MCP SERVER | NO CODE | CLOUD HOSTED

NASA Full MCP

Cross-reference Earth hazards with cosmic threats.

NASA Full provides a single access point to over 32 specialized tools covering every major domain of space science. Query everything from Earth's natural disasters (wildfires, floods) and solar flares to deep-field astronomy pictures, Mars rover photos, and confirmed exoplanets in the habitable zone. It centralizes data sources spanning asteroids, solar weather, and historical NASA media.

A+ Quality Score 98.33/100

astronomy | space-weather | planetary-science | media-library | data-retrieval | patents

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vinkius.com/mcp/nasa-full-ultimate-space-intelligence

SCAN TO VIEW

The connectivity layer between AI and the world's software.

Vinkius sits between AI and every application. All communication passes through Vinkius Cloud via the Model Context Protocol (MCP) — with governance, observability, and security at every layer.

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the connectivity layer where AI connects to the software your business already runs. We handle the hosting, the security, the credentials, the uptime — you get agents that actually do things.

We operate the world's largest managed MCP catalog. Major SaaS platforms, CRMs, databases, and cloud providers — running, monitored, production-ready. This MCP server is hosted and maintained by the Vinkius Cloud for AI Agents.

> *The agent doesn't manage credentials, doesn't manage uptime, doesn't manage security. Vinkius does.*
>
> — Architecture principle

Four Pillars of the Vinkius Runtime

01 — Security by design

Credentials stay encrypted at rest via AES-256. The AI agent never touches raw keys — they're injected into a sandboxed V8 isolate at runtime. Actions are logged, and connections have an emergency kill switch.

02 — Built on MCP Fusion

This MCP server was built with **MCP Fusion**, the open-source framework (Apache 2.0) that powers the entire Vinkius catalog. Schema-as-firewall strips undeclared fields, compiled PII redaction runs at zero overhead, and cryptographic lockfiles produce git-diffable audit trails.

03 — Deterministic observability

Eight immutable metrics per endpoint: request volume, p95 latency, error rate, active connections, cost attribution. A live payload feed logs every tool call with mutation detection.

04 — Autonomous operations

Servers are deployed, monitored, and patched autonomously. New capabilities and security patches ship weekly. Zero-downtime deployments ensure continuous availability across all managed MCP servers.

AES-256	Ed25519	24h TTL	V8 Isolate
Encryption at rest	PKI vault signatures	Ephemeral session keys	Sandboxed execution

One Token. Instant Access.

Every MCP server on Vinkius is accessed through a **Connection Token**. Tokens are generated in the cloud dashboard and produce a unique MCP endpoint URL. Paste this URL into any MCP-compatible client — no SDK required.

A single token can serve **multiple AI clients simultaneously**, or you can issue separate tokens per client for granular access control. Each token tracks its own request count, last activity timestamp, and can be individually enabled or revoked.

MCP ENDPOINT

```
https://edge.vinkius.com/{token}/mcp
```

Claude · Cursor · VS Code · Windsurf · Grok · Gemini

Security Is the Architecture

Security in Vinkius is not a feature — it's the foundation of the runtime. The gateway enforces multiple independent protection layers between AI agents and third-party APIs.

01 — Ed25519 PKI Vault

Every workspace has an Ed25519 Master Key. Session keys are generated ephemerally (24h TTL) and signed by the Master Key. Credentials never leave the vault boundary.

02 — V8 Isolate Sandboxing

Tool code runs inside isolated-vm V8 isolates with 64 MB memory caps and per-request timeouts. No filesystem access, no network access except through the SSRF-guarded fetch bridge.

03 — SSRF Guard

All outbound HTTP requests are DNS-resolved and validated before execution. Private IP ranges (10.x, 172.16-31.x, 192.168.x, AWS metadata 169.254.x) are blocked at the network layer.

04 — DLP & PII Redaction

A ResponseGuard pipeline intercepts every tool response. Configurable redaction patterns strip sensitive fields (emails, SSNs, card numbers) before data reaches the AI agent.

05 — Cryptographic Audit Trail

Every request is signed into a SHA-256 hash chain with Ed25519 signatures. Events form a tamper-proof, SIEM-exportable forensic record.

06 — Honeytoken Trap System

Phantom credentials are injected into isolated environments. If a honeytoken is used outside Vinkius infrastructure, the server is quarantined instantly.

Emergency Kill Switch

EU AI Act Art. 14(1) Compliant

The kill switch is an **emergency halt** mechanism — not a simple toggle. When triggered, it executes three actions atomically:

01 — Server deactivated

The MCP server is immediately taken offline across the entire cluster.

02 — All tokens revoked

Every connection token is invalidated. Total lockout — reconnection blocked until new tokens are issued.

03 — WebSocket connections killed

Active connections terminated via Redis pubsub broadcast. Propagates to every runtime node in the cluster.

Full Visibility. Zero Guesswork.

The Vinkius cloud dashboard includes a full MCP Governance suite — real-time analytics and security controls for production AI operations.

Control Plane

KPI dashboard with request volume, latency, success rate, token consumption, and AI-generated operational briefings.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Incident Log

Error trends, failure rates, status-code breakdowns, and forensic audit trail access.

> Get started at **cloud.vinkius.com** — connect your AI agent in under 60 seconds.

NASA Full — Ultimate Space Intelligence MCP

32 tools available
Cloud-hosted on Vinkius

You need space intelligence, but you don't have time to check ten different government websites. This MCP connects your agent directly to ten primary NASA data streams, giving you everything from deep-sky images to real-time planetary hazards in one place. Instead of running multiple queries against separate APIs for asteroids, solar activity, and Earth imagery, this tool lets your AI client manage the entire workflow. For example, you can ask it to map a recent wildfire event while simultaneously checking if a nearby asteroid is predicted to pass through that orbital path. It’s a massive data cross-section, providing everything from tracking near-Earth asteroids (NEOs) approaching Earth to getting historical photos of Mars rovers and current solar flare warnings. You'll connect this MCP through the Vinkius catalog, giving you immediate access to this full suite of NASA tools without needing individual API keys for each service.

Core Capabilities

01 — Track space hazards

Get detailed information on near-Earth objects, predicted close approaches, atmospheric fireballs, and solar energy bursts that threaten Earth or satellites.

02 — Monitor global planetary health

Retrieve comprehensive data on active natural events worldwide, including wildfires, volcanic eruptions, severe storms, and flood zones, alongside full-disk images of Earth.

03 — Research exoplanets and Mars missions

Search for confirmed planets in the habitable zone or retrieve specific mission data like rover photos taken by Curiosity, including manifests and latest images.

04 — Analyze solar weather events

Pull a unified feed of space weather phenomena, such as Coronal Mass Ejections (CMEs), X-class solar flares, geomagnetic storms, and radiation belt enhancements.

05 — Access historical archives and patents

Search NASA's massive media library for images and videos spanning decades of missions, or look up technology patents derived from space exploration projects.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/nasa-full-ultimate-space-intelligence** — connect your AI agent in three steps.

01 Your agent initiates a request by specifying the type of data needed—for instance, 'Give me all solar flare activity and any active volcanoes in the Pacific.'

02 This MCP routes the query to the appropriate NASA datasets (e.g., `get_solar_flares` for flares and `get_natural_events` for volcanoes), combining disparate information into a single output.

03 You receive a consolidated report that cross-references solar activity with physical Earth events, allowing you to correlate data points immediately.

The bottom line is you get actionable space intelligence from one place, eliminating the need to stitch together results from multiple NASA APIs.

Built For

Anyone dealing with high-stakes risk assessment or long-term scientific modeling needs this. This includes planetary scientists needing comprehensive data sets, aerospace engineers planning mission resiliency against space weather, and disaster response teams needing real-time global environmental awareness.

Aerospace Engineer

Uses the MCP to check if a planned satellite deployment route intersects with predicted radiation belt enhancements or upcoming geomagnetic storms.

Planetary Scientist

Combines `get_habitable_zone` data with historical exoplanet stats and Mars rover manifests to build comparative planet models.

Disaster Analyst

Runs a query combining `get_epic_images` for current Earth coverage with `get_natural_events` to map the scope of simultaneous climate crises like floods and wildfires.

What Changes When You Connect

01 Instead of checking multiple siloed services, this MCP lets you cross-reference a current wildfire event (using `get_natural_events`) against the predicted path of an approaching asteroid (`get_close_approaches`).

02 You get historical context and future prediction in one go. For instance, combine random images from decades ago (`get_random_apod`) with the latest solar flare data (`get_solar_flares`) to show scientific evolution.

03 Planetary research is simplified: you can jump directly from searching for exoplanets in the habitable zone (`get_habitable_zone`) to checking Mars rover manifests (`get_mars_manifest`) without leaving your agent's context.

04 When assessing mission risk, you don't need separate reports. You can request a single briefing that includes solar flare warnings (`get_solar_flares`), radiation belt enhancement data (`get_radiation_belt`), and current Earth imagery (`get_epic_images`).

05 The entire process is streamlined through the Vinkius catalog, meaning you don't waste time setting up multiple credentials or connecting to different specialized APIs.

Real-World Applications

Assessing global disaster resilience.

A team needs a full assessment of climate risk. They prompt the agent: 'Show me all active wildfires and major storms worldwide, and then check if any near-Earth objects are predicted to pass within 100 miles of any reported location.' This uses `get_natural_events` combined with `get_close_approaches`.

Planning a deep space research paper.

A scientist wants to compare different types of exoplanets. They ask the agent to retrieve all confirmed planets found via transit methods (`get_transit_planets`) and then fetch their global discovery statistics using `get_planet_stats` for comparison.

Emergency satellite deployment planning.

An engineer must plan a launch window. They query the system to get current Earth imagery (`get_epic_images`) and simultaneously check the predicted solar activity, pulling data from `get_geomagnetic_storms` and `get_radiation_belt`, ensuring the mission can withstand cosmic interference.

Analyzing commercial space technology potential.

A venture capitalist wants to find marketable tech. They first search NASA patents (`search_patents`) for water purification systems, then use `get_media_metadata` on related Hubble images to build a pitch deck.

Patterns to Avoid

Checking data sources manually.

✗ AVOID

A user finds wildfire reports from one site and solar flare warnings from another, then has to copy-paste coordinates and dates into a third spreadsheet for comparison. This is slow and prone to human error.

✓ INSTEAD

Use this MCP to consolidate the information in a single prompt. For example, ask it to 'Cross-reference active wildfires with recent CME events.' The agent handles the cross-referencing using `get_natural_events` and `get_cme` automatically.

Assuming data is current.

✗ AVOID

A user only looks at today's APOD (`get_apod`) and misses a critical historical context or an approaching asteroid that was logged last month. They miss the bigger picture.

✓ INSTEAD

Use `get_random_apod` to get a diverse sample of imagery, and supplement that with `get_neo_browse` to ensure you have a full catalog view of all known space threats, not just today's news.

Forgetting data filters.

✗ AVOID

A user asks for 'all Mars photos' without specifying the date or camera type. The agent returns thousands of ambiguous files, making it impossible to find the necessary visual evidence.

✓ INSTEAD

Be specific with your inputs. Use `get_mars_photos_by_date` instead of a general search so you limit results by Earth date and can focus on the exact rovers/cameras needed.

The Right Fit

Use this MCP when your core task requires synthesizing information from two or more distinct, unrelated domains: for instance, linking an asteroid threat to current climate patterns. Don't use it if you only

need one piece of data—for example, if you *only* want the latest images of Earth, `get_epic_images` is sufficient. If your task involves deep historical research across multiple missions (e.g., Apollo, Hubble, and Webb), then using `search_media` alongside other tools provides necessary context. However, if your goal is simple retrieval—like just getting today's APOD or the manifest for one rover—you might only need a single tool call. This MCP excels when you need to know 'Why?' by connecting different datasets like solar activity and Earth's atmospheric status.

Dealing with space data means juggling half a dozen specialized dashboards.

Today, analyzing global risk is a nightmare of tab-switching. You open the NOAA site for flood warnings; then you switch to JPL's page for asteroid tracking; next, you pull up solar weather reports from NASA DONKI. Each source has its own unique ID system, date format, and data structure. You spend more time copying coordinates and translating jargon than actually analyzing the threat.

With this MCP, your agent handles the entire orchestration. You define the problem—'What is my risk profile?' The tool pulls in wildfire data via `get_natural_events`, checks for incoming NEOs with `get_neo_feed`, and simultaneously reports on flare activity using `get_solar_flares`. You get a single, coherent report that connects all those dots.

Get the full picture with NASA Full — Ultimate Space Intelligence MCP

The biggest manual chore that vanishes is data normalization. Previously, you had to manually correlate a wildfire's location (using one system) with its proximity to an orbital path (using another). Now, the tool handles the coordinate and temporal matching across domains.

You stop synthesizing reports and start making decisions. This MCP turns scattered scientific datasets into integrated intelligence for immediate action.

NASA Full — Ultimate Space Intelligence: 32 Tools

Use these tools to retrieve everything from the latest Mars rover photos to complex solar weather predictions and habitable exoplanet stats.

#	TOOL	DESCRIPTION
01	`get_apod`	Retrieves today's Astronomy Picture of the Day, providing images or videos with explanations from NASA.
02	`get_apod_range`	Gets a set of APOD images spanning a specific date range, useful for historical visual reviews.
03	`get_random_apod`	Finds several random, amazing space pictures from the 30-year archive without needing specific dates.
04	`get_neo_feed`	Lists near-Earth asteroids (NEOs) that are approaching Earth within a specified time window, detailing their estimated size and risk.
05	`get_neo_lookup`	Provides detailed facts about one specific asteroid using its unique NASA ID.
06	`get_neo_browse`	Browses the entire known catalog of near-Earth asteroids, returning results in batches of 20.
07	`get_close_approaches`	Forecasts future times when any asteroid will pass close to Earth, filtering by distance and minimum size for planetary defense monitoring.
08	`get_fireballs`	Records detected atmospheric fireball events, providing location, velocity, and energy measurements globally.
09	`get_epic_images`	Retrieves the latest full-disk images of Earth taken by the DSCOVR satellite, available in natural or enhanced color.
10	`get_epic_by_date`	Gets specific EPIC Earth images for a defined date, including coordinates and sun position data.
11	`get_epic_dates`	Lists all dates when full-disk EPIC Earth images are available to confirm image availability before requesting them.
12	`get_natural_events`	Gathers current reports on worldwide natural events, such as active volcanoes, wildfires, severe storms, and floods.
13	`get_event_categories`	Lists all the standard categories used for reporting global EONET natural disasters.

#	TOOL	DESCRIPTION
14	query_confirmed_planets	Searches confirmed exoplanets by name, discovery method (like Transit), facility, or year to get orbital metrics like mass and radius.
15	get_transit_planets	Focuses on exoplanets that were discovered using the transit method, primarily from Kepler and TESS missions.
16	get_habitable_zone	Identifies promising exoplanet candidates located within the habitable zone, where liquid water could potentially exist.
17	get_planet_stats	Provides global statistics on exoplanet discoveries, showing trends by year and discovery method since 2009.
18	get_mars_photos	Retrieves photos from Mars rovers (Curiosity, etc.) filtered by camera type or sol number.
19	get_mars_photos_by_date	Gets images from any active Mars rover using a recognizable Earth date instead of the complex 'sol' number system.
20	get_mars_manifest	Retrieves the mission manifest for a chosen Mars rover, detailing exactly what kinds of scientific data are available.
21	get_mars_latest	Pulls the most recent photos from any active Mars rover's camera feed.
22	search_media	Searches NASA's huge image and video library, covering missions like Apollo, Hubble, and Webb, by media type or year range.
23	get_media_asset	Downloads the direct URL for a specific piece of NASA media using its unique ID found during a search.
24	get_media_metadata	Retrieves full descriptive metadata about any given NASA media asset, clarifying context and origin.
25	search_patents	Searches the catalog of NASA patents and technology spinoffs to see what space tech can be licensed for commercial use.
26	get_cme	Retrieves data on Coronal Mass Ejection (CME) events from the Sun, which cause powerful solar wind bursts hitting Earth's magnetosphere.
27	get_solar_flares	Gathers records of solar flare activity by class (C, M, X), detailing when they started and peaked in intensity.
28	get_geomagnetic_storms	Tracks geomagnetic storm events, reporting their severity using the Kp index to predict effects on satellites and power grids.

#	TOOL	DESCRIPTION
29	`get_interplanetary_shocks`	Monitors interplanetary shock wave events, which often precede larger space weather phenomena like storms.
30	`get_solar_energetic_particles`	Reports on dangerous Solar Energetic Particle (SEP) bursts that pose risks to astronaut health and electronics.
31	`get_radiation_belt`	Tracks enhancements in the Van Allen radiation belts caused by solar activity, warning about increased risk for satellites.
32	`get_donki_notifications`	Provides a unified feed of all recent space weather alerts, combining CMEs, flares, storms, and shocks into one overview.

See It in Action

Real prompts you can use once this MCP is connected to your AI agent through Vinkius Cloud.

U Full space briefing: APOD, asteroid threats, Mars photos, and solar activity

🚀 **NASA Full Briefing**

🌌 APOD: Veil Nebula — Hubble captures a supernova remnant
☄️ NEOs: 14 asteroids this week, 1 PHA (2023 BX5, 340m)
🔴 Mars: 12 new Curiosity photos (Sol 4150)
🌞 DONKI: X1.2 flare from AR 3842, 2 CMEs detected
🌍 EONET: 48 active wildfires worldwide
🪐 Exoplanets: 5,748 confirmed

6 NASA systems queried simultaneously.

U Tell me about the latest discoveries in the habitable zone.

NASA's Exoplanet Archive recently added 3 new confirmed planets to the habitable zone list. The most notable is Kepler-1649c, an Earth-sized planet orbiting a red dwarf star 300 light-years away.

U Find an astronomy picture showing the Andromeda galaxy.

I retrieved the APOD for November 22, 2023, titled 'M31: The Andromeda Galaxy'. It's a stunning high-resolution mosaic showing the entire galaxy, dust lanes, and its two small satellite galaxies.

Frequently Asked Questions

01 **How do I find information on asteroids with NASA Full — Ultimate Space Intelligence MCP?**

Use `get_neo_feed` to see all approaching near-Earth objects in a given date range, or use `get_close_approaches` for future predictions that filter by size and distance.

02 **Can I find old photos of Earth using NASA Full — Ultimate Space Intelligence MCP?**

Yes. You can get the latest full-disk images with `get_epic_images`, or use `get_random_apod` for a wide selection of historical and current deep-sky imagery.

03 **What kind of solar activity data does NASA Full — Ultimate Space Intelligence MCP provide?**

It provides comprehensive space weather alerts, including Coronal Mass Ejection (CME) events (`get_cme`), X-class solar flares (`get_solar_flares`), and geomagnetic storm predictions (`get_geomagnetic_storms`).

04 **How do I research exoplanets with NASA Full — Ultimate Space Intelligence MCP?**

You can search for planets in the habitable zone using `get_habitable_zone`, or look at broader statistical trends and discovery methods using `get_planet_stats`.

05 **Is NASA Full — Ultimate Space Intelligence MCP good for disaster mapping?**

It's excellent. Use `get_natural_events` to list active natural disasters worldwide, then combine that with the current Earth imagery via `get_epic_images` for visual context.

Go Live in 60 Seconds

Get your connection token from **cloud.vinkius.com**, then paste the endpoint URL into any MCP-compatible client.

YOUR MCP ENDPOINT

```
https://edge.vinkius.com/[TOKEN]/mcp
```

CLIENT	WHERE TO CONFIGURE
Claude AI	Profile → Customize → Connectors → "+" → Add custom connector → Paste endpoint
Cursor	Settings → Features → MCP Servers → "+ Add New MCP Server" → Type: SSE → Paste endpoint
VS Code	Ctrl/Cmd+Shift+P → "MCP: Add Server" → add `"nasa-full-ultimate-space-intelligence": { "url": "…" }`
Windsurf	MCP Settings → `mcp_settings.json` → Add endpoint URL
ChatGPT	Settings → Tools & plugins → Add MCP server → Paste endpoint
Gemini	Extensions → Add MCP Server → Paste endpoint URL

ASK AN AI ABOUT THIS

Let your preferred AI explain this MCP server

- Ask ChatGPT
- Ask Claude
- Ask Perplexity
- Ask Gemini
- Ask Grok

READY TO CONNECT

NASA Full — Ultimate Space Intelligence is live on Vinkius Cloud.

Get your connection token, paste it into your AI agent, and start building. No SDK. No deployment. Just results.

Start at cloud.vinkius.com →

vinkius.com · support@vinkius.com

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