



# Scopus AI: Trusted content. Powered by responsible AI.

**René Feyth**  
**Inside Solution Account Manager**



# Introducing Scopus AI

Your dynamic GenAI-informed  
research companion

## **Agenda:**

Elsevier AI principles, foundations

Case for Scopus AI

How does it work

Demo

# Scopus AI champions **responsible AI**

**In 2022, we published 5 Responsible AI Principles that complement our existing AI policies and processes.**

These principles have shaped every stage of Scopus AI's development, and will continue to guide the tool's evolution.

## Our Responsible AI Principles:

1. We consider the real-world impact of our solutions on people.
2. We take action to prevent the creation or reinforcement of unfair bias.
3. We can explain how our solutions work.
4. We create accountability through human oversight.
5. We respect privacy and champion robust data governance.

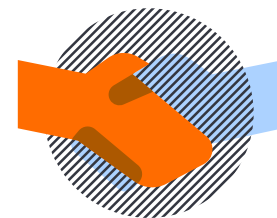
<https://www.elsevier.com/about/policies-and-standards/responsible-ai-principles>

# Scopus AI derives its strength from four primary pillars.



## Pillar 1: Trust

Strength	Trusted content	Minimizing hallucinations	Transparency	Limiting bias
Proof Point	All sources on Scopus have been selected by subject matter experts in their field, so you can always trust the content we use	Scopus AI follows strict prompts ensuring all information comes from curated sources with clear references	This is not a 'black-box', Scopus AI shows its workings so you can decipher how it reached its answers	We've taken steps to minimize the risk of bias responses, e.g. for queries that exacerbate prejudice or stereotypes



# Scopus AI uses only **high-quality, curated Scopus content**

**Every Scopus AI response is grounded in content that has been vetted by independent experts.**

It has not only been peer reviewed, it has also been rigorously vetted and selected for inclusion in Scopus by the independent Content Selection and Advisory Board (CSAB).

Journals must demonstrate their ability to maintain their quality status every year as part of the Scopus re-evaluation program.

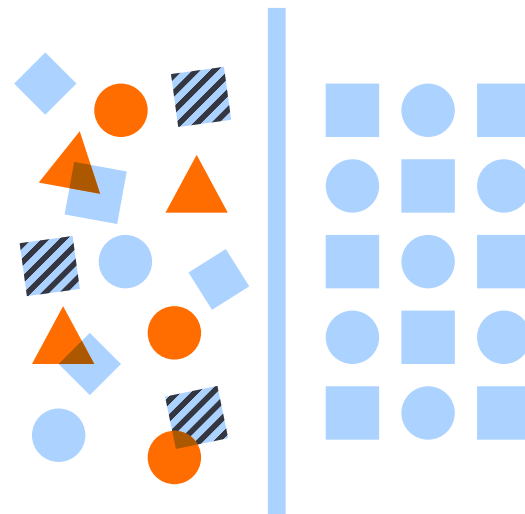


<b>Stage 1</b>	<b>~3,500</b> title suggestions per year on average
<b>Stage 2</b>	<b>~51%</b> meet the Scopus minimum criteria
<b>Stage 3</b>	<b>~48%</b> are accepted after the CSAB's review
<b>Result</b>	<b>~857</b> serial titles meet the full Scopus criteria

# Curation of high-quality Scopus content

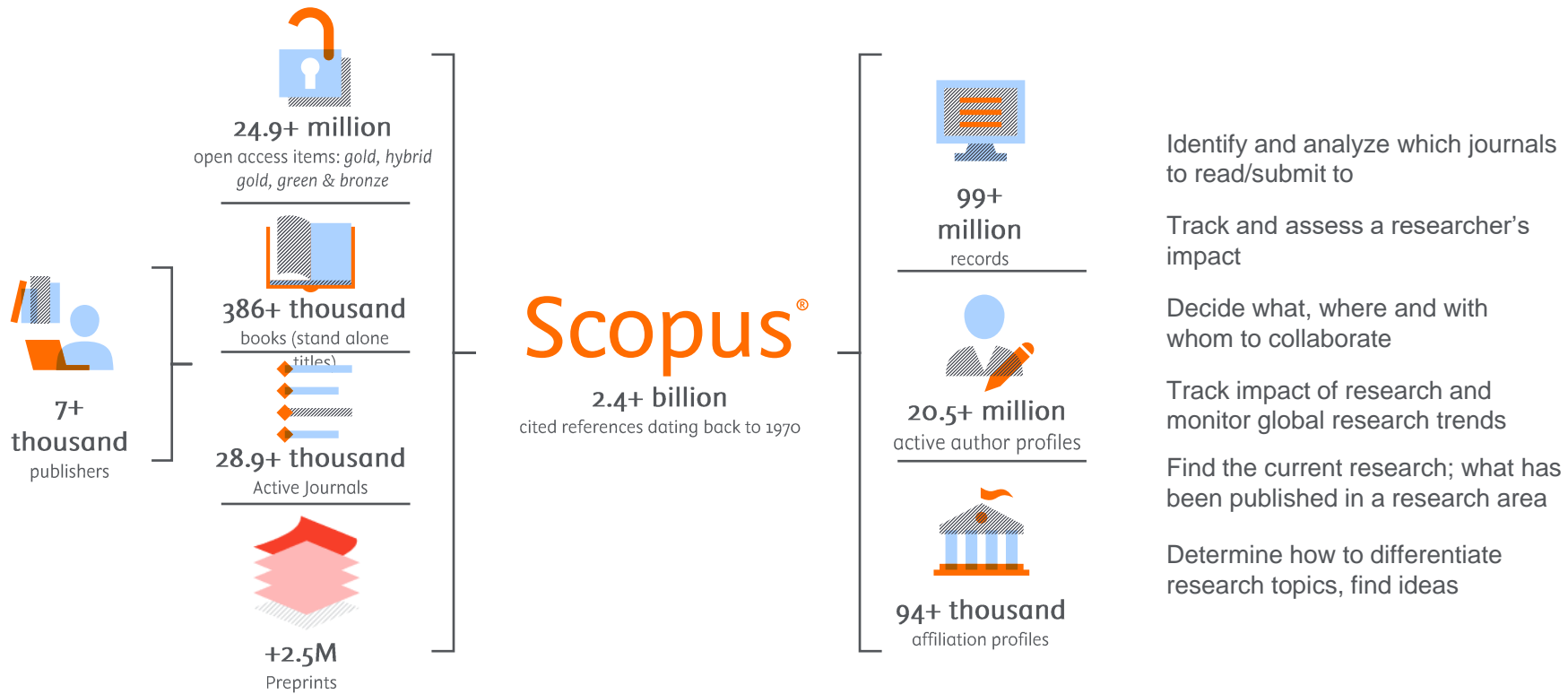
The Scopus collection of high-quality, reliable academic content informs the results

1. Scopus AI is informed by **the high-quality, reliable, curated academic content** that the research community knows and trusts.
2. Data is **updated daily**, ensuring the most recent content is included.
3. Abstracts of **all content types** are used for summaries, and prompt engineering minimizes the use of irrelevant documents.



You can be confident that your summary is based on expert-vetted, curated information, generated via a transparent content selection process

# Curated, enriched and connected data that surfaces signals about research that are intuitive to access and understand



Numbers shown are rounded and current as November 2024. Scopus is updated daily

# Scopus Coverage Summary (November 2024)



**Global representation means global discovery across all subjects and content types**

**989M** records from **28.9K** active journals, **161K** conferences and **386K** books (stand alone titles)  
from more than **7,000** publishers in **105** countries

- Updated daily—approximately **13,000** articles per day indexed
- **24.9M** open access documents (Gold, Hybrid Gold, Bronze & Green)
- **2.5M** preprints from multiple preprint servers
- **7,911** active Open Access journals

Number of journals by subject area**	Journals	Conferences	Books	Preprints
<b>Physical sciences</b> <b>15,634</b>	<b>28,932**</b> active peer-reviewed journals	<b>161K</b> conference events	<b>386K</b> stand-alone books	<b>2.5M</b> preprints
<b>Health sciences</b> <b>15,475</b>	<b>186</b> trade journals	<b>12.58M</b> conference papers	<b>3.44M</b> total book items	7 preprint servers:
<b>Social sciences</b> <b>16,179</b>	<b>7,911</b> OA Journals (DOAJ/ROAD)		Focus on Social Sciences and A&H	<ul style="list-style-type: none"><li>• arXiv</li><li>• ChemRxiv</li><li>• bioRxiv</li><li>• medRxiv</li><li>• SSRN</li><li>• TechRxiv</li><li>• Research Square</li></ul>
<b>Life sciences</b> <b>8,379</b>	<b>22.8M</b> fully-indexed funding acknowledgements	Mainly Engineering and Computer Sciences		
	<ul style="list-style-type: none"><li>• Full metadata, abstracts and cited references (refs post-1970 only)</li><li>• Citations back to 1970</li></ul>			

\*Journals may be classified in multiple subject areas: this count includes current actively indexed titles only

\*\*Total number of Scopus journals in database including inactive titles is 44,724



# Scopus AI derives its strength from four primary pillars.



## Pillar 2: Community

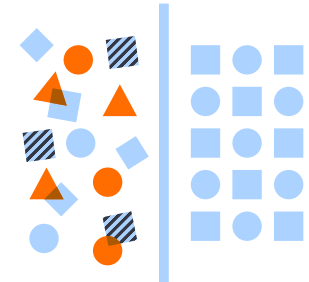
Strength	Community verification	Community collaboration
Proof Point	The Scopus content has been selected and vetted in collaboration with boards of subject matter experts from within the research community	Scopus AI is an iterative tool, A constant loop of community feedback means it continues to evolve in line with the needs of its users



# Scopus AI derives its strength from four primary pillars.

## Pillar 3: Enhanced & accelerated outcomes

Strength	<p>Accelerated access to knowledge <i>within &amp; about</i> research</p>	<p>Enhanced outcomes across the research lifecycle</p>
Proof Point	<p>Scopus AI search &amp; summaries are designed to save you time by providing you instant access to the most pertinent (answers/information?) related to your query</p>	<p>Our AI synthesizes thousands of papers abstracts and linked connections, delivering richer insights to inform your most important decisions</p>



# Scopus AI derives its strength from four primary pillars.



## Pillar 4: Full-spectrum understanding

Strength	Explore the frontiers of research	Bridge the knowledge gap	See the full picture
Proof Point	Our knowledge graph and RAG fusion powered expanded summaries lead you to the frontiers of a discipline, pointing to notable gaps for impactful future research	Instant summaries of essential information give you the knowledge and confidence to collaborate across disciplines straight away	Scopus AI leverages our best in class linked data sets to instantly map the funders, experts and institutions vital to your next research project

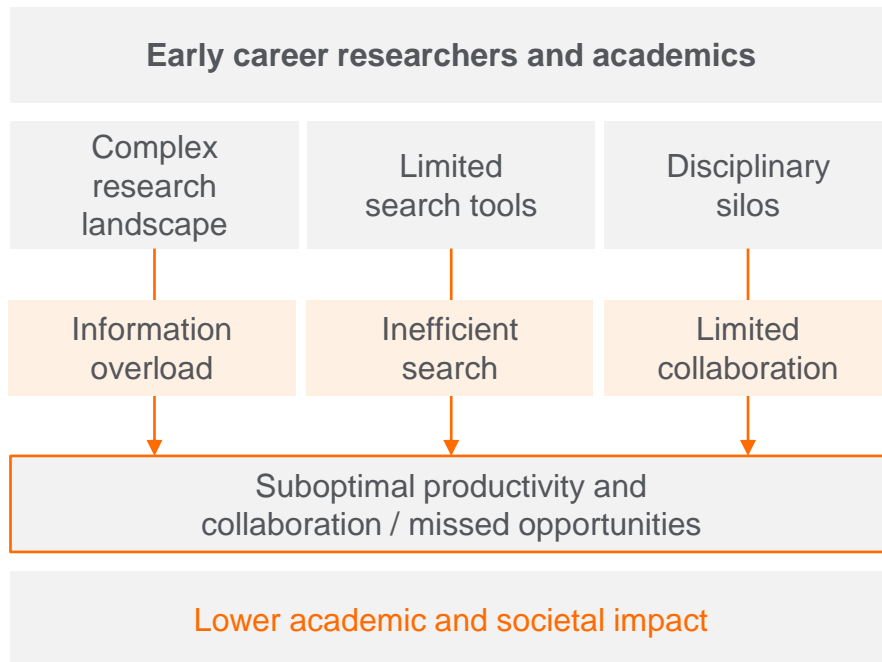




# Why Scopus AI?

# There are many challenges in research today

60% of Scopus users told us they wanted a way to learn about new topics more effectively

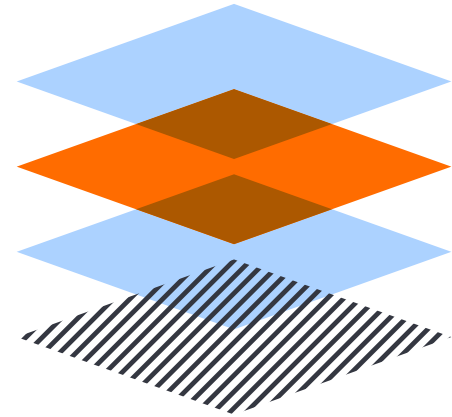


# Current tools fail to get you up to speed quickly

**Current tools fail to give a focused, easy-to-use summary of unfamiliar research fields**, making it difficult to quickly understand important ideas and find connections with potential collaborators.

**While traditional tools falter, Scopus AI with generative AI aims to offer brief and reliable summaries of research topics.**

This will help you conduct research more efficiently, find relevant information, and facilitate effective collaborations across different disciplines.



# What use cases does Scopus AI support?

- **Finding references**  
(e.g., for a thesis or manuscript)
- **Getting familiar** with a new topic
- **Deepening understanding** of a research topic
- **Better articulating** a hypothesis or idea
- **Explaining a complex topic** to juniors / non-academics
- **Collaborating** with others

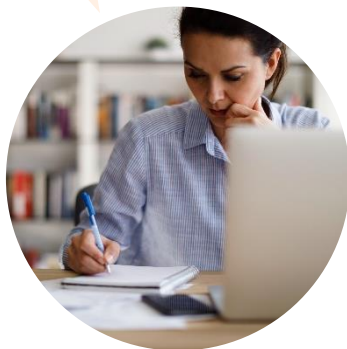


# Voices of Scopus AI users

Scopus AI is my **new starting point**, not Google.



Scopus AI is **the future of how we work** as researchers.



As a researcher, my problem is to understand the world, to organise future research directions, and to understand the main topics and how they relate. This can take months to create, and **here I get it out-of-the-box!**





“Something that gives me a lot of confidence in [Scopus AI] is that the **results are referenced**, and it’s easy to check the references.”



[Read the full interview](#)

**Bruno Augusto**

Environmental Engineering PhD student,  
University of Aveiro, Portugal

# Our capabilities

Access quality insights faster using advanced technologies and expertise and high-quality, trusted data



## Generative AI Models

Generative AI models are computer systems that can autonomously produce new and creative content, resembling human-generated data. *We use this technique to generate summaries of relevant publications in response to your query.*



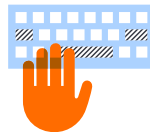
## Large Language Model (LLM)

Advanced type of artificial intelligence system capable of processing and generating human-like natural language responses by analyzing vast amounts of data. *We use LLMs to generate summaries in response to your queries.*



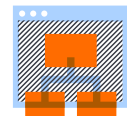
## Vector search

Converting a text to an array (vector) enables complex mathematical work on the text, like finding another vector that is similar to it, using cosine similarity. Generally accepted to be more effective than other search types. *We use vector search to identify relevant publications to your query.*



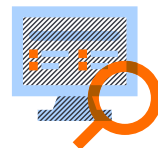
## Query

Typically, user input or question posed in natural language that a search engine or LLM attempts to understand and respond to with relevant information or content. *Here, we use your query to conduct a vector search for relevant publications; then we prompt the LLM to extract information from the identified publications.*



## Prompt engineering

An AI-based technique for refining prompts so that the language model optimizes the output and produces a desired response type. *We develop prompts to help you learn the foundations, context, and get up to speed quickly.*



## Semantic relevancy algorithm

A sophisticated method, incorporating multiple checkpoints, for determining the relevance of search results to a query. *We use cosine similarity, publication recency and citation count to determine relevance of publications to your query.*

# How does it work?



## Step 1:

Curation of high-quality Scopus content



## Step 2:

Query formulation



## Step 3:

Scopus AI: Vector Search & Result Generation



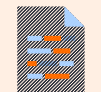
## Step 4:

Language Learning Model (LLM) summary generation



## Step 5:

Cited references for validation and transparency



## Step 6:

Explore further with features like “Go deeper” and “Concept map”

Developed according to our **Responsible AI Principles**<sup>1</sup>

Explore these **6 steps** in greater detail on the following slides.

# What is included in a Scopus AI response?



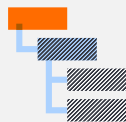
## Summary

A fully referenced Summary that includes guidance on the tool's confidence in the response



## Expanded summary

An extended referenced summary that explores each query from multiple perspectives



## Go deeper questions

A series of prompts designed to help you continue exploring and learning



## Concept map

A clickable visual that uses keywords to provide a bird's-eye view of the topic space



## Foundational documents

A list of influential articles that inspired the articles cited in the summaries



## Topic experts

The top researchers in your chosen field (based on their volume of related publications)



## **NEW:** Emerging themes

A topic overview that helps you identify the research themes in your field of interest – including potential areas of opportunity; for example, those that are new or currently underserved by the literature

# Scopus AI today

Explore topics and discover relevant references since 2003 [How it works](#)

What impact does climate change have on coffee production?

Hide Copilot steps ^

- Creating plan to answer your query
- Performing natural language search:
  - Impact of climate change on coffee production
- Performing keyword search:
  - ("climate change" OR global warming OR "climate crisis" OR "environmental change") AND ("coffee production" OR "coffee farming" OR "coffee cultivation" OR "coffee growing")
- Generating summary

Summary

Climate change has a significant impact on coffee production, affecting both yields and quality. Here are the key impacts supported by relevant abstracts:

- Reduction in Suitable Areas and Yields:** Climate change leads to a reduction in the area suitable for coffee production, lower yields, and increased intensity and frequency of extreme climate events [1](#) [2](#) [3](#) [4](#) .
- Pests and Diseases:** Increased temperature and rainfall variability induce the occurrence of pests and diseases, negatively affecting the volume and quality of coffee production [2](#) [3](#) [5](#) .
- Adaptation Strategies:** Farmers implement adaptation strategies such as selecting appropriate shade tree species, soil fertility maintenance, and pests and diseases management to minimize the detrimental effects of climate change [2](#) [5](#) [6](#) .

Expanded summary ^

Based on the user's query, I will address the impact of climate change on coffee production, the quality of coffee beans, the economic implications, the geographic distribution of coffee cultivation, and adaptive strategies for coffee farmers to mitigate the effects of climate change.

**Impact of Climate Change on Coffee Production and Quality**

- Recent climate change models predict that coffee production and the livelihood of millions of farmers will be significantly affected by climate change. This is due to increasing temperature and rainfall variability, which will reduce the bio-climatic suitable areas, growth, and yield of coffee, and induce the occurrence of pests and diseases [1](#) [2](#) .

References

- 1 Opportunities for enhancing the climate resilience of coffee production through improved crop, soil and water management  
Bracken P., Burgess P.J., Girkin N.T.  
*Agroecology and Sustainable Food Systems* 71 2023
- 2 The impact of climate change on coffee production of small farmers and their adaptation strategies: a review  
Jawo T.O., Kyereh D., Lojka B.  
*Climate and Development* 71 2023
- 3 The impact of climate change and variability on coffee production: a systematic review  
Pham Y., Reardon-Smith K., Mushtaq S., Cockfield G.  
*Climatic Change* 71 2019

[Show all 7 references](#)

Copilot query tool

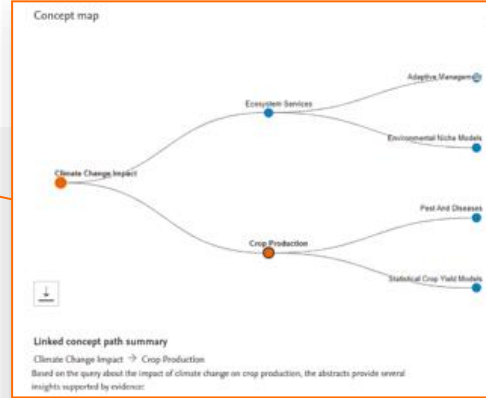
Natural language queries

Summary and Expanded summary

Clear references

# Scopus AI today

Concept map



**Foundational documents**

**313 citations**  
A letter (sci): climate change profile of global production of Arabica and Robusta coffee  
C. Bunn, Christian, P.R., Librevet, Peter Berman, O. Ouedraogo, Odara, D., Kraschka, Detlev  
*Climate Change* (2021)

**214 citations**  
Projected shifts in Coffea arabica suitability among major global producing regions due to climate change  
O. Ouedraogo, Odara, P.R., Librevet, Peter Berman, C. Bunn, Christian, [..], G., Schach, Gatz  
*PLoS ONE* (2023)

Show more documents

Foundational documents

**NEW:** Emerging themes

Topic experts

**Emerging themes**

**Microplastic Pollution in Freshwater Ecosystems** Consistent theme

The persistent presence of microplastics in freshwater ecosystems continues to be a significant area of research. This theme has maintained steady interest due to the ongoing discovery of microplastic sources, their ecotoxicological effects, and the development of remediation strategies.

Show references

Potential hypotheses

- Microplastic pollution in freshwater ecosystems has a more significant impact on biodiversity than previously understood
- Innovative bioremediation techniques can significantly reduce microplastic concentrations in freshwater environments

**Topic experts**

**Kath, Jared M. J.M.**

180 citations 4 matching documents IP h index

Jared M. Kath has expertise in assessing the impact of climate change on coffee production through integrated spatial modeling, scale-dependency analysis of climate risks, and improving irrigation management for coffee farms. Their research on identifying potential coffee growing areas and determining critical thresholds for coffee production under climate change demonstrates their in-depth understanding of the subject.

Previous profile

**Go deeper**

- How does climate change affect the flavor profile of coffee beans?
- What measures can coffee farmers take to mitigate the impact of climate change on their crops?
- How does climate change influence the geographic distribution of coffee growing regions?

Go deeper questions

# Scopus AI natural language queries

## Your search, your way

Ask questions on your chosen topic in a natural, conversational manner, supported by our powerful new **Copilot search tool**.

## Benefits of Copilot

- Can combine both vector and keyword search
- Breaks down and optimizes queries to improve the specificity of results
- Supports queries in multiple languages
- Accepts longer text queries
- Considers more results

Copilot also provides a transparency layer that explains exactly how the tool has broken down and optimized your query. **It is one of very few GenAI solutions on the market to do this.**

Explore topics and discover relevant references since 2003 [How it works](#)

How can game theory be applied to corporate compliance programs?



### How can game theory be applied to corporate compliance programs?

Hide Copilot steps 

- ⊙ **Creating plan to answer your query**
- ⊙ **Performing natural language search:**
  - Application of game theory in corporate compliance programs
- ⊙ **Performing keyword search:**
  - ("game theory" OR "strategic interaction" OR "decision theory" OR "interactive decision making") AND ("corporate compliance" OR "business compliance" OR "regulatory compliance" OR "corporate governance") AND ("programs" OR "initiatives" OR "strategies" OR "policies")
- ⊙ **Generating summary**

# Summaries with Scopus references

## Learn about your chosen topic

- The **easy-to-digest Summary** provides a concise response to your initial query.
- The **Expanded summary** offers more depth and a wider range of perspectives.

Summary

Climate change poses a significant threat to coffee production, impacting both yields and quality [1](#) [10](#) [11](#) [12](#) [13](#) [14](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) . Here's a breakdown of the specific threats:

**Direct and Indirect Impacts:**

- Reduction in suitable production areas, lower yields, increased frequency of extreme climate events, and greater incidence of pests and diseases are direct impacts of climate change on coffee production [1](#) [10](#) [11](#) [12](#) [13](#) [14](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) .
- Changes in rainfall patterns, temperature rise, and erratic weather negatively affect the volume and quality of coffee production [10](#) [11](#) [14](#) [9](#) .

**Adaptation Strategies:**

- Sustainable management practices, such as agroforestry and altering agrochemical inputs, can enhance the resilience of coffee production to climate change [1](#) [10](#) [11](#) [12](#) [13](#) [14](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) .
- Relocation of coffee plantations to more climatically suitable areas, irrigation, and diversification of coffee farms with trees are potential adaptation strategies [12](#) .

**Vulnerability of Smallholder Farmers:**

- Smallholder coffee farmers, who represent the majority of coffee producers, are highly vulnerable to the impact of climate change due to financial insecurity and limited access to adaptation measures [1](#) [10](#) [11](#) [12](#) [13](#) [14](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) .

In conclusion, the adverse effects of climate change on coffee production necessitate urgent implementation of adaptation strategies and policy interventions to support the resilience of coffee farmers and ensure the sustainability of coffee production [1](#) [10](#) [11](#) [12](#) [13](#) [14](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) .

**References**

- 1 Opportunities for enhancing the climate resilience of coffee production through improved crop, soil and water management  
Bracken P., Burgess P.J., Girkin N.T.  
*Agroecology and Sustainable Food Systems* 2023
- 2 Coffee in the crosshairs of climate change: agroforestry as abatis  
Rice R.A.  
*Agroecology and Sustainable Food Systems* 2018
- 3 Coffee and chocolate in danger  
Gross M.  
*Current Biology* 2014

[Show all 14 references](#)

**Foundational documents**

348 citations

A bitter cup: climate change profile of global production of Arabica and Robusta coffee  
C., Bunn, Christian, P.R., Läderach, Peter Roman, O., Ovalle-Rivera, Oriana, D., Kirschke, Dieter  
*Climatic Change* 2015

Expanded summary

Based on the user's query, I will provide a summary that addresses the impact of climate change on coffee production, including its effects on yield and quality, the specific environmental factors affected, the economic implications, and sustainable agricultural practices to mitigate these impacts.

**Impact of Climate Change on Coffee Production:**

- Climate change poses a significant threat to coffee production, affecting both yields and quality [1](#) [2](#) [3](#) [4](#) [5](#) .
- Adverse environmental impacts include a reduction in suitable production areas, lower yields, increased intensity and frequency of extreme climate events, and a greater incidence of pests and diseases [1](#) [2](#) [3](#) .
- Changes in temperature, rainfall variability, and soil moisture are key environmental factors affected by climate change, leading to decreased coffee suitability areas, growth, yield, and increased pest and disease pressure [2](#) [4](#) [5](#) .

**Economic Implications:**

- The economic implications of climate change on the coffee industry are substantial, as coffee production supports the livelihoods of over 25 million people globally, the majority of whom are smallholder farmers located in the coffee belt spanning the tropics [1](#) .
- Climate change is projected to significantly lower coffee production, with potential yield decreases between 25% and 75% by the 2050s, leading to economic challenges for both farmers and national economies [6](#) [7](#) .

**Mitigation Strategies:**

- Sustainable management practices are urgently needed to enhance the resilience of coffee production and livelihoods to climate change [1](#) .
- Specific adaptation strategies pursued by farmers to reduce the impacts of climate change include selecting



# Transparency and context about our confidence in the responses

## Reflection layer

The prompt engineering guides the large language model to signpost in the summaries how relevant the response is to your query.

In this example, the language at the top of the Summary makes it clear that confidence in the response is medium, while the last paragraph adds nuance about the information available.

Explore topics and discover relevant references since 2013 [How it works](#)

Do RPL18 mutations cause DBA



### Do RPL18 mutations cause DBA

[Show Copilot steps](#) ▾

#### Summary

Based on the available abstracts, it can be inferred that mutations in ribosomal protein L18 (RPL18) are associated with Diamond-Blackfan anemia (DBA) [1](#) [2](#). Here's a summary of the relevant findings:

- **Association with DBA:** Mutations in RPL18 have been identified in DBA patients, and the deficiency of RPL18 mirrors the erythroid defects observed in DBA [1](#).
- **Pathogenesis:** Research using a zebrafish model demonstrated that RPL18 deficiency leads to a lack of mature red blood cells and activates the JAK2-STAT3 pathway, suggesting its involvement in the pathogenesis of DBA [1](#).
- **Genetic Aetiology:** Whole exome sequencing analysis identified a non-synonymous variant in RPL18 in a family with DBA, resulting in pre-rRNA processing defects [2](#).
- **Implications:** The identification of RPL18 mutations in DBA patients provides insights into the genetic basis of the disease and its potential role in ribosomal function and erythropoiesis [1](#) [2](#).

In conclusion, the available evidence supports the association of RPL18 mutations with DBA, shedding light on the genetic underpinnings and potential pathogenic mechanisms of the disease.

# Go deeper queries

## Continue learning and exploring

Scopus AI generates three **Go deeper questions** for each query that help you drill down and broaden your understanding.

↳ How does rising global temperatures affect the growth and yield of coffee plants?

↳ What are the specific climate-related factors that contribute to the spread of coffee diseases and pests?

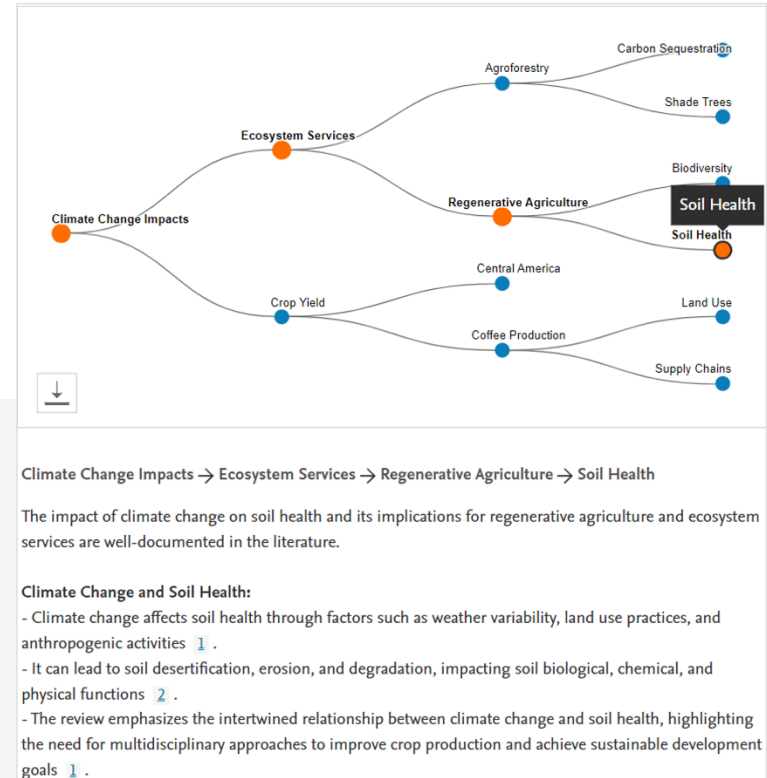
↳ How does changing rainfall patterns impact the quality and flavor profile of coffee beans?

# The Concept map

## See the big picture

The **Concept map** helps you get a bird's-eye view of the topic space and a more complete picture of your theme and its relationship to other research areas.

Clicking on a node will highlight how the node relates to the topic, and an explanation of the relationship will be provided beneath the Concept map.



# Foundational documents

## Discover influential papers

The list of **Foundational documents** illustrates which papers heavily influenced the documents that Scopus AI used to write its response, specifically the Summary.

### Foundational documents

189 citations

The ribosomal basis of diamond-blackfan anemia:  
Mutation and database update

I., Boria, Ilenia, E., Garelli, Emanuela, H.T., Gazda, Hanna T.,  
(...), I., Dianzani, Irma

*Human Mutation* ↗ 2010

336 citations

Ribosomal Protein L5 and L11 Mutations Are Associated  
with Cleft Palate and Abnormal Thumbs in Diamond-  
Blackfan Anemia Patients

H.T., Gazda, Hanna T., M.R., Sheen, Mee Rie,  
A., Vlachos, Adrianna, (...), A.H., Beggs, Alan H.

*American Journal of Human Genetics* ↗ 2008

[Show more documents](#)

# Topic experts



## Meet the experts

Scopus AI draws on the rich Author Profiles in Scopus to introduce the most active authors in your chosen field, along with explanations of their relevant expertise.

### Topic Experts

[Ramalho, José C. J.C.](#)

| 3578 citations   5 matching documents   41 h-index

José C. Ramalho is an expert in the impact of climate change on coffee production, as evidenced by their research on the biochemical and molecular responses of coffee plants to supra-optimal temperatures and elevated CO<sub>2</sub>, as well as their investigation into the effects of drought, warming, and high CO<sub>2</sub> on coffee in the context of future climate change scenarios.

[Van Asten, Piet J.A. P.J.](#)

| 2875 citations   3 matching documents   31 h-index

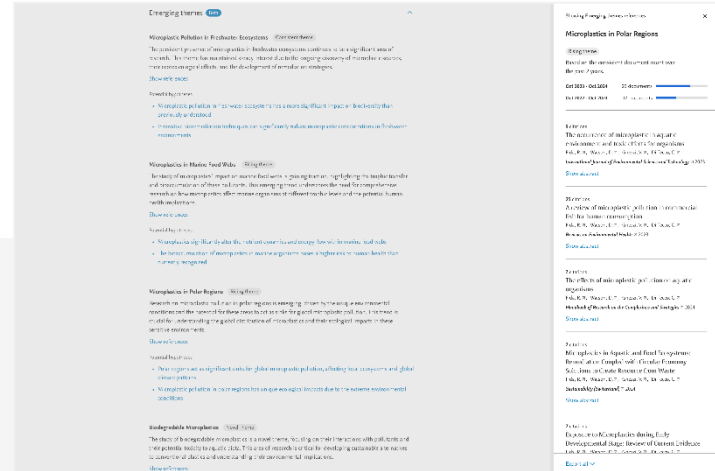
Piet J.A. Van Asten is an expert in the adaptation strategies of coffee production to climate change. Their work focuses on understanding the critical thresholds for global coffee production under climate change, the influence of vapour pressure deficit on coffee ripening, and the exploration of adaptation strategies for coffee production in the face of climate change using process-based models.

# Emerging themes

## Identify your next research area

Emerging themes is the logical next step on your discovery journey.

This new feature provides a comprehensive map of the themes in your selected research area and identifies the 'whitespace' you can use to target your next publication, collaboration or funding opportunity.



\* Interface and functionality subject to change

A decorative horizontal band at the top of the slide features a repeating pattern of stylized, light-colored floral and leaf motifs.

# Scopus AI Demo



ELSEVIER

# Thank you

