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# Study on the Geographical Spatial Characteristics of Forest Health Resorts in Fujian Province, China

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**Abstract:** Forest health tourism is an increasingly popular new form of tourism. Fujian Province, with its abundant forest resources, ranks among the top provinces in China in terms of forest coverage and holds significant development potential. The study focuses on 80 provincial-level forest health resorts in Fujian Province, China. Software such as the ArcGIS geographic information system is used to analyze the resorts' nearest neighbor index, geographic concentration index, kernel density, etc., thus indicating their spatial distribution characteristics. Overlay analysis, correlation analysis, and fitting analysis are employed to explore the spatial distribution specificity and its influencing factors. The research results indicate that forest health resorts in the area exhibit an aggregated distribution with a higher overall concentration. They are influenced by factors such as the distribution of river systems, the accessibility of transportation, distance to central cities, and socio-economic conditions. The geographic concentration index (G) is 50.28 and the unevenness index (S) is 0.640, both indicating that the forest health resorts in Fujian Province demonstrate a distribution pattern of "overall dispersion with multiple core aggregations". Based on the research findings, the article puts forward some policy insights. Taking into account the local geographical characteristics, it advocates for the rational development of forest health resort industry models suitable for the region. It suggests incorporating innovative ideas into the forest health resort industry in order to broaden development channels. Additionally, it emphasizes the importance of close collaboration between the government and the market for mutual development.

**Keywords:** space distribution; influence factor; Fujian province; resource distribution



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## 1. Introduction

Since the emergence of the forest bathing concept, it has attracted widespread attention from the academic community. Germany is one of the early adopters of the forest bathing concept. As early as the 1940s, people recognized the health benefits of forests, and the world's first forest bathing base was established in the town of Bad Wildbad, marking Germany's pioneering practice in this field. The development of the forest bathing industry has driven the economic growth of the town of Bad Wildbad, serving as a catalyst for the development of various sectors such as catering, accommodation, and transportation. Jobs such as forest bathing guides and therapy practitioners have also become popular [1]. In 1982, the Secretary of the Japanese Forest Agency Tomohide Akiyama first proposed the term "forest bathing (Shinrin-yoku)" [2]. Afterwards, the term "forest bathing" saw widespread use, defined as "absorbing the forest atmosphere and feeling the power of the forest through five senses" [3]. Between 2005 and 2008, 35 forests were approved as forest therapy bases, and that number increased to 42 by 2010 [4]. In 2020, the number

had increased to 65, and a complete certification system for forest therapy bases had been established. In recent years, through continuous development, forest bathing sites in the United States have been able to accommodate nearly 1 billion forest visitors annually [5].

Compared to China, research progress in the forest bathing industry in other countries is more comprehensive. Christaller [6] applied location theory to analyze the phenomenon of tourist range expansion, exploring the evolutionary process of tourism space. Gunn [7] selected four indicators—climate conditions, hydrological conditions, cultural conditions, and transportation conditions—to evaluate the forest tourism development potential in Illinois. Dredge [8] constructed a theoretical model of destination spatial layout by grasping the spatial characteristics of tourist destinations. Taylor [9] evaluated the development potential of rural forest tourism in Zambia based on tourist demand, focusing on government support, tourism resource types, and infrastructure construction. Kotus [10] found that tourists' behavior and motives influence the change in urban tourism space structure through studying tourists in Polish cities. The core mechanism of the formation of forest leisure tourism resource spatial aggregation plates is influenced by factors such as customer conditions, policy guidance, infrastructure construction, and supporting services. The six elements of tourism ("eating, accommodation, transportation, tourism, shopping, entertainment") are important factors driving the spatial pattern of forest tourism resources [11].

In 2019, the State Forestry and Grassland Administration, the Ministry of Civil Affairs, the National Health Commission, and the National Administration of Traditional Chinese Medicine jointly issued the "Opinions on Promoting the Development of Forest Bathing Industry" in China. The document encourages local governments to actively promote the development of the forest bathing industry and requires the construction of 300 national forest bathing bases by 2022, increasing to 1200 by 2035. At the same time, it advocates for the provision of multi-level, multi-category, and high-quality forest bathing services, including health care, rehabilitation, and elderly care, to meet the growing demands for a better way of life. Such nature-based tourism, which includes a variety of entertaining and leisure activities from natural resources and environmental factors, can provide multiple values such as excitement, exploration, relaxation, and adventurous experiences to tourists [12]. Hart [13] highlighted in his natural-resource-based view that natural resources and the environment create a unique value to visitors and a set of competitive advantages to firms. For sustainable competitive advantages, resources must be valuable, rare, inimitable, and supported by organizations so that they are able to generate additional value to the organizations [14]. Yang Xiucheng [15] used GIS spatial processing methods to analyze the spatial distribution patterns of health tourism bases in Fujian Province, finding that the main influencing factors of health tourism development include policy systems, medical conditions, resource endowment conditions, and transportation location. As of 2022, provinces (autonomous regions and municipalities directly under the central government), as well as cities and counties, have successfully completed the recognition work of seven batches of national forest bathing pilot construction units.

The integrated development of the health preservation industry and regional economy embodies a shared pursuit of prosperity, aiming to effectively merge the health preservation industry with related sectors to drive sustainable development in regional economies. Against this backdrop, exploring the intrinsic value of health preservation industry development and promoting its integration with the regional economy hold significant importance. The development of the health preservation industry can stimulate the growth of related sectors such as tourism, elderly care, and health services. By integrating various resources and industrial elements, fostering interaction and coordinated development between the health preservation industry and regional economy can achieve goals such as optimizing resource allocation, enhancing industrial added value, increasing employment opportunities, improving people's livelihoods, and addressing imbalances in regional economic development, thus promoting high-quality development in regional economies [16]. Therefore, exploring the geographical distribution patterns of forest health resorts through avenues such as geographic information systems (GISs) and identifying the underlying factors in-

fluencing their distribution are of significant importance. This research not only unveils the intrinsic value for the development of the health and wellness industry but also contributes to the integration of regional economies.

## 2. Materials and Methods

The distribution characteristics of forest health resorts in Fujian Province, China, were analyzed using the kernel density analysis method in ArcGIS 10.8. This method allows for a more intuitive exploration of the distribution features of the forest health protection industry based on geographic spatial patterns [17]. Starting from the influencing factors of the distribution of forest health bases in Fujian Province, nine socio-economic indicators were selected, including urban residents' disposable income, fiscal expenditure on agriculture, forestry and water resources, GDP per capita, primary industry, tertiary industry, tourist arrivals, permanent population, population aged 65 and above, and the number of medical institutions. Pearson correlation coefficient tests were conducted using IBM SPSS Statistics 27 software on some of the socio-economic indicators from the 2022 Fujian Statistical Yearbook (https://tjj.fujian.gov.cn/, accessed on 10 December 2023).

### 2.1. Nearest Neighbor Index

Using the geographic coordinates of forest health resorts in Fujian Province as point data, visual analysis and ensuring a wider representation of the geographical distribution specificity of forest health resorts in Fujian Province can be conducted using ArcGIS 10.8 software. The point features can be categorized into three types: clustered, random, and uniform [18–21].

$$R = \bar{r}_i / r_E \tag{1}$$

$$r_E = \frac{1}{2\sqrt{m/A}} = \frac{1}{2\sqrt{N}} \tag{2}$$

In the above Equations (1) and (2), we use symbols to represent different elements, where "$R$" represents the nearest neighbor index, indicating the average value of the actual nearest neighbor distance; "$r$" represents the theoretical nearest neighbor distance; "$m$" represents the quantity of point features; "$A$" represents the area of the study region; and "$N$" represents the quantity of point features. When the value of "$R$" is less than 1, it indicates an aggregated distribution of point features, whereas when "$R$" equals 1, it signifies a random distribution of point features. This formula is used to describe spatial distribution patterns and trends, providing a quantitative analysis of the layout characteristics of point features. When the value of "$R$" is greater than 1, the distribution of point features is uniform.

### 2.2. Geographic Concentration Index

$$G = 100\sqrt{\sum_{i=1}^{n}\left(\frac{x_i}{P}\right)^2} \tag{3}$$

To explore the geographical concentration index in spatial distribution and discover the distribution patterns of forest health resorts, Equation (3) is presented. In the equation, "$G$" represents the concentration level of the research subject and it denotes the number of forest health resorts owned by the $i$-th prefecture-level city in Fujian Province; "$P$" represents the total number of forest health resorts in Fujian Province, while "$n$" represents the number of prefecture-level cities within Fujian Province. When the value of "$G$" is higher, it indicates a greater concentration of forest health resorts, while conversely, a lower value suggests a greater dispersion.

### 2.3. Imbalance Index

By studying the index of geographic spatial distribution imbalance, we can discover the equilibrium of forest health resort distribution, thereby determining whether forest health resorts are evenly distributed. Equation (4) is therefore listed below.

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

In the above Equation (4), "$S$" represents the imbalance index. It is calculated by arranging the proportion of forest health resorts in each prefecture-level city of Fujian Province in descending order, and then calculating the cumulative percentage up to the $i$-th position. "$n$" represents the total number of prefecture-level cities in Fujian Province. The range of "$S$" is between 0 and 1. When "$S$" equals 0, it indicates that forest health resorts are evenly distributed among all prefecture-level cities. When "$S$" equals 1, it signifies that all forest health resorts are concentrated in a single prefecture-level city.

### 2.4. Kernel Density Analysis

Kernel density analysis is a spatial analysis method that accurately depicts the density of forest health resorts in their geographical distribution by measuring kernel densities. It provides an intuitive representation of the spatial distribution specificity of forest health resorts. Equation (5) is thus presented.

$$f(x_0) = \frac{1}{qh} \sum_{i=1}^{n} K\left(\frac{x - x_i}{h}\right) \quad (5)$$

In the above equation, "$q$" represents the number of forest health resorts; "$h$" represents the bandwidth; and $x - x_i$ represents the distance from the evaluation point "$x$" to the $i$-th event location. $f(x_0)$ is the kernel density, and a higher value of $f(x_0)$ indicates a higher density of forest health resorts at that location.

## 3. Results and Discussion

### 3.1. Spatial Distribution Type

By analyzing the geographical characteristics and spatial distribution types of forest health resorts in Fujian Province, we aim to explore the layout of forest health resorts in Fujian Province and proceed with further analysis.

Based on the provided calculations, the nearest neighbor index (R) for forest health resorts in Fujian Province is 0.906. This indicates a clustered spatial distribution pattern. As shown in Table 1, the nearest neighbor index values for different cities within Fujian Province are as follows: Sanming: 0.457, Nanping: 0.539, Longyan: 0.467, Zhangzhou: 0.077, Quanzhou: 1.325, Ningde: 1.515, and Fuzhou: 3.303.

**Table 1.** The nearest neighbor indexes of forest health resorts in each city in Fujian Province.

| Prefecture-Level City | Actual Nearest Neighbor Distance/km | Theoretical Nearest Neighbor Distance/km | Nearest Neighbor Index | Area/km$^2$ | Number of Forest Health Resorts | Distribution Type |
|---|---|---|---|---|---|---|
| Sanming | 8.9 | 8.478 | 0.457 | 23,000 | 32 | clustered |
| Nanping | 10.5 | 9.066 | 0.539 | 26,300 | 11 | clustered |
| Longyan | 9.1 | 7.706 | 0.467 | 19,000 | 10 | clustered |
| Zhangzhou | 1.5 | 6.35 | 0.077 | 12,900 | 10 | clustered |
| Quanzhou | 25.8 | 5.942 | 1.325 | 11,300 | 8 | uniform |
| Ningde | 29.5 | 6.495 | 1.515 | 13,500 | 7 | uniform |
| Fuzhou | 64.3 | 6.199 | 3.303 | 12,300 | 2 | uniform |

Overall, the spatial distribution of forest health resorts in Fujian Province demonstrates a concentrated pattern, with a clustered spatial distribution type. Specifically,

Sanming, Nanping, Longyan, and Zhangzhou exhibit a clustered distribution pattern, while Quanzhou, Ningde, and Fuzhou demonstrate a more uniform distribution.

### *3.2. Spatial Distribution Balance*

Calculated using Equation (3), i.e., the Geographic Concentration Index, as well as Equation (4), i.e., the Unevenness Index, we determined that the geographic concentration index (G) of forest health resorts in Fujian Province is 50.28, which is significantly higher than the average geographic concentration index of 33.33. This indicates a trend of concentrated development in the spatial distribution of forest health resorts in Fujian Province. The imbalance index (S) for forest health resorts in Fujian Province is 0.640, indicating an overall imbalance in the distribution of forest health resorts. Among the prefecture-level cities, Sanming has the highest number of forest health resorts, with 32 resorts, accounting for 40% of the total. In contrast, Fuzhou only has two forest health resorts, accounting for a mere 2.50%. This reveals the uneven distribution of forest health resorts in Fujian Province. The Lorenz curve generated from statistical calculations, as shown in Figure 1, indicates a significant deviation from the line of uniform distribution, with substantial fluctuations. The combined percentage of forest health resorts in Sanming, Nanping, and Longyan is 66.25%, while Xiamen and Putian have a percentage of 0%, further highlighting the imbalance in the distribution of forest health resorts in Fujian Province (see Table 2).

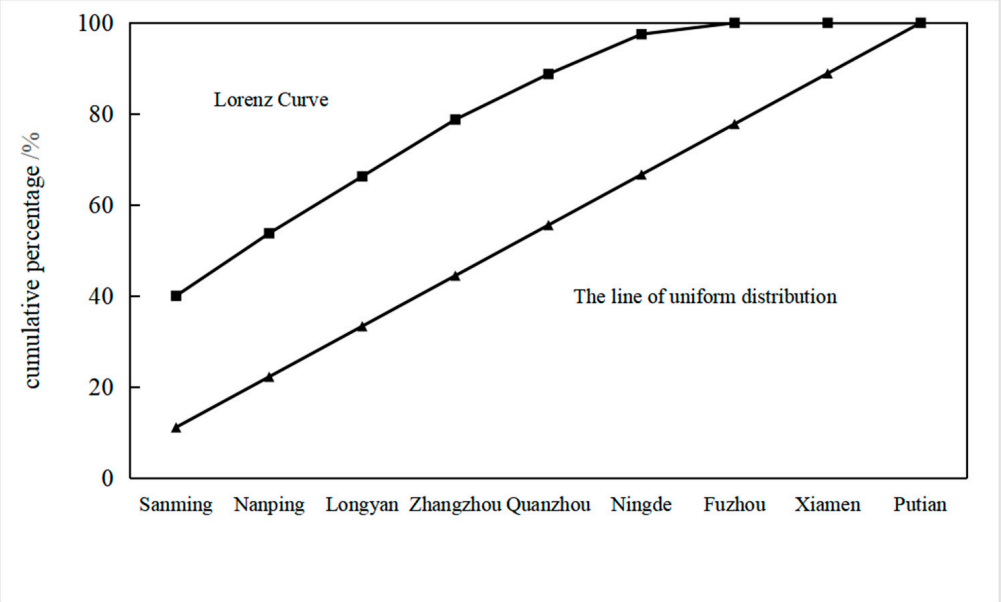


**Figure 1.** Lorentz curve of forest health and wellness base distribution in Fujian Province.

**Table 2.** Distribution and proportion of forest health resorts in various cities of Fujian Province.

| Prefecture-Level City | Number of Forest Health and Wellness Bases/Unit | Ratio of Total Quantity in the Province/% | Accumulated Percentage Value/% |
|---|---|---|---|
| Sanming | 32 | 40.00 | 40.00 |
| Nanping | 11 | 13.75 | 53.75 |
| Longyan | 10 | 12.50 | 66.25 |
| Zhangzhou | 10 | 12.50 | 78.75 |
| Quanzhou | 8 | 10.00 | 88.75 |
| Ningde | 7 | 8.75 | 97.5 |
| Fuzhou | 2 | 2.50 | 100 |
| Xiamen | 0 | 0 | 100 |
| Putian | 0 | 0 | 100 |

### *3.3. Nuclear Density Analysis*

According to Figure 2, there are significant differences in the distribution of forest health resorts in Fujian Province. The central region, including Sanming City in the north, Longyan City in the south, and Zhangzhou City, as well as Nanping City in the north, shows a higher degree of concentration.

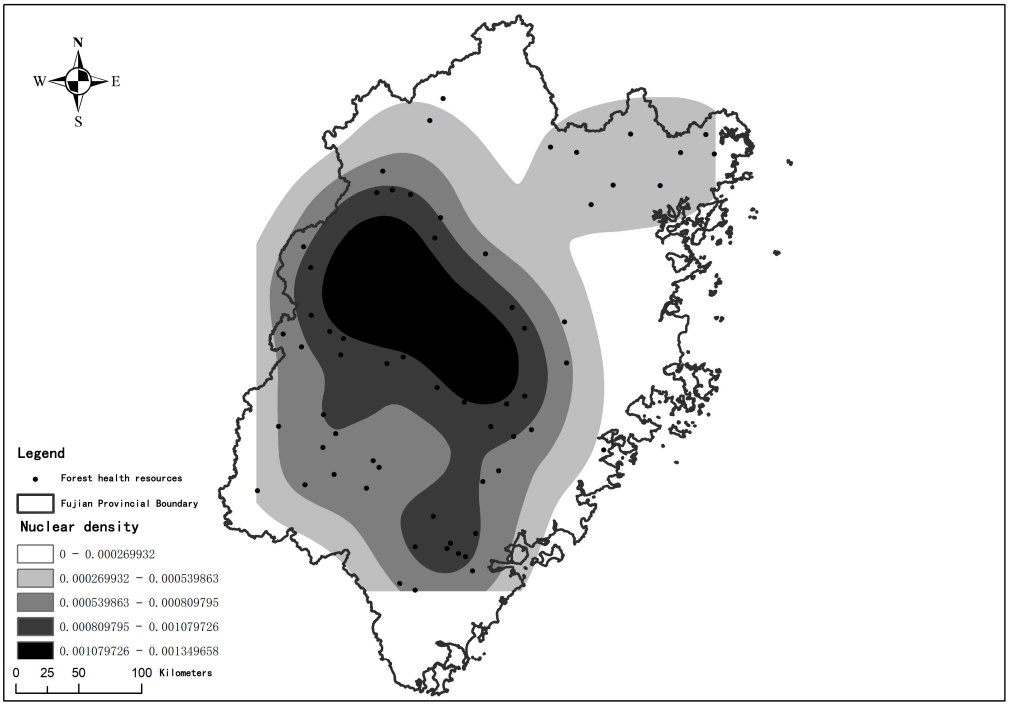


**Figure 2.** Analysis of forest health base and nuclear density in Fujian Province, China.

Based on the kernel density index, the distribution can be categorized into two tiers. The first tier, or the high-density core area, is mainly concentrated near Datian County in Sanming City. The second tier, or the sub-core area, includes locations such as Zhangping City in Longyan, Hua'an County in Zhangzhou, and Anxi County in Quanzhou.

This distribution pattern suggests that forest health resorts in Fujian Province are primarily concentrated in inland areas, with a central focus on the Minzhong region, and are spreading outward. In contrast, there is generally less distribution in coastal areas.

### *3.4. Altitude*

Elevation is one of the most important factors influencing the distribution of forest health resorts in Fujian Province. In this study, the spatial distribution coordinates of forest health resorts in Fujian Province were used as the research object, and ArcGIS 10.8 software was employed to plot the coupling relationship between the spatial distribution of forest health resorts and elevation.

As shown in Figure 3, the elevation ranges from 0 to 200 m, from 200 to 500 m, from 500 to 1000 m, from 1000 to 1500 m, from 1500 to 2000 m, and from 2000 to 2500 m. Forest health resorts in Fujian Province are distributed within the elevation range of 200 to 2500 m. With the increase in elevation, the number of forest health resorts decreases. They are mainly concentrated in the elevation range of 200 to 500 m, with only one resort located above 2000 m. The construction of forest health resorts needs to consider various factors such as forest coverage, transportation convenience, and the level of development difficulty. Moreover, different types of forest health resorts have different requirements for these factors. All of these factors affect the correlation between the spatial distribution of forest health resorts and their elevation characteristics.

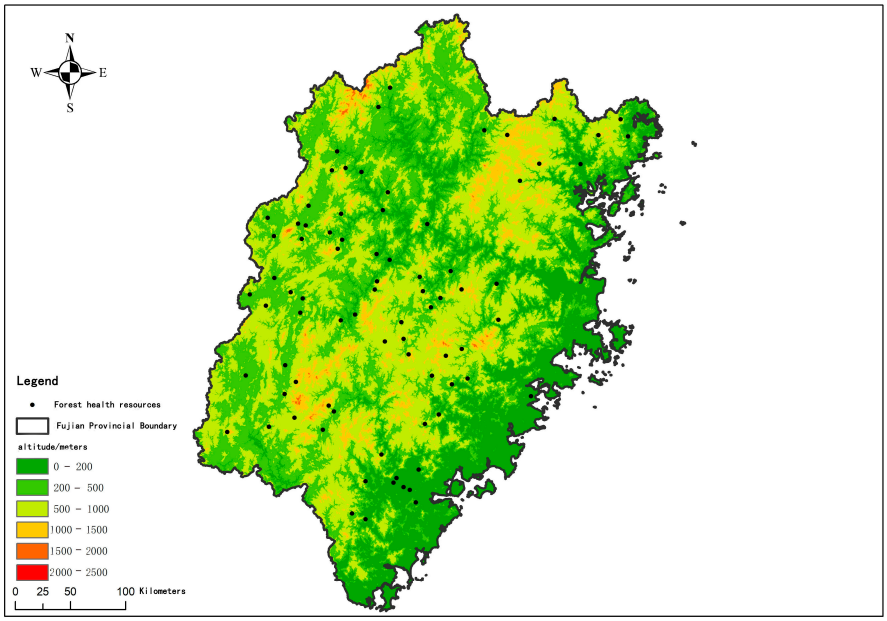


**Figure 3.** Relationship between fForest health base and altitude in Fujian Province, China.

### *3.5. River System*

The distribution of rivers and lakes within Fujian Province provides essential living and ecological support for the development of forest health resorts. The landscapes of rivers and lakes can create a favorable atmosphere for both physical and mental relaxation at forest health resorts.

An overlay analysis of the main river basins and the spatial distribution of forest health resorts in Fujian Province (as shown in Figure 4) reveals that among the 80 forest health resorts in Fujian Province, 25 are located within the 1 km buffer zone of the main water systems, 49 within the 3 km buffer zone, 63 within the 5 km buffer zone, and 77 within the 10 km buffer zone. Moreover, the highest concentration is observed within the 10 km buffer zone, accounting for 96.25% of the total, indicating a strong demand for proximity to water systems in the distribution of forest health resorts in Fujian Province.

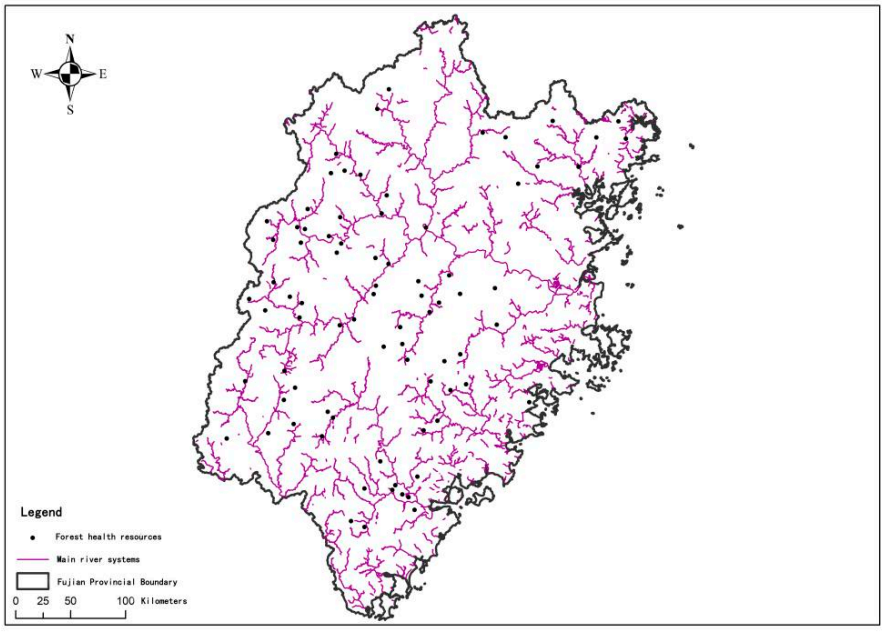


**Figure 4.** Spatial distribution of main river systems and forest health bases.

### *3.6. Forest Coverage Rate*

According to Figure 5, it can be seen that the forest coverage rates vary across different cities in Fujian Province, China. When arranged according to the number of forest health bases, the percentages are as follows: Sanming: 77.12%, Nanping: 78.89%, Longyan: 79.12%, Zhangzhou: 45.18%, Quanzhou: 49.93%, Ningde: 69.98%, and Fuzhou: 51.72%.

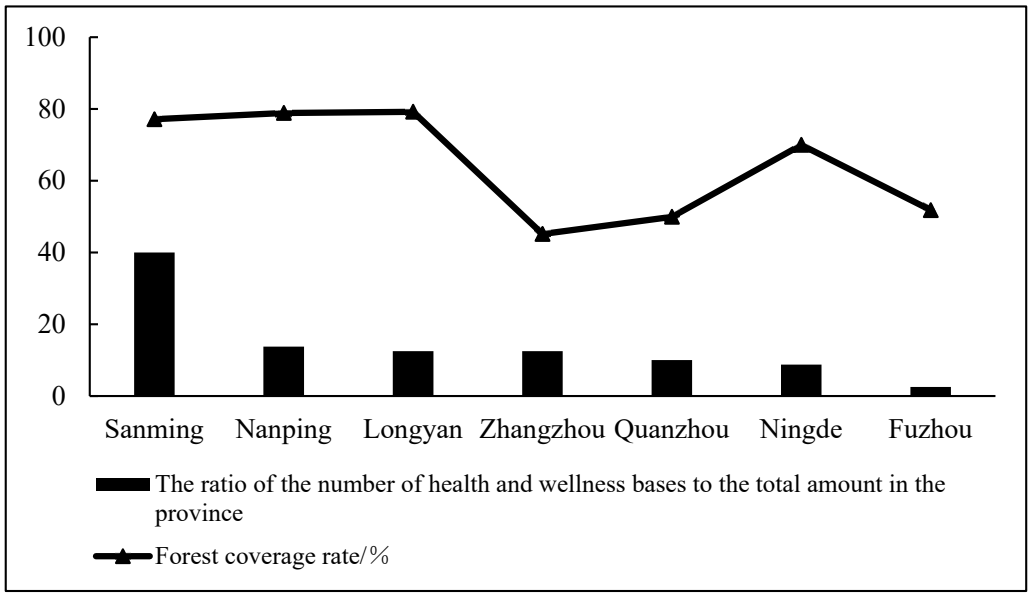


**Figure 5.** Relationship between the forest coverage and distribution of forest health and wellness bases in various cities in Fujian Province.

Using the Pearson correlation test, the correlation coefficient between the distribution of forest health resorts in Fujian Province and the forest coverage rate in each prefecture-level city was found to be 0.470. A coefficient below 0.5 indicates that there is no significant correlation between the distribution of forest health resorts in Fujian Province and the forest coverage rate in each prefecture-level city.

### *3.7. Transportation Factors*

As shown in Table 3, out of the 80 forest health bases surveyed, 73 are located within a 10 km buffer zone of roads, accounting for 91.25% of the total. Among them, 43 forest health bases are situated within a 3 km buffer zone, representing over half of the total. This indicates that forest health bases located in areas with convenient transportation have a higher proportion. The convenience of transportation is indeed a critical factor influencing the location distribution of forest health bases, closely impacting the selection of sites for these facilities (see Figure 6).

**Table 3.** Relationship between the spatial distribution of forest health and wellness bases in Fujian Province and distance of road buffer zones.

| Buffer Distance/km | Number of Forest Health and Wellness Bases/Unit | Total Percentage/% |
|---|---|---|
| 1 | 16 | 20% |
| 3 | 43 | 53.75% |
| 5 | 57 | 71.25% |
| 10 | 73 | 91.25% |

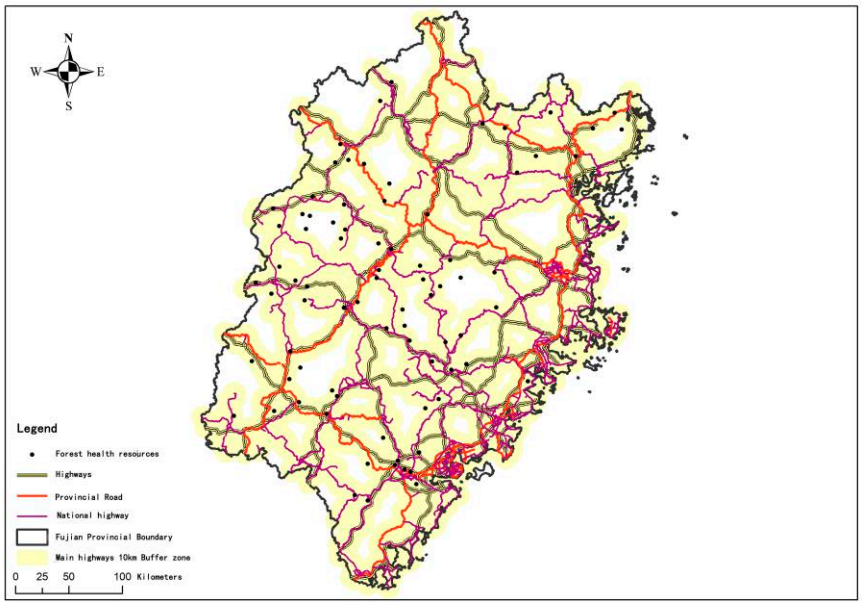


**Figure 6.** Forest bases and transportation distribution map in Fujian Province.

### *3.8. Central City Relevance*

As shown in Figure 7, using the nine main prefecture-level cities in Fujian Province as centers, 10 km, 30 km, and 50 km buffer zones were established. It was found that there are a total of 4 forest health resorts located within the 10 km buffer zone around the city center, 12 resorts within the 30 km buffer zone, and 34 resorts within the 50 km buffer zone around the city center. Therefore, with the increase in distance from the city center, the number of forest health resorts in Fujian Province continues to grow. Consequently, the construction of forest health resorts should be located far from urban areas to reduce the impact of noise pollution, air pollution, and light pollution on the population in forest health resorts. Building health resorts in remote areas away from cities can ensure higher levels of negative ions and oxygen content in the air, which reflects the unique demand for the development of the forest health industry compared to other industries [22].

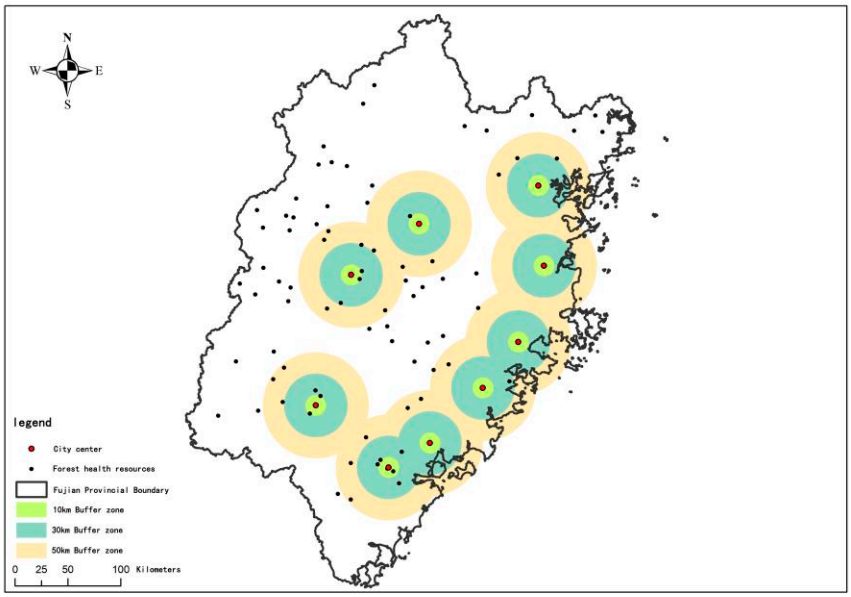


**Figure 7.** Distribution of forest health and wellness bases in Fujian Province and 50 km distribution of central cities.

### *3.9. Socio-Economic Factor*

According to Table 4, among the nine selected socio-economic indicators, the primary industry and fiscal expenditure on agriculture, forestry, and water resources are positively correlated with the distribution of forest health bases in Fujian Province. The correlation coefficients for these two indicators are 0.154 for the primary industry with a significance of 0.693 and 0.264 for fiscal expenditure on agriculture, forestry, and water resources with a significance of 0.492. The remaining seven indicators show no correlation. Therefore, at the socio-economic level, the distribution of forest health bases is influenced by two indicators: the primary industry and fiscal expenditure on agriculture, forestry, and water resources.

**Table 4.** Correlation analysis of the number of forest health bases in each city with nine socio-economic indicators.

| Prefecture-Level City | Number of Forest Health and Wellness Bases/Unit | Disposable Income of Urban Residents/USD | Financial Expenditure on Agriculture, Forestry, and Water/USD $10^4$ | Per Capita Gross Domestic Product/(USD/Person) | Primary Industry /USD $10^8$ | Third Industry /USD $10^8$ | Received Tourists/ $10^4$ Person Times | Permanent Population ($10^4$) | Population Aged 65 and above ($10^4$ Person) | Number of Medical Institution Points/Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| Sanming | 32 | 6166.20 | 61,644.75 | 17,415.75 | 46.90 | 164.37 | 3904.27 | 245.5 | 36.1 | 2642 |
| Nanping | 11 | 5679.01 | 74,681.69 | 11,487.07 | 49.92 | 147.23 | 5136.82 | 265.1 | 42.2 | 2184 |
| Longyan | 10 | 6354.53 | 54,037.27 | 16,818.43 | 43.01 | 218.75 | 4328.42 | 271.6 | 44.6 | 2848 |
| Zhangzhou | 10 | 6408.42 | 49,307.92 | 15,555.13 | 78.97 | 314.36 | 4871.42 | 506.8 | 67.3 | 3983 |
| Quanzhou | 8 | 7975.84 | 85,780.91 | 18,865.04 | 34.56 | 686.82 | 5620.71 | 887.9 | 91.3 | 5414 |
| Ningde | 7 | 5906.71 | 55,905.77 | 15,577.24 | 53.39 | 154.70 | 1.57 | 315.6 | 45.3 | 3006 |
| Fuzhou | 2 | 7687.61 | 79,543.13 | 20,164.27 | 94.42 | 962.78 | 7861.56 | 844.8 | 91.3 | 5265 |
| Xiamen | 0 | 9736.57 | 36,570.12 | 20,364.76 | 4.04 | 627.28 | 6568.75 | 530.8 | 36.7 | 2389 |
| Putian | 0 | 6438.12 | 27,599.02 | 13,415.81 | 20.19 | 185.06 | 1.36 | 319.9 | 43.3 | 1386 |
| Correlation coefficient | | −0.458 | 0.264 | −0.098 | 0.154 | −0.434 | −0.30 | −0.397 | −0.266 | −0.066 |
| Significance | | 0.215 | 0.492 | 0.802 | 0.693 | 0.243 | 0.939 | 0.291 | 0.490 | 0.866 |

## 4. Discussion and Conclusions

### *4.1. Discussion*

1. Natural Resource Factors: The distribution of forest health resorts in Fujian Province is significantly influenced by natural factors such as water systems and topography. The construction of these resorts is influenced by water systems, as rivers and lakes provide essential guarantees for health care and the landscape they offer can bring better sensory experiences to forest health groups. Certainly, the siting of forest health resorts should prioritize ensuring clean water quality and avoiding rivers polluted by industrial discharge or waste disposal in order to achieve sustainable development [23]. Different altitudes have different impacts on resort construction, and areas at higher altitudes may face challenges such as inconvenient transportation and lower visibility. Therefore, resort construction generally occurs in low-altitude areas. Fujian Province has abundant forest resources, mainly distributed in inland areas, which are more advantageous for developing forest health resorts.
2. Secondly, regarding the transportation conditions of forest health bases, they are significantly influenced by factors such as transportation networks and distance from central cities. Most forest health bases are located far from urban centers, and transportation serves as a crucial means of connecting destinations and consumers. Therefore, transportation convenience becomes a vital factor influencing the development of forest health. The construction of transportation networks helps to integrate and enhance connectivity between forest health bases, thereby promoting the comprehensive development of the forest health industry. To facilitate the healthy development of the forest health industry in Fujian Province, it is essential to prioritize market demand; optimize the layout of forest health resources; mitigate regional development imbalances; and pay attention to factors such as economic development levels, the awareness of health, and transportation convenience. These measures will ensure the development of the forest health industry.
3. Thirdly, concerning the financial support in the areas where forest health bases are located, regions with high forest coverage rates in inland areas possess richer forest

bases. Forestry economy can generate better economic returns, and the construction of forest health industries can also bring significant income to the forestry industry. Therefore, the distribution of forest health bases is complementary to the indicators of the primary industry economy. Similarly, governmental support is highly beneficial for the construction of the forest health industry. With sufficient investment, the construction of forest-health-related industries will be more comprehensive and development will be faster. Additionally, there are many other factors influencing the distribution of forest health bases, such as the intensity of promotion and the awareness of elderly care.

4. Market Demand for Forest Health Resorts: Forest health resorts in Fujian Province exhibit a clustered distribution, similar to other regions such as Zhejiang, Sichuan, Guangxi, and Xinjiang. These resorts mainly concentrate in cities like Sanming, Nanping, Longyan, and Zhangzhou. The distribution pattern suggests a proximity effect, with resorts radiating outward from central cities. However, the distribution is not conducive to attracting tourist flows and resource aggregation. Economic indicators, urban residents' disposable income, and other factors are not highly correlated with the distribution of forest health resorts. This is because economic development varies across regions, and some cities, lacking economic momentum, advocate for sustainable development by utilizing local ecological resources and injecting vitality into economic growth.

### *4.2. Conclusions*

After calculation, it was found that the nearest neighbor index (R) of forest health bases in Fujian Province, China, is 0.906 < 1. This indicates that the distribution of forest health bases in the area is clustered, with a relatively high concentration, and the development focus is in the inland regions. The geographical concentration index (G) is 50.28, which is significantly higher than the average geographical concentration index of 33.33. A higher G value indicates a higher degree of concentration. The equilibrium index (S) is 0.640 (0 < S < 1), indicating an uneven distribution. This results in the overall distribution pattern of forest health bases in Fujian Province being characterized by "dispersed overall, multi-core aggregation". Natural factors such as local altitude and river systems significantly influence the distribution of forest health bases, serving as important foundations. However, the correlation coefficient with a forest coverage rate is 0.470, which is less than 0.5. This indicates that the distribution of forest health bases is not significantly influenced by the forest coverage rate. Regarding transportation networks and the association with central cities, 91.25% of forest health bases are located within a 10 km buffer zone, and there are 34 locations within a 50 km buffer zone from the city center, indicating the significant influence of transportation convenience and the centrality of urban centers on the site selection and construction of forest health bases.

In the future, when selecting sites for forest health bases and developing the forest health industry, it is important to consider the local realities promptly. Emphasis should be placed on leveraging the advantages provided by the natural environment. Factors such as altitude and the distribution of water systems should be taken into account as they can contribute to the benefits of forest health tourism. The construction and site selection of forest health tourism destinations should prioritize areas near water sources, such as rivers and lakes. Furthermore, the level of transportation convenience is vital to the forest health industry. Roads serve as crucial "bridges" connecting forest health tourism destinations with central cities. Therefore, it is essential to ensure the accessibility and convenience of transportation networks to facilitate the development of the forest health industry. Leveraging Fujian Province's abundant natural ecological resources and the initial infrastructure of health resorts, the development of the health industry and the establishment of a health economy are well positioned. Firstly, we need to mobilize efforts across the board. Considering the actual conditions in Fujian Province, we also need to accelerate the establishment of relevant policies and standards for the forest health resort

industry, introduce policies and measures to promote the integration of medical and health care, and quickly formulate overarching policies at the provincial level to promote the development of the health industry. Secondly, we need to focus on demonstration. It is important to take advantage of existing characteristic health and tourism resources in various areas, implement pilot projects and typical creations, conduct in-depth exploration and integrated packaging, achieve differentiated planning and development, and promote online promotion. We should also flexibly utilize new media, channels, and methods to comprehensively promote health work online and offline. By organizing national health forums and annual meetings, hosting various restorative activities, and hosting performances and events, we can also expand the influence of Fujian's health brand. Moreover, as a tourist or vacationer, you can choose forest health resorts that suit your travel goals. For example, leisure-oriented or play-focused tourists can opt for scenic forest health resorts, bringing along their families to enjoy the tranquility and mental rejuvenation brought by the landscapes of rivers and trees. Guests seeking therapeutic benefits can choose forest health resorts equipped with therapeutic facilities, where professional therapists provide systematic treatments to optimize physical well-being. Tourists with cultural interests can select forest health resorts with local cultural characteristics and customs, using this channel to learn about the local features and historical culture.

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