

# **The Essential Characteristics of Large Print Maps**

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*August 9-11, 2001*

*Revised Nov. 13, 2007*

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## **Guiding Principles:**

1. Students with visual impairments need the same information as sighted students. Atlases for students with visual impairments should include everything in the atlas for typical students, but in accessible formats.
2. Where visuals cannot be adequately reproduced due to size or other limitations, written descriptions should be added.
3. More information is better than less information as long as it is well-organized and not presented in a cluttered format.
4. Introductions should be simple, mostly text.
5. Maps should encompass a range of fonts, font sizes, line widths and symbols within 14 points being the smallest and 28 points being the largest. Eighteen points is the standard.
6. Symbols on a map must be easily distinguishable and relevant.
7. Legends should appear on the bottom half of the map face, usually in the lower left-hand corner, and have a visually-distinctive border.

## **General Constructs:**

1. Atlases should include the following:
  - a) glossary (vocabulary)
  - b) table of contents
  - c) index
  - d) references
2. Atlases should include a definitive section on the concepts of latitude and longitude, with accompanying materials.
3. Text accompanying maps can be on a separate page, but should be close to the maps and numbered correctly. (Same methods as for braille)
4. With regard to binding, consider all the following criteria:
  - a) ease of use
  - b) use with CCTV
  - c) manipulability
  - d) flexibility
  - e) variety of situations in which it is used
  - f) ease of pulling and replacing pages

In 2003 it was decided to bind maps in a 3-ring oversized binder and to use twin-loop binding for textbooks. These options offered the widest uses.

5. Teacher training guide should accompany an atlas and include:
  - a) purpose of large print atlas
  - b) information about the colors, fonts, lines, etc., selected for use in the large print atlas
  - c) how to work on maps with grades K-1
  - d) how to use different maps with different grade levels
6. Boundaries between countries should be bolder and thicker than boundaries between states or provinces.
7. In legends use different colors and different symbols, not different sizes of the same symbol.
8. Different types of arrows will represent ocean currents, air currents and plate tectonics
9. **Where lots of information is to be conveyed on a single map use overlays instead of lots of maps. No more than three levels of information per map. Example: Political borders, cities and rivers are three levels of information.**
10. Latitude, longitude lines, including the equator and prime meridian shall appear under landforms on political, climate, precipitation and physical maps. On world maps, the grid will be over the landforms.
11. Scale shall be placed if possible, in the lower right-hand corner of the map. Thickness of the scale lines shall be 6 points. If the scale has two lines there should be a 6 pt. space between the lines.
12. Oceania and other groups of islands should have maps for each island nation. These maps should include inserts which show the global location of the islands. The islands should be enlarged to a size which is easily visible.
13. White should be used as a meaningful color on maps.
14. Colors on infrared, satellite maps, and sea level variability maps cannot be changed.
15. Maps should be at least 11 1/2" x 18" in size.
16. Maps should be coated or laminated with non-glare finish to protect them and facilitate easy use by those with low vision.
17. More than 3 layers of overlays should not be used.

#### **Labeling and Lettering:**

1. Labels should be placed within the boundaries of the country or state borders whenever possible.
2. APFont should be used for labeling, including bold, italic, bold italic, uppercase, lowercase features

3. Text on maps should be no smaller than 14 pt. and no larger than 20pt.
4. Text in legends should be at least 18 points whenever possible.
5. All labels should have equal and constant pitch. That is, the pitch (space between letters) should not be expanded as it is for continent names and mountain ranges in standard maps.
6. Country and continent names should appear in all capital letters.
7. Names of cities should have an initial capital letter only.
8. Abbreviations (postal?) should be used if the whole name of a place is too long. The key to abbreviations should be in alphabetical order.
9. Leader lines should be used as a last resort. They should lead into bodies of water or dead areas if possible.
10. Page numbers should appear in the bottom right corner of each page.
11. Labeling of the scale shall be 18 pt.
12. Labels for mountains and rivers shall follow the "flow" of the rivers or mountains, as is currently done in the Nat. Geog. Atlas
13. Island nations should have boxes around them which delineate their national waters

### **Symbols and Patterns:**

1. Capitol cities should be indicated by a star (not in a circle) of a color which contrasts with the background color, usually white.
2. All symbols should be consistent throughout an atlas and should be a minimum size of 14 points tall.
3. Symbols should be large and simple with distinctive geometric shapes. Eliminate unnecessary detail.
4. Patterns or symbols should be placed wherever the activity takes place. For instance, fishing symbols should be over water instead of land.
5. Symbols should be reasonable representations. A picture of a can should not represent fishing when a line art fish would do.
6. Ocean currents should be represented by open chevrons on a continuous line. The line 1 pt. thick, with each half of the chevron extending out 2 pts. from the line.
7. Prevailing winds should be represented by solid arrowheads on a continuous line. The line 1 pt. thick, with each half of the arrowhead extending out 2 pts. from the line and filled in with color specified in color section.
8. Tectonic plates should have lines along the plate boundaries
9. Pictograph symbols should be window panes, diagonal lines, or dots.

**Lines and Borders:**

1. The equator and prime meridian should be a checkerboard pattern of black and white rectangles. Total width 1/8 inch.
2. Latitude and longitude lines should be 1 pt. in width
3. Boundaries of states, provinces, countries, etc will be 1 point lines. Primary boundaries between countries will be 2 points.
4. Rivers shall represented by a blue line a minimum of 2 pts. thick.
5. The international date line will be a solid red line 4 pt. thick. This line should not appear in the Bering Straits.

**Color:**

1. For water, use H2O RGB recipe. For darker areas, increase percentage.
2. For "dead" areas, that is those areas on maps which are not featured as part of the thematic, political, or topographical areas of interest on the map, use Derma RGB recipe. If two colors are needed the second color should be Taupe RGB recipe.
3. For Political Maps preferred colors are:
  - white
  - process yellow
  - pink (RGB recipe)
  - navy blue (RGB recipe)
  - orange (RGB recipe)
  - green (RGB recipe)
4. For Topographical Maps (Geological Maps) preferred colors will appear in bands. Those colors are:
  - highest elevation - white
  - 2<sup>nd</sup> highest elevation - orange (RGB recipe)
  - 3<sup>rd</sup> highest elevation - purple (RGB recipe)
  - 4<sup>th</sup> highest elevation - process yellow
  - 5<sup>th</sup> highest elevation - fireweed (RGB recipe)
  - 6<sup>th</sup> highest elevation - green (RGB recipe)
  - below sea level - navy blue (RGB recipe)
5. For Thematic maps preferred colors are:
  - pink (RGB recipe)
  - process yellow
  - celery (RGB recipe)
  - orange (RGB recipe)
  - white
  - pine (RGB recipe)
6. Effort should be made to color areas next to rivers a color other than blue, purple or green
7. Cartograms should use pastel solid colors with patterns placed over those colors. In areas where the label appears, eliminate the

pattern and print the name over the solid color area remaining, (halo effect).

8. Preferred patterns are diagonal lines of the following combinations:

- purple (RGB recipe), over white
- tourmaline (RGB recipe), over white
- black, a process color, over white
- black, a process color, over lavender (RGB recipe)
- black, a process color, over process yellow

### **Presentation:**

1. Maps should be assembled in one of the following ways:

- looseleaf portfolio
- 3 ring binder
- spiral bound at top

(Assembly choice depends upon criteria specified in General Constructs, item #4.)

2. Maps over 12" x 18 1/2 " should fold out.

3. Easel presentation of maps should be considered.

4. Maps should be 3-hole punched along left of front side.

### **Content:**

1. Atlas content shall include separate maps for :

- Oceania
- Caribbean
- Eastern African Islands
- North America
- Canada
- Northern Polar Region
- Antarctica
- Indian sub continent
- Koreas
- Japan
- East Asia
- Peninsular Asia
- China
- Malaysia
- Australia
- New Zealand
- Indonesia
- Middle East
- Egypt
- Russia
- Central Asia (The Stans)

- Eastern Europe
  - Western Europe
  - Iberian Peninsula
  - Great Britain
  - Nordic Countries
  - European Lowlands
  - Mexico
  - Canada
  - United States and each region of it
  - South America and each region of it
  - Africa and each region of it
2. Atlas content shall include an introduction that explains the purpose of the atlas and how to use the atlas
  3. Atlas content shall include a list of all abbreviations included in the atlas.
  4. Atlas content shall contain a list of symbols used in the atlas.
  5. Atlas content shall contain pronunciations of countries, towns, cities, regions and unfamiliar words.
  6. Atlas content shall include a glossary and index.