

MIDWEST STRATOSPHERIC DATA SYSTEMS

Hand-built in the Midwest • Open Atmospheric Science • Near-Space Data

**RAW STRATOSPHERIC & MID-TROPOSPHERIC DATA
FROM THE HEARTLAND — OPEN, TIMELY, AND USABLE**

MAIDEN LAUNCH

X2Griffon Payload • September 19, 2026 • Casey, Illinois

1.01 lb Midwest-made payload • Real-time APRS/WSPR telemetry (KE9CFY)
Open data portal • NASA GLOBE GO-4VW9B • FAA-compliant operations

<http://midwestsds.com>

Printable companion to the live site

Our Mission

Midwest Stratospheric Data Systems (MSDS) is a federally registered U.S. aerospace research company dedicated to advancing atmospheric science through custom, hand-built high-altitude unmanned platforms. We design, build, and fly lightweight payloads that collect high-quality measurements of temperature, pressure, wind profiles, and atmospheric stability from the stratosphere — then release the raw data publicly with rapid turnaround.

Our work sits at the intersection of citizen science, open data, and Midwest manufacturing. Every system is engineered for reliability, regulatory compliance, and public accessibility. We believe the edge of space should not be a black box — it should be a shared scientific resource.

“Data has always been my language. If I could redo school, I would have studied jet propulsion instead of information systems.”

— Jeremy David Higgs, CEO

Core Principles

- **Open by Default** — Full public release of datasets. Target turnaround under 48 hours post-recovery.
- **Midwest-Made** — Critical electronics soldered in-house. Lightweight structures designed and assembled in the United States.
- **Safety & Compliance First** — Full FAA coordination, insurance, and rigorous pre-flight testing on every mission.
- **Lightweight & Reliable** — X2Griffon flies at just 1.01 lb. Every gram is intentional.
- **Real-Time Visibility** — Live APRS/WSPR telemetry under amateur radio license KE9CFY so the community can follow every flight.

Company Snapshot

Legal Status	EIN-registered U.S. company
NASA GLOBE	Registration GO-4VW9B
Primary Ops	Casey, Illinois (Clark County)
Leadership	Jeremy David Higgs, CEO • FCC KE9CFY
Focus	High-altitude balloon (HAB) atmospheric research & open data
Platforms	X2Griffon (stratospheric) • MAD-AP (mid-altitude drift)

The X2Griffon Platform

Formerly known as AmUP01, the X2Griffon is MSDS's flagship lightweight high-altitude payload. It is a complete, flight-ready system engineered for reliable data collection and real-time tracking on missions that reach well into the stratosphere.

Key Specifications

Total System Weight	1.01 lb ($\approx$ 458 g)
Payload Containment Unit	$\approx 5.9 \times 3.9 \times 2.8$ in waterproof ABS plastic
Primary Tracker	QRP Labs U4B pico (1.8 g)
Telemetry Modes	WSPR + APRS on 144.390 MHz
Amateur Radio License	KE9CFY (FCC)
Recovery System	Integrated GPS unit + parachute
Construction	Hand-built, Midwest-made, in-house soldered electronics
Design Philosophy	Every gram intentional • Maximum reliability at minimum mass

Atmospheric Data Suite

During ascent and float the X2Griffon captures a rich vertical profile of the atmosphere:

- Wind profiles and shear events across altitude layers
- Vertical temperature and moisture profiles
- Atmospheric stability layers and structure
- Precise GPS positioning throughout the entire flight

All critical systems undergo dry functional testing on the ground (power sequencing, sensor suite, APRS/GPS telemetry, and communications) before any flight commitment. The X2Griffon successfully completed its dry functional test validation in July 2026.

Open Data Commitment

MSDS exists to put high-quality near-space atmospheric data into the hands of researchers, educators, students, and the public — without paywalls or proprietary lock-in.

Every flight produces a pure, public-facing stream of measurements. There is no external manipulation of the scientific record. Raw datasets are released through the MSDS data portal with a target turnaround of under 48 hours after recovery.

What You Can Access

Live Telemetry Portal — Real-time APRS packet feed, charts, and maps that update during flight.

Post-Flight Datasets — Complete vertical profiles (temperature, winds, position) released openly.

Mission Documentation — Pre-launch checklists, regulatory notes, and recovery reports.

Educational Resources — NearSpace Kids materials, coloring activities, and classroom-ready explanations.

THE MSDS DIFFERENCE

Most high-altitude flights produce data that stays inside a lab or a private archive. We invert that model. The public portal at **midwestsds.com** is the primary delivery mechanism. If you can browse a webpage, you can use our data.

Data Use Cases

- Atmospheric research and model validation
- Educational projects and classroom experiments
- Amateur radio and APRS community tracking exercises
- Citizen science contributions to broader networks
- Sponsorship and partnership visibility with real scientific output

Maiden Flight — X2Griffon

SATURDAY, SEPTEMBER 19, 2026
Casey, Illinois • Clark County

This first flight of the X2Griffon marks a major milestone for Midwest Stratospheric Data Systems. It is the culmination of months of design, fabrication, dry testing, regulatory coordination, and recovery planning.

Mission Objectives

- Validate the complete X2Griffon flight system under real stratospheric conditions
- Collect and publicly release a high-quality vertical atmospheric profile
- Demonstrate reliable real-time APRS/WSPR telemetry from altitude
- Execute a safe, FAA-compliant launch and recovery in the Midwest
- Establish the operational baseline for future regular data flights

Operational Highlights

Launch Site	Casey, Illinois — home to MSDS ground operations
Tracking	Live on midwestsds.com + amateur radio APRS (KE9CFY)
Recovery	Midwest Payload Ground Recovery Team coordination
Data Release	Target < 48 hours after recovery via public portal
Regulatory	Full FAA compliance and local aviation coordination

Follow the countdown and live mission updates at <http://midwestsds.com>. Amateur radio operators are warmly invited to listen for KE9CFY and join the tracking effort.

Get Involved

MSDS is built on collaboration. Whether you are a ham radio operator, educator, researcher, student, recovery volunteer, or potential sponsor, there is a place for you in the mission.

Amateur Radio Community

The X2Griffon transmits on APRS (144.390 MHz) under callsign **KE9CFY**. Operators across the Midwest and beyond are invited to digipeat, map, and log the flight. Live packet feeds also appear on the MSDS website.

Recovery & Ground Support

Safe recovery is essential to open data. We coordinate with a Midwest Payload Ground Recovery Team and welcome experienced volunteers who can assist with tracking, field recovery, and post-flight logistics.

Research Collaboration

Limited collaboration slots exist for organizations wishing to fly lightweight experiments (< 1 lb total added mass) inside the Payload Containment Unit. Contact us early to discuss compatibility, integration, and data sharing terms.

Education & NearSpace Kids

We are developing educational outreach under the NearSpace Kids banner — classroom materials, coloring activities, simple explanations of the atmosphere and high-altitude flight, and opportunities for students to follow real missions. Educators interested in partnership or curriculum ideas are encouraged to reach out.

Sponsorship & Support

Sponsorship keeps the flights flying and the data free. Partners receive visibility across mission materials, the website, press, and social channels, plus association with transparent Midwest-made science. Inquire about current sponsorship tiers and benefits.

Ready to join the mission?

Email launchcontrol@midwestsds.com with a short note about your interest (radio, recovery, research, education, or sponsorship).

Credentials & Leadership

Jeremy David Higgs — CEO

Jeremy David Higgs leads Midwest Stratospheric Data Systems with more than a decade of experience as a technology executive and data specialist. He previously served as Tech CEO of Net Diatom (also known as NetDynam), where he built award-winning data visualization platforms — including a Global Web Award-winning COVID-19 dashboard drawing on WHO and Johns Hopkins data.

He holds FCC amateur radio license KE9CFY, which is central to the real-time telemetry architecture of every MSDS flight. His background spans software, electronics prototyping, regulatory navigation, and a personal commitment to open, usable scientific data.

Organizational Standing

- Federally registered EIN business (U.S.)
- NASA GLOBE Program participant — registration GO-4VW9B
- Full member of the Stratospheric Ballooning Association (SBA)
- FAA-compliant high-altitude balloon operations with insurance
- Focused on rapid public data release and Midwest manufacturing

Why the Midwest?

Casey, Illinois and the broader Midwest offer excellent launch geography, strong community networks, and a culture of practical engineering. We deliberately keep design, soldering, assembly, and operations rooted here. “Midwest-made” is not marketing language — it is how the hardware is actually built.

MSDS also maintains affiliation and interest in broader environmental and sovereignty themes, including ocean and waterway cleanup efforts, reflecting a long-term view that atmospheric and environmental data serve the public good.

Contact & Next Steps

Everything we do is oriented toward the next successful flight and the next open dataset. The website is the living hub for live telemetry, mission updates, data releases, and educational content.

Website	http://midwestsds.com
Primary Email	launchcontrol@midwestsds.com
Operations Base	Casey, Illinois (Clark County)
Amateur Radio	KE9CFY • APRS 144.390 MHz
NASA GLOBE	GO-4VW9B

Follow the Mission

Live tracking, data portals, press updates, and educational resources all live at the official site. Bookmark it and check back as September 19 approaches.

Raw stratospheric and mid-tropospheric data from the Midwest.

Open. Timely. Usable.

Hand-built. Publicly released. Ready to launch.

© 2026 Midwest Stratospheric Data Systems • All rights reserved
Printable companion to <http://midwestsds.com> • Designed for letter-size printing