Learning History with Maps!

Teacher Workshop

NEW-YORK HISTORICAL SOCIETY
MUSEUM & LIBRARY
MAKING HISTORY MATTER
The Mercator Projection
The Gall-Peters Projection
The Hobo-Dyer Equal Area Projection

This new map belongs to the family of Cylindrical Equal Area projections in which the latitude and longitude lines form a rectangular grid. Other projections in this family include the Lambert, Gall, Behrmann, Edwards, and Peters projections. In the present case, the “cylinder” is assumed to wrap round the globe and cut through it at 37° north and south. In order to preserve the equal area property the shapes of the landmasses become progressively flattened towards the poles, but shapes between 45° north and south are well preserved.
The True Size of Africa

The True Size of Africa
A small contribution in the fight against rampant inmappancy, by Kai Krause

Graphic layout for visualization only (some countries are cut and rotated)
But the conclusions are very accurate: refer to table below for exact data

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>AREA ≥ 1000 km²</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>9,597</td>
<td>0.31</td>
</tr>
<tr>
<td>USA</td>
<td>9,620</td>
<td>0.31</td>
</tr>
<tr>
<td>India</td>
<td>3,287</td>
<td>0.10</td>
</tr>
<tr>
<td>Mexico</td>
<td>1,964</td>
<td>0.06</td>
</tr>
<tr>
<td>Peru</td>
<td>1,285</td>
<td>0.04</td>
</tr>
<tr>
<td>France</td>
<td>633</td>
<td>0.02</td>
</tr>
<tr>
<td>Spain</td>
<td>506</td>
<td>0.01</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>462</td>
<td>0.01</td>
</tr>
<tr>
<td>Sweden</td>
<td>441</td>
<td>0.01</td>
</tr>
<tr>
<td>Japan</td>
<td>378</td>
<td>0.01</td>
</tr>
<tr>
<td>Germany</td>
<td>357</td>
<td>0.01</td>
</tr>
<tr>
<td>Norway</td>
<td>524</td>
<td>0.01</td>
</tr>
<tr>
<td>Italy</td>
<td>301</td>
<td>0.01</td>
</tr>
<tr>
<td>New Zealand</td>
<td>270</td>
<td>0.01</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>243</td>
<td>0.01</td>
</tr>
<tr>
<td>Nepal</td>
<td>147</td>
<td>0.01</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>144</td>
<td>0.01</td>
</tr>
<tr>
<td>Greece</td>
<td>132</td>
<td>0.01</td>
</tr>
<tr>
<td>TOTAL</td>
<td>30,102</td>
<td></td>
</tr>
<tr>
<td>AFRICA</td>
<td>30,221</td>
<td></td>
</tr>
</tbody>
</table>

In addition to the well known social issues of illiteracy and innumeracy, there also should be such a concept as "inmappancy", meaning insufficient geographical knowledge.

A survey with random American schoolkids let them guess the population and land area of their country. Not entirely unexpected, but still rather unsettling, the majority chose "1-2 billion" and "largest in the world", respectively.

Even with Asian and European college students, geographical estimates were often off by factors of 2-3. This is partly due to the highly distorted nature of the predominantly used mapping projections (such as Mercator).

A particularly extreme example is the worldwide misjudgement of the true size of Africa. This single image tries to embody the massive scale, which is larger than the USA, China, India, Japan and all of Europe...combined!
Take the quiz! Compare country size. Which of the images on both sides of this placemat are "area accurate?" How is the Hobo-Dyer projection below different from the one on the reverse side? Answers and details about all the images are at www.odt.org/hdp. To the right:
(5) Van Sant's Geosphere,
(6) Guelke's Toronto-centered projection,
(7) the Oxford Globe, and
(8) Goode's Homolosine

The Hobo-Dyer Equal Area Projection

This new map belongs to the family of Cylindrical Equal Area projections in which the latitude and longitude lines form a rectangular grid. Other projections in this family include the Lambert, Gall, Robinson, Eckert, and Peters projections. In the present case the "cylinder" is assumed to wrap round the globe and cut through it at 270° north and south. In order to preserve the equal area property the shapes of the landmasses become progressively flattened towards the poles, but shapes between 45° north and south are well preserved.
According to historical maps, how has New York City changed over time?
Map Vocabulary

- **Title** – name of the map
- **Date** – when it was made and/or when it depicts
- **Author** – who made the map
- **Color Scheme** – what different colors represent on the map
- **Compass Rose** – shows cardinal directions
- **Legend or Key** – defines symbols
- **Scale** – relative size of map features compared to their actual size
Map Analysis Vocabulary

- **Perspective** – point of view of a map
- **Scope** – which parts of an area are included in a map
- **Chronological order** – putting items in line from oldest to newest
Map Analysis Share Out

On an index card, include the following information about your map:

- Name, date, author
- 1-2 sentences summarizing what life in New York was like at this time, as seen in this map.
  - As you write, consider how this map reflects change in New York.
Map Analysis Share Out

Sample:

Redraft of the Castello Plan, New Amsterdam in 1660, 1916, John Wolcott Adams and I.N. Phelps Stokes

The Castello Plan shows the development of New Amsterdam as a permanent settlement and trade hub, as evidenced by the busy harbor, protective wall, and prominent fort. The colony needed protection from the Native Americans it displaced as well as imperial rivals.
David Grim, *A Plan of the City and Environs of New York as they were in the years 1742, 1743 & 1744*, 1813. New-York Historical Society Library.

Collection of the New-York Historical Society
<table>
<thead>
<tr>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundaries of Wards</td>
</tr>
<tr>
<td>Avenues, Streets estab. by Ordinance</td>
</tr>
<tr>
<td>Dr. Opened or being regulated</td>
</tr>
<tr>
<td>Section of City built</td>
</tr>
<tr>
<td>Public Squares or Parks</td>
</tr>
<tr>
<td>Public Buildings, Churches, etc</td>
</tr>
<tr>
<td>Country Seats &amp; Ornamental Gardens</td>
</tr>
<tr>
<td>Forts and Fortifications</td>
</tr>
<tr>
<td>Mountains and Hills</td>
</tr>
<tr>
<td>Valleys, with Running Streams</td>
</tr>
<tr>
<td>Woods, Fruit-Trees, etc</td>
</tr>
<tr>
<td>Salt-Marsh, Upland-Marsh or Swamp</td>
</tr>
<tr>
<td>Grass or Common</td>
</tr>
</tbody>
</table>
REFERENCES.

FIRE DISTRICTS
Red lines and red figures from 1 to 6.

WARDS
Blue lines and black figures from 1 to 19.

RAIL ROADS
— Designates the end of the streets at which the numbers commence.

Average number of buildings per block, counting both sides of the streets, throughout the city, is twenty. So No. 100 may generally be found about five blocks from the beginning of each street. 200—ten blocks, and so on in proportion.

Scale of 4 inches to a mile.
Essential Question

According to historical maps, how has New York City changed over time?
Reflection Questions

• How did the physical geography of New York shape the city?
• Why did New York change in the way that it did when it did?
• How can studying maps help our students understand history?
• What modifications would you make to this type of activity to use it with your students?