

Maps and Cartography

GIS Research & Map Collection
Maps Tutorial:
The Elements of a Map



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The Map: A Geographer's Most Important Tool

- Maps are important in geography because they show how different features are related.
- Maps are used by various types of people and professions for many different purposes.
- ***All maps, however, share the same common elements.***



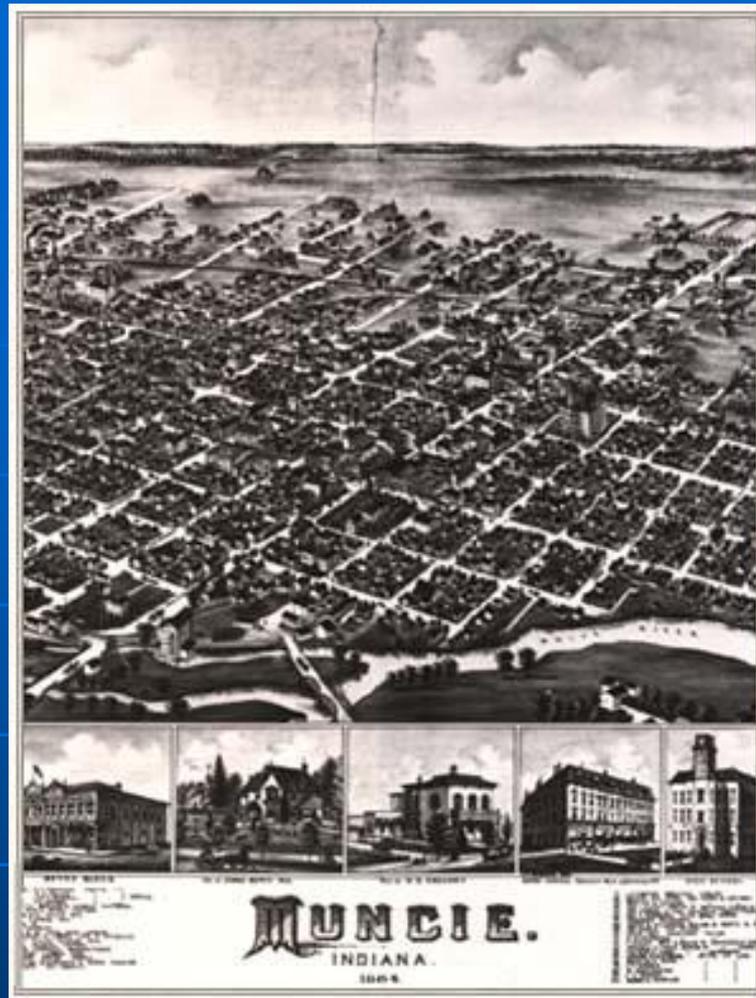
The Elements of a Map

- Title
- Legend
- Scale
- Directional Indicator
- Inset Maps

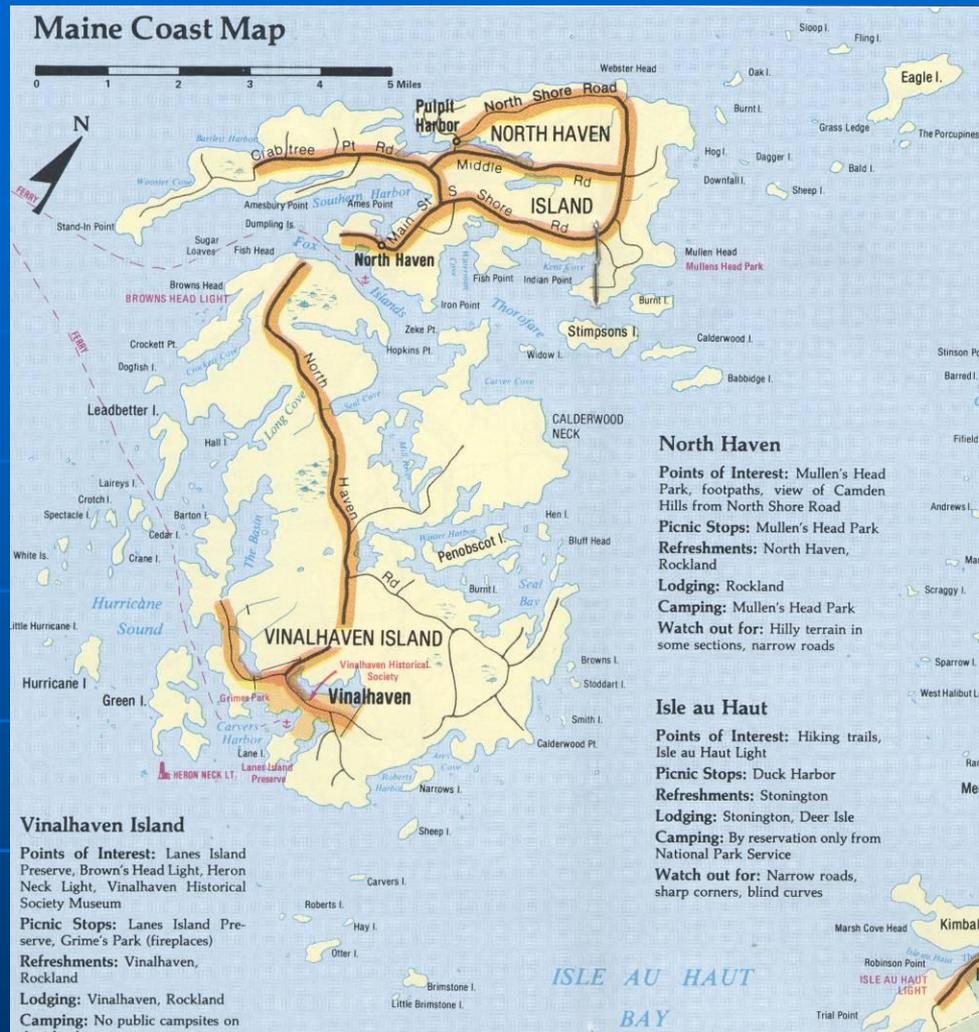


The Elements of a Map: Title

- The most important element of the map for acquiring information efficiently is the title.
- The title identifies the map area and the type of map.
- Cartographers may list the title simply or artistically.



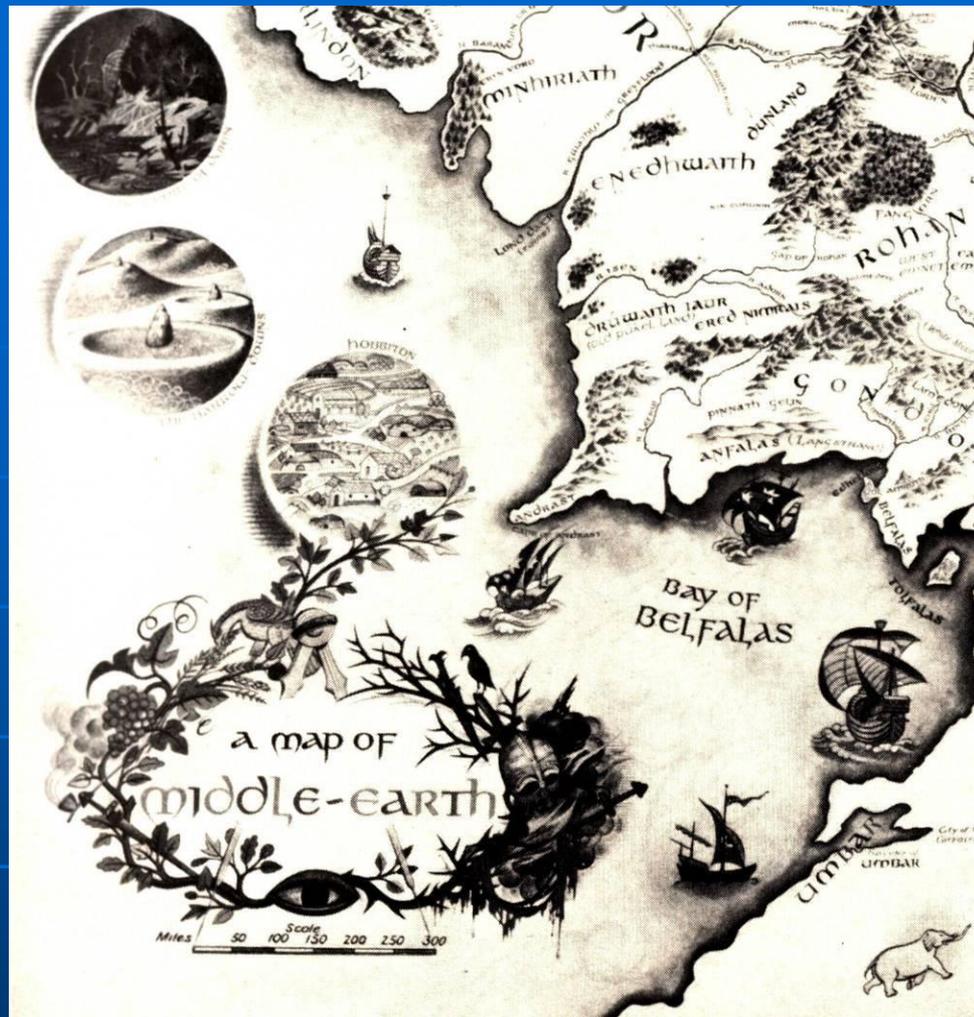
- The title of this bird's-eye-view map is predominant: *Muncie, Indiana, 1884.* (*Muncie, Indiana, 1884, GRMC, Ball State University Libraries.*)



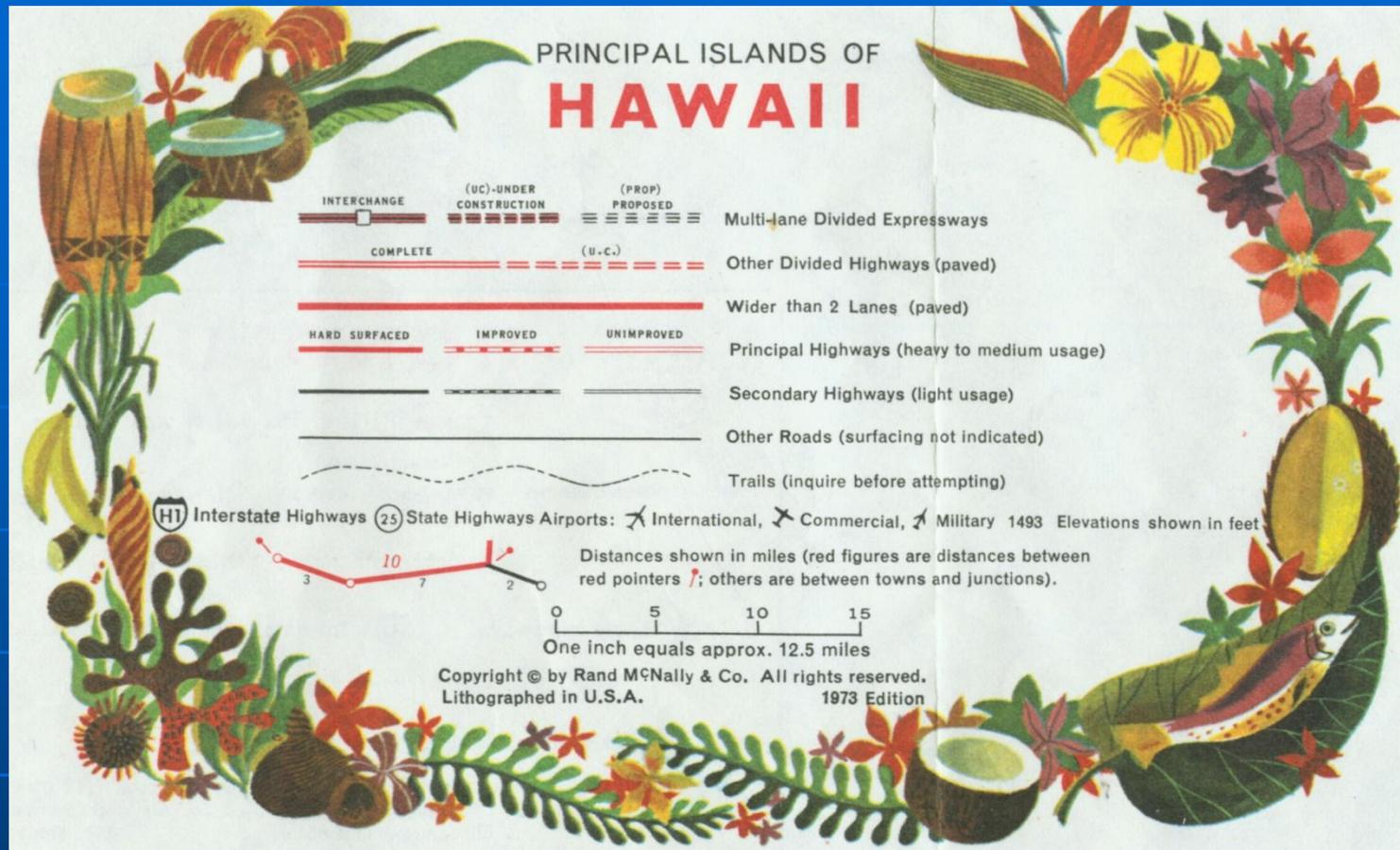
- Titles of maps typically appear at the top of the map, but not always. (*Maine Coast Map*, Maine Geographic Bicycling Maps, 1989, GRMC, Ball State University Libraries).



- The title of this pictorial map of Indiana was created to match the artistic design of the map. (*A Map of Indiana Showing Its History, Points of Interest*, 1967, GRMC, Ball State University Libraries).



- Another artistically-created map title: *A Map of Middle Earth*. (A Map of Middle Earth from *An Atlas of Fantasy*, 1979, J.B. Post, Atlas Collection, Ball State University Libraries).

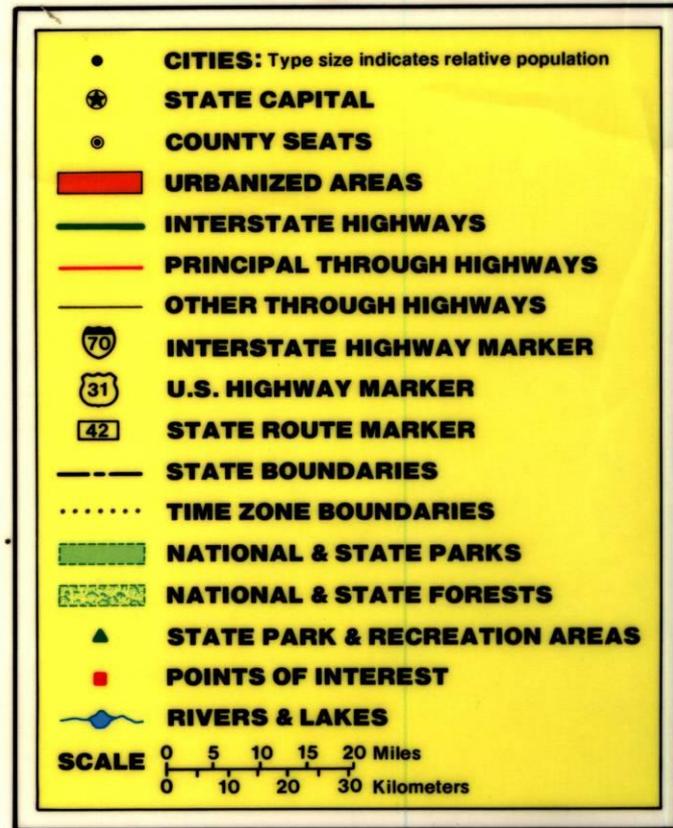


- This festive map title for a map of Hawaii continues the artistic theme: *Principal Islands of Hawaii*. (Principal Islands of Hawaii, 1973, GRMC, Ball State University Libraries).

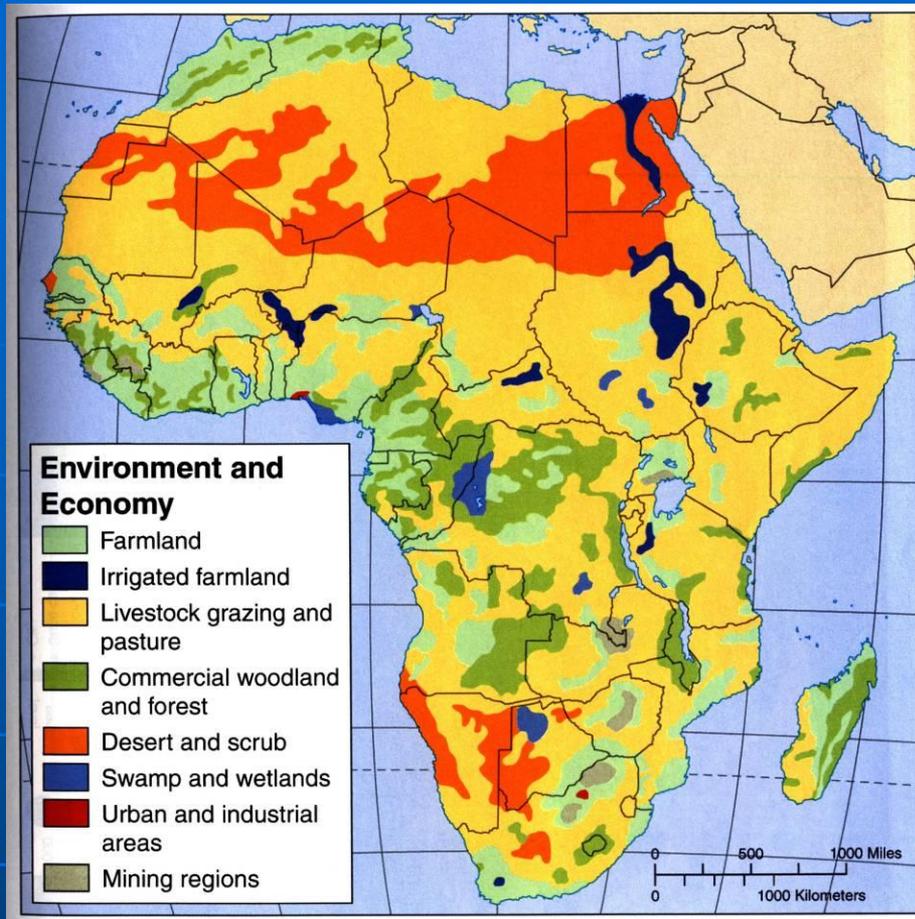
The Elements of a Map: Legend

- Another important feature on a map is the legend or map key.
- Information needed to read a map is found in the map legend.
- Most maps use symbols or colors to represent different geographic features. The map legend helps determine what the symbols and colors mean.

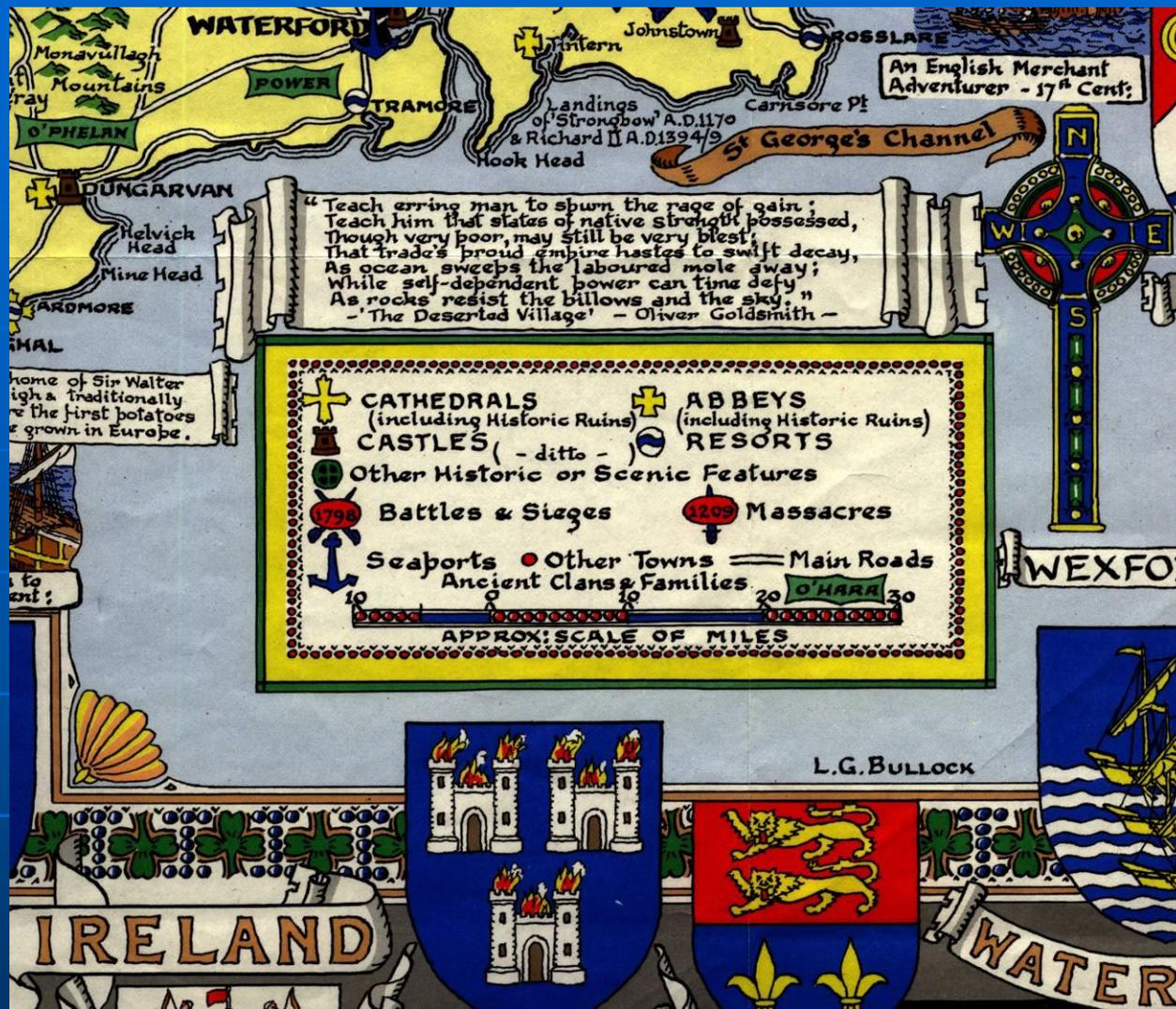
Legend



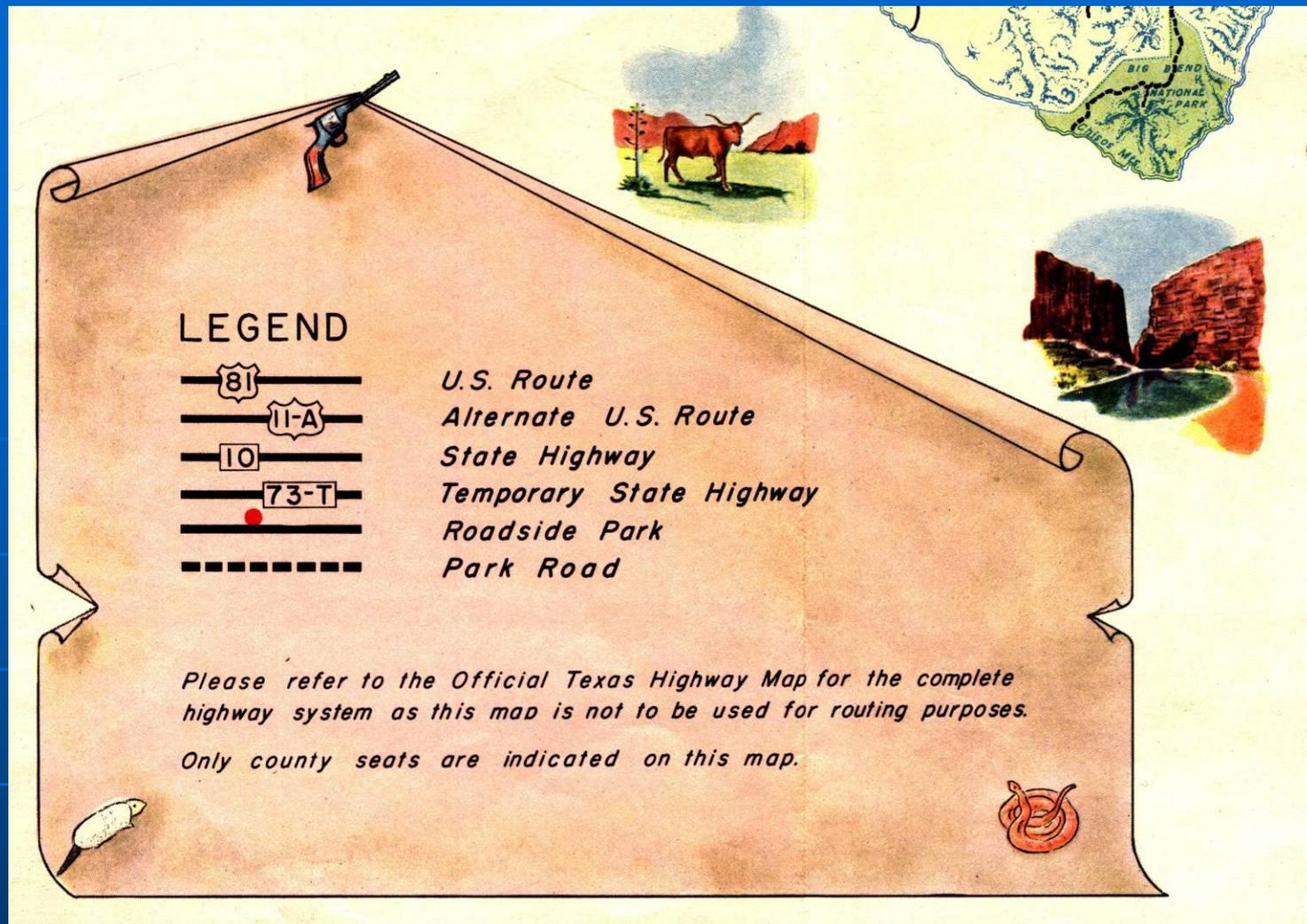
- This is a basic map legend featured on a map of Indiana. This type of legend or key is common for identifying features of maps. (*Indiana: "The Hoosier State,"* 1983, GRMC, Ball State University Libraries).



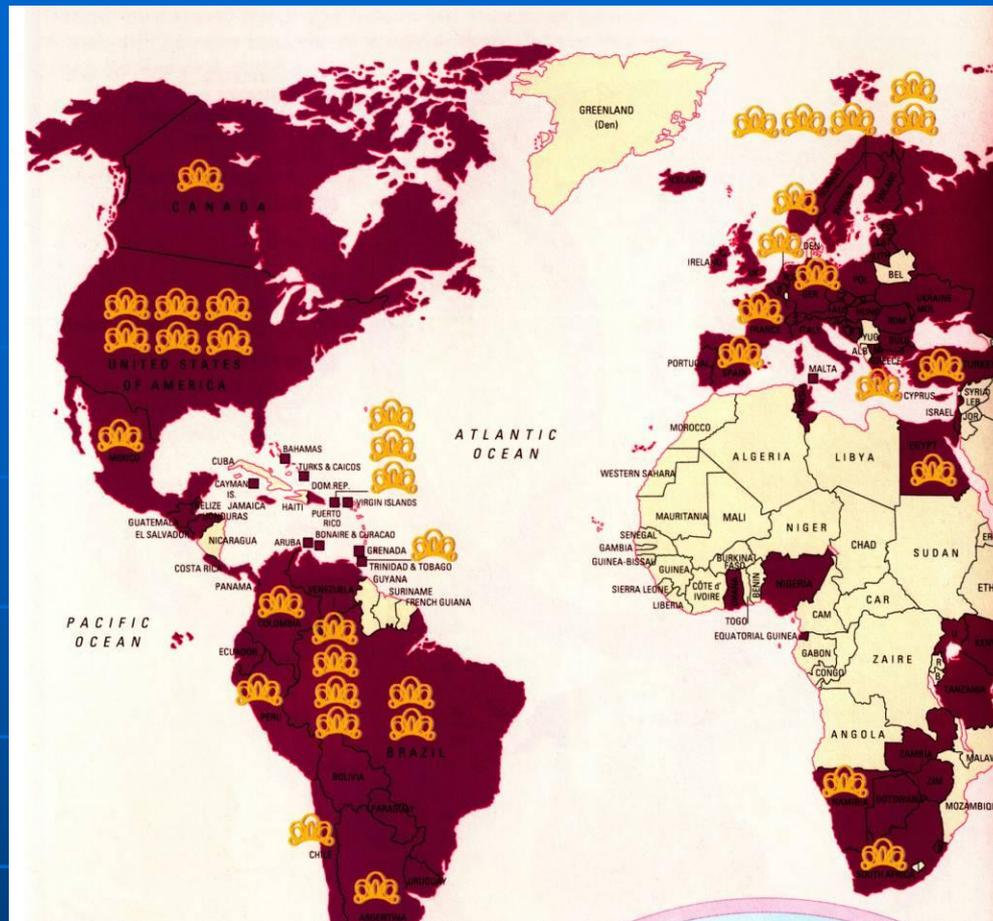
- Sometimes colors are used to identify certain areas on a map. On this map, the different colors shown in the legend represent areas of specific types of land use in Africa. (*Africa's Environment and Economy, Student Atlas of World Politics, 2006, Atlas Collection, Ball State University Libraries*).



- This colorful legend identifies the cathedrals, castles, battle sites, and ancient families of Ireland. (Historical Map of Ireland, 1969, GRMC, Ball State University Libraries).



- This legend simply identifies the roads of Texas, but the cartographer chose to be creative in the design of the legend to add character to the map. (*Texas Guide Map*, 194-, GRMC, Ball State University Libraries).



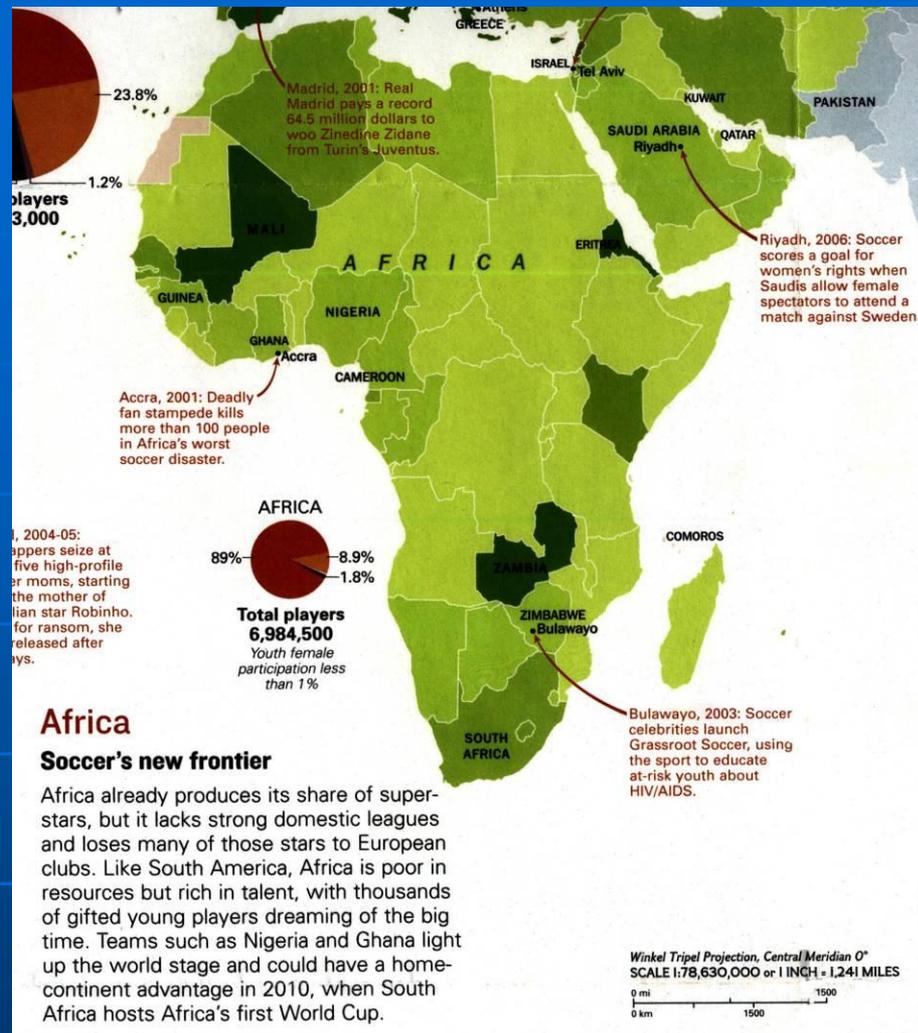
- Cartographers also use creative symbols on maps. The crowns on this map represent winners of the Miss Universe pageant, while the purple identifies countries with contestants in the beauty pageant. (*The State of Women in the World atlas, 1997, Atlas Collection, Ball State University Libraries*).

The Elements of a Map: Scale

- Almost all maps have scales.
- Scales compare a distance measured on the map to the actual distance on the surface of the earth.
- Scales appear on maps in several forms, but most cartographers draw a line scale as a point of reference.

Scale, continued...

- A map displaying the entire surface of the earth with all the continents and oceans would be drawn at a larger scale. A scale on this type of map would be drawn in thousands of miles and kilometers.
- A map of the White House, however, may have a scale with distance determined in feet.
- ***The two maps described above may be the same size on paper—only their scales are different.***



- This map scale shows the distance on the map of 1500 miles/kilometers. The scale is also translated to how many miles are represented in one inch on the map. (National Geographic *Soccer Unites the World*, 2006, GRMC, Ball State University Libraries).



- Ancient cartographers created very artistic maps, and the elements of the maps could be quite elaborate and colorful. This map scale is surrounded by a decorative border and compass. (*Floridae Americae Provinciae: Recens & Exactissima Descriptio*, 1564, engraved reproduction, GRMC, Ball State University Libraries).



- This scale from a historical map of Kentucky features an image of George Washington surveying the land. (*Kentucky: The Dark and Bloody Ground, An Historical and Geographical Map of the State of Kentucky*, 1933, GRMC, Ball State University Libraries).



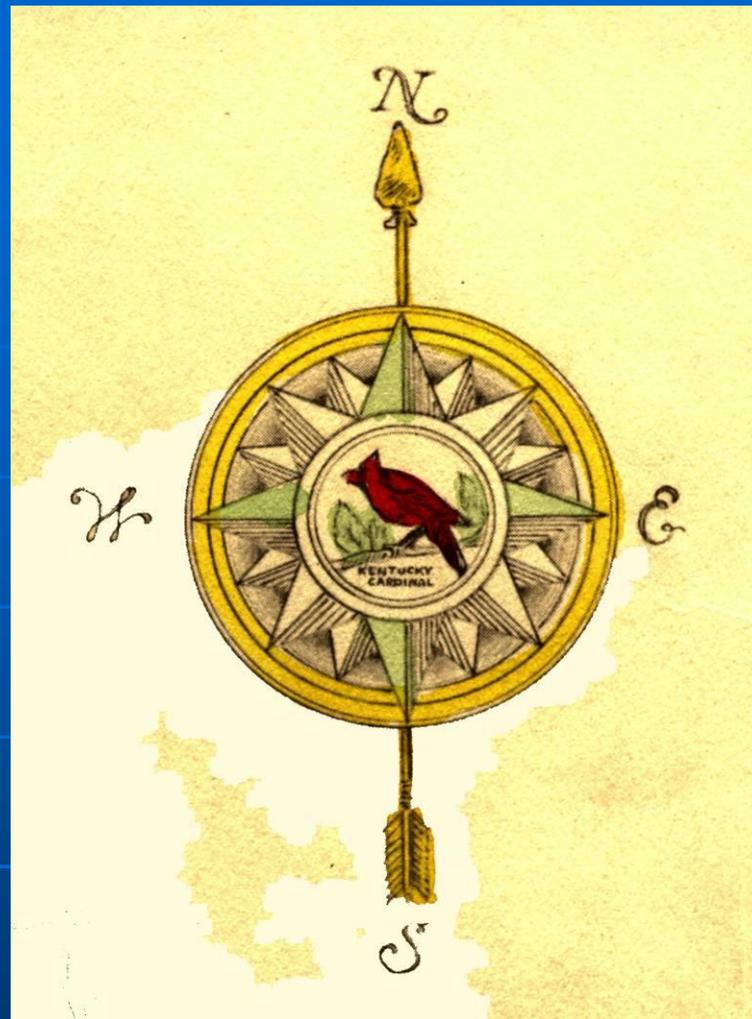
- Another simple scale showing the distance in miles in relation to the map of Europe. (*World of Sherlock Holmes* map from *An Atlas of Fantasy*, 1979, J.B. Post, Atlas Collection, Ball State University Libraries).

The Elements of a Map: Directional Indicator

- Another common map element is a directional indicator. A directional indicator on a map helps determine the orientation of the map.
- Some cartographers place an arrow that points to the North Pole on the map. This is a “north arrow.”
- Other maps indicate direction by using a “compass rose,” with arrows pointing to all four cardinal directions.



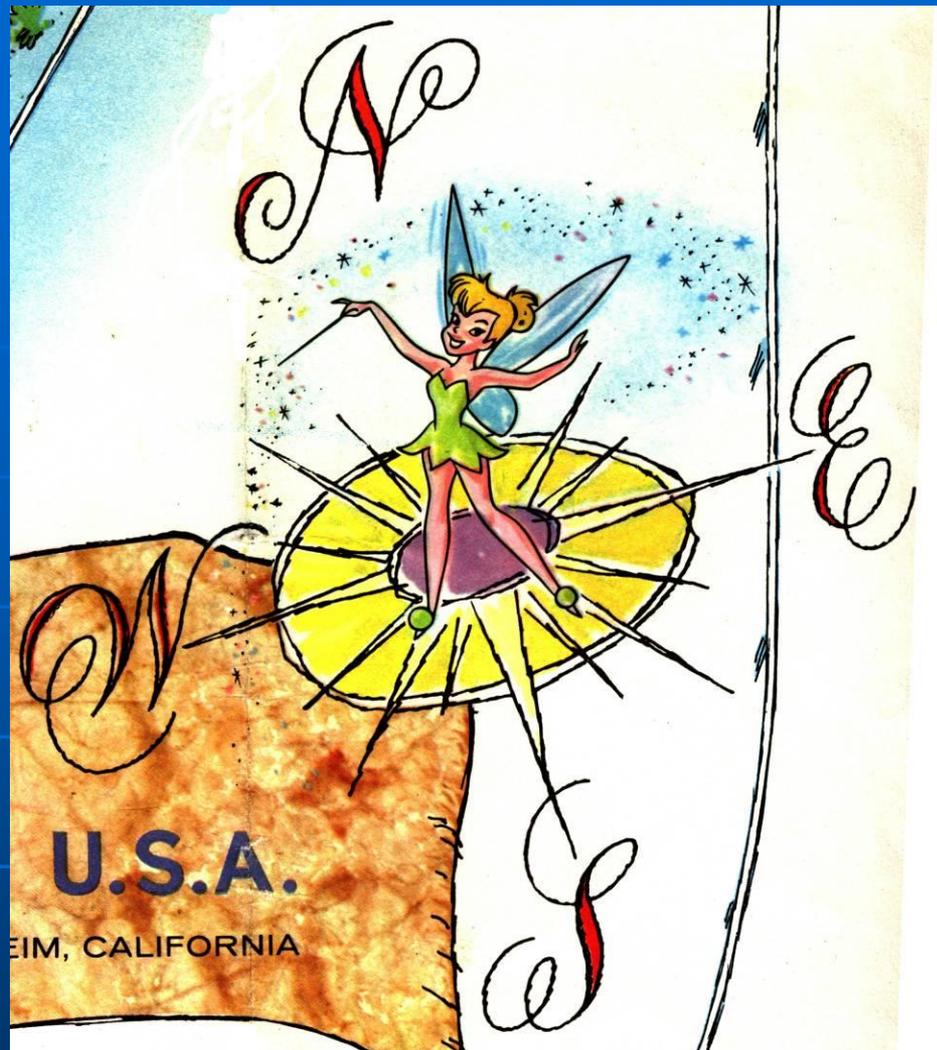
- Ancient cartographers drew elaborate, artistic directional indicators—most commonly a compass ROSE. (*Floridae Americae Provinciae: Recens & Exactissima Descriptio*, 1564, engraved reproduction, GRMC, Ball State University Libraries).



- This simple compass rose features a Kentucky cardinal and an arrow pointing north. (*Kentucky: The Dark and Bloody Ground, An Historical and Geographical Map of the State of Kentucky*, 1933, GRMC, Ball State University Libraries).



- This compass rose was featured on a map of Indiana history. The young girl is pointing east and west while her feather serves as a north arrow. (Liberty Elementary School's *Indiana*, 1974, GRMC, Ball State University Libraries).



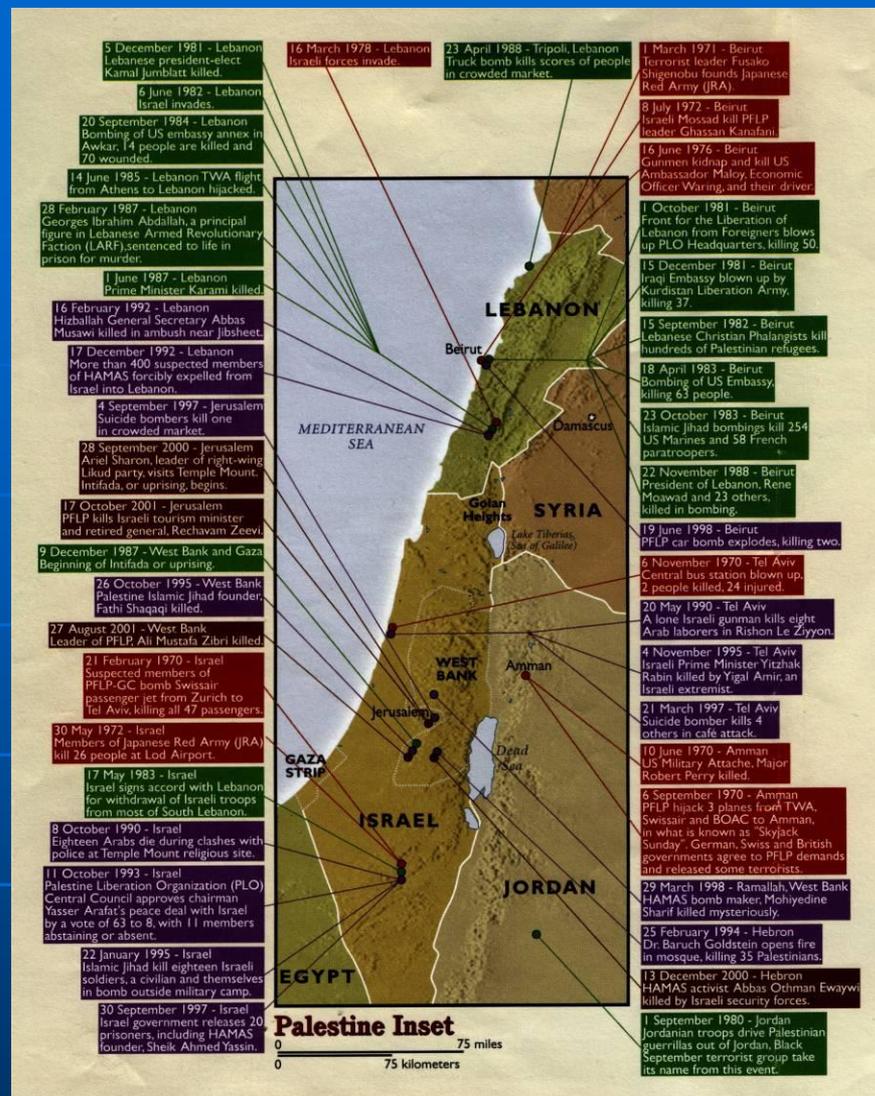
- This compass rose featuring *Tinkerbell* is displayed on a map of the Disneyland theme park. (*Walt Disney's Magic Kingdom, Disneyland U.S.A., Anaheim, California, 1964*, GRMC, Ball State University Libraries).

The Elements of a Map: Inset Maps

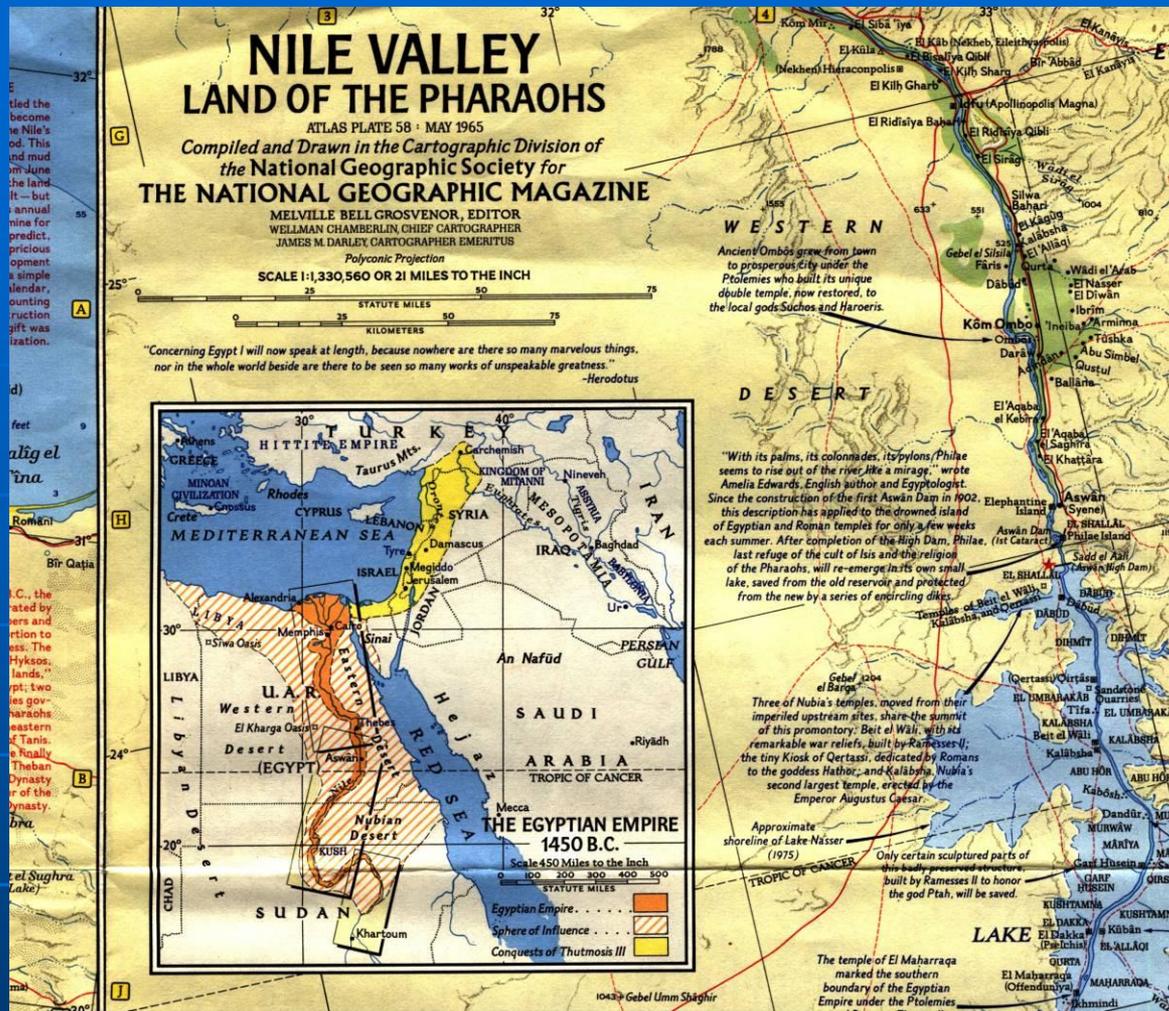
- Some maps feature inset maps—smaller maps on the same sheet of paper.
- Inset maps provide additional information not shown on the larger map.
- Inset maps are drawn at a larger, more readable scale.
- Inset maps usually feature areas of interest related to the larger map.



- Inset maps are commonly used on tourist/travel maps. The inset maps above feature suburbs of Brisbane, Australia, and a map of the city's train routes. (Lonely Planet's *Brisbane & Gold Coast*, 2002, GRMC, Ball State University Libraries).



- This inset map displays terrorist attacks that have taken place in Israel and its neighbors. This information would not have been easily read on the larger world map. (*World Terrorism: A Reference Map*, 2002, GRMC, Ball State University Libraries).



- The larger map above is a modern map of the Nile Valley. The inset map shows the ancient Egyptian Empire in the same area. (National Geographic *The Nile Valley: Land of the Pharaohs*, 1963, GRMC, Ball State University Libraries).



- The larger map of *Shakespeare's Britain* features inset maps of Stratford-Upon-Avon and a bird's-eye-view map of London. (National Geographic *Shakespeare's Britain*, 1964, GRMC, Ball State University Libraries).

- Geography is the study and discovery of the world, and maps are a critical component of geography. Learning more about cartography and the common elements of maps will enhance the understanding of the world.
- *Maps really are a geographer's most important tool.*



- For more information about any of the maps or atlases shown or the tutorial lesson *Maps and Cartography: The Elements of a Map*, please contact the GIS Research & Map Collection, Ball State University Libraries, at (765) 285-1097.
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