



SPACE-BASED POSITIONING
NAVIGATION & TIMING

NATIONAL COORDINATION OFFICE

U.S. Space-Based Positioning, Navigation and Timing (PNT) Policy Update

*63rd Meeting of the Civil GPS Service Interface
Committee*

12 September 2022

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Director
National Coordination Office



GPS50: First 50 Years and the Next



- The EXCOM is working to commemorate the 50th anniversary of GPS program initiation, celebrate its achievements and its immense economic benefits to the nation and the world, and recognize the importance of U.S. Space-Based PNT and PNT resiliency looking to the future
- U.S. Policy goals to shape the future:
 - Improve the performance of U.S. space-based PNT services
 - Resilience and Responsible Use
 - Detect, mitigate, and increase resilience to harmful disruption or manipulation of GPS
 - ID and implement Complementary PNT systems

Stay Tuned for info on GPS50 events to come



U.S. Policy



The goal of [SPD-7] is to maintain United States leadership in the service provision, and responsible use of global navigation satellite systems (GNSS), including GPS and foreign systems.

- Provide continuous, worldwide service free of direct user fees
- Encourage compatibility and interoperability with like-minded nations, promote transparency in civil service provisioning and enable market access for the United States industry
- Operate and maintain constellation to satisfy civil and national security needs and equip and train for the responsible use of GPS
 - Foreign PNT services may augment and strengthen the resiliency of GPS; however, the US Government does not assure the reliability or authenticity of foreign PNT services
- Invest in domestic capabilities and support international activities to detect, mitigate and increase resiliency to harmful interference
- Improve the cybersecurity of GPS, its augmentations, and United States Government-owned GPS-enabled devices, and foster private sector adoption of cyber-secure GPS-enabled systems

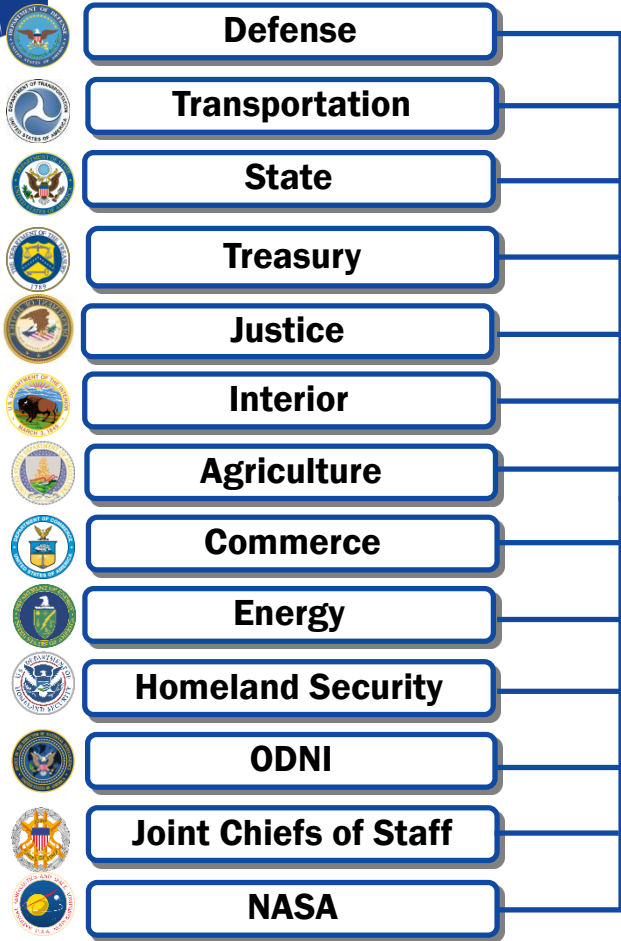
Space Policy Directive 7 (SPD-7) of 15 January 2021



Updates and replaces U.S. Space-Based PNT Policy of 2004

- Increased focus on protecting GPS and denying hostile use
- Incorporated principles of Responsible Use of GPS in Executive Order (EO) 13905
- Consistent guidance across the PNT policy ecosystem: SPD-7, SPD-5, EO 13905, National Space Policy
- Expanded EXCOM Membership
 - Added Departments of Treasury, Justice, Energy, and the Office of the Director of National Intelligence
- New direction: Protect the spectrum environment that is currently used by GPS and its augmentations

National Space-Based PNT Organization



WHITE HOUSE
 National Security Council / National Space Council /
 Office of Science and Technology Policy

NATIONAL EXECUTIVE COMMITTEE FOR SPACE-BASED PNT
 Executive Steering Group
 Co-Chairs: Defense, Transportation

ADVISORY BOARD
 Sponsor: NASA

NATIONAL COORDINATION OFFICE
 Host: Commerce

Civil GPS Service Interface Committee
 Chair: Transportation
 Deputy Chair: Coast Guard

GPS International Working Group
 Chair: State

Engineering Forum
 Co-Chairs: Defense, Transportation

Ad Hoc Working Groups



The Spectrum is Not Safe



- **Computers and the Internet: Once Upon a Time...**
 - **A GPS receiver is more computer than radio...**
- **GPS relies on spectrum – no longer a safe haven**
- **900 Million U.S. GPS enabled devices require Cybersecurity**
- **U.S. Policy directs PNT resiliency (SPD-7, EO 13905, EO 13800, National Cyber Strategy)**
- **Data Spoofing: possible for effects to continue even after the spoofing has ended**

“Known but unmitigated vulnerabilities are among the highest cybersecurity risks...”

(EO 13800: Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure)



What Can You Do Now?



- **CIOs: Include GPS enabled devices in your Cybersecurity plans**
- **Be a demanding customer - toughen GPS devices:**
 - Compliant devices that incorporate valid range checking and other elements of latest GPS standard (IS-GPS-200 *)
 - Compliant devices that incorporate DHS Best Practices (*Improving the Operation and Development of Global Positioning System (GPS) Equipment Used by Critical Infrastructure, Jan 2017* *)

* Documents available on www.gps.gov

Protect GPS and Critical Infrastructure that Relies on GPS



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Official U.S. government information about the Global Positioning System (GPS) and related topics

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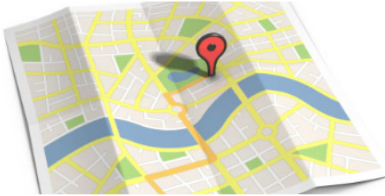
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GPS: The Global Positioning System

A global public service brought to you by the U.S. government

INFORMATION FOR THE GENERAL PUBLIC

How to Correct Your Address in GPS Devices, Apps, & Online Maps



Do GPS devices show your home or business in the wrong place? The problem is not GPS! It's the mapping software.

[Report your issue to the software providers](#)

Common Questions →

- How do I add or correct my address in GPS devices, apps, and maps?

FOR GPS PROFESSIONALS

What's **HOT** for Pros

- Recent presentations
 - PNT advisory board, May 4-5
- Technical documentation
 - Public ICWG, Sep 2023
 - Proposed ICD revisions - Comments due Aug 11
 - PRN assignments, Apr 2023
 - GPS III antenna patterns (USCG.gov)
 - 2022 ICD uprevisions
 - GPS SPS performance analysis
- Funding & legislation

News Items →

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