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Office of Inspector General
United States Department of State

AUD-SI-22-39

Office of Audits

August 2022

Audit of Department of State FY 2022 Compliance With the Geospatial Data Act of 2018

SECURITY AND INTELLIGENCE DIVISION

UNCLASSIFIED



HIGHLIGHTS

Office of Inspector General
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What OIG Audited

The Geospatial Data Act of 2018 (GDA) requires Federal agencies that collect, produce, acquire, maintain, distribute, use, or preserve geospatial data to comply with certain requirements. GDA is designed to promote geospatial data sharing, and to encourage the use of existing geospatial data when possible. Among other things, GDA requires covered agencies, including the Department of State (Department), to (1) comply with geospatial data standards developed by the Federal Geographic Data Committee, (2) comply with 13 responsibilities, and (3) limit use of federal funds associated with geospatial data that do not comply with applicable standards. GDA also requires inspectors general to audit covered agencies' compliance with GDA every 2 years.

The Office of Inspector General (OIG) conducted this audit to determine whether the Department, defined as a covered agency in GDA, complied with the 13 covered agency responsibilities in accordance with Section 759(a) of GDA, codified at 43 U.S. Code § 2808(a).

What OIG Recommends

OIG made four recommendations to address the internal control deficiencies identified. On the basis of the Bureau of Intelligence and Research's (INR) response to a draft of this report, OIG considers the four recommendations resolved, pending further action. A synopsis of INR's responses to the recommendations offered and OIG's reply follow each recommendation in the Audit Results section of this report. INR's response to a draft of this report is included in its entirety in Appendix C.

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What OIG Found

The Department has partially complied with the 12 applicable covered agency responsibilities required by Section 759(a) of the GDA, codified at 43 U.S. Code § 2808(a). While there are 13 responsibilities, one responsibility related to declassifying geospatial data does not apply to the Department. Specifically, OIG found that the Department is fully compliant with 6 of 12 applicable covered agency responsibilities and is making progress in complying with the remaining 6 responsibilities. Since the first OIG audit issued in FY 2020, the Department developed a Geospatial Data Strategy, established the GeoState portal, facilitated data sharing with federal and non-federal entities, supported internal and external partnerships, promoted application of geospatial assets to support various activities, and appointed the Department's Geographer with the authority to lead GDA implementation efforts. However, the Department was not in compliance with the remaining responsibilities in the GDA, which include records retention, resource allocation, use of data standards, privacy protections, non-duplication of data, and data quality.

The Department has not fully complied with all responsibilities, in part, because of an inadequate internal control environment. Specifically, the Department lacks dedicated funding to facilitate compliance with its GDA responsibilities. Additionally, the Department does not have adequate control activities in place, such as documented policies and procedures. Instead, bureaus follow informal or general practices to carry out many of the GDA responsibilities. The Department also has not approved existing procedures for the geospatial processing of its key dataset. Finally, the Department needs to improve controls around its information-sharing and communication practices. Specifically, it lacks a comprehensive plan to maximize information that it obtains about geospatial data and related activities.

Until all applicable GDA responsibilities are fulfilled, the Department will not be fully prepared to provide timely, accurate, and high-quality geospatial data to both internal and external stakeholders as envisioned.

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OBJECTIVE

The Office of Inspector General (OIG) conducted this audit to determine whether the Department of State (Department), defined as a covered agency in the Geospatial Data Act of 2018 (GDA),¹ complied with the 13 covered agency responsibilities in accordance with Section 759(a) of GDA, codified at 43 U.S. Code § 2808(a).

BACKGROUND

On October 5, 2018, Congress enacted the GDA to promote geospatial data sharing among government agencies, academia, and private industry and the use of existing geospatial data when possible. The Act states that “[n]ot less than once every 2 years, the inspector general of a covered agency . . . shall submit to Congress an audit of the collection, production, acquisition, maintenance, distribution, use, and preservation of geospatial data . . . which shall include a review of” compliance with GDA Sections 757, 759(a), and 759A,² codified at 43 United States Code (U.S.C.) §§ 2806, 2808(a), and 2809, respectively.

Section 757 of the GDA requires the Federal Geographic Data Committee (FGDC)³ to establish standards for each National Geospatial Data Asset (NGDA) data theme. Section 759A of the GDA provides a 5-year phase-in period from the establishment of standards developed under Section 757 for each covered agency to comply with the standards before being restricted from using federal funds on its geospatial data.⁴ Given that the FGDC had not established standards for each NGDA theme at the time of this audit, the Department was not required to comply with this section of the GDA.

Relevant Terminology

Covered Agencies

Executive branch departments that collect, produce, acquire, maintain, distribute, use, or preserve geospatial data to fulfill their missions.

Geospatial Data

Information that is tied to a location on Earth and that is generally represented in vector datasets by points, lines, polygons, or other complex geographic features or phenomena.

NGDA Data Themes

Primary topics and subjects for which the coordinated development, maintenance, and dissemination of geospatial data will benefit the federal government. As of May 2022, 18 themes made up of one or more datasets.

International Boundaries Theme

One of the 18 themes included in the NGDA portfolio.

Large Scale International Boundaries Dataset

Dataset within the International Boundaries theme produced by the Bureau of Intelligence and Research, Office of the Geographer and Global Issues. Sources for these data include treaties, relevant maps, and data from boundary commissions and national mapping agencies. Research and recovery of the data involves analysis of satellite imagery and elevation data.

Metadata for Geospatial Data

Information about geospatial data, including content, source, vintage, accuracy, condition, projection, method of collection, and other characteristics or descriptions.

¹ GDA, Public Law 115-254, Subtitle F—Geospatial Data, §§ 751-759C, codified at 43 U.S.C. §§ 2801–2811.

² GDA § 759(c), codified at 43 U.S.C. § 2808(c).

³ The FGDC is an organized structure of federal geospatial professionals and constituents that provides executive, managerial, and advisory direction and oversight for geospatial decisions and initiatives across the federal government. The FGDC comprises 32 representatives from the Executive Office of the President and cabinet level and independent federal agencies.

⁴ GDA, § 759A.

Section 759(a) of the GDA, codified at 43 U.S.C. § 2808(a), identifies 13 requirements that each covered agency must implement to comply with the Act.⁵ Although GDA requires covered agencies to comply with these 13 responsibilities, it does not identify a specific timeframe for implementation and compliance.

Roles and Responsibilities for Geospatial Data at the Department

The Department is identified as a covered agency for geospatial data. GDA requirements are broad in scope⁶ and require action from stakeholders with geospatial data equities across the Department. The Department's geospatial activities include visualizing and analyzing geographic features of interest, mapping geopolitical relationships, and disseminating location-specific information to enhance the Department's mission capabilities to make data-driven policy decisions. Additionally, the Department is identified as a lead covered agency⁷ for the Large Scale International Boundaries (LSIB) dataset, an NGDA data theme and the Department's sole dataset for which it must submit an annual report.

In August 2020, the Director of the Office of the Geographer and Global Issues (GGI) in the Bureau of Intelligence and Research (INR) was appointed as the Senior Agency Official for Geospatial Information (SAOGI), charged with leading the Department's response to the GDA and other federal requirements.⁸ To assist with compilation and coordination of the GDA requirements, GGI convened a Department Geospatial Data Act Working Group⁹ (GDAWG) led by the SAOGI and composed of two members from each of the bureaus and offices using geospatial data and technology. The bureaus identified as active stakeholders related to geospatial data are as follows:

- Bureau of Consular Affairs
- Bureau of Conflict and Stabilization Operations
- Bureau of Diplomatic Security
- Bureau of Intelligence and Research
- Bureau of Information Resource Management
- Bureau of Overseas Buildings Operations
- Bureau of Oceans and International Environmental and Scientific Affairs
- Office of Management Strategy and Solutions

The Department maintains the GeoState portal, a centralized repository of the Department's geospatial data that provides mapping, visualization, analytics, and geospatial data management tools.

⁵ Appendix B include details of the 13 requirements.

⁶ Duties include submitting an annual report to Congress, maintaining an inventory of all geospatial data assets, and including geospatial data when preparing the Department's budget submission.

⁷ Lead covered agencies ensure coordinated geospatial data management, resources, and related services and products for an NGDA data theme.

⁸ 1 Foreign Affairs Manual 433.3(8), "Office of the Geographer and Global Issues (INR/GGI)."

⁹ The GDAWG is a working group established to help coordinate and compile the Department's annual reporting requirements specified in the GDA.

Internal Control in the Federal Government

The Government Accountability Office (GAO) publication *Standards for Internal Control in the Federal Government* defines internal control as a process that provides reasonable assurance that the objectives of an entity will be achieved.¹⁰ According to the guidance:

An effective internal control system increases the likelihood that an entity will achieve its objectives. However, no matter how well designed, implemented, or operated, an internal control system cannot provide absolute assurance that all of an organization's objectives will be met. . . . Therefore, once in place, effective internal control provides reasonable, not absolute, assurance that an organization will achieve its objectives.¹¹

Federal law requires Executive Branch entities to establish internal controls in accordance with the *Standards for Internal Control in the Federal Government*.¹² GAO established five components of internal control:

- Control Environment - The foundation for an internal control system. It provides the discipline and structure to help an entity achieve its objectives.
- Risk Assessment - Assesses the risks facing the entity as it seeks to achieve its objectives. This assessment provides the basis for developing appropriate risk responses.
- Control Activities - The actions management establishes through policies and procedures to achieve objectives and respond to risks in the internal control system, which includes the entity's information system.
- Information and Communication - The quality information management and personnel communicate and use to support the internal control system.
- Monitoring - Activities management establishes and operates to assess the quality of performance over time and promptly resolve the findings of audits and other reviews.¹³

AUDIT RESULTS

Finding A: Department Has Made Progress but Must Improve To Be Fully Compliant With GDA Requirements

The Department has made progress in complying with the 12 applicable covered agency requirements¹⁴ in the GDA but must improve internal controls to ensure full compliance with GDA. Specifically, OIG found that the Department was compliant with 6 of 12 applicable

¹⁰ GAO, *Standards for Internal Control in the Federal Government*, page 5 (GAO-14-704G, September 2014).

¹¹ *Ibid.*, page 6.

¹² *Ibid.*

¹³ *Ibid.*, pages 7–8.

¹⁴ GDA includes 13 applicable covered agency requirements. However, OIG determined that Requirement 10 was not applicable to the Department. Specifically, according to the SAOGI, there is no current use of declassified data in the LSIB.

covered agency responsibilities required by Section 759(a) of the GDA, codified at 43 U.S.C. § 2808(a). Since the enactment of the GDA and the prior OIG audit in FY 2020,¹⁵ the Department issued a Geospatial Data Strategy (GDS) in September 2021; instituted the GeoState portal to facilitate the Department's integration of geospatial data; facilitated data sharing with federal and non-federal entities; developed both internal and external partnerships to coordinate and communicate geospatial data and related activities; promoted the application of geospatial assets to support decision-making, operations, and public use; and appointed the Department's Geographer as the SAOGI charged with leading the Department's response to the GDA and other federal geospatial requirements.

Although the Department made progress since the last OIG audit,¹⁶ it has not fully implemented six covered agency requirements. Table 1 provides details of the status of compliance with the 13 covered agency requirements.

Table 1: Assessment of the Implementation of GDA Requirements

Requirement	OIG Assessment	
	2020 ^a	2022 ^a
1. Covered Agency Geospatial Strategies		
2. Support Data Sharing		
3. Promote Data Integration		
4. Ensure Records Retention Schedule for Geospatial Data		
5. Allocate Resources for Geospatial Data Management Responsibilities		
6. Use Data Standards		
7. Support Coordination and Partnerships		
8. Promote Application of Geospatial Data Assets		
9. Protection of Privacy and Confidentiality		
10. Declassified Data	N/A ^b	N/A ^b
11. Non-Duplication of Data		
12. Ensuring High-Quality Data		
13. Point of Contact		

^a For this table, means noncompliant, means partially compliant, and means compliant.

^b This requirement is not applicable because Department officials indicated that there are no declassified data in the LSIB.

Source: OIG, *Audit of Department of State Compliance With the Geospatial Data Act of 2018* (AUD-MERO-20-41, September 2020), and OIG analysis of data obtained from bureaus considered to be active users of geospatial data.

The Department has not reached full compliance, in part because of an insufficient internal control environment. For example, the Department has not developed a comprehensive

¹⁵ OIG, *Audit of Department of State Compliance With the Geospatial Data Act of 2018* (AUD-MERO-20-41, September 2020).

¹⁶ *Ibid.*

funding plan for its efforts and has not formalized the organizational structure, roles and responsibilities, and authorities. In addition, the Department lacks overarching policies and guidance to fulfill GDA requirements and an approved quality control process. Furthermore, the Department had deficiencies in its information and communication tools. As a result, the Department may not be fully prepared to provide timely, accurate, and high-quality geospatial data to both internal and external stakeholders.

Compliance With GDA Requirements

Section 759(a) of the GDA, codified at 43 U.S.C. § 2808(a), includes 13 requirements that covered agencies must comply with. OIG determined that Requirement 10 was not applicable to the Department. Specifically, according to the SAOGI, there is no current use of declassified data that would be subject to the GDA. Of the 12 remaining requirements, OIG concluded that the Department was compliant with 6 requirements but was not fully compliant with 6 requirements.

Department Is Compliant With Six GDA Requirements

Since the last OIG audit,¹⁷ the Department has implemented six GDA requirements to achieve compliance. Specifically, the Department has implemented the following requirements:

- “[P]repare, maintain, publish, and implement a strategy for advancing geographic information and related geospatial data and activities appropriate to the mission of the covered agency” (Requirement 1).¹⁸
- “[C]ollect, maintain, disseminate, and preserve geospatial data such that the resulting data, information, or products can be readily shared with other Federal agencies and non-Federal users” (Requirement 2).¹⁹
- “[P]romote the integration of geospatial data from all sources” (Requirement 3).²⁰
- “[C]oordinate and work in partnership with other Federal agencies; agencies of State, tribal, and local governments; institutions of higher education; and the private sector to efficiently and cost-effectively collect, integrate, maintain, disseminate, and preserve geospatial data” (Requirement 7).²¹
- “[U]se geospatial information to— (A) make Federal geospatial information and services more useful to the public, (B) enhance operations, (C) support decision making, and (D) enhance reporting to the public and to Congress” (Requirement 8).²²

¹⁷ Ibid.

¹⁸ 43 U.S.C. § 2808(a)(1).

¹⁹ 43 U.S.C. § 2808(a)(2).

²⁰ 43 U.S.C. § 2808(a)(3).

²¹ 43 U.S.C. § 2808(a)(7).

²² 43 U.S.C. § 2808(a)(8).

- “[A]ppoint a contact to coordinate with the lead covered agencies for collection, acquisition, maintenance, and dissemination of the [NGDA] data themes used by the covered agency” (Requirement 13).²³

For Requirement 1, OIG found that the Department developed and issued the GDS in September 2021. The GDS sets forth a 3-year vision²⁴ to expand the effective use of geospatial data and technologies across the Department. The GDS also provides a framework to improve collaboration across agencies and increase the efficiency of operations, decision-making, and transparency, and it provides a reporting mechanism for the Department’s investments in geospatial data.

For Requirement 2, according to Department officials, the Department uses various international and open standards to collect, maintain, disseminate, and preserve geospatial data to share with other entities. These standards address topics such as metadata and data catalogs and help to ensure that the Department’s data are interoperable with other data systems and can be used by internal and external parties. Although OIG found variations in the metadata standards used by different bureaus, given the range of approved metadata standards for geospatial data, this variability does not limit the usability or sharing of the Department’s geospatial data. Examples of activities in which the Department shares geospatial data with other entities include over 300 datasets the Department shares on the Data.gov website²⁵ and the LSIB dataset available on GeoPlatform.

For Requirement 3, OIG found that the Department has established GeoState, a centralized repository for the Department’s geospatial data that provides mapping, visualization, analytics, and geospatial data management tools. GeoState, which is accessible on the Department’s local network, allows employees to access and share information and contains enterprise-wide software licenses, geospatial trainings and resources, and updates related to the Department’s GDA implementation.

For Requirement 7, OIG found that the Department had developed internal and external partnerships regarding geospatial data. For example, Department bureaus established a partnership to facilitate the use of geospatial data for their respective missions. In addition, the Department established a collaboration site for information exchange that provides the opportunity for personnel to expand their understanding and capabilities related to the use of geospatial data. The Department also established a partnership with the National Geospatial-Intelligence Agency to derive and update large scale international boundaries constituting the LSIB.

For Requirement 8, OIG found that the Department uses geospatial data for a range of activities related to operations, decision-making, and public use. For example, the LSIB dataset contains

²³ 43 U.S.C. § 2808(a)(13).

²⁴ The Department plans to review and update the GDS at a minimum every 3 years.

²⁵ The OPEN Government Data Act requires federal agencies to publish their information on Data.gov, the federal government’s open data site managed by the General Services Administration that aims to make government more open and accountable.

the only international boundary lines approved for use on U.S. government maps, databases, and other geographic products such as annotated imagery. The Department uses geospatial data to post travel advisory information online to the public, facilitate oversight of Department properties overseas, and track overseas security incidents.

For Requirement 13, OIG found that the Department's Geographer, who is organizationally located in GGI, was designated the SAOGI in August 2020. The SAOGI is the Department's formal representative to the FGDC Steering Committee. The SAOGI also leads the Department's response to the GDA and other federal geospatial requirements, working in coordination with the Chief Data Officer, the Chief Information Officer, and various geospatial stakeholders across the Department.

Department Is Not Fully Compliant With Six GDA Requirements

Although the Department has made progress since the last OIG audit,²⁶ it has not fully implemented six covered agency requirements. Specifically, the Department has not fully implemented requirements to do the following:

- “[E]nsure that data information products and other records created in geospatial data and activities are included on agency record schedules that have been approved by the National Archives and Records Administration” (Requirement 4).²⁷
- “[A]llocate resources to fulfill the responsibilities of effective geospatial data collection, production, and stewardship with regard to related activities of the covered agency and as necessary to support the activities of the Committee” (Requirement 5).²⁸
- “[U]se the geospatial data standards, including standards for metadata for geospatial data, and other appropriate standards, including documenting geospatial data with relevant metadata and making metadata available through the GeoPlatform”²⁹ (Requirement 6).³⁰
- “[P]rotect personal privacy and maintain confidentiality in accordance with Federal policy and law” (Requirement 9).³¹
- “[S]earch all sources, including the GeoPlatform, to determine whether existing Federal, State, local, or private geospatial data meet the needs of the covered agency before expending funds for geospatial data collection (Requirement 11).³²
- “[T]o the maximum extent practicable, ensure that a person receiving Federal funds for geospatial data collection provides high-quality data” (Requirement 12).³³

²⁶ AUD-MERO-20-41.

²⁷ 43 U.S.C. § 2808(a)(4).

²⁸ 43 U.S.C. § 2808(a)(5).

²⁹ GeoPlatform is an electronic service that provides access to geospatial data and related metadata to the public. It is also the authorized source for all official NGDAs across 18 data themes as guided by the FGDC.

³⁰ 43 U.S.C. § 2808(a)(6).

³¹ 43 U.S.C. § 2808(a)(9).

³² 43 U.S.C. § 2808(a)(11).

³³ 43 U.S.C. § 2808(a)(12).

For Requirement 4, the Department did not explicitly include geospatial data and activities on agency record schedules. The Department assigned a Records Management Officer to INR to assist in addressing records management issues for INR's large number of documents, including classified materials. However, the Department did not have a formal policy for records management related to geospatial data. Department officials provided an email that confirmed the general applicability of records management regulations to geospatial data. The six bureaus involved in geospatial data did not have record schedules that explicitly included geospatial data. Officials from one bureau stated that most of its geospatial information is covered by established retention schedules; however, OIG reviewed a copy of the records management schedules and did not identify requirements related to geospatial data. Officials from another bureau stated that geographic information system and related records schedules were housed on the GeoState platform. However, OIG did not find a geospatial data records schedule on GeoState.

For Requirement 5, OIG found that GGI had been assigned the responsibility for carrying out the Department's compliance with GDA. In support of the SAOGI's role to lead the Department's response to the GDA and other federal geospatial requirements, GGI employed temporary contract support staff during FY 2020 and FY 2021.³⁴ Since FY 2020, GGI's efforts to implement GDA requirements have been funded using GGI's base budget. Although GGI requested additional funding in FY 2022, the Department's final budget submission did not include that request.

For Requirement 6, OIG found that the Department had not established guidance related to preferred standards for geospatial metadata. Although bureau officials reported using international and open standards, the Department had not provided guidance to bureaus on which metadata standards were deemed acceptable or preferred for usage. In a 2021 survey conducted by the GDAWG, bureaus reported using different metadata standards. Additionally, as noted in the Department's 2021 Covered Agency Report,³⁵ the FGDC had not endorsed or adopted standards in accordance with Section 757 of the GDA.³⁶ While the Department is currently using various international and open standards, OIG cannot fully assess compliance with this requirement until the FGDC endorses or adopts formal standards.

For Requirement 9, OIG found that the Department had not established formal privacy and confidentiality policies and practices related to geospatial data. Officials from bureaus that use geospatial data with a personally identifiable information component stated that they took precautions to protect all personally identifiable information. For example, when one bureau provides data to the General Services Administration, it requests that the information be redacted. Additionally, the bureau restricts access to data that contain residential information. However, OIG found that this bureau did not have a formal policy or guidance related to these practices.

³⁴ As of May 2022, GGI had three contractors working on GDA implementation.

³⁵ Department, 2021 Covered Agency Annual Report and Self-Assessment for Department of State, February 4, 2022, page 12.

³⁶ GDA, § 757.

For Requirement 11, OIG found that the Department had not established a formal policy or guidance to search all sources to determine whether existing geospatial data meet the needs of the agency before expending funds for geospatial data collection. Although bureaus stated that they search sources, they had limited documentation that described the search methods. For example, officials from one bureau referenced a requirement that they inserted in statements of work that contractors should search for data. Officials from a different bureau outlined efforts to centralize collection of geospatial data. Although these bureau efforts show progress, policies are needed to ensure GDA compliance.

For Requirement 12, OIG found that the Department did not have formal policies or guidance to ensure that a person receiving federal funds for geospatial data collection provided high-quality data. Although bureau officials stated that analysts, staff, or subject-matter experts evaluate data as a standard practice, the bureaus do not have policies requiring review prior to taking on projects that involve geospatial data. Officials from one bureau stated that they intend to develop training and instructions for geospatial data collection, although a timeline for development had not been established.

Internal Controls Need Improvement

OIG determined that the instances of noncompliance with GDA requirements occurred, in part, because the Department has not established a sufficient internal control environment for its geospatial data program. For example, the Department has not developed a comprehensive funding plan for its efforts. In addition, the Department lacks control activities such as overarching policies and guidance for the program and a quality control process. Furthermore, the Department has deficiencies in its information and communication tools.

Lack of Funding Plan

GAO states that management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity's objectives.³⁷ One reason for the instances of noncompliance identified was the lack of a comprehensive, long-term funding plan, which has limited the Department's ability to establish an adequate structure to fulfill its goals and objectives related to GDA implementation.

The GDA directs covered agencies to meet a set of responsibilities but does not provide funding or resources to assist with implementation. In FY 2020 and FY 2021, GGI employed temporary contract support from its base budget using funds available because of reduced travel during the COVID-19 pandemic. Additional funding in FY 2022 and beyond was expected to support implementation of the GDS goals and objectives, as well as related agency and federal efforts. While GGI used INR's base funding to continue contract support in FY 2022, that funding has not been confirmed for future years. The Department did not specify dedicated funding in the final FY 2022 budget. As a result, GGI is expected to carry out GDA implementation on behalf of the Department with a limited and uncertain budget. Additionally, GGI may face challenges attempting to coordinate across bureaus and their respective budgets and priorities.

³⁷ GAO-14-704G, page 27.

In a December 2020 survey administered by GGI, bureaus reported that the lack of funding was a challenge to implementing GDA requirements. In addition, all six bureaus discussed resource constraints that included limitations on staffing GDA-related work and procuring necessary equipment. For example, one bureau representative stated that many of the tools that cartographers routinely use are not available because of insufficient resources and difficulties getting items approved. As the Department's geospatial data program and associated activities increase, the resources required to sustain the program and activities will also need to increase to keep pace. OIG reviewed documents developed by GGI to execute the GDS and GDA requirement compliance and found that these documents did not identify the funding or resources needed to take the next steps to implement GDA requirements. For the Department to fully comply with GDA requirements, it needs to plan for long-term growth and resource allocation.

In addition, OIG found that the SAOGI has been assigned the primary responsibility for leading the implementation of the GDS and other GDA efforts, working in coordination with the Chief Data Officer, the Chief Information Officer, and various geospatial stakeholders across the Department. However, the Department has not defined roles and responsibilities or identified the authority for the resources working toward GDA implementation. Although OIG found that the current informal arrangement is working well, given the long-standing relationships between participants, the Department should create formalized partnerships that can sustain future staffing changes and delineate lines of responsibility to leverage multiple offices' resources and capabilities.

Inadequate Documentation Procedures

GAO states that "management should implement control activities through policies."³⁸ One reason for the instances of noncompliance identified is the lack of overarching Departmental policies or guidance for geospatial data, collection, maintenance, preservation, protection, and sharing. OIG found that bureaus used informal or general practices to carry out GDA requirements. The Department's Implementation Roadmap, developed by INR, states that as lessons are learned, the Department will develop "geospatial policies, procedures, and practices" to be maintained by the GDAWG. Results from a December 2020 survey administered by GGI indicated that many bureaus had not finalized or published written documentation, policies, and standard operating procedures for geospatial data. In May 2022, GGI officials stated that development of policies, procedures, and practices was ongoing. OIG also found that factors preventing the Department from establishing policies and procedures included technology and the time required to obtain the necessary information.

Lack of Approved Quality Control Processes

In its FY 2021 Covered Agency Annual Report and Self-Assessment,³⁹ the Department outlined international and open standards that it uses for many of its key geospatial datasets, including

³⁸ GAO-14-704G, page 44.

³⁹ Department, 2021 Covered Agency Annual Report and Self-Assessment for Department of State, February 4, 2022.

the LSIB dataset.⁴⁰ However, GGI does not have an approved quality control procedure for the geospatial processing of its LSIB dataset. OIG reviewed a draft document titled “Large Scale International Boundary Update Process Documentation,” developed by GGI in November 2021. This draft document lays out the process to prepare a new version of the LSIB for release, outlines rules to minimize data quality issues, and describes the deliberative process to review errors. According to GGI officials, this document is used and revised as needed as part of the LSIB production process. However as of May 2022, the Director of the office had not reviewed and approved the draft document, and there was no plan for finalization.

Inadequate Information and Communication

According to GAO, “[e]ffective information and communication are vital for an entity to achieve its objectives.”⁴¹ Specifically, GAO states that “[m]anagement should use quality information to achieve the entity’s objectives” and “[m]anagement should internally communicate the necessary quality information to achieve the entity’s objectives.”⁴² One of the reasons for the deficiencies identified is that the Department needs to improve its internal controls related to information and communication.

In December 2020 and August 2021, GGI distributed surveys to active users of geospatial data to understand their goals and challenges. GGI’s intent was to use the results of the survey to inform both the Department’s GDS development as well as its broader fulfillment of the GDA requirements. For example, the 2020 survey inquired about the type of geospatial data services and maturity of respondents’ data management programs, and the 2021 survey inquired about the standards used, resources, and external partnerships. OIG determined that the surveys were a useful practice but that more could have been done to maximize the use of the information gathered from the surveys. For example, the Department used data gathered from the surveys to assist in the development of the GDS and accompanying metrics; however, the Department does not have a plan to address concerns identified by survey respondents.

Furthermore, the Department lacks visibility over critical data, such as an inventory of geospatial datasets and standards used across the Department, or a comprehensive list of licensing procured by bureaus. OIG also noted issues with the Work Breakdown Schedule, as all tasks to complete GDA requirements are allotted the same timeframe for completion of 3 years (February 2024). The lack of prioritization prevents the Department from understanding or communicating the steps needed to fulfill the GDA requirements.

Although GGI intends to continue using surveys to gather information, the lack of a plan to use this information may result in additional work without a clear benefit. The Department should maximize mechanisms such as the GDAWG to coordinate and prioritize the steps needed for GDA implementation. A structured, consistent mechanism for bureaus to communicate their geospatial data and related activities will reduce or prevent duplication of efforts, unnecessary

⁴⁰ Ibid., page 13.

⁴¹ GAO-14-704G, page 58.

⁴² Ibid.

expenditures, and inaccurate reporting.⁴³ Finally, a robust planning and communication structure will enable the Department to expand its reach with broader participation across bureaus. One example is the dashboard that the Department intends to build to display different metrics visualizing the progress of advancing the GDS, as well as a catalog of geospatial data used across bureaus to increase transparency and visibility.

Deficiencies Negatively Impact the Use of the Program

The noncompliance issues identified during this audit increase the risk that geospatial information may not be readily available for public use or may not be adequately preserved for historical records. Additionally, inconsistencies in geospatial data practices across the Department may negatively affect external stakeholder perception. Additionally, without specified or designated long-term funding, geospatial programs are at risk of being displaced by more pressing needs and competing priorities. Insufficient funding mechanisms have led to a weak control environment and an organizational structure that cannot fulfill the Department's goals and objectives. Furthermore, instances of noncompliance increase the risk that geospatial datasets may have errors or not fully comply with standards, which could negatively impact the use and value for program operations and decision-making and adversely impact the benefits intended for the public. OIG concludes that until all applicable GDA responsibilities are fulfilled, the Department will not be fully prepared to provide timely, accurate, and high-quality geospatial data to both internal and external stakeholders as envisioned. OIG is therefore offering the following recommendations:

Recommendation 1: OIG recommends that the Bureau of Intelligence and Research review and revise, as appropriate, existing Work Breakdown Schedule and implementation plans to adequately reflect current and future staffing, resources, and allocation of responsibilities to facilitate implementation of the Geospatial Data Act of 2018.

Management Response: The Bureau of Intelligence and Research concurred with the recommendation.

OIG Reply: On the basis of the Bureau of Intelligence and Research's concurrence with the recommendation, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that the Bureau of Intelligence and Research has reviewed and revised, as appropriate, existing Work Breakdown Schedule and implementation plans to adequately reflect current and future staffing, resources, and allocation of responsibilities to facilitate implementation of the Geospatial Data Act of 2018.

Recommendation 2: OIG recommends that the Bureau of Intelligence and Research (a) review the Department of State's efforts and activities for each of the applicable covered agency responsibilities prescribed by the Geospatial Data Act of 2018, Section 759(a), codified at 43 United States Code § 2808(a), and (b) develop a timeline to craft and issue

⁴³ As a covered agency under the GDA and lead covered agency for the International Boundaries data theme, the Department submits annual reports about its geospatial data and activities and progress toward compliance with GDA requirements. GGI submits these reports with input from bureaus.

written policies, procedures, guidance, and best practices to meet each of these applicable covered agency responsibilities.

Management Response: The Bureau of Intelligence and Research concurred with this recommendation, stating that it would work with stakeholders to develop guidance and recommended best practices to meet each of the applicable covered agency responsibilities.

OIG Reply: On the basis of the Bureau of Intelligence and Research's concurrence with the recommendation and planned actions, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that the Bureau of Intelligence and Research has reviewed the Department's efforts and activities for each of the applicable covered agency responsibilities prescribed by the Geospatial Data Act of 2018 and has developed a timeline to craft and issue written policies, procedures, guidance, and best practices to meet each of the covered agency's responsibilities.

Recommendation 3: OIG recommends that the Bureau of Intelligence and Research finalize the draft "Large Scale International Boundary Update Process Documentation" and approve the document for use.

Management Response: The Bureau of Intelligence and Research concurred with the recommendation.

OIG Reply: On the basis of the Bureau of Intelligence and Research's concurrence with the recommendation, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that the Bureau of Intelligence and Research has finalized the draft "Large Scale International Boundary Update Process Documentation" and approved the document for use.

Recommendation 4: OIG recommends that the Bureau of Intelligence and Research develop and implement a plan that maximizes the use of data obtained from its communication tools by (a) addressing the concerns identified by survey respondents and (b) prioritizing tasks necessary to complete Geospatial Data Act of 2018 requirements.

Management Response: The Bureau of Intelligence and Research concurred with the recommendation.

OIG Reply: On the basis of the Bureau of Intelligence and Research's concurrence with the recommendation, OIG considers this recommendation resolved, pending further action. This recommendation will be closed when OIG receives documentation demonstrating that the Bureau of Intelligence and Research has developed and implemented a plan maximizing the use of data obtained from its communication tools by addressing the concerns identified by survey respondents and prioritizing tasks necessary to complete Geospatial Data Act of 2018 requirements.

RECOMMENDATIONS

Recommendation 1: OIG recommends that the Bureau of Intelligence and Research review and revise, as appropriate, existing Work Breakdown Schedule and implementation plans to adequately reflect current and future staffing, resources, and allocation of responsibilities to facilitate implementation of the Geospatial Data Act of 2018.

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APPENDIX A: PURPOSE, SCOPE, AND METHODOLOGY

The Office of Inspector General (OIG) conducted this audit to determine whether the Department of State (Department), defined as a covered agency in the Geospatial Data Act of 2018 (GDA), complied with the 13 covered agency responsibilities in accordance with Section 759(a) of the Act.

OIG conducted this audit from January to June 2022 in accordance with generally accepted government auditing standards. These standards require that OIG plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for the findings and conclusions based on the audit objective. OIG believes that the evidence obtained provides a reasonable basis for the findings and conclusions based on the audit objective.

To determine whether the Department complied with the 13 covered agency responsibilities prescribed by GDA Section 759(a), OIG met with geospatial data users, including officials in the Bureau of Intelligence and Research, the Bureau of Conflict and Stabilization Operations, the Bureau of Consular Affairs, the Bureau of Diplomatic Security, the Bureau of Overseas Buildings Operations, and the Bureau of Oceans and International Environmental and Scientific Affairs. OIG also met with officials involved with the geospatial portal, which is available on the Department's intranet, and with officials leading a working group that has a goal to facilitate the use of geospatial data within the Department. It is important to note that during audit fieldwork, OIG determined that Requirement 10 of the GDA was not applicable to the Department. Specifically, according to the Senior Agency Official for Geospatial Information, there is no current use of declassified data in the Large Scale International Boundaries dataset and therefore this requirement was not applicable for the purpose of this audit. OIG therefore reviewed 12 covered agency responsibilities applicable to the Department.

To obtain background information, OIG reviewed the GDA and Office of Management and Budget Circulars A-16,¹ A-119,² and A-130.³ In addition, OIG reviewed data management requirements contained in the Foreign Affairs Manual. OIG also reviewed the Department's Enterprise Data Strategy⁴ and Geospatial Data Strategy.⁵ OIG examined the results of surveys that the Department had conducted to gather information related to the implementation of the GDA. OIG also obtained information from the Department's geospatial portal. Furthermore, OIG reviewed the Department's FY 2021 covered agency reports submitted to the Federal Geographic Data Committee.

¹ Office of Management and Budget Circular A-16, "Coordination of Geographic Information and Related Spatial Data Activities" (August 19, 2002).

² Office of Management and Budget Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities" (January 27, 2016).

³ Office of Management and Budget Circular A-130, "Managing Information as a Strategic Resource" (July 28, 2016).

⁴ Department, Enterprise Data Strategy, September 2021.

⁵ Department, Geospatial Data Strategy, September 2021.

Data Reliability

OIG did not use computer-processed data for this audit and therefore did not need to assess data reliability.

Work Related to Internal Control

During the audit, OIG considered factors, including the subject matter of the project, to determine whether internal control was significant to the audit objective. Based on its consideration, OIG determined that internal control was significant for this audit. OIG then considered the components of internal control and the underlying principles included in the *Standards for Internal Control in the Federal Government*⁶ to identify internal controls that were significant to the audit objective. Considering internal control in the context of a comprehensive internal control framework can help auditors determine whether underlying internal control deficiencies exist.

For this audit, OIG concluded that three of five internal control components from the *Standards for Internal Control in the Federal Government*, Control Environment, Control Activities, and Information and Communication, were significant to the audit objective. The Control Environment component is the foundation for an internal control system. It provides the discipline and structure to help an entity achieve its objectives. The Control Activities component includes the actions management establishes through policies and procedures to achieve objectives and respond to risks in the internal control system, which includes the entity’s information system. The Information and Communication component relates to the quality information that management and personnel communicate and use to support the internal control system. OIG also concluded that six of the principles related to the selected components were significant to the audit objective as described in Table A.1.

Table A.1: Internal Control Components and Principles Identified as Significant

Components	Principles
Control Environment	Management should establish an organizational structure, assign responsibility, and delegate authority to achieve the entity’s objectives.
Control Activities	Management should design control activities to achieve objectives and respond to risks.
	Management should implement control activities through policies.
Information and Communication	Management should use quality information to achieve the entity’s objectives.
	Management should internally communicate the necessary quality information to achieve the entity’s objectives.

⁶ Government Accountability Office, *Standards for Internal Control in the Federal Government* (GAO-14-704G, September 2014).

Components	Principles
	Management should externally communicate the necessary quality information to achieve the entity’s objectives.

Source: OIG generated from an analysis of internal control components and principles from the Government Accountability Office, *Standards for Internal Control in the Federal Government* (GAO-14-704G, September 2014).

OIG interviewed Department officials and reviewed documentation to understand the internal controls related to the components and principles identified as significant to this audit. OIG performed procedures to assess the design and implementation of key internal controls. Specifically, OIG did the following:

- Reviewed and tested the accuracy and completeness of metadata for the Department’s LSIB dataset.
- Analyzed the Department’s data collection and communication methods, including survey results and working group processes and products.

Internal control deficiencies identified during the audit that are significant within the context of the audit objective are presented in the Audit Results section of this report.

Prior Office of Inspector General Reports

In its first GDA report,⁷ OIG stated that the Department was not in compliance with the 13 covered agency responsibilities required by Section 759(a) of GDA. Although the Department planned to incorporate geospatial data considerations into its Enterprise Data Strategy—a Department strategy for data governance—to comply with 1 of the 13 responsibilities, the strategy was not expected to be completed until the Summer of 2021. With respect to the remaining 12 responsibilities, OIG found that some Department bureaus and offices had established practices that addressed some GDA requirements. However, a significant amount of work remained for the Department to achieve full compliance with GDA. The three recommendations from the September 2020 report have been implemented and closed.

⁷ OIG, *Audit of Department of State Compliance With the Geospatial Data Act of 2018* (AUD-MERO-20-41, September 2020).

APPENDIX B: DESCRIPTION OF GEOSPATIAL DATA ACT REQUIREMENTS

Section 759(a) of the Geospatial Data Act of 2018 (GDA)¹ identifies 13 requirements that each covered agency must implement to comply with the act. Table B.1 provides details of these requirements.

Table B.1: Geospatial Data Act Requirements From Section 759(a)

Requirement Number	Specific Citation From 43 United States Code § 2808	Requirement Description
1	(a)(1)	Prepare, maintain, publish, and implement a strategy for advancing geographic information and related geospatial data and activities appropriate to the mission of the covered agency, in support of the strategic plan for the National Spatial Data Infrastructure.
2	(a)(2)	Collect, maintain, disseminate, and preserve geospatial data such that the resulting data, information, or products can be readily shared with other federal agencies and non-federal users.
3	(a)(3)	Promote the integration of geospatial data from all sources.
4	(a)(4)	Ensure that data information products and other records created in geospatial data and activities are included on agency record schedules that have been approved by the National Archives and Records Administration.
5	(a)(5)	Allocate resources to fulfill the responsibilities of effective geospatial data collection, production, and stewardship with regard to related activities of the covered agency and as necessary to support the activities of the Committee.
6	(a)(6)	Use the geospatial data standards, including the standards for metadata for geospatial data, and other appropriate standards, including documenting geospatial data with the relevant metadata and making metadata available through the GeoPlatform.
7	(a)(7)	Coordinate and work in partnership with other federal agencies, agencies of state, tribal, and local governments, institutions of higher education, and the private sector to efficiently and cost-effectively collect, integrate, maintain, disseminate, and preserve geospatial data, building upon existing non-federal geospatial data to the extent possible.
8	(a)(8)	Use geospatial information to make Federal geospatial information and services more useful to the public, enhance operations, support decision making, and enhance reporting to the public and to Congress.

¹ GDA, Pub. L. 115-254, Subtitle F – Geospatial Data, §§ 751-759C, codified at 43 United States Code §§ 2801–2811.

Requirement Number	Specific Citation From 43 United States Code § 2808	Requirement Description
9	(a)(9)	Protect personal privacy and maintain confidentiality in accordance with federal policy and law.
10	(a)(10)	Participate in determining, when applicable, whether declassified data can contribute to and become a part of the National Spatial Data Infrastructure.
11	(a)(11)	Search all sources, including the GeoPlatform, to determine if existing federal, state, local, or private geospatial data meet the needs of the covered agency before expending funds for geospatial data collection.
12	(a)(12)	To the maximum extent practicable, ensure that a person receiving federal funds for geospatial data collection provides high-quality data.
13	(a)(13)	Appoint a contact to coordinate with the lead covered agencies for collection, acquisition, maintenance, and dissemination of the National Geospatial Data Asset data themes used by the covered agency.

Source: 43 United States Code § 2808, "Covered agency responsibilities."

APPENDIX C: BUREAU OF INTELLIGENCE AND RESEARCH RESPONSE



United States Department of State

Washington, D.C. 20520

August 16, 2022

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Director Regina Meade
Security and Intelligence Division
Office of Inspector General

Ms. Meade:

In response to your letter dated July 25 regarding the Draft Report on the Audit of Department of State FY 2022 Compliance With the Geospatial Data Act of 2018, the Bureau of Intelligence and Research (INR) provides the following responses.

Recommendation 1: OIG recommends that the Bureau of Intelligence and Research review and revise, as appropriate, existing Work Breakdown Schedule and implementation plans to adequately reflect current and future staffing, resources, and allocation of responsibilities to facilitate implementation of the Geospatial Data Act of 2018.

Management Response to draft Recommendation 1: The Bureau of Intelligence and Research, Office of the Geographer and Global Issues (GGI), concurs with this recommendation.

Recommendation 2: OIG recommends that the Bureau of Intelligence and Research (a) review the Department of State's efforts and activities for each of the applicable covered agency responsibilities prescribed by the Geospatial Data Act of 2018, Section 759(a), codified at 43 United States Code § 2808(a) and (b) develop a timeline to craft and issue written policies, procedures, guidance, and best practices to meet each of these applicable covered agency responsibilities.

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Management Response to draft Recommendation 2: The Bureau of Intelligence and Research, Office of the Geographer and Global Issues (GGI), concurs with this recommendation, INR will work with Department stakeholders to develop guidance and recommended best practices to meet each of the applicable covered agency responsibilities and codify them in the Foreign Affairs Manual.

Recommendation 3: OIG recommends that the Bureau of Intelligence and Research finalize the draft “Large Scale International Boundary Update Process Documentation” and approve the document for use.

Management Response to draft Recommendation 3: The Bureau of Intelligence and Research, Office of the Geographer and Global Issues (GGI), concurs with this recommendation.

Recommendation 4: OIG recommends that the Bureau of Intelligence and Research develop and implement a plan that maximizes the use of data obtained from its communication tools by (a) addressing the concerns identified by survey respondents and (b) prioritizing tasks necessary to complete GDA requirements.

Management Response to draft Recommendation 4: The Bureau of Intelligence and Research, Office of the Geographer and Global Issues (GGI), concurs with this recommendation.

Sincerely,



Susan N. Stevenson
Acting Assistant Secretary
Bureau of Intelligence and Research

Enclosures:
GDA Audit Draft Report with Edits

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ABBREVIATIONS

FGDC	Federal Geographic Data Committee
GAO	Government Accountability Office
GDA	Geospatial Data Act of 2018
GDAWG	Geospatial Data Act Working Group
GDS	Geospatial Data Strategy
GGI	Office of the Geographer and Global Issues
INR	Bureau of Intelligence and Research
LSIB	Large Scale International Boundaries
NGDA	National Geospatial Data Asset
OIG	Office of Inspector General
SAOGI	Senior Agency Official for Geospatial Information
U.S.C.	United States Code

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