

## Our Nation's GPS Platform is Facing Significant Threats

*Critical Infrastructure Protection* drew much strategic attention after the terrorist attacks on September 11th, 2001. The priority at that time was to protect our critical infrastructure from terrorist attacks. Twenty-five years later, elements of our nation's critical infrastructure - specifically our nation's Global Positioning System (GPS) platform and the three systems underpinning its core capabilities face new threats. Those threats include benign neglect, cyber attacks, and foreign governments' efforts to exert control.

## A Global Collaboration - and a National Vulnerability

GPS is part of a broader global geospatial framework, known as GNSS (Global Navigation Satellite System), built on decades of cooperation among U.S., Russian, European, and Chinese governments. It depends on multiple space-based systems with infrastructure around the world working together. These systems require simultaneous observations from multiple continents.

Systems are now in **urgent need of modernization**.

- **Aging infrastructure** - 9 of 32 in-orbit GPS satellites have exceeded design life and are "single string," meaning one failure could disable them. ([SpaceNews, Feb 2025](#))
- **Growing threats** - Hundreds of GPS jamming and spoofing attempts occur daily. *Shell CEO Wael Sawan warns GPS jamming in the Strait of Hormuz is now threatening the world's energy markets.* ([Bloomberg, Nov 2025](#))
- New civil signals specifically designed for the aviation community, which would increase resiliency to jamming and spoofing, are **not operational** ([SpaceNews, Feb 2025](#))
- **Rising competition** - China is significantly investing in space-based technology, expanding its BeiDou Navigation Satellite System including increased funding and satellite deployments with the explicit aim of providing a global positioning alternative that **challenges the United States' GPS dominance.** ([GPS World, Dec 2024](#))

## Why GPS Matters

The Global Positioning System (GPS) is the invisible infrastructure that powers nearly every sector of the U.S. economy and government operations. It provides both *position* and *precise timing* that underpin:

- **All real-time location services** - navigation, logistics, and mapping
- **Transportation and aviation safety** - on land, sea, and in the air
- **Telecommunications** - cell calls, texts, and all wireless data rely on GPS timing
- **Financial systems** - stock trades and digital transactions are synchronized by GPS clocks

Our nation runs on GPS timing and spatial accuracy - **we cannot afford even one day without it.**

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## Action Needed Now: Support the Weather Act Reauthorization Act (H.R. 5089)

The Weather Act Reauthorization Act supports the maintenance of the fleet of space-based systems underpinning the location and precision timing infrastructure that keeps our economy moving.

Without these investments:

- The **U.S. risks losing its global leadership** in GPS.
- We become **dependent on foreign competitors** for essential data and systems.
- A single failure could cause **massive disruptions** across all sectors