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Research Article

Temporal and Spatial Evolution and Factors Influencing Tourist Resorts in China

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Tourist resorts play a crucial role in providing people with diverse and high-quality leisure and vacation options. The development of tourist resorts is integral to the high-quality growth of the national tourism industry. This study utilizes a combination of the nearest neighbour index, kernel density analysis, and geographic concentration index to examine the spatial and temporal distribution of 758 national and provincial tourist resorts in China. The analysis reveals several key findings: (1) the years 1992 and 2015 were pivotal for the development of China's tourist resorts, with significant government attention and steady growth in the number of national tourism resorts from 2015 to 2023. (2) The distribution of China's tourist resorts shows an overall uneven distribution at a national level but a more balanced distribution locally. The southeast region exhibits a high and even distribution density, while the northwest region has a lower density and quantity of resorts. (3) Some specific areas have emerged such as the junction of Anhui, Hubei, and Jiangxi provinces as the first core gathering areas and the junction of Shanxi, Jiangsu, and Zhejiang provinces as the secondary core areas. These core areas have gradually weakened and spread to other regions, leading to changes in the distribution patterns of tourist resorts. (4) The distribution of China's tourist resorts is influenced by various factors, including economic development, resource endowment, source market, and government support. Government support is a key factor in accelerating the development of tourism resorts. These findings shed light on the complex dynamics shaping the distribution of tourist resorts in China.

1. Introduction

Since the outbreak of the novel coronavirus in 2019, Chinese residents' tourism has been inhibited by both the institutional constraints of the epidemic prevention and control policy and the subjective psychological factors related to epidemic spread and perceived risk of viral infection, which severely hampered tourism operations. However, Chinese residents continue to maintain a high level of desire to invest in tourism. As China fully lifted coronavirus epidemic prevention and control in 2023, the demand for vacation packages by the Chinese people is significantly increased [1].

The development of tourist resorts affects the quality of vacation tourism supply [2]. After years of development, the distribution of tourist resorts in China has changed significantly. Asymmetry is an inherent feature of spatial competition among different tourist resorts. It is more meaningful to discuss the distribution of all tourist resorts as in country or region, as neighbourhood effects might create network synergies for multiple tourist resorts [3]. The study of the evolutionary law of China's tourist resorts in space and time can provide a scientific reference for the optimization of layout of China's resort industry and influence the high-quality development of tourist resorts [4–6].

This study mainly focuses on the definition of tourist resorts, the key characteristics of the historical evolution of tourist resorts, the spatial distribution of tourist resorts, and the factors influencing the development of tourism resorts.

The definition of a tourist resort is controversial among scholars [7]. In the book "Encyclopedia of Tourism," Brian [8] elaborates on the development of the definition of a resort. In some national planning texts for tourist resorts and seaside destination studies [9], a tourist resort is defined as an island or a designated area of an island that has been developed to accommodate tourists and to provide board and lodging facilities for them. Previous literature shows that a tourist resort is a tourist destination that provides a wide range of tourist services and infrastructure, especially leisure and recreational facilities [10], which include casinos, hotels, food and beverage services, shopping malls, and showrooms [11].

In China, the definition of tourism resorts first appeared in State Council Document No. 46 "Notice of the State Council on Issues Related to the Trial Operation of National Tourism Resort" in 1992, which was a comprehensive tourism area that met the requirements of international resort tourism and mainly received overseas tourists [6]. Tourist resort means integrated, purpose-built luxury or experiential premises for short-stay guests. They are comprised of accommodation units and on-site tourism facilities such as reception, restaurant, and leisure facilities, including swimming pools, gymnasiums, and tennis courts, and where occupation by any person is limited to a maximum of three months in any 12-month period. In the 21st century, as Chinese residents' demand for resort tourism increased dramatically, the Chinese government revised the definition of tourist resort by establishing a national standard "resort rating (GB/T 26358-2010)," which defined a tourism resort as "a relatively complete gathering area of resort facilities with good resources and environmental conditions that can meet the leisure needs of tourists for rest, recreation, sports, education, and entertainment."

According to the tourist area life cycle (TALC), the temporal evolution of a tourist resort has gone through the following stages: exploration, involvement, development, consolidation, stagnation, and poststagnation. TALC analyses the temporal evolution of individual tourist resorts. Papatheodorou [3] complements TALC by emphasizing the distinction of whole tourist resorts between changes in demand and supply in space and time from the perspective of evolutionary economics. The application of evolutionary economic geography to research on the evolution of tourism is receiving increasing interest from tourism scholars [12–15]. Chinese scholars have extensively advanced this research [16, 17]. Research on the spatial evolution of individual resorts and regional or national tourist resorts is to determine which resorts are the most popular [18–22]. Moreover, there are qualitative analyses of the evolution of tourist resorts from a temporal perspective [4], but such studies lack statistical data. Focusing exclusively on a single dimension limits the understanding of a wide range of impacts and the unintended consequences of the evolution of tourist resorts. Hence, spatiality and temporality should

not be considered in isolation [23]. Studies on the spatiotemporal evolutionary characteristics of Chinese tourist resorts have also emerged, but the amount of data is small. For example, Chen [24] screened 211 A-class tourist resorts and analysed their developmental history and spatial layout evolution, which provides a solid reference for our research; however, the data used are very old, and the number of tourist resorts in 2011 was extremely limited. After so many years of development, the number of Chinese tourist resorts has increased greatly; therefore, a systematic analysis of the spatial and temporal characteristics of Chinese tourist resorts is needed.

Many scholars focus on the study of factors influencing the spatial evolution of individual tourist resorts [25]. Andriotis [26] explores the characteristics of morphological changes on the Greek island of Crete and finds that the three most important factors influencing morphological change in coastal resorts are objective, subjective, and political. Many scholars have explored the factors influencing ski resort distribution, such as climate resources, topography, visitor conditions, accessibility, economy, policies, sports events, and technological innovation [27–29]. On this basis, Wu et al. [30] summarize the main factors of the spatial and temporal distribution of ski resorts in Beijing, Tianjin, and Hebei, ranging from "GDP per capita," "population density," to "policy quantity."

The factors influencing the spatial differentiation of scenic tourism areas are an important topic for tourism geographers, and the studies found that the spatial differentiation of scenic tourism spots is mainly influenced by factors such as topography and landscape, resource endowment, policy support, transportation conditions, and supply and demand drive [31, 32]. For example, Pan and Xu [33] propose that the factors influencing the spatial distribution of tourist resorts in Guangdong Province are resource conditions, guest source conditions, economic development level, and degree of urbanization, policies, and management. Gao et al. [6] believe that the main factors affecting the spatial distribution of national tourism resorts are resort resource endowment, national policy support, degree of market development, holiday system design, and large-scale event activities.

The preliminary research on tourist resorts highlights several main gaps: little attention to all types of tourist resorts within a country or region, small sample sizes in spatial and temporal distribution studies, and incomplete identification of impact factors. In response, a comprehensive study of the spatial and temporal distribution of tourist resorts in China using ArcGIS and Origin mapping software is discussed in this paper. The quantitative and visual analysis of 758 national and provincial tourist resorts is involved by utilizing analytical models such as the nearest neighbour index, kernel density analysis, and geographic concentration index. The study results revealed the spatial and temporal distribution characteristics of national and provincial tourist resorts and the factors affecting their distribution.

The main contributions of this paper are as follows: First, an analytical framework for the temporal and spatial

evolution of tourist resorts in China is proposed, by taking into account the definition of tourist resorts by establishing a national standard "resort rating (GB/T 26358-2010)." Second, a substantial sample size, incorporating 758 national tourism resorts and provincial tourism resorts in China, is used, and 31 provinces, cities with provincial status, and autonomous regions in mainland China are covered. The sample data are updated to 2023, and the findings can be applied to assess the achievements of different provinces in managing tourist resorts, as well as provide insights for optimizing the distribution of tourist resorts in China in the future. Last, the coefficient of geographical linkage to measure the connection between the distribution of tourist resorts and factors such as economic development, resource endowment, and population is introduced.

The rest of this paper is presented as follows: Section 2 describes the methodology and the data used. Section 3 presents the results. Section 4 discusses the reason for the results. Section 5 summarizes and concludes the paper.

2. Methodology and Data

2.1. Data Collection. This paper uses the list of national tourism resorts and provincial tourism resorts in China as the sample, covering 31 provinces, cities with provincial status, and autonomous regions in mainland China, with the exception of Hong Kong, Macao, and Taiwan. To ensure the authenticity and validity of the research results, the list of each provincial tourism resort was obtained from the statistical data of the Ministry of Culture and Tourism of the People's Republic of China and the Provincial Department of Culture and Tourism of each province, and additional data that were not actively disclosed were obtained through letters and visits. The geographical location information (latitude and longitude coordinates) of each tourist resort was then queried in batches by Map Location software. In the process of data analysis, vector maps of national and provincial boundaries were obtained from the Resource and Environmental Science and Data Center. The GDP and the number of AAAA tourist resorts required to calculate the geographic linkage rate were obtained from the China Statistical Yearbook.

2.2. Methodology

(1) The nearest neighbour index: The nearest neighbour index can indicate the degree of spacing between each tourist resort in relation to geographic space and thus analyse the spatial distribution state of tourist resorts. Its calculation formula [34] is as follows:

$$R = \frac{r_1}{r_E},$$
$$r_E = \frac{1}{2}\sqrt{\frac{n}{A}}, \tag{1}$$

where R is the nearest neighbour index, r_1 is the nearest neighbour distance, r_E is the theoretical

nearest neighbour distance, n is the number of tourist resorts in the studied area, and A is the total area of the studied area. When $R = 1$, the studied object presents a random distribution state. When $R > 1$, the studied object presents a uniform distribution state. When $R < 1$, the studied object presents a clustering distribution state.

(2) Kernel density analysis: The kernel density analysis method can effectively visualize the spatial evolution trend of tourist resorts, reflecting the degree of clustering and dispersion of tourist resorts and giving a direct impression of the changes produced by tourist resorts in different periods. The distribution of tourist resorts in different years can be obtained using ArcGIS [35]. Its calculation formula is as follows:

$$f_h(x) = \frac{1}{nh}\sum_{i=1}^{n}\left(\frac{x - x_i}{h}\right), \tag{2}$$

where $f_h(x)$ is the kernel density function, $(x - x_i)$ is the distance between x and x_i, and h is the bandwidth and is greater than 0. When $f_h(x)$ is larger, the spatial distribution density of tourist resorts is greater.

(3) Geographic concentration index: The geographic concentration index method can reflect the concentration of the distribution of interest points in the region and is used in this paper to analyse the concentration of the distribution of national tourist resorts in the country [36]. Its calculation formula is as follows:

$$G = 100 \times \sqrt{\sum_{i=1}^{n}\left(\frac{P_i}{Q}\right)^2}, \tag{3}$$

where G is the geographic concentration index, P_i is the number of tourist resorts in the ith province, n is the number of provinces, and Q is the number of tourist resorts. When the obtained G value is larger or smaller, the tourist resort is either more concentrated or more dispersed.

(4) Inequality index: The inequality index can be used to analyse the balanced distribution of national tourist resorts in each province by using the concentration index calculation method and drawing a Lorenz curve diagram using ArcGIS and Origin software tools [37]. Its calculation formula is

$$S = \frac{\sum_{i=1}^{n}Y_i - 50(n+1)}{100 \times n - 50(n+1)}, \tag{4}$$

where S is the inequality index, n is the number of provinces, and Y_i is the cumulative percentage of the ranking of tourist resorts in each province in relation to the national tourist resorts. The value of S is in [0, 1]. The more S tends to 1, the more fragmented the

geographical layout of tourist resorts is. If $S = 0$, the tourist resorts are evenly distributed in each province; if $S = 1$, the tourist resorts are concentrated within a certain province.

(5) Coefficient of geographical linkage: The coefficient of geographical linkage can directly reflect the degree of correlation of the study objects in the spatial layout [38], which is used to analyse the correlation between tourism resorts and local GDP and resource endowments in this paper. Its calculation formula is

$$L = 100 - \frac{1}{2} \sum_{i=1}^{n} |S_i - P_i|, \tag{5}$$

where L is the coefficient of geographical linkage, the values of L are in [0, 100], and P_i is the percentage of a certain element to the similar elements in the study area. In this paper, P_i indicates the ratio of the tourism resorts in the ith province to the national tourism resorts; S_i is the percentage of other elements associated with a certain element to the similar elements. In this paper, S_i indicates the ratio of GDP and the number of resources in the ith province to the similar elements. When the overlap between P_i and S_i in geography is higher, the value of L is also greater, indicating that the geographical connection between the two is also closer. Conversely, the lower the overlap between P_i and S_i in geography, the smaller the value of L, indicating the geographical connection between the two is also sparser.

3. Results

3.1. Temporal Evolution of Tourist Resorts in China

3.1.1. Formative Period (before 1992).
The history of the development of China's tourist resorts is exceptionally long. Liu [4] proposes ancient gardens as the prototype of tourist resorts. After 1949 and until the mid-1980s, most tourist resorts in northern China were government-run. In terms of function, tourist resorts are used for healing, treatment, and health care. The buildings were primarily single buildings with simple equipment of a welfare nature [39]. In terms of the development scale of individual tourist resorts, they are small, most having less than 1000 rooms, with only a few types of coastal and mountainous areas and extremely limited spatial distribution. After the reform and opening up of China, the first batch of tourist resorts with economic benefits as the main goal emerged in the Pearl River Delta, and the number of recreational and leisure activities increased rapidly. However, before the 1990s, the development of tourist resorts in China was in its infancy, and the overall scale was small.

3.1.2. Primary Development Period (1992–2014).
In the 1990s, the tourism resorts in China for the general public first appeared. Influenced by the Western vacation tourism boom, the State Council in China announced a list of national-level tourist resorts and approved the establishment of these tourism resorts in 1992. For the first time, the concept of tourism resort areas emerged. Unlike the current national-level tourism resort construction, the purpose of establishing national-level tourism resorts in 1992 was to accelerate foreign investment in China and to thereby boost domestic economic growth. National-level tourist resorts were established after the approval of the State Council and belonged to the "first approved and then built" category. The development process of national-level tourist resorts was slow in the first period, with unexpected challenges and delays.

Influenced by the trial run of national-level tourism resorts in 1992, provinces began to follow suit and promoted the development of provincial and municipal tourism resorts. The document issued by the State Council in 2009 clearly encouraged the diversification of tourism products and the vigorous development of leisure resort tourism. It also promoted the orderly construction and development of tourism resorts in urban areas. Since 2010, the number of provincial-level tourist resorts has grown rapidly (see Figure 1). In 2013, provinces issued additional encouragement for tourism resorts to strengthen their construction, determining a new direction for tourism resort construction and development. Under the impetus of national policies, tourist resorts have achieved better results in terms of development. As shown in Figure 1, the number of tourist resorts has continued to grow at a faster rate.

However, the influence of various factors and the lack of relevant experience at the early stages of construction have led to slow growth for tourism resorts during the exploration process [40]. Despite good resource advantages and policy dividends, the first tourism resorts in China did not reach the expected development effect, and most of them lost their original resort function and eventually withdrew from the market [41].

3.1.3. Rapid Development Period (2015 to Now).
In contrast, the national-level tourism resorts established in 2015 adopted the typical selection criteria of "evaluate after building," and the selection mechanism is extremely strict, with the Ministry of Culture and Tourism setting detailed criteria for the infrastructure, market operation, resource endowment, and internal and external environment of resorts.

Since the introduction of the "Rules for Grading Tourism Resorts" in 2015, the first round of 17 national tourism resorts announced by the National Tourism Administration in the same year marked the regulation of the construction of national-level tourism resorts. In 2023, the Luoma Lake Tourism Resort in Suqian, Jiangsu, Silver Beach National Tourism Resort in Beihai, Guangxi, and Boao East Island Tourist Resort in Qionghai, Hainan, were successfully declared and included in the national-level tourist resort list. To date, there are 63 national-level tourism resorts in China (see Table 1).

The number of national tourism resorts maintained steady growth from 2015 to 2023 (see Table 1). To date, there are 758 national-level and provincial-level tourism resorts in
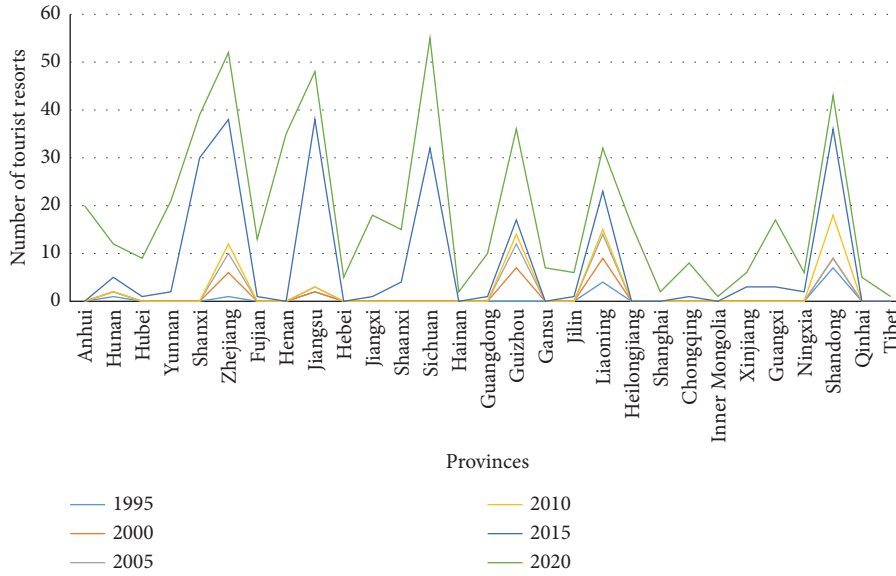
FIGURE 1: Number of national-level and provincial-level tourist resorts in each province (1995–2020).

TABLE 1: Number of national-level tourism resorts in China (2015–2023).

Province	2015	2017	2019	2021	2023
Heilongjiang	—	—	—	1	1
Jilin	1	1	1	1	1
Hebei	—	—	—	1	2
Shaanxi	—	—	—	1	2
Xinjiang	—	—	—	1	1
Tibet	—	1	1	1	1
Jiangsu	3	4	4	5	7
Zhejiang	3	4	4	6	8
Shanghai	—	—	—	1	2
Shandong	2	3	3	4	6
Henan	1	1	1	1	2
Hubei	1	1	1	1	2
Anhui	—	1	1	1	1
Hunan	1	1	1	2	3
Jiangxi	—	1	1	2	4
Fujian	—	1	1	1	1
Guangxi	—	—	1	1	3
Guangdong	1	1	2	2	2
Hainan	—	1	1	1	2
Guizhou	—	1	1	2	2
Chongqing	1	1	1	2	2
Sichuan	1	1	2	3	4
Yunnan	2	2	3	4	4
Total					63

China (see Table 2). In addition to the increase in number, the evaluation index of tourism resorts has also gradually improved because the evaluation system is stringent, making national tourism resorts a highly valuable signboard that can bring huge economic benefits to local tourism resorts.

3.2. Spatial Evolution of Tourist Resorts in China

3.2.1. Spatial Distribution Evolution Trend. To comprehensively examine the spatial evolution trends and the

characteristics of China's tourist resorts, this paper collects and organizes POI data, in which three time nodes (2015, 2019, and 2022) are selected to visualize the data through the kernel density analysis of ArcGIS10.8. This method allows us to obtain the spatial evolution map of China's tourist resorts in 2015, 2019, and 2022.

Overall, by comparing the spatial evolution maps of tourist resorts in 2015, 2019, and 2022, the core gathering area of tourist resorts is always distributed at the junction of three provinces, Anhui, Hubei, and Jiangxi. In addition, the

TABLE 2: Number of China's national-level and provincial-level tourist resorts in 2023.

Province	Number of national-level tourist resorts	Number of provincial-level tourist resorts
Heilongjiang	1	20
Jilin	1	5
Liaoning		37
Inner Mongolia		4
Beijing		3
Tianjin		1
Hebei	2	12
Shaanxi	2	21
Gansu		11
Ningxia		9
Qinghai		5
Xinjiang	1	6
Tibet	1	
Jiangsu	7	52
Zhejiang	8	52
Shanghai	2	3
Shandong	6	39
Shanxi		49
Henan	2	43
Hubei	2	22
Anhui	1	31
Hunan	3	22
Jiangxi	4	22
Fujian	1	18
Guangxi	3	23
Guangdong	2	28
Hainan	2	4
Guizhou	2	40
Chongqing	2	24
Sichuan	4	60
Yunnan	4	29
Total	63	695

spatial distribution density values of Shandong Province, Guizhou Province, Shanxi Province, and the junction of Jiangsu and Shanghai are the second core gathering area following the junction of Anhui, Hubei, and Jiangxi provinces, but the distribution density decreases, demonstrating a more obvious outward expansion trend over time.

From Figure 2, in 2015, China's tourist resorts present a multicore high-density gathering zone. The representative areas are the high-density zone, with the junction of Anhui, Hubei, and Jiangxi provinces as the core, and the secondary high-density zone, with Shanghai and Shanxi provinces as the core. In addition, southern Liaoning Province, central Sichuan Province, and most of Guizhou Province also show a stronger spatial aggregation characteristic. Currently, Guangdong Province, Hunan Province, Jiangxi Province, and other areas have not yet shown obvious distribution characteristics.

In 2019, the high-density zone with the junction of Anhui, Hubei, and Jiangxi Provinces as the core radiated in all directions and began to be distributed in a piecewise manner (see Figure 3). The density value of the aggregation zone with Shanghai Province as the core shows a decreasing trend, and the density zone with Shanxi Province as the core

shows significant weakening since 2015 and gradually spreads to the south, extending to Henan Province and Shaanxi Province. Notably, Guangxi Zhuang Autonomous Region and Guangdong Province are more obvious gathering places, and the density zone in Guizhou Province further expands in scope.

By 2022, the spatial distribution pattern of tourist resorts changes dramatically since 2019, forming a spatial distribution pattern dominated by band and slice distributions (see Figure 4). The overall distribution density decreases, but the core distribution area is still concentrated in Anhui, Hubei, and Jiangxi, and the concentration in other areas weakens, especially at the junction of Jiangxi Province, Jiangsu Province, and Shanghai. The outward expansion of Guizhou Province gradually increases, extending eastwards to the north of Hunan Province, and Guangdong Province extends northwards to meet the core distribution area. The distribution of tourist resorts is dispersed in all directions from the original base but is still concentrated in southeast China. The number of tourist resorts increased by 266 from 2019 to 2022, and the number of tourist resorts increased by 221 from 2015 to 2019. The growth trend of tourist resorts reached a new stage in 2019.
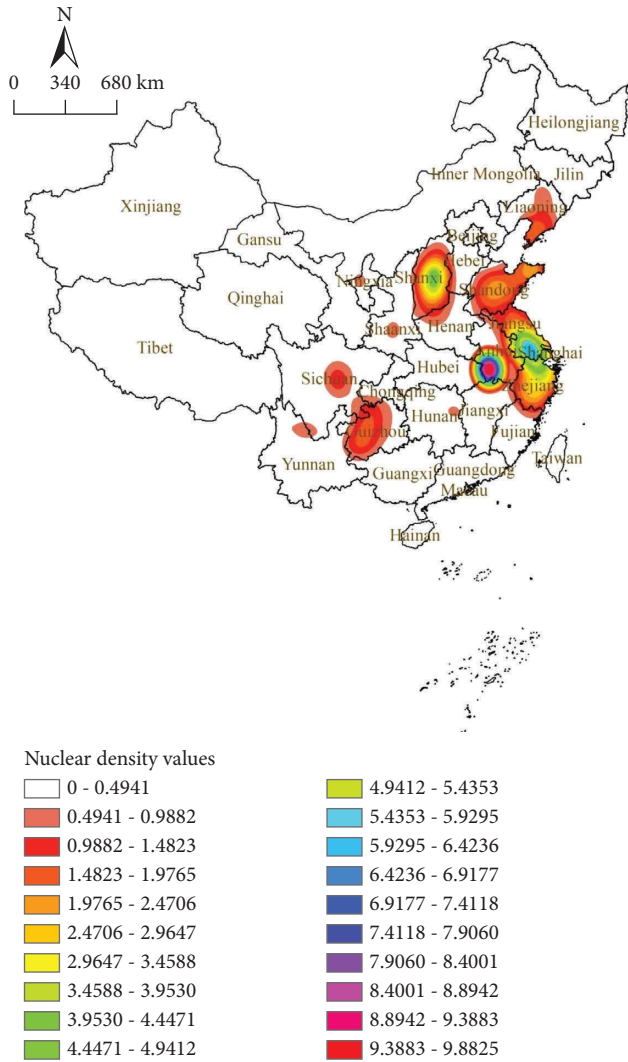
Figure 2: Spatial distribution map of China's tourist resorts in 2015.

Figure 3: Spatial distribution map of China's tourist resorts in 2019.

3.2.2. Current Spatial Distribution Characteristics. The spatial distribution map of tourist resorts was drawn based on the list of tourist resorts in China and ArcGIS software, as shown in Figure 5. From Figure 5, it can be seen that, taking the Hu Huanyong Line as the boundary, most of the tourist resorts in China are concentrated to the east of the Heihe-Tengchong Line, and the number distributed in the west is less, showing an overall uneven distribution and a balanced local distribution. The central and southeastern parts of China are economically developed and in the plain area, which has great advantages in economy and topography. The location advantage of the coastal zone is especially obvious, and tourist resorts are concentrated in Anhui Province, Hubei Province, Jiangxi Province, and other areas.

Using the spatial statistics tool in ArcGIS software to calculate the nearest neighbour index of the spatial distribution of tourist resorts in 2023, the results obtained are as follows: the average observed distance of tourist resorts in
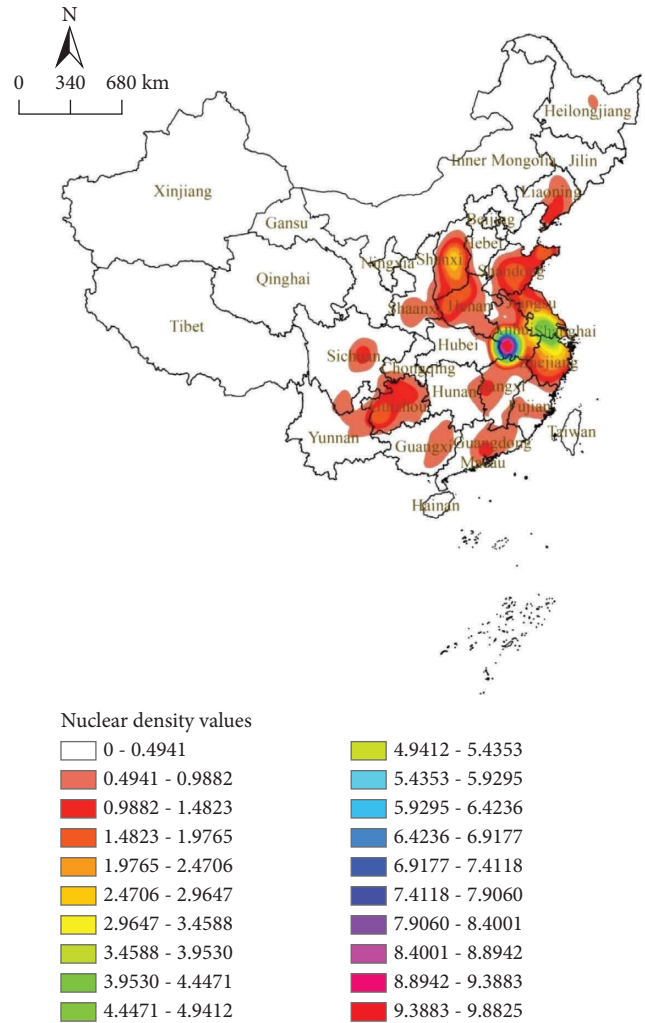
the country is 33 km, the theoretical nearest neighbour distance is 71 km, the nearest neighbour index $R = 0.462725 < 1$, and the possibility of randomly generating this clustering pattern is less than 1%. Therefore, for the tourist resorts in the country, the possibility of presenting the type of clustering distribution is large.

To test the balanced spatial distribution of tourist resorts, this paper collects the geographical location information of tourist resorts from the Map Location website and uses the geographical concentration index to obtain the distribution of interest points in the study area. The geographic concentration index of tourist resorts is equal to $22.42 (G = 22.42)$, which is obtained through $G_0 = 17.96$, assuming that 758 tourist resorts are evenly distributed in each province (excluding Hong Kong, Macao, and Taiwan). The index shows that the distribution of tourist resorts is more concentrated nationwide; most of the tourist resorts are in the southeastern part of China and evenly distributed in the southeastern part of China, and the local spatial distribution is less balanced.
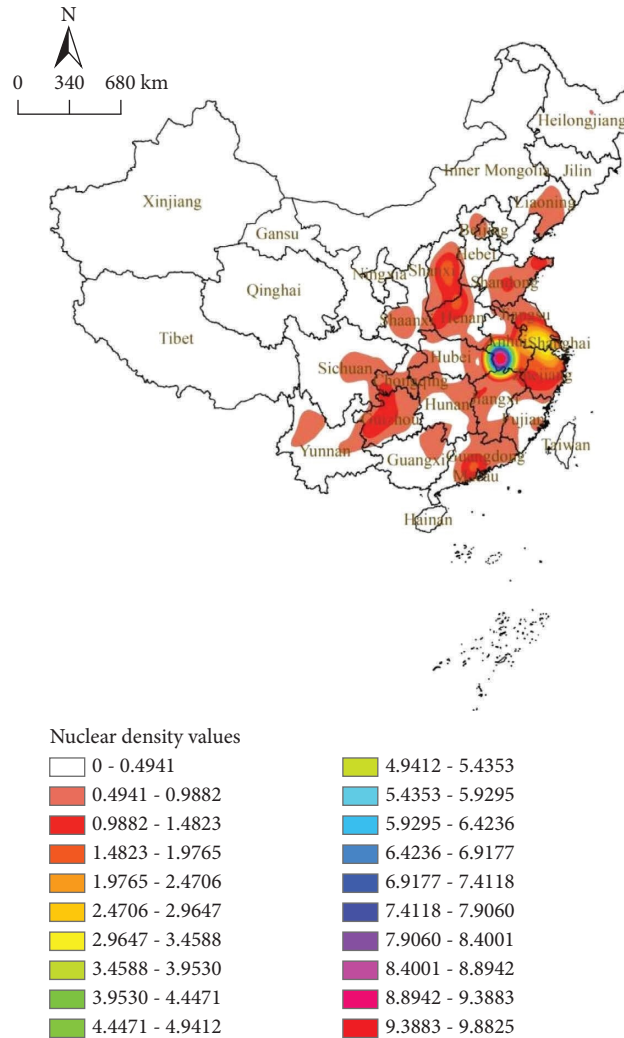
Nuclear density values

0 - 0.4941	4.9412 - 5.4353
0.4941 - 0.9882	5.4353 - 5.9295
0.9882 - 1.4823	5.9295 - 6.4236
1.4823 - 1.9765	6.4236 - 6.9177
1.9765 - 2.4706	6.9177 - 7.4118
2.4706 - 2.9647	7.4118 - 7.9060
2.9647 - 3.4588	7.9060 - 8.4001
3.4588 - 3.9530	8.4001 - 8.8942
3.9530 - 4.4471	8.8942 - 9.3883
4.4471 - 4.9412	9.3883 - 9.8825

FIGURE 4: Spatial distribution map of China's tourist resorts in 2022.

The imbalance index was used to analyse the balanced distribution of national tourist resorts in each province, and the ArcGIS and Origin software tools were used to draw a Lorenz curve diagram of tourist resorts (see Figure 6).

The imbalance index $S = 0.43 < 1$ is obtained to prove the uneven distribution of tourist resorts in each province. For further analysis of the chart, it shows that tourist resorts are mostly concentrated in Sichuan Province, Zhejiang Province, Jiangsu Province, Shandong Province, and Henan Province, which occupy two-fifths of the number of tourist resorts in the country. The differences in the distribution of the number of tourist resorts in the remaining provinces are not obvious.

3.3. The Factors Influencing the Spatial and Temporal Distribution of Tourist Resorts in China.
By summarizing the existing studies, it is found that most scholars agree that four elements, namely, the amount of economic development, resource endowment, source market, and national policy support, are the main factors influencing the spatiotemporal evolution of tourism resorts. Therefore, whether these four factors have an impact on the spatiotemporal evolution of tourism resorts in China is analysed in this paper.

3.3.1. Economic Development Volume.
The tourist resort has the function of both sightseeing and leisure vacation. With its core function being a leisure vacation, it is required that the tourist should have a certain economic ability. Therefore, the economic development volume, i.e., the level of economic development, becomes a key factor affecting the spatial and temporal development scale of the tourist resort and plays a pivotal role in the establishment of tourist resorts. In the process of calculating the amount of economic development, the GDP is an important indicator for the amount of economic development. In this paper, the GDP data for each province in 2015, 2019, and 2022 are collected, and the coefficient of geographical linkage is used to measure the connection between the distribution of tourist resorts and the amount of economic development. The corresponding GDP distribution maps of all provinces in China are shown in Figures 7 and 8.

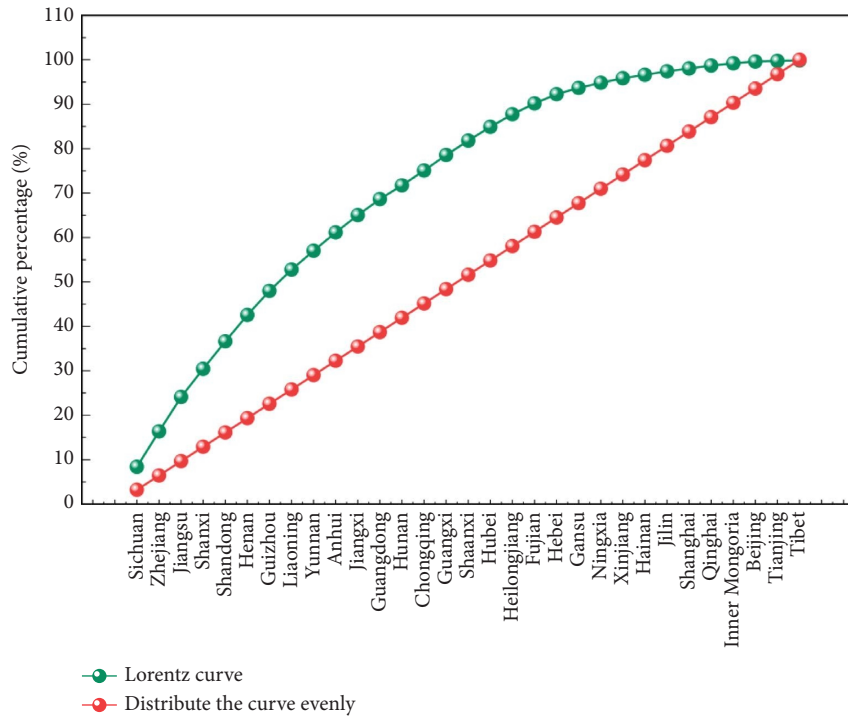Figure 5: Spatial distribution map of China's tourist resorts in 2023.

Figure 6: Lorenz distribution curve for tourist resorts in China.

The number of tourist resorts and GDP of each province in 2015, 2019, and 2022 were imported into SPSS software and analysed to derive the coefficient of geographical linkage. The coefficients of geographical linkage for 2015, 2019, and 2022 are 99.44, 99.65, and 99.73, respectively,

which proves that the degree of association between the two is close. From Figures 7 and 8, tourist resorts are mainly distributed in the eastern coastal area, most of the cities in the eastern coastal area are economically developed with good infrastructure construction, and the residents living in
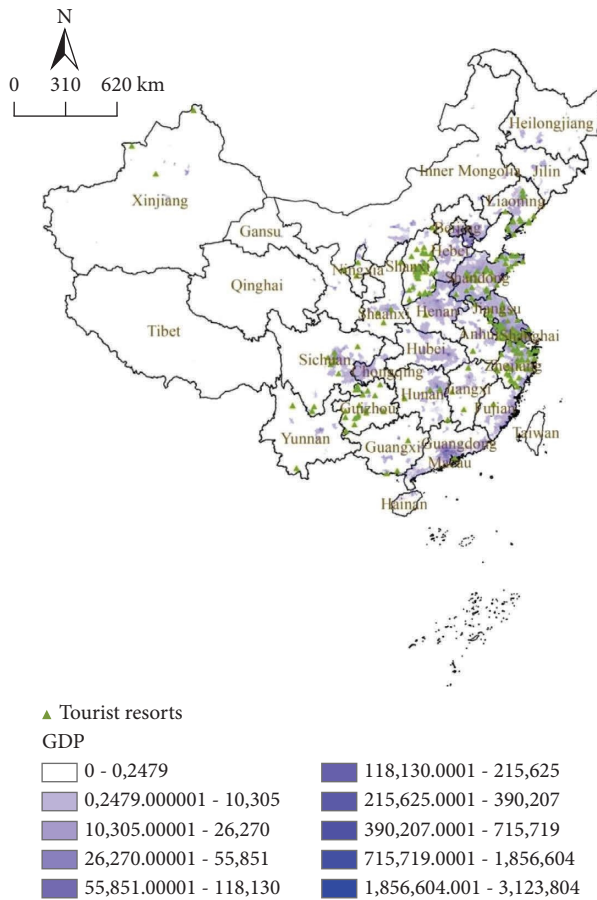
FIGURE 7: GDP distribution and tourist resort distribution of all provinces in China (2015).

FIGURE 8: GDP distribution and tourist resort distribution of all provinces in China (2019).

the city also have a high economic level, meeting the conditions for the establishment of tourist resorts. Relying on the good infrastructure and consumer market, tourist resorts can be easily established.

3.3.2. Resource Endowment. Superior resource endowment is the basic condition for the tourist resort development and tourism product development and has a direct impact on the tourist resort site selection, development, and construction. However, it is difficult to quantify resource endowment. In this paper, the AAAAA grade scenic spots of each province will be chosen as the standard for measuring the resource endowment of tourist resorts. The reason is that the AAAAA scenic spots, as the highest standard for the quality classification of tourist resorts, represent China's world-class boutique tourist resort grades and have an extremely high value of resource endowment, which can be used as a standard for measuring resource endowment [42].

The analysis of data processing software yields the coefficients of geographical linkage in 2015 ($L = 99.40$), 2019 ($L = 99.63$), and 2022 ($L = 99.78$), which proves that there is a very close association between the distribution of tourist resorts and resource endowment, which confirms the influence of resource endowment on the planning and
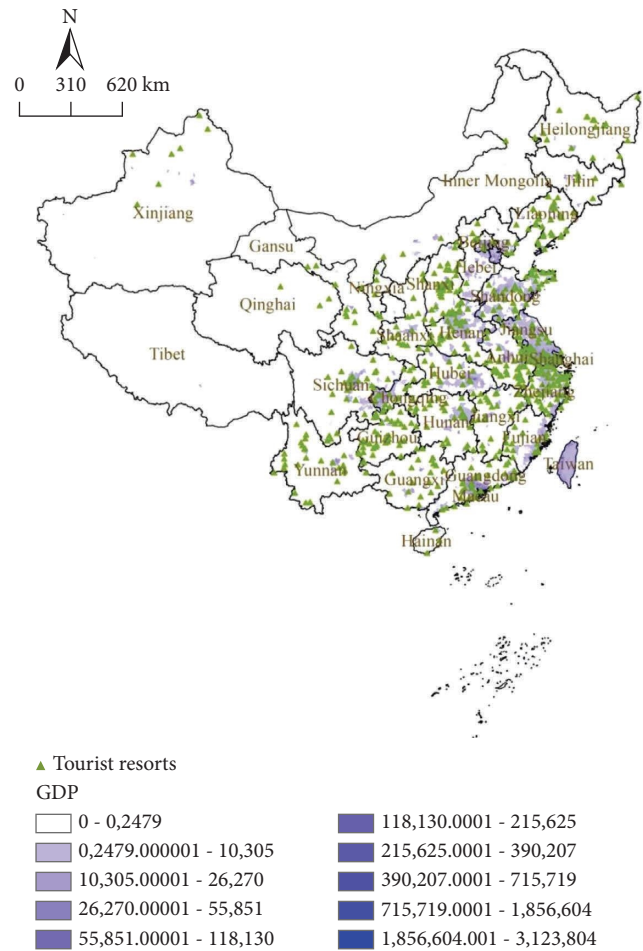
construction of tourist resorts and further indicates that the distribution of tourist resorts must be based on certain tourism resources.

3.3.3. Source Market. There is a close connection between the vacation source market and vacation products, and the interaction between them strongly promotes the development of vacation tourism. In recent years, the number of tourist resorts in China has increased significantly. To understand the correlation between the number of tourist resorts and the source market, the population distribution map of China was drawn by ArcGIS software. It can be seen in Figures 9 and 10 that the population in China is primarily distributed in the southeast, and the population distribution overlaps with the degree of tourist resort concentration. The coefficients of geographical linkage of population and the number of tourist resorts in 2015 ($L = 99.40$), 2019 ($L = 99.65$), and 2022 ($L = 99.79$) indicate that there is a significant positive correlation between them.

Building a tourist resort is a time-consuming and costly project, and these factors require the tourist resort to be in an area with a high source market. The tourism products must
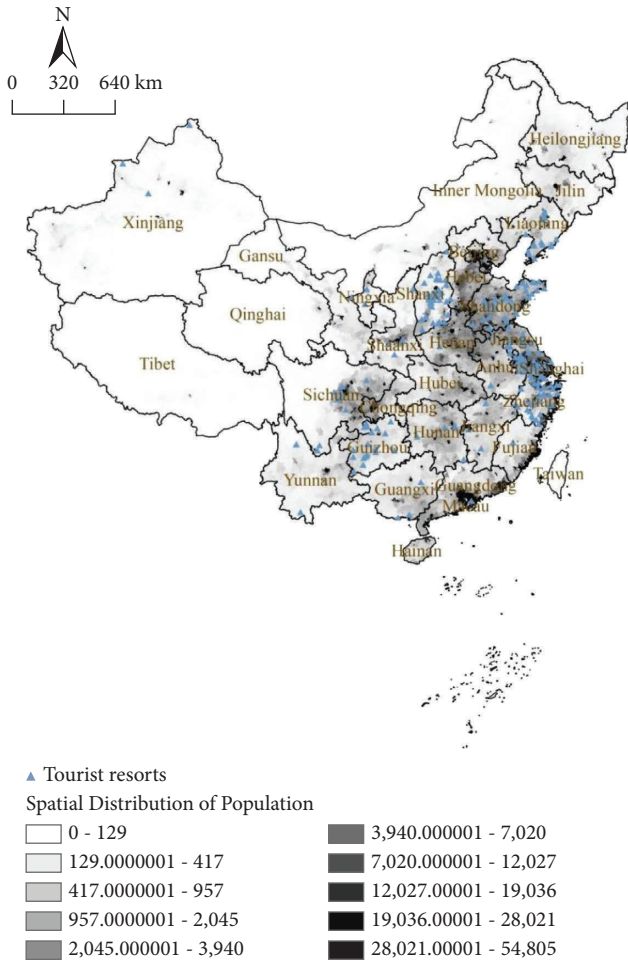
FIGURE 9: Population and tourist resort distribution of all provinces in China (2015).

FIGURE 10: Population and tourist resort distribution of all provinces in China (2019).

serve the tourism demand market. In the case of ensuring the passenger source base, the tourism resort may have more lasting vitality and longer-term development.

3.3.4. Government Support. Various policies issued by the government, as well as the formulation of national standards for the tourist resorts and related management systems, have a significant guiding effect on the spatial layout of national tourist resorts and provide a policy basis and guarantee for the standardized development of tourist resorts. In the process of promoting the development of tourism resorts, the government management departments of different regions, especially economically developed regions, have issued many policies that actively drive the development of local tourism resorts and create more opportunities for the declaration and creation of tourism resorts. Before 2015, the development of tourism resorts was slow under an environment lacking national policy support. When the National Tourism Administration issued the Resort Grade Management Measures notification document in 2015, provinces began to actively declare and create tourism resorts, and tourism resorts began to flourish. With the introduction of more documents, tourism resorts developed at a rapid pace

from 239 in 2015 to 758 at present. Because of the introduction of national policies to guarantee the declaration and creation of tourism resorts worldwide, all places enthusiastically joined in the development of tourism resorts. Therefore, the national, governmental, and local policies introduced are key factors in accelerating the development of tourism resorts.

4. Discussion

4.1. In-Depth Temporal Analysis of Tourist Resorts. This section provides a descriptive analysis of the temporal evolution of tourist resorts, as discussed in Section 3.1. The calculation results presented in Figure 1, Tables 1, and 2 reveal two significant findings. (1) The years 1992, 2015, and 2020 emerge as crucial milestones in the growth of tourist resorts in China, as illustrated in Figure 1. This suggests that the introduction and implementation of national policies have catalyzed the rapid development of China's tourist resorts. (2) Two key events have propelled the rapid expansion of tourist resorts. The first event is the public opening of tourist resorts, while the second involves a shift in the tourism resort model. In the 1990s, the China government witnessed the emergence of tourist resorts accessible to

the general public. Subsequently, the development model for the public tourist resorts in China transitioned from pre-establishment approval to postestablishment evaluation after 2010.

4.2. The Uneven Distribution of Tourist Resorts Has Not Changed Much.

A comprehensive analysis of the spatial evolution of tourist resorts in southeastern China is presented. Our findings in Section 3.2 reveal that tourist resorts are predominantly distributed with high density and even distribution in this region. This result is consistent with previous research conducted by Ding et al. [5], who obtained similar results based on 45 national tourist resorts. However, our results are based on a larger sample size of 758 national and provincial tourist resorts, which provides a more robust analysis.

The calculation results, as shown in Figures 2–4, indicate that the first-level high-density zone of tourist resorts consistently exhibits a "single core" distribution from 2015 to 2022, which is located at the junction of Anhui, Hubei, and Jiangxi provinces. Conversely, the overall distribution density of all high-density zones in China has decreased over time. This trend suggests that the first-mover advantage and the level of economic development have a profound impact on the change in distribution density of tourist resorts. Notably, this finding has not been previously analysed in the existing literature.

4.3. The Impact of Key Factors on the Spatial Distribution of Tourist Resorts Is Increasing.

Based on the main factor analysis presented in Section 3.3, this study reveals that the economic development, resource endowment, source market, and national policy support have all played a significant role in promoting the growth of provincial and national tourist resorts in China between 2015 and 2022. This finding is consistent with those of Ma et al. [42] and Ding et al. [5]. While some literature focused on calculating the geographic linkage rate for a specific year without considering its trend over time [24]. Wu et al. [30] note that the explanatory power of each factor may change over time due to various reasons. To address this issue, this paper calculates the geographical linkage rate between each factor and the number of tourist resorts in 2015, 2019, and 2022. The results indicate that the GDP, population, and resource endowment exhibit increasing coefficients of geographical linkage with the number of tourist resorts across these years. This upward trend suggests that the spatial configuration of these factors and tourist resorts is becoming more aligned, leading to a growing impact of these key factors on the distribution of tourist resorts.

4.4. Limitations and Future Research.

This study has made significant strides in elucidating the spatial and temporal distribution of tourist resorts; yet, there are several limitations that warrant further investigation. (1) Due to data constraints, the analysis did not differentiate between various types of tourist resorts. Future research should incorporate more comprehensive and detailed data on the diverse forms of tourist resorts. (2) While this study employed the coefficients of geographical linkage to examine the factors influencing tourist resorts, the alternative methods for analyzing these factors should be explored. Comparative evaluations of different analytical approaches will be essential in enhancing the understanding of the determinants of tourist resort development.

5. Conclusion

In terms of temporal evolution, the development of tourist resorts in China has gone through three periods: the formative period (before 1992), primary development period (1992–2014), and rapid development period (2015 to now). Prior to 2015, China's tourist resorts were growing slowly and had been in an exploratory phase. The situation changed significantly in 2015, with the tourist resorts growing at a remarkably high rate.

In terms of spatial layout, the spatial evolution of tourist resorts in China has been in a state of unbalanced development. These tourist resorts show an overall uneven distribution and a balanced local distribution in the national geographic and spatial distribution. Tourist resorts are distributed with a high density and even distribution in southeastern China with small density and low in number in northwestern China. Over time, the aggregation distribution area with the junction of Anhui, Hubei, and Jiangxi provinces as the core always maintains a high spatial distribution density, and southeastern China gradually develops from the distribution condition of multicore aggregation to the direction of aggregation with a single core as the centre and other regional piecewise aggregation.

The spatial distribution pattern of tourist resorts has been transformed since the policies on tourism resorts were introduced in 2010 and 2015. The area with the junction of Anhui Province, Hubei Province, and Jiangxi Province has been the core area of tourist resorts. The secondary core gathering area is the junction of Shanxi Province, Jiangsu Province, and Zhejiang Province, and the secondary core zone is constantly weakening and gradually spreading to other regions. The distribution area of Shanxi Province spreads southwards to connect with Shanxi Province and Henan Province and forms a new gathering place. Jiangsu Province and Zhejiang Province together border Shandong Province and became the China's tourism resort coastal aggregation area, and the three provinces spread outwards trend is not obvious, but the aggregation density has weakened. Guizhou province becomes the main province where the China's tourist resorts gather in the southwestern region, and the distribution area increases as the years increase and extends northwards to Sichuan province and eastwards to Chongqing city and the northern part of Hunan province. The piecewise aggregation in Guangdong Province, Guangxi Zhuang Autonomous Region, and Yunnan Province has grown.

The economic development volume, resource endowment, source market, and government support are important factors that cause differences in the spatial and temporal

distribution of tourist resorts in China. With the deepening influence, the trend of the piecewise distribution of tourist resorts becomes increasingly obvious in the future, which is the result of the joint action of multiple factors.

Data Availability

The data generated or analyzed during this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Acknowledgments

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