



**2022 Covered Agency Annual Report
and Self-Assessment**
for
National Aeronautics and Space Administration

Geospatial Data Act of 2018
Section USC 43 Sec 2808(a) Requirements

February 4, 2023



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Introduction

The Geospatial Data Act of 2018 (GDA) was signed into law on October 5, 2018. The GDA was included as a component of the FAA Reauthorization Act (H.R. 302, P.L. 115-254). The GDA is now in [U.S. Code, Title 43 – Public Lands, Chapter 46: GEOSPATIAL DATA](#).

USC 43 Sec 2808(b) of the Geospatial Data Act (GDA) requires each covered agency¹ to submit to the Federal Geographic Data Committee (FGDC) “an annual report regarding the achievements of the covered agency in preparing and implementing the strategy described in subsection (a)(1) and complying with the other requirements under subsection (a).” [<https://fgdc.gov/gda/online>]

This document serves as the National Aeronautics and Space Administration’s annual report to the FGDC covering Fiscal Year 2022, October 1, 2021 through September 30, 2022. The report was developed through a self-assessment template developed by the FGDC agencies. Annual reports span one fiscal year. The report includes a rating for each covered agency responsibility of "meets expectations," "made progress toward expectations," or "fails to meet expectations," as required by the GDA. A summary and evaluation of all the covered agency reports will be generated by FGDC and provided to the National Geospatial Advisory Committee (NGAC) for review and comment. The summary reports, along with the NGAC comments, will also become part of the biennial FGDC GDA report to Congress and will be published online via the [FGDC GDA pages \[https://fgdc.gov/gda\]](#).

This report is based on a standardized questionnaire and self-assessment score for each covered agency responsibility. The National Aeronautics and Space Administration has maintained documentation supporting the responses provided for this assessment. This information may be reviewed as part of the biennial Inspector General (IG) audits of covered agencies.

A recommended self-assessment key has been provided for each responsibility. In some cases, optional text is provided for additional insights or to justify a self-assessment selection. Any optional responses provided are not a factor in the self-assessment.

Where data or datasets are referenced,² information relates to all geospatial datasets owned or managed by the National Aeronautics and Space Administration that are, or should be, available to the public.

To support a more comprehensive picture of agency compliance and related activities, each agency had the option to submit up to a 2-page document, using the survey, as part of the agency’s submission. If provided, the document may include highlights and examples that can supplement the FGDC report to Congress, support the feedback process with the NGAC, or provide context to Office of the Inspector General (OIG) findings.

¹ GDA definition of *agency*: <https://www.fgdc.gov/gda/online#the-term-“covered-agency”—means—an-executive-department-as-def>

² GDA definition of *geospatial data*: <https://www.fgdc.gov/gda/online#the-term-%E2%80%98%E2%80%98geospatial-data%E2%80%99%E2%80%99%E2%80%94means-information-that-is-tied-to-a>

Self-Assessment for National Aeronautics and Space Administration

USC 43 Sec 2808(a)(1) Covered Agency Geospatial Strategies

GDA Requirement	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
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Question 1.1 and 1.2 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Yes to Question 1.1 and No to Question 1.2 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Question 1.1 and 1.2

Table 1. GDA USC 43 Sec 2808(a)(1) Covered Agency Geospatial Strategies Requirement and Self-Assessment Criteria.

Clarifying Text: FGDC developed and released a national strategic plan for the development of the National Spatial Data Infrastructure (NSDI) [the GDA, USC 43 Sec 2804(c)], which was approved by the FGDC Steering Committee in November 2020. Covered Agency Geospatial Strategies [the GDA, USC 43 Sec 2808(a)(1)], which will support the goals in the NSDI strategic plan, were due to be completed and submitted for agency approval by February 26, 2021, per FGDC guidance. For more information, please visit <http://fgdc.gov/nsdi-plan>.

1.1 Is your agency’s strategy complete, approved, and being implemented?

- Yes

1.2 Is your agency’s strategy published? If yes, please provide the URL or briefly describe how public access is being provided.

- Yes

https://www.nasa.gov/sites/default/files/atoms/files/nasa_geospatial_data_strategy_2021.pdf

1.3 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(1), "Prepare and implement a strategy for advancing geospatial data activities appropriate to the agency's mission." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

NASA has completed, and posted online by the designated deadline, a strategy documenting compliance with the National Spatial Data Infrastructure strategic plan in conjunction with the Agency Chief Data Officer. 2. NASA is compliant with the intent of the Geospatial Act. 3. While the strategy is being actively implemented in planned stages, NASA plans to update the strategy and add specific implementation details such as milestones as recommended by the IG.

USC 43 Sec 2808(a)(2) Support Data Sharing

GDA Requirement	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.
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ <i>Data is currently shared</i> selections for all agency appropriate parties for Question 2.1 and Yes to Questions 2.2 and 2.3 • Made progress toward expectations = <ul style="list-style-type: none"> ○ <i>Data is currently shared</i> selections for some appropriate parties for Question 2.1, or Question 2.2 and 2.3 have a mix of answers • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Questions 2.1, 2.2, and 2.3

Table 2. GDA USC 43 Sec 2808(a)(2) Support Data Sharing Requirement and Self-Assessment Criteria.

Clarifying text:

- ✓ This section does not include efforts related to partners, which are covered under Question 7, USC 43 Sec 2808(a)(7).
- ✓ Review the [GDA definition of geospatial data](#) to consider the questions in this section.
- ✓ Remember, your agency’s answers should include information about all geospatial datasets owned or managed by your agency that are, or should be, available to the public in accordance with agency statutory authorities and missions; not just National Geospatial Data Asset (NGDA) Datasets.
- ✓ Sharing data on the Internet using open standards, protocols and formats makes it part of the NSDI.
- ✓ Additional detail on the definition of geospatial data may be provided by OMB Circular A-16 when finalized.
- ✓ Geospatial data that will not or cannot be distributed to the public does not need to be considered for GDA-related responses as per the GDA.

2.1 Does your agency ensure that all eligible geospatial data is managed so it can be readily shared and is it provided in open formats, as appropriate? (This will include agency open government and transparency guidelines.) (Select all that apply)

- Data is currently openly shared to the public.

2.2 Does your agency disseminate eligible geospatial data in a way that can be readily shared in open formats (for example, using machine readable formats or searchable metadata)? (Select all that apply)

- Yes, eligible geospatial data and metadata are shared in open formats.

2.3 Are maintenance processes in place to ensure other federal agencies and non-federal users have access to the most recent data in addition to data and metadata updates and corrections? (Select all that apply)

- Some programs/datasets have maintenance processes in place.

2.4 Optional Question: Would the agency like to provide up to 5 key examples of ongoing or planned activities that ensure eligible geospatial data and associated metadata can be easily shared, understood, and re-used by others, now and in the future?

- Yes

Planned or Ongoing Activities	Description
Open Data Catalog	An Open Data catalog is available here http://data.nasa.gov/ and contains both spatial and non-spatial attributed datasets with 22,164 records as of December 6, 2022. Additional effort is needed to ensure the proper maintenance/refresh of datasets is done in a timely manner.
Science Discovery Engine	The Science Discovery Engine became available in limited release this year, encompassing data and information from across the Science Mission Directorate where the vast majority of all geospatial data at NASA is held and managed. It incorporates metadata from the Earth Science Common Metadata Repository and relevant content such as documentation and tutorials on geospatial data. In addition, it incorporates data and information from other parts of SMD and adds advanced search capabilities.
NASA's Common Metadata Repository (CMR)	CMR is a high-performance, high-quality, continuously evolving metadata system that catalogs all data and service metadata records for NASA's Earth Observing System Data and Information System (EOSDIS) https://search.earthdata.nasa.gov/

Table 2.a. Optional Information Regarding Ongoing or Planned Geospatial Data Sharing Activities.

2.5 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

The bulk of the Agency's geospatial Earth observing data are managed within the Distributed Active Archive Centers (DAACs) which strongly promote open sharing and open data standards. The data are cataloged and linked through the NASA Common Metadata Repository (CMR), accessed through EarthData (search.earthdata.nasa.gov/search). The CMR populates the top-level Agency Open Data catalog (data.nasa.gov) which contains both spatial and non-spatial attributed datasets. This populates

the catalog of (data.gov) which in-turn populates the Geoplatform catalog, thus providing a multilevel integrated pathway for broad discovery and use of NASA geospatial data. With very few exceptions, where necessary, those data sets are openly available in open data formats and are generally made fully and openly available to the user community as soon as such data becomes available with no period of exclusive access. The DAACs alone distributed almost 2 billion data products to more than 1.7 million distinct data users last year and make available more than 60 Petabytes of data.

USC 43 Sec 2808(a)(3) Promote Data Integration

GDA Requirement	Promote the integration of geospatial data from all sources
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Question 3.1 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Partial to Question 3.1 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Question 3.1

Table 3. GDA USC 43 Sec 2808(a)(3) Promote Data Integration Requirement and Self-Assessment Criteria.

3.1 Has your agency taken action to promote integration of data from multiple sources?

- Yes. The agency has taken appropriate action to promote data integration.

3.1.a If yes or partial to Question 3.1, in what ways does your agency promote data integration from multiple sources? (Select all that apply)

- Hosts a data sharing infrastructure where partners and/or data users can share and discover data.
- Develops a data integration toolkit or APIs to promote integration of agency data in external applications.
- Develops data integration processes to promote integration of non-agency data into applications.
- Provides data in openly standardized readable formats or as downloadable file packages.
- Develops data sharing agreements or Memoranda Of Agreement (MOA) with public and private partners for ingest or sharing of data.

3.2 Brief Summary (Limit 2000 characters or 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(3), "promote the integration of geospatial data from all sources." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

NASA created and maintains api.nasa.gov which allows for machine-readable access to many agency datasets. data.nasa.gov provides API access to datasets as well as options to download in machine-readable formats. The NASA Distributed Active Archive Centers (DAACs) are responsible for processing, archiving, and distributing NASA's Earth science data. The primary website for access to all NASA Earth Science data located within DAACs is Earthdata Search (search.earthdata.nasa.gov). NASA endorses a number of standards, including data format standards, to ensure data are described in a consistent and comprehensive manner. The various formats and standards used by NASA include netCDF, OGC KML, HDF5 and GeoTIFF. NASA also invests in advanced specific data integration activities with high value individual data sets such as Harmonized Landsat Sentinel-2 (HLS) and in broadly capable thematic integration and analysis platforms such as the Multi-Mission Algorithm and Analysis Platform (MAAP).

USC 43 Sec 2808(a)(4) Ensure Records Retention Schedule for Geospatial Data

GDA Requirement	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
Agency Self-Assessment	Made Progress Toward Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Questions 4.1 and 4.2 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Yes or Partial to Questions 4.1 and 4.2 or ○ No to either 4.1 or 4.2 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Questions 4.1 and 4.2

Table 4. GDA USC 43 Sec 2808(a)(4) Ensure Records Retention Schedule for Geospatial Data Requirement and Self-Assessment Criteria.

4.1 To ensure approved National Archives and Records Administration (NARA) schedules are in place, does the appraisal process for your agency to determine which data is archived include geospatial data?

- Partial. Some agency programs are included in the archiving appraisal process for data information products and other records created in geospatial data and activities.

4.2 Are geospatial data assets included on agency record schedules?

- Partial. Some agency record schedules are inclusive of data information products and other records created in geospatial data and activities.

4.3 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

NASA has approved retention schedules for Agency mission-oriented programs and projects that are written to be inclusive of all data products that may be generated. Data are addressed generically with no specification of types of data, but the Agency has begun development of a retention schedule exclusive to data, differentiating between phases of data and data products. The Earth Sciences Division has been collaborating with Agency records management to develop a comprehensive policy for management and retention of all science data, describing sets of records and appropriate retentions. The Agency has involved NARA in review of the science data management policy and assist with development of a retention schedule for NARA's approval. Further, NASA consulted with NARA to learn that, at this point, they are not interested in exploring NASA science data centers for consideration as

“affiliated archives”. NASA’s Records Officer has also initiated exploration of Office of Strategic Infrastructure geospatial data as they relate to facilities. Records management is assessing whether existing retention schedules apply to those geospatial data or whether new schedules must be developed for NARA approval.

USC 43 Sec 2808(a)(5) Allocate Resources for Geospatial Data Management Responsibilities

GDA Requirement	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
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Question 5.1 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Partial to Question 5.1 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Question 5.1

Table 5. GDA USC 43 Sec 2808(a)(5) Allocate Resources for Geospatial Data Management Responsibilities Requirement and Self-Assessment Criteria.

5.1 Are geospatial program resources (including full- or part-time federal employees or contractors) allocated 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? (Select the most appropriate answer and provide context for your agency’s response in Question 5.2.)

Clarifying text: Analyses of the requirements for the GDA are ongoing and it is anticipated that agencies will answer based on currently understood or anticipated requirements. Additional details can be provided in the 5.2 Brief Summary and in your agency’s 2-page PDF in Appendix B (if provided).

- Yes

5.2 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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." If the assessment is “made progress toward expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

NASA routinely provides comprehensive data management resources for all large data generating activities as a part of the project design and budgeting. Most geospatial data within NASA is managed by the Earth Science Data Systems (ESDS) Program (<https://earthdata.nasa.gov/esds>) with a primary goal of Setting the Standard for Efficient Production and Stewardship of Science-Quality Data. The 12 Distributed Active Archive Centers (DAACs) within ESDS manage nearly 12,000 geospatial data sets amounting to nearly 60 PB of geospatial and related data and are staffed in partnership with universities, other Federal agencies and NASA Centers. The Agency Chief Data Officer maintains Agency wide oversight for data in general and has consistently promoted effective geospatial data collection, production, and stewardship along with appropriate resources to achieve that.

USC 43 Sec 2808(a)(6) Use Data Standards

GDA Requirement	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
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Questions 6.1, 6.2 and 6.3 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Any other combination of Yes, No, and Partial to Questions 6.1, 6.2, and 6.3 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Questions 6.1, 6.2, and 6.3

Table 6. GDA USC 43 Sec 2808(a)(6) Use Data Standards Requirement and Self-Assessment Criteria.

Clarifying Text:

- ✓ Reestablishment of an active, resourced, and sustainable standards process with supporting governance is currently under consideration by the FGDC (Committee).
- ✓ The FGDC has not yet established any standards under the GDA, USC 43 Sec 2806.
- ✓ Answers should include information about all geospatial datasets owned or managed by your agency that are, or should be, available to the public in accordance with agency statutory authorities and missions; not just National Geospatial Data Asset (NGDA) Datasets.

6.1. Are defined data standards used in collecting, processing, and/or disseminating the data being addressed? (Select all that apply)

- Yes. Eligible geospatial datasets use FGDC endorsed data standards under OMB A-16, 2002, or more current versions of those endorsed standards.
- Yes. Eligible geospatial datasets use data standards that comply with OMB Circular A-119.

6.2 Does your agency maintain its metadata in an FGDC-endorsed, or ISO-compliant geospatial metadata standard format? (Select all that apply)

Clarifying text: Question does not include legacy datasets that are static and no longer modified or otherwise managed. Also, see the list of endorsed FGDC-endorsed standards

<https://www.fgdc.gov/standards/>.

- Yes. Eligible non-legacy datasets have well maintained FGDC-endorsed or current ISO-compliant geospatial metadata.

6.3 Is your agency geospatial metadata available through GeoPlatform.gov?

Clarifying Text: For the scope of the requirement, USC 43 Sec 2808(b)(1)(A)(iv) provides for “includ[ing] download access to all open geospatial data directly or indirectly collected by covered agencies” and Sec 2808(a)(6) requires that “metadata [be] available through the GeoPlatform.”

- Yes. Metadata for all public datasets are available via GeoPlatform.gov.

6.4 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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.” If the assessment is “made progress toward expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

Under the Office of the Chief Information Officer, NASA maintains the top-level Agency Open Data catalog (data.nasa.gov) which contains both spatial and non-spatial attributed datasets with 22,164 records as of December 6, 2022. This populates the catalog of (data.gov) which in-turn populates the Geoplatform catalog with appropriately tagged geospatial data records, thus providing a multilevel integrated pathway for broad discovery and use of NASA geospatial data. Most of the geospatial data in NASA is maintained and curated by the Earth Science Data Systems Program (ESDS) which documents geospatial data with the FGDC approved metadata standards ISO 19115-1 and 19115-2. Similarly, ESDS provides geospatial data in open formats such as the approved FGDC standards: netCDF, HDF5 and GeoTIFF.

USC 43 Sec 2808(a)(7) Support Coordination and Partnerships

GDA Requirement	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
Agency Self-Assessment	Made progress toward expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Questions 7.1 and Yes or Not applicable to Question 7.2 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Any combination of Yes, Not applicable, Partial, or No to Questions 7.1 and 7.2 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Questions 7.1 and 7.2

Table 7. GDA USC 43 Sec 2808(a)(7) Support Coordination and Partnerships Requirement and Self-Assessment Criteria.

7.1 Are there processes in place to ensure that, when appropriate, partners and stakeholders have visibility into agency geospatial data management activities (e.g., collection, integration, maintenance, dissemination, and preservation)? (Select all that apply)

- Yes. There are processes in place, but some mission areas do not have requirements for geospatial data management partnerships.

7.1.a If yes or partial to Question 7.1, which external partners and stakeholders are involved in data management activities? (Select all that apply)

Clarifying text: The selection list provided was taken from the GDA, USC 43 Sec 2803(b)(C).

- Other federal agencies
- Private sector entities
- Geospatial information user identities
- Professional associations
- Scholarly associations
- Nonprofit associations
- Academia
- Licensed geospatial data acquisition professionals

7.1.b If yes or partial to Question 7.1, what processes are in place to ensure partners and stakeholders are involved? (Select all that apply)

Clarifying text: When answering this question think about activities such as using surveys, listening sessions, Request for Information, booths at stakeholder conferences.

- Market research
- Partnership outreach activities
- Expert consultations
- Advisory committee(s)
- Working group(s) and sub-committee(s)
- Steering committees
- Feedback opportunities (e.g., contact email/phone, call center)
- Memoranda of Understanding
- Use other public comment process

7.2 Does your agency build upon existing non-federal geospatial data? (Select all that apply)

- Yes. Agency builds upon existing non-federal geospatial data to the extent possible.

7.2.a If yes or partial to Question 7.2, what ways do you build upon existing non-federal geospatial data? (Select all that apply)

- Procurement/acquisition/grant
- Cooperative data collection or crowd sourcing
- Mission assignments or Interagency Agreements
- MOAs/data sharing agreements

7.3 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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.” If the assessment is “made progress toward expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

NASA maintains partnerships across the broad spectrum of other Federal agencies such as the National Oceanic and Atmospheric Administration (NOAA) and the United States Geological Survey (USGS), other national Space Agencies such as European Space Agency (ESA) and Japan Aerospace Exploration Agency (JAXA), the hundreds of institutions of higher education receiving funding through NASA research awards and cooperative agreements, and the private sector for geospatial data acquisition and management.

USC 43 Sec 2808(a)(8) Promote Application of Geospatial Data Assets

GDA Requirement	Use 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;
Agency Self-Assessment	Made Progress Toward Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to 8.1, 8.2 and 8.3 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Any combination of Yes, Partial and No to Questions 8.1, 8.2 and 8.3 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to 8.1, 8.2 and 8.3

Table 8. GDA USC 43 Sec 2808(a)(8) Promote Application of Geospatial Data Assets Requirement and Self-Assessment Criteria.

USC 43 Sec 2808(a)(8)(A) make Federal geospatial information and services more useful to the public;

8.1 Does your agency leverage geospatial information to make federal geospatial information and services more useful to the public?

Clarifying Text: A number of examples of leveraging geospatial information for public use include, but are not limited to:

- ✓ Making the data accessible
- ✓ Providing data in ingestible services
- ✓ Providing maps or visualizations of geospatial data - like a map of an agency’s jurisdictional regions so the public can identify their region on a website
- ✓ Provided data in an online application – like the COVID-19 case tracker
- ✓ Outreach/communications for user feedback
- ✓ Making data open, standardized, or machine readable
- Yes

USC 43 Sec 2808(a)(8)(B) enhance operations; USC 43 Sec 2808(a)(8)(C) support decision making

8.2 Does your agency leverage geospatial information to improve operations and decision-making?

- Yes. Agency broadly leverages geospatial information in operations improvements or decision-making.

USC 43 Sec 2808(a)(8)(D) enhance reporting to the public and to Congress

8.3 Does your agency leverage geospatial information to enhance reporting to the public or to Congress? (Select all that apply)

- Partial. Agency leverages some geospatial information to enhance either public or Congressional reporting.

8.3.a If yes or partial, for which of these audiences does your agency leverage geospatial information to enhance reporting? (Select all that apply)

- Public reports (e.g., fact sheets, data briefs, Annual reports, other published agency reports).
- Internal agency and leadership plans, reports and communications.

8.4 Optional Question: Would the agency like to provide up to 5 key examples and links that demonstrate how geospatial data assets are used, internally and externally, to make federal geospatial information and services more useful to the public; enhance operations; support decision making; and/or enhance reporting to the public and to Congress?

- Yes

Example	Link
NASA Earth Observatory	https://earthobservatory.nasa.gov/
NASA Earthdata	https://earthdata.nasa.gov/
Resilience Community curated in Geoplatform.gov	https://communities.geoplatform.gov/resilience/
ISS Location Data	https://spotthestation.nasa.gov/
NASA COVID 19 Dashboard	https://earthdata.nasa.gov/covid19/

Table 8.a. Example Benefits of Federal Geospatial Data Assets.

8.5 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(8), "use 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;"**

If the assessment is “made progress toward expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

NASA commits extensive resources to making geospatial data and services more useful to the public and in decision making (see the table of examples) as well as in enhancing operations. Many other examples can be seen on Earthdata (<https://earthdata.nasa.gov/learn/articles>). With regard to operations, NASA uses geospatial data in Facility Master Plans, Construction of Facilities, Maintenance and Operations, Disaster Mitigation, Safety and Security are all supported by NASA Institutional GIS. In the future, selected portions of this data are expected to be made available in support of regional planning functions.

USC 43 Sec 2808(a)(9) Protection of Privacy and Confidentiality

GDA Requirement	Protect personal privacy and maintain confidentiality in accordance with Federal policy and law
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Questions 9.1 and 9.2 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Yes or Partial to Questions 9.1 or 9.2 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Questions 9.1 or 9.2

Table 9. GDA USC 43 Sec 2808(a)(9) Protection of Privacy and Confidentiality Requirement and Self-Assessment Criteria.

9.1 Are the agency’s Privacy Threshold Assessment or Privacy Impact Assessment (PTA/PIA) processes inclusive of your agency’s geospatial data?

Clarifying Text: The Privacy Threshold Assessment/Analysis would be the mechanism that agencies use to determine if PII is, or is not, collected and whether a Privacy Impact Assessment needs to be done for an information system.

- Yes. The agency’s PTA/PIA processes are inclusive of all agency data.

9.2 Are the IT systems and applications that maintain and support your agency’s geospatial data covered by a current Authorization to Operate (ATO)?

- Yes. All agency geospatial data is housed in a system covered by a current ATO and is appropriately protected in accordance with applicable laws and regulations.

9.3 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(9), “protect personal privacy and maintain confidentiality in accordance with Federal policy and law.” If the assessment is “made progress toward expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

NASA’s Privacy Program places a high priority on protecting all Controlled Unclassified Information (CUI) created, collected, maintained, and managed by or on behalf of NASA. The Privacy Program develops and maintains Agency policy and procedures to protect information and ensure compliance with Federal laws and relevant privacy requirements. Privacy compliance is an important element of NASA’s cybersecurity program, ensuring that employees are protected from embarrassment, identify theft, credit fraud, or other harm. The Office of the Chief Information Officer (OCIO) requires that all system, application, and information owners fully comply with NASA Privacy Policy and Procedures and actively promotes awareness and training for all employees. NASA’s Privacy Statement and Supporting Documentation: https://www.nasa.gov/about/highlights/HP_Privacy.html#privacy

NASA’s System of Records Notices (SORNs):

<https://www.nasa.gov/content/nasa-privacy-act-system-of-records-notice-sorns>

USC 43 Sec 2808(a)(10) Declassified Data

GDA Requirement	Participate in determining, when applicable, whether declassified data can contribute to and become a part of the National Spatial Data Infrastructure
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes or Not applicable to Question 10.1 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Question 10.1

Table 10. GDA USC 43 Sec 2808(a)(10) Declassified Data Requirement and Self-Assessment Criteria.

10.1 If your agency handles declassified geospatial datasets, does it have a process to review these declassified datasets for inclusion in the NSDI?

Clarifying text: Sharing standards-based data on the Internet using standard protocols and formats makes it part of the NSDI.

- Not applicable: The agency does not handle declassified data.

10.2 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(10), “participate in determining, when applicable, whether declassified data can contribute to and become a part of the National Spatial Data Infrastructure.” If the assessment is “fails to meet expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

Not applicable.

USC 43 Sec 2808(a)(11) Non-Duplication of Data

GDA Requirement	Search all sources, including the GeoPlatform, to determine if existing Federal, State, local, or private geospatial data meets the needs of the covered agency before expending funds for geospatial data collection
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ No to Question 11.1 or ○ Yes to Questions 11.1 and 11.2 and all agency appropriate responses to Question 11.3 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Yes to Question 11.1 and Partial or No to Question 11.2 and agency appropriate responses to Question 11.3 • Fails to meet expectations = <ul style="list-style-type: none"> ○ Yes to Question 11.1 and No to Question 11.2 and <i>No additional assessments are done</i> selected for Question 11.3

Table 11. GDA USC 43 Sec 2808(a)(11) Non-Duplication of Data Requirement and Self-Assessment Criteria.

11.1 Has your agency expended funds for geospatial data collection for the reporting period?

Clarifying text: “Expended funds” may include grant distribution, agency collection, or procurement of data.

- Yes

11.2 If yes to Question 11.1, and as per [OMB Circular A-11 Guidance](#) (Section 25, Page 3), has your agency searched the [GeoPlatform](#) prior to making planned geospatial data investments to determine if an existing source for that data is available and meets mission requirements?

- Yes. Agency has searched GeoPlatform prior to all geospatial data investments.

11.3 If yes to Question 11.1, has your agency searched other sources to determine if data necessary to meet requirements already exists (either within or outside the agency) before collecting or acquiring new data? (Select all that apply)

- Market research
- Cross-agency or partner coordination
- Expert consultation
- Database search
- Agency follows a documented process or official policy

11.4 Optional Question: If yes to Question 11.1, would the agency like to provide up to 5 examples of cases where the agency did find existing data that met its needs or partnered on a joint data acquisition?

- No

11.5 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(11), "Search all sources, including the GeoPlatform, to determine if existing Federal, State, local, or private geospatial data meets the needs of the covered agency before expending funds for geospatial data collection." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

NASA considers the Geoplatform to be among the appropriate resources that are consulted as a matter of due diligence before any major acquisition of geospatial data. Appropriate analysis and community consultation across all relevant sources involved across the many procurement routes. For example, simple procurement follows procedures in the Federal Acquisition Regulation (FAR) which generally include market research and evaluation. When data are acquired through scientific research such as is funded through Research Opportunities in Space and Earth Science (ROSES), the process generally includes evaluation by a panel of scientific experts. Other important avenues such as the Commercial Smallsat Data Acquisition (CSDA) Program (earthdata.nasa.gov/esds/csda) maintain specific sets of communication and evaluation criteria. NASA also maintains close collaborations with other international space agencies such as the European and Japanese Space Agencies which avoids duplication of effort.

USC 43 Sec 2808(a)(12) Ensuring High-Quality Data

GDA Requirement	To the maximum extent practicable, ensure that a person receiving Federal funds for geospatial data collection provides high-quality data
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ No to Question 12.1 or ○ Yes to Question 12.1 and all appropriate selections for Question 12.2 • Made progress toward expectations = <ul style="list-style-type: none"> ○ Yes to Question 12.1 and some agency appropriate selections for Question 12.2 • Fails to meet expectations = <ul style="list-style-type: none"> ○ Yes to Question 12.1 and <i>No official documented Quality Assurance/Quality Control (QA/QC) process is in place for acquisition of geospatial data selected for Question 12.2</i>

Table 12. GDA USC 43 Sec 2808(a)(12) Ensuring High-Quality Data Requirement and Self-Assessment Criteria.

12.1 Has your agency expended funds for geospatial data collection from non-federal sources during the reporting period?

Clarifying text: The requirement for “a person receiving Federal funds” has been interpreted to mean non-federal organizations or corporations who are, for example, contract or grant recipients.

- Yes

12.2 If yes to Question 12.1, what methods does your agency employ to ensure quality in geospatial data collected from non-federal sources? (Check all that apply and use the “other” textbox to briefly describe additional methods used to ensure quality for geospatial data acquired by procurement or grant process)

- Evaluate data for quality prior to any acquisition.
- Geospatial data quality standards are specified in contract documents.
- Independent verification and validation (IV&V).
- Staff data experts review and approve geospatial data deliverables.
- Data standards are enforced through automated processes such as database controls or script tools.
- The agency acquires data from another federal agency that is responsible for QA/QC.

12.3 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(a)(12), "to the maximum extent practicable, ensure that a person receiving Federal funds for geospatial data collection provides high-quality data." If the assessment is "made progress toward expectations," include the actions your agency is taking to achieve the "meets expectations" level.

NASA employs appropriate community and procurement vehicle specific methods to guarantee geospatial data quality. For example, direct simple procurement follows procedures in the Federal Acquisition Regulation (FAR) which generally includes a quality assurance component. When data are acquired through scientific research such as is funded through Research Opportunities in Space and Earth Science (ROSES), the process generally includes evaluation by a panel of scientific experts. Geospatial data products of those efforts that are held by NASA to be employed in analyses, or redistributed, are documented with appropriate metadata and are appropriately reviewed according to community norms. For example, peer review is generally employed for publications. Other important avenues such as the Commercial Smallsat Data Acquisition (CSDA) Program (<https://earthdata.nasa.gov/esds/csda>) maintain specific evaluation criteria.

USC 43 Sec 2808(a)(13) Point of Contact

GDA Requirement	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
Agency Self-Assessment	Meets Expectations
KEY to Self-Assessment	<ul style="list-style-type: none"> • Meets expectations = <ul style="list-style-type: none"> ○ Yes to Question 13.1 • Fails to meet expectations = <ul style="list-style-type: none"> ○ No to Question 13.1

Table 13. GDA USC 43 Sec 2808(a)(13) Point of Contact Requirement and Self-Assessment Criteria.

13.1 Has your agency appointed a POC to coordinate with the lead covered agencies for collection, acquisition, maintenance, and dissemination of the NGDA data themes used by the covered agency?

Clarifying text: According to the GDA Definitions, USC 43 Sec 2801(12), NGDA data theme means “the NGDA core geospatial datasets including electronic records and coordinates relating to a topic or subject designated under USC 43 Sec 2805.” Also, OMB Circular A-16 may include additional guidance on covered agency responsibilities for theme coordination.

- Yes. An agency POC has been appointed.

13.2 Brief Summary (Limit 2000 characters, or approximately 300 words): Please provide a brief description of agency actions and accomplishments in FY2022 in addressing USC 43 Sec 2808(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." If the assessment is “fails to meet expectations,” include the actions your agency is taking to achieve the “meets expectations” level.

NASA maintains three National Geospatial Data Assets: Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER), Moderate Resolution Imaging Spectroradiometer (MODIS) - Aqua, Moderate Resolution Imaging Spectroradiometer (MODIS) - Terra. Under an MOU with Co-theme-Lead Covered Agency USGS, a POC is supported at the Land Processes Distributed Active Archive Center (LP DAAC) for collection, acquisition, maintenance, and dissemination of the NGDAs.

Appendix A: Survey Picklists

This appendix provides the full set of choices presented in the self-assessment survey for questions that have multiple response options, including those that are “select all that apply.”

2.1 Does your agency ensure that all eligible geospatial data is managed so it can be readily shared and is it provided in open formats, as appropriate? (This will include agency open government and transparency guidelines.) (Select all that apply)

- Data is currently openly shared to the public.
- Data is currently shared on a limited basis with federal partners.
- Data is currently shared on a limited basis with non-federal users.
- No data is currently shared to other federal agencies or non-federal users. (Note: For some agencies, this may be an appropriate response).

2.2 Does your agency disseminate eligible geospatial data in a way that can be readily shared in open formats (for example, using machine readable formats or searchable metadata)?

- Yes, eligible geospatial data and metadata are shared in open formats.
- Eligible geospatial data are shared in open formats, but not all metadata is open format.
- Eligible geospatial metadata are shared in open formats, but not all data are open format.
- Some geospatial data, and its metadata, is shared in open formats.
- No geospatial data is shared, or geospatial data is only shared in proprietary formats.

2.3 Are maintenance processes in place to ensure other federal agencies and non-federal users have access to the most recent data in addition to data and metadata updates and corrections?

- Yes, agency policies exist to ensure all programs implement data maintenance processes.
- Some programs/datasets have maintenance processes in place.
- Maintenance processes are in development or are partially implemented.
- No maintenance processes are currently in place or in development.

3.1.a If yes or partial to Question 3.1, in what ways does your agency promote data integration from multiple sources? (Select all that apply and use the “other” textbox to briefly describe additional methods)

- Hosts a data sharing infrastructure where partners and/or data users can share and discover data.
- Develops a data integration toolkit or APIs to promote integration of agency data in external applications.
- Develops data integration processes to promote integration of non-agency data into applications.
- Provides data in openly standardized readable formats or as downloadable file packages.
- Develops data sharing agreements or Memoranda Of Agreement (MOA) with public and private partners for ingest or sharing of data.
- Other (Textbox provided)

6.1. Are defined data standards used in collecting, processing, and/or disseminating the data being addressed? (Select all that apply)

- Yes. Eligible geospatial datasets use FGDC endorsed data standards under OMB A-16, 2002, or more current versions of those endorsed standards.
- Yes. Eligible geospatial datasets use data standards that comply with OMB Circular A-119.
- Partial. Some eligible geospatial datasets use FGDC-endorsed data standards.
- Partial. Some eligible geospatial datasets use data standards that comply with OMB Circular A-119.
- No. Eligible agency geospatial datasets do not use FGDC-endorsed data standards or standards that comply with OMB Circular A-119.

6.2 Does your agency maintain its metadata in an FGDC-endorsed, or ISO-compliant geospatial metadata standard format? (Select all that apply)

Clarifying text: Question does not include legacy datasets that are static and no longer modified or otherwise managed. Also, see the list of endorsed FGDC-endorsed standards

<https://www.fgdc.gov/standards/>.

- Yes. Eligible non-legacy datasets have well maintained FGDC-endorsed or current ISO-compliant geospatial metadata.
- Partial. Some eligible datasets have well maintained FGDC-endorsed or current ISO-compliant geospatial metadata.
- Partial. Some eligible datasets have FGDC-endorsed or current ISO-compliant geospatial metadata, that needs to be reviewed or refreshed.
- No. Agency datasets do not use FGDC-endorsed or current ISO-compliant geospatial metadata standards.

7.1 Are there processes in place to ensure that, when appropriate, partners and stakeholders have visibility into agency geospatial data management activities (e.g., collection, integration, maintenance, dissemination and preservation)?

- Yes. There are processes in place for all agency mission areas.
- Yes. There are processes in place, but some mission areas do not have requirements for geospatial data management partnerships.
- Partial. There are processes in place for some agency mission areas, but not others.
- No. There are no processes in place. (Skip to question 7.3)

7.1.a If yes or partial to Question 7.1, which external partners and stakeholders are involved in data management activities? (Select all that apply and use the “other” textbox to add additional partners or stakeholders)

Clarifying text: The selection list provided was taken from the GDA, USC 43 Sec 2803(b)(C).

- Other federal agencies
- States
- Local governments
- Regional governments
- Tribal governments
- Private sector entities
- Geospatial information user industries
- Professional associations
- Scholarly associations
- Nonprofit organizations
- Academia
- Licensed geospatial data acquisition professionals
- Other (Textbox provided)

7.1.b If yes or partial to Question 7.1, what processes are in place to ensure partners and stakeholders are involved? (Select all that apply and use the “other” textbox to add additional processes)

Clarifying text: When answering this question think about activities such as using surveys, listening sessions, Request for Information, booths at stakeholder conferences.

- Market research
- Partnership outreach activities
- Expert consultations
- Advisory committee(s)
- Working group(s) and sub-committee(s)
- Steering committees
- Councils
- Engage with trade groups
- Feedback opportunities (e.g., contact email/phone, call center)
- Federal Register Notices
- Memoranda of Understanding
- Use other public comment processes
- Other (Textbox provided)

7.2 Does your agency build upon existing non-federal geospatial data?

- Yes. Agency builds upon existing non-federal geospatial data to the extent possible.
- Not applicable: no existing applicable data exists.
- Partial. Agency builds upon some existing non-federal geospatial data.
- No. Agency does not build upon existing non-federal geospatial data.

7.2.a If yes or partial to Question 7.2, what ways do you build upon existing non-federal geospatial data? (Select all that apply and use the “other” textbox to add additional ways)

- Procurement/acquisition/grant
- Research partnership
- Cooperative data collection or crowd sourcing
- Mission assignments or Interagency Agreements
- MOAs/data sharing agreements
- Other (Textbox provided)

8.3 Does your agency leverage geospatial information to enhance reporting to the public or to Congress?

- Yes. Agency broadly leverages geospatial information to enhance public and Congressional reporting.
- Not applicable: Agency does not leverage geospatial information in published reports.
- Partial. Agency leverages some geospatial information to enhance either public or Congressional reporting.
- No. Agency does not leverage geospatial information to enhance either public or Congressional reporting.

8.3.a If yes or partial, for which of these audiences does your agency leverage geospatial information to enhance reporting? (Select all that apply)

- Public reports (e.g., fact sheets, data briefs, Annual reports, other published agency reports).
- Congressional reports.
- Internal agency and leadership plans, reports and communications.
- Not applicable: agency does not leverage geospatial information in published reports.

11.3 If yes to Question 11.1, has your agency searched other sources to determine if data necessary to meet requirements already exists (either within or outside the agency) before collecting or acquiring new data? (Select all that apply and use the “other” textbox to briefly describe additional sources)

- Market research
- Cross-agency or partner coordination
- Expert consultation
- Database search
- Agency follows a documented process or official policy
- No additional assessments are done
- Other (Textbox provided)

12.2 If yes to Question 12.1, what methods does your agency employ to ensure quality in geospatial data collected from non-federal sources?

(Check all that apply and use the “other” textbox to briefly describe additional methods used to ensure quality for geospatial data acquired by procurement or grant process)

- Evaluate data for quality prior to any acquisition.
- Geospatial data quality standards are specified in contract documents.
- Independent verification and validation (IV&V).
- Staff data experts review and approve geospatial data deliverables.
- Data standards are enforced through automated processes such as database controls or script tools.
- The agency acquires data from another federal agency that is responsible for QA/QC.
- No official documented QA/QC process is in place for acquisition of geospatial data.
- Other (Textbox provided)