DOWNLOAD PDF CARTOGRAPHY THEMATIC MAP DESIGN 6TH EDITION

Chapter 1 : Cartography 6th Edition by Dent | Rent | blog.quintoapp.com

This introductory textbook introduces students to the different types of map projections, map design, and map production. Cartography is generally for a sophomore or junior level course for geography majors and many professors are beginning to introduce computer cartography throughout the course.

Cartographers apply many design principles when compiling their maps and constructing page layouts. Five of the main design principles are legibility, visual contrast, figure-ground organization, hierarchical organization, and balance. Together these principles form a system for seeing and understanding the relative importance of the content in the map and on the page. Without these, map-based communication will fail. Visual contrast and legibility provide the basis for seeing the contents on the map. Figure-ground organization, hierarchical organization, and balance lead the map reader through the contents to determine the importance of things and ultimately find patterns. This article introduces you to these five principles and explains their importance in cartography. Collectively, they help cartographers create maps that successfully communicate geographic information. Although black and white A provide the best visual contrast, this is not always the best color combination for maps. When using colors of similar high B or low C saturation brightness , the hues blue and green, in this case must be distinguishable. If they are not, varying the saturation or value lightness or darkness of a color as with the water in D can create the contrast that is missing. Operational overlays should contrast with the basemap E and F. To understand this principle at work, consider your inability to see well in a dark environment. Your eyes are not receiving much reflected light, so there is little visual contrast between the objects in your field of view and you cannot easily distinguish objects from one another or from their surroundings. Increase illumination, and you are now able to distinguish features from the background. However, the features will still need to be large enough to be seen and understood so that your mind can decipher what your eyes are detecting. The concept of visual contrast also applies in cartography Figure 1. A well-designed map with a high degree of visual contrast can result in a crisp, clean, sharp-looking map. The higher the contrast between features, the more some features will stand out usually features that are darker or brighter. Conversely, a map that has low visual contrast can be used to promote a more subtle impression. Features that have less contrast appear to belong together. Symbols A and text C that are too small are illegible. Appropriately sized symbols B and text D can be easily distinguished and read. Using familiar geometric icons, such as an airplane for airports E , helps readers immediately understand the meaning of the symbol. More complex symbols, such as a mortarboard for universities F , need to be larger to be legible. Many people strive to make their map contents and page elements easily seen, but it is also important that they can be understood. Legibility depends on good decision making when selecting symbols. Choosing symbols that are familiar and are appropriate sizes results in symbols that are effortlessly seen and easily understood Figure 2. Geometric symbols are easier to read at smaller sizes. More complex symbols require more space to be legible. Visual contrast and legibility can also be used to promote the other design principles: It is sometimes hard to tell what is the figure and what is the ground A and B. Simply adding detail to the map C can help map readers distinguish the figure from the ground. Using a whitewash D , feathering E , or a drop shadow F can also help. Cartographers use this design principle to help map readers focus on a specific area of the map. There are many ways to promote figure-ground organization, such as adding detail to the map or using a whitewash, a drop shadow, or feathering. When the symbols and labels are on the same visual plane A , it is difficult for the map reader to distinguish among them and determine which are more important. For a general reference map B , using different sizes for the text and symbols e. When mapping thematic data C , the base information e. You can think of a hierarchy as the visual separation of your map into layers of information. Some types of features will be seen as more important than other kinds of features, and some features will seem more important than other features of the same type. Some page elements e. This visual layering of information within the map and on the page helps readers focus on what is important and lets them identify patterns. The hierarchical organization of reference maps those that show the location of a variety of physical and cultural features, such as terrain, roads, boundaries, and settlements works differently than for

thematic maps those that concentrate on the distribution of a single attribute or the relationship among several attributes. For reference maps, many features should be no more important than one another and soâ€”visuallyâ€”they should lie on essentially the same visual plane. In reference maps, hierarchy is usually more subtle and the map reader brings elements to the forefront by focusing attention on them. For thematic maps, the theme is more important than the base that provides geographic context. Positioning heavier elements together can make the page look top-heavy A or bottom heavy B. Centering the map slightly above center C ensures that it is in the most prominent position on the page. The position of elements can also cause the eye to move in a desired direction. In D, the title is the first thing read, followed by the locator map, then the map of Africa, and finally the legend. A well-balanced map page results in an impression of equilibrium and harmony. You can also use balance in different ways to promote edginess or tension or create an impression that is more organic. Balance results from two primary factors: If you imagine that the center of your map page is balancing on a fulcrum, the factors that will tip the map in a particular direction include the relative location, shape, size, and subject matter of the elements on the page. Together these five design principles have a significant impact on your map. How they are used will either draw the attention of map readers or potentially repel them. Giving careful thought to the design of your maps using these principles will help you to assure that your maps are ones people will want to look at! Resources These cartography textbooks provide more in-depth discussions of the design principles described in this article and how they are applied in cartography. Torguson, and Thomas H. Thematic Map Design, Sixth Edition, â€” Jon Kimerling, and Stephen C. Elements of Cartography, Fifth Edition, â€” New York City, NY: Slocum, Terry, Robert B. Kessler, and Hugh H. Upper Saddle River, NJ: She has more than 25 years of experience in cartography and holds a doctorate in geography from Oregon State University.

Chapter 2 : ISBN - Cartography: Thematic Map Design 6th Edition Direct Textbook

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This article needs more links to other articles to help integrate it into the encyclopedia. Please help improve this article by adding links that are relevant to the context within the existing text. June This article is an orphan , as no other articles link to it. Please introduce links to this page from related articles ; try the Find link tool for suggestions. June Learn how and when to remove this template message Borden D. Dent â€" was an American geographer and cartographer who served as professor emeritus and chairman of the Department of Geography and Anthropology at Georgia State University. Thematic Map Design, is one of the seminal texts in the field, and its sixth edition was reissued in Biography[edit] Dent was a native of Arkansas but attended both elementary and high school in Maryland. He completed a B. After completing his education, Dent taught geography and cartography classes at Georgia State University for thirty years. These and many other cultural and intellectual factors contributed to the creation of an environment in late 17th century Western Europe that spawned the thematic map, now recognized as a revolutionary development in the history of cartography. It was a product of the quantitative revolution in cartography that took place in the midth century in that its approach to design was a scientific rather than artistic one. He argued that the map was a vehicle for graphically relaying ideas from a sender the cartographer to a recipient the map reader. He was again concerned with making maps that would be more effective visual communication devices. This concern was spawned by studies he referenced in the article that documented the misinterpretation of the information on thematic maps by map readers. He was convinced that much of this confusion could be alleviated if cartographers employed the principles of the figure-ground relationship to better organize the visual field. Design practices that Dent argued would accomplish this task included using strong, well-defined edges for the figure, articulating the figure, and depicting the figure as a closed shape. He concluded the article by observing that the figures on the map carry the important intellectual content, but that an effective map cannot be created without visually integrating the geographic data of the ground into the whole. The first edition was entitled Principles of Thematic Map Design, but the title was changed for all subsequent editions to Cartography: Principles of Thematic Map Design was written for a college audience, and it is clear that a deliberate effort was made to make the text as pedagogically valuable as possible. As a student of the map communication model, Dent was always concerned with quality of design, and so included information on good design principles as well as more technical information about map projections and geodesy. Part of the value of the text is that Dent approached thematic cartography from a number of different directions. He offered the reader both theoretical and technical insight into the practice, but also encouraged them to apply their creativity to the process. In an interesting portion of the text, Dent explains that there appear to be certain activities shared by people considered to be great thinkers, scientists, or artists: Challenging assumptions- daring to question what most people take as truth. Recognizing patterns- perceiving significant similarities or differences in ideas, events, or physical phenomena. Seeing in new ways- looking at the commonplace with new perceptions, transforming the familiar into the strange, and the strange into the familiar. Making connections- bringing together seemingly unrelated ideas, objects, or events in ways that lead to new concepts. Taking risks- daring to try new ways, with no control over the outcome. Using chance- taking advantage of the unexpected. Constructing networks- forming associations for the exchange of ideas, perceptions, questions, and encouragement. Dent published the second edition of his text, this time entitled Cartography: Thematic Map Design, in Thematic Map Design was published in The additions that Dent made to this edition were a response to two significant developments in the field of cartography that occurred over the previous nine years. The first was in response to a new philosophy that arose in the discipline in the mids. The central themes of this text are therefore retained, and still find a place in the education of the thematic cartographer. The sixth edition of Cartography: Thematic Map Design was published in , nine years after the death of Dent.

It is a testimony to the enduring quality and popularity of the text that it has retained its relevance for 24 years. His career spanned a time of great philosophical and technical change in the fields of geography and cartography. Addison-Wesley Publishing Company, Inc. Mapping the Criminal Landscape, ed. Thematic Map Design 2nd Ed. Thematic Map Design 5th Ed. Torguson, and Thomas W. Thematic Map Design 6th Ed. Boston, McGraw Hill,

Chapter 3 : Design principles for cartography

*Cartography: Thematic Map Design 6th edition by Dent, Borden, Torguson, Jeff, Hodler, Thomas () Hardcover on blog.quintoapp.com *FREE* shipping on qualifying offers. Will be shipped from US. Used books may not include companion materials, may have some shelf wear, may contain highlighting/notes.*

October 28, By Aileen Buckley, Mapping Center Lead Cartographers apply many design principles when compiling their maps and constructing page layouts. Five of the main design principles are legibility, visual contrast, figure-ground, hierarchical organization, and balance. Together these form a system for seeing and understanding the relative importance of the content in the map and on the page. Without these, map-based communication will fail. Together visual contrast and legibility provide the basis for seeing the contents on the map. Figure-ground, hierarchical organization, and balance lead the map reader through the contents to determine the importance of things and ultimately find patterns. In this blog entry, we introduce these five principles and explain their importance in cartography. Collectively they help cartographers create maps that successfully communicate geographic information. Visual Contrast Visual contrast which relates to how map features and page elements contrast with each other and their background. To understand this principle at work, consider your inability to see well in a dark environment. Your eyes are not receiving much reflected light so there is little visual contrast between features and you cannot easily distinguish objects from one another or from their surroundings. Add more light and you are now able to contrast features from the background. This concept of visual contrast also applies in cartography figure 1. A well-designed map with a high degree of visual contrast can result in a crisp, clean, sharp-looking map. The higher the contrast between features, the more something will stand out, usually the feature that is darker or brighter. Conversely, a map that has low visual contrast can be used to promote a more subtle impression. Features that have less contrast will appear to belong together. When there is no variation in visual contrast A , the map reader has a hard time distinguishing features from the background. For quantitative distributions B , there must be enough contrast between tones for the reader to distinguish unique classes. For qualitative distributions C ,using variations of a single color hue e. Many people work to make their map contents and page elements easily seen, but it is also important that they can be understood. Legibility depends on good decision-making for selecting symbols that are familiar and choosing appropriate sizes so that the results are effortlessly seen and easily understood figure 1. Geometric symbols are easier to read at smaller sizes; more complex symbols require larger amounts of space to be legible. Visual contrast and legibility are the basis for seeing. In addition to being able to distinguish features from one another and the background, the features need to be large enough to be seen and to be understood in order for your mind to decipher what you eyes are detecting. Visual contrast and legibility can also be used to promote the other design principles: Text and symbols A and C that are too small cannot be seen. Once able to be seen B and D , they must also be understood. Cartographers use this design principle to help their map readers find the area of the map or page to focus on. There are many to promote figure-ground organization, such as adding detail to the map or using a white wash, a drop shadow, or feathering. Using closed forms A , a white wash B , a drop shadow C , or feathering D will promote figure-ground organization on your map. The internal graphic structuring of the map and the page layout more generally is fundamental to helping people read your map. You can think of a hierarchy as the visual separation of your map into layers of information. Some types of features will be seen as more important than other kinds of features, and some features will seem more important than other features of the same type. Some page elements e. This visual layering of information within the map and on the page helps readers focus on what is important and enables them to identify patterns. Hierarchical organization on reference maps those that show the location of a variety of physical and cultural features, such as terrain, roads, boundaries, and settlements works differently than on thematic maps maps that concentrate on the distribution of a single attribute or the relationship among several attributes. For reference maps, many of the features should be no more important than one another and so, visually, they should lie on essentially the same visual plane. In reference maps, hierarchy is usually more subtle and the map reader brings elements to the forefront by

focusing attention on them. For thematic maps, the theme is more important than the base that provides geographic context. Balance Balance involves the organization of the map and other elements on the page. A well-balanced map page results in an impression of equilibrium and harmony. Balance results from two primary factors, visual weight and visual direction. Which of the top six maps seems most balanced? It should appear that F has visual equilibrium, usually achieved by placing the central figure slightly above center on the page. However, the addition of page elements, such as the title and legend, will modify the visual impression, so all content on the page should be evaluated together to judge balance. Together these five design principles have a significant impact on your map. How they are used will either draw the attention of your map readers or potentially repel them. Giving careful thought to the design of your maps using these principles will help you to assure that your maps are ones people will want to look at! Further Reading To learn more, check out the cartography textbooks below which provide more in-depth discussions of these design principles and their application in cartography: Torguson, and Thomas H. Thematic Map Design, Sixth Edition. Jon Kimerling and Stephen C. Elements of Cartography, Fifth Edition. Slocum, Terry, Robert B. Kessler, and Hugh H. Upper Saddle River, NJ:

Chapter 4 : Make Maps People Want to Look At

Cartography is generally for a sophomore or junior level course for geography majors and many professors are beginning to introduce computer cartography throughout the course. Sample questions asked in the 6th edition of Cartography.

Thematic Map Design, 6th Edition This introductory textbook introduces students to the different types of map projections, map design, and map production. Cartography is generally for a sophomore or junior level course for geography majors and many professors are beginning to introduce computer cartography throughout the course. Understanding and Applying Cryptography and Data Security A How-to Guide for Implementing Algorithms and Protocols Addressing real-world implementation issues, Understanding and Applying Cryptography and Data Security emphasizes cryptographic algorithm and protocol implementation in hardware, software, and embedded systems. Provides the Foundation for Constructing Cryptographic Protocols The first several chapters present various types of symmetric-key cryptographic algorithms. Subsequent chapters on public-key cryptographic algorithms cover the underlying mathematics behind the computation of inverses, the use of fast exponentiation techniques, tradeoffs between public- and symmetric-key algorithms, and the minimum key lengths necessary to maintain acceptable levels of security. The final chapters present the components needed for the creation of cryptographic protocols and investigate different security services and their impact on the construction of cryptographic protocols. Offers Implementation Comparisons By examining tradeoffs between code size, hardware logic resource requirements, memory usage, speed and throughput, power consumption, and more, this textbook provides students with a feel for what they may encounter in actual job situations. A solutions manual is available to qualified instructors with course adoptions. Classical and Modern with Maplets explains how fundamental mathematical concepts are the bases of cryptographic algorithms. Designed for students with no background in college-level mathematics, the book assumes minimal mathematical prerequisites and incorporates student-friendly Maplets throughout that provide practical examples of the techniques used. Technology Resource By using the Maplets, students can complete complicated tasks with relative ease. They can encrypt, decrypt, and cryptanalyze messages without the burden of understanding programming or computer syntax. The authors explain topics in detail first before introducing one or more Maplets. All Maplet material and exercises are given in separate, clearly labeled sections. Instructors can omit the Maplet sections without any loss of continuity and non-Maplet examples and exercises can be completed with, at most, a simple hand-held calculator. The Maplets are available for download at. A Gentle, Hands-On Introduction to Cryptology After introducing elementary methods and techniques, the text fully develops the Enigma cipher machine and Navajo code used during World War II, both of which are rarely found in cryptology textbooks. The authors then demonstrate mathematics in cryptology through monoalphabetic, polyalphabetic, and block ciphers. It also explores current U. Kraft and Lawrence C. For many years it was one of the purest areas of pure mathematics, studied because of the intellectual fascination with properties of integers. More recently, it has been an area that also has important applications to subjects such as cryptography. An Introduction to Number Theory with Cryptography presents number theory along with many interesting applications. Designed for an undergraduate-level course, it covers standard number theory topics and gives instructors the option of integrating several other topics into their coverage. Specifications and Implementations As the use of wireless devices becomes widespread, so does the need for strong and secure transport protocols. Even with this intensified need for securing systems, using cryptography does not seem to be a viable solution due to difficulties in implementation. The security layers of many wireless protocols use outdated encryption algorithms, which have proven unsuitable for hardware usage, particularly with handheld devices. Summarizing key issues involved in achieving desirable performance in security implementations, Wireless Security and Cryptography: Specifications and Implementations focuses on alternative integration approaches for wireless communication security. It gives an overview of the current security layer of wireless protocols and presents the performance characteristics of implementations in both software and hardware. This resource

also presents efficient and novel methods to execute security schemes in wireless protocols with high performance. It provides the state of the art research trends in implementations of wireless protocol security for current and future wireless communications. Unique in its coverage of specification and implementation concerns that include hardware design techniques, Wireless Security and Cryptography: Specifications and Implementations provides thorough coverage of wireless network security and recent research directions in the field.

Chapter 5 : Cartography Thematic Map Design PDF download free, reading

Cartography: Thematic Map Design / Edition 2 This introductory textbook introduces students to the different types of map projections,map design,and map production. Cartography is generally a sophomore or junior level course for geography majors and many professors are beginning to introduce computer cartography throughout the course.

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Chapter 7 : Cartography: Thematic Map Design - Borden D. Dent - Google Books

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Chapter 8 : McGraw-Hill Education Canada Highereducation

In this short guide, we share some insights and tips for designing maps. Our goal is to cover important concepts in cartography and flag the important decision points in the map-making process. There isn't always a single best answer in cartography, and in those cases we've tried to outline some of the pros and cons to different solutions.

Chapter 9 : Borden Dent - Wikipedia

This introductory textbook introduces students to the different types of map projections, map design, and map blog.quintoapp.comraphy is generally a sophomore or junior level course for geography majors and many professors are beginning to introduce computer cartography throughout the course.