Research Progress on the Development of Tourism in Chinese National Parks Based on CiteSpace

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Abstract: *Using the CiteSpace software system to sort out and explore the research status and hot topic distribution of national parks and tourism in China. The results indicate that the output of research papers can be divided into three stages: budding, slow growth, and rapid growth. There are a large number of researchers, with research institutes as the main institutions, and the overall level of academic cooperation is relatively low. The emergence intensity of tourism development is the highest and the duration is the longest; Tourism resources, tourism development, ecotourism, forest parks, etc. are research hotspots. The research results mainly focus on the development and protection, management models, institutional systems, subject participation, ecological resources, and other aspects of national parks. At the same time, it proposes that domestic scholars further explore cutting-edge hot topics in this field in the future.*

Keywords: *National park, Tourism, Ecotourism*

1. Introduction

Since the establishment of Yellowstone National Park in the United States in 1872, the development concept of national parks has gradually gained attention and recognition from countries around the world[1]. China's national parks started relatively late compared to other countries, but in recent years, they have also been continuously exploring development paths that are in line with their own national conditions. In 2013, China officially proposed the establishment of a national park system; In 2015, pilot construction of the national park system began; In 2017, the introduction of the Overall Plan for Establishing a National Park System marked the beginning of the construction of the national park system on the right track[2]; In 2019, the General Office of the Communist Party of China Central Committee and the General Office of the State Council issued the Guiding Opinions on Establishing a Nature Reserve System with National Parks as the Main Body (hereinafter referred to as the Guiding Opinions), fully affirming the resource value of national parks in China's natural ecosystem[3]; In 2021, China announced the official establishment of the first batch of five national parks, opening a new chapter in the practice of national park construction[4]. Through the above analysis, it can be found that Chinese national parks are a significant measure to implement the concept of ecological civilization. The reform of China's national park system has also become the fastest progressing and most significant comprehensive reform in the task of ecological civilization system reform[5].

In the past 30 years, Chinese scholars have conducted extensive discussions and analyses on the exploration and construction of national parks, but consensus has not yet been reached on the core issues of establishing a national park system. How China can learn from foreign experiences, break through existing difficulties, and establish a national park system with Chinese characteristics is a topic of common concern for domestic researchers[6]. The aim of this study is to sort out and summarize research on China's national parks and tourism, clarify the current research progress and existing problems, and better guide the research on China's national parks and tourism and the establishment of the national park system.

2. Data Sources and Research Methods

2.1. Data Sources

This article uses the CNKI core database as an information retrieval platform. Using "National Park" and "Tourism" as themes A total of 3615 references were searched on two platforms for keywords. To

ensure the scientific validity of the data, core literature from Peking University was selected, and low reference value content such as journal guides, conference reports, and administrative notices were further excluded. After screening and deletion, 831 Chinese references were retained.

2.2. Research Methods

Compared with traditional human reading analysis, bibliometric software can more scientifically identify and analyze the content of literature, and visualize information such as development trends and hot keywords. In order to understand the research overview of ecotourism in Chinese national parks in recent years, this study uses CNKI literature visualization analysis network to provide information on research quantity, research topics, changes over years, and disciplinary distribution; CiteSpace software for subject domain and hot topic frequency analysis; Finally, by identifying "national parks" and "tourism" as theme words and combining them with the software's own advantages for analysis.

3. Literature Feature Analysis

3.1. Time Series Analysis of Literature Quantity

Through statistical analysis of the obtained literature data, it was found that the number of publications in the field of national parks and tourism research in China has shown an overall upward trend in the time series from 1993 to 2023 (Figure 1). Before 1992, research in the field of national parks and tourism was basically in a blank state. Around 2001, there was a leapfrog development and the number of studies began to increase. The number of publications fluctuated greatly between 2006 and 2012, reaching a peak of 64 articles in 2006. There were slight fluctuations between 2013 and 2023, but overall there was an upward trend. In 2021, China announced the official establishment of the first batch of 5 national parks, thus reaching the peak of 64 publications in 2021. Overall, with the strong support of relevant national policies, the number of related literature publications has maintained a stable but increasing trend.
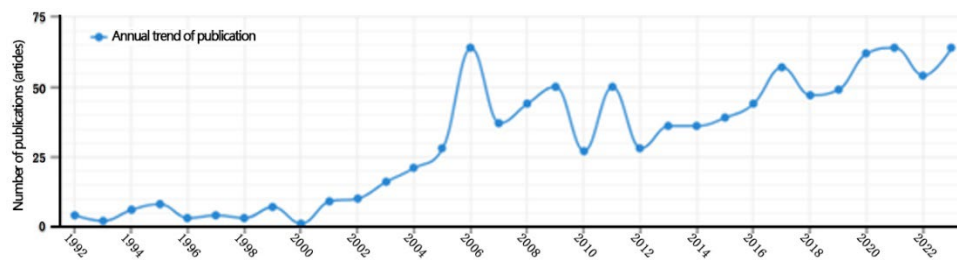

Figure 1: Time series distribution of the number of publications in the field of national parks and tourism research in China from 1993 to 2023.

3.2. Research Team Identification

Through author collinearity analysis, the strength of cross collaboration among major research teams in a certain field can be identified, and the inter citation relationships among core researchers can be clearly presented, thereby evaluating their academic influence in the field. Selecting the author as the node type in CiteSpace software and running the software, we obtained the centrality results of high-frequency authors and their intermediaries in the field of national parks and tourism research in China from 1993 to 2023 (Table 1) and the author's publication graph (Figure 2).

According to Price's Law, authors who publish more than 5 times in the field of national parks and tourism research are the core authors[7]. For the convenience of statistics, Table 1 shows the core authors in this research field who have published 5 or more times. In terms of publication frequency, the research teams led by Zhong Linsheng, Yu Hu, and Chen Qiuhua have the highest publication frequency (Table 1). These three research teams also have different focuses in the field of national parks and tourism research: Zhong Linsheng scholars mainly study the construction of China's national park system; Yu Hu scholar mainly studies the ecological pattern of national parks; Scholar Chen Qiusheng mainly studies the carrying capacity of national forest parks.

Based on the author's co citation diagram (Figure 2), it can also be seen that the nodes formed by scholars Zhong Linsheng and Yu Hu, Guo Jinhui and Chen Qiuhua, are the most significant, located in

the core circle, and have a relatively high degree of cooperation with other authors in the surrounding area, but they are all small-scale exchanges, and the degree is not deep. CiteSpace uses intermediary centrality to measure node centrality. The higher the intermediary centrality, the more active the author is, and the more they can play a role in pairwise cooperation and connection[8]. According to Table 1, the mediating centrality of the authors is not significant, all of which are 0, indicating a lack of cooperation and communication among authors in this research field, poor correlation, and the absence of influential academic circles and collaborative networks.
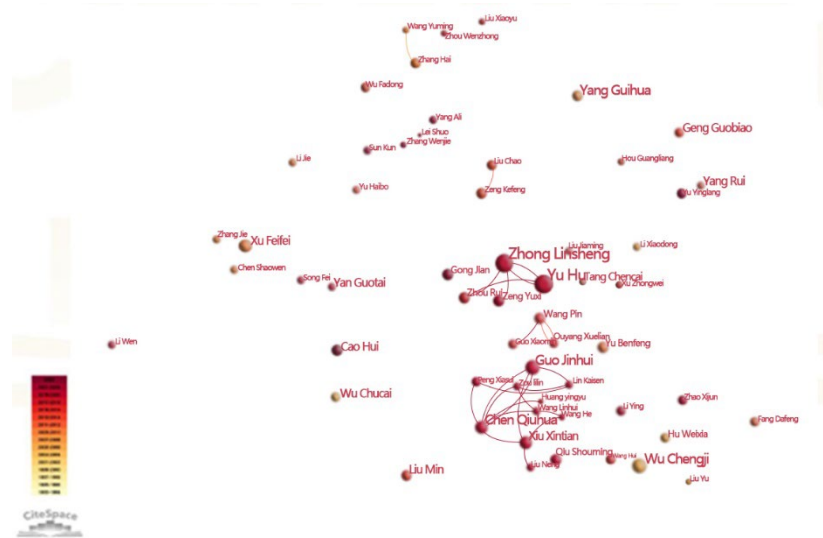

Figure 2: A publication map of authors in the field of national parks and tourism research in China

Table 1: High frequency authors and intermediary centrality results in the research field of national parks and tourism in China

Serial Number	Author	Betweenness Centrality	Posting Frequency/order
1	Zhong Linsheng	0.00	13
2	Yu Hu	0.00	11
3	Chen Qiuhua	0.00	7
4	Wu Chengji	0.00	6
5	Xu Feifei	0.00	6
6	Guo Jinhui	0.00	6
7	Zhang Haixia	0.00	5
8	Tang Chengcai	0.00	5
9	Wang Pin	0.00	5
10	Zeng Xuxi	0.00	5
11	Xiu Xintian	0.00	5

4. Research Hotspot Analysis

Keywords are a highly summarized summary of the content of literature. Through the co-occurrence analysis of keywords, a time zone perspective co-occurrence map was drawn to identify the evolution path of research topics in the field of Chinese national parks and tourism, reflecting knowledge evolution from a temporal dimension and clearly demonstrating literature updates and their mutual influence. On this basis, through keyword co-occurrence analysis, we can clearly and accurately grasp the research hotspots in this field.

4.1. Keyword Co-Occurrence Graph Analysis

Through keyword statistics, we can understand the research focus and future research hotspots within the discipline field. From the co-occurrence graph of keywords, "national parks" have the highest co-occurrence frequency, followed by "ecotourism", "forest parks", "landscape architecture", "tourism development", etc. These themes have been the main directions and hotspots of concern for many scholars studying traditional villages in the past 30 years (Figure 3).
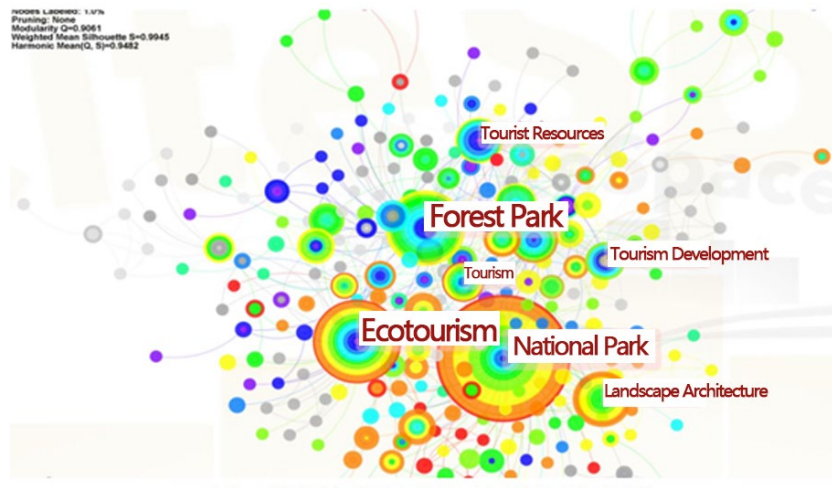
Figure 3: A co-occurrence map of research keywords on national parks and tourism in China

4.2. Keyword Clustering Timeline Graph Analysis

Cluster time analysis was performed on keywords (Figure 4), and the evolution of the research topic was roughly divided into three stages:

The first stage (1993-2003) was the embryonic stage of national parks and tourism. From Figure 2, it can be seen that although the total number of literature before 2003 was relatively small, some scholars had already begun to study national parks and tourism at this stage, mainly focusing on tourism development, tourism resource evaluation, etc. The evaluation methods mostly used traditional methods, forming the research foundation for the early stage of tourism resource evaluation.

In the second stage (2004-2010), there was a slow growth period in research on national parks and tourism in China, although there were fluctuations, the overall trend showed an upward trend. This stage mainly focuses on studying national forest parks, evaluating the quality of tourism resources in national forest parks, and starting to study the management system of national parks.

The third stage (2011-2023) is a period of rapid growth in research on national parks and tourism in China. On the basis of previous research, this stage utilizes new technologies to quantitatively evaluate the tourism resources of national parks, and combines it with tourist perception, rural revitalization, cultural identity, etc. to study the forms of national park tourism.
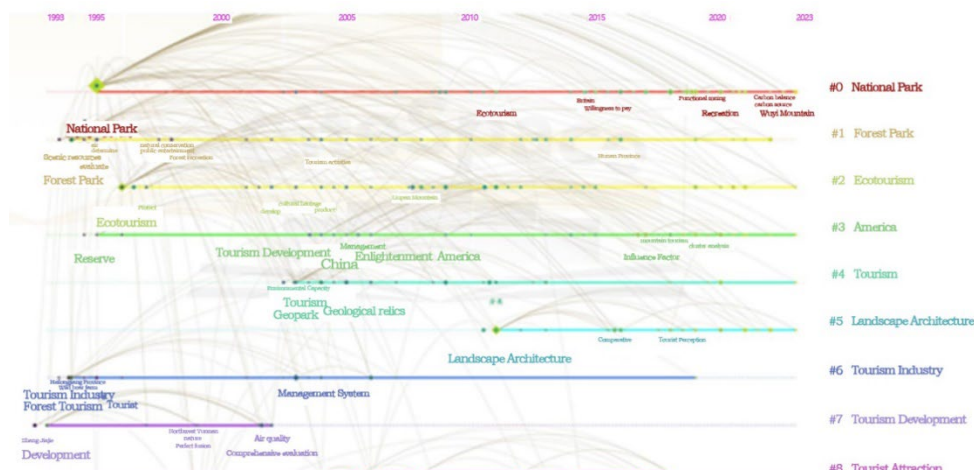

Figure 4: A Timeline Map of Keyword Clustering in Research on National Parks and Tourism in China

5. Conclusion and Outlook

The research on national parks and tourism is of great significance in promoting the development of national parks and meeting the needs of public activities. Domestic scholars have achieved fruitful results

in this field. This study uses bibliometric tools to explore the current status and distribution of hot topics in domestic research in this field, and systematically reviews the specific research content of relevant literature. The main conclusions are as follows:

(1) From the publication status of the papers, the overall number of relevant literature shows an upward trend, and can be divided into three stages according to time trajectory: budding stage, slow growth stage, and rapid growth stage. From the perspective of research institutions and authors, there are many researchers studying national parks and tourism in China, but the output is not high and the level of cooperation is relatively low. The research institutions are mainly research institutes, followed by major universities, while the other institutions with less publication volume are relatively scattered around the top institutions, and they are not closely connected. Cooperation between research institutions needs to be strengthened. In the future, researchers in this field can strengthen academic cooperation across institutions and disciplines, which is more conducive to sustainable research on this topic from multiple disciplines and different professional perspectives.

(2) Through the co-occurrence map of keywords, it has been found that "national parks" have always been a hot topic of research by relevant scholars. The research content includes the development and utilization of tourism resources at the development level, and the protection level includes low-carbon tourism, protected areas, national forest parks, and other related research.

Through the review of literature related to national parks and tourism in the past 30 years, China has made great achievements in the research of national parks and tourism. However, there are few achievements in the integration and innovation of multiple methods, mainly limited by the disciplinary background. There is still a lack of quantitative research on national parks and tourism. Therefore, in the future research on traditional villages, there is still a need for technological breakthroughs. Combining modern digital technology with traditional research methods to achieve a deep integration of quantitative and qualitative research will be an important breakthrough in the innovation of research methods for national parks and tourism.

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