

## COMMENT

# Rebuttal to Peng et al. (2019). “Characteristics and development trends of ecohydrology in lakes and reservoirs: Insights from bibliometrics”. *Ecohydrology*, 12(3), article number: UNSP e2080

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## KEYWORDS

ecohydrology, bibliometrics, Web of Science, method

## 1 | INTRODUCTION

Peng et al. (2019) recently published a paper in this journal entitled “Characteristics and development trends of ecohydrology in lakes and reservoirs: Insights from bibliometrics.” The authors of this publication stated in Section 2.1 Search strategy that “The SCI Expanded database, Web of Science (Thompson Reuters Corporation, USA), was used in this study.” and “To cover the general subjects of lake ecohydrology, the following search strategy was used in this study: (TS = ((ecosystem\* or phytoplankton\* or zooplankton\* or benthos\* or macroinvertebrate\* or macrophytes\* or microbial\*) and (“water level” or hydrology\* or flow\* or “water quantity” or wave\* or current\* or “hydrologic\* residence\* time” or “lake residence\* period\*” or “suspended solid\*” or “water\* temperature\*” or light\* or transparency\* or sediment\*)) and (lake\* or reservoir\*))). The publication time period covered 1900 to 2017. The search was carried out on May 1, 2018.”

Web of Science (Thompson Reuters Corporation, USA) does not exist anymore; it has been replaced by Web of Science (Clarivate Analytics, USA). Using the same method mentioned by Peng et al. (2019), we found 22,837 documents (Data last updated: 14 April, 2019). In our detailed examination, 3,951 (17% of the 22,837 documents), 3,362 (15%), and 4,158 (18%) documents did not mention (ecosystem\* or phytoplankton\* or zooplankton\* or benthos\* or macroinvertebrate\* or macrophytes\* or microbial\*); (“water level” or hydrology\* or flow\* or “water quantity” or wave\* or current\* or “hydrologic\* residence\* time” or “lake residence\* period\*” or “suspended solid\*” or “water\* temperature\*” or light\* or transparency\* or sediment\*); and

(lake\* or reservoir\*) in the document titles, the abstracts, and the author keywords, respectively.

Only 13,461 documents (59% of the 22,837 documents) included (ecosystem\* or phytoplankton\* or zooplankton\* or benthos\* or macroinvertebrate\* or macrophytes\* or microbial\*); any of (“water level” or hydrology\* or flow\* or “water quantity” or wave\* or current\* or “hydrologic\* residence\* time” or “lake residence\* period\*” or “suspended solid\*” or “water\* temperature\*” or light\* or transparency\* or sediment\*); and any of (lake\* or reservoir\*) in the document titles, the abstracts, and the author keywords.

It has been pointed out that the Science Citation Index Expanded (SCI-EXPANDED) is designed for researchers to find published literatures but not intended for bibliometric studies (Ho, 2018a, 2018b). Therefore, an appropriate bibliometric treatment is always needed when using the SCI-EXPANDED for bibliometric studies (Ho, 2018a, 2018b). Peng et al. (2019) considered keywords contained *KeyWords Plus* which provides the search terms extracted from the title of papers cited in each new article listed in Current Contents (Garfield, 1990). Due to such problem, Ho's group was the first to propose a filter, named “front page” including the titles, the abstracts, and author keywords, to improve the bibliometric method (Fu, Wang, & Ho, 2012; Fu and Ho, 2014; Ho & Fu, 2016). Those documents that can only be found by *KeyWords Plus* were irrelevant to “ecohydrology in lakes and reservoirs” (Fu & Ho, 2015; Ho, 2018c). These include, for example, classic reviews (Long, Huang, & Ho, 2014) with citations from Web of Science Core Collection 1,000 or more times entitled “Nitrogen cycles: Past, present, and future” (Galloway et al., 2004) and “Dissimilatory Fe (III) and Mn (IV) reduction” (Lovley, 1991) as well as classic articles

entitled "Northern peatlands: Role in the carbon cycle and probable responses to climatic warming" (Gorham, 1991) and "Fragmentation and flow regulation of the world's large river systems" (Nilsson, Reidy, Dynesius, & Revenga, 2005).

These results with 13,461 documents are very different from those in the original paper by Peng et al. (2019) with 21,753 documents. Such problems when using SCI-EXPANDED for bibliometric studies have been pointed out in recent years and published in journals such as *Environmental Science and Pollution Research* (Ho, 2018a), *Sustainability* (Ho, 2018b), *Renewable & Sustainable Energy Reviews* (Ho, 2018c), and *Journal of Soils and Sediments* (Ho, 2019).

Peng et al. used the wrong methods to publish "Characteristics and development trends of ecohydrology in lakes and reservoirs: Insights from bibliometrics" in *Ecohydrology*; this may result in misleading readers of the journal. In my opinion, Peng et al. could have concluded with a more accurate result if they have used appropriate bibliometric methods for their study.

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