Outlines

• 9:30-9:40 Dot density map
  – When to use dot map
  – The effect of unit value of dots
  – The effect of size of enumeration units

• 9:40-9:50 Choosing the right projection
  – Principles
  – Map projection for world population map
  – Exercises

• 9:50-10:20 In-class discussion
Dot density map

- When to use dot map
- The effect of unit value of dots
- The effect of size of enumeration units
When not to use dot map?

- Number of elephants in Africa
- Number of AIDS cases in South Africa
- Tonnage shipped at ports in the U.S.
- Wheat harvested in Kansas
Unit value of dots

• Too large unit value $\rightarrow$ small # dots $\rightarrow$ emptiness
  – Good/bad things about emptiness?
• Too small unit value $\rightarrow$ large # dots $\rightarrow$ crowdedness
  – Good/bad things about crowdedness?
• Should find the right balance such that problems can be avoided
Size of enumeration units

• Where jobs are in Seattle? Compare
  – Case 1: enumeration unit = census tract
  – Case 2: enumeration unit = county

• How would you argue for the smaller enumeration unit given random placement of computer mapping? Any alternative with working with large enumeration unit?
Choosing the right map projection

• Minimize the distortion
  – Portraying the conterminous U.S.
  – Where are standard lines?

• Match with intended map uses
  – Why conformal for navigator?
Map projection for world population distribution map

- Class? {cylindrical, conic, planar}
- Property? {equivalent, equidistant, conformal}
- Aspect? {equatorial, polar, oblique}
### Class/property matrix

<table>
<thead>
<tr>
<th></th>
<th>Equal-area</th>
<th>Conformal</th>
<th>Equidistant</th>
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</thead>
<tbody>
<tr>
<td>Cylindrical</td>
<td>A1</td>
<td>A2</td>
<td>A3</td>
</tr>
<tr>
<td>Conic</td>
<td>C1</td>
<td>C2</td>
<td>C3</td>
</tr>
<tr>
<td>Planar</td>
<td>D1</td>
<td>D2</td>
<td>D3</td>
</tr>
</tbody>
</table>

- a. Agricultural regions in Russia
- b. World ocean currents map
- c. Natural resources in Africa
- d. Proximity map of Seattle
<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
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</thead>
<tbody>
<tr>
<td>9:50-9:55</td>
<td>Three persons form one group</td>
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<tr>
<td>9:55-10:00</td>
<td>Decide which question to answer (each group should work on the same question)</td>
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<tr>
<td>10:00-10:05</td>
<td>Write essay on the question</td>
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<tr>
<td>10:05-10:10</td>
<td>“Written comment”</td>
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<tr>
<td>10:10-10:15</td>
<td>“Verbal comment”</td>
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<tr>
<td>10:15-10:20</td>
<td>Wrap-up</td>
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