

USGEO Satellite Needs Working Group

Reporting Federal High-Priority Satellite Needs

This form can be used for reference and/or internal data collection but all final submittals must come through the online form at: [U.S. Group on Earth Observations \(USGEO\) Satellite Needs Working Group](#)

The Satellite Needs Working Group (SNWG) was chartered as an interagency working group by action of the National Science and Technology Council (NSTC), Committee on Environment, Natural Resources, and Sustainability (CENRS), U.S. Group on Earth Observations (USGEO) Subcommittee. The SNWG supports an annual Satellite Needs process by which Federal departments and agencies can communicate their Earth observation satellite measurement or product needs to NASA and other providers of satellite observations.

The SNWG federal high-priority satellite needs collection was initiated in response to the President's Budget for Fiscal Year 2016 which reflects the decision to make NASA responsible for the acquisition of the space segment for all U.S. Government-owned civilian Earth-observing satellites except National Oceanic and Atmospheric Administration (NOAA) weather and space weather satellites. The Administration further recognized that user agencies will continue to need satellite data from NASA, and that their needs should serve as input to NASA decisions on which measurements to transition from experimental to sustained observations.

The SNWG developed the attached form for agencies to identify their high-priority needs for both sustained and unmet satellite Earth observation measurement or product needs. Information gathered during this process will be used by satellite provider agencies, and possibly the private sector, to influence decisions on future sensors placed into orbit.

To help NASA and other satellite data providers gain a better understanding of agency data needs, the SNWG asks that department/agencies to complete the form for each high-priority need. The information provided will be compiled by the SNWG. The SNWG compilation will flag similar needs from multiple agencies but will not alter data or provide any prioritization among agencies. Following compilation and aggregation, the SNWG will provide the data to USGEO with a copy to the OMB, which is for information only. Following the SNWG submission to USGEO, the USGEO will acknowledge the user agency inputs and formally submit the compiled inputs to OMB, OSTP, and NASA.

Instructions for completing the High-Priority Satellite Needs form are included at the end of the form. Thank you in advance for your participation.

If you have any questions, please send them to your agency representative:

Representative	Contact Information	Agency
Census Bureau	Vincent Osier	vincent.osier@census.gov
Department of Energy	Shaima Nasiri	shaima.nasiri@science.doe.gov
Department of Homeland Security	David Alexander	david.alexander1@hq.dhs.gov
Department of State	Fernando Echavarria	echavarriafr@state.gov
Environmental Protection Agency	Jim Szykman	james.j.szykman@nasa.gov
	Terry Keating	keating.terry@epa.gov
Federal Emergency Management Agency	Adrian Gardner	adrian.gardner@fema.dhs.gov
NASA	Steven Neeck	steven.neeck@nasa.gov
National Oceanic and Atmospheric Administration	Jason Taylor	jason.taylor@noaa.gov
	Marilyn Murphy	marilyn.yuen.murphy@noaa.gov
National Science Foundation	Pat Harr	pharr@nsf.gov
U.S. Agency for International Development	Mark Higgins	mhiggins@usaid.gov
	Michael Crino	mcrino@usaid.gov
U.S. Department of Agriculture	Glenn Bethel	glenn.bethel@fas.usda.gov
	Jim Hipple	james.hipple@rma.usda.gov
U.S. Geological Survey	Greg Snyder	gsnyder@usgs.gov

If your agency representative is not listed above, contact one of the SNWG Co-Chairs, Pat Harr at pharr@nsf.gov or Glenn Bethel at glenn.bethel@fas.usda.gov.

Federal High-Priority Satellite Needs Reporting Form

Please note that instructions follow the form.

Section 1 - Federal Department/Agency Information:

(1a) Department/Agency: (required)

(1b) Organizational
Unit/Sub-Unit/Program: (required)

Federal Agency Point of Contact for This Need:

(1c) Name: (required)

(1d) Email Address: (required)

(1e) Phone Number: (required)

Satellite Need Subject Matter Expert (SME)

(1f) Name: (required)

(1g) Email Address: (required)

(1h) Phone Number: (required)

Alternative Satellite Need SME

(1i) Name:

(1j) Email Address:

(1k) Phone Number:

(1l) Submission Date (required)

Section 2 - Context for Satellite Measurement or Product Need

(2a) Department/Agency strategic objective supported by measurements and products (e.g. goal, mandate, responsibilities, etc.), in narrative form).

(2b) Name and narrative description of the specific application that requires the measurement or product.

(2c) Names of measurements and products (current or desired) needed by the application in (2b) and descriptions of their specific uses.

(2d) Describe how well current measurements and products in (2c) are meeting the need.

(2e) Internal and external users of measurements and products in (2c).

Section 3 - Satellite Measurement or Product Need

(3a) Name of satellite mission, sensor, or product that meets or would meet your measurement need

For continuity of current measurements or products, including foreign satellites, enter the name of the mission, sensor, or product you currently use. For unmet needs, enter the measurement or product that you need or enter the name of a planned measurement or product.

(3b) What agency provides the mission, sensor, or product in Section (3a)?

For unmet needs, leave blank.

For the remaining items in this Section 3, provide input only in the fields that apply. Please complete either box one, box one and two or box three alone. Examples follow.

Data Continuity:

Provide input in Data Continuity fields if your need is met or partially met by an existing measurement or product that you want continued. For example, if you currently use 10 km data that satisfies your need, enter "10 km" in (3d1) *Spatial Resolution, Data Continuity*.

Data Continuity with Improvements:

Provide input in *Data Continuity with Improvements* fields if your need could be more fully met by enhancements or improvements to the existing measurement or product you want continued. For example, if you currently use 10 km data but 5 km data would be more valuable, enter "5 km" in (3d2) for *Spatial Resolution, Data Continuity with Improvements*.

Unmet Need:

Provide input in *Unmet*. Need if your need is entirely unmet by an existing measurement. For example, you need to "Detect and Monitor Levels of Mercury in the Atmosphere at 1 km", enter that in (3d3).

(3c) Geographic Coverage (e.g. global, regional, or coastal) - the geographic area over with the Earth Observation data. (Required)

(3c1) Data Continuity

(3c2) Data Continuity with Improvements

(3c3) Unmet Need

(3d) Spatial Resolution (e.g. 30 m) - the horizontal or vertical distance between Earth observations or the horizontal distance between grid points in a uniformly space Earth Observations data set. *(Required)*

(3d1) Data Continuity

(3d2) Data Continuity with Improvements

(3d3) Unmet Need

(3e) Temporal Frequency (e.g. weekly, daily, hourly) - the time interval between subsequent collections of the same data at the same location. *(Required)*

(3e1) Data Continuity

(3e2) Data Continuity with Improvements

(3e3) Unmet Need

(3f) Spectral Characteristics - the number of bands within the spectral region, bandwidth, the desire for hyperspectral, radar, etc. (e.g. near IR, multi-spectral, visible, or IR).

(3f1) Data Continuity

(3f2) Data Continuity with Improvements

(3f3) Unmet Need

(3g) Data Latency (e.g. minutes, days, months) - the time delay between the time of an observation and its receipt by the user.

(3g1) Data Continuity

(3g2) Data Continuity with Improvements

(3g3) Unmet Needs

(3h) Conditions for Sampling (e.g. day/night, morning/afternoon, timing related to other satellite passes, etc.) - measurement considerations, if any.

(3h1) Data Continuity

(3h2) Data Continuity with Improvements

(3h3) Unmet Need

(3i) Summary of attributes and clarification of conditions, problems, or other considerations that affect use of the measurement or the product. *(Required)*

(3h1) Data Continuity

(3h2) Data Continuity with Improvements

(3h3) Unmet Need

Section 4 - Value of Measurement or Products to Department/Agency Objective as Defined in Section 2:

List impacts of having or losing satellite measurement or product pertaining to:

(4a) Department/Agency Objective (*required*)

(4b) Socio-economic benefits (*required*)

(4c) Knowledge (*required*)

(4d) Public safety

(4e) Other (e.g. productivity gains, improved resource allocation or cost efficiencies)

(4f) Known linkages to other agencies

Section 5 - Additional Comments:

Instructions for completing the form:

This form can be used for reference and/or internal data collection but all final submittals must come through the online form at: [U.S. Group on Earth Observations \(USGEO\) Satellite Needs Working Group](#)

Complete the form with the most detailed information available regarding satellite measurement or product need. You may wish to print these instructions for a reference when completing the form. Please complete a separate form for each need. If you are completing the form online, you can save your responses at the end of the form and return to edit or complete either the form later.

Please be as specific as possible about your Department/Agency need, which may be a general measurement or a product. If the precise information requested is unknown, provide as much detail as possible. Each section is designed to provide NASA with different information, as follows:

Section 1: Federal Department/Agency Information

Section 2: Context for Satellite Measurement or Product Need

Section 3: Satellite Measurement or Product Need

Section 4: Value of Measurement or Product to Department/Agency Need

Section 5: Additional Comments

Information gathered during this process will be used by NASA or other satellite provider agencies, and possibly the private sector, to influence decisions on future sensors placed into orbit. Please note that USGEO's Satellite Needs Working Group (SNWG) will not process forms that do not have all required information provided.

Specific instructions for each of the five sections follow. Please answer all applicable questions.

Section 1 – Federal Department/Agency Information:

- **(1a-1b) Department/Agency and Organizational Unit/Sub-Unit/Program.** Provide both the Department/Agency name and sufficient additional information to reach the program management level responsible for this satellite measurement or product need. Because departments and agencies are organized differently, please provide organizational unit and subunit information as appropriate to your department/agency structure. *This information is required.*
- **(1c-1e) Federal Agency Point of Contact for This Need.** Provide the name, email address, and phone number of the Federal Agency Point of Contact for this need. If this form is being completed by a non-government contractor or grant recipient, these fields should contain the contact information for the agency or department representative supervising the grant or contract. If unknown, write "Unknown". *This information is required.*
- **(1f-1h) Satellite Need Subject Matter Expert (SME).** Provide the name, email address, and phone number of a subject matter expert (SME) who either filled out this form or will be the focal point to facilitate technical interactions with NASA or other provider agencies regarding this submission. If this form is being completed by a non-government contractor or grant recipient, these fields should contain the contact information for that person. *This information is required.*
- **(1i-1k) Alternative Satellite Need SME.** Provide the name, email address, and phone number of someone who can serve as an alternate SME for the person named in (1f).
- **(1l) Submission Date.** Provide the date of submission. *This information is required.*

Section 2 – Context for Satellite Need:

The information in this section is meant to communicate the context for the Department/Agency need. *All entries are required.*

• **(2a) Department/Agency strategic objective supported by measurement or product:** Provide a narrative description of the Department/Agency objective or mandate for which satellite measurements and data products are needed.

• **(2b) Name and narrative description of the specific application that requires the measurement or product:** Provide the name and describe in narrative form the specific application that:

- o Is used to meet the objective listed in (2a); and
- o Requires the satellite-based measurement or data product needed.

This Information is required:

• **(2c) Name of Satellite Measurement or Data Products (current or desired) needed by the Application in (2b):** State the specific satellite measurement or data product needed by the application in (2b). If a specific measurement (e.g. surface temperature) or supporting satellite-based data product (e.g. deforestation map) is required, please state that specifically. Define in narrative form the specific role(s) of the measurement or data product in the application listed in (2b). *This Information is required*

• **(2d) Description of how well current measurements and products in (2c) are meeting need.** For current measurements and products in (2c), describe existing data, methods, and performance related to operation of the application named in (2b). Address the following questions:

- o What is the application performance level achieved by using existing data?
- o If the existing data are inadequate, please explain why.
- o Do the current data limit improvements in application methodology?

This Information is required:

• **(2e) Internal and external users for measurements or data products listed in (2c).** List current and prospective internal/external users of the measurement or product.

Section 3 – Satellite Measurement or Product Need:

• **(3a) Name of satellite mission, sensor, and product that meets or would meet your measurement:**

- o If known, enter the name of the specific mission, sensor, or product (including foreign satellites) that currently provide measurements or products needed (e.g. Terra/MODIS, daily surface temperature, Snow Cover).
- o If some measurement parameters need mission, sensor, or product need improvement (e.g. the spatial resolution of a spectral band or a product may need to be increased), then provide that information.
- o If a planned future mission, sensor, or product that would meet an as yet unmet need, provide that information if known.

• **(3b) What agency provides mission, sensor, or product?**

- o e.g. NASA, NOAA, USGS or a foreign space agency such as ESA or JAXA
- o For unmet needs, leave blank.

Each of the remaining items (**3c through 3i**) in Section 3 pertain to the attributes of the mission, sensor, or product in (3a). Each has three fillable fields: **Data Continuity**, **Data Continuity with Improvements**, and **Unmet Need**:

- If an existing measurement or product should be continued to fulfill your need, enter data in the corresponding Data Continuity fields (3c1, 3d1, 3d1, etc.).
- If the existing measurement of data product needs to be improved to fully meet your need, enter the desired improvement in the corresponding **Data Continuity with Improvements** fields (3c2, 3d2, 3d3, etc.) as well.
- If there are needs for measurements or data products that are currently unmet, enter the desired values for each attribute in the **Unmet Needs** fields (3c3, 3d3, 3d3, etc.)

Do not mix continuity needs with unmet needs (i.e., in Section (3c), complete either (3c1) Data Continuity, (3c1) Data Continuity and (3c2) Data Continuity with Improvements, or (3c3) Unmet Needs.

When entering a current measurement or product to be continued, a recommendation for improvement is not required. Entries for (3c), (3d), and (3e) are required. While not required, entries for attributes (3f through (3i) will further help to identify the satellite measurement or product that can meet your Department/Agency need. All of the entries should be provided with units applicable to the measurement. Attributes are defined as follows:

- **(3c) Geographic Coverage:** The geographic area over which the current measurement is collected or product is provided (e.g. global, regional, coastal) *This information is required.* Indicate current geographic coverage that you want to continue in **(3c1) Data Continuity**. If current coverage needs to be improved, indicate the desired improvement in **(3c2) Data Continuity with Improvements** box. If need is unmet, indicate the desired coverage in **(3c3) Unmet Need**.
- **(3d) Spatial Resolution:** Indicate horizontal or vertical distance between satellite-based observations or the horizontal distance between grid points in a uniformly spaced satellite data set (e.g. 30 m). *This information is required.* Indicate current spatial resolution you want continued in **(3d1) Data Continuity**. If current resolution needs to be improved, the desired improvement in the **(3d2) Data Continuity with Improvements**. If need is unmet, indicate desired resolution in the **(3d3) Unmet Data Need**.
- **(3e) Temporal Frequency:** The time interval between subsequent collections of the same satellite data at the same location (e.g. weekly, daily, hourly) *This information is required.* Indicate current temporal frequency that you want continued in **(3e1) Data Continuity**. If frequency needs to be improved, indicate desired improvement in **(3e2) Data Continuity with Improvements**. If need is unmet, indicate desired frequency in **(3e3) Unmet Data Needs**.
- **(3f) Spectral Characteristics:** Indicate the following characteristics (*this information is optional*):
 - o Number of bands within a spectral region
 - o Bandwidth of the measurement system
 - o Desire for hyperspectral, radar, etc. (e.g. near IR, multi-spectral, visible, or IR)

Enter values for current measurements that you want continued in **(3f1)**. If the spectral characteristics need to be improved, indicate the desired improvement in the **Data Continuity with Improvements** box **(3f2)**. If the need is unmet, indicate desired spectral characteristics in **(3f3) Unmet Need**.

- **(3g) Data Latency:** The time from when an observation is collected by the satellite and receipt of the observation by the user (e.g. minutes, days, months). *This information is optional.* Indicate current data latency time that you want continued in **(3g1) Data Continuity**. If current latency needs to be improved, indicate desired improvement in **(3g2) Data Continuity with Improvements**. If need is unmet, indicate desired latency time in **(3g3) Unmet Need**.

- **(3h) Conditions for Sampling:** Identify special measurement considerations (e.g. day/night, morning/afternoon, timing related to other satellite passes, etc.), if any. *This information is optional.* Indicate sampling you want continued in **(3h1) Data Continuity**. If the sampling conditions need to be improved, indicate the desired improvement in the **Data Continuity with Improvements box (3h2)**. If the need is unmet, indicate the desired sampling conditions in the **Unmet Need box (3h3)**.

- **(3i) Summary of needs and clarification of conditions, problems, or additional considerations:** Describe any attributes, conditions, special considerations, and known or potential problems related to the need for the satellite data or product. This description may include characteristics that are of significant importance to warrant emphasis beyond specification of the attributes above. *This information is required.* Explain attributes that you want continued in **(3i1) Data Continuity** and those you want improved in **(3h2) Data Continuity with Improvement**. If need is unmet, explain conditions, problems, and other considerations in **(3h3) Unmet Need**.

Section 4 – Value of the Measurement or Products to Department/Agency Objective as Defined in Section 2

List all effects on the value of the measurement or product due to:

- o Continuing the existing satellite data or products that are needed to satisfy the Department/Agency objectives listed in Section 2;
- o Improving the existing satellite data or products;
- o Losing existing satellite data or products; or
- o Having satellite data needs continue to be unmet.

Entries (4a), (4b), and (4c) are required.

- **(4a) Department/Agency Objective:** Document in a narrative form the value of the measurement or product to the Department/Agency Strategic Objective described in Section 2. *This information is required.*

- **(4b) Socio-economic benefits:** Document in narrative form the value of the measurement or product to the Department/Agency or society as a whole in terms of socio-economic systems that may be unique. *This information is required.*

- **(4e) Knowledge:** Document in narrative form the value of the measurement or product on the Department/Agency or society as a whole. *This information is required.*

- **(4d) Public Safety:** Document in narrative form the value of the measurement or product on the Department/Agency or society as a whole in terms of public safety. *This information is required.*

- **(4e) Other (e.g. productivity gains, improved resource allocation, or cost efficiencies):** Document in narrative form the value of the measurement or product on the Department/Agency or society as a whole in terms of other benefits. *This information is required.*

- **(4f) Known Linkages to Other Agencies:** Identify and describe linkages, commonalities, and collaborations with other agencies that relate to the satellite need described in this form. *This information is optional.*

Section 5 – Additional Comments:

Provide any additional information that will enhance the assessment of the observational need not addressed in the Sections above.