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FOREIGN OFFICIAL AND PRIVATE MAP PUBLISHERS - URUGUAY



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MAP PUBLISHERS OF URUGUAY

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I. INTRODUCTION

A. Present Status of Mapping

Uruguay is less advanced cartographically than the neighboring countries of Argentina and Brazil. Most of its maps are inadequate and out of date, and production is at a low level. Contoured topographic maps at 1:20,000 (9 sheets), 1:50,000 (34 sheets), and 1:200,000 (1 sheet) cover only about 10 percent of the country. The 34 sheets of the basic 1:50,000 series were produced between 1926 and 1950, and the present average output is 1 sheet a year. No further work at 1:20,000 is planned until the 1:50,000 set is completed and brought up to date, and work on the 1:200,000 sheets, to be compiled from the 1:50,000 set, is at a standstill for lack of data.

Fifteen agencies -- thirteen official and two private -- produce practically all the maps made in Uruguay. Topographic map series for public use are made only by the Servicio Geográfico Militar (SGM), of the Ministerio de Defensa Nacional. The Comisión de Límites y Caracterización de Fronteras Uruguay-Brasil of the Ministerio de Relaciones Exteriores, and the Dirección de Hidrografía (DH) and Dirección de Vialidad (DV), both in the Ministerio de Obras Públicas, produce extremely large scale maps of limited areas for official use only. Planimetric maps of departamentos are prepared by the Dirección de Topografía (DT) of the Ministerio de Obras Públicas, by the Dirección General de Cadastro (DGC) of the Ministerio de Hacienda, and by Prof. Horacio Ureta Martínez, the leading private cartographer of Uruguay.

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Hydrographic charts showing some relief are made by the Servicio Hidrográfico de la Marina (SH-M), of the Ministerio de Defensa Nacional, and river surveys for official use only have been made by the Dirección de Hidrografía and by various national commissions for the development of hydroelectric power. Road maps are published by the Dirección de Vialidad, the Oficina Nacional de Turismo (ONT), Prof. Ureta Martínez, the Centro Automovilístico del Uruguay (CAU), and various oil companies. Geological maps are made only by the Instituto Geológico del Uruguay (IGU) in the Ministerio de Industria y Trabajo. Crop and other agricultural maps are prepared occasionally by the Sección de Estadística Agronómica of the Ministerio de Ganadería y Agricultura.

Topographic maps at scales ranging from 1:20,000 to 1:50,000 cover less than 10 percent of the area of Uruguay. Since its founding in 1913, the Servicio Geográfico Militar has produced 9 sheets at 1:20,000 of the departamento of Montevideo and 34 sheets at 1:50,000 of southern Uruguay. The maps are of excellent quality, in both presentation and accuracy, but only one sheet has been revised and no further revisions can be made without stopping work on all new sheets. High-precision leveling and triangulation data by the SGM are available to all government mapping agencies.

Although the triangulation and leveling data in the files of the SGM are sufficient for a planimetric map at 1:500,000, and possibly at 1:250,000, the most recent official map of the country is one at 1:250,000 in 16 sheets issued by the Federación Uruguaya de Educación Vial (FUEV) in 1936; this map was reissued without revision in 2 sheets at 1:500,000 in

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1939. Because the presentation of roads, railroads, and hydrography is detailed and reliable for the date, the map has been a prime source for cartographers since its publication.

Fair to good planimetric maps at scales ranging from 1:100,000 to 1:200,000 have been produced for 11 of the departamentos by the Dirección de Topografía. Only one of these has been lithographed. Prof. Horacio Ureta Martínez compiled maps of 11 departamentos in 1938 at scales of 1:150,000 and 1:200,000. The Dirección General de Cadastro has compiled 1:100,000 maps of all 19 departamentos, but the coverage is of doubtful quality.

Reliable, though generalized, road maps at 1:1,000,000 are issued irregularly by the Dirección de Vialidad (DV) and usually every year by the Oficina Nacional de Turismo (ONT). Maps by the DV include construction status and projected roads, whereas the ONT maps show only completed roads. The Esso Standard Oil Company issued a 1:1,000,000 road map in 1949, which is regarded as the best road and general map of the country. Texaco also published a tourist map, at 1:1,200,000, in 1947, compiled by Prof. Ureta Martínez. Both the Shell-Mex Oil Company and the Centro Automovilístico del Uruguay have published booklets of strip maps for main roads.

Two special geological maps covering all of Uruguay have been made by the Instituto Geológico del Uruguay. The first, published in 1942, was a preliminary reconnaissance survey map and contained many errors. The second map, published in 1946, incorporates revised data but is highly

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generalized. Geological maps of eight departamentos have been issued at 1:250,000 but show little additional detail.

A small number of crop production and distribution maps based on official statistical returns by police districts are made by the Dirección de Agronomía. Police districts are the smallest administrative units of Uruguay.

General maps of departamentos, wall maps, road maps, and a school atlas containing 18 maps of Uruguay have been produced by Prof. Ureta Martínez. All the Ureta Martínez maps are compiled from official maps and statistical data and are thoroughly checked against aerial photographs to insure accuracy.

B. Development of Cartography

No maps or atlases have been of outstanding significance in the development of Uruguayan cartography. Although many general maps have been made, little is known of the sources of information used or of their accuracy. Probably cadastral and road and railroad surveys were the major sources of data for most of the maps. Road and railroad construction in the low, rolling grasslands of Uruguay, however, required only simple traverses. The traverses and cadastral surveys form the greater part of the reference map collections of the various bureaus of the Ministerio de Obras Públicas, which have the largest government map libraries. None of the maps, however, contain much data on topography.

There are practically no early official maps of Uruguay. In 1924, the Servicio Geográfico Militar reported in its Boletín (Vol. 1, 1924) that maps of the Republic at that date were principally the result of

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private initiative and that there were no good supporting geodetic surveys.

To provide a base for trigonometric and topographic surveys, work on the first official map of the country was begun in 1903. In 1905, the work was taken over by the Third Division of the General Staff of the Army, which compiled a map of each of the police divisions into which the country was divided. Copies of the maps were sent to the governors of all departamentos with requests for corrections and for further information on the locations of roads, bridges, and fords and the distances between the various features. The information received was compiled to produce a general map at 1:200,000, which was published in 1908.

In 1909, the Comisión Geográfica (Geographic Commission) was organized as a branch of the Estado Mayor del Ejército (General Staff of the Army) to establish a trigonometric net for the Republic and to produce a topographic map that could be used by all government offices and by private individuals. The Comisión Geográfica was replaced in 1913 by the Servicio Geográfico Militar (SGM), which also took over the geodetic section of the Ministerio de Obras Públicas (Ministry of Public Works) with all its archives and reference materials. The SGM began triangulation of the southern part of the country late in 1913. Rigid standards were set up for the triangulation, which was to serve as the basis for all future topographic surveys.

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II. INDIVIDUAL MAP PUBLISHERS¹

A. Official Map-Publishing Agencies

1. Comisión de Límites y Caracterización de Fronteras Uruguay-Brasil, Ministerio de Relaciones Exteriores (Commission on the Limits and Description of the Uruguay-Brazil Boundary, Ministry of Foreign Relations)

Calle Juan Carlos Gómez 1362, Montevideo
Mayor Julio C. Roletti, Alternate Delegate

This Commission is the official organization for studying the only land boundary of Uruguay. The Comisión is composed of three persons and a part-time draftsman. Field parties for the infrequent boundary surveys are borrowed from the Servicio Geográfico Militar. No maps have been published to date, but work is in progress on a 1:10,000 topographic map of the immediate boundary area. Plans have been made for a 1:1,000,000 map showing the status of the boundaries with Argentina and Brazil.

2. Comisión Técnica y Financiera de las Obras Hidroeléctricas del Río Negro (Technical and Financial Commission of the Río Negro Hydroelectric Works)

Calle Washington 317, Montevideo
Ing. Eduardo Terra Arocena, President of the Board of Directors
Ing. Luis Giorgi, Director General
Agrim. José A. Richero, Chief, Expropriations and Topography Section

This Commission, commonly known in Uruguay as "Rione," was set up to provide the city and vicinity of Montevideo with light and power from the Río Negro. The construction work having been completed, no maps

^{1/} All of the agencies discussed were visited by a US Foreign Service Geographic Attaché during 1946-47 and 1949-50. Agencies not visited have not been described.

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are now in progress or projected. Most of those produced were bound in reports. Four surveyors and two draftsmen employed during the period of study and construction have been dismissed.

3. Dirección de Hidrografía, (DH), Ministerio de Obras Públicas
(Bureau of Hydrography, Ministry of Public Works)

Calle 25 de Mayo 320, Montevideo
Ing. Humberto Rampoldi, Acting Director
Ing. Guillermo Rondini, Assistant Director

This bureau, was created to study, develop, and maintain existing inland waterways and to investigate potential waterways and possibilities for developing hydroelectric power and irrigation. All maps made in connection with such studies are for the use of the Ministerio de Obras Públicas. The staff is small and has produced few maps.

These are mainly detailed large-scale plans of reservoirs, canals, and power-plant sites. Surveys have been made of the Río Negro including the area of the new reservoirs, and of areas in the Department of Rocha. No change in type or quantity of production is planned.

All material for the maps is taken from surveys by DH engineers and, presumably, is based on SGM control. The maps are drafted and lettered by hand. No maps produced by the DH are available in Washington except a few that appear in reports. It is therefore impossible to evaluate their cartographic presentation, content, and utility for use in the United States.

4. Dirección de Saneamiento (DS), Ministerio de Obras Públicas
(Bureau of Sanitation, Ministry of Public Works)

Calle José Martí 3379, Montevideo
Ing. Adam Gianoni, Director

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This little-known bureau produces maps exclusively for the use of the Ministry of Public Works. Although small, it has produced 146 plans of Uruguayan cities and towns at scales ranging from 1:1,000 to 1:10,000. These plans were compiled to show street patterns in relation to existing drinking water and sewage systems. None of the plans are very detailed. Drafting is entirely by hand, usually for ozalid reproduction.

5. Dirección de Topografía (DT), Ministerio de Obras Públicas
(Bureau of Topography, Ministry of Public Works)

Calle Piedras 421, Montevideo
Agrimensor José Pedro Astigarraga, Director
Guillermo Soler, Chief, Drafting Office

This bureau is a small map-making office in the Ministerio de Obras Públicas that makes large-scale cadastral maps and general maps of departamentos principally for the use of the Ministry and other government agencies; a few maps annually are issued for public use. The agency has no counterpart in any other country of South America.

Only planimetric maps of the departamentos of Uruguay are made by the DT. Except for those accompanying special reports, the maps range in scale from 1:100,000 to 1:200,000. All are based principally on surveys along roads and railroads. It is planned to continue work on the maps now in construction and to produce complete, detailed maps at large scale for all the departamentos of Uruguay. A map at 1:100,000 of Cerro Largo is expected to be printed in 1950; work is in progress on maps of Lavalleja at 1:50,000 and of Paysandú, Río Negro, Rivera, Tacuarembó, and Treinta y Tres at 1:100,000.

To date, the DT has added little to the mapping of Uruguay. The map of the departamento of Canelones at 1:110,000, 1946, is the only

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lithographed map produced by the DT, none of the other maps being considered complete enough for publication except as ozalid prints. All cartographic work is done by hand. Legends are adequate, but no coordinates or grids of any kind are used. Detail is limited to boundaries of police divisions (similar to countries), hydrography, roads, railroads, and towns.

6. Dirección de Vialidad (DV), Ministerio de Obras Públicas (Bureau of Public Roads, Ministry of Public Works)

Calle Piedras 387, Montevideo

Ing. Roberto Pellarolo, Director

Ing. Victor E. Selasco, Assistant Director

Ing. Humberto Rampoldi, Chief, Department I, Construction and Conservation (on leave)

Ing. Civil Ezequiel Sánchez González, Chief, Department II, Studies and Projects

Ing. José Mauthone Falco, Chief, Department III, Administration

This bureau is an official map-making agency that prepares most of its maps for the Ministry of Public Works. Only maps of Uruguay are made -- principally small-scale maps for use in reports, and sketches, profiles, and large-scale detailed plans for projected roads. Maps and plans are also made to accompany descriptions of projected or completed work and are published in Rutas (Routes), the official monthly highway journal for public distribution.

Data used in compilation are from DV tachymetric surveys based in part on SGM controls. Fifty-two engineers are employed. The cartographic staff, however, is small, and all drafting and lettering are done by hand.

The latest DV map available in Washington is the 1:700,000 map, issued in 1947 and now being revised, which shows highways completed, under construction, and under consideration, as well as municipal and dirt roads.

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Road information is reliable and the status of roads is adequately presented in generalized form, but the cartography is not good.

7. Instituto Geológico del Uruguay (IGU), Ministerio de Industria y Trabajo (Geologic Institute of Uruguay, Ministry of Industry and Labor)

Av. Julio Herrera y Obes 1239, Montevideo

Ing. Eduardo Terra Arocena, Director General and Inspector General of mines.

Ing. Lorenzo Buquet, Assistant Director and Chief, of the Hydrology and Well Drilling Section

Ing. Juan Caorci, Chief, Economic Geology Section

Ing. Nicolas Serra, Geologist

The IGU is the official geological mapping agency of the country, with functions comparable to those of the US Geological Survey. Geological maps are issued principally for the use of the Ministerio de Obras Públicas. The small staff consists of eight engineer-geologists, eight assistants, and one draftsman, and the number of maps issued is also small.

Only geological maps of Uruguay are published, usually to illustrate articles in bulletins of the IGU. Generalized geological maps have also been made of the entire country at 1:750,000, of northeastern Uruguay at 1:500,000, and of each of the departamentos of Cerro Largo, Colonia, Durazno, Paysandú, Rivera, Soriano, Tacuarembó, and Treinta y Tres at 1:250,000. Most of the maps are dated 1939 or later. Work is now in progress on geologic maps of the departamentos of Flores and San José at 1:250,000 and of Montevideo at 1:100,000. When all the departamentos have been covered, it is planned to make a set of more detailed maps at 1:200,000, each with an accompanying explanatory folio.

Information shown on the maps is taken from geological and geographical data in the IGU files, which are checked and supplemented by reconnaissance

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surveys by IGU geologists. One cartographer-draftsman does most of the drafting by hand. Geological formations are indicated by full color or line symbols, but no relief is shown. Only geological and major cultural and hydrographic features are given. About half the maps have no coordinates and the remainder have stub coordinates. Legends are simple but adequate. Since all the maps are generalized, they are not recommended even as bases for other work.

8. Oficina Nacional de Turismo (ONT), Comisión Nacional de Turismo
(National Tourist Office, National Tourist Commission)

Av. Sarandí 394, Montevideo
Dr. Gualberto Rodríguez Larreta, General Manager
Dr. Pablo Marcotte, Chief of Information

The ONT is the operating section of the Comisión Nacional de Turismo and the official agency for the dissemination of tourist information. It produces maps of roads and recreation areas of Uruguay for public distribution. Because of inadequate ONT equipment, large-sized ONT maps are usually drafted in the cartographic section of the Servicio Geográfico Militar.

A 1:1,000,000 road map of Uruguay is issued irregularly, and small maps of recreation areas and route strips for roads leading from Montevideo to the various beaches and resorts are issued for each summer season. Only maps of these types are scheduled for the near future, although town plans of resort areas may be added.

Data for the road map are obtained from the files of the ONT and of the Dirección de Vialidad of the Ministerio de Obras Públicas. Both sources are up to date and reliable. The ONT 1:1,000,000 map is compiled and drafted in the cartographic section of the SGM and is neat, clear, detailed and accurate. Most of the other ONT maps are gaudy and overly generalized.

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9. Sección de Estadística Agronómica (SEA), Dirección de Agronomía, Ministerio de Ganadería y Agricultura (Agronomic Statistics Section, Bureau of Agronomy, Ministry of Livestock and Agriculture)

Calle Uruguay 821, Montevideo
Ing. Agron. Alfredo L. Weiss, Chief, Agronomic Statistics Section
Ing. Agron. Ricardo Christophersen, Assistant Chief

The SEA is one of the small map-making offices under the Ministerio de Agricultura. Only small specialized maps of agricultural production in Uruguay are prepared, usually for publication in reports or in the statistical bulletin. A set of maps and overlays for all the major agricultural products of the country was prepared for exhibition at the Uruguayan Information Bureau in New York City in 1946. Few maps, however, have been published to date.

The principal source materials used are official statistical data received by police divisions (counties). The information is plotted on base maps by the one cartographer-draftsman on the staff. All work is done entirely by hand. The following maps made by SEA are available in Washington at present:

1. Rendimientos medios de la cosecha de trigo 1948/49, por secciones policiales con más de 500 hectáreas de cultivo. (Average yield of the crop of wheat 1948/49, by police divisions having more than 500 hectares in cultivation)
2. Distribución del área sembrada con cebada cosecha de 1948/49 (Distribution of the area sown with barley, 1948/49 crop)
3. Distribución del área sembrada con trigo, cosecha de 1948/49 (Distribution of the area sown with wheat, 1948/49 crop)
4. Mapa del Uruguay con la delimitación aproximada de las secciones policiales (Map of Uruguay showing the approximate limits of police divisions)

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10. Servicio Cooperativo Interamericano de Salud Pública (SCISP),
Ministerio de Salud Pública (Inter-American Cooperative Service for Public
Health, Ministry of Public Health)

Av. 18 de Julio 2083, Montevideo
H. Jackson Davis, M.D., Chief of Party

The SCISP is operated jointly by the Uruguayan Ministerio de Salud Pública and the US Department of State for the purpose of maintaining public health service in Uruguay. No regular cartographic programs have been followed, and SCISP has only one part-time draftsman. The only maps now in progress are a series of city and town plans for use in connection with the yellow fever eradication program. Most of the plans are drafted in the Ministerio de Salud Pública, with some financial and drafting assistance from SCISP.

11. Servicio Geográfico Militar, Estado Mayor del Ejército (SGM),
Ministerio de Defensa Nacional (Military Geographic Service, General Staff
of the Army, Ministry of National Defense)

Av. 8 de Octubre 3255, Montevideo
Cnel. Alberto Bergalli, Director
Tte. Cnel. Saul Graceras, Assistant Director and Technical Inspector
Tte. Cnel. César R. Villalba, Chief, Division of Cartography
Tte. Cnel. Alberto Fossemalle, Chief, Division of Topography
Major Hugo Frigerio Herrán, Chief, Division of Geodesy

The SGM is the official Uruguayan agency responsible for geodetic control and topographic mapping. It was organized in 1913 for the purposes of establishing a trigonometric net for the country and compiling a topographic map that could be used by all official agencies as an accurate base for their work. In size of staff and possibly in the total number of maps produced, it is the largest map-making agency in the country. Of the 60 or more persons working in the organization, 48 are field surveyors who serve on four 12-man teams, only three or four are cartographers, and most

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of the remainder are on the administrative staff.

Only topographic maps of Uruguay are produced by the SGM, the principal publication being the sheets of the 1:50,000 set, which is eventually to cover the entire country. To date, maps have been produced at three scales -- 1:20,000, 1:50,000, and 1:200,000. A 9-sheet topographic map at 1:20,000 of the Department of Montevideo was published in 1920, but no revisions have been made nor additional sheets issued, and no others are planned until the entire country is mapped at the basic scale of 1:50,000. Between 1926 and 1950, only 34 sheets at 1:50,000 were published. These cover the southern coastal area of Uruguay, less than 10 percent of the total area. Surveys have been completed for three more sheets and are in progress for two others. Of the 25 projected sheets at 1:200,000 that are to be compiled from published sheets of the 1:50,000 set, only one has been completed. No others are contemplated until more 1:50,000 coverage is available.

The mapping program of the SGM is progressing slowly because the four surveying teams now available for field work usually cover about 250 square miles -- sufficient for only one sheet at 1:50,000 -- during the eight months spent in the field each year. Since no funds are available for additional personnel or field and office equipment, no increase in production can be expected in the near future.

SGM field surveys at 1:20,000 are the principal source materials for the 1:50,000 sheets. Other sources include some old geodetic and topographic data acquired from the Ministerio de Obras Públicas when the SGM was established in 1913, and recent triangulation and leveling of high

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quality done by the SGM, the Servicio Hidrográfico de la Marina, and by various offices in the Ministerio de Obras Públicas.

Cartographic methods of the SGM are not up to date in all respects. Although trimetrogon aerial photographs are available, the organization has no equipment or personnel trained for aerial photogrammetric work. All SGM maps are printed in the Imprenta Nacional (Government Printing Office).

In cartographic presentation, amount of detail, and accuracy, the 1:50,000 maps are comparable to the best maps of the US Geological Survey or Army Map Service.

12. Servicio Hidrográfico de la Marina (SH-M), Ministerio de Defensa Nacional (Hydrographic Service of the Navy, Ministry of National Defense)

Av. de las Instrucciones 1063, Montevideo
Capitán de Fragata Sergio Esteves, Director General
Tte. de Navío Atahualpa Soto, Chief, Sections of Administration and Astronomy
Tte. de Navío Carlos Filippini, Chief, Section of Hydrography and Cartography

The SH-M is the official hydrographic office of the Uruguayan Navy, and has the combined functions of the US Navy Hydrographic Office, Coast and Geodetic Survey, and Coast Guard. Charts of Uruguayan coastal waters and navigable rivers are made for the use of the Navy and Merchant Marine. The staff is small, and to date only about 25 sheets of coastal areas and 13 of the Santa Lucía River have been published, although many of the charts have been revised.

Unlike the US Navy Hydrographic Office and the British Admiralty, the SH-M compiles and prints charts of Uruguayan waters only. It does not

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reproduce charts issued by other countries, but master copies of the major foreign charts are kept up to date for reference use.

The entire coast of Uruguay has been mapped at scales ranging from 1:20,000 to 1:300,000, and plans have been issued for the major cities and ports at 1:5,000 to 1:20,000. The Uruguay River has been charted in part, and the Santa Lucía River has been charted on 13 sheets at 1:10,000. At present, survey parties are working on the remainder of the Uruguay River and its many islands, the lake formed by damming the Río Negro, and revisions of some already published charts.

As Uruguay is a small country with a comparatively short seacoast and few navigable rivers, a staff of three cartographer-draftsmen is able to perform all the work required. Most of the drafting and lettering is done by hand, but as a result of long training the draftsmen are skilled and rapid. The SH-M has no printing establishment of its own and all of its charts are printed by the Imprenta Nacional.

The Uruguayan hydrographic charts are comparable in content and quality of drafting to those of Brazil and Argentina, which are generally considered the best charts issued in Latin America. SH-M has been commended by US Navy Hydrographic Office officials for the excellence of its charts. Control and hydrographic data, which are taken from original surveys by SH-M personnel, are reliable.

13. Servicio Meteorológico del Uruguay (SMU), Inspección General de la Marina, Ministerio de Defensa Nacional (Uruguayan Meteorological Service, General Inspectorate of the Navy, Ministry of National Defense)

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Calle Cerrito 73, Montevideo
Capitán de Navio Samuel Galimberti, Director
Anibal Ribeiro Reissig, Technical Inspector and Chief of Climatological
Investigation Division

The SMU is the official weather bureau of the country. Data for study, compilation, and publication are collected from 22 meteorological stations and over 425 rainfall stations. Although daily synoptic weather maps are prepared, lack of funds prevents their publication. Charts, diagrams, and graphs of weather conditions are also prepared but seldom published. A Boletín is published at irregular intervals.

B. Private Map Publishers

14. Guías Araújo

Calle Misiones 1523, Esc. 2, Montevideo
Horacio Araújo Villagrán, Owner-manager

The Guías Araújo is a private company producing plans and street guides for the city of Montevideo. One or more draftsmen are hired when necessary to revise the regular 1:20,000 and 1:40,000 plans. The 1:20,000 plan is revised about every 5 years, whereas the 1:40,000 plan, issued as part of the street, bus, and streetcar guide, is revised every other year.

15. Prof. Horacio Ureta Martínez

Prof. Ureta Martínez is the best private cartographer in Uruguay. At present he has no official connections in Uruguay, having joined the cartographic staff of the United Nations Secretariat in New York in July 1950. At one time, however, he was on the staff of the Sección de Estadística Agronómica of the Ministerio de Agricultura, where he worked on the compilation of a number of maps of the departments of Uruguay. His most recent publications are maps for school and propaganda use.

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Working alone, Prof. Ureta Martínez has produced a large number of maps in recent years. Most of these are of Uruguay, but he has also made wall maps, an atlas, and illustrations for geography textbooks that cover a number of foreign countries and continents. He has published 11 maps of departments of Uruguay at the scales of 1:150,000 and 1:200,000, two general maps at approximately 1:1,000,000 (1945), a Texaco road map at about 1:1,200,000, and a 1:600,000 pictorial relief map with political, economic, and climatic insets (1950). Source material used included official surveys by the Servicio Geográfico Militar, Servicio Hidrográfico de la Marina, Dirección de Topografía, Dirección de Hidrografía, and the Dirección de Vialidad. Prof. Ureta Martínez owns a set of aerial photographs taken by the 6th Reconnaissance Squadron of the US Air Force for its 1:500,000 preliminary base of Uruguay, and uses these photos for checking any data of doubtful accuracy. On some of his recent maps, Prof. Ureta Martínez has used modern labor-saving techniques, such as the application of preprinted patterns. His maps are neat and legible, contain a large amount of accurate detail, and are reliable. They can be reproduced in black and white, without much loss of detail, and should be of considerable use to map compilers in the US.

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III. GLOSSARY

<u>Name of Agency</u>	<u>Abbreviation</u>
1. Centro Automovilístico del Uruguay (Uruguayan Automobiling Center)	CAU
2. Comisión de Límites y Caracterización de Fronteras Uruguay-Brasil, Ministerio de Relaciones Exteriores (Commission on the Limits and Description of the Uruguay-Brazil Boundary, Ministry of Foreign Relations)	---
3. Comisión Técnica y Financiera de los Obras Hidroeléctricas del Río Negro (Technical and Financial Commission of the Rio Negro Hydroelectric Works)	Rione
4. Dirección de Hidrografía, Ministerio de Obras Públicas (Bureau of Hydrography, Ministry of Public Works)	DH
5. Dirección de Saneamiento, Ministerio de Obras Públicas (Bureau of Sanitation, Ministry of Public Works)	DS
6. Dirección de Topografía, Ministerio de Obras Públicas (Bureau of Topography, Ministry of Public Works)	DT
7. Dirección de Vialidad, Ministerio de Obras Públicas (Bureau of Public Roads, Ministry of Public Works)	DV
8. Dirección General de Cadastro, Ministerio de Hacienda (General Cadastral Bureau, Ministry of Finance)	DGC
9. Federación Uruguaya de Educación Vial (Uruguayan Federation of Road Education)	FUEV
10. Guías Araújo (Araújo Guidebooks)	---

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<u>Name of Agency</u>	<u>Abbreviation</u>
11. Instituto Geológico del Uruguay, Ministerio de Industria y Trabajo (Geologic Instituti of Uruguay Ministry of Industry and Labor)	IGU
12. Oficina Nacional de Turismo, Comisión Nacional de Turismo (National Tourist Office, National Tourist Commission)	ONT
13. Sección de Estadística Agronómica, Dirección de Agronomía, Ministerio de Ganadería y Agricultura (Agronomic Statistics Section, Bureau of Agronomy, Ministry of Livestock and Agriculture)	SEA
14. Servicio Cooperativo Interamericano de Salud Pública, Ministerio de Salud Pública (Interamerican Cooperative Service of Public Health, Ministry of Public Health)	SCISP
15. Servicio Geográfico Militar, Estado Mayor del Ejército, Ministerio de Defensa Nacional (Military Geographic Service, General Staff of the Army, Ministry of National Defense)	SGM
16. Servicio Hidrográfico de la Marina, Ministerio de Defensa Nacional (Hydrographic Service of the Navy, Ministry of National Defense)	SH-M
17. Servicio Meteorológico del Uruguay, Inspección General de la Marina, Ministerio de Defensa Nacional (Meteorological Service of Uruguay, General Inspectorate of the Navy, Ministry of National Defense)	SMU
18. Ureta Martínez, Prof. Horacio (independent publisher)	---

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