Senior Seminar
Spatial Economics

- Undergraduate students in economics are rarely introduced to spatial issues

- Result: basic economic models represent a very stylized world

- The inclusion of the spatial dimension offers two major opportunities:
  - Make economics more relevant to students
  - Introduce more complex analysis

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- The general idea for this course is to revisit some economic issues introducing the spatial dimension
- Some examples:
  - Perfect competition
  - Monopolistic behavior
  - Monopolistic competition
  - Trade theories
- Some interesting implications
  - Pricing decisions
  - Location decisions
  - Clustering of economic activities
  - Trade flows and regional development

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- The plan:
- Select a group of models that clearly "fail in space"
- Review the model
- Identify where the model fails
- Go back to the model and include the spatial dimension

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The case of perfect competition and the location of industries:

An economy that works in a perfectly competitive environment generate a relatively uniform distribution of companies that try to serve their customer base at the lowest transportation costs while avoiding competing against each other
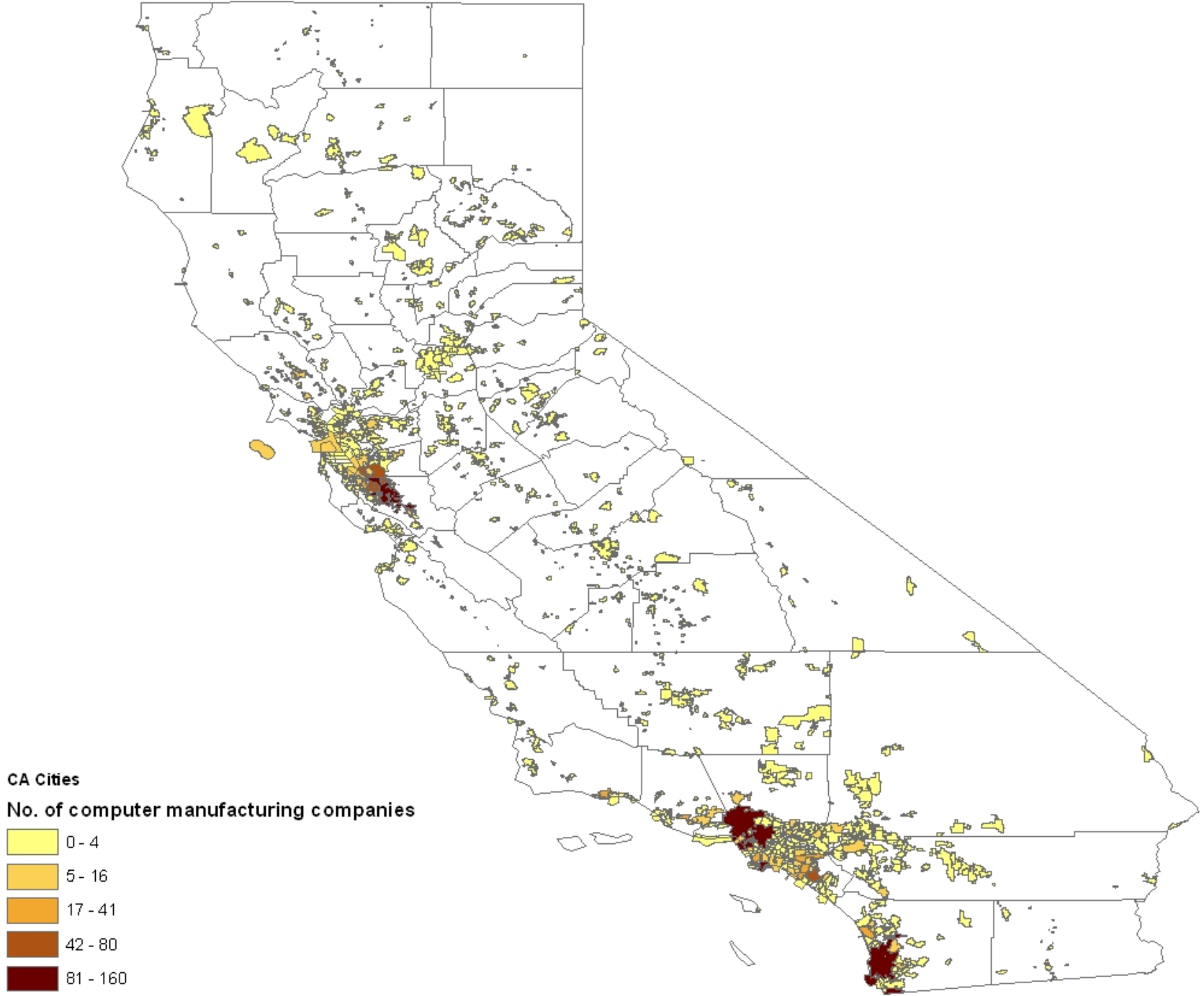
Visual Exploration
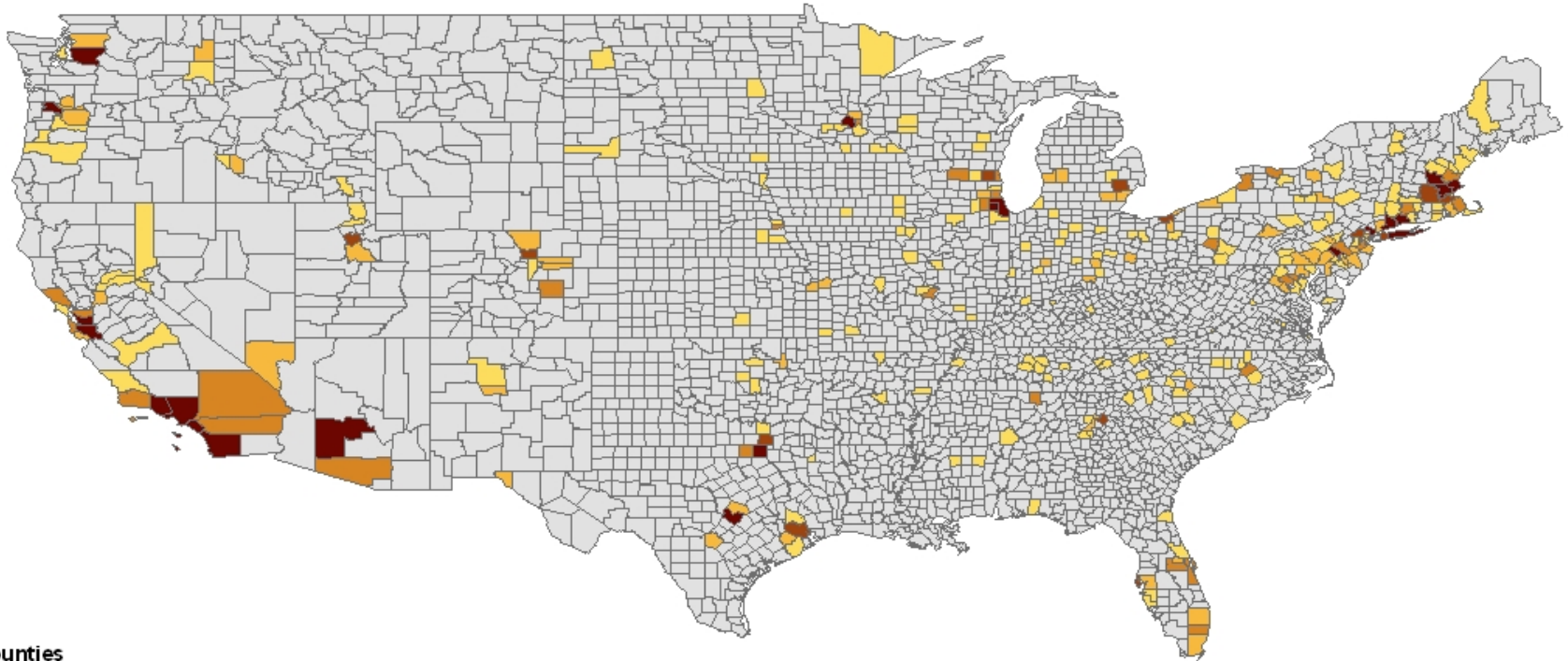
US Counties

No. of computer manufacturing companies

- ☐ 0
- ☐ 1 - 10
- ☐ 11 - 20
- ☐ 21 - 30
- ☐ 31 - 40
- ☐ 41 - 455
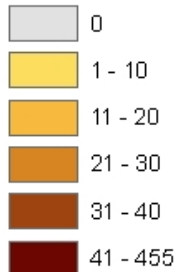
CA Cities

No. of computer manufacturing companies

☐	0 - 4
☐	5 - 16
☐	17 - 41
☐	42 - 80
☐	81 - 160

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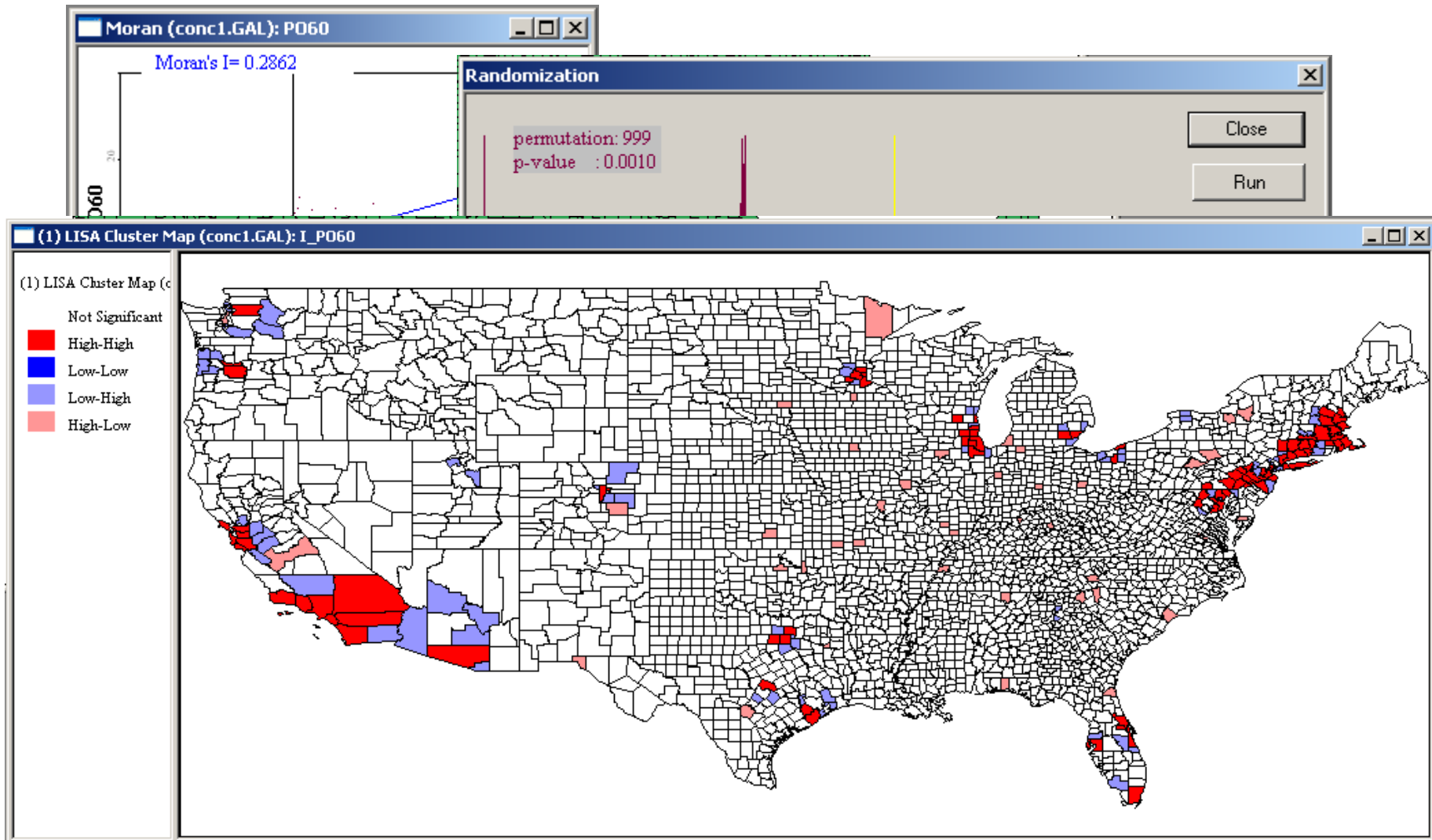
But is what we see statistically significant?

Review of some statistics concepts:
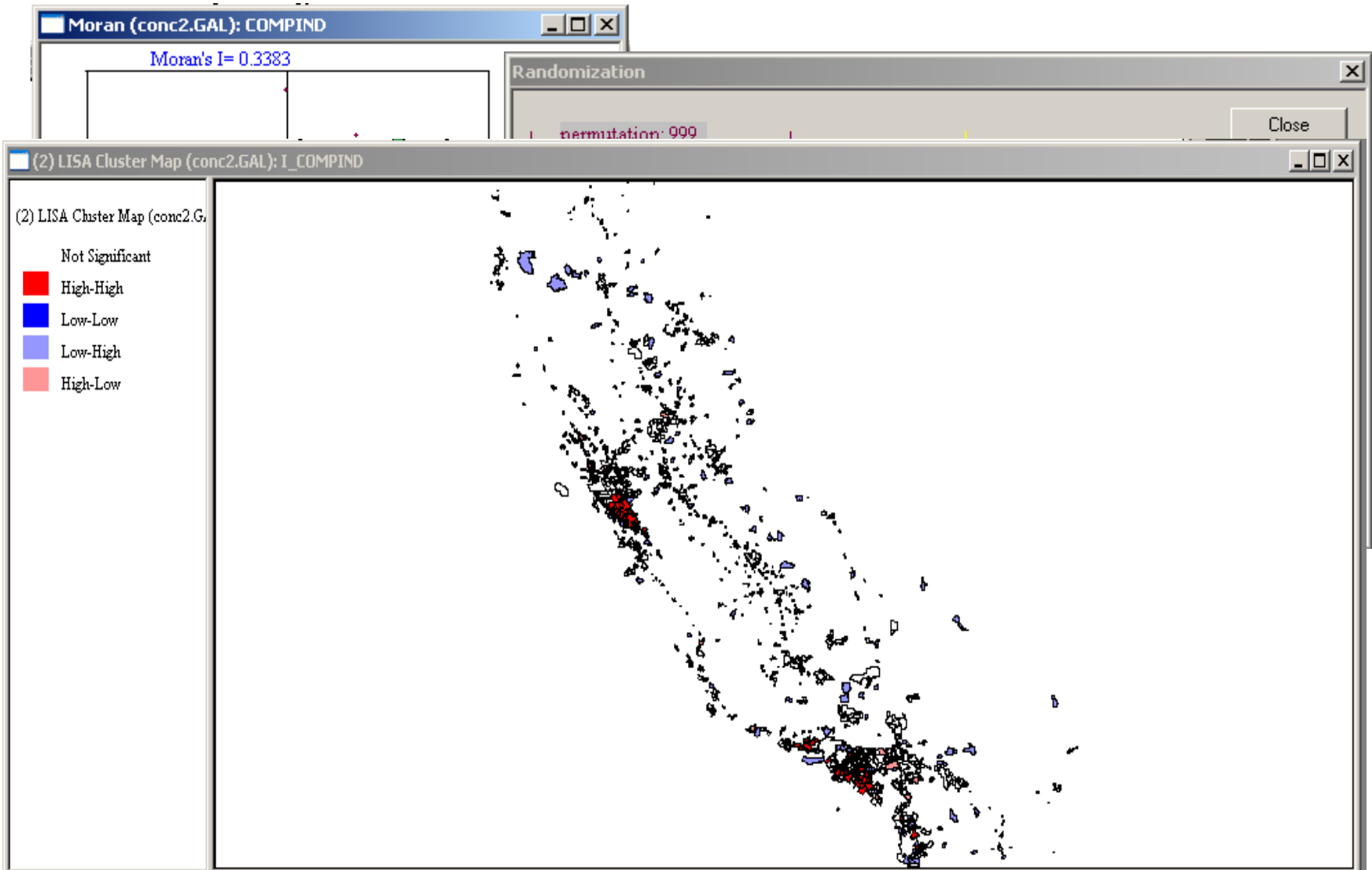
- Significance test
- Correlation

Introduction one more statistical tool:

- Correlation in space: the Moran's I

Is clustering statistically significant?

Is clustering statistically significant?

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- Assessment tools (related to space):
  - Assignments based on data exploration and analysis
  - Students are asked to revise one of their previously written papers and include the space dimension