STATE MAP DEVELOPMENT

Description
GM Johnson has provided 3 examples of a state map development and production, each featuring different content and purpose. We begin in building a state map from the bottom up. That means we collect and gather data at the largest scale that we can use to develop a street map. From here we then can generalize the data to produce maps at smaller scales. These other maps can be regional, state and country maps. In fact we are working on a South and Central America map, utilizing the above principles. The key to building these different scale maps is to have a "perfect " geographic map and database. Perfect means the map and the data base behave together for all scales.

Production Workflow Summary
We have provided a more detail summary of how a new map is created by the GM Johnson team. No one person does it all. We typically break a map into sections, many times by counties. Then the county or section is given out to individual team members to complete. This way a large geographical or densely populated place can be mapped in a few weeks.

A.   MAP and DATA BASE CREATION

1.   Data acquisition. Data comes from a variety of sources. Some can be accurate, lots of shape points, up to date, excellent / clean data. Other data can be very coarse (lack of shape points). Some have no data base attributes.

2.   Data restructuring. Here we classify data to meet our requirements, for building a map at a variety of scales.

3.   View the map and data. Here we initially use the label engine on the map and data. It is here where we begin to perform the building of a "perfect" GIS database. This produces a draft map. We will then check this result. We will use this map to classify roads graphically and update the non-graphic database. We similarly scrub point and polygon data. Here we use a variety of Editing and Geo Processing tools. We will then re run the map through the labelling engine. The result is a draft base map at a large scale.

4.   Edit or update base map. Graphic operators will add other data to the map. Some of the data will be added to the hardcopy draft map manually. Other data will be merged digitally and fitted to the base. The end result of this process is we have a clean data set that can be published in a variety of formats and scales.

5.   Zoom factor classification. The next step in the GIS data base development process is to add an additional classification field for zoom factor. The zoom factor field is used to determine what scale a feature will be placed and how generalization will be used.

B.   MAP PRODUCT CREATION

1.   Build prototype: Determine coverage of map. Prepare a layout, determine map scales, coverage area and prototype product. Prototype product has inset, cover, legend and index areas roughly defined.

2.   Product Design: Label the map at the appropriate scale to produce a map and / or atlas using the seamless GIS base (lines, points, polygons) from step A processing. Place map surround, title block, populate legend, add inset maps, cover and formerly define area for index based on prototype layout.

3.   Index Generation: Create and place indexes in product.

4.   Output: Create PostScript files and verify as PDF's.

5.   End.

Nature of Business and Market Area:

GM Johnson & Associates Ltd. is a computer cartography and publishing company specialising in printed street, atlas and state maps for United States (US) retail market. GM Johnson uses COMPUTER GRAPHICS, CAD (computer aided design), GIS (geographical information systems) and internal developed technology to produce maps. GM Johnson head office is in Vancouver BC and inventory warehouse is in Santa Barbara CA. All map printing is contracted to a variety of commercial printers. GM Johnson has been in business since 1987. Our catalogue has over 700 map titles listed.

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