MCP SERVER | NO CODE | CLOUD HOSTED

NWS (National Weather Service) MCP

Access Official U.S. Forecasts and Alerts Instantly

NWS (National Weather Service) provides direct access to official, real-time U.S. weather data via this MCP. You can pull active watches and warnings nationwide or narrow them down by a specific area. It delivers detailed textual forecasts and hourly predictions for grid locations, plus the latest atmospheric readings from monitored stations across the country.

F Quality Score 3.6/100

meteorological-data | weather-forecast | real-time-alerts | geospatial-data | grid-points | environmental-monitoring

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vinkius.com/mcp/nws-national-weather-service

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.

NWS (National Weather Service) MCP

9 tools available
Cloud-hosted on Vinkius

Need current weather info that you can trust? This connection pulls official data straight from the National Weather Service. Whether you're planning logistics routes or building an environmental dashboard, you get precise meteorological facts for any US location.

Your agent handles all the complexity: it first converts basic coordinates into the specific grid points needed by the NWS system. Then, it can fetch a full textual prediction and detailed hourly breakdowns for that spot. You don't just get general forecasts; you monitor critical alerts—like flood watches or heat advisories—for entire states or specific regions. Plus, you access real-time updates from physical weather stations, giving you the minute-by-minute status of temperature, wind, and visibility.

Core Capabilities

01 — Check for all active alerts

Retrieves a comprehensive list of current weather watches, warnings, and advisories across the entire U.S.

02 — Get localized area alerts

Filters active weather alerts to target specific geographic areas or states you define.

03 — Determine grid location from coordinates

Translates any latitude and longitude pair into the official NWS office and required data grid points.

04 — Retrieve detailed forecasts

Fetches comprehensive, written predictions for a specific grid point, including hourly breakdowns.

05 — Get real-time station readings

Pulls the latest atmospheric observations (wind speed, humidity, temp) directly from designated weather stations.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/nws-national-weather-service** — connect your AI agent in three steps.

01 You initiate a query by providing coordinates or an area name to find the correct NWS data grid point.

02 The MCP uses that grid point and location context to make specific calls, pulling whether it's a forecast, alerts list, or station observation feed.

03 Your agent receives structured, official weather data, ready for immediate use in your application or script.

The bottom line is you get reliable, actionable weather intelligence without having to manually interact with government API portals.

Built For

This MCP is essential for anyone whose job relies on knowing exactly what the environment is doing right now. If your work involves travel planning, resource allocation in natural settings, or building operational dashboards that need official data feeds, you'll need this.

Logistics Operations Manager

Uses it to check for active warnings along planned shipping routes, rerouting vehicles before severe weather hits.

Data Scientist / Developer

Integrates the forecast and station observation tools into a dashboard to visualize real-time environmental conditions.

Field Operations Lead

Checks for specific alerts or hourly forecasts before dispatching crews for outdoor work, ensuring safety protocols are met.

What Changes When You Connect

01 You get official data right from the source. Instead of relying on general weather sites, you use this MCP to pull validated alerts directly from the National Weather Service.

02 Stop guessing about timing. With `get_hourly_forecast`, your agent gives you predictions hour by hour for a specific location, which is critical for scheduling operations.

03 Planning travel? Use `get_active_alerts_by_area` to check if warnings are active in an entire state or region before you even map the route.

04 Need current conditions? The `get_latest_station_observation` tool pulls live data, so you know exactly what's happening at a station right now—not just what it predicts.

05 Coordinates to data: You never have to worry about NWS formatting. Use `get_point` first, and the MCP handles converting basic GPS coordinates into usable grid points automatically.

Real-World Applications

Optimizing outdoor event logistics

A festival planner asks their agent: 'What's the weather risk for our main park tomorrow?' The agent uses `get_hourly_forecast` and checks for active warnings via `get_active_alerts_by_area` to provide a detailed safety briefing, allowing them to reschedule equipment setup if wind speeds are forecast too high.

Building a supply chain dashboard

A logistics company needs real-time visibility. They use `get_latest_station_observation` and `get_stations` to monitor weather conditions at all major transfer hubs, immediately flagging any station reporting high winds that might delay incoming shipments.

Assessing risk before construction work

A civil engineer asks: 'Should we pour concrete near coordinates X, Y?' The agent uses `get_point` first to find the NWS grid and then runs a detailed query with `get_forecast`, advising on temperature ranges and potential freeze warnings.

Developing geo-aware applications

A developer wants an app that alerts users. They use `get_active_alerts` to pull the full list of current national emergencies, then filter this data using `get_alert` to show only those relevant to a user's specific zip code.

Patterns to Avoid

Confusing observation with forecast

✗ AVOID

Asking the agent for 'the weather right now.' This often leads to vague, generalized data that doesn't specify time or location.

✓ INSTEAD

Always check current conditions using `get_latest_station_observation` if you want a snapshot. If you need predictions, make sure to use either `get_forecast` or `get_hourly_forecast` and provide precise coordinates first with `get_point`.

Querying alerts without an area

✗ AVOID

Calling the general alert tool without specifying a state. This can return massive, overwhelming lists of irrelevant warnings.

✓ INSTEAD

If you only care about Florida, use `get_active_alerts_by_area` and pass 'FL' as your parameter to narrow down results immediately.

Assuming universal data availability

✗ AVOID

Trying to get a forecast for coordinates that are not covered by the NWS grid system. The request fails silently or returns error codes.

✓ INSTEAD

Before querying, always run `get_point` first on your desired latitude/longitude pair. This confirms the specific NWS office and grid ID you need before proceeding.

The Right Fit

Use this MCP if your primary need is official, real-time, government-sourced meteorological data for US locations. You need to know what's happening *now* (observations) or what will happen in the next few hours (forecast/alerts). Don't use it if you are looking for historical weather records beyond a short window, or if you require highly localized microclimate modeling that isn't tied to an official station. For general climate trend analysis over decades, look for dedicated archival data tools instead of these real-time services.

Manually tracking severe weather is a nightmare.

Today, planning anything outdoors means opening multiple government websites. You have to manually input coordinates into one map for the forecast, then open another site to check if there are active watches in your state, and finally cross-reference station data on a third tab. It's slow, it takes too many clicks, and you risk missing critical, time-sensitive warnings.

With this MCP, all that manual clicking is gone. You just ask your agent: 'What should I know about the weather near my destination?' The system automatically handles the coordinate conversion, fetches alerts via `get_active_alerts_by_area`, and pulls hourly predictions—giving you one clean answer.

Get instant, actionable forecasts with get_forecast.

Before this MCP, getting a full textual forecast meant navigating multiple pages of complex data points. You had to copy the key details—like 'high near 75' and 'low around 58'—and paste them into your report, hoping you captured everything.

Now, by using `get_forecast`, all that summarizing work is done for you. Your agent pulls the full prediction text directly into your workflow. You get rich, structured information immediately.

NWS (National Weather Service) MCP with 9 Tools

This collection of tools lets your agent retrieve every type of official weather data: active warnings, hourly predictions, current station readings, and grid location details.

#	TOOL	DESCRIPTION
01	`get_active_alerts_by_area`	Finds active weather warnings and advisories that apply to a specific geographical region or state.
02	`get_active_alerts`	Retrieves a complete list of every currently issued weather warning, nationwide.
03	`get_alert`	Pulls all the specific details for one particular weather alert once you have its identifier.
04	`get_forecast`	Gives a full, descriptive text prediction for a defined grid location.
05	`get_hourly_forecast`	Outputs the predicted weather conditions hour by hour for a specific spot.
06	`get_latest_station_observation`	Fetches the most recent set of atmospheric readings from a single, specified weather station.
07	`get_point`	Converts latitude and longitude coordinates into official NWS grid points used for data lookup.
08	`get_station_observations`	Retrieves historical or multiple sets of observations from a specific station over time.
09	`get_stations`	Provides an overall list and catalog of all available weather observation stations in the region.

See It in Action

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

U What is the weather forecast for coordinates 34.0522, -118.2437?

I'll first find the NWS grid point for those coordinates... Found it: Office LOX, Grid (154, 44). Now fetching the forecast: It will be sunny today with a high near 75°F. Tonight, mostly clear with a low around 58°F.

U Are there any active weather alerts in Texas right now?

Checking active alerts for Texas (TX)... I found 3 active alerts: a Heat Advisory for South Texas, a Flood Watch for the Coastal Bend, and a Special Weather Statement for the Panhandle. Would you like details on any of these?

U Get the latest weather observation for station KLAX.

Fetching the latest data for KLAX (Los Angeles International Airport)... As of 10 minutes ago: Temperature is 68°F, Humidity is 62%, Wind is from the West at 12 mph, and Visibility is 10 miles.

Frequently Asked Questions

01 **How do I check if there are any active weather alerts using the NWS MCP?**

You use `get_active_alerts`. This tool gives you a complete list of every current warning nationwide. You can then refine this data by running `get_active_alerts_by_area` to focus on a specific state.

02 **What is the difference between get_forecast and get_hourly_forecast?**

`get_forecast` provides a general, detailed textual description of the expected weather for the area. `get_hourly_forecast` gives you specific, time-stamped predictions (like temperature or wind speed) for each passing hour.

03 **Does NWS MCP need coordinates first?**

Yes, always run `get_point` first. This function takes your latitude and longitude and converts them into the official grid ID that the other forecasting tools require to pull data.

04 **How do I get current weather readings from a station?**

For a snapshot of conditions right now, use `get_latest_station_observation` and provide the specific station identifier. If you need historical or multiple observations, use `get_station_observations`.

05 **Can I get alerts for an entire state using NWS MCP?**

Yes, run `get_active_alerts_by_area`. This tool lets you filter the national warning list down to just the specific area or state you're interested in.

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 `"nws-national-weather-service": { "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

NWS (National Weather Service) 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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