



Hainan Free Trade Port: Navigating Opportunities and Challenges for Health

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Hainan Free Trade Port

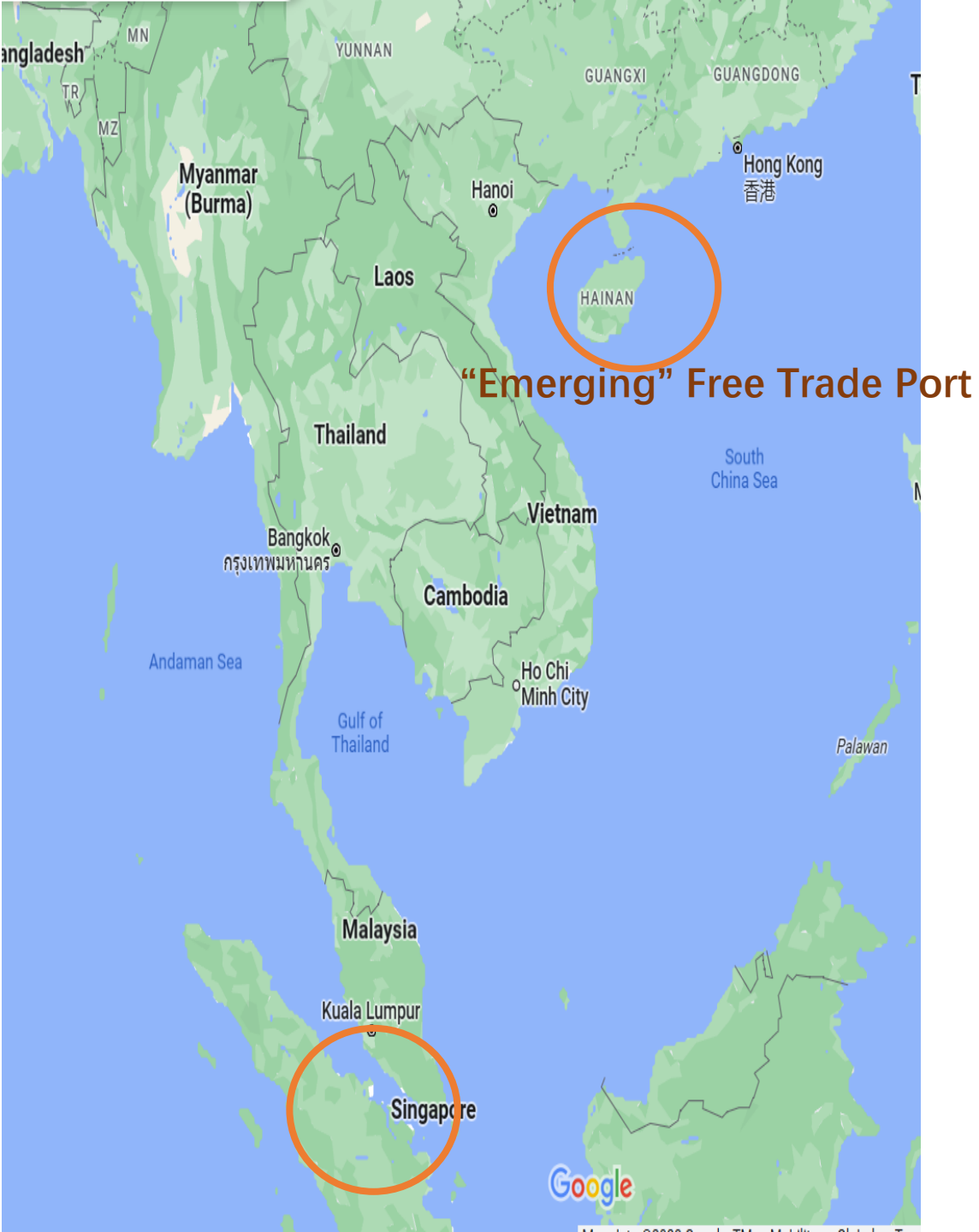
These successes of Shenzhen and Pudong have inspired China to replicate similar models in other regions, leading to initiatives such as the establishment of the Hainan Free Trade Port.



Pudong 1990~



Shenzhen 1980~



Hainan Free-Trade Port:

【Initiative Focus】 Primarily focuses on becoming an international free trade hub, with emphasis on sectors like tourism, health services, and high-tech industries.

【Policy Environment】 Implements a comprehensive set of preferential policies, including tax incentives and streamlined customs procedures, to attract foreign investment and businesses.

【Industry Focus】 Focuses on developing key sectors such as tourism, healthcare, modern services, and high-tech industries, aiming for a diversified and sustainable economy.

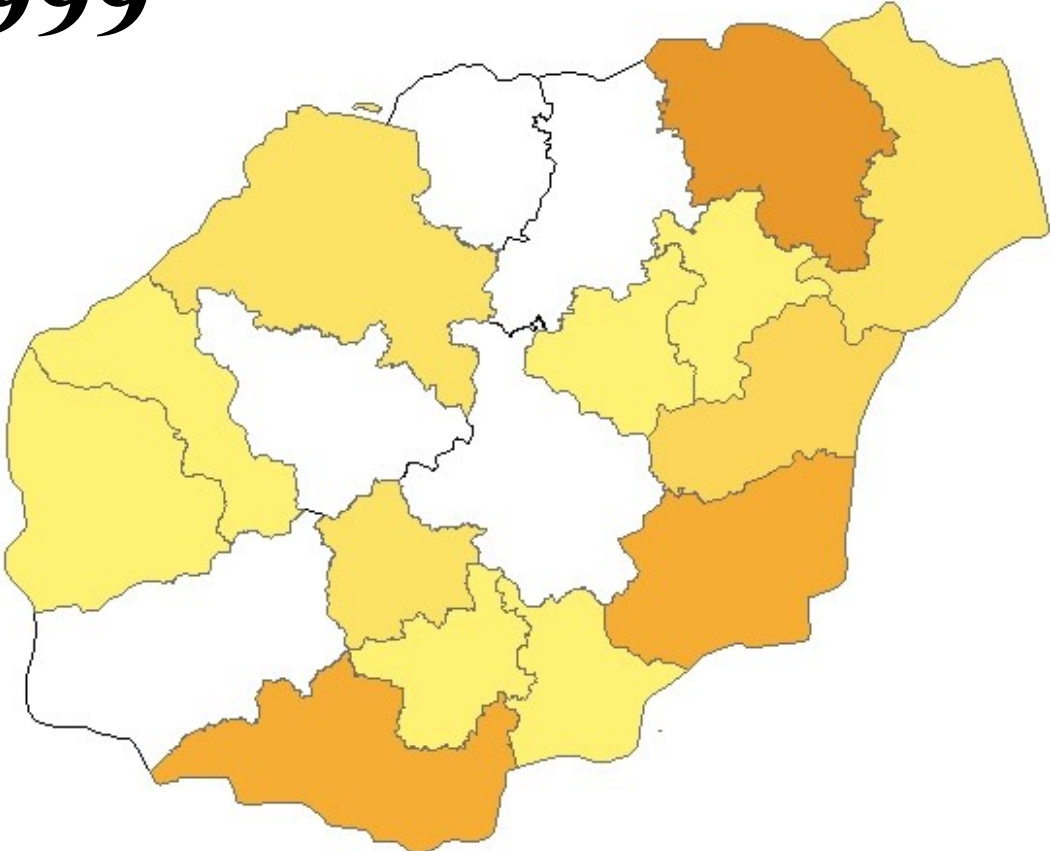
【Global Integration】 Aims to deepen international economic cooperation and integration, with policies promoting the free flow of goods, capital, and personnel.



- Hainan is known for its tropical climate and beautiful landscapes
- One of the highest life expectancies in China 79 in 2020
- World Longevity Island in 2014 for its highest percentage of centenarians in China by the International Expert Committee on Population Aging and Longevity



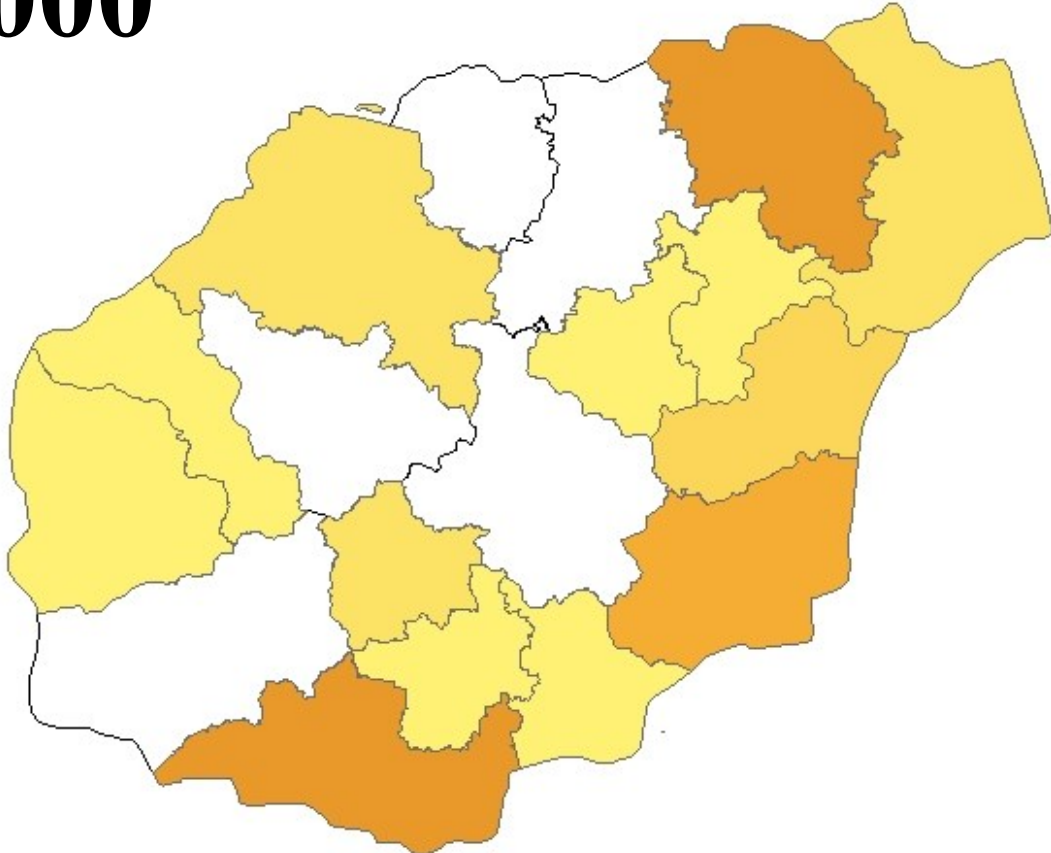
Tourist Numbers 1999



Person-time visits (10,000)

- 1-20
- 21-40
- 41-60
- 61-80
- 81-100
- 101-200
- 201-300

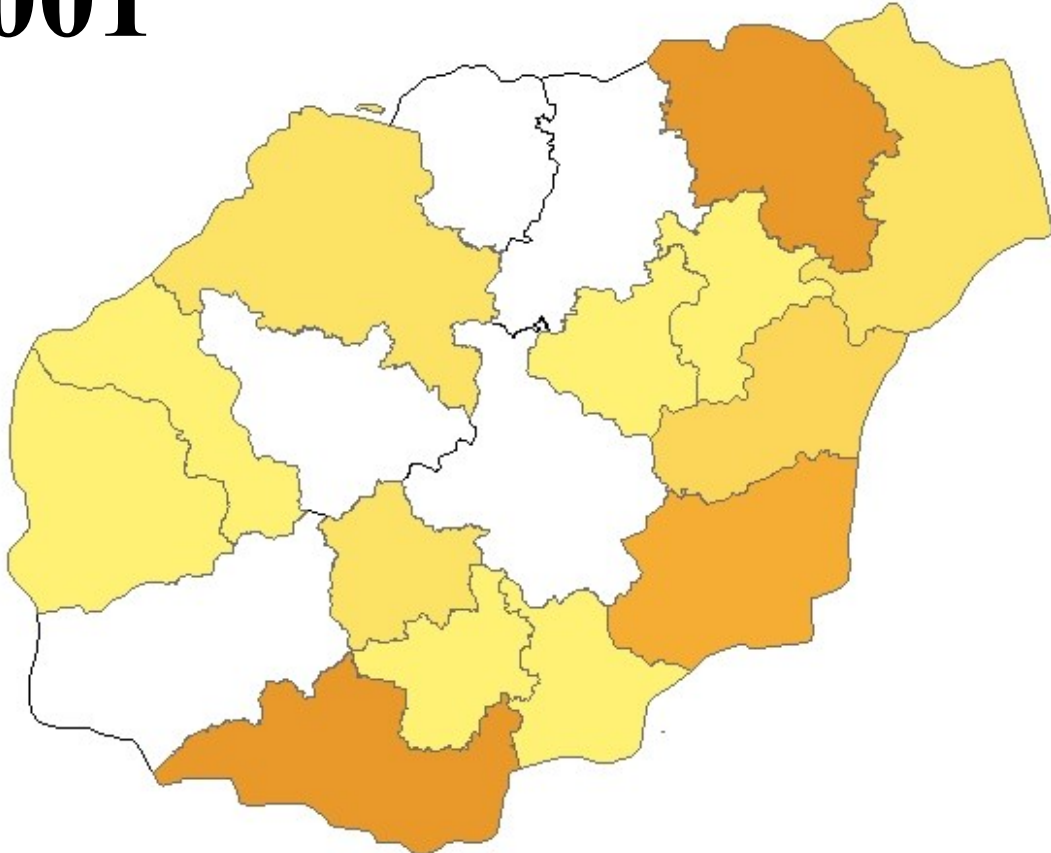
Tourist Numbers 2000



Person-time visits (10,000)

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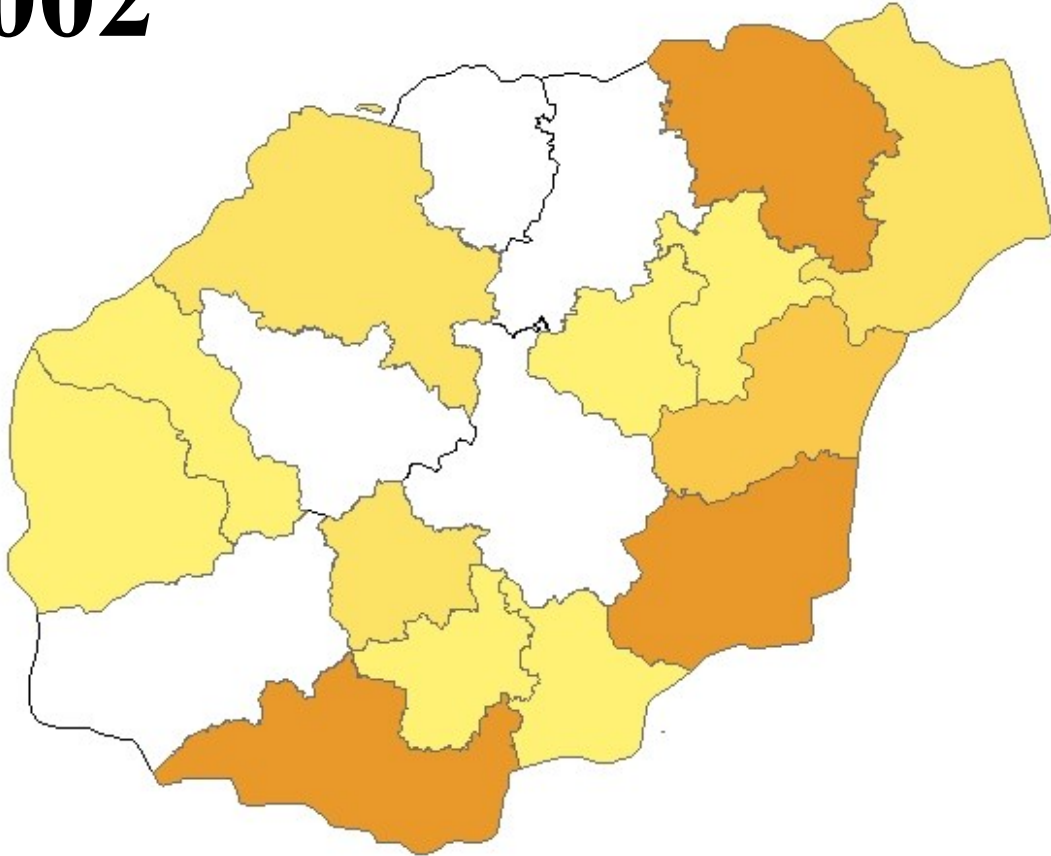
Tourist Numbers 2001



Person-time visits (10,000)

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- 201-300

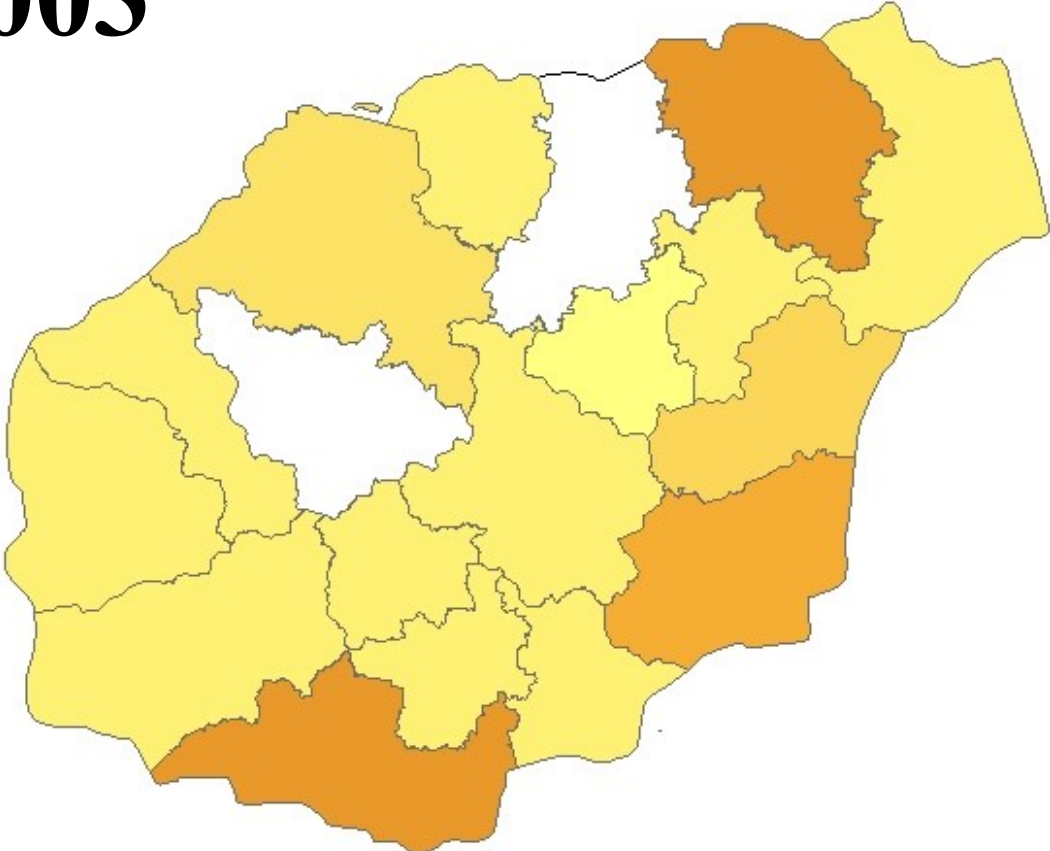
Tourist Numbers 2002



Person-time visits (10,000)

- 1-20
- 21-40
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- 81-100
- 101-200
- 201-300

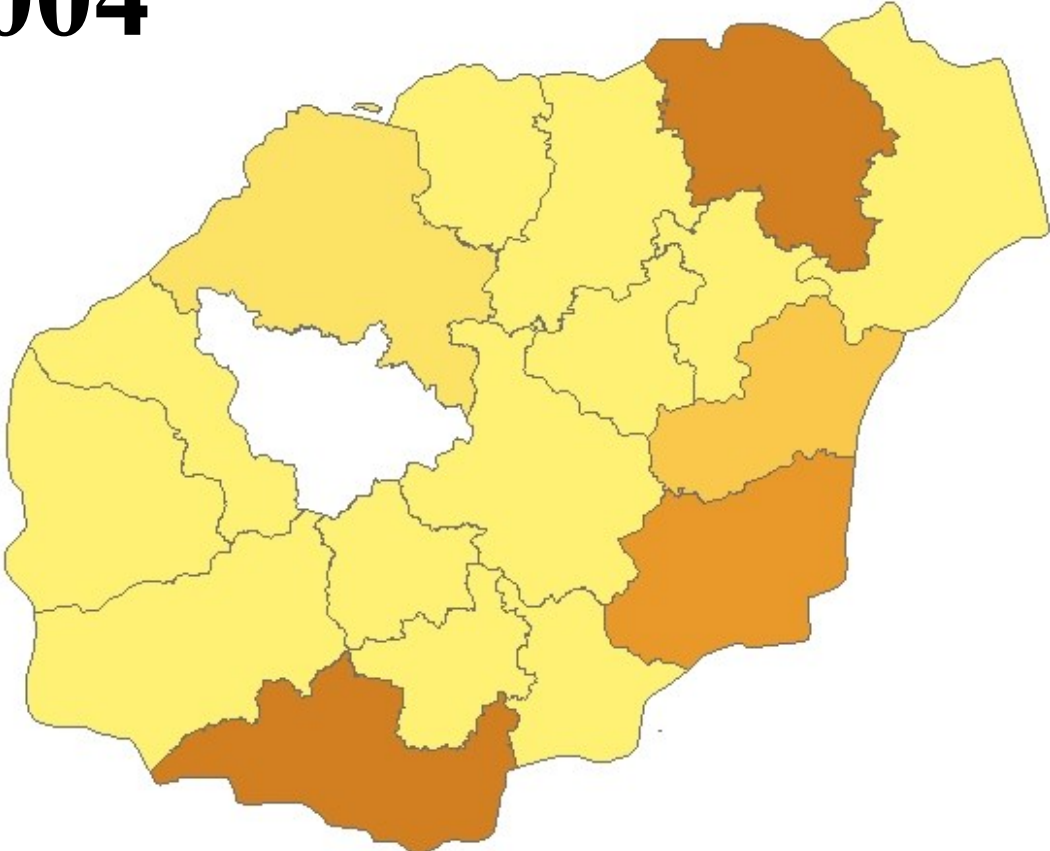
Tourist Numbers 2003



Person-time visits (10,000)

- 1-20
- 21-40
- 41-60
- 61-80
- 81-100
- 101-200
- 201-300
- 301-400

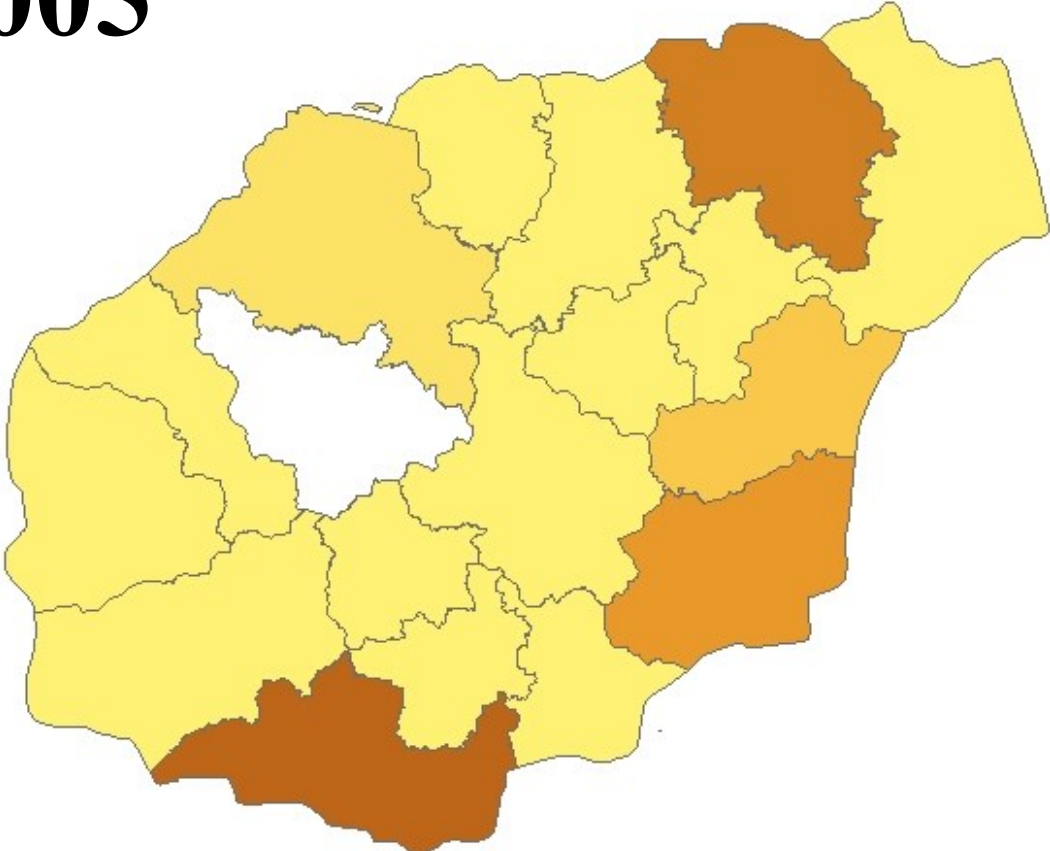
Tourist Numbers 2004



Person-time visits (10,000)

- 1-20
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- 41-60
- 61-80
- 81-100
- 101-200
- 201-300
- 301-400
- 401-500

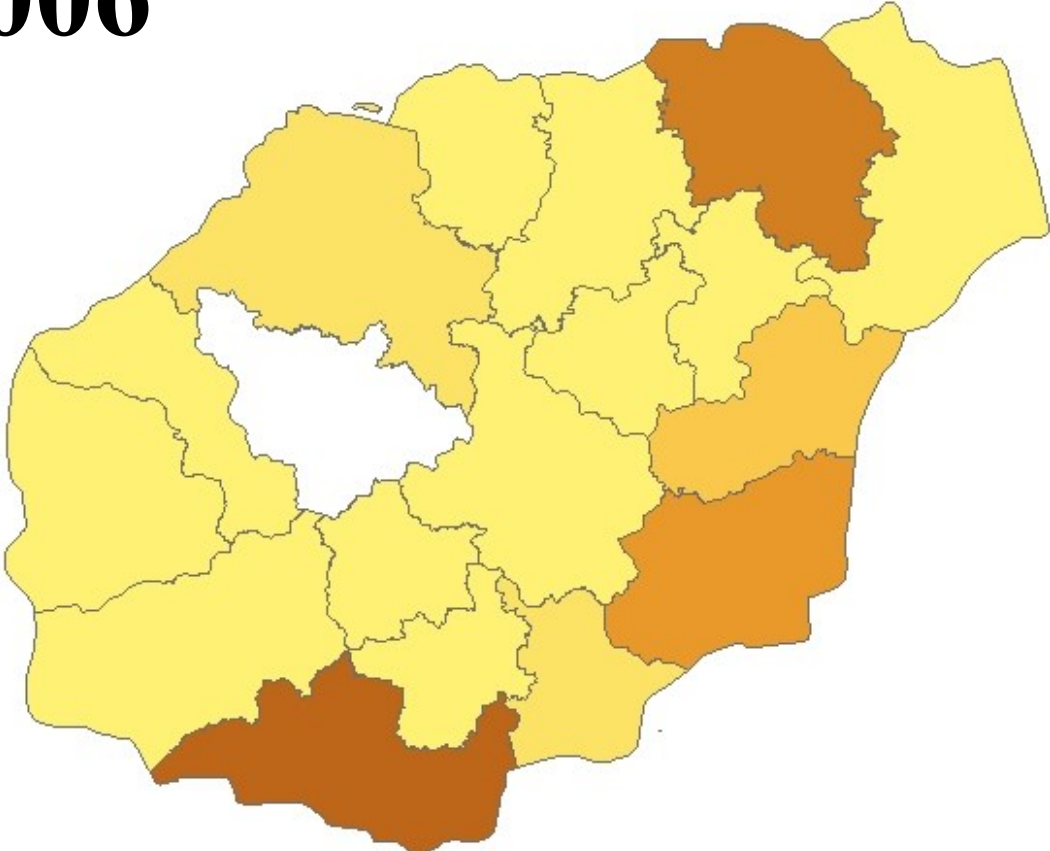
Tourist Numbers 2005



Person-time visits (10,000)

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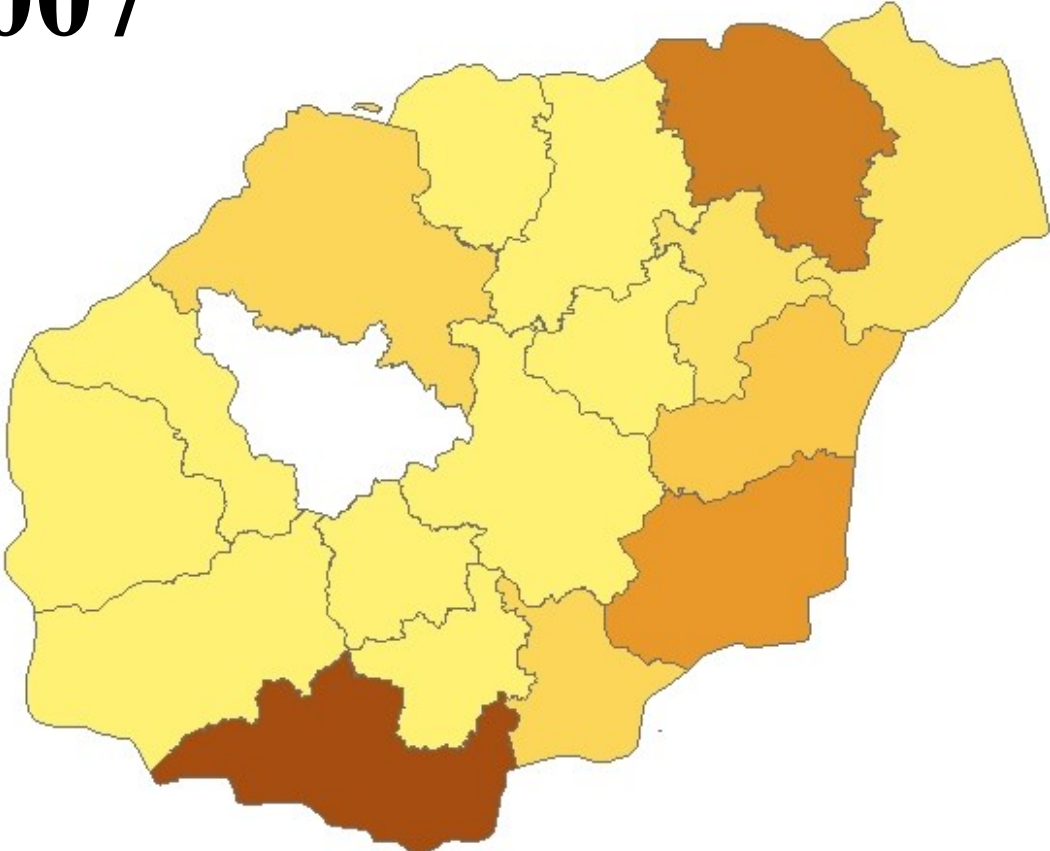
Tourist Numbers 2006



Person-time visits (10,000)

- 1-20
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- 41-60
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- 501-1000

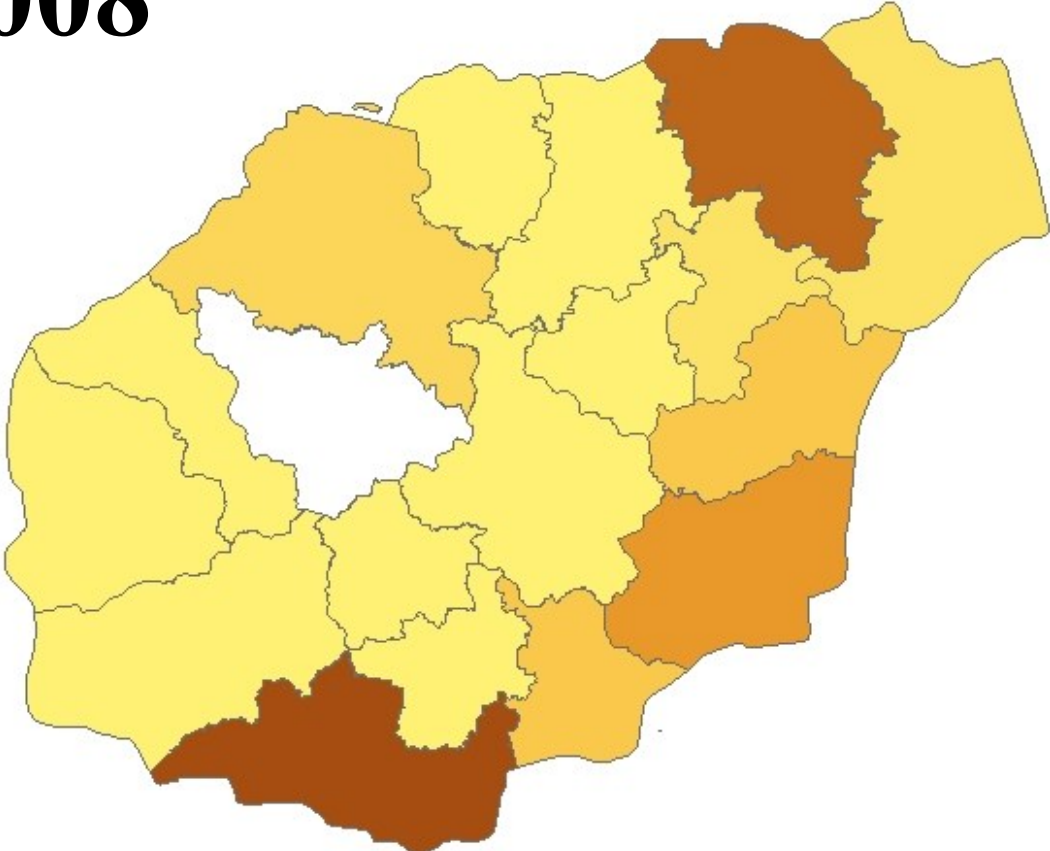
Tourist Numbers 2007



Person-time visits (10,000)

- 1-20
- 21-40
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- 501-1000
- 1001-1500

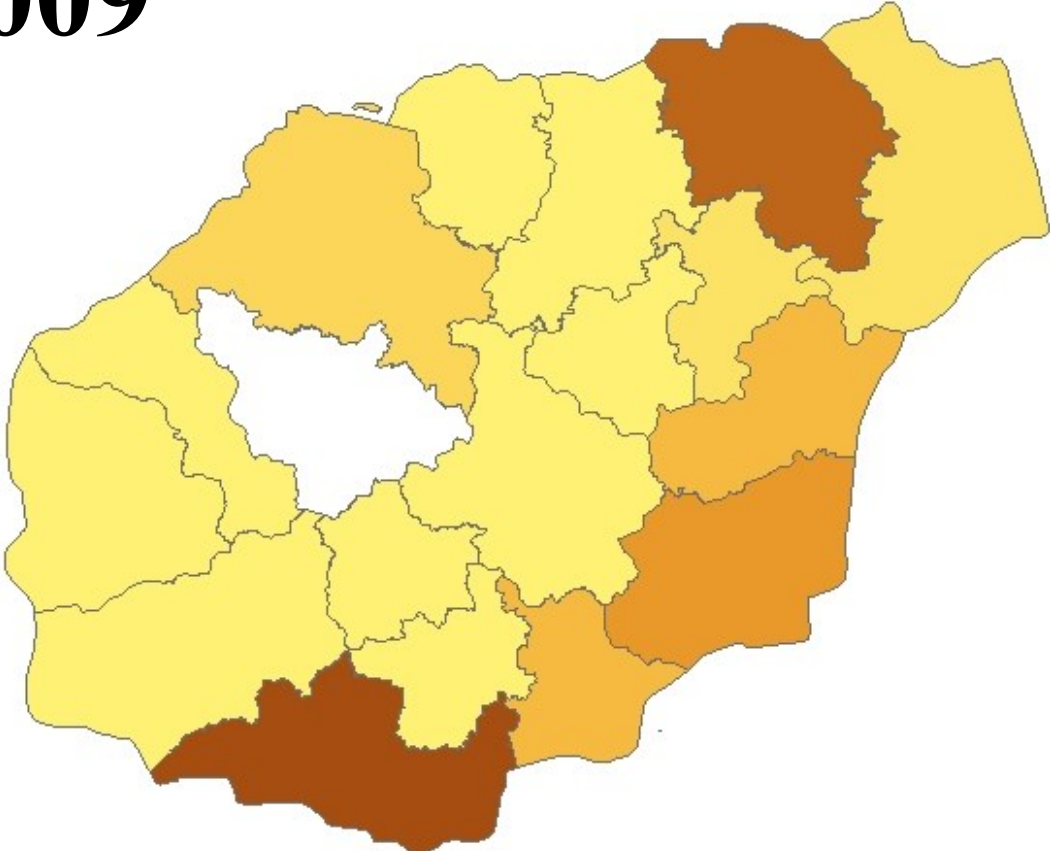
Tourist Numbers 2008



Person-time visits (10,000)

- 1-20
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- 1001-1500

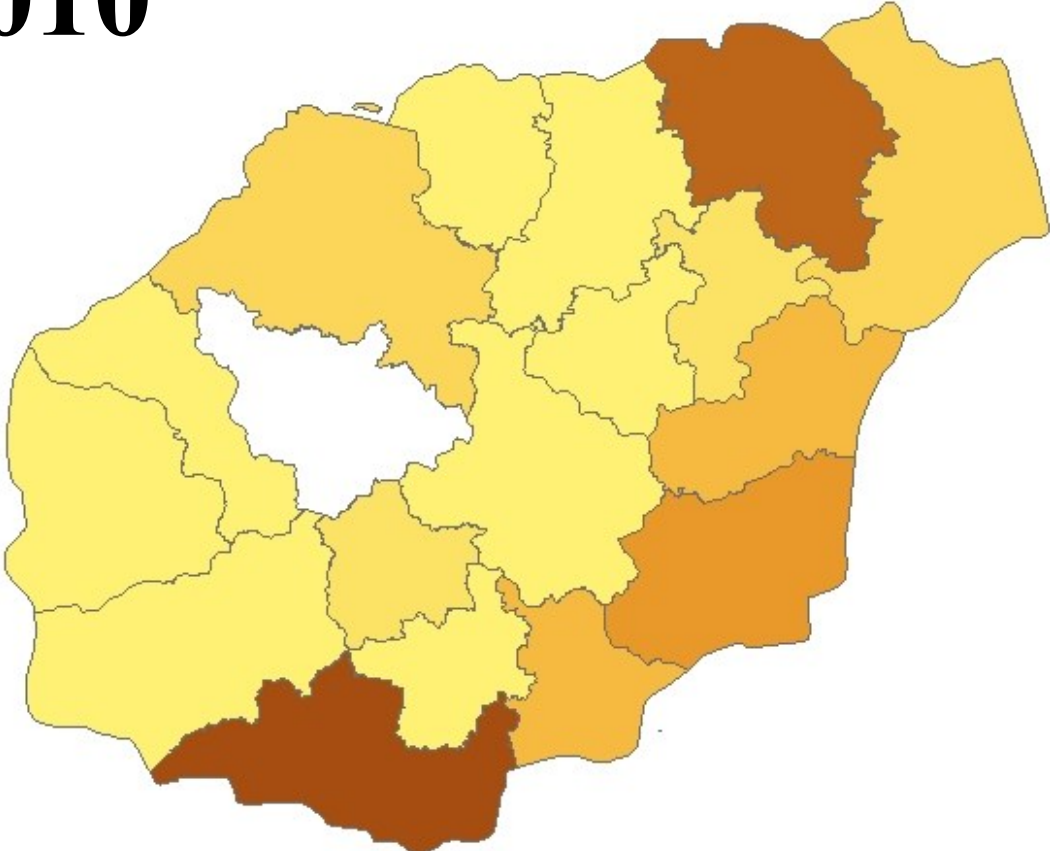
Tourist Numbers 2009



Person-time visits (10,000)

- 1-20
- 21-40
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- 1001-1500

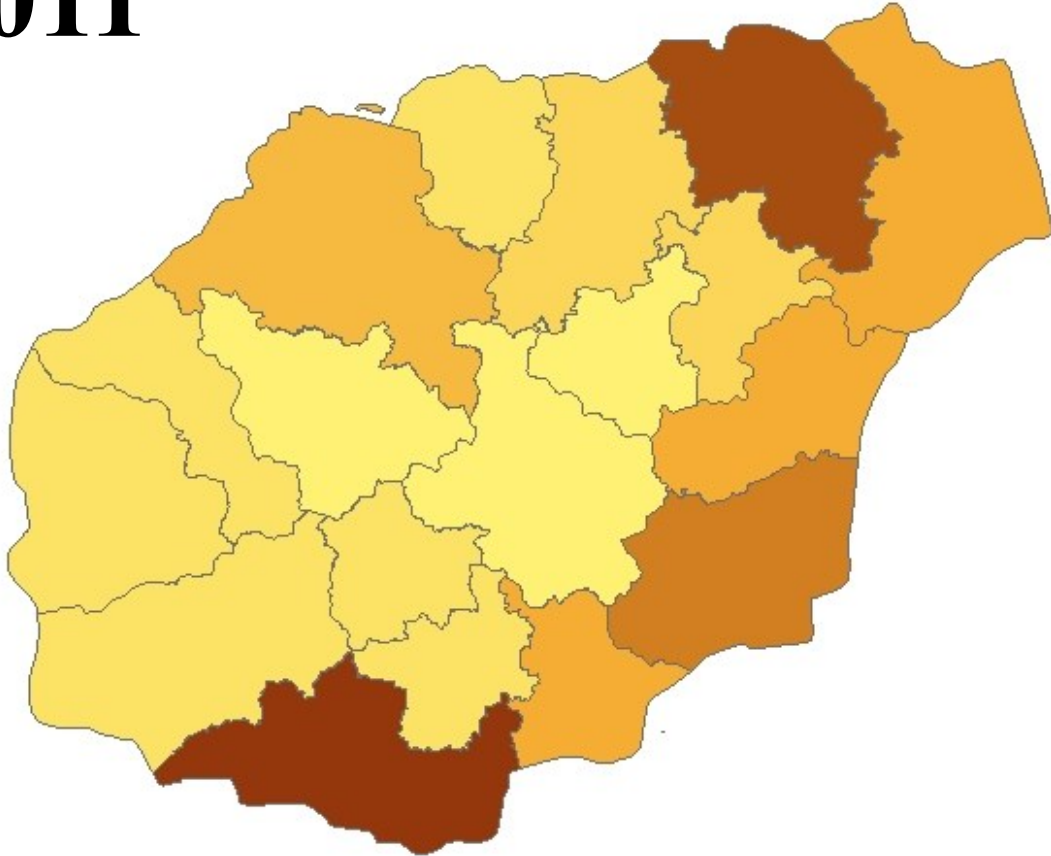
Tourist Numbers 2010



Person-time visits (10,000)

- 1-20
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- 1001-1500

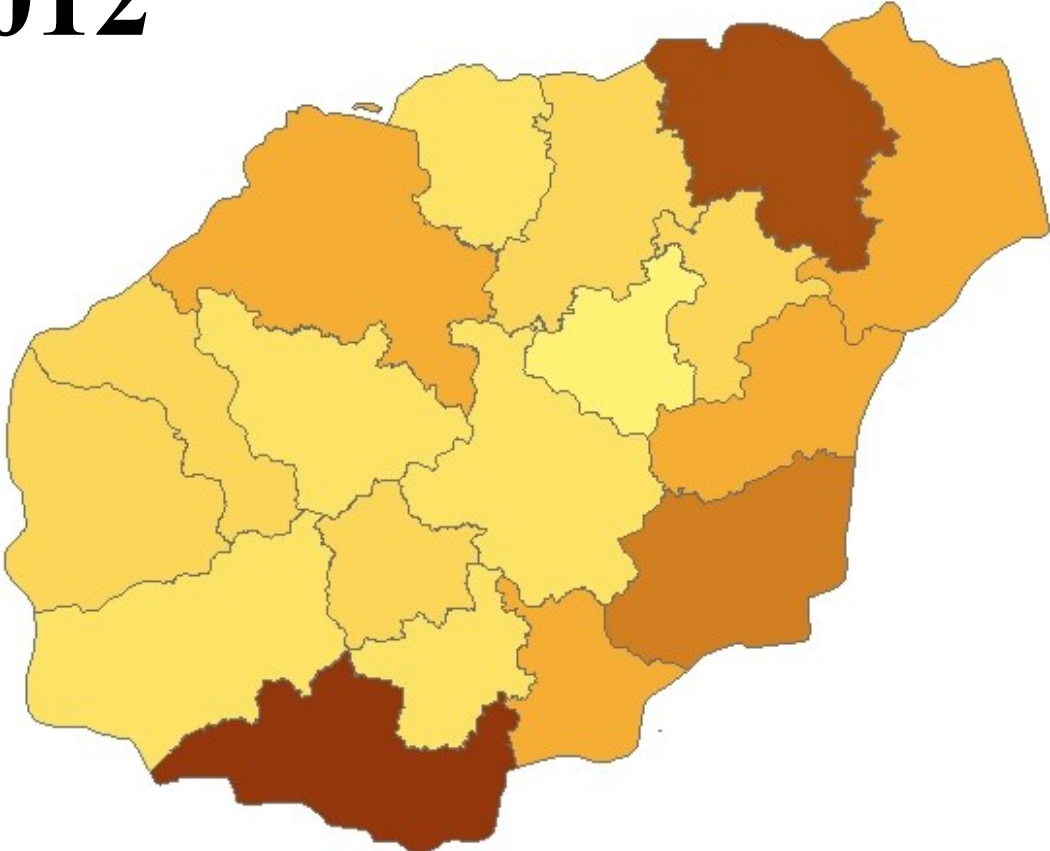
Tourist Numbers 2011



Person-time visits (10,000)

- 1-20
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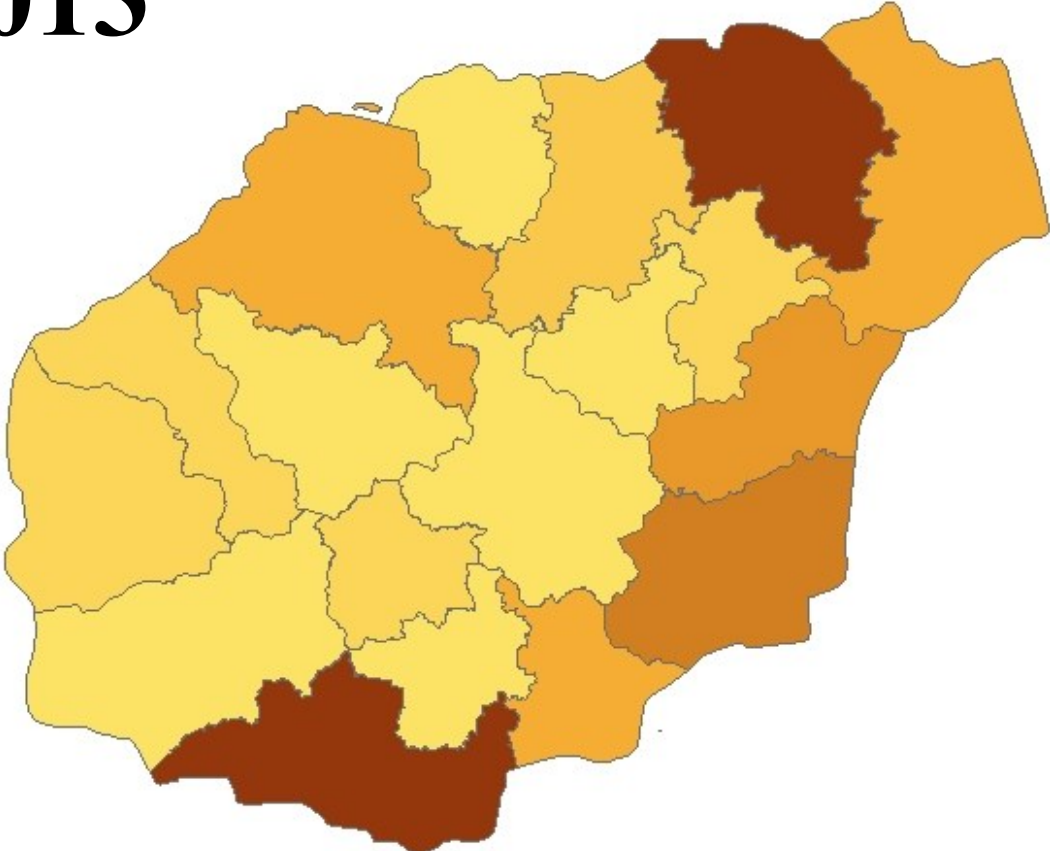
Tourist Numbers 2012



Person-time visits (10,000)

- 1-20
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- 1001-1500

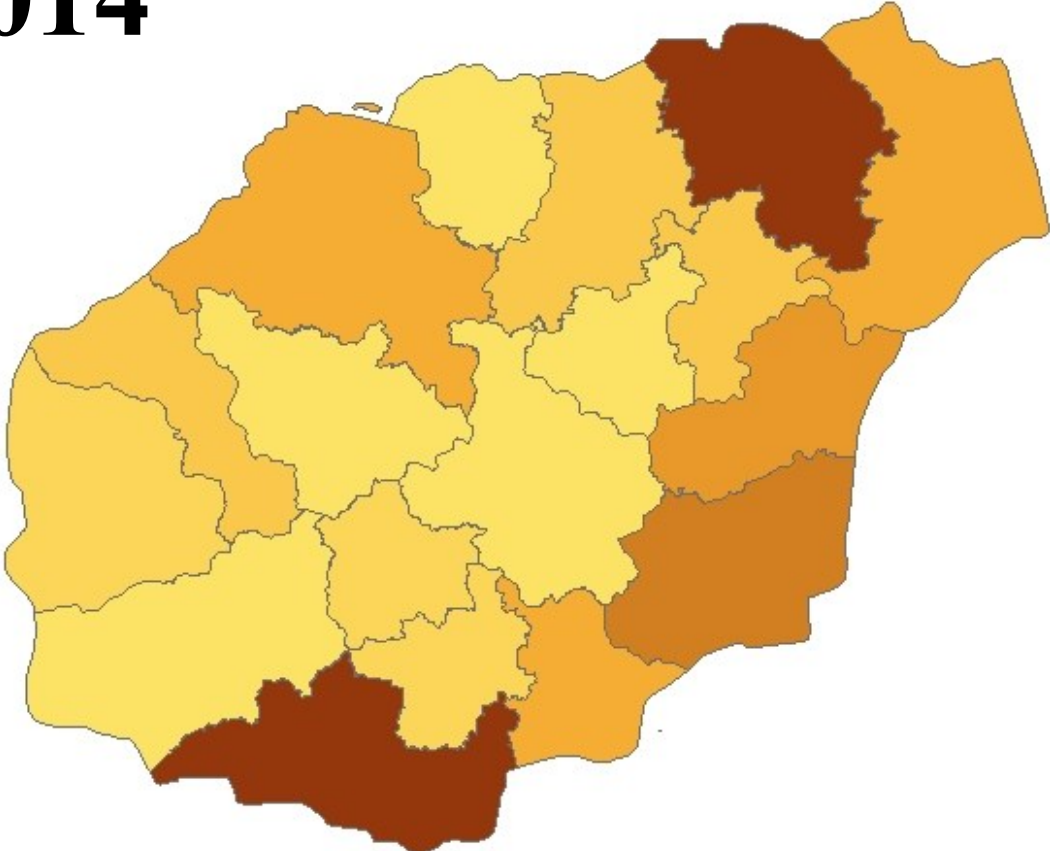
Tourist Numbers 2013



Person-time visits (10,000)

- 1-20
- 21-40
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- 501-1000
- 1001-1500

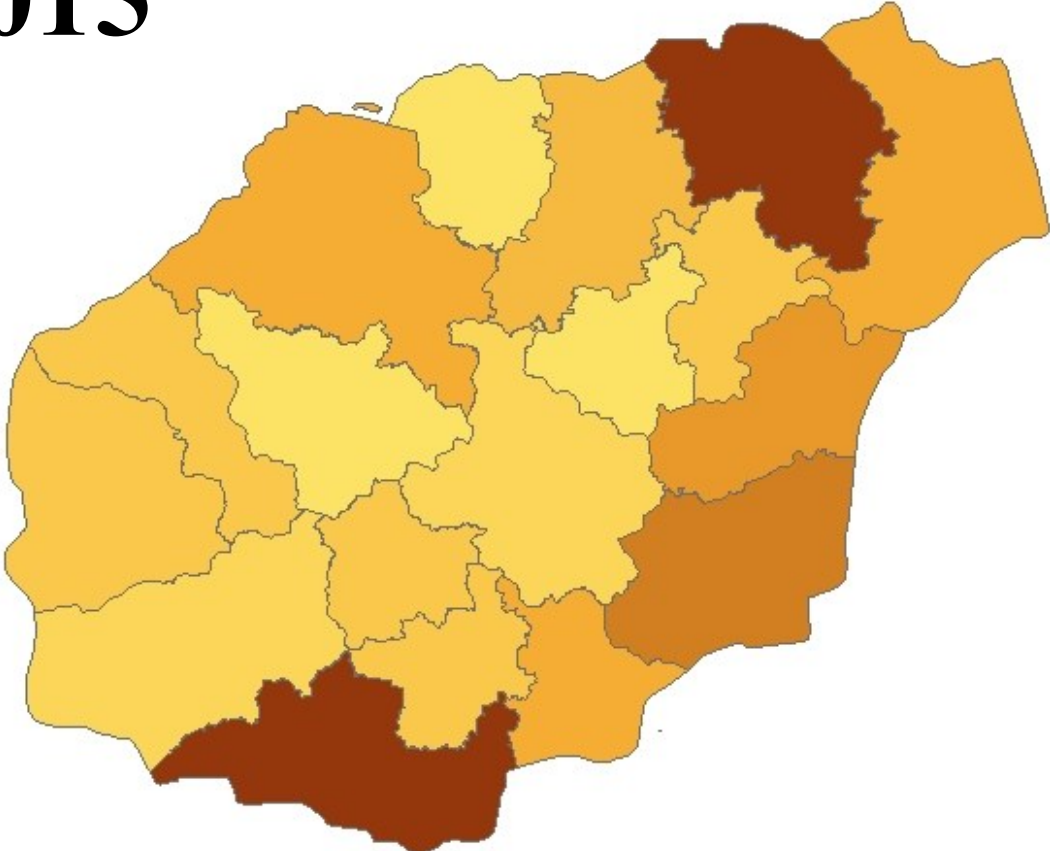
Tourist Numbers 2014



Person-time visits (10,000)

- 1-20
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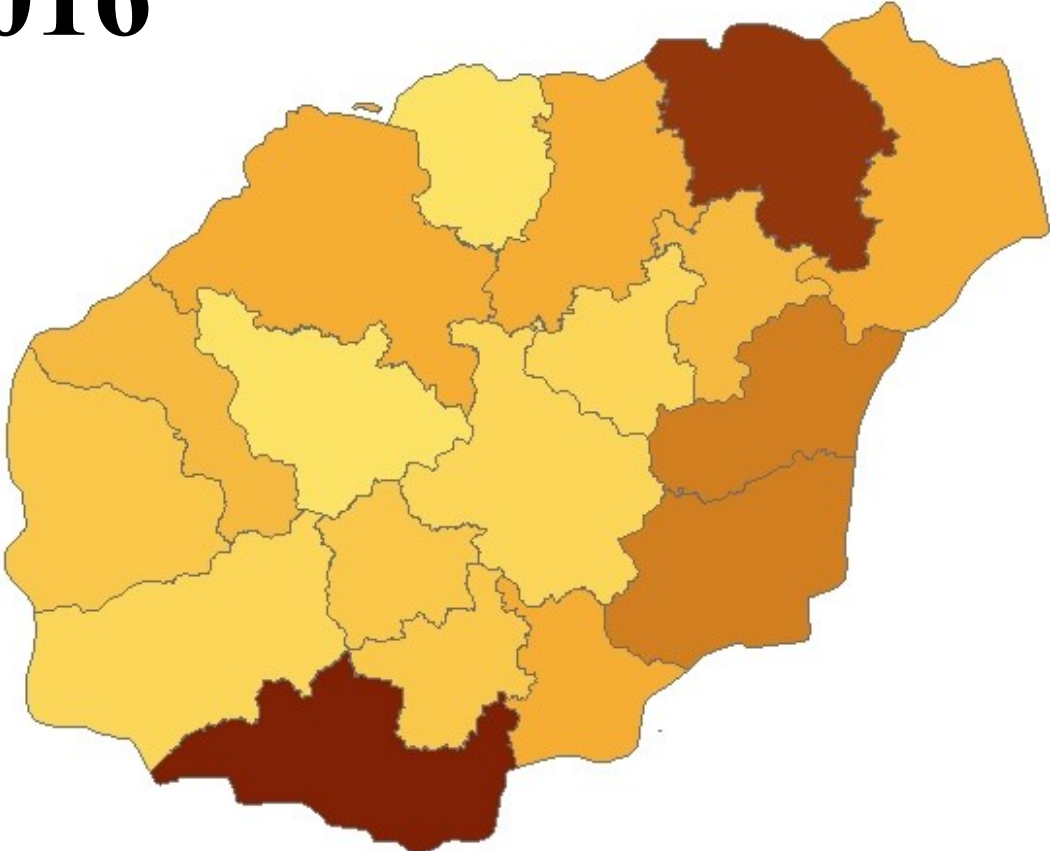
Tourist Numbers 2015



Person-time visits (10,000)

- 1-20
- 21-40
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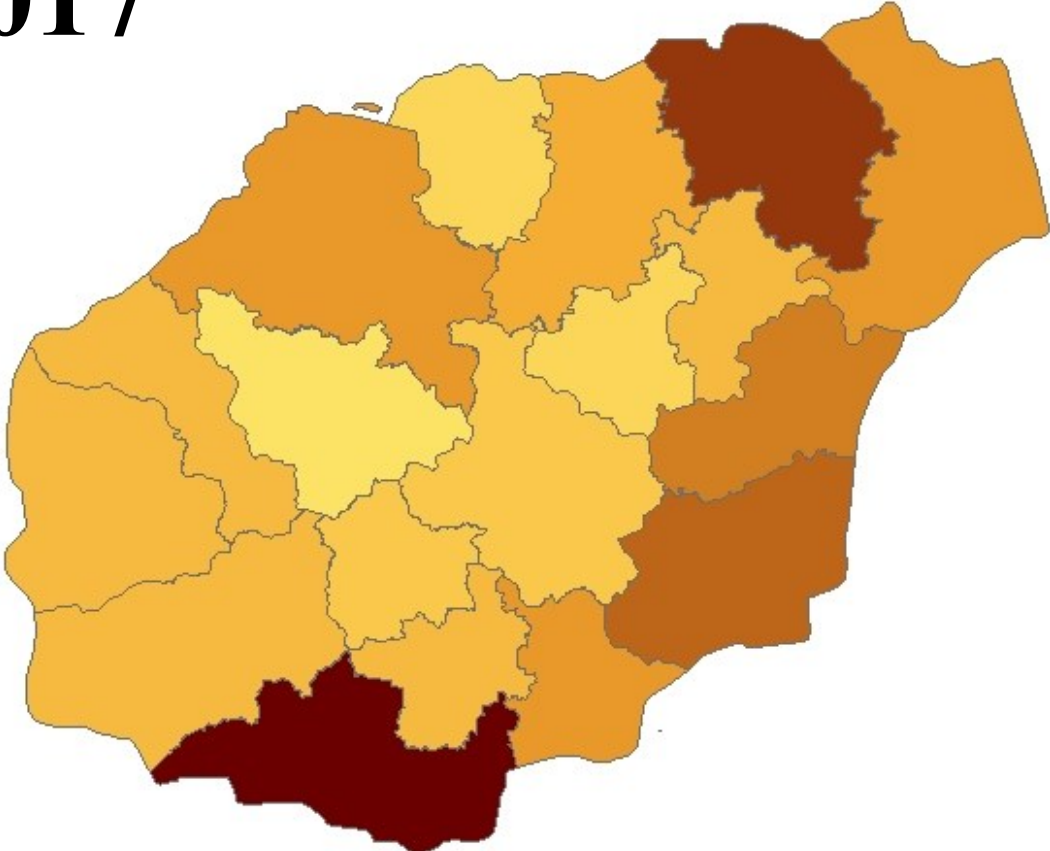
Tourist Numbers 2016



Person-time visits (10,000)

- 1-20
- 21-40
- 41-60
- 61-80
- 81-100
- 101-200
- 201-300
- 301-400
- 401-500
- 501-1000
- 1001-1500
- 1501-2000

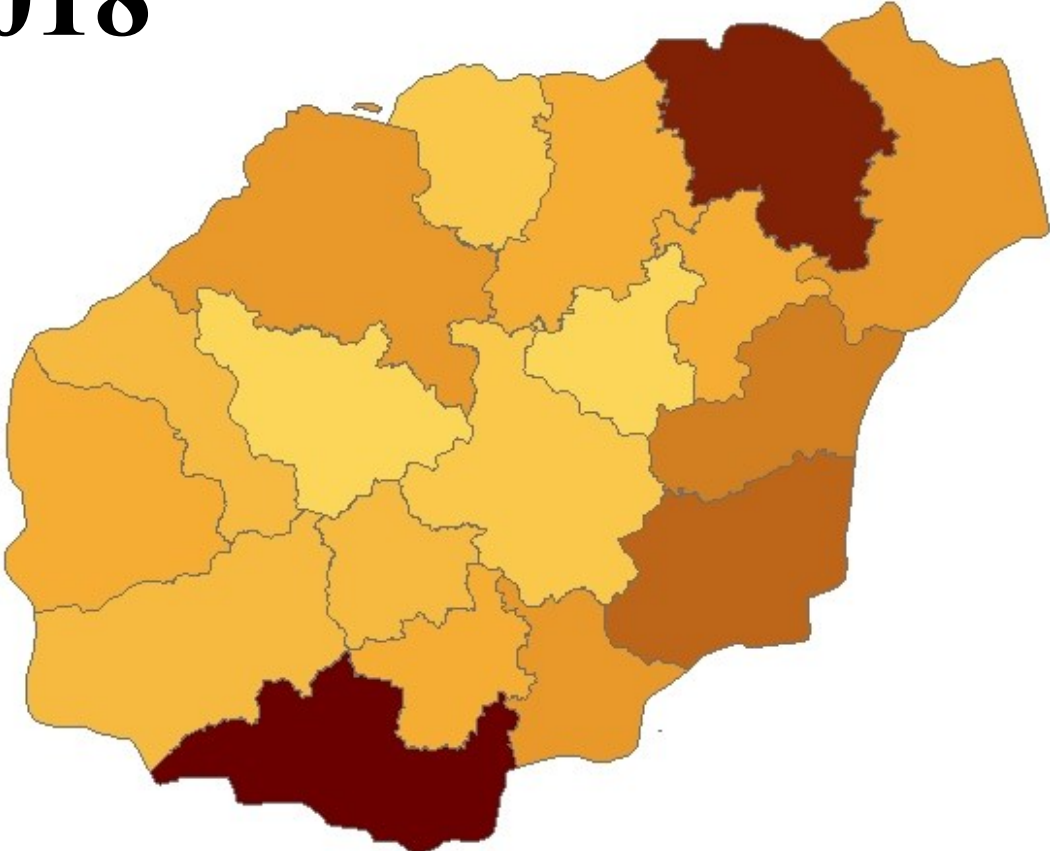
Tourist Numbers 2017



Person-time visits (10,000)

- 1-20
- 21-40
- 41-60
- 61-80
- 81-100
- 101-200
- 201-300
- 301-400
- 401-500
- 501-1000
- 1001-1500
- 1501-2000
- > 2000

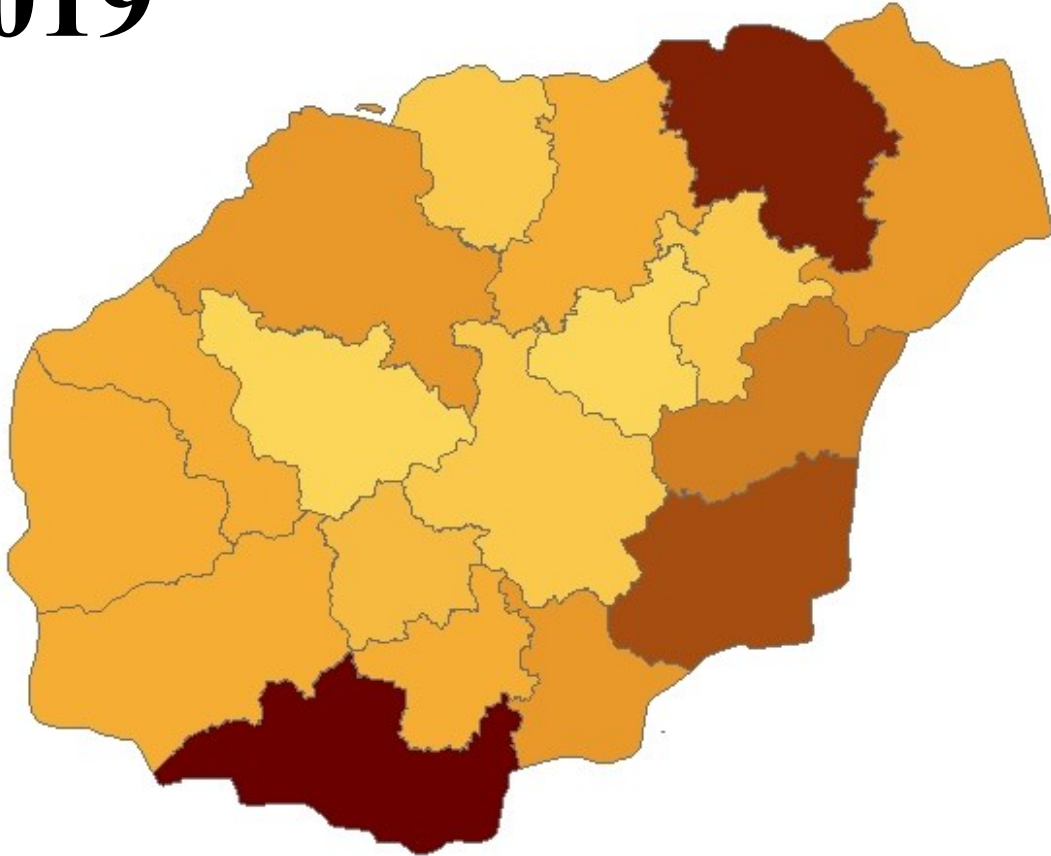
Tourist Numbers 2018



Person-time visits (10,000)

- 1-20
- 21-40
- 41-60
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- 201-300
- 301-400
- 401-500
- 501-1000
- 1001-1500
- 1501-2000
- > 2000

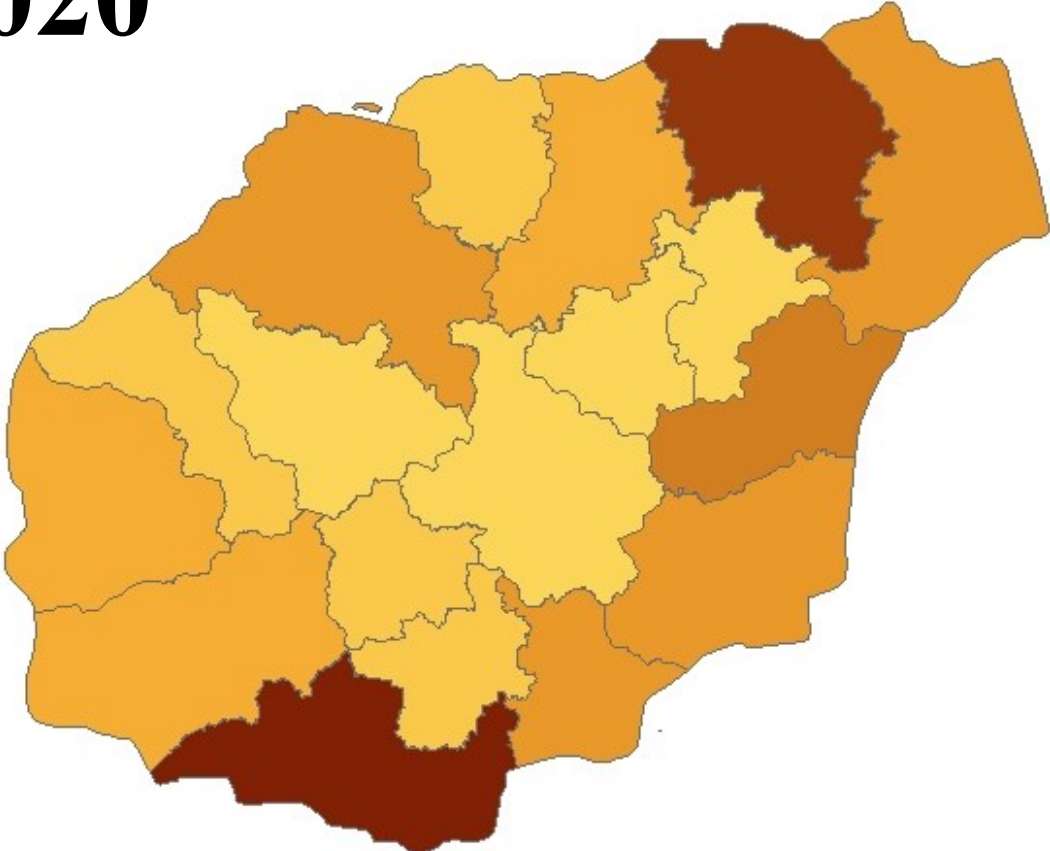
Tourist Numbers 2019



Person-time visits (10,000)

- 1-20
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- 1001-1500
- 1501-2000
- > 2000

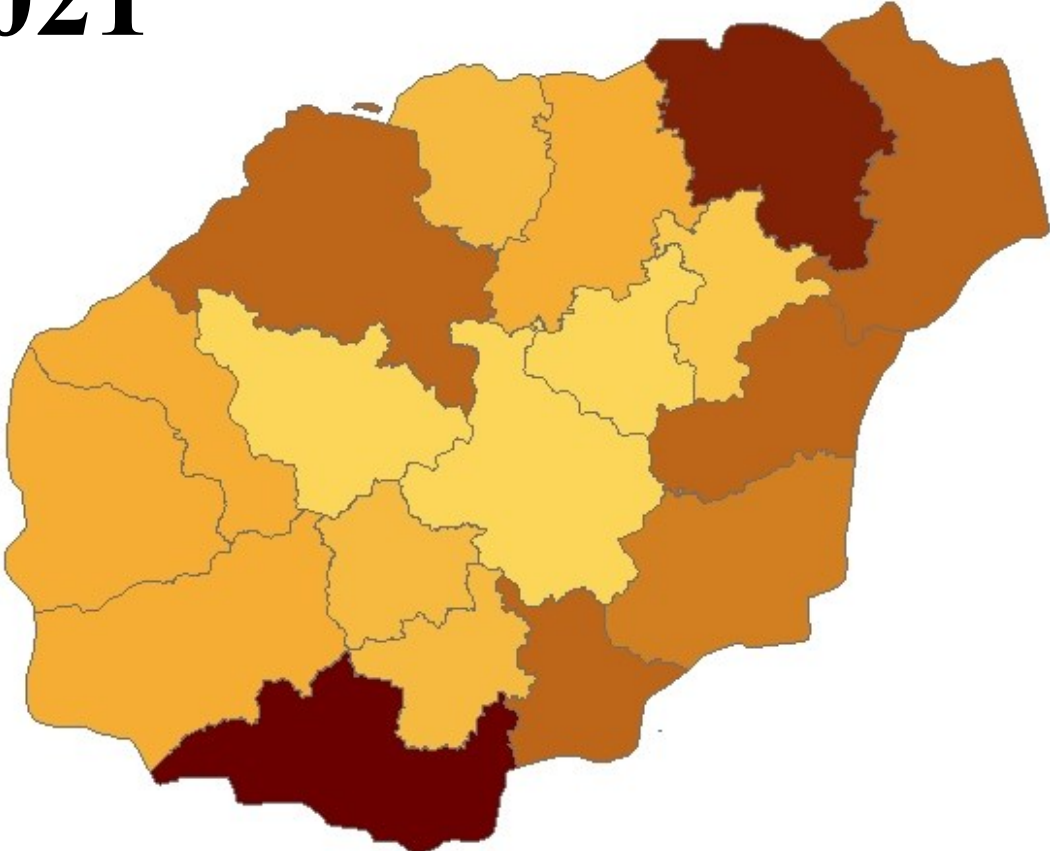
Tourist Numbers 2020



Person-time visits (10,000)

- 1-20
- 21-40
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- 401-500
- 501-1000
- 1001-1500
- 1501-2000
- > 2000

Tourist Numbers 2021



Person-time visits (10,000)

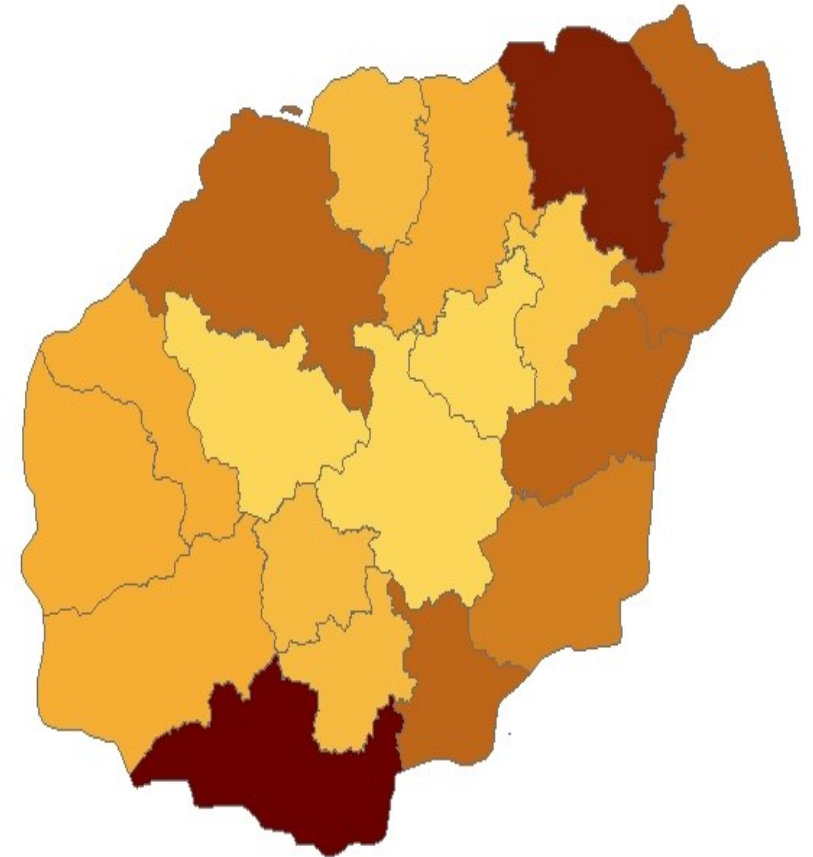
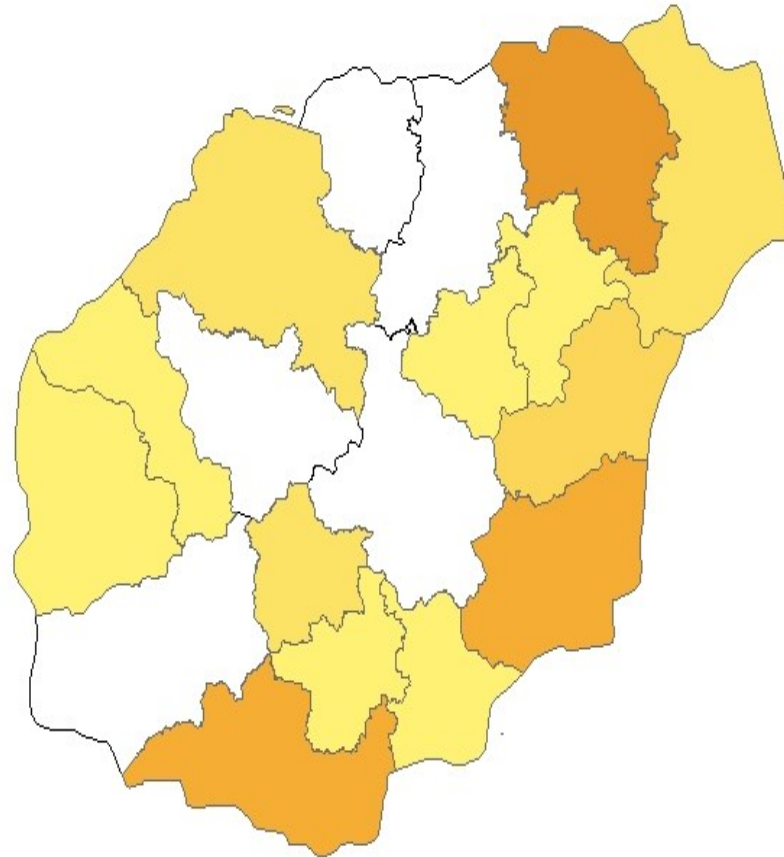
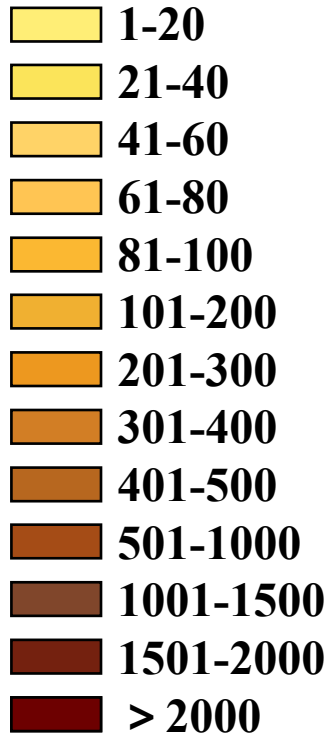
- 1-20
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- 101-200
- 201-300
- 301-400
- 401-500
- 501-1000
- 1001-1500
- 1501-2000
- > 2000

Tourist Numbers

Person-time visits (10,000)

1999

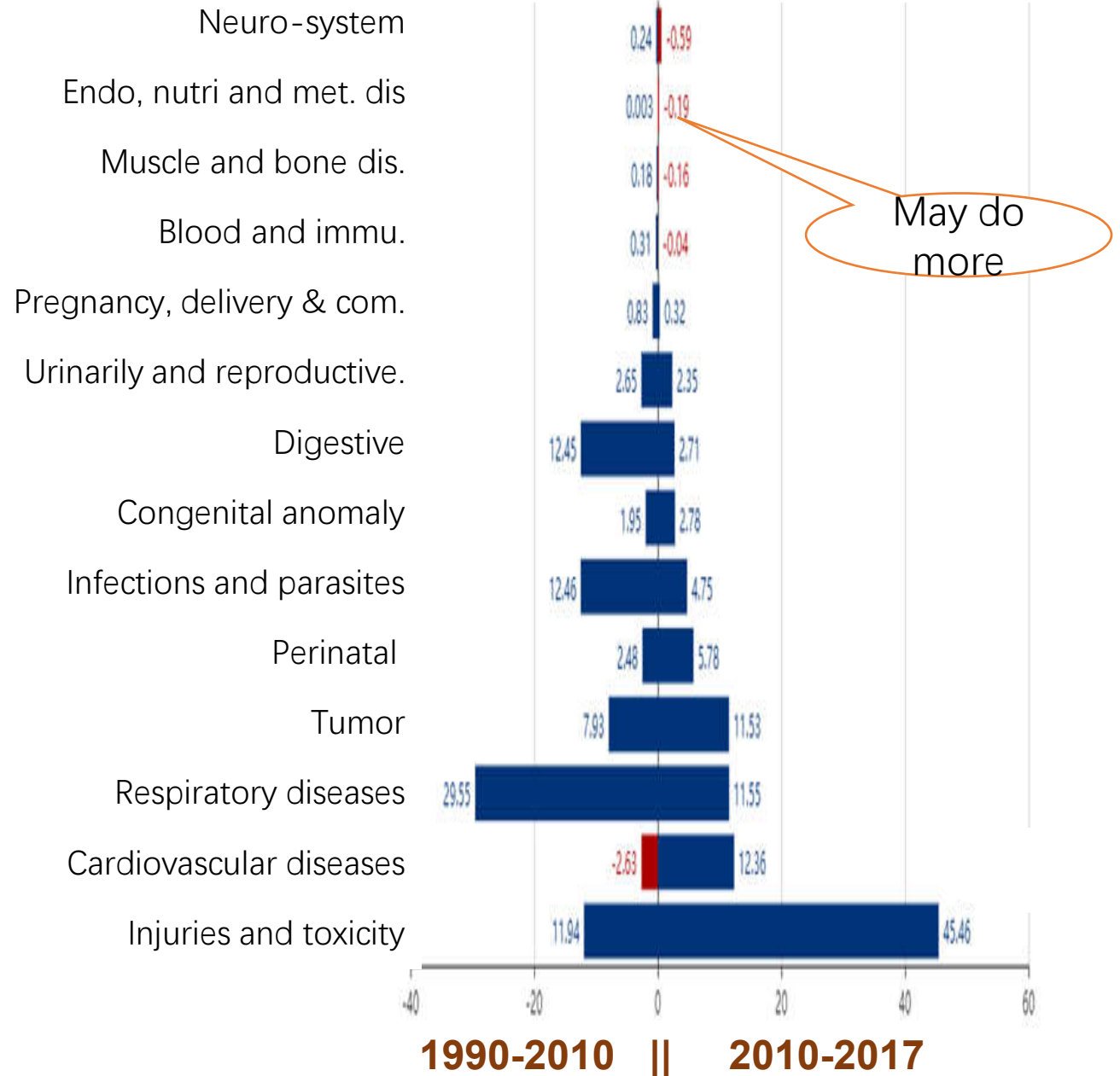
2021



**Re-analysis of the local health landscape:
Examining favorable and unfavorable factors**

Contribution to life expectancy

1990-2010
&
2010-2017



Population: Child stature and weight

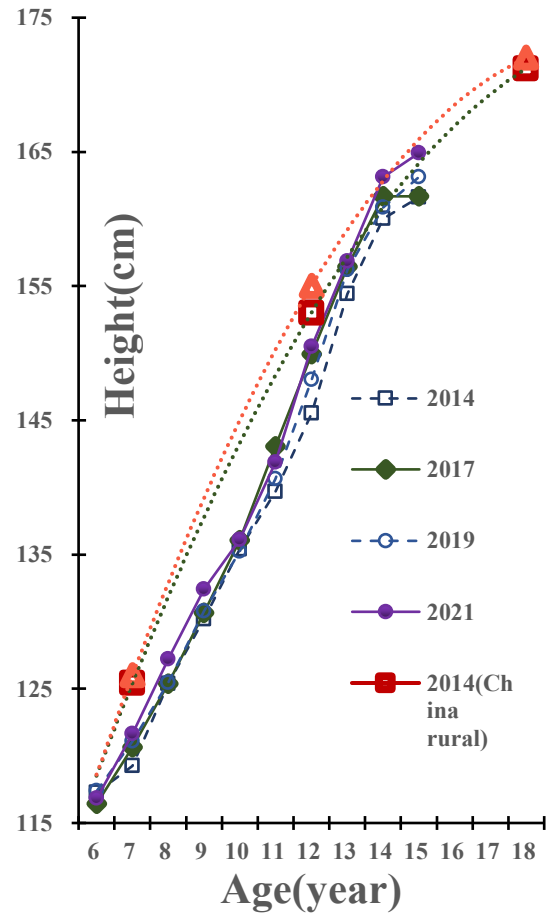


Fig.1 Height by age from 2014-2021

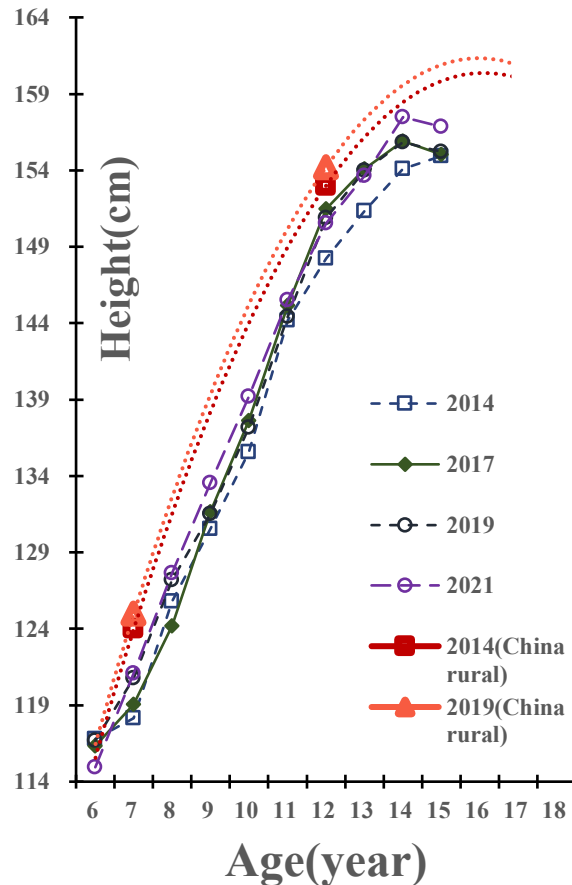


Fig.2 Height by age from 2014 to 2021

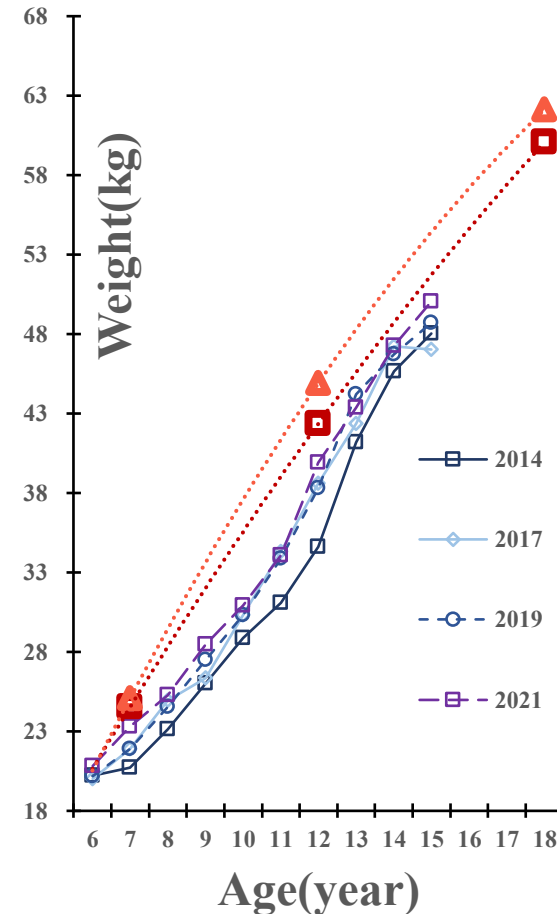


Fig.3 Weight by age groups from 2014-2021

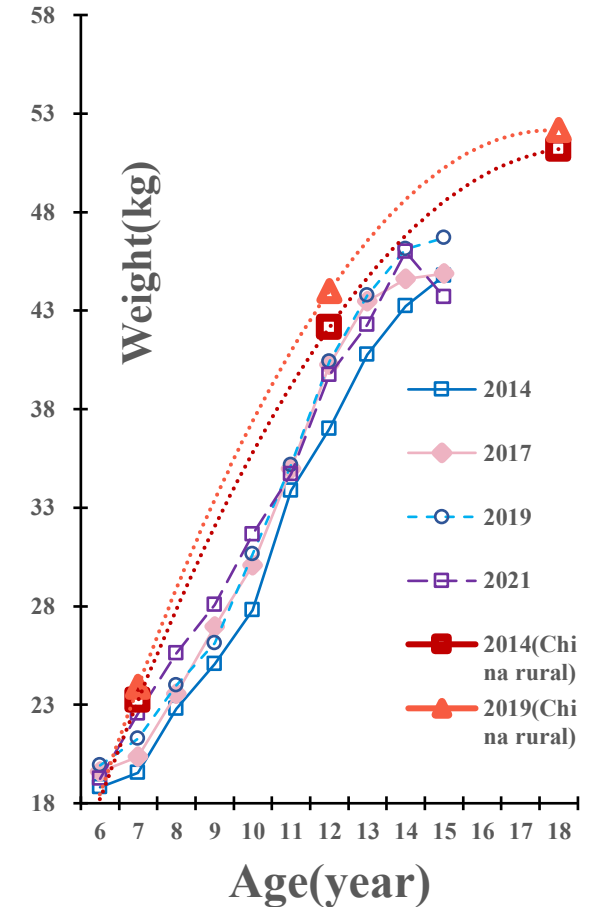


Fig.4 Weight by age groups from 2014-2021

Hainan children exhibit lower height and body weight compared to their counterparts in other parts of China

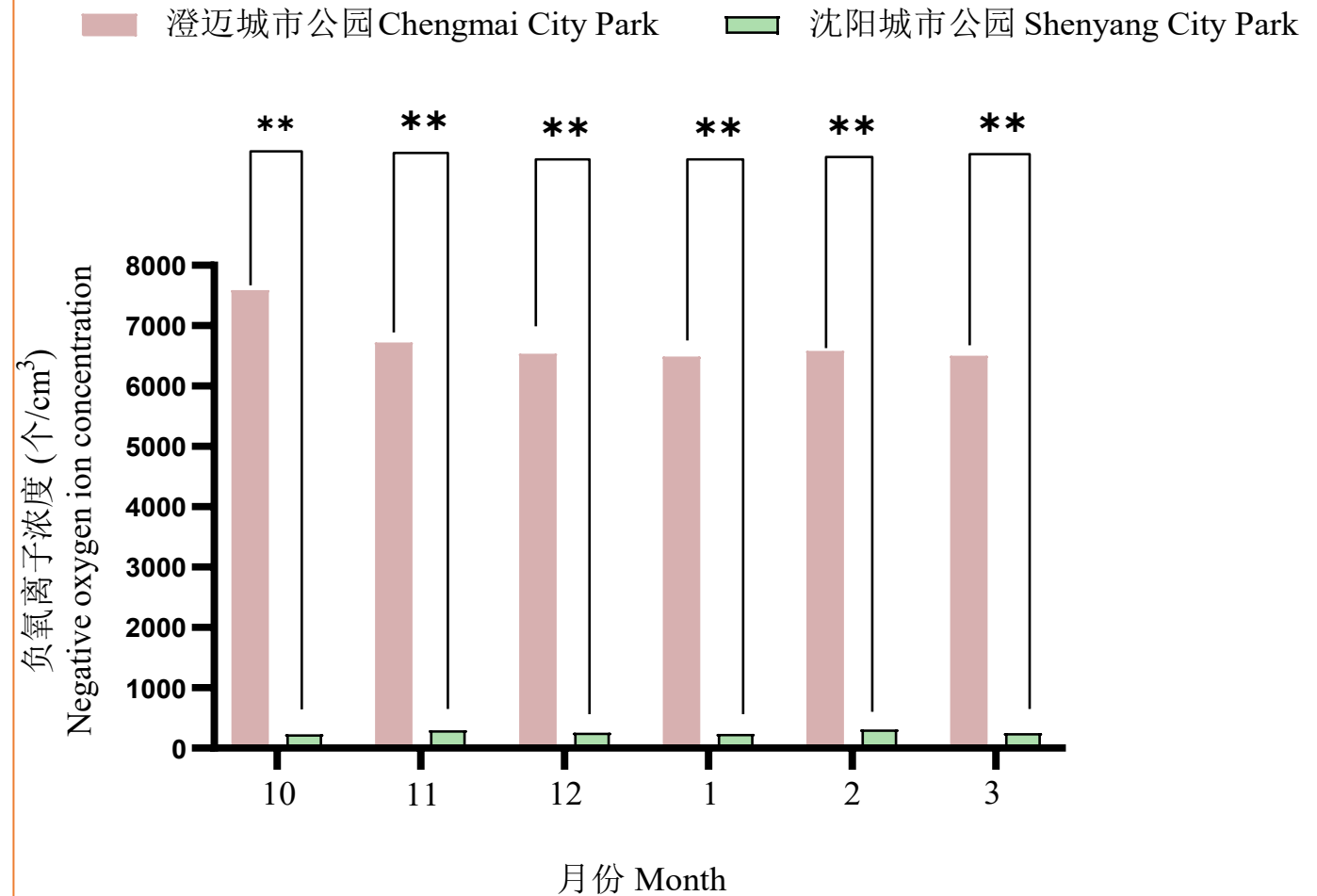
Environment: Negative air ions (NAIs)

High concentration of Negative air ions, vs. China North (Chengmai vs. Shenyang)

- Negative air (oxygen) ions
- Hainan Chengmai: 6725 particles/cm³
- vs.
- Liaoning Shenyang: 262 particles/cm³

- Hainan Chengmai:
- NAI is negatively cor w CO
- positively cor w wind speed & humidity.

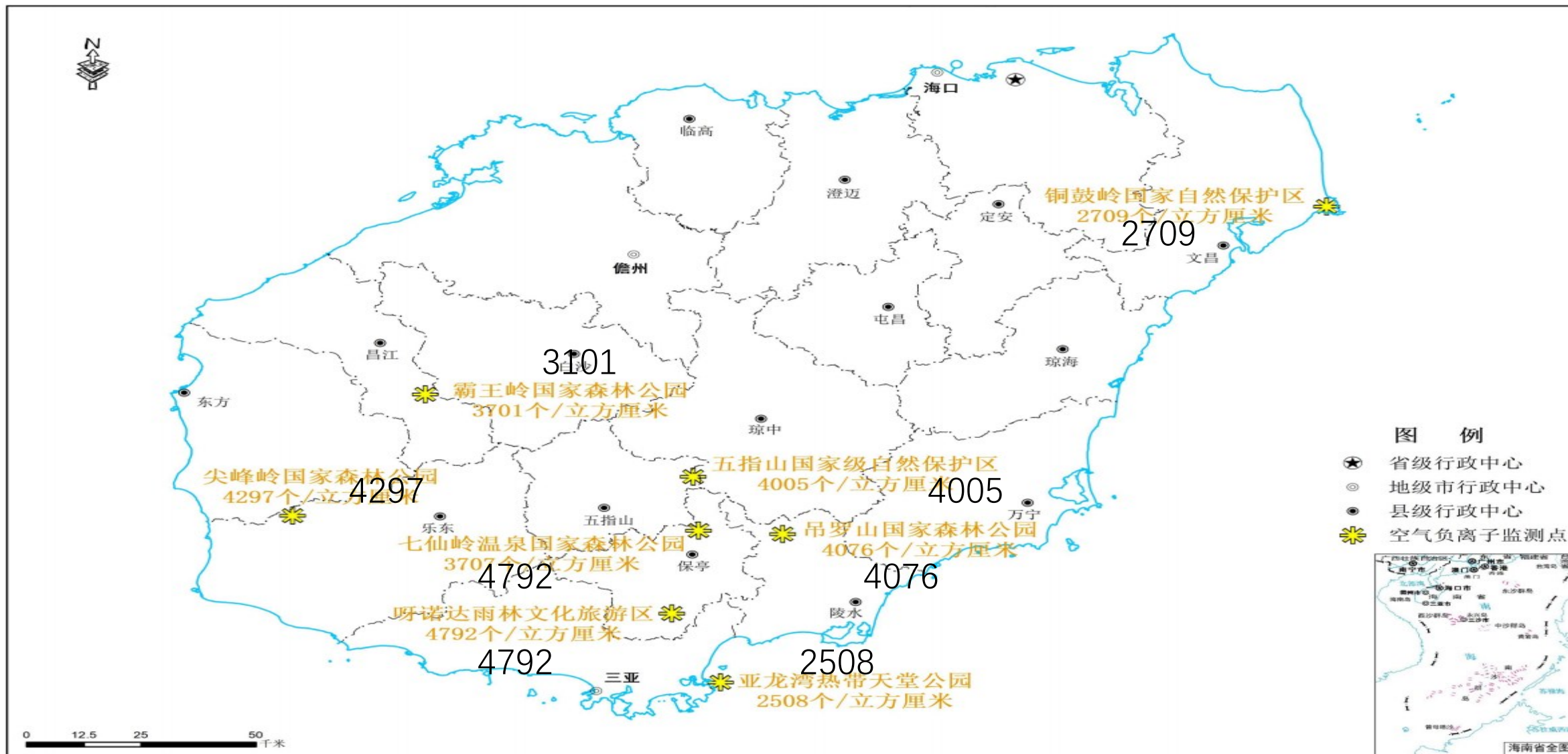
- Liaoning Shenyang
- NAI is positively cor w O₃ and humidity



October 2021 to March 2022

Ref: Sha Xiao and Qiaochun Chen, 2023

Environment: Concentrations of NAIs ($10,000/\text{cm}^3$)



Ref: 李欣起等. 2010-2020年海南省五大森林公园负氧离子浓度与环境因素的评价. 林业调查规划, 2023.

Immigrants: from north to Hainan



Preliminary data

Among 305 cases of migratory population with high blood pressure in Chengmai Hongshuwan Community, 65.3% (199 cases) of volunteers experienced varying degrees of blood pressure reduction, with an average decrease in systolic and diastolic blood pressure of 14 mm Hg and 10 mm Hg, respectively.

In the migratory population under 65 years of age, with a light diet, abstaining from alcohol, and normal BMI, there was a more significant reduction in blood pressure.

Environmental factors, age, dietary habits, and lifestyle were identified as the main factors influencing blood pressure.

Emerging Health Issues with RTP

Challenges

- **International Mobility and Cross-Border Transmission**
- **Diverse Population and Communication**
- **Healthcare Infrastructure and Health Workforce Development**
- **Supply Chain Disruptions**
- **Coordination with International Health Standards**
- **Emergency Response Planning**
- **Public Awareness and Education**
- **Global Health Challenges**

For example: Infectious diseases

Experience from Sanya Epidemic 2022:
Fishermen's **offshore transactions**



Prediction: unpredicted risk but predicted
increase of the risk

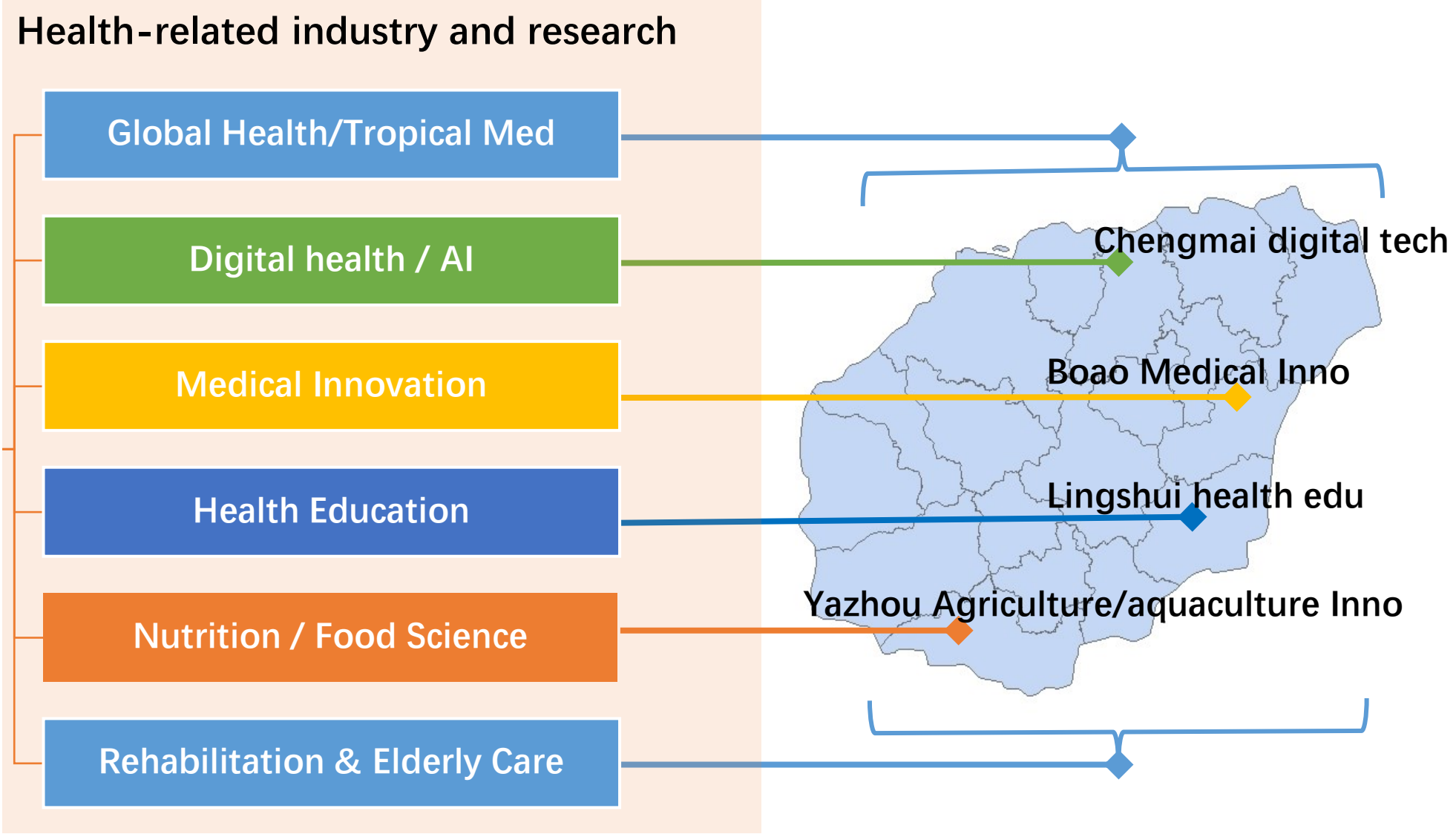


The construction of a free trade port in Hainan is an ambitious plan, but it may face some challenges in epidemic prevention and control

Opportunities

- **Medical Tourism**
- **Research and Development**
- **Training and Education**
- **Technology Integration**
- **Collaboration with International Healthcare Institutions**
- **Public-Private Partnerships**
- **Wellness and Prevention Programs**

For example: opportunities on agenda



Hainan Medical University:

- School of Public Health: we train students for traditional disease prevention and control, medical research, and health innovation & translation of knowledge to practice
- More support from government and new powerful leadership



Provincial gov documented: "Make the School of Public Health of Hainan Medical University strong"

Using deterministic knowledge and experience to deal with uncertainties that may arise in the future, better grasping the development of the future





Thank you for your time