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# Proposal for an Analysis to Illustrate Research Trends on National Parks in Korea

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## Abstract

National parks are designated and managed for the purpose of preserving natural ecosystems, nature and cultural scenery, and promoting sustainable utilization in Korea. Since we designated Jirisan as the first Korean national park in 1967, we have now designated and managed 22 national parks. Because these national parks are the core protected areas of the nation and the ecological recreation center for the people, the interests of researchers related to national parks and citizens have steadily increased over the last 50 years. Especially, various natural science researches and social studies on national parks have been conducted with the launch of the Korea National Park Service in 1987, which is dedicated to national park management. However, we still lack research on national park research trends in Korea in spite of the increase in scientific research and public interest. It is important to know who and what institutes are leading national parks research, what research topics have been conducted, what kinds of researches are important in each national park, and how these researches relate to national park management policies. We propose a study to review the national parks related studies that have been carried out so far and identify the research trends. In the pilot study, we collected about 700 research papers on national parks published between 2002 and 2016 through the Korea Citation Index of Korean journals. We are analyzing the number of papers published, research institutes and research topics related to national parks. Analysis of these national park research trends will be necessary for efficient national park management and policy making for future generations.

**Key Words:** bibliometrics, co-word analysis, conservation and management, research review

## Introduction

The National Parks of Korea plays a major role as conservation space for sustainable natural environment and wild ecosystem, and at the same time it plays an important role as outdoor recreation center for Koreans (Lee et al. 2012; Ministry of environment 2012; Kim et al. 2013; Korea National Park Service 2016). For the past 50 years since the designation of Jirisan National Park in 1967, we have legally designated and managed a total of 22 national parks, including four marine and coastal national parks. With the increase in the number of national parks, visitors are also increasing year by year (Sim et al. 2012). Recently, some researchers have suggested that detailed analysis of national park research trends are needed to suggest research direction and policies as the interest of general public researchers toward national parks steadily increases over the past 50 years and related research has accumulated (Lee et al. 2012).

Research trend analysis provides objective data to assess the results and relationships of each research field, and policy makers can present rational science policies based on

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them (Neff and Corley 2009; Seo 2010; Jaric' and Gessner 2011; Van Wilgen et al. 2016). Liu et al. (2011) analyzed the bibliographic elements of 76,000 biodiversity research papers published over a period of about one hundred years, and identified the trends of research by country and by research topic. Ko and Eo (2017) analyzed 392 mammalian research papers published in Korean journals in quantitative and bibliographical terms and found that recent research on mammalian ecology has been actively conducted. Van Wilgen et al. (2016) analyzed 1,026 research papers on national parks in South Africa, emphasizing the importance of internal researchers for effective conservation and research. Lee et al. (2012) emphasized the importance of research in social sciences such as tourism-recreation research in national park by analyzing 626 topics of Korean national park-related research papers. However, we still lack research on national park research trends in Korea in spite of the increase in scientific research and public interest.

We propose a study to review the national parks related studies that have been carried out so far and identify the research trends. It is important to know who and what institutes are leading national parks research, what research topics have been conducted, what kinds of researches are important in each national park, and how these researches relate to national park management policies. In the pilot study, we collected research papers on national parks through the Korea Citation Index of Korean journals. We are analyzing the number of papers published, research institutes and research topics related to national parks. Analysis of these national park research trends will be necessary for efficient national park management and policy making for future generations.

## Materials and Methods

### *Collection of research papers on national parks in Korea*

We used the search engine of 'Korean Journal of Citation Index' (KCI) to collect Korean national park research papers. When searching related information, we analyzed research articles from 2002 to 2016 in which the word 'national park' appeared in the title, keyword or abstract in the papers. Then, by using the bibliographic information output function of KCI, information such as the title, abstract, keyword, author, affiliation, publication year of these papers are obtained.

### *Analysis of the research papers by year and by institution*

We collected and analyzed bibliographic information of each research paper. In order to analyze the increase or decrease of research papers published by year, we recorded the year of publication of each papers. We also recorded the author's affiliation of each research paper. It will provide information on which institute carried out national park research in Korea. When the authors belonging to a specific institution appear in a certain article, they are counted as the number of participating institutions. We collected the information on participating institutions from all the research articles and estimated the participating proportion of each institution in national park researches in Korea.

## Results and Discussion

A total of 717 papers related to 'national park' registered in the KCI database were retrieved (Fig. 1). As a result of analyzing the annual publications of Korean national park research papers, the number of published papers, which was only 13 in 2002, has gradually increased since then and 79 papers were published in 2016. During the period, the

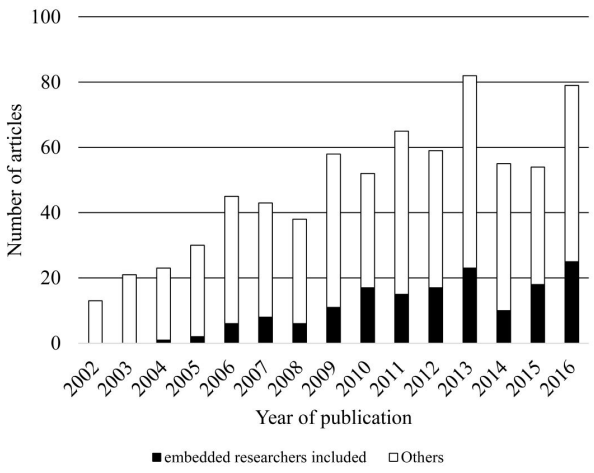


**Fig. 1.** The number of papers based on research in Korean national parks published between 2002 and 2016, with a subset of papers co-authored by internal researchers of Korea National Park Service.

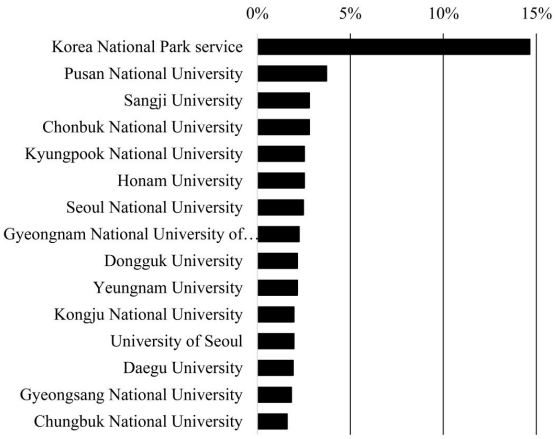


**Fig. 2.** The relative contribution (% of all papers) of research institutions to the authorship of individual papers based on research in Korean national parks published between 2002 and 2016. [a]The relative contribution of Korea National Park Service was 14.6%.

number of research papers contributed by Korea National Park Service researchers also increased to 25 in 2016, starting with only one in 2004. These results suggest that the motivation factors for Korean national park research are more active and diverse than in the early 2000s. In addition, participation of Korea National Park Service researchers for national park researches is considered to be continuing up to now. A total of 392 institutions participated in national park research (Fig. 2). The Korea National Park Service was the most participating institution (14.6%) and Pusan National University and Sangji University were the second (3.5%) and the third (2.8%), respectively. These results show that Korea National Park Service researchers have participated more actively in national park research than any other research institution in Korea.

Further analysis based on the collected data is necessary for conservation and management of the national parks in Korea. Thus, we propose a more detailed study to review the national parks related studies that have been carried out so far and identify the research trends. It is important to know what research topics have been conducted, what kinds of researches are important in each national park, and how these researches relate to national park management policies. We are now analyzing distribution of research across parks (22 national parks) and types (mountain-, marine and coastal, and historical national parks). We will also focus on internal researchers of Korea National Park Service versus external researchers and address their roles. It would address whether national park researches have been useful in producing a body of knowledge that would inform the development of management policies and practices in Korean National parks, as the study in South African national parks did (van Wilgen et al. 2016). In addition, the proposed study can provide objective data that can be helpful to suggest future directions and policies of national parks in Korea.

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## References

Jarić I, Gessner J. 2011. Analysis of publications on sturgeon research between 1996 and 2010. Scientometrics 90: 715-735.

Kim MH, Kwon HG, Han SY. 2013. Trends of national park management policy paradigm using the newspaper editorials. J Korean Inst For Recreat 7: 31-36. (in Korean with English abstract)

Ko BJ, Eo SH. 2017. Mammalian research topics and trends in Korea. Korean J Environ Ecol 31: 30-41. (in Korean with English abstract)

Korea National Park Service. 2016. National Parks of Korea. Korea National Park Service, Wonju, pp 60.

Lee JH, Park JK, Kwon HG. 2012. An analysis on the research and policy trends of Korea national parks' resource and visitor management: a focus on the research-practice relation. J Tour Sci 36: 215-238. (in Korean with English abstract)

Liu X, Zhang L, Hong S. 2011. Global biodiversity research during 1900-2009: a bibliometric analysis. Biodivers Conserv 20: 807-826.

Ministry of Environment. 2012. The Biodiversity of Korea. Ministry of Environment, Sejong, pp 132. (in Korean)

Neff MW, Corley EA. 2009. 35 years and 160,000 articles: a bibliometric exploration of the evolution of ecology. Scientometrics 80: 657-682.

Seo EG. 2010. Trends analysis on research articles in the Journal of Korean Society for Information Management. J Korean Soc Inf Manag 27: 7-32. (in Korean with English abstract)

Sim KW, Kwon HK, Song DJ, Do GH, Kim IS. 2012. A study on the present condition and visitors' perception of eco-tourism in Korea national parks. J Korean Inst For Recreat 16: 85-91. (in

Korean with English abstract)
van Wilgen BW, Boshoff N, Smit IP, Solano-Fernandez S, van der Walt L. 2016. A bibliometric analysis to illustrate the role of an embedded research capability in South African national parks. Scientometrics 107: 185-212.