

NOAA Commercial Space Policy



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CONTEXT, PURPOSE AND SCOPE

Context

The National Oceanic and Atmospheric Administration (NOAA) is a science-based services agency charged with understanding and predicting changes in earth systems in order to provide critical environmental intelligence to the American public, decision makers, and our partners. NOAA's environmental intelligence depends on observations obtained via a variety of systems, including satellites, ships, ground, and *in situ* networks. This policy focuses on space-based observations.

In order to respond to an ever-growing demand for environmental information, NOAA continually strives for an observing enterprise that is flexible, responsive to evolving technologies, and economically sustainable, while supporting and upholding the international data sharing commitments upon which NOAA depends for global data and data products.

NOAA's environmental intelligence depends critically on reliable, timely access to global environmental measurements from satellites and other sources. The abundance of measurements needed to produce useful forecast products highlights that no single nation, nor any other entity, can produce them all independently. As a result, an international data exchange regime exists, in which all nations share essential Earth observations as global public goods, on a full and open basis. This arrangement, which is the linchpin of weather, water, and climate forecasting around the world, provides the United States with three times more environmental data than we contribute.

Rapid change in the commercial space services arena over the past several years is now yielding new technical and business approaches not only to building, launching, and operating satellites but also to selling private satellite capabilities as services. NOAA is interested in exploring these new business models to understand how they might complement the current public and international data supply arrangements. The changing landscape is ripe with new opportunities and NOAA looks forward to learning more alongside the commercial sector in a policy process that will iterate along with the dynamic landscape. This document lays out the guidelines and policies by which NOAA will engage with these new prospects, most significantly that we must manage change in ways that ensure there is no degradation of weather and warning services to the Nation.

Through this policy, and in accordance with applicable laws and policies (see Appendix B), NOAA will continually seek optimal solutions to address its needs to measure key environmental phenomena. With all of these considerations in mind, this policy establishes the broad principles for the use of commercial space-based approaches for NOAA's observational requirements.

Purpose and Scope

NOAA seeks to leverage commercial space capabilities to capitalize on available extramural expertise, to improve weather forecasting, diversify NOAA's portfolio of data collection capabilities, to promote U.S. space commerce and the industrial base, and to pursue enhancements in mission areas, program schedules, and costs.

This policy applies to NOAA's interaction with the commercial sector in the following areas:

1. Data Buys - An arrangement for the purchase of data or data products from a space-based remote sensing system or space-based remote sensing service provider.
2. Hosted Payloads - The use of available capacity on a satellite to accommodate an additional payload.
3. Rideshares - A shared orbital space launch of a hosted payload, a secondary payload, or a co-manifested mission on a single launch vehicle.
4. Launch Services - Services that deliver assets to the desired orbit in space.

This policy does not apply to the design, building, or operation of government-owned spacecraft, NOAA's licensing of space-based private remote sensing systems, or to data transfer services, such as from ground stations to communications satellites solely for dissemination purposes.

National Space Policy

On June 28, 2010, President Obama issued a National Space Policy (NSP; see Appendix A.2) directive providing comprehensive guidance for all government activities in space, including the commercial, civil, and national security space sectors. The NSP calls on the U.S. Government to use commercial space products and services in fulfilling governmental needs and to use a broad array of partnerships with industry to promote innovation. The NSP defines the term commercial as:

"...space goods, services, or activities provided by private sector enterprises that bear a reasonable portion of the investment risk and responsibility for the activity, operate in accordance with typical market-based incentives for controlling cost and optimizing return on investment, and have the legal capacity to offer these goods or services to existing or potential nongovernmental customers."

The NSP is the foundational document for NOAA's Commercial Space Policy. The NSP guidelines outline items similar to the following:

1. Actively explore the use of inventive, non-traditional arrangements for acquiring commercial space goods and services, such as public-private partnerships, commercially hosted U.S. Government capabilities, and commercial data and data product purchases.
2. Pursue opportunities to transfer routine, operational space functions to the commercial space sector where beneficial and cost-effective, except where the government has legal, security, or safety needs that would preclude commercialization.
3. Encourage the purchase and use of U.S. commercial space services and capabilities in international cooperative arrangements.
4. Develop governmental space systems only when it is in the national interest and there is no suitable, cost-effective commercial service or system that is or will be available.
5. Refrain from conducting U.S. Government space activities that preclude, discourage, or compete with U.S. commercial space activities, unless required by national security or public safety.

Additionally, the NSP directs the Secretary of Commerce, through the NOAA Administrator, and in coordination with the NASA Administrator and other appropriate departments and agencies, in support of operational requirements, to:

1. Use international partnerships to help sustain and enhance weather, climate, ocean, and coastal observations from space; and
2. Be responsible for the requirements, funding, acquisition, and operation of civil operational environmental satellites in support of weather forecasting, climate monitoring, ocean and coastal observations, and space weather forecasting. NOAA will primarily utilize NASA as the acquisition agent for operational environmental satellites for these activities and programs.

The 2013 National Space Transportation Policy (see Appendix A.3) provides further direction that “[d]epartments and agencies shall explore the use of hosted payload arrangements, secondary payload launches, and other ride-sharing opportunities when planning space-based missions.”

Consistent with the goals and objectives of the NSP, NOAA is actively investigating and analyzing new modes of partnerships, including commercial business models and alternative enterprise architectures (see Appendix A.4, A.5).

GUIDING PRINCIPLES

NOAA will continue to be guided by the following principles when implementing this policy:

- 1. Sustain service quality**
Protect the standard of NOAA services by requiring data of value to forecasts and services, cost effectiveness for the value of the data, and the ability for NOAA to exploit the data effectively.
- 2. Optimize mission requirements**
Meet mission requirements on time, within quality standards, and as cost effectively as possible through an effective and efficient mix of government assets, commercial services, and domestic and international partnerships.
- 3. Ensure access to global observations**
Maintain NOAA's capability to collect or obtain the full set of global observations needed to generate accurate forecasts, warnings, and other services to help protect life and property and support the U.S. economy.
- 4. Uphold national/international standards**
Abide by U.S. data sharing laws, policies, and international conventions for the full, open, and timely sharing of meteorological and hydro-meteorological data.
- 5. Ensure a vibrant research enterprise**
Sustain access by the research community (i.e. academic and not-for-profit institutions) to full, open, and timely data necessary for advancing environmental understanding and prediction.
- 6. Explore new partnerships**
Seek and, where appropriate, enter into partnerships to reduce cost, foster international collaboration, and expand environmental data availability, in accordance with the guidelines set forth in the *NOAA Policy on Partnerships in the Provision of Environmental Information* (see Appendix A.11).

NOAA POLICY for COMMERCIAL SPACE ACTIVITIES

NOAA will:

1. Seek opportunities to integrate commercial space systems or services, where appropriate, into approved future space segment architectures and capabilities.
2. Explore and, where appropriate, pursue demonstration projects to validate the viability of assimilating commercially provided environmental data and data products into NOAA meteorological models and add value to the forecast.

3. Periodically evaluate, identify, and publish NOAA mission requirements and capability gaps that offer appropriate opportunities for the purchase and use of commercial space capabilities and services.
4. Periodically solicit, identify, and evaluate commercially available space capabilities and services that could potentially address NOAA mission requirements.
5. Apply the same validation, data integrity, and security criteria to commercial data and data products as to those obtained by other means, before entering into any binding agreement for the purchase and utilization of observations to support the NOAA mission.
6. Designate the Office of Space Commerce as the NOAA entry point for commercial sector engagement (See *Responsibilities* section below).
7. Continue to work with industry to evaluate and implement business models and legal mechanisms that allow NOAA priorities and requirements to be met with commercial capabilities.

Implementation Considerations

1. In pursuing commercial sector solutions, NOAA will ensure that it complies with applicable law and DOC/NOAA policies (see Appendix A.6, A.7, A.8, A.9).
2. For commercial space solutions involving the acquisition of data or data products, NOAA will follow NOAA Administrative Order 212-15 (Management of Environmental Data and Information, see Appendix A.10), as well as the policies and Procedural Directives established by the NOAA Environmental Data Management Committee (EDMC). This includes, but is not limited to, the development, review, and approval of a Data Management Plan in accordance with the NOAA Data Management Planning Procedural Directive (governed by EDMC). NOAA will seek to maximize the public benefit of environmental data and data products acquired through commercial space solutions by negotiating the least restrictive terms of use possible.
 - a) NOAA will consider the impact of acquiring commercial data or data products on other Federal agencies, international partners, the private weather enterprise, academic and research communities and other stakeholders.
 - b) NOAA will consider the long term maintenance, access, and archival rights associated with commercial data.
 - c) NOAA will consider the cost associated with various terms of use of commercial data.
3. Recognizing that some commercial space-based data providers may desire data distribution restrictions in order to advance their legitimate business interests, NOAA will evaluate the use of space-based data and data products obtained from commercial providers as well as data sharing agreements on a case-by-case basis.
4. Line Office activities will be developed consistent with NOAA policy.

RESPONSIBILITIES

Under Secretary of Commerce for Oceans and Atmosphere is responsible for:

- Providing agency-wide guidance and direction regarding implementation of the NOAA Commercial Space Policy

Assistant Secretary for Environmental Observation and Prediction (AS/EOP) is responsible for:

- Providing recommendations for implementation of this policy to the Under Secretary

Deputy Under Secretary for Operations is responsible for:

- Determining if proposed commercial implementation practices appropriately meet the principles and guidance of this policy
- Maintaining the NOAA Policy

NOAA Office of Space Commerce is responsible for:

- Providing a U.S. Government-wide perspective on potential commercial space business and partnership arrangements
- Receiving, processing, and facilitating requests from industry to meet with NOAA corporate or LO leadership regarding commercial proposals

National Environmental Satellite & Data Information Service (NESDIS) is responsible for:

- Developing structures and strategies for commercial acquisitions
- Coordinating with applicable NOAA Line Offices on potential commercial options for satisfying NOAA space-based observational requirements
- Assessing the viability of commercial offerings (data receipt capability, feasibility)
- Conducting an analysis of alternatives to assess whether a Technology, Planning and Integration for Observation Program (TPIO) validated requirement can be met commercially
- Developing optimal end-to-end implementation concepts
- Ensuring NESDIS-implemented projects deliver timely, accurate, and reliable data and data products consistent with user needs

Other NOAA LOs (National Weather Service, National Ocean Service, National Marine Fisheries Service, Office of Marine and Aviation Operations, Office of Oceanic and Atmospheric Research) are responsible for:

- Establishing data and data product requirements
 - Identifying requirements for space-based observational data and data products
 - Working with NESDIS to investigate commercial options for satisfying these requirements
 - Verifying the usability of specific data and data formats for operational and/or research needs
 - Validating that commercial data and data products meet timeliness, quality, and format requirements and are of sufficient quantity to meet mission requirements.
 - Obtaining endorsement of validation process from the NOAA Observing Systems Council (NOSC)

NOSC, including the Environmental Data Management Committee is responsible for:

- Endorsing data and data product requirement validation processes used by the LOs to identify, document, verify and validate data and data product requirements
- Making recommendations to the AS/EOP on whether or not to pursue commercial solutions to satisfy an Earth observation requirement based on TPIO analyses and other factors

NOAA Office of the General Counsel is responsible for:

- Providing legal advice and counsel regarding implementation of the NOAA Commercial Space Policy, as appropriate

NOAA Acquisition and Grants Office is responsible for:

- Providing business advice on acquisition strategies
- Issuing Requests for Information and Solicitations, as appropriate
- Awarding and administering contracts for identified requirements
- Ensuring compatibility of commercial agreements with Federal Acquisition Regulations and established Department of Commerce and NOAA business practices

NOAA International Affairs Office (IA) is responsible for:

- Coordinating with NESDIS IA and other LO IAs, as appropriate
- Assessing whether a proposed commercial solution directly affects NOAA's ability to carry out existing international commitments
- Assessing, in coordination with NOAA Office of the General Counsel, compliance and consistency with NOAA's policy of full and open availability of government environmental data, the 2010 National Space Policy, and other national data policies, laws and regulations
- Communicating the NOAA Commercial Space Policy to international partners and to key international organizations, including World Meteorological Organization and Group on Earth Observations in the context of exercising U.S. leadership in these bodies

NOAA Chief Information Officer is responsible for:

- Ensuring commercial products and services do not violate NOAA data and security policies
- Ensuring compatibility of commercial data and data products with existing and planned data architectures

NOAA Chief Financial Officer is responsible for:

- Maintaining an awareness of NOAA's financial plans and the impacts of potential commercial agreements
- Ensuring commercial agreements are compatible with NOAA's long term economic strategy

APPENDIX A: Applicable Documents

- **A.1 Acquisition of Space-based Scientific Data from Commercial Sources to Supplement NOAA's Weather and Climate Observation Requirements**, Department of Commerce Report to Congress, 2010 Report to Congress (P.L. 111-117)
<http://www.space.commerce.gov/wp-content/uploads/2010-03-commercial-observations.pdf>
- **A.2 National Space Policy of the United States of America**, June 28, 2010
http://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf
- **A.3 National Space Transportation Policy**, November 21, 2013
http://www.whitehouse.gov/sites/default/files/microsites/ostp/national_space_transportation_policy_11212013.pdf
- **A.4 Satellite Task Force Final Report: A Review of NOAA's Future Satellite Program: A way forward, A Report from the NOAA Science Advisory Board**, December 2012
http://www.sab.noaa.gov/Reports/Satellite%20Task%20Force%20Final%20Report_final.pdf
- **A.5 Requests for Quotation [RFQ] A, B, C -- 2008-2009**
<http://www.space.commerce.gov/tag/feasibility-studies/>
- **A.6 Federal Acquisition Regulation (FAR)**, July 01, 2014
<https://www.acquisition.gov/?q=browsefar>
- **A.7 Department of Commerce Acquisition Planning, Commerce Acquisition Manual [CAM] I307.1**, May 2011
http://www.osec.doc.gov/oam/acquisition_management/policy/commerce_acquisition_manual_cam/
- **A.8 Department of Commerce Policy on Commerce Acquisition Project Management**, November 6, 2012
<http://www.osec.doc.gov/oam/documents/Interim%20Acquisition%20Policy%20Memo%20%28signed%206%20Nov%2012%29.pdf>
- **A.9 Department of Commerce Scalable Acquisition Project Management Guidebook**, April 08, 2008
http://ocio.os.doc.gov/ITPolicyandPrograms/Project_Management/PROD01_006871
- **A.10 NAO 212-15: Management of Environmental Data and Information**, November 04, 2010
http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_212/212-15.html
- **A.11 NOAA Policy on Partnerships in the Provision of Environmental Information**, January 19, 2006

<http://www.noaa.gov/partnershippolicy/>

- **A.12 *National Continuity Policy***, National Security Presidential Directive 51/Homeland Security Presidential Directive 20
<http://www.fas.org/irp/offdocs/nspd/nspd-51.htm>
- **A.13 *National Continuity Policy Implementation Plan***, Homeland Security Council, August 2007
<http://www.fema.gov/media-library-data/1384886826028-729844d3fd23ff85d94d52186c85748f/NCPIP.pdf>

APPENDIX B: Laws, Orders, and Policies Applicable to Full, Open, and Timely data

NOAA level:

- *NOAA Policy on Partnerships in the Provision of Environmental Information*
<http://www.noaa.gov/partnershippolicy/>

National level:

- *Paperwork Reduction Act of 1995 (P. L. 104-13)*
<http://www.gpo.gov/fdsys/pkg/PLAW-104publ13/content-detail.html>
- *National Space Policy*
http://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf
- *National Strategy for Civil Earth Observations*, April 19, 2013.
https://www.whitehouse.gov/sites/default/files/microsites/ostp/nstc_2013_earthobsstrategy.pdf
- *National Plan for Civil Observations*
http://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/national_plan_for_civil_earth_observations_-_july_2014.pdf
- *White House Memorandum on Increasing Access to the Results of Federally Funded Scientific Research*, February 22, 2013.
http://www.whitehouse.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf
- *White House Memorandum on Open Data Policy—Managing Information*, May 09, 2013
<http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf>
- *Executive Order: Making Open and Machine Readable the New Default for Government Information*, May 09, 2013.
http://cdn.govexec.com/media/gbc/docs/pdfs_edit/050913jm1.pdf
- *Office of Management and Budget Circular No. A-130*, Revised November 28, 2000
http://www.whitehouse.gov/omb/circulars_a130_a130trans4/

International level:

- *World Meteorological Organization Resolution 40*, June 1995
http://www.wmo.int/pages/about/Resolution40_en.html
- *Group on Earth Observations Data Sharing Action Plan*, November 2010
http://www.earthobservations.org/documents/geo_vii/07_GEOSS%20Data%20Sharing%20Action%20Plan%20Rev2.pdf

APPENDIX C: Applicable Statutes

- **51 U.S.C §50503. Anchor tenancy and termination liability**
<http://www.gpo.gov/fdsys/pkg/USCODE-2011-title51/html/USCODE-2011-title51-subtitleV-chap505-sec50503.htm>
- **51 U.S.C Subchapter VI – Prohibition of Commercialization of Weather Satellites**
 - **§60161. Prohibition**
<http://www.gpo.gov/fdsys/pkg/USCODE-2011-title51/html/USCODE-2011-title51-subtitleVI-chap601-subchapVI-sec60161.htm>
 - **§60162. Future considerations**
<http://www.gpo.gov/fdsys/pkg/USCODE-2011-title51/html/USCODE-2011-title51-subtitleVI-chap601-subchapVI-sec60162.htm>