climate change conditions in northeast Germany" by Gerd Wessolek and Senhold Asseng, also published in 2006. The third article is "The Science and Politics of Global Climate Change: A Guide to the Debate". On the right side, there is a search options panel showing the search query: "(title: 'climate change' OR abstract: CCS) AND YR: >=2000 AND <2008". The panel also shows the number of documents found: 479 / 112,995 and includes buttons for "Query" and "Reset".

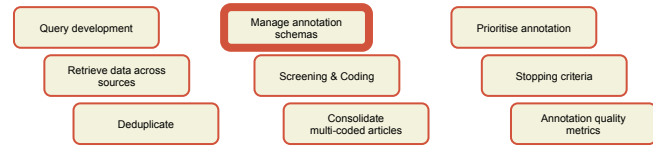


# Annotation schema

---

Arbitrarily complex (doc-level) from screening to coding

- Simple yes/no labels
- Text fields (e.g. for comments)
- Labels with several options
- Multi-labels (for tagging multiple classes)
- Nesting of labels for “conditional labels”



# Annotation schema

from screening to coding

(the classes)  
of labels”

Related to cities <sup>↕</sup>

- Yes
- No
- Maybe

Explicit mention of one or more cities <sup>↕</sup>



Climate

document is about climate change



Comment

# Annotation

## Related to cities ✕

 Yes

 No

 Maybe

## Explicit mention of one or more cities



## Climate

document is about climate change



## Comment

Overview
Import
Dataset
Annotation
Artefacts
Pipelines
<b>Annotations</b>
Schemes & Scopes
Label Centre
Highlighters
Project

## City related

Annotations for IPCC references related to cities

**Note:** Please use positive numbers only for choice values (zero included).

↕ 👁 Related to cities

🗑 cities

ℹ Hint message

🗑

Type ? Max. Repeat 🔴 Required  
 single ▼ 1 🔴 Use dropdown

**Choices:**

👁 Yes

🔗 1

ℹ Hint message

↕ ↑ 🗑

**Sub-annotations:**

↕ 👁 Explicit mention of one or mo

🗑 mention

ℹ Hint message

🗑

Type ? Max. Repeat 🔴 Required  
 bool ▼ 1

Add Label

👁 No

🔗 0

ℹ Hint message

↕ ↑ 🗑 📄

👁 Maybe

🔗 2

ℹ Hint message

↕ ↑ 🗑

**Sub-annotations:**

↕ 👁 Explicit mention of one or mo

🗑 mmention

ℹ Hint message

🗑

Type ? Max. Repeat 🔴 Required  
 bool ▼ 1

Add Label

Add choice

↕ 👁 Climate

🗑 climate

ℹ document is about climate ch

🗑

Type ? Max. Repeat 🔴 Required  
 bool ▼ 1

↕ 👁 Comment

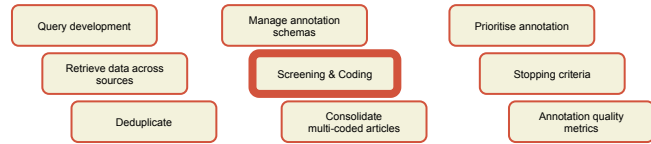
🗑 com

ℹ Hint message

🗑

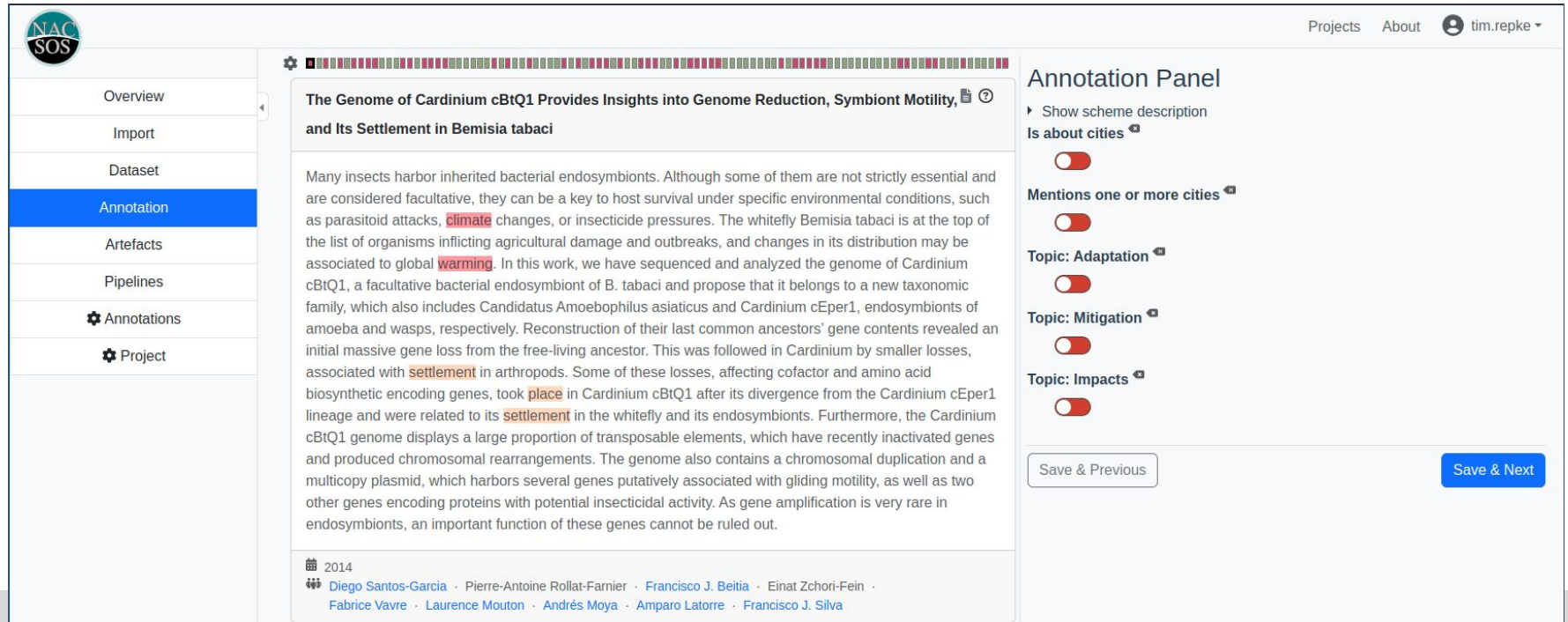
Type ? Max. Repeat 🔴 Required  
 str ▼ 1

Add Label



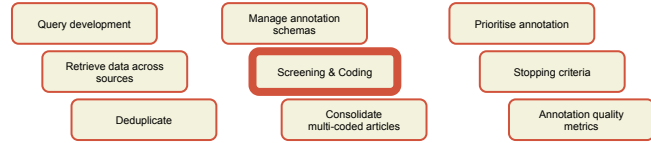
# Annotating

## Intuitive annotation interface for users



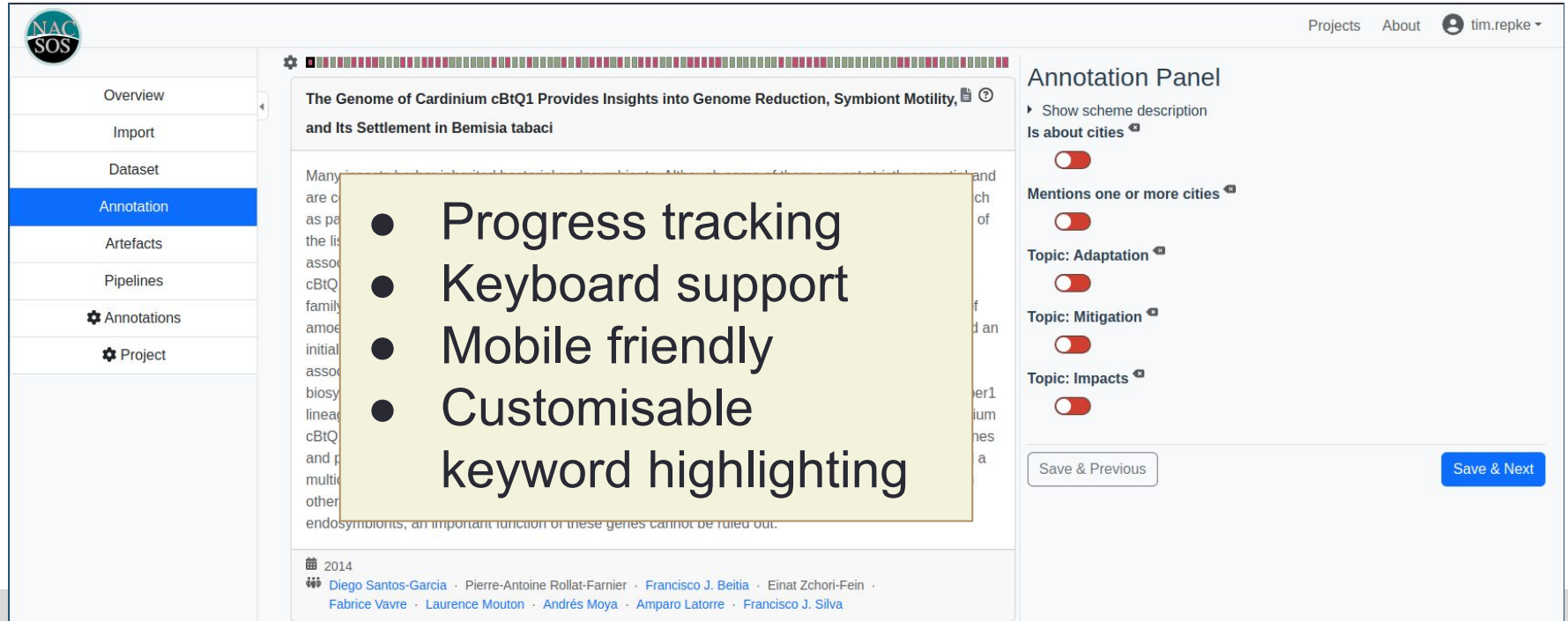
The screenshot displays the NAC SOS web interface. On the left is a navigation sidebar with options: Overview, Import, Dataset, Annotation (highlighted), Artefacts, Pipelines, Annotations, and Project. The main content area shows a document titled "The Genome of Cardinium cBtQ1 Provides Insights into Genome Reduction, Symbiont Motility, and Its Settlement in Bemisia tabaci". The text includes several highlighted terms: **climate**, **warming**, **settlement**, and **place**. On the right, the "Annotation Panel" is visible, featuring a "Show scheme description" dropdown, a "Is about cities" toggle (off), "Mentions one or more cities" toggle (off), and three topic-based toggles: "Topic: Adaptation" (off), "Topic: Mitigation" (off), and "Topic: Impacts" (off). At the bottom right of the annotation panel are "Save & Previous" and "Save & Next" buttons.





# Annotating

## Intuitive annotation interface for users



**Annotation Panel**

- Show scheme description
- Is about cities
- Mentions one or more cities
- Topic: Adaptation
- Topic: Mitigation
- Topic: Impacts

Save & Previous Save & Next

- Progress tracking
- Keyboard support
- Mobile friendly
- Customisable keyword highlighting

# Annotating

## Intuitive annotation interface for users

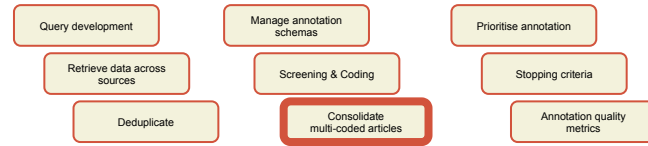
The screenshot displays the NAC SOS web application interface. On the left is a sidebar with navigation options: Overview, Import, Dataset, Annotation (highlighted), Artefacts, Pipelines, Annotations, and Project. The main content area shows a document titled "The Genome of Cardinium cBtQ1 Provides Insights into Genome Reduction, Symbiosis and Its Settlement in Bemisia tabaci". A yellow callout box highlights four key features: Progress tracking, Keyboard support, Mobile friendly, and Customisable keyword highlighting. On the right, an "Annotation Panel" is visible, featuring a list of authors, a "Show scheme description" link, and several toggle switches for filtering content by "Is about cities", "Mentions one or more cities", "Topic: Adaptation", "Topic: Mitigation", and "Topic: Impacts". At the bottom right, there are "Save & Previous" and "Save & Next" buttons.

- Progress tracking
- Keyboard support
- Mobile friendly
- Customisable keyword highlighting

**Annotation Panel**

- Show scheme description
- Is about cities <sup>4</sup>
- Mentions one or more cities <sup>4</sup>
- Topic: Adaptation <sup>4</sup>
- Topic: Mitigation <sup>4</sup>
- Topic: Impacts <sup>4</sup>

Save & Previous Save & Next



# Label consolidation

- Resolve annotations by multiple users
- Platform proposes a majority vote resolution
- Annotators can resolve disagreements
- Since original annotations are kept, we can analyse how challenging the coding task was and estimate the quality of annotations



- Overview
- Import
- Dataset
- Annotation
- Artefacts
- Pipelines
- Annotations**
- Schemes & Scopes
- Label Centre**
- Highlighters
- Project

# Label conso

- Resolve annotations
- Platform project
- Annotators collaboration
- Since original annotations are challenging to manage

## Resolve Annotations

**Annotation Export Configuration**

Descriptive name for this annotation export  
Resolve\_20230911\_01\_prioritised\_LS\_FH

**Annotation Scheme**  
Carbon pricing map

**Scheme labels to resolve**

- meth – Method
- outc – Analysed outcome
- polname – Policy name
- sect – Sector
- otherpol – Interaction with other policies
- exp – ex-post/ex-ante
- imp – Implemented policy
- cp – Carbon pricing

**Repeats to resolve**

1  2  3  4

Ignore scheme hierarchy

Ignore annotation order (repeats)

Show text

**Source assignment scopes**

- 20230901\_03\_prioritised\_LS\_FH
- 20230927\_prioritised\_LS\_FH
- 20230911\_02\_prioritised\_LS\_FH
- 20230503\_relevant\_AL\_AA\_KM\_ND
- 20230505\_relevant\_AL\_AA\_KM
- 20230505\_relevant\_AL\_AA
- 20230515\_prioritised\_AL\_ND
- 20230522\_prioritised\_AL\_AA\_ND
- 20230901\_01\_prioritised\_ND\_LS\_FH\_training
- 20230901\_02\_prioritised\_ND\_LS\_FH\_learning
- 20230911\_01\_prioritised\_LS\_FH

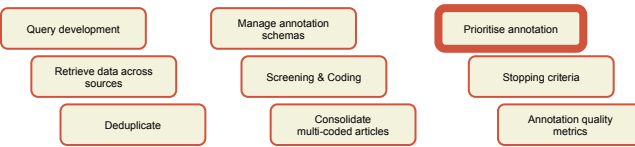
**Annotator selector**

- leonhard.schneider – Leonhard Schneider
- niklas.doebbeling – Niklas Döbbling
- alessandra.landa – Alessandra Landa
- klaas.miersch – Klaas Miersch
- finlay.hatch – Finlay Hatch
- arianna.avallone – Arianna Avallone

**Resolution algorithm**  
majority vote

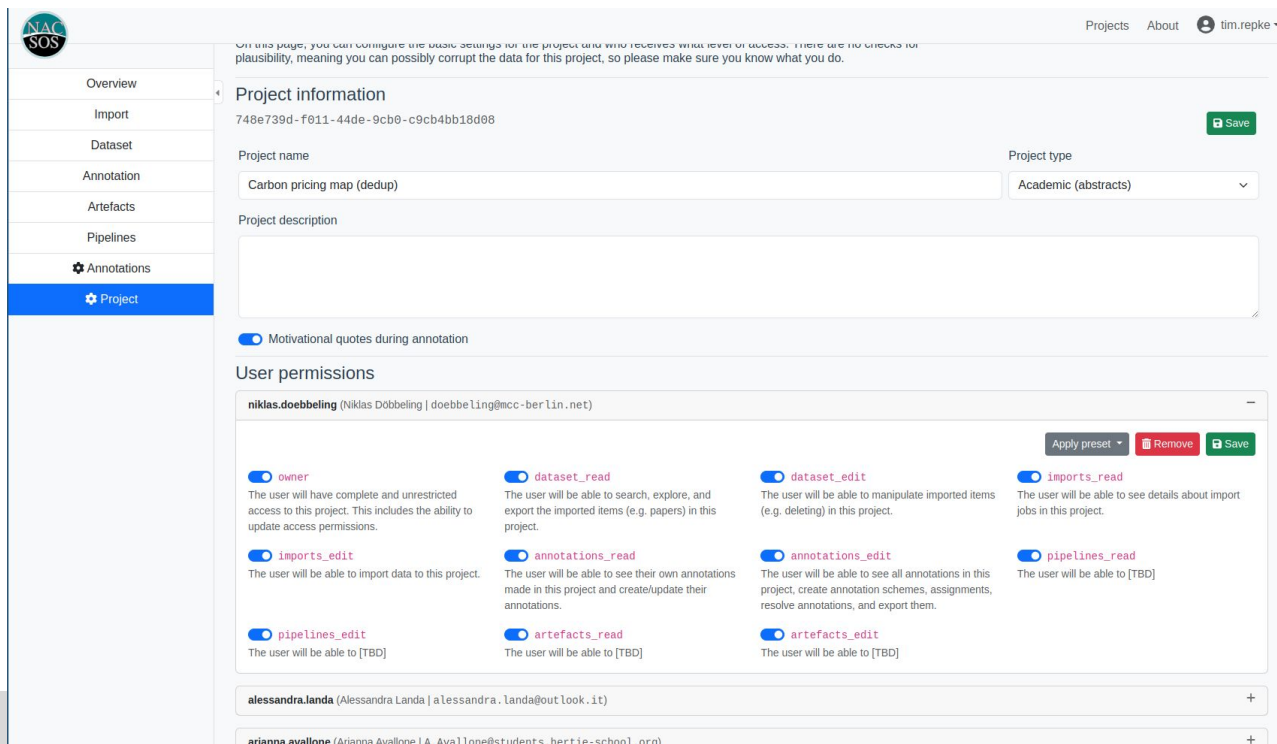
**Load**

#	Item	cp	imp	exp	meth	otherpol	sect	polname	outc
0	02340393-fc53-402d-aab8-eba37bf82be9	1	1	1	1	2	5	2	10
1	063b3764-bc81-4447-86f3-b5c369fd236d	1	1	1	1	0	0	0	2
2	08e4bc1e-c327-4c2d-9d8e-79458b2b631e	1	1	1	1	3	3	3	1
3	0958b1d1-13d4-414c-86a8-d032e3cb5573	1	1	1	2	1	1	1	5



# Managing assignments

Fine-grained control over who has access to what in your project



On this page, you can configure the basic settings for the project and who receives what level of access. There are no checks for plausibility, meaning you can possibly corrupt the data for this project, so please make sure you know what you do.

**Project information**

748e739d-f011-44de-9cb0-c9cb4bb18d08 Save

Project name: Carbon pricing map (dedup) Project type: Academic (abstracts)

Project description:

Motivational quotes during annotation

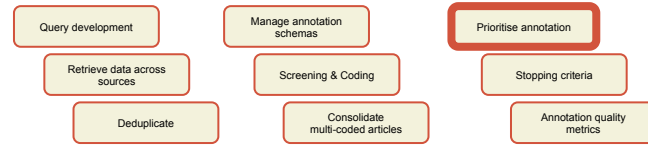
**User permissions**

**niklas.doebeling** (Niklas Doebeiling | doebeling@mcc-ber.lin.net) Apply preset Remove Save

- owner**  
The user will have complete and unrestricted access to this project. This includes the ability to update access permissions.
- dataset\_read**  
The user will be able to search, explore, and export the imported items (e.g. papers) in this project.
- dataset\_edit**  
The user will be able to manipulate imported items (e.g. deleting) in this project.
- imports\_read**  
The user will be able to see details about import jobs in this project.
- imports\_edit**  
The user will be able to import data to this project.
- annotations\_read**  
The user will be able to see their own annotations made in this project and create/update their annotations.
- annotations\_edit**  
The user will be able to see all annotations in this project, create annotation schemas, assignments, resolve annotations, and export them.
- pipelines\_read**  
The user will be able to [TBD]
- pipelines\_edit**  
The user will be able to [TBD]
- artefacts\_read**  
The user will be able to [TBD]
- artefacts\_edit**  
The user will be able to [TBD]

**alessandra.landa** (Alessandra Landa | alessandra.landa@outlook.it) +

**arianna.avallone** (Arianna Avallone | A.Avallone@students.hertie-school.org) +



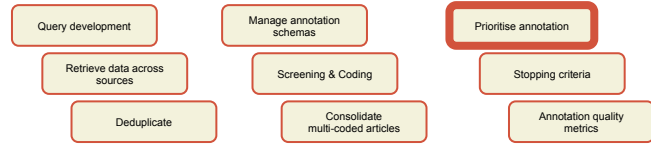
# Managing assignments

*Assign a user to annotate a specific document using an annotation scheme (in batches/scopes).*

- Random / rule-based sampling
  - Determine how many documents to code by how many users
  - Exclude/include specific documents per batch of assignments

Next week (or two):

- Prioritised screening with machine learning
- First platform to implement stopping criteria!!



# Managing assignments

Assign a user to annotate a specific document using an annotation scheme (in batches/scopes).

- Ra

Assignment strategy settings

Random assignment

Configure random assignments

Number of items	# multi-coded items	Min. # coders per item	Max. # coders per item	Random seed
150	150	2	2	10829

Make assignments

Results

(Re)load stats

Assignments: 400 ( open: 4 | partial: 0 | done: 396)

ke.ge	simon.montfort	chenxi.lu

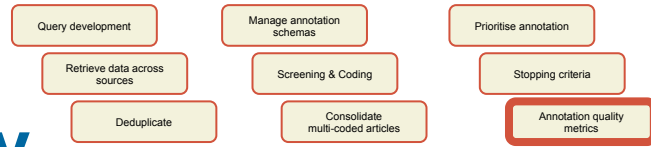
any users  
signments

Next w

- Pri

- First platform to implement stopping criteria!!





# Monitor annotation quality

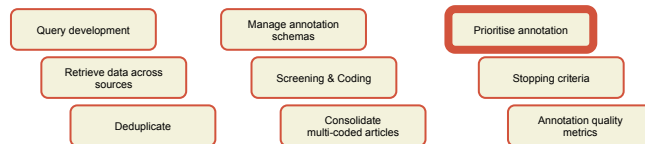
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- Annotator leaderboard
- Track assignment progress

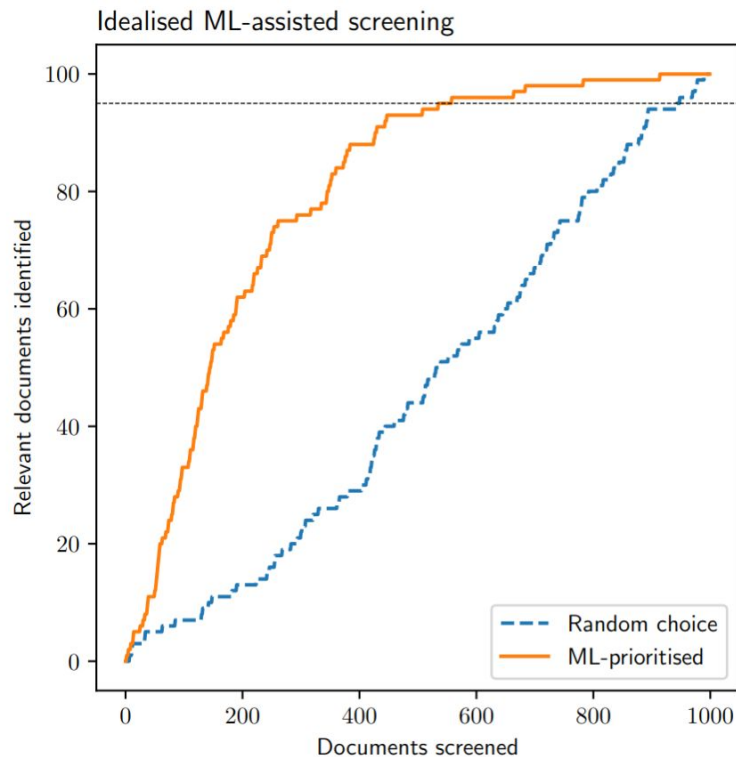
Coming soon...

- Screening/coding coverage of dataset
- Statistics on inter-rater agreement
- Stopping criterion plots
- Recall targets

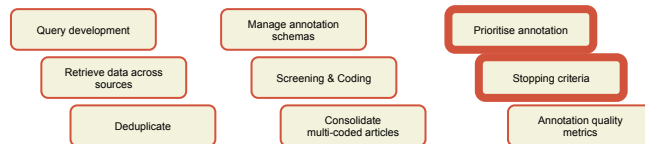
# ML-assisted document screening



- Growing number of “researcher-in-the-loop” machine learning applications for screening documents for systematic reviews (O’Mara-Eves et al., 2015; van de Schoot et al., 2021).
- Using machine learning to prioritise documents likely to be relevant, we can achieve high levels of recall without screening all documents.

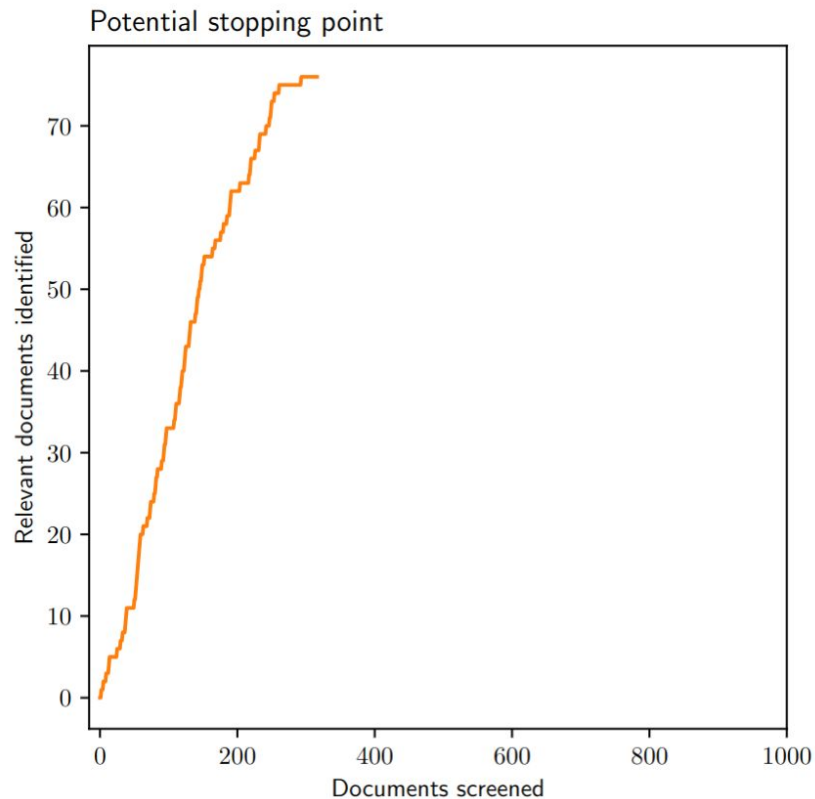


# Unleashing AI; But when do we stop?

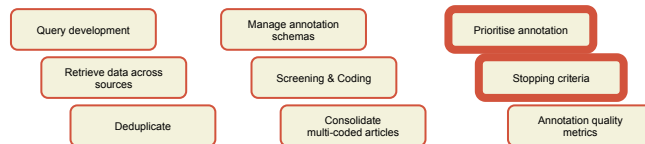


- We do not know *a priori* the true number of relevant documents

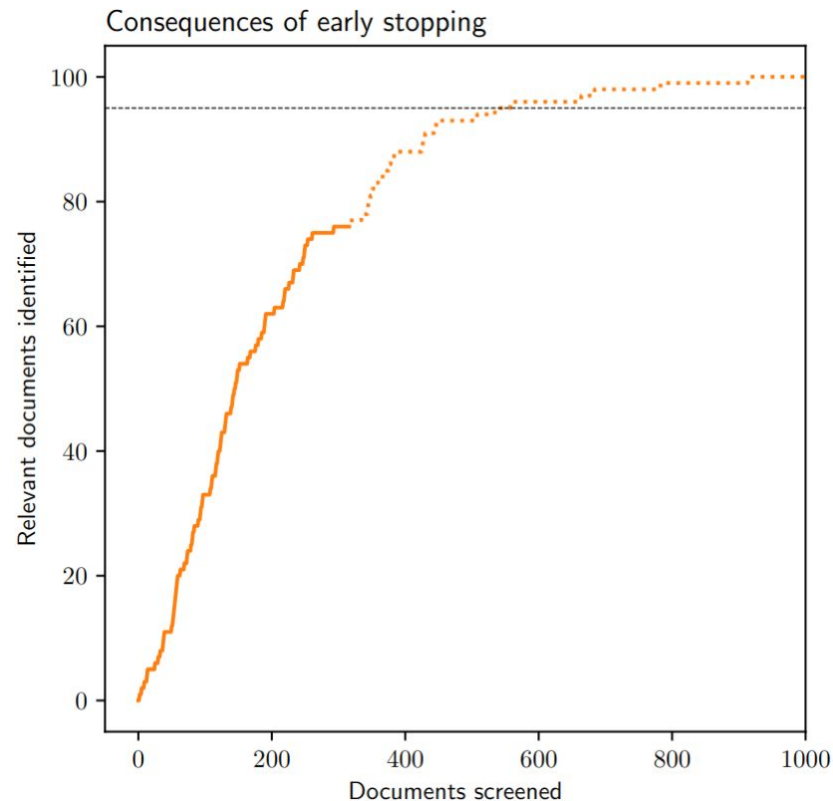
→ We need criteria when to stop screening!



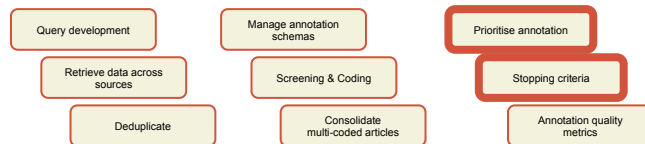
# Unleashing AI; But when do we stop?



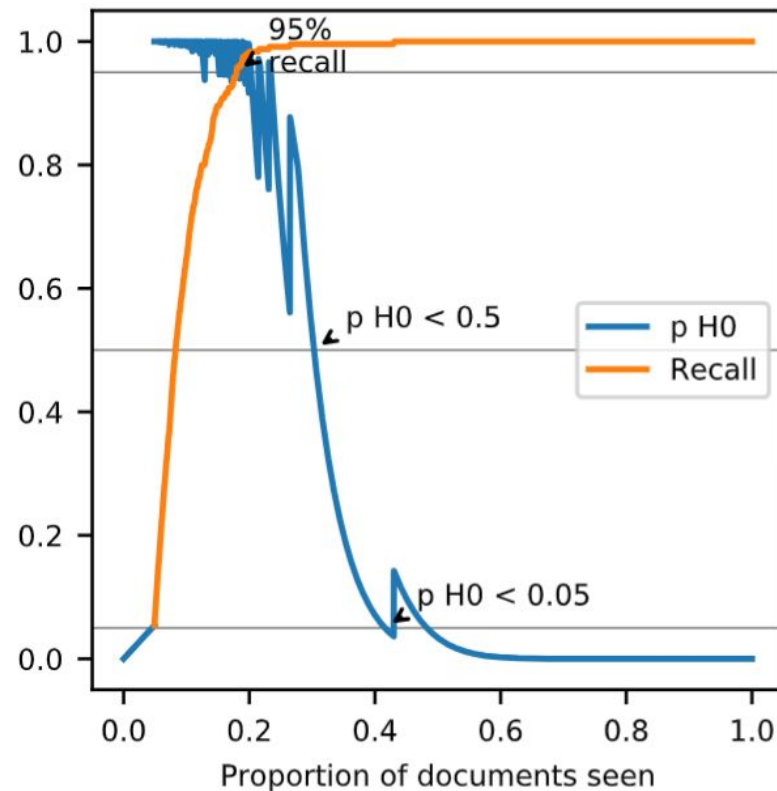
Stopping too early can lead to huge biases in reviews!



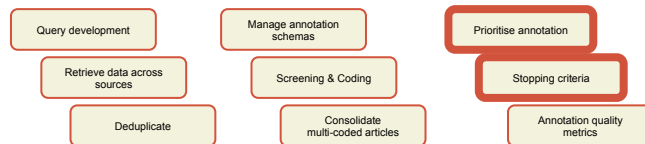
# Unleashing AI; But when do we stop?



- Our stopping criterion works by treating documents as if they were white (not relevant) and red (relevant) marbles drawn from an urn without replacement.
- The hypergeometric distribution describes the probability of observing  $k$  red marbles in a sample of  $n$  marbles, given an urn with  $N$  marbles, of which  $K$  are red.
- We formulate a null hypothesis  $H_0$  that a given recall target (e.g. 95% of relevant documents) has been missed.
- We calculate a p-score for  $H_0$  and stop screening if this falls below a selected threshold.



# Unleashing AI; But when do we stop?



Also available as an R package

<https://mcallaghan.github.io/buscarR/>



Is the first (and only) platform  
with a stopping criterion!



# Beyond the platform



- Overview
- Import
- Dataset
- Explore
- Statistics
- Export
- Annotation
- Artefacts
- Pipelines
- Annotations
- Project

## Download/Export Data

### Options

- Ignore annotation hierarchy
- Ignore annotation order

### Users

Select all  Unselect all

- chenxi.lu
- felix.creutzig
- jan.minx
- ke.ge
- max.callaghan
- simon.montfort
- tim.repke

### Document fields

Select all  Unselect all

- text
- title
- doi
- wos\_id
- scopus\_id
- openalex\_id
- publication\_year
- source

### Resolved annotations / BotAnnotations

Select all  Unselect all

- Settlements annotations

### Assignment Scopes

Select all  Unselect all

- WG2, Chapter 6  
City related
- CCP, Chapter 2  
City related
- WG3, Chapter 8  
City related
- Batch 1  
Cities and topics
- settlements\_01\_CL\_KG\_SM  
Settlements
- settlements\_02\_CL\_KG\_SM

### Labels

Select all  Unselect all

- adaptation  false  true  all  none
- cities  0  1  2  all  none
- city  false  true  all  none
- climate  false  true  all  none
- com  Include strings
- human\_settlements  false  true  all  none



# Beyond the platform (soon)

## Living evidence maps

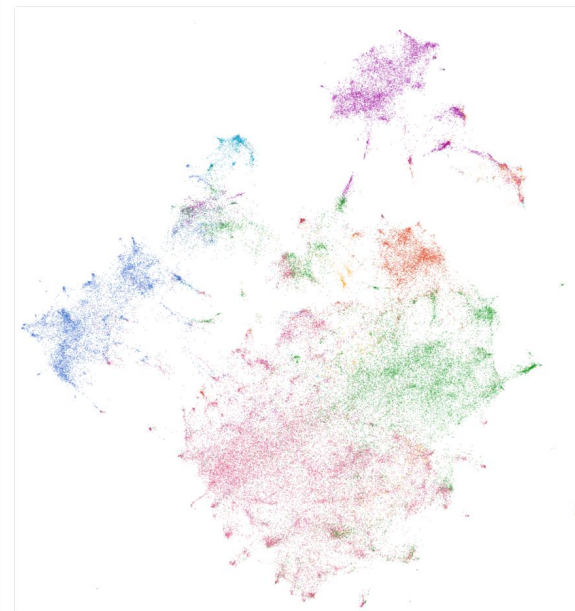
- Regularly update queries
- Classify new data
- Feed filtered and enriched data into map explorer
- Provide open, up-to-date datasets for relevant research areas

### Climate Policy Instruments

Max Callaghan

This interactive website accompanies the paper [x], which uses machine learning to identify and classify the literature on climate policy instruments. You can explore this literature in the map below, where each paper is represented by a dot, and papers which are linguistically similar are placed close together on the plot. Hovering over the map will show the titles of the papers.

You can select papers by clicking and dragging on the map to zoom in on an area. Or you can choose a different type of selection method using the icons in the top left. Once you have selected documents, a sample of these will be shown in the box below. You will also have the opportunity to download the complete selection of documents, including the machine-learning generated labels.



**Filters**

Click on the buttons below to deselect/select documents with each label. Enter a search term into the text search box to search for documents mentioning the term.

**Instruments**

Economic instruments

Regulatory Instruments

Information, education and training

Governance, strategies and targets

Agreements

**Sectors**

AFOLU  Buildings  Industry  Energy

Transport  Waste  Cross-sectoral

**Text search**

Results

78401

<https://apsis.mcc-berlin.net/climate-policy-instruments-map/>

# Disclaimer / Terms of Service

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- This is **not a** (commercial) **product** and we are not service providers.
  - We cannot offer 24/7 tech support.
  - We cannot offer to implement custom features.

but...

- We are open to invite others to use the platform.
  - Our **“fee” is a co-authorship** in respective publications.
  - If it is in line with our needs, we can implement features.
  - If resources permit, we can run additional analyses.
  - We can support the onboarding and introduction to the platform.
  - You could set up your own instance, it’s open source and “well documented”.
- Data ownership
  - We do **not guarantee** the **data is safe** forever. We do make backups and do our best though.
  - We would also like to use the data, but of course, you will be included in the process and we will never publish anything novel with your data.

## Links

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APSYS Website

<https://apsis.mcc-berlin.net/>

NACSOS

<https://apsis.mcc-berlin.net/nacsos/>

NACSOS Documentation

<https://apsis.mcc-berlin.net/nacsos-docs/>

Source code

<https://gitlab.pik-potsdam.de/mcc-apsis/nacsos>







Tim Repke  
[repke@mcc-berlin.net](mailto:repke@mcc-berlin.net)

Interested?  
Get in touch!

Max Callaghan  
[callaghan@mcc-berlin.net](mailto:callaghan@mcc-berlin.net)

## Other tools

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- AS-Review <https://asreview.nl/>
- EPPI Reviewer <https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=2914>
- Covidence <https://www.covidence.org/>
- 3ie Evidence Gap Explorer <https://developmentevidence.3ieimpact.org/>
- ...