MCP SERVER | NO CODE | CLOUD HOSTED

EPA AirNow MCP

Get Real-Time Pollution Data by Location

EPA AirNow gives your AI client access to official, real-time air quality data from the Environmental Protection Agency. Check current pollutant levels—like Ozone and PM2.5—for any specific location using coordinates or a US ZIP code. It also predicts future environmental conditions, helping you determine if the local air is safe for breathing today, or what to expect over the next few days.

A+ Quality Score 100/100

air-quality | environmental-monitoring | pollution-tracking | public-health | real-time-data | aqi

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vinkius.com/mcp/epa-airnow

SCAN TO VIEW

The infrastructure that powers AI agents in the real world.

Vinkius connects AI to the world's software through secure, enterprise-grade infrastructure — enabling real-world execution at scale, built on the Model Context Protocol (MCP).

Your AI Connections Run Through Vinkius Cloud

The world's largest managed MCP catalog

Vinkius is the cloud infrastructure where AI agents connect 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.

EPA AirNow MCP

3 tools available
Cloud-hosted on Vinkius

Need to know what's actually in your backyard? This MCP connects your agent directly to EPA AirNow data. You can pull current readings on major pollutants like PM2.5 and Ozone, making it easy to determine if you should plan outdoor activities or take precautions. It works whether you give a precise set of coordinates or just a standard US ZIP code.

But knowing the present isn't enough; this MCP also gives you regional forecasts. You can look ahead at future air quality conditions, letting communities and planners anticipate hazardous days before they hit. This capability is crucial for everything from organizing large outdoor events to managing health risks in high-pollution areas. By hosting this connection on Vinkius, we make deep environmental insights instantly available to any compatible AI client, turning complex government data into simple, actionable intelligence.

Core Capabilities

01 — Check current air quality by coordinates

Retrieves the real-time Air Quality Index and pollutant levels using exact latitude and longitude.

02 — Check current air quality by ZIP code

Gets the live AQI observation for a specific US five-digit postal code.

03 — Predict future air quality by ZIP code

Looks ahead to provide predicted AQI forecasts for a given US ZIP code.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/epa-airnow** — connect your AI agent in three steps.

01 You tell your agent the location you need data for, providing either a specific set of coordinates or a five-digit US ZIP code.

02 Your agent invokes the appropriate function within this MCP, sending the necessary geographic parameters to EPA AirNow's system.

03 The MCP returns structured data, giving you not just an overall AQI score, but detailed readings for individual pollutants like PM10 and Ozone.

The bottom line is that it turns complex environmental science into simple, location-based data points your agent can use immediately.

Built For

Environmental consultants, public health officials, outdoor recreation companies, and air quality researchers use this MCP. They deal with the pain of relying on scattered reports or having to manually cross-reference multiple government dashboards just to plan a single event or assess community risk.

Public Health Official

Determines safe operational zones for sensitive populations, using current and forecasted AQI data to issue timely health advisories.

Environmental Consultant

Performs site assessments by pulling pollutant metrics for specific coordinates or ZIP codes to grade a location's environmental risk profile.

Outdoor Event Planner

Checks future air quality forecasts weeks in advance, allowing them to reschedule events or implement mitigation plans due to predicted poor air days.

What Changes When You Connect

01 Know the actual air conditions immediately. Instead of general warnings, you get precise pollutant readings for any spot using `get_current_aqi_by_latlon` or `get_current_aqi_by_zip`.

02 Plan ahead with confidence. You can use `get_forecast_aqi_by_zip` to predict air quality weeks out, which is vital for organizing large community events or school activities.

03 Target data precisely. Whether you're working off a known postal code or need metrics for a specific GPS point, the MCP handles it without extra steps.

04 Avoid guesswork. This connection pulls directly from EPA sources, giving your agent trusted data on Ozone, PM2.5, and other critical pollutants.

05 Speed up risk assessment. You stop sifting through multiple government websites and get all necessary air metrics in one single API call.

Real-World Applications

Assessing a new construction site's viability

An environmental consultant needs to know the baseline pollution level before starting work. They ask their agent, 'What is the current air quality at 34.0522 N, 118.2437 W?' The agent uses `get_current_aqi_by_latlon` and returns a detailed pollutant report in seconds.

Scheduling an outdoor festival

The event organizer needs to know if the air will be safe for thousands of people next Saturday. They ask their agent, 'What is the AQI forecast for 90210 for next weekend?' The agent uses `get_forecast_aqi_by_zip` and gives them a clear warning about expected PM2.5 levels.

Creating a public health dashboard

A local government official needs to track pollution for their entire county's most populated areas. They tell their agent, 'Check the current AQI for 90001, 90210, and 90312.' The agent efficiently runs `get_current_aqi_by_zip` multiple times to build a comparative dashboard.

Modeling wildfire smoke impact

A researcher is studying the spread of pollutants. They need current data for a specific high-risk area and ask their agent to run `get_current_aqi_by_latlon` at the coordinates near the burn zone, getting instant metrics on dangerous particulates.

Patterns to Avoid

Using general weather APIs for air quality

✗ AVOID

Assuming that because a weather report says 'Clear Skies,' the air is safe. This ignores localized pollution sources like traffic or wildfires, which are tracked by EPA AirNow.

✓ INSTEAD

Always use this MCP to get specific pollutant data. For example, run `get_current_aqi_by_zip` for the area instead of relying on general weather forecasts.

Only checking current conditions

✗ AVOID

A planner only checks today's AQI and assumes everything is fine. They forget that tomorrow might be worse, leading to poor planning.

✓ INSTEAD

Always check future risks by calling `get_forecast_aqi_by_zip` ahead of time. This lets you plan for predicted pollution peaks.

Guessing the location data format

✗ AVOID

Sending a vague address like 'Downtown' to the agent, which results in an error because the tool needs precise coordinates or a five-digit ZIP code.

✓ INSTEAD

Be specific. Provide either exact latitude/longitude for `get_current_aqi_by_latlon` or confirm your target area with a full 5-digit ZIP code for both current and forecast checks.

The Right Fit

Use this MCP if your primary need is accurate, official air quality index data. You're concerned about pollutants like PM2.5, Ozone, or predicting seasonal changes in air safety. Don't use it if you just want general weather information; for that, a standard meteorological API is fine.

However, don't use this MCP if your goal is to track *all* environmental data—some issues (like river flow rates) require specialized APIs. Stick with this tool when the problem boils down strictly to air safety and pollutant metrics, whether you need today's snapshot or next week's forecast.

Dealing with Air Quality Data is a Manual Nightmare

Today, figuring out if an area is safe involves jumping through hoops: checking the EPA website for current data using coordinates, then going to a separate page to pull forecasts by ZIP code. You're copy-pasting location IDs, switching tabs, and manually comparing Ozone levels against PM2.5 readings just to get a single 'go/no-go' answer.

With this MCP, your agent handles the complexity. Instead of you doing the cross-referencing, you ask one simple question—like checking current conditions using `get_current_aqi_by_zip`—and the data comes back clean and actionable.

EPA AirNow: Instant Pollution Metrics

The biggest time sink is gathering both current observations and future forecasts. You're forced to run multiple separate API calls just to cover the necessary timeline—a bad habit for any modern workflow.

This MCP standardizes that process. It consolidates real-time readings via `get_current_aqi_by_latlon` alongside predictive data, meaning you get a complete environmental picture in one flow.

EPA AirNow: 3 Tools for Environmental Monitoring

These three tools give your agent the ability to pull immediate air quality readings, check current pollution levels, and predict future environmental conditions across the US.

#	TOOL	DESCRIPTION
01	`get_current_aqi_by_latlon`	Gets the real-time Air Quality Index observation using exact geographic coordinates (latitude and longitude).
02	`get_current_aqi_by_zip`	Retrieves the current, live Air Quality Index observation for any valid five-digit US ZIP code.
03	`get_forecast_aqi_by_zip`	Provides predicted air quality forecasts for future dates based on a given US ZIP code.

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 current air quality index in Beverly Hills?

I've checked the latest observations for Beverly Hills. The current AQI is 45 (Good). It's a great day for outdoor activities without any health risks.

U Will the air quality be safe for a marathon in Seattle tomorrow?

Let me check the AirNow forecast for Seattle tomorrow. The AQI is predicted to peak at around 55 (Moderate), largely due to PM2.5. It remains generally safe for the marathon, though unusually sensitive athletes should monitor how they feel.

U Fetch the PM10 specific metrics for ZIP code 90210 safely via AirNow.

Retrieving specific pollutant values securely...
Area: Beverly Hills (90210)
- PM10 concentration reported optimally clear (AQI 22). Parameter checked actively and correctly without errors.

Frequently Asked Questions

01 **What pollutants can I track using the EPA AirNow MCP?**

The system monitors major air quality indicators including Ozone, PM2.5, and PM10 concentrations. The data provides a comprehensive view of localized atmospheric safety.

02 **Does get_current_aqi_by_zip work for any US ZIP code?**

It requires a valid five-digit US ZIP Code to pull the most accurate, current air quality index observation for that specific area.

03 **Can I use this MCP for historical pollution data?**

No. This MCP is designed only for real-time and forecast data. For historical records, you would need a different type of data source or API.

04 **How far in advance can I check forecasts with get_forecast_aqi_by_zip?**

The service provides predictive AQI forecasts for multiple days based on the US ZIP code, allowing you to plan activities well ahead of time.

05 **Do I need coordinates or a ZIP code for current readings?**

You choose. You can use `get_current_aqi_by_zip` if you have the postal code, or `get_current_aqi_by_latlon` if you prefer using precise latitude and longitude.

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 `"epa-airnow": { "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

EPA AirNow 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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