water

MDPI

Article

Scientific Coverage in Water Governance: Systematic Analysis

Amador Durán-Sánchez [1], María de la Cruz del Río-Rama [2], José Álvarez-García [3,*] and Francisco Javier Castellano-Álvarez [4]

1 Faculty of Business, Finance and Tourism, University of Extremadura, 10071 Cáceres, Spain; ads_1975@hotmail.com
2 Business Organisation and Marketing Department, Faculty of Business Administration and Tourism, University of Vigo, 32004 Ourense, Spain; delrio@uvigo.es
3 Financial Economy and Accounting Department, Faculty of Business, Finance and Tourism, University of Extremadura, 10071 Cáceres, Spain
4 Economy Department, Faculty of Business, Finance and Tourism, University of Extremadura, 10071 Cáceres, Spain; fcocastellano@unex.es
* Correspondence: pepealvarez@unex.es; Tel.: +34-609-880-141

Received: 18 December 2018; Accepted: 12 January 2019; Published: 21 January 2019

Abstract: In this article, the results of the bibliometric analysis applied to research on "Water Governance" are presented in order to observe behavior patterns in the key areas of this field of knowledge (progression, most productive authors, etc.). This research is complemented with a co-citation analysis. When considering two databases, a comparative study is carried out between both databases through coverage, overlap, dispersion, or concentration indicators. The results indicate that this area of knowledge has evolved rapidly and has gained popularity and importance among researchers, especially since 2009, when the real boom of the discipline took place, with about two-thirds of the papers being published in the last five years. The main authors, the most relevant articles based on the citation criterion, the institutions, and countries with the highest number of investigations and the journals where this topic is published are also identified. Scopus is the database that performs better coverage by collecting a higher number of articles and obtaining a greater number of citations.

Keywords: author co-citation analysis (ACA); bibliometric; water governance; WoS; Scopus

1. Introduction

Water is a key element for life, natural habitats depend on its availability, quantity, and quality, and it determines the socioeconomic development of territories. Its current shortage, caused by the intense pressure on water resources, is a serious problem that will be aggravated by an increase in population and the adverse effects of climate change [1]. According to the projections of the Organization for Economic Co-operation and Development (OECD), today 40% of the world's population lives in areas subject to water stress and it is predicted that, by 2050, the demand for water will have increased in some areas by up to 55% [2]. This fact, together with an unequal distribution among different users at the global and local level, will be the cause of multiple sources of conflicts.

However, many problems that are associated with water management are more related to governance errors than to its scarcity, requiring major reforms adapted to the current and future context [3]. Along these lines, the document *Towards Water Security: A Framework for Action*, by The Global Water Partnership [4], states that the water crisis is essentially a government crisis; a lack of coordination between practices related to water resource management and policies.

In this scenario, it is essential to establish political, social, economic, and administrative systems whose objective is to develop and manage water resources and the provision of water services at different levels. Addressing future water challenges is not just a matter of what to do, but also of (1) who should do what and why and (2) at what government level it should be done and how. Political solutions will be viable as long as they are coherent, they adapt to a changing nature and society, the agents work together, regulatory frameworks are well designed, the information is accurate, accessible, and transparent for everybody, and there is a clear political will towards more inclusive and sustainable practices.

To achieve the goal of effective governance, an appropriate environment and institutions must be available to allow for all parties involved to work elbow to elbow and there should also be financial practices that are designed in line with the sustainability of water resources, where government agencies responsible for this establish an effective political and legal framework when allocating and managing resources, responding to the long-term sustainability of natural resources. Thus, and according to the Global Water Partnership, in order to achieve effective governance, governments need to establish a regulatory framework that encourages the better provision of services by the public sector and private operators, helping to overcome the conflict over the allocation of water and realigning economic and financial practices, including pricing and total costs of services, with adequate mechanisms for the protection of the most disadvantaged [4].

The growing concern about adequate water resources management, both from an academic and economic point of view, has contributed to conducting research published in scientific documents, whose knowledge is essential when undertaking new work in this area [5]. To carry out this task, we carry out a bibliometric study of the literature generated and indexed in the international databases Web of Science (WoS) of Thomson Reuters and Scopus of Elsevier on Water Governance, with the main objective of providing a complete view of this research area and its current status. Bibliometric indicators were applied in order to know the evolution of the publications by years, author productivity, visibility of the publications and institutions, and journals that publish the most on the subject. In addition, the overlapping and singularity analysis of the databases considered was carried out.

The novelty of the study is that there is no work with similar characteristics being applied to this field of study "Water Governance". There are studies in other areas of knowledge related to water, such as those by Wang et al. [6], performance of Water; Fu et al. [7], Mapping of drinking water research; Niu et al. [8], groundwater; Xu & Marinova [9], Nano-biotechnology for Water Sustainability; Zare et al. [10], analysis of trends in the water resource sector; Zhang et al. [11,12], water footprint research, future directions of water research based on MODIS images; Durán-Sánchez et al. [13], Sustainable Water Resources Management; Velasco-Muñoz et al. [14], water use efficiency in agriculture.

The paper is structured as follows. After conceptualizing the subject matter of the study and setting the objective of research, the literature review is carried out with the objective of establishing the necessary theoretical framework on Water Governance. Afterwards, the research design is described: calculation methodology and tracking strategy of the documentary sources that form the empirical bases of the study. In the fourth section, the results obtained are shown and discussed. The paper ends with a summary of the main conclusions reached. The limitations of the investigation are also discussed.

2. Theoretical Framework

In recent years, there have been many investigations that corroborate the risk of water becoming one of the scarcest natural resources of the planet due to being used in excess [15–17], to the pollution that is produced by the action of man and the decrease in estimated rainfall within future scenarios as a result of climate change [18–20]. Adverse effects, both in the quantity and quality of water, will produce a deterioration in human well-being and social tensions, which is particularly strong in urban environments with a greater concentration of population, where competition for its use is expected to

increase [21]. In response to this disconcerting future, water governance can contribute significantly to the design and implementation of policies capable of dealing with present and future challenges in order to achieve the basic economic, social, and environmental benefits of good water resources management [22].

Governance means both the process and the institutions involved in decision making, but not necessarily the consequences of the decisions made [23]. In general, governance means "the exercise of economic, political and administrative authority to manage a region's affairs, comprising the mechanisms, processes and institutions through which citizens and groups express their interests, exercise their legal rights, fulfil their obligations and mediate their differences" [24].

While governance has been studied and analyzed in relation to various social and development aspects, only in recent years has the concept begun to be actively used within the water sector [25], making its appearance in the Second World Forum on Water held in The Hague in 2000 [26].

The majority of the broad range of definitions of the water governance concept refer to the different actors involved and the structures that are required in the formulation and implementation of water policies [27]. The Global Water Partnership defines water governance as "the range of political, social, economic and administrative systems that exist to develop and manage water resources and the provision of water services at different levels of society" [28]. However, for Araral & Wang [29], this definition is not exempt from criticism due to its general and descriptive nature, as issues related to politics, economy, finance, regulation, law, or water management can be included in it.

A decade later, the United Nation Development Program provides a more thorough and specific definition that includes some essential aspects that water governance must address, among others, "principles such as equity and efficiency in the allocation and distribution of water resources and services, water management based on watersheds, the need for integrated water management approaches and the need to balance the use of water between economic activities and ecosystems", demanding the "clarification of the roles of government, civil society and the private sector and their responsibilities with respect to ownership, management and administration of water resources and services" [30]. Continuing with the review carried out by Araral & Wang [29], although the definition of the United Nations Development Programme (UNDP) has a greater range of aspects than the one provided by Global Water Partnership (GWP), it still lacks diagnostic and prescriptive utility, although it remains a simple statement of general principles.

Governance is not an end in itself, and therefore it should never be considered as such. It should be treated as a useful instrument to formulate and implement appropriate and fair water policies for those who it is aimed at [27], thus leading towards a concept that is more committed to sustainability principles.

Sustainable water governance manages the water resources that are available in a deliberative process with the aim of ensuring satisfactory and equitable levels of social and economic well-being for people, without compromising the long-term integrity of the resource and the ecosystems that sustain life [21]. In this way, water governance strives to reconcile discrepancies in the policies of the different parties in conflict within the limits that were established by ecosystems and encourages participatory methods in decision-making processes [3]. Or, in the words of Kuzdas et al. [31], sustainable water governance is a process that guides people's efforts to achieve the objectives of sustainability and fairness in the allocation of water resources.

On many occasions, the concept of water governance has been confused, consciously or unconsciously, with other terms, such as water management or integrated management of water resources, being common to find them intermingled in the scientific literature [32]. For Biswas & Tortajada [33], the term water governance has replaced the terms "sustainable water management" and "integrated management of water resources" (IWRM), which were the main paradigms that were defended by researchers until the beginning of this century.

While water governance is the set of processes and institutions that constitute the framework through which management objectives are identified, water management is responsible for implementing the practical measures necessary to achieve those objectives. That is, if the objective of governance is to define results and adapt management practices with these results, management aims to achieve and improve, as far as possible, the results directly [32].

In the academic literature, it is easy to find research that incorporates water governance within IWRM due to its inclusive nature [34]. However, by including water governance within IWRM, the definition of the objective is left aside, that is, water governance is important in itself and therefore the decision-making process to establish the management objectives must not be relegated to an inevitable conclusion. On the contrary, a period of government is essential, where it is determined which IWRM principles are advisable, if any, for each specific case, as ignoring the specific conditions, preferences, and values to apply the generic principles of the IWRM evenly everywhere equally is a symptom of poor water management [32].

It is clear that the three terms used are different and they refer to well differentiated processes. Water governance groups both the processes and the institutions through which decisions are made without including practical, technical, management, or personnel functions, as well as not compiling the results obtained. These functions are more characteristic and would be included within the concepts of water management or integrated management of water resources [32].

For the OECD [22], the principles that are necessary for the creation of tangible public policies aimed at obtaining results, and that make up the basic structure of Water Governance, are based on three dimensions that complement each other: Effectiveness; Efficiency; and, Trust and Commitment.

- Effectiveness. Definition, implementation, and achievement of water policy objectives at all government levels. Principles: (i) clear roles and responsibilities, (ii) appropriate scales within basin systems, (iii) policy coherence, and (iv) capacity.
- Efficiency. Maximizing the benefits of sustainable water management at the lowest possible cost for society. Principles: (v) data and information, (vi) financing, (vii) regulatory frameworks, and (viii) innovative governance.
- Trust & Engagement. Helping to create trust among the population and ensuring the inclusion of actors through legitimacy and democratic equity. Principles: (ix) integrity and transparency, (x) stakeholder engagement, (xi) trade-offs across users, rural and urban areas, and generations, and (xii) monitoring and evaluation.

After analyzing the concept of water governance in depth, Araral & Wang [29] concluded that the majority of researchers agree that improving water governance is essential to safely address the challenges posed, although there is little consensus on the scope and definition of the term. Although water governance is a multi and interdisciplinary matter by nature, no evidence of this was found in the academic literature that is generally descriptive, argumentative, and with little theoretical coherence [35].

3. Methodology

3.1. Data Sources

Communication and transmission of scientific advances is carried out through publications that contain knowledge and constitute what is known as scientific literature [36]. Therefore, the systematic search of bibliography related to a field of study constitutes the first essential step in all research, since it will allow for developing its theoretical framework, as well as to establish the hypotheses that the research will be based on.

At present, bibliographic databases collect and compile all of this information, thus becoming an essential resource for any bibliometric study, as they allow for analyzing the scientific activity carried out by researchers, centers, regions, and countries; detect their strengths and weaknesses; and, identify trends in research. There are both national and international databases, generic and specialized in all areas of knowledge, so the first step is to choose the appropriate database based on criteria, such as coverage of the study area, its international character, and the rigorous process of the selection of indexed scientific journals. According to Norris & Oppenheim [37], the appropriate choice will largely depend on the validity of the results that were obtained and Mongeon & Paul-Hus [38] (p. 2013) state that "the results of bibliometric analyses may vary depending on the database used".

Before the emergence of Scopus (Elsevier) in 2004, and for more than 40 years, WoS (Thomson Reuters) was the only bibliographic database capable of providing statistics based on bibliometric indicators. With the emergence of Scopus or Google Scholar in the market, including others, researchers are faced with an important issue, which is having to choose. Taking into account the studies carried out in which comparisons are made between databases from the perspective of their coverage, titles of journals, thematic and geographical areas, affiliation, languages, and citation analysis [39–42], in this study we have selected Web of Science (WoS) and Scopus, due to their broad international coverage, completeness and high quality records [43]. However, although Yong-Hak [44] observed that Scopus is more complete than WoS (it includes only ISI indexed journals), both are considered to be complementary. In the case of WoS, the citation indexes Science Citation Index Expanded (SCI-Expanded) and Social Sciences Citation Index (SSCI), which index the most relevant journals in the field of science and technology, were used.

3.2. Methods

Due to the wide range of types of documents that the databases collect (Figure 1), in our work only articles that were published in scientific journals of proven quality benchmarks were selected through a blind peer review process [45,46], the representativeness of the documents was also taken into account (816 articles), and that the articles are chosen as a unit of analysis in bibliometric research [47].

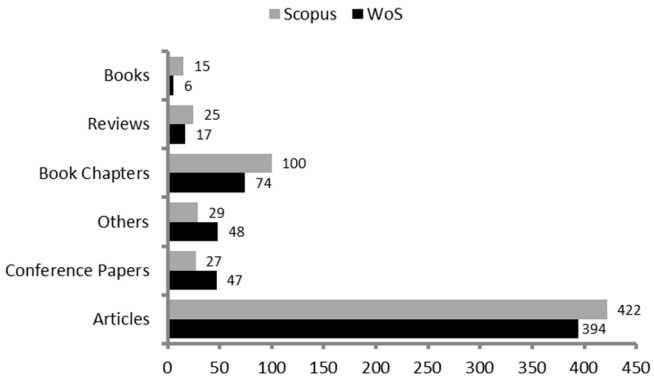


Figure 1. Types of Documents. Source: Own elaboration.

Prior to the research, Rowley & Slack [48] proposed to design a mental map in order to outline the process of systematic search of bibliography. With a similar approach, Figure 2 shows the structure of the process that was followed in this work in order to develop the bibliometric analysis related to water governance.

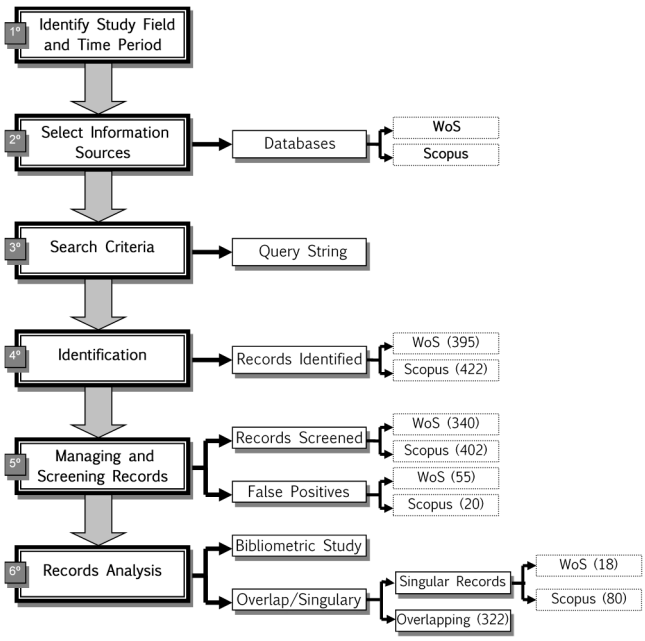


Figure 2. Research stages. Source: Own elaboration.

Once the field of study and the period of time to be analysed (year of publication $\leq$ 2017) are established, as well as the databases to be used, the search criteria must be defined. In order to delimit the results to the water governance area, a document tracking strategy was chosen through a search of terms, an option that is capable of tracking classified journals within all thematic areas, therefore being more exhaustive [49]. The search was carried out in September–October:

WoS: TI = ("Water *Govern*) AND Language: (English) AND Types of documents: (Article)
Refined by: Data Base = (WOS) Period of time = 1900–2017
Scopus: TITLE ("water *Govern*") AND DOCTYPE (ar) AND PUBYEAR < 2018

After screening and eliminating those articles considered to be irrelevant, as well as duplicates, as a final result, 340 articles that were published in WoS and 402 in Scopus were identified, which make up the ad hoc database used in the analysis of the main bibliometric indicators and overlapping. The fields of the database contain all of the bibliographic information necessary for the analysis: authors, title of the article, year of publication, affiliations, key words, and number of citations.

Bibliometric provides an overview of a field of research according to a wide range of indicators, among which the total number of articles, the total number of citations, and the h index [50] stand out, which combines the number of articles and the number of citations in a single indicator, and it is defined as the number of X studies that have received X or more citations.

4. Methodology

4.1. Production

Table 1 shows the temporal distribution (by years) of the articles related to water governance. It is observed that the interest of researchers in this area is very recent; the first paper appeared in 2003, and there was an exponential increase in publications in 2009, and therefore it was when the discipline took off. Specifically, in the last five years, nearly 70% of the total of WoS articles and 63% of Scopus have been published. One of the possible reasons that justifies this increase in researchers' interest in the subject comes from the fact that the Water Governance concept does not begin to be considered as an independent discipline until the definition of the United Nations Development Program [30]. Until then, this concept was confused with other terms, as already mentioned in the theoretical framework section: "Sustainable Water Management" and "Integrated Management of Water Resources" (IWRM).

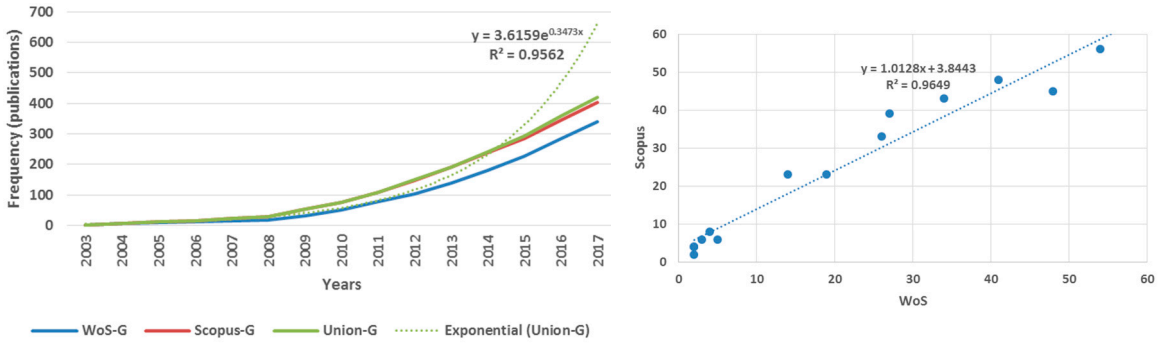
Regarding citations, the articles that were published within the period 2009–2013 have the highest number of citations. This is possibly due to the fact that papers of less than five years have not yet reached their maximum potential regarding the number of citations received.

Table 1. Production of articles per year on water government.

Year	WoS						Scopus					
	fi	hi%	Fi	TC	$\bar{x}$	h-index	fi	hi%	Fi	TC	$\bar{x}$	h-index
2003	2	0.59	2	42	21.00	2	2	0.50	2	47	23.50	2
2004	5	1.47	7	31	6.20	3	6	1.49	8	48	8.00	4
2005	2	0.59	9	95	47.50	1	4	1.00	12	148	37.00	3
2006	2	0.59	11	42	21.00	2	4	1.00	16	97	24.25	4
2007	4	1.18	15	41	10.25	4	8	1.99	24	173	21.63	6
2008	3	0.88	18	106	35.33	3	6	1.49	30	169	28.17	5
2009	14	4.12	32	475	33.93	7	23	5.72	53	791	31.78	10
2010	19	5.59	51	509	26.79	13	23	5.72	76	592	25.74	14
2011	26	7.65	77	470	18.08	13	33	8.21	109	535	16.21	14
2012	27	7.94	104	504	18.67	12	39	9.70	148	743	19.05	15
2013	34	10.00	138	356	10.47	12	43	10.70	191	448	10.42	14
2014	41	12.06	179	282	6.88	10	48	11.94	239	339	7.06	11
2015	48	14.12	227	233	9.71	8	45	11.19	284	225	5.00	8
2016	59	17.35	286	142	2.41	6	62	15.42	346	184	3.29	7
2017	54	15.88	340	27	0.50	3	56	13.93	402	48	0.86	3
∑	340	100.00%		3355	9.87	∑	402	100.00%		4587	11.4	

Notes: fi and Fi = frequency (number of articles published); hi% = relative frequency; TC = total number of citations received for published articles; $\bar{x}$ = Average; h-index = Hirsch's index. Source: Own elaboration.

As shown in Figure 3, after a period of six years with very few publications, denominated according to the law of exponential growth of Price [51] precursors, from 2009 a second stage of exponential growth begins that continues to this day. Therefore, it is expected that this behaviour will continue in the next few years before moving on to the last phase in any linear growth discipline, where the appearance of publications decreases and whose main objective is reviewing.



(**a**) (**b**)

Figure 3. Growth (**a**) and Correlation (publications) (**b**). Source: Own elaboration.

In this same Figure 3, a strong correlation between articles that were indexed by year in WoS and Scopus can also be seen, with $R^2 = 0.9649$, although the growth curves are separated from the year 2008.

4.2. Most Cited Documents

The 340 articles in WoS received a total of 3355 citations, which averaged 9.87 citations/document. From the perspective of the h-index = 28, of the total of 340 articles, 28 articles received 28 citations or more in the analysed period. Regarding Scopus, its 402 articles obtained a total of 4587 citations

with an average of 11.4 citations/article and an h-index = 34. Throughout the 2003–2017 study period, the growth in the number of citations that the total number of articles receives per year is constant, reaching 884 citations in WoS and 1051 in Scopus in 2017 (Figure 4). The Hirsch Index [50] (p. 16569) "is a quantitative method to evaluate the total effective output of a researcher", it provides an unbiased evaluation that represents it through a predictive value (number) [52], thus providing "an estimate of the importance, significance, and broad impact of a scientist's cumulative research contributions" [50] (p. 16569).

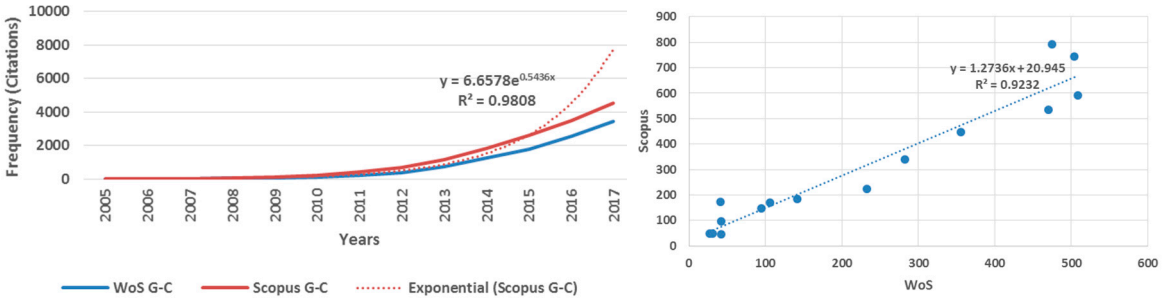


Figure 4. Growth (**a**) and Correlation (citations) (**b**). Source: Own elaboration.

A more detailed citation analysis shows that only 0.88% (3) of WoS articles and 1.24% (5) of Scopus articles receive more than 100 citations, 4.41% (15) and 5.47% (22), respectively, between 50–100 citations, 28.82% (98) and 30.85% (124), between 10–49 and 56.18% (191) and 52.99% (213) between 1–9. Only 9.71% (33) of WoS articles and 9.45% (38) of Scopus do not receive any citation. The articles published within the last 10 years have not reached their maximum level of citations yet [53].

In order to identify the most influential researchers in water governance research, those articles that received the highest number of citations are identified (Table 2). Three articles have over 100 citations in both databases: (1) "Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining to Research Agenda" [54] with 286 citations in WoS and 357 citations in Scopus; (2) "Analyzing complex water governance regimes: the Management and Transition Framework" [55] with 128 and 136, respectively; and, (3) "From applying panaceas to mastering complexity: Toward adaptive water governance in river basins" [3] with 118 and 128 citations in both databases. Water Governance in Canada: Innovation and Fragmentation [56], which occupies the 10th position in WoS with 63 citations, and the 18th position in Scopus, with 59 citations.

Table 2. Most relevant articles according to the criterion number of citations.

Author/s	Year	Title	WoS			Scopus		
			R.	TC	C/Y	R.	C	C/Y
Huitema et al. [54]	2009	Adaptive Water Governance: Assessing the Institutional Prescriptions of Adaptive (Co-) Management from a Governance Perspective and Defining a Research Agenda	1	286	35.75	1	357	44.63
Pahl-Wostl et al. [55]	2010	Analyzing complex water governance regimes: the Management and Transition Framework	2	128	18.29	2	136	19.43
Pahl-Wostl et al. [3]	2012	From applying panaceas to mastering complexity: Toward adaptive water governance in river basins	3	118	23.6	3	128	25.6
Perreault [57]	2005	State restructuring and the scale politics of rural water governance in Bolivia	4	98	8.167	4	111	9.25
Norman and Bakker [58]	2009	Transgressing Scales: Water Governance Across the Canada-US Borderland	5	85	10.63	5	103	12.88

Table 2. *Cont.*

Author/s	Year	Title	WoS			Scopus		
			R.	TC	C/Y	R.	C	C/Y
Moss and Newing [59]	2010	Multilevel Water Governance and Problems of Scale: Setting the Stage for a Broader Debate	6	85	12.14	8	94	13.43
Perreault [60]	2008	Custom and Contradiction: Rural Water Governance and the Politics of Usos y Costumbres in Bolivia's Irrigators' Movement	7	75	10.71	7	96	10.67
Beniston et al. [61]	2011	Impacts of climatic change on water and natural hazards in the Alps: Can current water governance cope with future challenges? Examples from the European "ACQWA" project	8	65	10.83	10	74	12.33
Wiek and Larson [21]	2012	Water, People, and Sustainability-A Systems Framework for Analyzing and Assessing Water Governance Regimes	9	63	12.6	11	70	14
Bakker and Cook [56]	2011	Water Governance in Canada: Innovation and Fragmentation	10	63	10.5	18	59	9.833
Hanjra et al. [62]	2012	Wastewater irrigation and environmental health: Implications for water governance and public policy	11	61	12.2	9	86	17.2

Notes: R. = rank; TC = the total number of citations received by the published articles; C/Y = average citations received by years. Source: Own elaboration.

4.3. Comparative Analysis WoS vs Scopus

Taking into account that we are working with two databases, it is necessary to carry out an analysis of the overlap between both and their level of singularity. According to Mongeon & Paul-Hus [38] (p. 2013), "while both databases share biases, their coverage differs substantially".

340 articles were identified in WoS and 402 in Scopus were related to Water Governance. 322 of these articles are overlapping, or what is the same, they are present in both bases, which represents almost 95% of WoS documents and 80% of Scopus. The remaining documents, 18 (5.29%) and 80 (19.90%), respectively, are single articles, that is, they are present in only one of them. If the journals are analysed as a variable, the percentage of overlap is similar: 102 journals are present in both databases and 11 single journals in WoS and 48 in Scopus.

Another way of measuring the overlap between databases is through the so-called traditional overlap (TO), developed by Gluck [63], which is defined in the following formula:

$$\mathrm{TO} = 100 \times \left(\frac{|\mathrm{WoS} \cap \mathrm{Scopus}|}{|\mathrm{WoS} \cup \mathrm{Scopus}|} \right) = 76.66\% \quad (1)$$

However, if what we want to know is the coverage percentage of WoS with respect to Scopus and vice versa, then relative overlap (RO) is used [64]:

$$\mathrm{RO\ WoS} = 100 \times \left(\frac{|\mathrm{WoS} \cap \mathrm{Scopus}|}{\mathrm{WoS}} \right) = 94.71\% \quad (2)$$

Therefore, it can be stated that there is a 76.66% similarity in relation to articles on water governance, when WoS and Scopus are compared, or, in other words, a 23.34% discrepancy. On the other hand, Scopus overlaps 94.71% of WoS articles. The TO Scopus % is 80.01%, that is, WoS covers Scopus by almost 15% less.

These differences in article overlapping may be due to different indexing policies, but mainly due to the discrepancy in the number of journals that both databases collect.

For the singularity analysis of WoS and Scopus, Meyer's index [65] was chosen, which, in addition to including the degree of overlap between the bases, takes into account the percentage of single

documents present in each of them. The higher the Meyer's index is, the higher the number of single documents.

$$\text{Meyer}'\text{s Index} = \frac{\sum \text{Sources} \times \text{weight}}{\text{Total sources}} \quad (3)$$

Scopus shows a greater singularity with 19.90% (5.29 WoS) of articles and 32.00% (9.73 WoS) of single journals and a Meyer index of 0.60 (0.53 WoS) and 0.66 (0.55 WoS), respectively.

4.4. Authors

Pahl-Wostl, C. leads the ranking of the most productive authors in the area of water governance (Table 3), with a total of 11 articles, and is also the author with the highest citations/article average. According to the criteria that were proposed by Lotka [66], this author, together with R.L. Ison with 10 authorships, are "large producers". 16.86% (143) are intermediate producers with 2–9 authorships, while the majority of authors, 703 (82.90%) are considered transient, that is, with a single authorship. As a result of the above, the productivity index stands at a low 1.31 (number of articles per author).

Table 3. Authors with the greatest number of publications in water governance.

R.	Name	Affiliation	Country	Tfi	WoS				Scopus			
					fi	TC	C/P	h-index	fi	TC	C/P	h-index
1	Pahl-Wostl, C.	Universitat Osnabruck	Germany	11	11	583	53.0	9	11	682	62.0	9
2	Ison, R.L.	Open university, Milton Keynes	U.K	10	9	105	11.7	5	10	121	12.1	6
3	Bakker, K	University of Minnesota Twin Cities	U.S.A.	8	6	189	31.5	4	8	261	32.6	6
4	De Loe, R.C.	Uiversity of Waterloo	Canada	7	7	38	5.4	4	7	73	10.4	4
-	Edelenbos, J.	Erasmus University Rotterdam	Netherlands	7	6	64	10.7	5	7	67	9.6	5
-	Wiek, A.	Arizona State Universiry	U.S.A.	7	7	103	14.7	5	6	109	18.2	5
7	Collins, K.	Open university, Milton Keynes	U.K.	6	6	29	4.8	3	6	37	6.2	4
-	Harris, L.	The University of British Columbia	Canada	6	6	99	16.5	4	6	91	15.2	4
-	Wallis, P.J.	Victorian Catchment Management	Australia	6	5	81	16.2	4	6	98	16.3	4

Notes: R. = rank; Tfi = frequency (number of articles published); TC = the total number of citations received by the published articles; C/P = average citations received by the published articles; h-index = Hirsch's index. Source: Own elaboration.

In order to deepen the analysis of the authors, in addition to the productivity, the transience, and collaboration indexes, the degree of collaboration and productivity index were calculated. The transience index is 83.02% and it is defined as the number of authors that publish a single article in relation to the total number of authors; the rate of collaboration is 2.65; and, the degree of collaboration is defined as the ratio between the number of collaborative papers and the total number of papers published in a given period of time, which is 67.14%. These last two indexes provide a fairly clear idea of the scope of collaboration of researchers in water governance.

4.5. Affiliation: Country Level

The affiliation of both articles and researchers is another parameter, which together with the authorship indicators is very useful, when it comes to the correct identification and recovery of intellectual production in the different databases. Table 4 shows the 10 most prolific countries in production on water governance. The United States, with 13.33% (113) of the authors affiliated to one of its centres, is the largest producer of publications. It is also the country with the highest number of articles, 21.76% (74) in WoS and 18.90% (76) in Scopus, with the highest number of citations (800, 960) and with the highest h index (16, 16). The Netherlands is the second most prolific country regarding the total number of authors, followed by the United Kingdom, Australia, and Germany.

Table 4. Top ten countries by affiliation of researchers.

R.	Country	WoS ∪ Scopus			WoS				Scopus			
		Authors	Authorships	Centers	fi	hi%	TC	h-index	fi	hi%	TC	h-index
1	United States	113	152	67	74	21.8%	800	16	76	18.9%	960	16
2	Netherlands	92	133	19	54	15.9%	613	12	57	14.2%	750	13
3	United Kingdom	70	107	30	33	9.7%	369	12	49	12.2%	738	16
4	Australia	66	86	30	36	10.6%	316	10	47	11.7%	444	11
5	Germany	65	99	36	47	13.8%	879	12	54	13.4%	1108	14
6	Canada	48	78	27	43	12.6%	434	11	47	11.7%	526	11
7	China	27	28	17	10	2.9%	104	3	12	3.0%	138	5
8	Switzerland	24	31	10	10	2.9%	116	6	11	2.7%	134	6
9	Spain	24	28	17	12	3.5%	188	6	16	4.0%	201	7
10	Sweden	24	26	9	14	4.1%	106	6	14	3.5%	138	7

Notes: R. = rank; fi = frequency (number of articles published); hi% = relative frequency; TC = the total number of citations received by the published articles; h-index = Hirsch's index. Source: Own elaboration.

4.6. Journals

One of the most interesting aspects when carrying out a bibliometric analysis is to identify those journals most used by researchers for the dissemination of their work. According to the Law of Bradford [67], a small number of journals (Bradford's Nucleus) groups most of the articles that are published around an area. Basing the calculation on the so-called Minimum Bradford Zone (MBZ), number of articles equal to half the number of journals that produce a single article (51), and on the ranking of journals arranged in descending order of productivity (Table 5), the Nucleus of Bradford is composed of those journals whose sum of articles is equal to the MBZ. Applying this concept to the bibliometric analysis of the water governance area, it is found that only three journals make up the nucleus of Bradford: Water International (23), Ecology and Society (21), and Water Alternatives (17).

Table 5. Main Publication Resources.

R.	Title	Tfi	%	WoS				Scopus			
				fi	TC	h-index	Q	fi	TC	h-index	Q
1	Water International	23	5.48%	23	120	7	Q2	23	147	7	Q2
2	Ecology and Society	21	5.00%	21	473	10	Q1	21	581	11	Q1
3	Water Alternatives	17	4.05%	10	78	5	Q1	17	326	8	Q1
4	Water	16	3.81%	16	75	3	Q2	16	93	4	Q1
5	Water Policy	16	3.81%	16	92	6	Q4	16	96	5	Q3
-	Int. Journal of Water Resources Development	14	3.33%	14	244	7	Q2	13	244	7	Q2
7	Geoforum	13	3.10%	13	96	8	Q1	13	98	7	Q1
8	Environmental Science and Policy	12	2.86%	12	315	6	Q1	12	337	6	Q1
9	Water Resources Management	11	2.62%	11	196	8	Q1	11	221	8	Q1
10	Society and Natural Resources	9	2.14%	9	30	2	Q3	9	41	3	Q2

Notes: R. = rank; Tfi = frequency (number of articles published); TC = the total number of citations received by the published articles; h-index = Hirsch's index; Q = quartile. Source: Own elaboration.

4.7. Distribution of Subject Categories

In the study of the thematic areas in which journals are classified, where articles on water governance are included, it is difficult to make a comparison between WoS and Scopus, since there is no clear correspondence in the denomination and content between both bases (Table 6). Note that journals can belong to one or several subject area fields. Despite these facts, Environmental Sciences stands out in both bases with 12.65% (43) of WoS articles and with 22.89% (92) in Scopus. However, in the latter, Social Science is in the first position, with almost 25% (99) and 2664 citations. Note that, in WoS, the area of Water Resources with 31 articles (9.12%) receives more than 1100 citations, occupying the second place in the ranking of the most cited articles, only behind Environmental Sciences. The concentration of articles reveals that the approach to study this topic revolves around Environmental Sciences, Water Resources, and Social Science.

Table 6. Main Subject Areas.

WoS						Scopus					
Area	**J.**	**fi**	**TC**	**C/fi**	**h-index**	**Area**	**J.**	**fi**	**TC**	**C/fi**	**h-index**
Environmental Sciences	43	152	1847	12.2	20	Environmental Science	92	308	3634	11.8	29
Water Resources	31	139	1135	8.2	20	Social Science	99	253	2664	10.5	25
Engineering	12	56	512	9.1	15	Agricultural and Biological Sciences	13	36	192	5.3	9
Public Administration	17	33	195	5.9	9	Earth and Planetary Sciences	14	24	388	16.2	9
Geography	9	27	501	18.6	11	Engineering	10	22	255	11.6	8
Government Law	14	19	66	3.5	5	Economics. Econometrics and Finance	8	19	138	7.3	6
Science Technology	8	15	50	3.3	4	Biochemestry. Genetics and Molecular Biology	1	16	93	5.8	4
Business Economics	6	13	123	9.5	7	Business. Management and Accounting	11	14	34	2.4	4
Geology	6	13	170	13.1	8	Arts and Humanities	8	10	84	8.4	4
Sociology	2	10	31	3.1	2	Chemical	2	7	69	9.9	5

Notes: J. = journal; fi = frequency (number of articles published); TC = the total number of citations received by the published articles; C/fi = average citations received by the published articles; h-index = Hirsch's index. Source: Own elaboration.

5. Conclusions

The analysis of academic production constitutes a fundamental element within the research process, enabling the determination, classification, and categorization of scientific production, at the same time as showing the trends in the subject matter of study. In this process, bibliographic databases play a key role by quickly allowing access to the majority of information. However, due to the existence of differences in their indexation policy, the choice of the most convenient base for each area of knowledge constitutes the initial step.

The use of bibliometrics as a tool to perform such analysis is recognized in the academic field by researchers, since bibliometric indicators are a reasoned measure of scientific activity allowing for the analysis of information [68]. Following this, a general description is made of research on water governance through information that is related to scientific production, most cited publications countries, authors, affiliation, journals, categories, and overlapping and singularity of the databases.

It is a very recent discipline, the first article was published in 2013. On the other hand, there has been a significant increase in production in recent years in terms of results, which refer to the publication of articles in scientific journals. In 15 years, it has experienced an evolution from an incipient state to creating great interest in 2009 and constituting a front of research, to concentrating in the last four years almost half of the total production. In parallel to the growth in the number of articles, the number of citations that publications have received is constant, reaching its highest level in 2017. Throughout the period analyzed, WoS and Scopus show a strong correlation, both in the number of articles published annually and in the number of citations received.

As with other areas investigated [69], Scopus has a greater number of documents indexed and it obtains a greater number of citations, with differences in the coverage that both bases carry out in the water governance area, Scopus, with more than 20% of single documents, is the base that best covers overlapping, at the same time, to 94% of WoS articles. That is, the number of papers that would be lost if Scopus was chosen as the only documentary source would account for around 5% of the total.

With regard to authorship, two authors are considered large producers according to the classification of Lotka [66]: C. Pahl-Wostl, and R.L. Ison with 10 or more published articles. The majority of the authors make up the so-called transients, i.e., with a single authorship, which causes the average productivity index per author to be very close to 1. The affiliation of researchers is varied, showing the enormous interest that water governance generates all over the world. The United States stands out, with 13.3% of the authors belonging to some of its centers, also being the best valued, as it receives

a greater number of citations and it has a higher h index. If the collaborative bibliometric indicators are observed in more detail, papers with multiple signatures represent two-thirds of the total. Within these, articles by three or more authors make up 60%, which makes the collaboration index, expressed as the number of authorships per article, being 2.6.

To end with the main results that were found in this bibliometric analysis, note that the core of the main journals chosen by researchers to publish their work (Bradford Nucleus) in the Water Governance area consists of only three publications: Water International, Ecology and Society, and Water Alternatives, with Water Alternatives standing out from the rest due to the number of citations received, and that is located in the first quartile of both the Journal Citation Reports (JCR) and Scimago Journal & Country Rank (SJR) indexes in the Water Resources and Water Science and Technology categories, respectively. In the study of the thematic areas in which journals are classified, where articles on water governance are included, it is difficult to make a comparison between WoS and Scopus, since there is no clear correspondence in the denomination and content between both bases. Despite this fact, Environmental Sciences stands out in both bases, not to mention other categories such as Social Science or Water Resources, which corroborates the strong multidisciplinary nature of the water governance area.

Despite being useful tools capable of analyzing the main trends in a field of research, in bibliometric studies it is important to take into account, two main limitations among others, when interpreting the results obtained. On the one hand, the choice of databases, and on the other hand, the bias that the use of a specific search equation implies, aggravated by the integration of this concept in the "integrated management of water resources", as mentioned in the literature review. Regarding the databases, there are probably several studies on this topic that have been published in journals not indexed in the two bases considered, so, as a future research line, it would be interesting to extend the study to other databases, including those that collect publications in languages different from English. It is also important to mention one last limitation, the problem of different authors with the same name.

At no time has the aim of this paper been to evaluate the content quality of the selected articles, a purpose that can be taken into account in a subsequent investigation, but the descriptive-comparative analysis of articles and their citations concerning water governance indexed in the WoS and Scopus databases. This bibliometric analysis can be a consultation document for researchers, with the aim of identifying the areas in which it is necessary to increase their research activity, and therefore be a reference point f.

Author Contributions: Conceptualization, Methodology, Software, Formal Analysis, Investigation and Resources, A.D.-S., M.d.l.C.d.R.-R. and J.A.-G.; Writing-Original Draft Preparation and Writing-Review & Editing, A.D.-S., M.d.l.C.d.R.-R., J.A.-G. and F.J.C.-A.; Project Administration and Supervision, M.d.l.C.d.R.-R. and J.A.-G.

Funding: The presentation of this work has been possible thanks to the funding granted by the European Regional Development Fund of the European Union and Junta de Extremadura to the research group DELSOS (Grant no. GR18095).

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Gosling, S.N.; Arnell, N.W. A global assessment of the impact of climate change on water scarcity. *Clim. Chang.* **2016**, *134*, 371–385. [CrossRef]
2. Organisation for Economic Co-operation and Development (OECD). OECD Environmental Outlook to 2050. OECD Publishing, 2012. Available online: http://dx.doi.org/10.1787/9789264122246-en (accessed on 1 November 2018).
3. Pahl-Wostl, C.; Lebel, L.; Knieper, C.; Nikitina, E. From applying panaceas to mastering complexity: Toward adaptive water governance in river basins. *Environ. Sci. Policy* **2012**, *23*, 24–34. [CrossRef]

4. GWP. Global Water Partnership (GWP). Towards Wáter Security: A Framework for Action, Stockholm. 2000. Available online: https://www.gwp.org/globalassets/global/toolbox/references/towards-water-security.-a-framework-for-action.-mobilising-political-will-to-act-gwp-2000.pdf (accessed on 1 October 2018).
5. Kostoff, R.N.; Shlesinger, M.F. CAB: Citation-assisted background. *Scientometrics* **2005**, *62*, 199–212. [CrossRef]
6. Wang, M.H.; Yu, T.C.; Ho, Y.S. A bibliometric analysis of the performance of Water Research. *Scientometrics* **2009**, *84*, 813–820. [CrossRef]
7. Fu, H.Z.; Wang, M.H.; Ho, Y.S. Mapping of drinking water research: A bibliometric analysis of research output during 1992–2011. *Sci. Total Environ.* **2013**, *443*, 757–765. [CrossRef] [PubMed]
8. Niu, B.; Loaiciga, H.A.; Wang, Z.; Zhan, F.B.; Hong, S. Twenty years of global groundwater research: A Science Citation Index Expanded-based bibliometric survey (1993–2012). *J. Hydrol.* **2014**, *519*, 966–975. [CrossRef]
9. Xu, L.; Marinova, D. Nano-biotechnology for Water Sustainability: Bibliometric Analysis. In *Technology, Society and Sustainability*; Zacher, L.W., Ed.; Springer Cham: Berlin, Germany, 2017; pp. 343–357.
10. Zare, F.; Elsawah, S.; Iwanaga, T.; Jakeman, A.J.; Pierce, S.A. Integrated water assessment and modelling: A bibliometric analysis of trends in the water resource sector. *J. Hydrol.* **2017**, *552*, 765–778. [CrossRef]
11. Zhang, Y.; Huang, K.; Yu, Y.; Yang, B. Mapping of water footprint research: A bibliometric analysis during 2006–2015. *J. Clean. Prod.* **2017**, *149*, 70–79. [CrossRef]
12. Zhang, Y.; Zhang, Y.; Shi, K.; Yao, X. Research development, current hotspots, and future directions of water research based on MODIS images: A critical review with a bibliometric analysis. *Environ. Sci. Pollut. Res.* **2017**, *24*, 15226–15239. [CrossRef]
13. Durán-Sánchez, A.; Álvarez-García, J.; del Río-Rama, M.C. Sustainable water resources management: A bibliometric overview. *Water* **2018**, *10*, 1191. [CrossRef]
14. Velasco-Muñoz, J.; Aznar-Sánchez, J.; Belmonte-Ureña, L.; López-Serrano, M. Advances in water use efficiency in agriculture: A bibliometric analysis. *Water* **2018**, *10*, 377. [CrossRef]
15. Mulder, K.; Hagens, N.; Fisher, B. Burning water: A comparative analysis of the energy return on wáter invested. *AMBIO* **2010**, *39*, 30–39. [CrossRef] [PubMed]
16. Guarino, A.S. The economic implications of global water scarcity. *Res. Econ. Manag.* **2017**, *2*, 51–63. [CrossRef]
17. Woodhouse, P.; Muller, M. Water governance—An historical perspective on current debates. *World Dev.* **2017**, *92*, 225–241. [CrossRef]
18. Overpeck, J.; Udall, B. Dry times ahead. *Science* **2010**, *328*, 1642–1643. [CrossRef] [PubMed]
19. Duan, K.; Sun, G.; Zhang, Y.; Yahya, K.; Wang, K.; Madden, J.M.; Cohen, E.C.; McNulty, S.G. Impact of air pollution induced climate change on water availability and ecosystem productivity in the conterminous United States. *Clim. Chang.* **2017**, *140*, 259–272. [CrossRef]
20. Zareian, M.J.; Eslamian, S.; Gohari, A.; Adamowski, J.F. The effect of climate change on watershed water balance. In *Mathematical Advances Towards Sustainable Environmental Systems*; Furze, J.N., Swing, K., Gupta, A.K., McClatchey, R.H., Reynolds, D.M., Eds.; Springer Cham: Berlin, Germany, 2017; pp. 215–238.
21. Wiek, A.; Larson, K.L. Water, people, and sustainability—A systems framework for analyzing and assessing water governance regimes. *Water Resour. Manag.* **2012**, *26*, 3153–3171. [CrossRef]
22. Organisation for Economic Co-operation and Development (OECD). *OECD Principles on Water Governance Welcomed by Ministers at the OECD Ministerial Council Meeting on 4 June 2015*; Directorate for Public Governance and Territorial Development, Organization for Economic Cooperation and Development: Paris, France, 2014. Available online: http://www.oecd.org/gov/regional-policy/OECDPrinciples-on-Water-Governance-brochure.pdf (accessed on 1 November 2018).
23. Rauschmayer, F.; Berghofer, A.; Omann, I.; Zikos, D. Examining processes and/or outcomes? Evaluating concepts in European governance of natural resources. *Environ. Policy Gov.* **2009**, *19*, 159–173. [CrossRef]
24. United Nations Development Programme (UNDP). Governance for Sustainable Human Development: A UNDP Policy Document. 2001. Available online: http://magnet.undp.org/policy/summary.htm (accessed on 21 October 2018).
25. Franks, T.; Cleaver, F. Water governance and poverty: A framework for analysis. *Prog. Dev. Stud.* **2007**, *7*, 291–306. [CrossRef]
26. Rogers, P.; Hall, A. *Effective Water Governance*; TEC Background Paper 7; Global Water Partnership: Stockholm, Sweden, 2003.

27. Akhmouch, A.; Correia, F.N. The 12 OECD principles on water governance—When science meets policy. *Util. Policy* **2016**, *43*, 14–20. [CrossRef]
28. Global Water Partnership (GWP). *Introducing Effective Water Governance*; GWP Technical Paper; Global Water Partnership: Stockholm, Sweden, 2002.
29. Araral, E.; Wang, Y. Water governance 2.0: A review and second generation research agenda. *Water Resour. Manag.* **2013**, *27*, 3945–3957. [CrossRef]
30. United Nations Development Programme (UNDP). Water Governance Facility. What Is Water Governance? UNDP WGF. 2013. Available online: http://www.watergovernance.org/whatiswatergovernance (accessed on 21 October 2018).
31. Kuzdas, C.; Warner, B.P.; Wiek, A.; Vignola, R.; Yglesias, M.; Childers, D.L. Sustainability assessment of water governance alternatives: The case of Guanacaste Costa Rica. *Sustain. Sci.* **2016**, *11*, 231–247. [CrossRef]
32. Lautze, J.; De Silva, S.; Giordano, M.; Sanford, L. Putting the cart before the horse: Water governance and IWRM. *Nat. Resour. Forum* **2011**, *35*, 1–8. [CrossRef]
33. Biswas, A.K.; Tortajada, C. Future water governance: Problems and perspectives. *Int. J. Water Resour. Dev.* **2010**, *26*, 129–139. [CrossRef]
34. Jonch-Clausen, T.; Fugi, J. Firming up the conceptual basis of integrated water resources management. *Int. J. Water Resour. Dev.* **2001**, *17*, 501–510. [CrossRef]
35. Rubenstein, N.; Wallis, P.J.; Ison, R.L.; Godden, L. Critical reflections on building a community of conversation about water governance in Australia. *Water Altern.* **2016**, *9*, 81–98.
36. Riviera, E. Scientific communities as autopoietic systems: The reproductive function of citations. *J. Am. Soc. Inf. Sci. Technol.* **2013**, *64*, 1442–1453. [CrossRef]
37. Norris, M.; Oppenheim, C. Comparing alternatives to the Web of Science for coverage of the social sciences' literature. *J. Infometrics* **2007**, *1*, 161–169. [CrossRef]
38. Mongeon, P.; Paul-Hus, A. The journal coverage of Web of Science and Scopus: A comparative analysis. *Scientometrics* **2016**, *106*, 213–228. [CrossRef]
39. Falagas, M.E.; Pitsouni, E.I.; Malietzis, G.A.; Pappas, G. Comparison of PubMed, Scopus, web of science, and Google scholar: strengths and weaknesses. *FASEB J.* **2008**, *22*, 338–342. [CrossRef]
40. Harzing, A.W.; Alakangas, S. Google Scholar, Scopus and the Web of Science: A longitudinal and cross-disciplinary comparison. *Scientometrics* **2016**, *106*, 787–804. [CrossRef]
41. Prins, A.A.; Costas, R.; van Leeuwen, T.N.; Wouters, P.F. Using Google Scholar in research evaluation of humanities and social science programs: A comparison with Web of Science data. *Res. Eval.* **2016**, *25*, 264–270. [CrossRef]
42. Martín-Martín, A.; Orduna-Malea, E.; Thelwall, M.; López-Cózar, E.D. Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories. *J. Informetrics* **2018**, *12*, 1160–1177. [CrossRef]
43. Gao, W.; Guo, H.C. Nitrogen research at watershed scale: A bibliometric analysis during 1959–2011. *Scientometrics* **2014**, *99*, 737–753. [CrossRef]
44. Yong-Hak, J. Web of Science, Thomson Reuters. 2013. Available online: http://wokinfo.com/media/pdf/WoSFS_08_7050.pdf (accessed on 21 October 2018).
45. Ramos-Rodriguez, A.R.; Ruiz-Navarro, J. Changes in the intellectual structure of strategic management research: A bibliometric study of the Strategic Management Journal, 1980–2000. *Strateg. Manag. J.* **2004**, *25*, 981–1004. [CrossRef]
46. Liu, W.; Hu, G.; Tang, L.; Wang, Y. China's global growth in social science research: Uncovering evidence from bibliometric analyses of SSCI publications (1978–2013). *J. Informetrics* **2015**, *9*, 555–569. [CrossRef]
47. Ho, Y.S.; Satoh, H.; Lin, S.Y. Japanese lung cancer research trends and performance in Science Citation Index. *Intern. Med.* **2010**, *49*, 2219–2228. [CrossRef]
48. Rowley, J.; Slack, F. Conducting a literature review. *Manag. Res. News* **2004**, *27*, 31–39. [CrossRef]
49. Corral, J.A.; Canoves, G. La investigación turística publicada en revistas turísticas y no turísticas: Análisis bibliométrico de la producción de las universidades catalanas. *Cuadernos de Turismo* **2013**, *31*, 55–81.
50. Hirsch, J.E. An index to quantify an individual's scientific research output. *Proc. Natl. Acad. Sci. USA* **2005**, *102*, 16569–16572. [CrossRef]
51. Price, D.J.S. The exponential curve of science. *Discovery* **1956**, *17*, 240–243.

52. Hirsch, J.E. Does the h index have predictive power? *Proc. Natl. Acad. Sci. USA* **2007**, *104*, 19193–19198. [CrossRef]
53. Merigó, J.M.; Mas-Tur, A.; Roig-Tierno, N.; Ribeiro-Soriano, D. A bibliometric overview of the Journal of Business Research between 1973 and 2014. *J. Bus. Res.* **2015**, *68*, 2645–2653. [CrossRef]
54. Huitema, D.; Mostert, E.; Egas, W.; Moellenkamp, S.; Pahl-Wostl, C.; Yalcin, R. Adaptive water governance: Assessing the institutional prescriptions of adaptive (co-) management from a governance perspective and defining a research agenda. *Ecol. Soc.* **2009**, *14*, 26. [CrossRef]
55. Pahl-Wostl, C.; Holtz, G.; Kastens, B.; Knieper, C. Analyzing complex water governance regimes: The management and transition framework. *Environmental Sci. Policy* **2010**, *13*, 571–581. [CrossRef]
56. Bakker, K.; Cook, C. Water governance in Canada: Innovation and fragmentation. *Water Resou. Dev.* **2011**, *27*, 275–289. [CrossRef]
57. Perreault, T. State restructuring and the scale politics of rural water governance in Bolivia. *Environ. Plan.* **2005**, *37*, 263–284. [CrossRef]
58. Norman, E.S.; Bakker, K. Transgressing scales: Water governance across the Canada–US borderland. *Ann. Assoc. Am. Geogr.* **2009**, *99*, 99–117. [CrossRef]
59. Moss, T.; Newig, J. Multilevel Water Governance and Problems of Scale: Setting the Stage for a Broader Debate. *Environ. Manag.* **2010**, *46*, 1–6. [CrossRef]
60. Perreault, T. Custom and contradiction: Rural water governance and the politics of usos y costumbres in Bolivia's irrigators' movement. *Ann. Assoc. Am. Geogr.* **2008**, *98*, 834–854. [CrossRef]
61. Beniston, M.; Stoffel, M.; Hill, M. mpacts of climatic change on water and natural hazards in the Alps: Can current water governance cope with future challenges? Examples from the European "ACQWA" project. *Environ. Sci. Policy* **2011**, *14*, 734–743. [CrossRef]
62. Hanjra, M.A.; Blackwell, J.; Carr, G.; Zhang, F.; Jackson, T.M. Wastewater irrigation and environmental health: Implications for water governance and public policy. *Inter. J. Hyg. Environ. Health* **2012**, *215*, 255–269. [CrossRef]
63. Gluck, M.A. Review of Journal Coverage Overlap with an Extension to the Definition of Overlap. *J. Am. Soc. Inf. Sci.* **1990**, *41*, 43–60. [CrossRef]
64. Bearman, T.C.; Kunberger, W.A. *A Study of Coverage Overlap among Fourteen Major Science and Technology Abstracting and Indexing Services*; National Federation of Abstracting and Indexing Services: Philadelphia, PA, USA, 1977.
65. Meyer, D.E.; Mehlman, D.W.; Reeves, E.S.; Origoni, R.B.; Evans, D.; Sellers, D.W. Comparison study of overlap among 21 scientific databases in searching pesticide information. *Online Rev.* **1983**, *7*, 33–43. [CrossRef]
66. Lotka, A.J. The frequency distribution of scientific productivity. *J. Wash. Acad. Sci.* **1936**, *16*, 317–323.
67. Bradford, S.C. Sources of information on specific subjects. *Engineering* **1934**, *137*, 85–86.
68. Merigó, J.M.; Gil-Lafuente, A.M.; Yager, R.R. An overview of fuzzy research with bibliometric indicators. *Appl. Soft Comput.* **2015**, *27*, 420–433. [CrossRef]
69. Álvarez-García, J.; Durán-Sánchez, A.; Del Río-Rama, M.C. Scientific Coverage in Community-Based Tourism: Sustainable Tourism and Strategy for Social Development. *Sustainability* **2018**, *10*, 1158. [CrossRef]