

# “Hidden Collections” in your Collection

## World War II Depository Maps at Texas A&M University Libraries

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**A** project to identify and inventory the World War II Era Map Collection held by Texas A&M University Libraries began in Fall 2018. While the project is in its beginning stages, the number of unique and interesting government printed maps that have been rediscovered has been exciting. These maps hold tremendous research value: providing snapshots of shifting boundaries, showing movements of troops, and serving as a visual history of the knowledge both the Allies and Axis powers had of the land, commerce, and military of their adversaries.

Texas A&M University was established in 1871 as the first public institution of higher education in Texas.<sup>1</sup> The University has a strong military tradition, priding itself on the fact that students from Texas A&M have served in every U.S. military conflict since the Spanish-American War. When the University was first opened, all students were required to participate in military training during their time at Texas A&M as members of the Corps of Cadets. During World War II (WWII), Texas A&M had more than twenty thousand students serve in combat.<sup>2</sup> Today, the Corps of Cadets is no longer mandatory, but has more than two thousand members with an average of 40 percent receiving commission in the United States Armed Forces at graduation.<sup>3</sup>

Maps & GIS is a department within the Texas A&M University Libraries which houses the Libraries' map collection and provides GIS services to the campus and community. The map collection has global coverage of Earth at a variety of scales and shows various topics. Maps & GIS has collection strengths covering Texas, Central and South America, and WWII era maps. The collection also includes special collection materials, including a complete set of the United States Geologic Atlas, which has been made available online by the Libraries, a Cuba map collection with maps dating back to the seventeenth century, the *Maps of Imaginary Places Collection*, and historic maps of Texas.

### World War II Map Project Overview

When the opportunity arose to employ a Museum Studies intern in the map collection, it coincided perfectly with the beginning of a project intended to define and organize the large holdings of World War II cartographic material as a standalone collection. The Museum Studies internship gives students the chance to get hands-on experience working with rare and special collections in both the Texas A&M Libraries and those of other institutions in the surrounding community. Interns garner professional experience in a variety of museum operations including object restoration, exhibit design, cataloging, and research. This review of the Texas A&M World War II era map collection provided an intern from this program the opportunity to practice museum operational skills as they apply to cartographic material, giving them an in-depth look at the Maps and GIS department's practices.

The goals for the WWII map project at the Texas A&M University Libraries are to complete an inventory of maps held in the collection, produce a finding aid for the collection, and provide digital access to the collection online. A future goal is to produce a digital mapping project connecting WWII maps, letters, texts, artifacts, and other items held in the Libraries' collections. Long term preservation of the collection is also important. As maps are identified and rehoused in new folders in the collection flat file, a condition report will be produced, and the maps will be ranked in order of treatment needs.

The first phase of the project included reviewing the scope of the collection and identifying unique items that held strategic importance to the participating governments in the war. This phase is being conducted by searching the library for maps that were produced between 1939 and 1945 by geographical region and publishing agency. Once maps are identified in the collection, they are added to a spreadsheet that includes title,

publication, and location information along with a short condition report.

## Collection Description

The collection is predominantly comprised of cartographic material published by the Army Map Service, the primary printing agency for the United States Military during World War II. Many of these maps were also compiled by The War Office in London based on aerial photographs taken by British and American reconnaissance pilots. Although there are several German and Japanese maps that were captured by the Allied forces, the collection does not have strong holdings of cartographic material produced by the Allied governments other than the United States and Great Britain.

A large portion of the collection is from the Pacific Theatre of the war, with many sets of detailed maps depicting the numerous islands of the Philippines, New Guinea, Japan, and the Dutch East Indies, what is now Indonesia. Also included is an extensive cartographic account of the war in Europe and North Africa. The earliest map in the collection is a detailed map of Turkey, published by the German government in 1939, depicting transportation, topography, magnetic variation, major landmarks, and city centers.

The collection also includes a number of maps that are either solely possessed by the Texas A&M University Libraries, were of strategic importance, or are unique in either usage or form. Examples include confidential maps published by the Research Division of the Office of Strategic Services, as well as those of foreign governments which were captured by Allied forces. Many of these maps are annotated, providing a starting point in ascertaining their potential usage. Some examples of these unique materials and their context are described below.

## Map Production for Wartime

Map production and acquisition was vital to the wartime effort. Government agencies and military divisions recruited academics, geographers, and cartographers to survey, draft, and print maps while also providing training on field mapping and map reading to service members. Agencies were created during WWII as a response to the increased need for cartographic material, many of these agencies still exist today in one form or another. Maps were created from aerial photography, printed as overlays on commercial maps, and even captured from enemies. As the war progressed maps were reprinted in updated editions, showing shifting battle lines, newly built infrastructure, and reflected intelligence seized from the opposing side.

The Office of Strategic Services (OSS) was created in June of 1942, several months after the United States entered

WWII, and consisted of five branches: Secret Intelligence Branch, Research and Analysis (R&A) Branch, Special Operations Branch, Morale Operations Branch, and X-2 Branch.<sup>4</sup> The R&A Branch was established to supply information to the Allies about Axis strengths and weaknesses. The R&A Branch used open-source materials, including library collections, to compile and produce reports and maps for the Allies. The “R&A engaged in war by the systematic application of social science,” employing 129 geographers at its height of operations alongside historians and economists brought from American and German universities.<sup>5</sup> Over the course of three years the R&A Branch produced over 8,000 maps, many of which made their way into library holdings around the United States post war through the Federal Depository Library Program. The OSS was dissolved in 1945, but the R&A Branch was moved under the State Department because of its importance.<sup>6</sup>

The War Office of Great Britain existed from 1857 to 1964 and was responsible for administration of the British Army, including managing military finances, providing supplies and personnel, and producing maps for the wartime effort.<sup>7</sup> When the War Office was dissolved in 1964, its responsibilities were moved under the Ministry of Defense.<sup>8</sup> The General Staff, Geographical Section (G.S.G.S.) of Great Britain’s War Office was comprised of four survey sections: General Organization, Map Drawing and Production, Supply and Distribution of Maps, and Colonial Survey Planning. Each of these sections were responsible for different parts of map production and distribution, including aerial surveying, map compilation, overseas supplying, and library management.<sup>9</sup>

In 1942, the United States Military found themselves severely underprepared for the cartographic demands of World War II. Their personnel could not support the intelligence needs of those in the field, and photography development and printing technology was insufficient in producing the quality of mapping required for effective planning and navigation.<sup>10</sup> As a result, the Army Map Service (AMS) was formed and charged to “collect, catalogue, and store foreign and domestic maps and map information required by the War Department; to furnish such map service as required by the General Staff and other authorized agencies; to compile and reproduce maps required for initial operations of field forces; and to develop and improve mapping and map reproduction methods, with particular emphasis upon those most suitable for use in theaters of operation.”<sup>11</sup> From the onset, the AMS was on the front lines of innovative and improved methods of collecting data, interpreting intelligence, and printing maps.<sup>12</sup> By 1945, the AMS employed 3,500 people, and had produced 500 million topographical maps.<sup>13</sup> The Army Map Service continued

to effectively serve the needs of the US military until it was merged with the Defense Mapping Agency (DMA) in 1968.<sup>14</sup>

## Highlighted Maps by Location European Theatre

A map of Sardinia’s coastal terrain published by the R&A Branch of the OSS on November 21, 1942, is uniquely held at the Texas A&M University Libraries (see image 1). The map measures 29 x 15 cm and is printed on a thick cream paper. It is marked as a provisional edition and confidential; however, the confidential has been marked out, most likely when the map was declassified and received by the map collection.<sup>15</sup> The map focuses on the coasts of Sardinia, with the interior of the island greyed out and used as space to place the title, legend, and scale information. The island coast has been segmented and described by coastline types; noting depths of bays, rocks, and beaches. Each coastal segment is also labeled for “Naval Anchorage,” indicating the type of vessel that could be used to approach the island.

The island of Corsica was occupied by Italy from November 11, 1942 to September 9, 1943 when control was transferred to Germany. Sardinia, which is immediately south of Corsica, was a prime location for mounting defenses of Corsica and running blockades. Due to its strategic location, Sardinia was heavily bombed by the Allies in 1943. Sardinia also played a key role in Operation Mincemeat, a successful invasion of Sicily by the British in 1943. The British military planted false intelligence of a planned invasion of Sardinia on the corpse of a transient citizen whom they dressed up as an officer. German forces were moved to Sardinia to defend the island; when British forces invaded Sicily, German and Italian forces were unprepared.<sup>16</sup>

Another map featuring locations in Europe, simply titled Lubeck, depicts northern Germany and southern Denmark (see image 2). It was printed by the G.S.G.S in 1942 and shows railroads, roads, woods, and boundaries. It would have been printed as part of a larger set showing coverage of Europe at the 1:500,000 scale. The map measures 74 x 62 cm and is backed with linen, which was most likely applied post-war to stabilize the map.

Texas A&M’s copy of the Lubeck sheet has hand-drawn paths on it. The first path, drawn in a thick blue line, starts off the coast of Germany just south of 54°30’ north and tracks from Friedrichstadt southeast to Bad Bramstedt, continuing to Sterley and Vellahn, then turns west to Hamburg. From Hamburg, the blue path tracks southwest to Wenzendorf, then Wengersen, turns northwest to Bederkesa, and ends at Nordholz before heading back to sea at 54° north. The other path drawn on the map, this time in grey, moves across north Germany starting

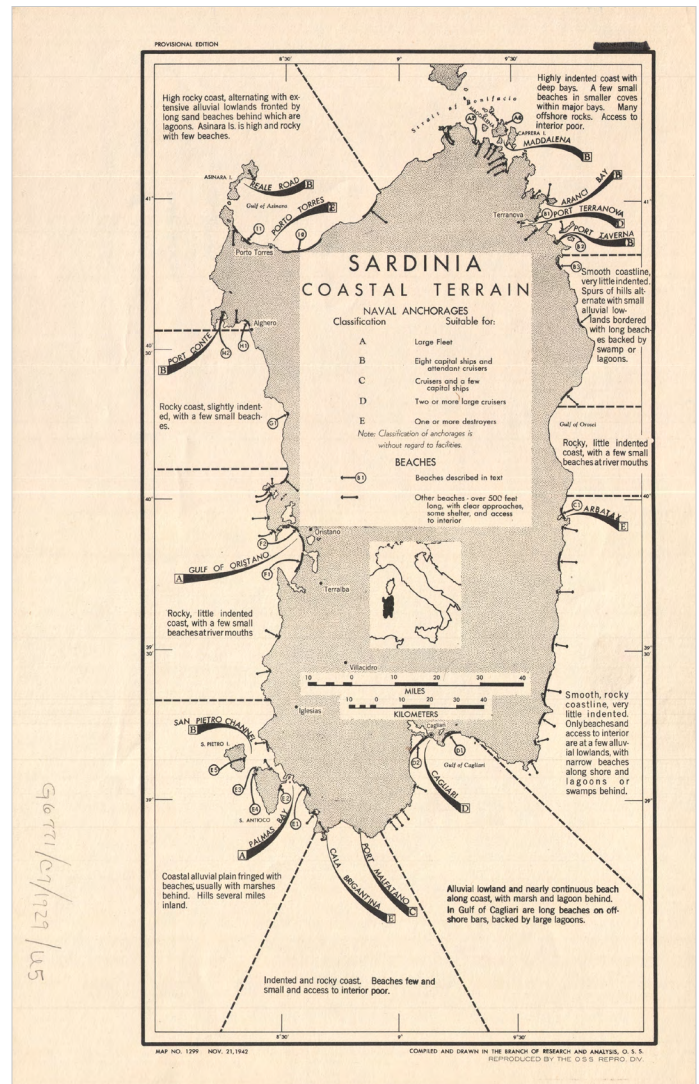


Image 1. Research and Analysis Branch. Sardinia: Costal Terrain. Scale 1:1,300,000. Washington, D.C. Office of Strategic Services, 1942.

and ending at the same points as the blue line. However, the grey line traverses the area through different cities.

While there is no provenance tied to the map or descriptions of what the paths mean, it is interesting to look at the cities and towns the paths move through. Several of the locations were home to German air force bases during the war, including Fassburg and Nordholz. Other locations, such as Bremervorde and Walsrode, were the nearest towns to prisoner of war camps. Additionally, both Hamburg and Lubeck were heavily bombed by Allied forces during 1942. Lubeck was the first German city heavily attacked and bombed by the Royal Air Force.

## African Theatre

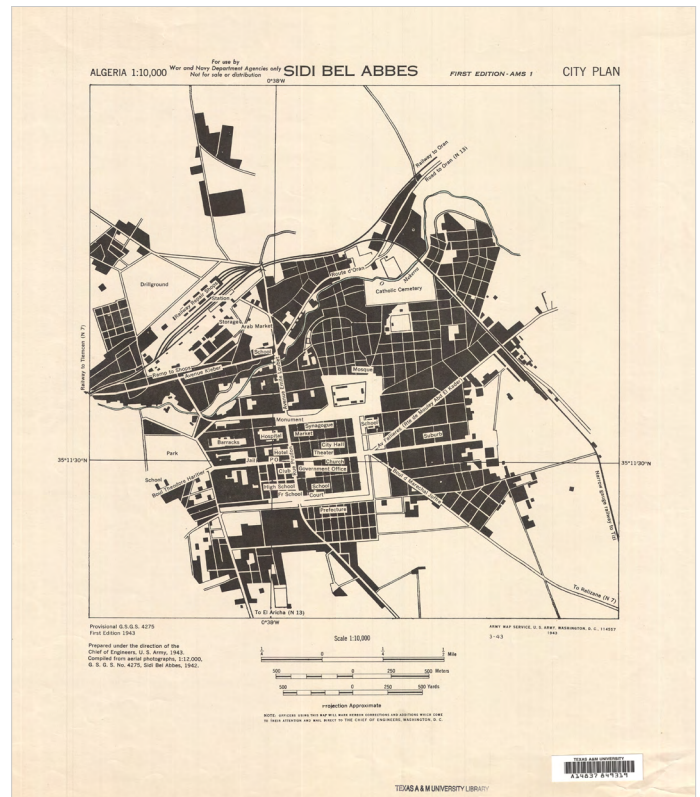
Another fascinating find from the collection is a City Plan of Sidi Bel Abbes in North Eastern Algeria (see image 3). The map itself has been compiled based on aerial photographs by the US



**Image 2. General Staff, Geographical Section. Lubeck. Scale 1:500,000. London. Great Britain War Office, 1942.**

Army and was published by the AMS in 1943. It is marked as a provisional copy. This map, measuring 51 x 45 cm, is labeled “For use by War and Navy Department Agencies only, not for sale or distribution,” highlighting the purpose of the map as strictly for internal use. Building footprints within the inner city are shaded in black, with many of the important city landmarks indicated. Noted throughout the town are religious centers (including a mosque, a synagogue, and a church), schools, medical facilities, public spaces, and local industry (such as markets, the railway station, and a night club). Also indicated on the map is the Drillground for the French Foreign Legion, which has been headquartered in the city since 1831.

Sidi Bel Abbes, the headquarters of the French Foreign Legion from its founding in 1831 until Algerian independence in 1962, was the site of unique French political intrigue following the fall of the Third Republic to Nazi Germany in July 1940. Following the German occupation of France, the Foreign Legion of North Africa was inundated with German nationals, leaving the legion comprised predominantly of German soldiers.<sup>17</sup> This force, however, was also increasingly comprised of refugees from the German occupation, with many volunteering for military service in the hopes of avoiding internment by the Nazis. This created an atmosphere of discontent within the



**Image 3. Army Map Service. Sidi Bel Abbes, city plan. Scale 1:10,000. Washington, D.C. U.S. Army, 1943.**

ranks of the Legion. Those loyal to the Nazi cause began feeling threatened by the presence of French refugees, and those attempting to escape from German prosecution were both fearful of internment and unhappy at the prospect of fighting against an Allied invasion. In addition, the legionnaires were receiving little pay, were undersupplied, and, as many were foreign national refugees to the Vichy French government, under constant threat of repatriation or internment.<sup>18</sup> As a result, the Allied invasion of Algeria near Oran on November 8, 1942 was met by Vichy French forces that were significantly weakened.<sup>19</sup> Sidi Bel Abbes, strategically important in supplying French forces in Oran, served an important role in this failure of the Nazi regime to maintain a sufficient fighting force in Northern Africa.

### Pacific Theatre

An item found exclusively in the Texas A&M collection was published in Tokyo in June of 1943, contributed to by Hikohei Ogawa and Nihon Chizu Kabushiki Kaisha (see image 4). Measuring 76 x 109 cm, the map is printed in Japanese, and is stamped as “Captured” by the US Military in 1943. Entitled “Greater East Asia Co-Prosperity Sphere,” it covers the entirety of Asia beginning east of the Caspian Sea and continuing to the

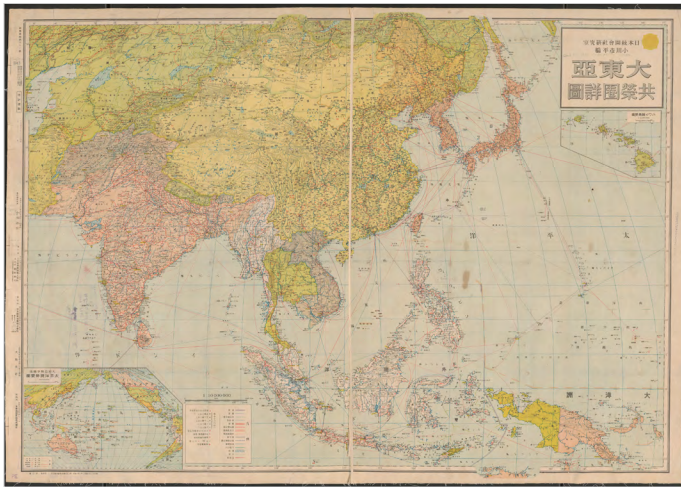


Image 4. Greater East Asia Co-Prosperity Sphere: detailed map. Scale 1:10,000,000. 1943.

Solomon, Micronesian, and New Guinea islands. Two ancillary maps are also included, depicting a detailed map of Hawaii and an overview of East Asia, the Pacific Ocean, and North and South America. Nations are indicated by color, with dotted and shaded lines marking the borders between provinces, continents, and “autonomous areas.” Land elevation change features are lightly shaded throughout the map. Indicated in high detail are land, air, and sea transportation routes as well as future routes (differentiated between those of Japan and those of other nations), underwater communication cables, navigable rivers, wetlands, deserts, natural resources, cities by population, mountain and volcano peaks, and consulate locations. The map has also been partially translated in significantly faded grey pencil and is reinforced with linen.

What this map shows are the current and future lifelines of the Japanese Empire as they sought to maintain their empire in 1943. This “Co-Prosperity Sphere” was the Japanese imperial ambition, seeking to unite the Far East under Japanese rule and expel Western powers from the area. Japan announced the Greater East Asia Co-Prosperity Sphere in 1940 as the empire reeled from a US embargo of oil and steel.<sup>20</sup> Expansion became necessary to maintain self-sufficiency, a primary ambition of the Japanese government.<sup>21</sup> The Japanese also recognized the will of some local populations in the region to be independent from Western colonial control and sought to capitalize on their waning support for their ruling Western powers. By the time this map was published, Japanese imperial expansion encompassed what is now the Marshall, Cook, Solomon, and Micronesian Islands, most of New Guinea, Indonesia, the Philippines, Eastern China, Manchuria, and Southeast Asia including Thailand and British Burma (now Myanmar). The placement of natural resources and potential trade routes highlighted by this map

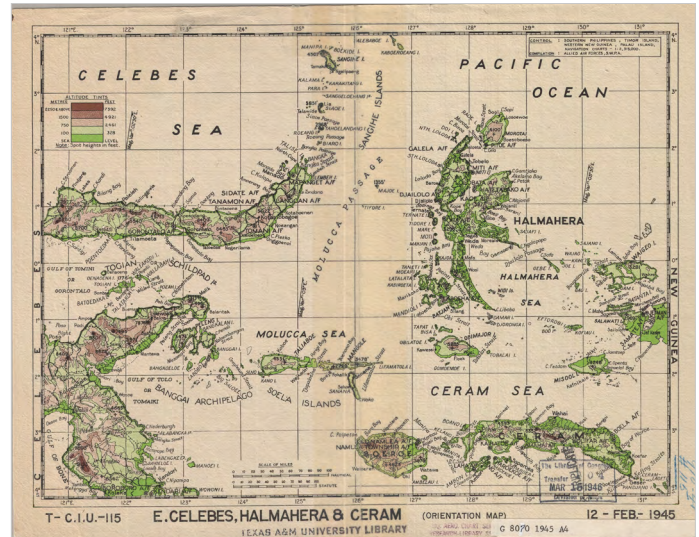


Image 5. E. Celebes, Halmahera, & Ceram. Scale 1:4,000,000. Allied Air Forces, 1945.

were critical to this plan of self-sufficiency and represented an advantage in the Pacific Theatre that Japan was eager to press.<sup>22</sup>

Found in two collections, Texas A&M’s and the Australian War Memorial’s, is an air navigation orientation map of E. Celebes, Halmahera, and Ceram islands in what is now Eastern Indonesia (see image 5). This map measures 30 x 23 cm, with fold damage down the centerline going from top to bottom. It was compiled by the Allied Air Forces of the Southwest Pacific Area and was published by the AMS on February 12, 1945. Changes in color are used to depict terrain features, while the altitude of mountain peaks are specifically indicated. Also noted are numerous small islands, straits and passages, bays, main populated areas, roads, trails, airfields, and magnetic variation. Found in the bottom left hand corner is “T-CIU-115.” This indicates that the map was compiled from photographs taken by the Central Interpretation Unit (CIU) of the British Military, whose mission was to both conduct aerial reconnaissance and interpret/map their findings.

Although immensely important to the Allied war effort by the end of World War II, the CIU had humble beginnings within the English military. The importance of aerial photography was first recognized by the British Air Ministry in 1938, at which time they formed the aerial intelligence unit AI1(h). Up until this point, the British received aerial intelligence almost entirely from a single source, F. S. Cotton, who was a freelance individual operating out of his own private airplane.<sup>23</sup> At the onset of the war in 1939, Cotton was the only individual with the equipment to conduct the photographic reconnaissance required, since the Bristol Blenheim aircraft used by the Royal Air Force was inadequate for long range missions. Cotton soon

convinced British officials to provide him with an assortment of aircraft, and formed the No. 2 Camouflage Unit to support British military intelligence. This unit was used as a source for mapping and information unofficially until 1940 when, under pressure from the Air Ministry, it was officially integrated into AII(h) of the Photography Development Unit. Due to operational interruptions caused by German bombings over England in 1942, the Photography Development Unit was relocated to Danesfield House, Medmenham, and officially renamed the CIU. Over the next 5 years, the CIU would expand to deploy over 1,700 British and American intelligence specialists in all theatres of the war through collaboration with other Allied forces.<sup>24</sup> By VE Day (May 8, 1945), the unit had developed 5,000,000 prints derived from 40,000 reports. This orientation map of E.Celebes, Halmahera, and Ceram is one of the many results from this collaboration, aiding pilots as they conducted operations against Japanese forces in the area.<sup>25</sup>

## Conclusion

After WWII, the AMS launched a college depository program for maps separate from the FDLP. Maps produced and captured during the war were distributed to libraries as both educational material and as a safeguard of information that could be instrumental during future conflicts. “Rather than keep their maps locked up and protected from the scrutiny of its populace, the goal of the American AMS was to inundate the public with its maps and make its spatial orientations so accessible that there would be no question concerning their authority and accuracy.”<sup>26</sup> Libraries participating in the depository program agreed that the AMS could borrow maps from their collections upon demand.<sup>27</sup> Great potential exists with these maps that have been stored in collections across the United States. As institutions digitize and make them available online—such as the University Texas Libraries’ World War II Maps ([https://legacy.lib.utexas.edu/maps/historical/history\\_ww2.html](https://legacy.lib.utexas.edu/maps/historical/history_ww2.html)), Library of Congress’ World War II Military Situation Maps (<https://www.loc.gov/collections/world-war-ii-maps-military-situation-maps-from-1944-to-1945/>), and Stanford Libraries’ Office of Strategic Services Maps (<https://exhibits.stanford.edu/oss-maps>)—not only is public access increased, our broader understanding of WWII military information and strategy is expanded.

As more maps are identified in the Texas A&M collection, holes in the collection are similarly coming to light. Sets of maps are missing sheets, large maps printed on multiple sheets are missing a quadrant, and for many regions there are little to no holdings covering the location. Are these maps lost to history or are they held in other library collections? If you have WWII maps in your collection, we encourage you to explore

and document your holdings. As map collections are being downsized it is imperative that curators identify and make plans to preserve government publications that are unique documentation of global conflict and history. If you have information about any of the maps we highlighted in this article, are interested in beginning a project similar to this one, or want to share the maps you find in your collection reach out to us at [maps-gis@library.tamu.edu](mailto:maps-gis@library.tamu.edu).

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Studies Intern, Texas A&M University.

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