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La huella de la humanidad en el espacio: un viaje cienciométrico a través de la demografía

The Mark of Humanity in Space: A Scientometric Journey Through Demography

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Abstract

Citizen geography is an essential discipline for understanding how human society is distributed, migrates, and organizes itself in space, particularly in response to modern phenomena such as accelerated urban growth and environmental challenges. In this context, the present study analyzes academic production in this area through a scientometric approach, using data from the Scopus and Web of Science databases. A total of 591 documents published between 2004 and 2024 were identified. The analysis made it possible to identify the most relevant topics, as well as the countries, authors, and journals with the highest volume and influence, and to track the evolution of scientific interest over time. The United Kingdom leads in scientific output (20% of the publications and over 55% of the citations), followed by the United States (19.36%) and China (11.7%). Among the most influential authors are Halfacree K, Findlay A, and Boyle P, who have formed strong collaborative networks, mainly within institutions in the United Kingdom and Australia. In contrast, some author, such as Noin D, show low visibility despite their productivity. Among the most prominent journals, *Population, Space and Place*, and *Progress in Human Geography* (both ranked in Q1 of the Scimago Journal Rank) stand out as key references for the dissemination of knowledge in this field. Finally, three phases in the development of the field are identified: an initial phase (2004–2010) with limited impact, a period of steady growth (2011–2017), and a phase of consolidation and expansion (2018–2024), with an average annual growth rate of 2.47%.

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These findings demonstrate the advancement of the discipline and its increasing importance for territorial planning, urban development, and the design of public policies based on scientific evidence.

Keywords: Population Geography, Global, Demography, Urbanization, Territory

Resumen

La geografía ciudadana es una disciplina fundamental para comprender cómo se distribuye, migra y organiza la sociedad humana en el espacio, especialmente frente a fenómenos contemporáneos como el acelerado crecimiento urbano y los desafíos ambientales. En este contexto, el presente estudio analiza la producción académica en esta área mediante un enfoque cienciométrico, utilizando datos provenientes de las bases de datos Scopus y Web of Science. Se identificaron un total de 591 documentos publicados entre 2004 y 2024. El análisis permitió reconocer los temas más relevantes, así como los países, autores y revistas con mayor volumen e influencia, y rastrear la evolución del interés científico a lo largo del tiempo. El Reino Unido lidera en producción científica (20 % de las publicaciones y más del 55 % de las citaciones), seguido por Estados Unidos (19,36 %) y China (11,7 %). Entre los autores más influyentes se encuentran Halfacree K, Findlay A y Boyle P, quienes han conformado sólidas redes de colaboración, principalmente dentro de instituciones del Reino Unido y Australia. En contraste, algunos autores como Noin D presentan baja visibilidad a pesar de su productividad. En cuanto a las revistas más destacadas, Population, Space and Place y Progress in Human Geography (ambas ubicadas en el cuartil Q1 del Scimago Journal Rank) sobresalen como referencias clave para la difusión del conocimiento en este campo. Finalmente, se identifican tres fases en el desarrollo de la disciplina: una fase inicial (2004–2010) con impacto limitado, un periodo de crecimiento sostenido (2011–2017), y una fase de consolidación y expansión (2018–2024), con una tasa media de crecimiento anual del 2,47 %. Estos hallazgos evidencian el avance de la disciplina y su creciente importancia para la planificación territorial, el desarrollo urbano y el diseño de políticas públicas basadas en evidencia científica.

Palabras clave: *Geografía poblacional, Global, Demografía, Urbanización, Territorio*.

1. Introduction

Territorial demography is essential for understanding the spatial distribution of populations and the causes behind population mobility and concentration. It allows for the analysis of how social, economic, political, cultural, and environmental factors influence decisions about where people live or migrate [1]. In a world experiencing rapid urban growth, climate change, and global migration flows, this discipline is crucial for improving urban planning, land management, and the formulation of efficient and sustainable national policies [2].

Despite the rise of territorial challenges—such as migration, urbanization, and population aging—few studies systematically integrate the most important findings, methods, and trends

in territorial demography. The existing literature suffers from significant fragmentation, lacking a consolidated review that covers both the thematic and spatial dimensions of the field [3]. This fragmentation limits our ability to anticipate future trends and develop strategic responses to territorial challenges.

This study presents a rigorous analysis of 565 scientific publications indexed in the Scopus and Web of Science databases. It explores key themes, the geographic distribution of scientific production, the most influential authors, and the most important lines of research. The methodological approach is bibliometric and of high quality, allowing for a comprehensive synthesis and mapping of the theoretical and methodological development of territorial demography worldwide [4].

The analysis reveals a long-term increase in academic interest, with growing emphasis on topics such as international migration, urbanization processes, population aging, and territorial sustainability. The study identifies the main centers of scientific production and the leading authors who have contributed to the development of the field. The fragmentation of knowledge underscores the need to integrate studies that combine both thematic and spatial dimensions, thereby enhancing the discipline's impact on policy formulation [5].

The goal of this research is to systematize the existing knowledge on territorial demography through a comprehensive bibliometric analysis. By identifying thematic models, methodological trends, and networks of scientific collaboration, this study aims to provide an integrative overview that can guide future research and strengthen the link between academic knowledge and policymaking. This work is structured into four main sections: first, the methodological foundations of the analysis are described; second, the most relevant findings regarding key topics and contributors are presented; third, the theoretical and practical implications of the results are discussed; and finally, conclusions are offered that emphasize the challenges and opportunities for developing an integrated agenda in territorial demography.

2. Methodology

This study was conducted through a scientometric analysis, which enabled a deep and systematic understanding of the central topic: population geography. For data collection, two major academic databases were used: Web of Science (WoS) and Scopus [6]. These databases provide high-quality publications, ensuring the reliability and academic rigor of the information analyzed. The initial search focused on identifying articles with keywords related to "Population Geography" appearing in titles and abstracts. Additionally, the analysis considered a specific time frame, covering publications from 2004 to the present year. As a result, a total of 591 relevant documents were retrieved from Scopus and the WoS (see Table I).

Table I. Search parameters used in Scopus and WoS databases.

Parameter	WoS	Scopus
Range	2004-2025	
Date	April 04, 2025	
Document Type	Articles	
Words	Articles title,abstract, Keywords	
Results	175	544
Total (WoS + Scopus)	591	

The processing of the obtained bibliographic data was carried out in several stages (see Figure 1). Initially, 128 duplicate articles were identified and removed from the combined database, resulting in a refined dataset of 591 unique records [7], [8], [9]. From these, the scientometric-relevant data were compiled in Excel spreadsheets that included information such as references, countries of origin, year of publication, and number of citations within the global scientific production related to population geography. This strategy has been widely applied in scientometric reviews [10], [11], [12].

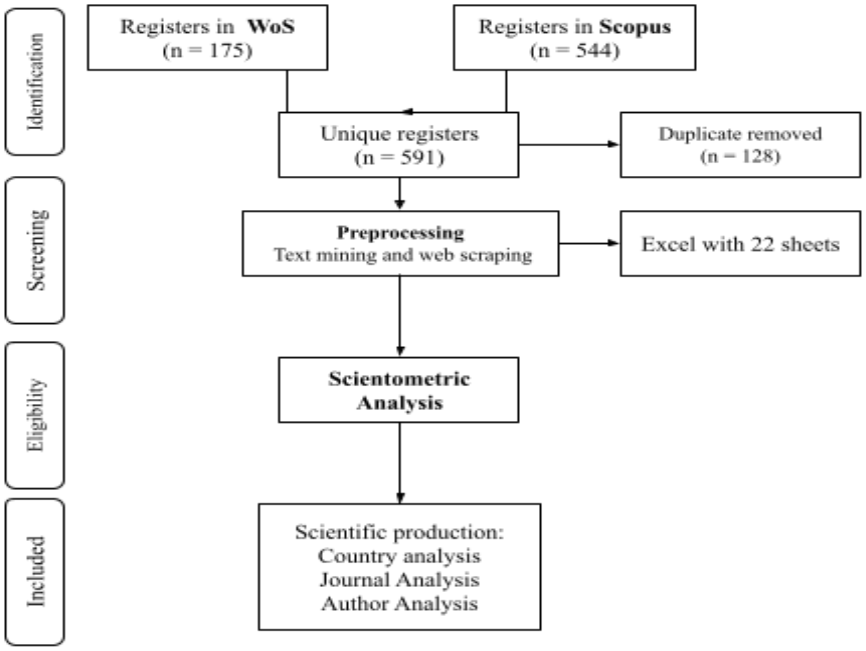

Figure 1. Detailed illustration of collected information.

3. Results

3.1 Scientific Annual Production

It is crucial to understand the temporal progression of scientific production, as this facilitates the estimation of the degree of development of a specific field, as well as the level of interest it generates within the academic community. In this context, the analysis focuses on a particular area, such as population geography. To properly carry out this analysis of annual scientific production, a study period from 2004 to 2024 was established.

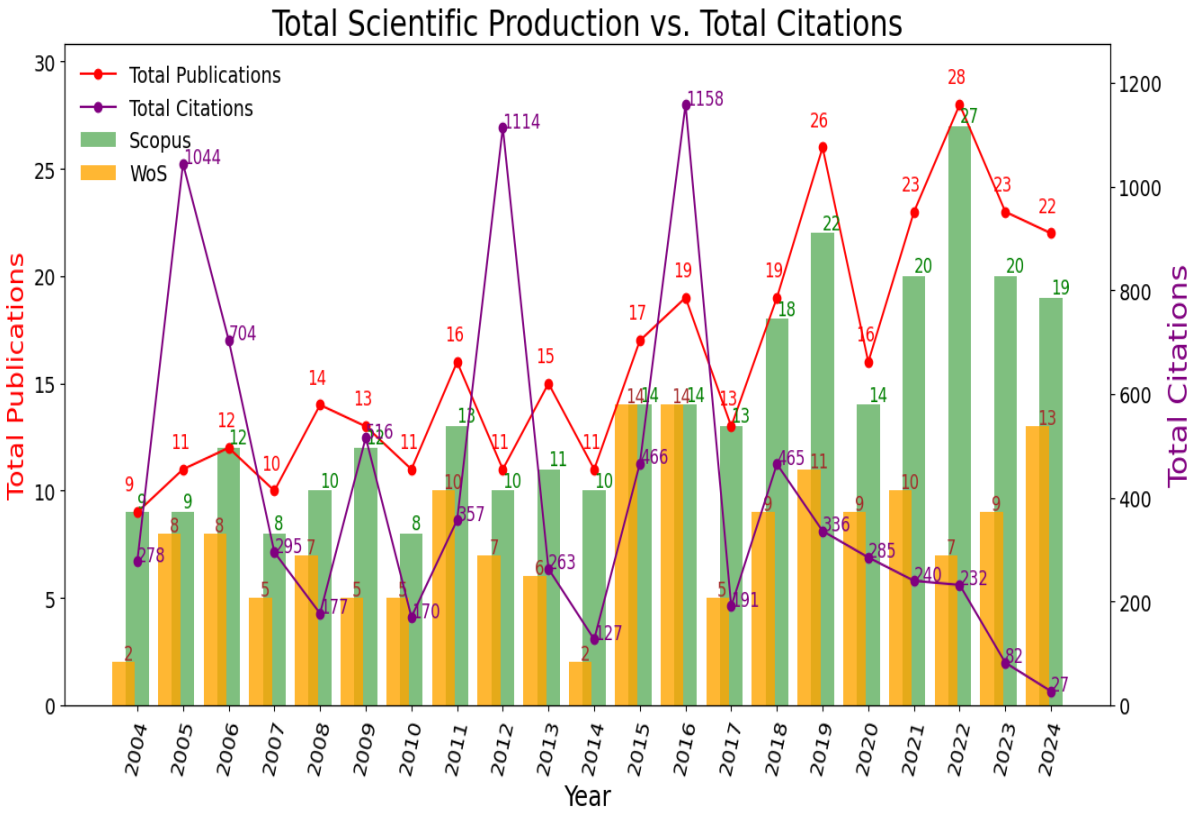

Figure 2. Scientific Production vs. Total Citations over time in Scopus and WoS (2004-2024).

The figure identifies three distinct stages based on the progression of the bar chart. During the first period, corresponding to the early years, the number of publications and citations is quite low, suggesting limited interest or an initial phase in the development of the topic. In the second period, there is a gradual increase in scientific output and academic impact, indicating that the subject is beginning to attract the attention of the research community. Finally, in the third interval, there is a significant and steady rise in both publications and citations, demonstrating the consolidation of the field as a relevant and growing line of research, with substantial and frequently cited output.

Initiation (2004–2014) – 2.03%

During this period, the development of scientific production began gradually, although with still limited numbers compared to the following years. A total of 133 publications were recorded, accounting for approximately 22% of the overall total. The annual average was 12.1 articles, reaching a peak in 2011 with 16 publications. The most used database was Scopus, which included 106 articles (80%), while WoS documented only 27 publications during the entire period.

In terms of impact, this period achieved around 3,238 citations, the vast majority concentrated in Scopus (about 91% of the total). Citation trends reveal two significant peaks: the first occurred in 2005 with 1,044 citations, and the second in 2012 with 1,114 citations, both mainly driven by articles indexed in Scopus.

The most cited articles during this period were, in Scopus, the article by Legg, S. titled *"Foucault's Population Geographies: Classification, Biopolitics and Governmentality"*, published in 2005, with 277 citations. This work analyzes how Michel Foucault's ideas on biopolitics, governmentality, and population classification can be applied to geography. Legg examines how governments organize and manage populations through categories and technical knowledge [13]. In WoS, the most cited article was by Walters, W., *"Google Scholar Coverage of a Multidisciplinary Field"*, published in 2007, with 102 citations. This article evaluates Google Scholar's coverage in a multidisciplinary field of aging migration, comparing it to seven academic databases. Google Scholar was able to index 93% of key articles, significantly outperforming other databases. Also noteworthy in Scopus are the articles by Halfacree, K. and King, R., both published in 2012, with 258 and 250 citations respectively, which help explain the second major citation peak [14].

Consolidation (2015–2024) – 2.91%

During this period, scientific production showed a steady and significant increase, establishing itself as the most productive and influential phase in the entire dataset analyzed. A total of 209 publications were recorded, accounting for approximately 35% of the overall total, with an annual average of 20.9 articles. The year with the highest number of publications was 2021, with 28 articles, followed by 2019, 2022, and 2023, all with more than 20 publications.

Scopus remained the most important database, providing the largest number of articles in each year of the period. However, a gradual increase in WoS coverage has been noted, especially since 2015, with years such as 2016, 2017, and 2024 reaching 13 or more indexed publications on that platform, suggesting an expansion in sources of scientific visibility.

The most cited articles during this period are: in Scopus, the study by Thrift & French [15], with 314 citations; The article explores how software is increasingly shaping everyday spaces through automated and intelligent integration. It examines the growing presence of code, its mimicry of human behavior, and its role in daily life. It concludes by questioning whether this marks an epochal shift or a more modest evolution. And in WoS, the article by Crampton, J., *"Big Data and the Future of Critical Social Theory"* (2016), with 275 citations. This article emphasizes the need for serious consideration of the social, political, and ethical implications of big data usage. It also proposes rethinking the history and economy of the geoweb to better understand its role in contemporary governance. Ultimately, it advocates for a critical social theory that addresses the challenges of big data through interdisciplinary and reflective approaches [16].

3.2 Country Analysis

Figure 3 illustrates the network of international scientific collaboration in the field of population geography, highlighting the most significant connections among knowledge-producing countries. The analysis reveals that the United Kingdom, the United States, and China not only lead in the volume of publications but also the number of collaborative links, positioning them as central nodes within the global research network [17]. In contrast, countries such as Poland, India, and Spain exhibit more limited participation, both in terms of scientific output and collaborative interactions.

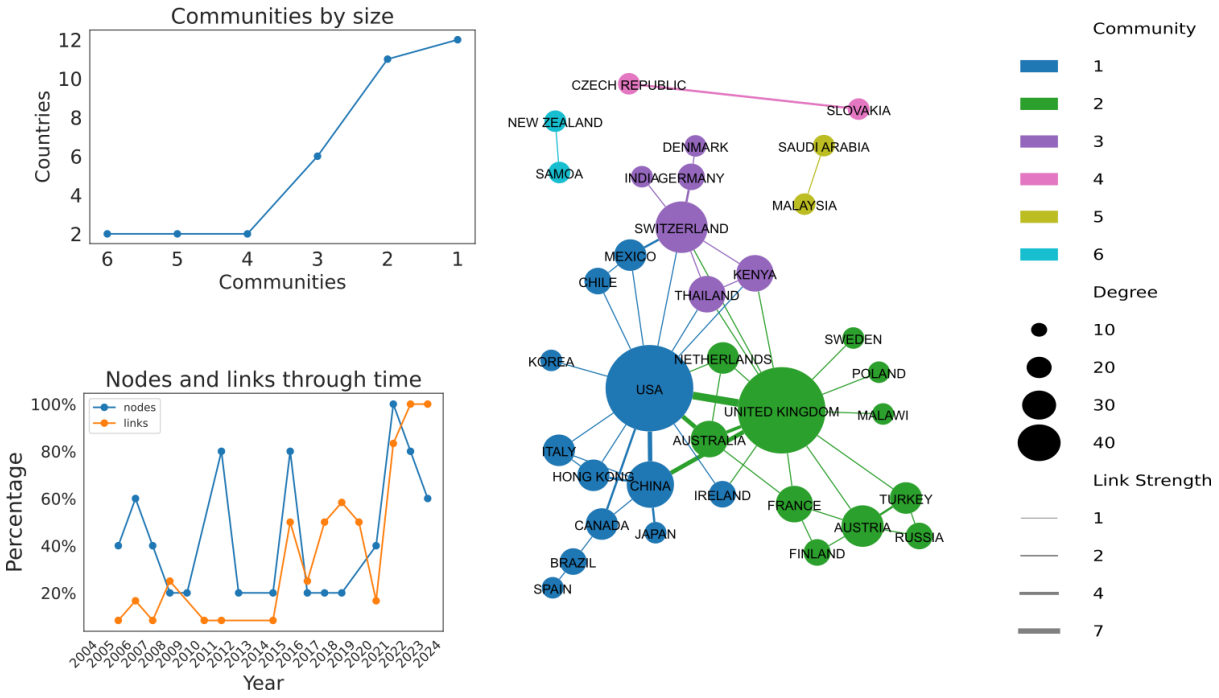

Figure 3. Global Network of Scientific Research Collaboration Between Countries Journal Analysis.

This pattern reflects a geographically uneven distribution of knowledge production, where the most influential academic centers remain concentrated in the Global North. Overall, these findings underscore the importance of strengthening international collaboration, particularly with underrepresented regions such as Latin America, to democratize the production and dissemination of knowledge in population geography.

Table II presents a comparative summary of countries based on scientific publication volume, citation count, and editorial impact within the field of population geography. The United Kingdom leads the ranking with 94 articles (20% of the total) and over 4,400 citations, accounting for more than half of all global citations (55.81%). This high level of impact is further reinforced by the large number of publications in top-tier journals (Q1), positioning the UK as the primary global reference in the discipline [18].

Table II. Scientific Production and Impact by Country

Country	Production		Citation		Quality			
	Count	%	Count	%	Q1	Q2	Q3	Q4
United Kingdom	94	20.0	4452	55.81	46	5	2	3
Usa	91	19.36	1352	16.95	32	13	3	3
China	55	11.7	513	6.43	15	2	2	4
France	28	5.96	42	0.53	2	0	6	2
Australia	26	5.53	456	5.72	11	4	1	0
Canadá	16	3.4	251	3.15	2	0	1	0
Germany	13	2.77	71	0.89	1	8	0	0
Spain	11	2.34	17	0.21	0	2	3	0
India	9	1.91	12	0.15	0	1	1	2
Poland	9	1.91	45	0.56	1	0	1	1

The United States ranks second in terms of publication output (91 articles), yet its citation count (1,352) is significantly lower than that of the UK, indicating a high level of productivity with a comparatively moderate impact. China follows with 55 publications and 513 citations, reflecting a growing presence in the field, although there is still room for improvement in terms of international visibility and influence [17].

Countries such as France, Australia, and Canada show lower publication volumes but stand out for publishing in high-quality journals (with several articles in Q1 and Q2 quartiles). In contrast, nations like Spain, India, and Poland display both lower productivity and impact, which may reflect limitations in their collaborative networks or reduced international projection of their research [17].

Overall, the analysis highlights a clear concentration of knowledge production in Anglophone countries, particularly the United Kingdom. Meanwhile, regions such as Latin America and Africa are notably absent from the ranking, underscoring the need to promote policies that foster global scientific integration, enhance access to international publication networks, and strengthen research capacities in peripheral contexts [18].

3.3 Journal Analysis

Figure 4 illustrates the citation network among the most prominent scientific journals in the field of population geography, helping to identify key editorial structures and collaborative communities. The analysis shows that most highly cited journals fall within the Q1 quartile, reflecting strong editorial standards and significant academic influence.

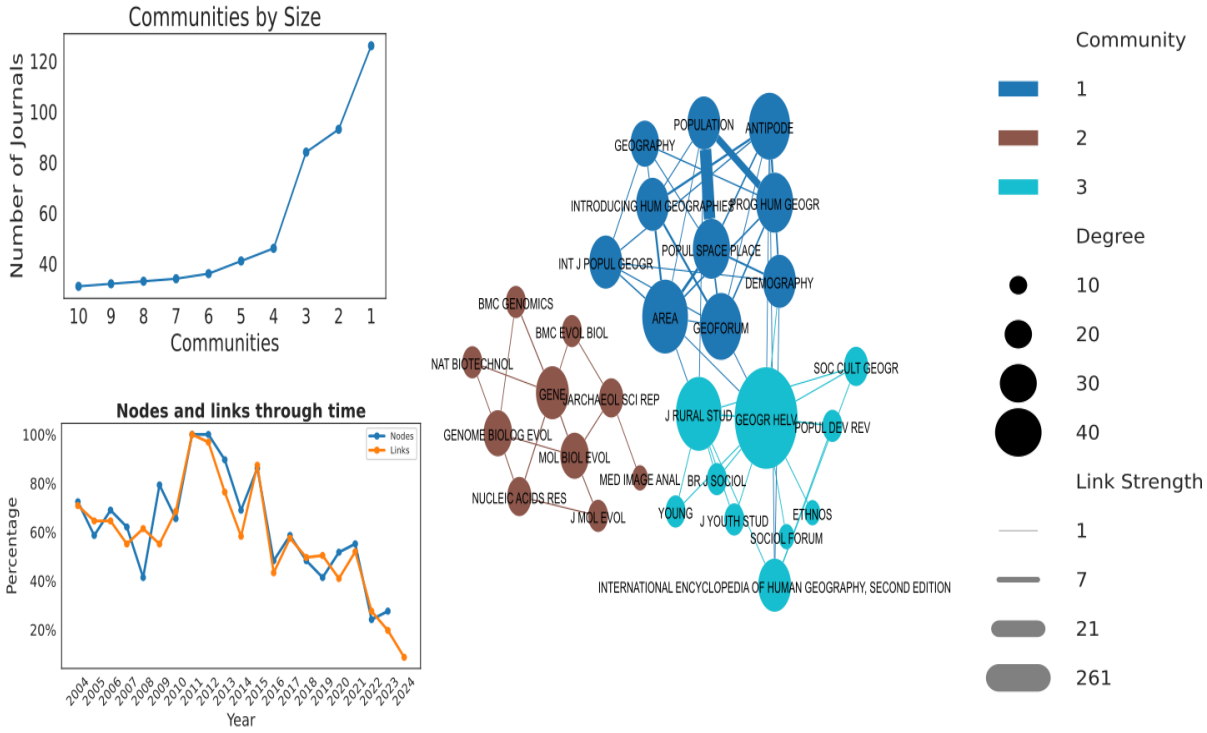

Figure 4. Network of Journal Citations Highlighting Collaborative Communities.

Population, Space and Place emerges as the central node, with 36 indexed publications in Scopus, specializing in the spatial dimensions of population dynamics (Wachter & Hornstra, 2024, [19]. It is followed by *Progress in Human Geography*, with 32 articles across WoS and Scopus, noted for its theoretical and critical perspective in human geography [20].

Both journals are ranked in Q1 and demonstrate high international visibility and academic impact.

Other notable journals include the *International Journal of Population Geography* (now merged into *Population, Space and Place*), *Journal of Geography*, *Geographica Helvetica*, and *The Professional Geographer*. While these journals have lower publication volumes, they continue to play important roles in the citation network. Their quartile rankings range from Q2 to Q4, indicating diversity in editorial quality and thematic specialization. *The Professional Geographer* is particularly noteworthy for its scientific reach (Cho et al., 2025, [21].

In terms of cumulative impact, *Progress in Human Geography* stands out with an H-index of 187, followed by *Population, Space and Place* (H = 95), and *The Professional Geographer* (H = 93), underscoring their scientific influence and continued contribution to the field (Scimago Journal & Country Rank, 2024).

Table III. High Impact in Population Geography Research: h-index and Quartile Metrics

Journal	WoS	Scopus	Total	ISSN	SJR	Quartil	H-Index
Population, Space And Place	0	36	36	15448444	1.028	Q1	95
Geography And Population	0	19	19	-	-	-	-
Progress In Human Geography	14	18	18	3091325	3.087	Q1	187
International Journal Of Population Geography	0	16	16	-	-	-	-
Journal Of Geography	6	12	15	221341	0.526	Q2	41
Espace-Populations-Societes	0	12	12	7557809	0.126	Q4	16
Dili Xuebao/Acta Geographica Sinica	0	11	11	3755444	1.017	Q1	85
Estudios Geograficos	1	9	10	141496	0.177	Q4	16
Geographica Helvetica	0	8	8	167312	0.375	Q2	27
Professional Geographer	4	5	8	330124	0.606	Q2	93

The table presents key metrics for high-impact journals in the field of population geography, based on sources indexed in Web of Science (WoS) and Scopus, along with indicators such as SJR (Scimago Journal Rank), quartile classification, and h-index.

Overall Productivity and Impact

Among the listed journals, Progress in Human Geography stands out with the highest combined number of publications (32 in total: 14 in WoS and 18 in Scopus), the highest SJR (3.087), and the top h-index (187), indicating a strong academic influence and visibility. From this journal, the article "Cartography: performative, participatory, political" stands out. It analyzes how mapping is a performative, participatory, and political practice. The piece highlights the shift from viewing maps as static objects to understanding mapping as dynamic action, especially in protest and activism contexts. The author proposes that cartography should be seen as an evolving process rather than a fixed entity [22].

Several journals are indexed exclusively or more prominently in Scopus. For example, Population, Space and Place has 36 articles indexed in Scopus and none in WoS, yet maintains a high h-index of 95 and a Q1 classification, reflecting strong relevance despite its limited presence in WoS. A highlighted article from the journal is "Migration and Social Cohesion: Appraising the Resilience of Place in London". This study examines how past migration experiences shape current perceptions of immigration across six locations in the UK, focusing on Kilburn and Downham in London. Through narrative interviews, it explores dynamics of belonging, identity, and social cohesion in multicultural spaces, concluding that local migration history can either support or hinder cohesion in diverse contexts [23].

Journals like Espace-Populations-Sociétés and Estudios Geográficos have lower SJR scores (0.126 and 0.177 respectively) and are classified in Q4, suggesting they have lower citation frequencies and may be more regionally focused or specialized. The article *"Between Residential Mobility and Migration: Factors and Reasons for Changing Residence from an Urban Environment among the Elderly Population"* analyzes why older adults in Madrid choose to change their place of residence, either temporarily or permanently, especially after retirement. This decision is influenced by social, economic, cultural, and geographic factors. Understanding these motivations is essential for planning services, infrastructure, and improving their quality of life [24].

Some journals, such as Geography and Population and International Journal of Population Geography, lack ISSN, SJR, and h-index data in the table. This absence could imply limited indexing or recent emergence in the academic landscape, though further verification would be needed.

Dili Xuebao/Acta Geographica Sinica shows strong metrics with an h-index of 85 and Q1 ranking, despite being relatively underrepresented in Western databases. This reflects a growing impact of regional scholarship in global discourse. From the journal Dili Xuebao / Acta Geographica Sinica, the article "On Spatial Effects in Geographical Analysis" stands out. It defines and classifies four fundamental spatial effects in Geographic Information Science (GIScience): spatial heterogeneity, neighbor effect, distance decay, and scale effect.

The study proposes a hierarchical framework linking these effects, with spatial heterogeneity identified as the core. It also emphasizes the potential of geospatial artificial intelligence to detect, analyze, and quantify these spatial phenomena more accurately [25].

Journals like Journal of Geography and Professional Geographer are categorized under Q2 with moderate h-index values (41 and 93, respectively), indicating a balanced focus between research output and teaching or applied geography. From the journal, the article "Components of Spatial Thinking: Evidence from a Spatial Thinking Ability Test" stands out. This paper presents the development and validation of the STAT, a test designed to measure spatial thinking ability through 16 multiple-choice questions. Administered to 532 students, factor analysis revealed that the spatial components identified only partially matched the expected concepts and previous theories on spatial thinking [26].

3.4 Author Analysis

Figure 5 illustrates the scientific collaboration network among authors in the field of population geography, revealing three main communities**.**

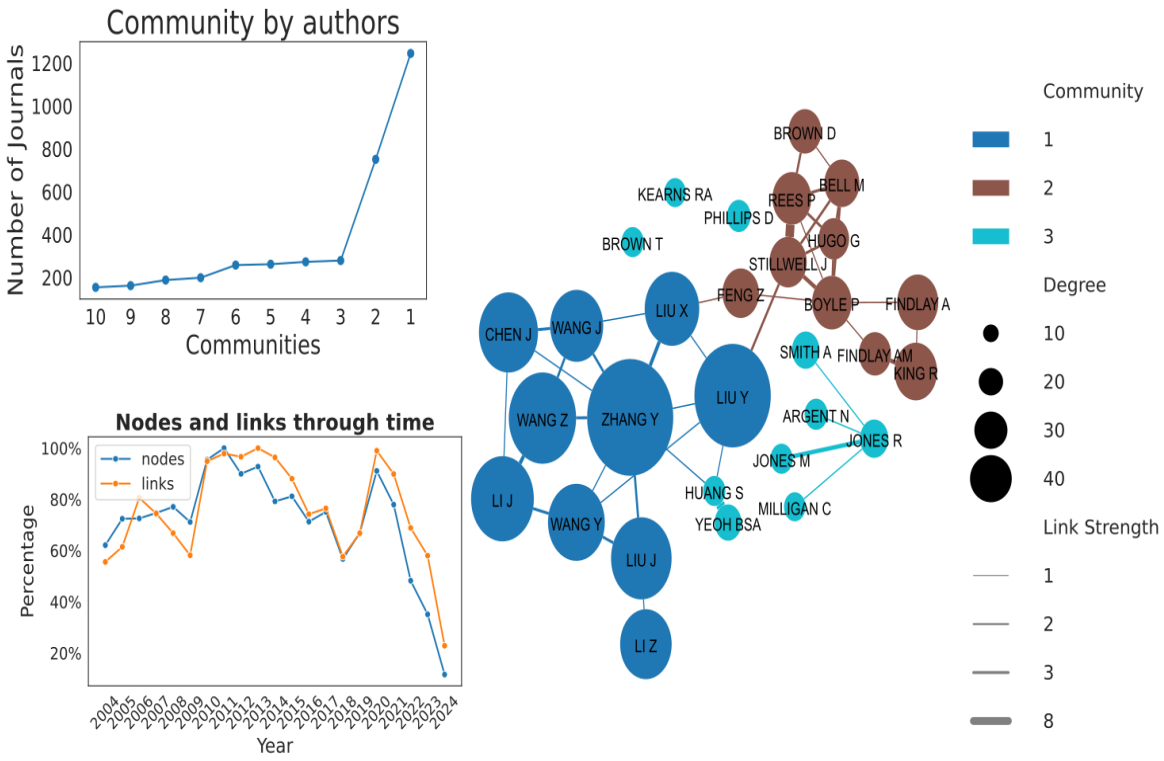

Figure 5. Collaborative Network of Prominent Authors and Their Interconnections.

Community 1 (blue) is the most cohesive, led by Zhang Y, Liu X, and Wang J. With strong and frequent collaborations, this group forms a dense network based mainly in Chinese institutions, with some ties to Singapore. It accounts for at least 16 publications, reflecting robust regional collaboration in East Asia. One of these collaborations is the article *"Effect of agricultural laborer on cropland abandonment under land circulation at different levels in Wulong County, Chongqing City"*, published in *Progress in Geography*. This study analyzes how the relationship between the agricultural labor force and cropland abandonment varies depending on the level of analysis. The results show that this relationship is significant at the village level but not at the household level. It concludes that, due to the effects of the land circulation market, the analysis should focus on the community level to better understand this phenomenon[27].

Community 2 (brown) includes Findlay A, Boyle P, and Stillwell J. Although less central than Community 1, it has a strong publication record (24 articles) and is rooted in UK and Australian institutions. This group is internally well-connected but has limited interaction with other networks. The featured article in this collaboration is *"The challenge facing population geography"*, which examines the current state of population geography, with some reference to the situation in the United Kingdom. The authors point out that although the volume of studies in this field indicates healthy growth, the subdiscipline has increasingly distanced itself from mainstream geography and is at risk of being absorbed into demography. They suggest that population geographers, while seriously engaging with the methods and philosophy of the neighboring discipline of demography, should look elsewhere for guidance for their subdiscipline [[28].

Community 3 (light blue), formed by authors such as Jones R, Milligan C, and Argent N, is more fragmented and loosely connected, with only three publications. Members are also affiliated with institutions in the UK and Australia, but show lower collaboration intensity and impact. For this community, the featured article is *"Amenity-Led Migration in Rural Australia: A New Driver of Local Demographic and Environmental Change?"*, which analyzes how migration from cities to rural areas in Australia is influenced by the level of rural amenities. Although these amenities attract former metropolitan residents, this type of migration accounts for only a small portion of total rural in-migration. High-amenity communities are experiencing significant changes in demographic structure and land use, posing major governance challenges at the local level [29].

Table IV Most Important Authors in Population Geography Research and Their Affiliations.

Author	Papers Total	Total Citations	H-Index	Effective_Size	Constraint	CDI
Halfacree K	7	441	5	14.75	0.13	0.44
Boyle P	6	331	6	32.17	0.09	0.21
Clarke J	6	17	2	19.48	0.11	0.4
Findlay A	6	476	4	33.5	0.08	0.29
Graham E	6	278	6	15.12	0.15	0.35
Noin D	6	0	0	11.83	0.1	0.86
Smith D	6	235	5	33.11	0.07	0.26
Bailey A	5	400	5	6.25	0.33	0.36
Wang J	5	49	2	47.58	0.06	0.18
Botterill K	4	45	2	9.15	0.22	0.21

The accompanying table highlights the top 10 most prolific authors. Halfacree K leads in publication count (7) and citations (441, h-index = 5), while Findlay A has the highest citation impact (476 from 6 publications) but a slightly lower h-index (4). Authors like Boyle P and Graham E maintain consistent quality (h-index = 6), whereas NOIN D has limited academic visibility, with 6 publications but no citations or h-index.

In terms of network structure, Wang J exhibits the highest *Effective Size* (47.58) and lowest *Constraint* (0.06), indicating a broad, diverse collaboration network. In contrast, BAILEY A operates in a more closed network (Effective Size = 6.25; Constraint = 0.33).

Finally, the *Collaboration Diversity Index (CDI)* highlights stark differences: Noin D shows high dependence on a small group (CDI = 0.86), while Wang J collaborates widely across

diverse research groups (CDI = 8.18). These patterns reveal varied collaboration strategies among researchers in the field.

The final table provides a detailed overview of the leading contributors to population geography between 2004 and 2024, based on metrics such as publication count, total citations, h-index, and collaboration indicators (Effective Size, Constraint, CDI). These complement the co-authorship network in Figure 5, which identifies three main scientific communities.

Halfacree K stands out with 7 publications and 441 citations (h-index = 5), indicating consistent scholarly output. His moderately diverse and low-redundancy network (Effective Size = 14.75; Constraint = 0.13) reflects balanced collaboration.

Findlay A, with 6 papers and the highest citation count (476), has a lower h-index (4), suggesting concentrated impact. His broad and non-redundant network (Effective Size = 33.5; Constraint = 0.08) highlights his influence across multiple research groups.

Boyle P and Graham E show strong and consistent performance (6 publications each, h-index = 6), indicating sustained impact. Both are linked to tightly connected networks, mostly within UK and Australian institutions.

In contrast, Noin D has 6 publications but no citations or h-index, reflecting limited academic visibility. His high CDI (0.86) suggests reliance on a small, closed co-author group.

Wang J, from the Chinese-based Community 1, stands out for his highly diverse and low-constraint network (Effective Size = 47.58; Constraint = 0.06; CDI = 8.18), making him a potential bridge across research clusters despite a lower citation count (49).

Overall, the analysis reveals distinct scholarly strategies: some authors focus on broad, high-impact collaborations (e.g., Findlay, Wang), while others maintain more internally cohesive outputs (e.g., Boyle, Graham). The most influential networks are concentrated in the UK, Australia, and China, highlighting ongoing disparities in global scientific visibility, with Latin America still underrepresented.[30]

Conclusions

This scientometric analysis highlights the thematic and geographical evolution of research in population geography, as well as its connection to contemporary challenges such as migration, urbanization, demographic aging, and territorial sustainability.

Although the field has experienced sustained growth in scientific output, a notable fragmentation of knowledge persists. This dispersion hinders the development of a cohesive theoretical framework and limits the integration of comparative approaches across regions. Furthermore, the concentration of publications in Global North countries reveals persistent inequalities in knowledge production and circulation, posing significant challenges for research communities in Latin America and other peripheral regions.

The study also shows that journals like Population, Space and Place (36 articles, SJR = 1.028, H-index = 95) and Progress in Human Geography (18 articles, SJR = 3.087, H- index = 187) stand out as central platforms of visibility and academic impact, both ranked in Q1. In contrast, regionally oriented publications such as Estudios Geográficos (10 articles, Q4, H-index = 16) and Espace-Populations-Sociétés (12 articles, Q4, H-index = 16) have lower visibility and international reach. Notably, no Latin American journals were identified among the core sources indexed in the databases analyzed, which reveals a clear editorial gap. This

absence underscores the importance of creating new publishing platforms in Latin America and strengthening South–South collaboration networks to diversify and democratize the circulation of scientific knowledge [31]

Ultimately, the findings reinforce the idea that population geography is not only a relevant area of academic inquiry, but also a strategic tool for addressing contemporary challenges in urban planning, public policy, and territorial governance. Understanding how and why we inhabit space is key to building more just, resilient, and sustainable societies. In this context, it is essential to promote integrative, accessible, and geographically diverse research that provides scientific evidence to guide decision-making and the design of livable futures.

References

[1] C. Osei-Amponsah, W. Quarmine, and A. Okem, "Understanding climate-induced migration in West Africa through the social transformation lens," Front Sociol, vol. 8, p. 1173395, Dec. 2023, doi: 10.3389/fsoc.2023.1173395. Available: http://dx.doi.org/10.3389/fsoc.2023.1173395

[2]J. Häkli and K. P. Kallio, "Children's rights advocacy as transnational citizenship," Global Networks, vol. 16, no. 3, pp. 307–325, Jul. 2016, doi: 10.1111/glob.12096. Available: https://onlinelibrary.wiley.com/doi/abs/10.1111/glob.12096. [Accessed: Jun. 18, 2025]

[3]K. M. Johnson and D. T. Lichter, "Rural Depopulation: Growth and Decline Processes over the Past Century," Rural Sociology, vol. 84, no. 1, pp. 3–27, Mar. 2019, doi: 10.1111/ruso.12266.Available: https://onlinelibrary.wiley.com/doi/abs/10.1111/ruso.12266. [Accessed: Jun. 18, 2025]

[4]G. Murillo and W. Cartier, "Urbanization, the Informal Sector and Migration: Issues for Research and Cooperation," Canadian Journal of Development Studies/Revue canadienne d'études du développement, pp. 7–17, Feb. 2011, doi: 10.1080/02255189.1988.9670204. Available: https://www.tandfonline.com/doi/abs/10.1080/02255189.1988.9670204. [Accessed: Jun. 18, 2025]

[5]I. M. Timæus and M. Jasseh, "Adult mortality in sub-Saharan Africa: Evidence from demographic and health surveys," Demography, vol. 41, no. 4, pp. 757–772, Nov. 2004, doi: 10.1353/dem.2004.0037. Available: https://read.dukeupress.edu/demography/article-pdf/41/4/757/884163/757timaus.pdf. [Accessed: Jun. 18, 2025]

[6]J. H. Culbert et al., "Reference coverage analysis of OpenAlex compared to Web of Science and Scopus," Scientometrics, vol. 130, no. 4, pp. 2475–2492, Apr. 2025, doi: 10.1007/s11192-025-05293-3. Available: http://dx.doi.org/10.1007/s11192-025-05293-3

[7]S. Valencia, M. Zuluaga, M. C. Florian Pérez, K. F. Montoya-Quintero, M. S. Candamil-Cortés, and S. Robledo, "Human Gut Microbiome: A Connecting Organ Between Nutrition,

Metabolism, and Health," Int J Mol Sci, vol. 26, no. 9, Apr. 2025, doi: 10.3390/ijms26094112. Available: http://dx.doi.org/10.3390/ijms26094112

[8]G. Torres, S. P. Rojas-Berrio, V. Duque-Uribe, and S. Robledo, "Building sales through connections: how network capabilities and tie strength foster entrepreneurial marketing," J. Res. Mark. Entrep., Oct. 2024, doi: 10.1108/jrme-08-2023-0141. Available: http://dx.doi.org/10.1108/jrme-08-2023-0141

[9]S. Robledo, D.-C. Gil-Silva, E.-J. Villegas-Jaramillo, and C. Osorio, "Examining the role of monetary incentives and tie strength in mediating satisfaction and word of mouth in multilevel marketing companies: an entrepreneurial marketing perspective," J. Res. Mark. Entrep., Mar. 2025, doi: 10.1108/jrme-07-2023-0117. Available: http://dx.doi.org/10.1108/jrme-07-2023-0117

[10]K. M. Romero Villareal and M. C. M. Murgas, "Antimicrobial Potential of Secondary Metabolites: AScientometric Review," interfaces, vol. 7, no. 2, 2024, Available: https://revistas.unilibre.edu.co/index.php/interfaces/article/view/12712. [Accessed: Jun. 19, 2025]

[11]S. D. M. Oñate and A. F. T. Herazo, "Agrivoltaic systems: a contribution to sustainability," interfaces, vol. 7, no. 2, 2024, Available: https://revistas.unilibre.edu.co/index.php/interfaces/article/view/12713. [Accessed: Jun. 19, 2025]

[12]A. J. B. Berrocal and D. M. C. Rizo, "Scientometric Analysis of the Relationship Between Artificial Intelligence and Data Engineering: Trends,Collaboration, and Evolution," interfaces, vol. 7, no. 2, 2024, Available: https://revistas.unilibre.edu.co/index.php/interfaces/article/view/12714. [Accessed: Jun. 19, 2025]

[13]S. Legg, "Foucault's population geographies: classifications, biopolitics and governmental spaces," Population, Space and Place, vol. 11, no. 3, pp. 137–156, May 2005, doi: 10.1002/psp.357. Available: https://onlinelibrary.wiley.com/doi/abs/10.1002/psp.357. [Accessed: Jun. 18, 2025]

[14]"Google Scholar coverage of a multidisciplinary field," Information Processing & Management, vol. 43, no. 4, pp. 1121–1132, Jul. 2007, doi: 10.1016/j.ipm.2006.08.006. Available: http://dx.doi.org/10.1016/j.ipm.2006.08.006. [Accessed: Jun. 18, 2025]

[15]N. Thrift and S. French, "The automatic production of space," Transactions of the Institute of British Geographers, vol. 27, no. 3, pp. 309–335, Sep. 2002, doi: 10.1111/1475-5661.00057. Available: https://onlinelibrary.wiley.com/doi/abs/10.1111/1475-5661.00057. [Accessed: Jun. 18, 2025]

[16]J. Ash, R. Kitchin, and A. Leszczynski, "Digital turn, digital geographies?," Progress in Human Geography, 2018, doi: 10.1177/0309132516664800. Available: https://journals.sagepub.com/doi/10.1177/0309132516664800. [Accessed: Jun. 18, 2025]

[17]"Globalization of science and international scientific collaboration: A network perspective," Geoforum, vol. 105, pp. 1–12, Oct. 2019, doi: 10.1016/j.geoforum.2019.06.017. Available: http://dx.doi.org/10.1016/j.geoforum.2019.06.017. [Accessed: Jun. 18, 2025]

[18]R. Wu, C. Esposito, and J. Evans, "China's Rising Leadership in Global Science," Jun. 09, 2024. Available: http://arxiv.org/abs/2406.05917. [Accessed: Jun. 18, 2025]

[19]G. G. Wachter and M. Hornstra, "Internal mobility of international migrants in Europe: A critical literature review and research agenda," Population, Space and Place, vol. 30, no. 8, p. e2822, Nov. 2024, doi: 10.1002/psp.2822. Available: https://onlinelibrary.wiley.com/doi/abs/10.1002/psp.2822. [Accessed: Jun. 18, 2025]

[20]M. Blazek, "Children's geographies II: Adults," Progress in Human Geography, 2024 doi: 10.1177/03091325241298686. Available: https://journals.sagepub.com/doi/10.1177/03091325241298686. [Accessed: Jun. 18, 2025]

[21]S. Cho, A. T. Murray, S. Dodge, and R. L. Church, "Locational Decision-Making and Representational Impacts," The Professional Geographer, pp. 121–135, Feb. 2025, doi: 10.1080/00330124.2025.2455180. Available: https://www.tandfonline.com/doi/abs/10.1080/00330124.2025.2455180. [Accessed: Jun. 18, 2025]

[22]J. W. Crampton, "Cartography: performative, participatory, political," Progress in Human Geography, Dec. 2009, doi: 10.1177/0309132508105000. Available: https://journals.sagepub.com/doi/10.1177/0309132508105000. [Accessed: Jun. 19, 2025]

[23]M. J. Hickman and N. Mai, "Migration and social cohesion: Appraising the resilience of place in London," Popul. Space Place, vol. 21, no. 5, pp. 421–432, Jul. 2015, doi: 10.1002/psp.1921. Available: https://onlinelibrary.wiley.com/doi/10.1002/psp.1921

[24]R. L. Bosque, "Entre la movilidad residencial y la migración. Factores y razones para el cambio de residencia desde un entorno urbano entre la población mayor," Estud. geogr., vol. 71, no. 268, pp. 177–201, Jun. 2010, doi: 10.3989/estgeogr.0439. Available: https://estudiosgeograficos.revistas.csic.es/index.php/estudiosgeograficos/article/view/306. [Accessed: Jun. 19, 2025]

[25]刘瑜 et al., "地理分析中的空间效应," 地理学报, vol. 78, no. 3, pp. 517–531, Mar. 2023, doi: 10.11821/dlxb202303001. Available: https://www.geog.com.cn/CN/10.11821/dlxb202303001. [Accessed: Jun. 19, 2025]

[26]J. Lee and R. Bednarz, "Components of Spatial Thinking: Evidence from a Spatial Thinking Ability Test," Journal of Geography, pp. 15–26, Dec. 2011, doi: 10.1080/00221341.2011.583262. Available: https://www.tandfonline.com/doi/abs/10.1080/00221341.2011.583262. [Accessed: Jun. 19, 2025]

[27]龙冬平, 李同昇, 苗园园, 刘超, 李晓越, and 孟欢欢, “中国农村人口非农化时空演变特征及影响因素,” 地理科学进展, vol. 33, no. 4, pp. 517–530, Apr. 2014, doi: 10.11820/dlkxjz.2014.04.009. Available: https://www.progressingeography.com/CN/10.11820/dlkxjz.2014.04.009. [Accessed: Jun. 19, 2025]

[28]A. M. Findlay and E. Graham, “The challenge facing population geography,” Progress in Human Geography, Jun. 1991, doi: 10.1177/030913259101500202. Available: https://journals.sagepub.com/doi/10.1177/030913259101500202. [Accessed: Jun. 18, 2025]

[29]N. Argent, M. Tonts, R. Jones, and J. Holmes, “Amenity-Led Migration in Rural Australia: A New Driver of Local Demographic and Environmental Change?,” Demographic Change in Australia’s Rural Landscapes, pp. 23–44, 2010, doi: 10.1007/978-90-481-9654-8_2. Available: https://link.springer.com/chapter/10.1007/978-90-481-9654-8_2. [Accessed: Jun. 18, 2025]

[30]F. M. Collyer, “Global patterns in the publishing of academic knowledge: Global North, global South,” Current Sociology, 2018, doi: 10.1177/0011392116680020. Available: https://journals.sagepub.com/doi/10.1177/0011392116680020. [Accessed: Jun. 19, 2025]

[31]A. F. Castro Torres and D. Alburez-Gutierrez, “North and South: Naming practices and the hidden dimension of global disparities in knowledge production,” Proc Natl Acad Sci U S A, vol. 119, no. 10, p. e2119373119, Mar. 2022, doi: 10.1073/pnas.2119373119. Available: http://dx.doi.org/10.1073/pnas.2119373119
4 Citas

[32] J. A. S. Duarte, M. A. Contreras, and J. A. Torres, “Caracterización geotécnica del subsuelo en el relleno sanitario regional ‘la cortada’, pamplona (norte de santander) a partir de datos geofísicos,” Rev. Colomb. Tecnol. Av., vol. 2, 2020, doi: https://doi.org/10.24054/rcta.v2i36.15.