

HOMENAJE A LA PATRIA : Latin American National Atlases

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ATLAS DE COLOMBIA. Fourth edition. Edited by the Instituto Geográfico Agustín Codazzi. (Bogotá: Instituto Geográfico Agustín Codazzi, 1992. Pp. 321.)

ATLAS NACIONAL DE MEXICO. 3 volumes. Edited by the Instituto de Geografía, Universidad Nacional Autónoma de Mexico. (Mexico City: Universidad Nacional Autónoma de Mexico, 1990. 159 sheets.)

NUEVO ATLAS NACIONAL DE CUBA. Edited by the Instituto de Geografía de la Academia de Ciencias de Cuba and the Instituto Cubano de Geodesia y Cartografía. (Havana: Academia de Ciencias de Cuba, 1989. Pp. 279.)

ATLAS DE PERU. Edited by Carlos Peñaherrera del Aguila. (Lima: Instituto Geográfico Nacional, 1989. Pp. 400.)

ATLAS NACIONAL DE LA REPUBLICA DE PANAMA. Edited by Instituto Geográfico Nacional "Tommy Guardia." (Panama City: Instituto Geográfico Nacional "Tommy Guardia," 1988. Pp. 222.)

ATLAS DE BOLIVIA. Edited by the Instituto Geográfico Militar. (La Paz: Comando General del Ejército y Ediciones Geomundo, 1985. Pp. 227.)

National atlases are unique documents. They are typically monumental works, as evidenced by their large format and the quantity and array of information included in them. Such works are not simply atlases that focus exclusively on a single country. To be considered a true "national atlas," such a work must meet specific criteria: "it must be produced under the aegis or with the approval of the national government; it must attempt as its goal to provide broad thematic coverage of one nation; and it must be produced at a high intellectual and cartographic standard so as to be useful for scholarly research, although it may serve pedagogic functions" (Kent 1986, 123). Thus an atlas on a country produced and published privately would not constitute a national atlas, nor would one produced by the national government if the thematic coverage were restricted, as in atlases focusing on natural resources or population. Hence the *Atlas of Mexico* produced recently by scholars in the United

States and published by Westview Press does not qualify as a national atlas (see Pick, Butler, and Lanzer 1989).

The first national atlas was published in Finland in 1899, and many Western European countries have published national atlases since then. Publication of national atlases in developing countries became increasingly common after World War II, especially in those under the colonial control of European nations. In Latin America, Brazil (in 1966) and Honduras (in 1969) were among the first to publish national atlases, which became increasingly common throughout the 1970s. Since that time, publication of national atlases by Latin American countries has increased along with these works' level of sophistication. In the past few years, countries including Colombia, Peru, and Cuba have produced revised editions of earlier national atlases.

The atlases reviewed here represent both initial efforts at producing a national atlas and revised editions. The national atlases published in recent years for Latin American countries have received little attention in the English-speaking scholarly community, even among geographers and cartographers. Only the *Atlas nacional de Mexico* (García and Pérez 1992; Gormsen 1992) and the *Nuevo atlas nacional de Cuba* (Oliva et al., 1989) have been noted in the English-language geographical literature. This neglect is particularly unfortunate because the national atlases under review here have been produced at a high level and incorporate a wealth of maps and other material on a broad range of thematic topics based on original research and primary sources. Scholars from many fields will find these atlases rewarding sources of information.

The *Atlas nacional de Mexico* published in 1990 is an excellent example of a fine national atlas, comparable in format, size, topical coverage, and quality to the best national atlases ever produced. This three-volume work was conceived by geographers at the Instituto de Geografía at the Universidad Nacional Autónoma de Mexico in the mid-1980s and was brought to fruition with the strong support of the university, the Consejo Nacional de Ciencia y Tecnología, and the Instituto Nacional de Estadística. Important advisory support was provided by the Instituto de Geografía de la Academia de Ciencias de Cuba, as reflected in the listing on the title page of nearly thirty Cuban advisors. Hundreds of other individuals assisted in research, map design, map editing, and production of the map sheets.

From a physical standpoint, this atlas is overwhelming. It is presented in three large folio volumes measuring 27 by 18.5 inches. The individual map sheets, printed in full color, are organized in loose-leaf fashion in each of the folio volumes. Each map sheet is designed as a document that can stand alone. Each sheet measures about 26.5 by 36 inches when opened (for storage in the folio volumes, each sheet is folded in half). Each map sheet consists of four half-pages. The first half-page

simply identifies the map title and its sequence number in the atlas. The maps and other supplemental graphic material are presented on the open sheet (the second and third half-pages). The last half-page includes English and French translations of the map legend and the names of map authors and coauthors, consultants, institutional contributors, reviewers, and bibliographic sources.

Mexico and the thematic data on the country are presented in a variety of formats. These range from portrayals of Mexico that require the entire open sheet (at a scale of 1 to 4,000,000) to layouts presenting as many as fifteen maps of the country on the same open sheet format (at 1 to 24,000,000).

The *Atlas nacional de México* is divided into seven large sections according to topic: introductory materials (general maps), history, society, nature, environment, economy, and Mexico in the world. The contents are dominated by the two sections on nature and the economy, each accounting for nearly a third of all map sheets. Content in these two sections is fairly standard: nature includes map sheets covering geology, tectonics, relief, climate, agroclimatology, hydrology, soils, biogeography, and oceanography; the economy section focuses largely on the primary sector and covers agriculture, forestry, fisheries, mineral resources, energy, transport and communication, tourism, commerce and services, and regional economic structures. The smaller sections on history, society, and the environment along with the introductory section and the concluding section on Mexico in the world make up the rest of the atlas.

Scholars and others interested in Mexico will find a wealth of carefully researched data on the maps in the *Atlas nacional de México*. For example, two maps in the history section detail the historical geography of armed movements and violent social unrest in Mexico. The first map sheet portrays events on a national scale, while the second sheet depicts seventeen regional and local maps examining these movements more closely. In the section on society, elements of popular culture are considered on a map sheet, including popular art, religious festivals, non-religious festivals, and a temporal analysis of festivals. Even an economic entomologist can find useful information in this atlas: a map in the economy section considers beekeeping, providing data on state totals for honey and wax production, movements of migratory beekeepers, and the extent of the advance of the Africanized honeybee in Mexico.

The cost of great informational detail on individual maps can sometimes be high, an occasional outcome in this atlas. Some maps are loaded with too much data that require overly complex graphic symbols; other maps simply require considerable time and thought to decipher; and still others may be beyond the abilities of some users. For instance, the maps portraying Mexico's geomorphology and natural regions use more than eighty different area-shading patterns.

The *Atlas nacional de México* lacks some elements. It contains neither an index nor a general bibliography. Instead, the bibliographic citations for each map sheet are included on the back of that map sheet. Finally, beyond the legend material, there is no textual interpretation of the maps. Some cartographers and geographers may view that as a strength, but other scholars may disagree.

Cuban geographers and cartographers have compiled considerable experience in atlas production in publishing the *Atlas nacional de Cuba* in 1970, the *Atlas de Cuba* in 1978, and the *Atlas demográfico de Cuba* in 1979. The *Nuevo atlas nacional de Cuba* is a monumental volume that clearly builds on this earlier work. It represents a cooperative effort by the Instituto de Geografía de la Academia de Ciencias de Cuba, the Instituto Cubano de Geodesia y Cartografía, and the Instituto Geográfico Nacional de España. Fifteen hundred individuals from more than 150 institutions in Cuba assisted with the research or production of the atlas (Oliva et al. 1989).

This giant atlas measures about 25 by 21 inches, totals 220 pages of full-color map plates, and weighs nearly nineteen pounds. It is bound with post bindings (screws used to bind large and unwieldy volumes). *Nuevo atlas nacional de Cuba* portrays Cuba in a variety of map scales varying from full two-page spreads (at 1 to 1,000,000) to single pages showing eight small maps of the island nation (at 1 to 4,000,000). Maps at even smaller scales (at 1 to 40,000,000) examine Cuba's position in a regional context, while large-scale maps portray topics as diverse as cities and biosphere reserves (at 1 to 50,000).

The first chapter places Cuba in its regional context. This chapter also includes early cartographic portrayals of the island, detailed plans of fifteen Cuban cities, the evolution of the island's territorial administration, and samples of different types and scales of cartographic products of various Cuban mapping agencies.

Nearly half the atlas concentrates on the physical environment. The maps in this portion of the atlas are divided into eleven chapters. Considerable attention is devoted to surface geology, geophysical conditions, karst landscapes (areas where limestone deposits dominate the geology), and surface relief. Equal emphasis is placed on climatic conditions, with maps examining Cuba's tropical maritime climate in its Caribbean context as well as detailed maps portraying a variety of climatological variables for the island. A lengthy chapter also examines the nation's marine environment, while shorter sections discuss hydrology, soils, vegetation, wildlife, and natural resources. The remaining twelve chapters examine the country's human geography. History and revolution, population and settlements, social infrastructure, and the agricultural economy all receive detailed treatment, while somewhat less space is dedicated to industry, transportation and commerce, and human-environmental inter-

action. Landscapes, the sugar economy, construction, regional economies, and international trade are examined briefly.

The *Nuevo atlas nacional de Cuba* is a cartographer's dream—short on text and long on high-quality maps. Each of its twenty-four chapters has only a single page of text, at the beginning. Almost every map is clearly focused and attractively presented with a clear understandable legend. Pictures, diagrams, and other graphics often supplement the maps by adding interpretive detail. The intellectual authorship of each map is attributed, an unusual but useful feature. Unfortunately, however, no bibliographic sources are indicated on the published maps, and the atlas's bibliography is less than a page long.

Colombian geographers and cartographers also have much experience in national atlas production because the *Atlas de Colombia* issued under the aegis of the Instituto Geográfico Agustín Codazzi is now in its fourth edition (1992). Colombian cartographers and geographers are proud of their abilities and state categorically in the introduction that the atlas was "produced totally by Colombian personnel," apparently contrasting the genesis of their atlas with other national atlases produced with significant numbers of foreign advisors or participants.

Like most national atlases, the *Atlas de Colombia* was produced in full color in a large bound format, 19 by 13.5 inches. It runs to 321 pages, divided into an introduction, eight chapters, and an appendix. Maps portraying the entire country are characteristically presented in three formats: the first requiring two full pages (at 1 to 3,400,000), another utilizing one full page (at 1 to 5,000,000), and a third that presents two maps on a single page (at 1 to 7,000,000). Regional maps or those focusing on administrative regions utilize larger scales. Introductory material consists of a short introduction followed by two chapters on astronomy, the solar system, and the earth, including the atmosphere, hydrography, geology, landforms, and cartography. This kind of general information might be included in school atlases or introductory geography or astronomy texts, and none of it deals specifically with Colombia.

Much of this atlas (nearly 40 percent) consists of reference maps of Colombia organized into two chapters on the map of Colombia and the administrative geography of Colombia. In the first, the country is divided into twelve areas, each one examined in a standard format. A two-page spread portrays each area with a topographic map (at 1 to 700,000) and a drawing depicting an aerial perspective view of the area covered by the map. The following two pages present thematic maps on the area's geology, ecological regions, land-use capacity, and regional organization. A page of photographs illustrates each of the mapped areas. In the seventh chapter on the administrative geography of Colombia, each major administrative unit is represented at scales varying from 1 to 900,000 to 1 to 2,200,000. Large-scale maps of many of Colombia's large and medium-

sized cities are also included, along with a few maps of the country's judicial, political, and ecclesiastical regions.

Only a small proportion of this national atlas (about a third) is devoted to thematic maps. They are organized into three chapters on physical, human, and economic geography: each chapter opens with an overview of several pages, followed by a series of mostly country-level maps, and closes with two pages of photographs. The *Atlas de Colombia* ends with a short discussion of the historical cartography of the country and an appendix that includes a detailed index of place names and a general bibliography.

The *Atlas de Perú*, published in 1989, is also impressive: 400 pages in a large format, 20 by 14 inches. Approximately half of the atlas is devoted to maps, while the other half is devoted to textual interpretations and explanations of them. Printed in full color, this atlas is also bound using post bindings and weighs close to eleven pounds. While its production was primarily the responsibility of the Instituto Geográfico Militar (a division of the Peruvian Army), a civilian geographer served as editor and more than sixty individuals are listed as scientific collaborators, along with seventeen institutions.

Most of the maps in this atlas focus on the entire country, using three basic layouts: a full-page portrayal of Peru (at 1 to 1,500,000); a smaller scale map of the country (at 1 to 7,200,000) that occupies about a third of a page; and page layout with four maps of the country (each at a scale of 1 to 11,000,000). The cartography is generally of high quality, although some maps use pictorial symbols that can be difficult to interpret. The *Atlas de Perú* also suffers somewhat from a lack of formal organization in that no chapters or sections direct the reader to the volume's major thematic sections, a situation that forces the reader to peruse the fine print of the table of contents carefully.

The *Atlas de Perú* opens with a long introductory section (nearly 50 pages) reminiscent of school atlases published in many Latin American countries. This section includes full-page treatments of "nationalistic" material like the Peruvian flag, the nation's emblem, and the text of the national anthem. Additional material is included on the heavens, the stars, the solar system, plate tectonics, and map projections, followed by introductory content more pertinent to Peru: historical maps by early cartographers; portrayals of the discovery, exploration, and conquest of Peru; and discussion of the type of map products available from the Instituto Geográfico Militar.

The next 150 pages (almost 40 percent of the volume) form the core of this atlas, mainly maps and sections of interpretative text. Anthropology, territorial division, and border conflicts occupy about 30 pages in this section. An extensive section on the physical environment (nearly 60 pages) examines climate, ecological regions, seismology, hydrology, soils,

mineral resources, and flora and fauna. Human use of the environment occupies the remainder of the section, including discussions of agriculture, fishing, industrial activity, transport and communication, education, and population characteristics.

A series of department level maps follows, occupying more than 50 pages. Here one finds a map of each of Peru's twenty-six departments portraying its main administrative divisions and provinces as well as the location of its towns, villages, and noteworthy environmental features. On the page facing each departmental map is a full-page satellite image of each department.

The remaining third of the *Atlas de Perú* is almost exclusively text, including detailed descriptions of the country's hydrology (individual river systems, descriptive and statistical material on agriculture, fisheries, minerals, and flora and fauna), a textual overview of each department, and a detailed listing of departments, provinces, and districts that provides their geographical definition and legal status. The atlas ends with a thorough index of place names. No general bibliography is provided at the end, although many of the maps and text sections contain reference material. Unfortunately, these citations are at times not very specific, and a researcher looking for more information would be hard-pressed to follow up on the citation.

The *Atlas nacional de la República de Panamá*, published in 1988 by the government's Instituto Geográfico Militar Tommy Guardia, represents the third edition of that country's national atlas (earlier editions were published in 1965 and 1975). The present version diverges considerably by including a much greater range of thematic content (the editors claim that about half of the thematic content is new). The introduction acknowledges technical and financial assistance in producing the atlas from the Japanese International Cooperation Agency.

The Panamanian atlas is large, 18.5 by 15 inches, and runs to 222 pages. It is printed in full color and bound in a standard book binding. Panama is portrayed in a variety of scales and page formats ranging from a relief map (at 1 to 500,000) that occupies six full pages to individual maps (at 1 to 4,000,000), six to a page. About half the maps are presented at a scale of 1 to 1,000,000, which requires two full facing pages to portray the country. In the section dealing with industry, large-scale maps (at 1 to 100,000) focusing only on the area of Panama City are used. The atlas also includes a number of maps demonstrating the country's links to the world: import-export trade, canal traffic, telecommunications, tourist origins, and Panamanians abroad.

Most of the *Atlas nacional de Panamá* is occupied by maps (more than 70 percent), but it includes significant amounts of text as well (about 20 percent). Each map is accompanied by textual description or interpretation, which is often supplemented by graphs, charts, tables, or

diagrams. Data sources and references are included in these sections, and in some cases the statistical methodology used to process the mapped data is explained. The introductory material, a population table covering the nation's administrative units and cities, and an index fill the remainder of the atlas.

The thematic content of the *Atlas nacional de Panamá* varies widely and is organized into fifteen chapters or sections. Maps of the physical environment and agricultural conditions account for nearly 40 percent of all the maps. About the same proportion of maps focuses on population, education and culture, health and social conditions, industry, and transportation and commerce. Another 10 percent of the maps are reference maps depicting urban areas, administrative subdivisions, and the country's geographic regions. The remaining 10 percent of the maps cover land resources, forestry and fishing, commerce and services, and electoral conditions.

Intellectually and technically, the *Atlas nacional de Panamá* is of high quality: the maps are focused and clearly presented; and the thematic content is broad and well balanced. Some maps have small problems with color registration and color schemes, but these problems are only minor.

The *Atlas de Bolivia* was produced by Bolivia's Instituto Geográfico Militar and published in Spain by Geomundo in 1985. Its 227 pages are printed in full color and produced in a large size, 17.5 by 13 inches. The production of this atlas was preceded by at least two earlier efforts, the *Atlas geográfico de Bolivia* (a shorter atlas produced by the Instituto Geográfico Militar), and the *Atlas censal de Bolivia* (produced by the Instituto Nacional de Estadística in 1982).

The *Atlas de Bolivia* is divided into five main sections. The first three sections (nearly two-thirds of the atlas) are largely introductory. The first examines the earth and space, including the solar system, the atmosphere, the earth's structure, hydrology, world climates, and world soils. The second section focuses on Bolivia, but mainly on cartographic portrayals providing historical perspective: good reproductions of seventeenth- and eighteenth-century maps of the Western Hemisphere, maps of Peru and Upper Peru, and early maps of the Bolivian republic with supplemental text sections. The third and longest section (90 pages) examines the territorial division of the country: the country's principal administrative divisions and departments, with maps, text, and photographs. Each of the nine departments is treated similarly: a page or two of descriptive text followed by a full-page political map of the department with basic information on settlements, transportation, administrative divisions, and hydrology (at map scales varying between 1 to 1,000,000 and 1 to 3,000,000). On each facing page, a Landsat image-mosaic of the department is presented, with settlements, urban centers, rivers, and

significant terrain features labeled. Each departmental treatment also includes a full-page black-and-white aerial photograph of the department capital along with a page or more of color photographs of the department's landscapes and peoples.

The final two sections of the *Atlas de Bolivia* (the last third) present thematic maps of the country. Except for several pages of text discussing the nation's soils and one or two graphics, this section is completely devoid of text or supplemental graphics. Most maps are presented in a format of one per page, which portrays Bolivia at a scale of 1 to 5,000,000. A few maps are presented at 1 to 7,500,000, which allows two maps of Bolivia per page. The next-to-last section supposedly focuses on natural resources and does so up to a point. Geology, tectonics, minerals, metals, soils, vegetation, rainfall, and climate are all treated here, but so are maps of colonization, agrarian reform, postal services, communications, hotel infrastructure, and archaeological sites. The final section examines population and human resources. It opens by discussing the country's population characteristics, and almost all the maps here examine various permutations of basic population statistics: urban populations, population distribution, age-sex characteristics, migration, education levels, language use, and the evolution of the Bolivian population.

Several key elements are missing from the *Atlas de Bolivia*. It has no general bibliography, and the sources cited on most maps are too vague to be of much use (as in citing a government ministry as a source). The atlas also lacks a geographical index, a surprising omission given the large number of departmental reference maps included in the volume. Nor is there a list of institutional and scholarly participants, although a few individuals and institutions are cited here and there throughout the atlas.

Unfortunately, the thematic content of the atlas is incomplete. It provides no coverage of Bolivian economic conditions. Although primary economic activities, especially agriculture and mining, are key elements in the country's economy, the *Atlas de Bolivia* provides no maps of predominant agricultural economies, cropping complexes, or even distribution or production levels for specific crops or animals. The same can be said about the noncoverage of the mining sector. Nor are secondary or tertiary sectors portrayed in any kind of cartographic representations of commerce, industry, and services.

The quality of the national atlases reviewed here varies from outstanding to just slightly above acceptable. Yet all are useful reference sources that should be obtained for the library at any university with a Latin American studies program or an emphasis on the region. The utility of some contents, especially maps based on census data, will diminish over time, but much of the content, particularly maps portraying environmental, cultural, and historical data, will provide reference data for many years to come.

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