MCP SERVER | NO CODE | CLOUD HOSTED

Open-Meteo Air Quality MCP

Assess Pollution, Pollen, and Sun Risk in One Query

Open-Meteo Air Quality gives your agent real-time environmental intelligence for health and planning. It assesses air safety using pollutant concentrations (PM2.5, ozone, etc.), provides European and US AQI indexes, predicts pollen counts for allergy sufferers, and tracks the UV index across any location.

A+ Quality Score 100/100

air-quality | pollution-monitoring | pollen-forecast | environmental-data | aqi | health-safety

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vinkius.com/mcp/open-meteo-air-quality

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.

Open-Meteo Air Quality MCP

4 tools available
Cloud-hosted on Vinkius

Need to know if it's safe outside? This MCP lets your agent assess environmental risks by pulling real-time data from Open-Meteo. You don't have to jump between government websites or check five different dashboards just to plan a hike or manage an allergy flare-up. Your AI client can automatically pull together complex metrics, like cross-referencing high PM10 levels with a pollen forecast and the UV index for a specific zip code.

It provides pollutant concentrations—like nitrogen dioxide, sulfur dioxide, and carbon monoxide—so you know exactly what's in the air. It also calculates both US and European Air Quality Indexes (AQI) so your agent can give clear risk ratings. Plus, it tracks allergens through detailed pollen counts for birch, grass, and ragweed, giving health apps and outdoor planners crucial data points. When you connect this to Vinkius, your agent gets a complete picture of the environment in one conversation.

Core Capabilities

01 — Check Pollutant Concentrations

Retrieve current levels for major air pollutants like PM2.5, ozone, and nitrogen dioxide at any specified location.

02 — Generate Air Quality Indexes

Calculate standard Air Quality Index (AQI) scores using both US and European methodologies for immediate risk assessment.

03 — Forecast Allergens

Get detailed pollen counts, including birch, grass, and ragweed, to help manage allergy exposure planning.

04 — Determine UV Risk

Check the current and predicted UV index for a location so you can advise on sun protection safety.

One Click on Vinkius — From Prompt to Execution

Available at **vinkius.com/mcp/open-meteo-air-quality** — connect your AI agent in three steps.

01 Your agent asks for a specific environmental report, providing the desired location (city/zip code) and timeframe.

02 This MCP runs multiple checks—for example, calling both get_air_quality and get_pollen_forecast simultaneously to gather diverse metrics.

03 The final output is synthesized by your AI client into a single, actionable summary detailing all pollutant levels, AQI scores, and forecasts.

The bottom line is that your agent gives you a comprehensive safety report from multiple environmental sources without manual data stitching.

Built For

Environmental consultants and public health apps developers need this. It's for anyone who has to advise groups or individuals on outdoor activity based on complex, changing metrics like pollution levels or allergy risks.

Public Health Official

Uses the MCP to pull historical and current pollutant data (like get_air_quality) for different regions to advise citizens when outdoor activity is unsafe due to smog or high PM2.5.

Outdoor Activity Planner

Checks both the UV index using get_uv_index and the pollen forecast using get_pollen_forecast before recommending a hiking route, ensuring clients are prepared for sun and seasonal allergens.

Environmental App Developer

Integrates get_aqi_index to give users instant visual risk scoring (US/European) alongside raw pollutant data, improving the app's core health feature.

What Changes When You Connect

01 You instantly combine metrics. Instead of checking pollutant levels with get_air_quality and then running a separate pollens check, your agent pulls both into one consolidated report.

02 It standardizes risk scoring using get_aqi_index. You don't have to worry about whether the local authority uses US or European standards; this MCP handles both calculations automatically.

03 Allergy planning gets precise. Using get_pollen_forecast, you can advise a user that outdoor activity is safe from smog but dangerous due to high birch counts.

04 Safety advice improves with get_uv_index. Your agent doesn't just say 'wear sunscreen'; it tells the user if UV levels are currently Very High or Moderate based on location and time.

05 It gives depth to reports. You can go beyond a simple 'Good/Bad' rating by accessing raw pollutant data for PM2.5, ozone, and NO_2 using get_air_quality.

Real-World Applications

Planning an outdoor marathon route

An agent checks the proposed running path and pulls data from both get_air_quality (for current smog levels) and get_uv_index. It alerts the organizer that while pollution is moderate, UV levels are extreme, requiring mandatory hydration breaks.

Managing a seasonal asthma flare-up

A parent asks for air safety in the local park. The agent runs get_pollen_forecast and notes high grass pollen counts, while also checking get_air_quality to ensure low levels of ozone are present.

Writing a corporate environmental report

A consultant needs to compare air safety across three different cities. The agent uses get_aqi_index for all three locations, providing consistent US and European benchmark scores in the final document.

Advising on a weekend camping trip

Before booking, an agent checks the local forecast using both get_pollen_forecast (for seasonal allergies) and gets_uv_index to ensure campers pack enough sun protection for the specific time of day.

Patterns to Avoid

Checking only one pollutant

✗ AVOID

Only checking PM2.5 levels fails because high ozone or pollen might be a greater immediate risk to the user, leading to incomplete safety advice.

✓ INSTEAD

Always use get_air_quality for a full list of pollutants and pair it with get_pollen_forecast if any allergy symptoms are mentioned. This gives a complete picture.

Ignoring location specificity

✗ AVOID

Giving generic safety advice based on city-wide averages instead of the user's precise coordinates, which could be dangerous.

✓ INSTEAD

The MCP requires specific locations for every tool call. Ensure your prompt includes the exact zip code or neighborhood name.

Mixing up risk types

✗ AVOID

Confusing a high UV index with high pollution levels, and giving conflicting advice about sun exposure.

✓ INSTEAD

Use get_uv_index for solar risk and get_air_quality/get_aqi_index for atmospheric risk. Treat them as separate but equally important warnings.

The Right Fit

You should use this MCP if your primary concern is immediate, actionable environmental safety advice based on multiple metrics (pollution, allergens, sun). Specifically, if you need to know the difference between 'bad air' and 'high pollen count,' this tool handles that complexity. Don't use it if you are trying to track long-term pollution trends over years; for that, you'll need a database connection or historical data API. Also, don't rely solely on get_air_quality without checking the index; using both ensures your output is immediately understandable by non-experts. If your goal is purely mapping air quality against geological survey data, a dedicated GIS tool would be better than this MCP.

The Headache of Gathering Environmental Data

Today, if you're planning an outdoor event or advising clients on health risks, you're forced into a tedious process. You open the local government website for smog reports; then you switch tabs to check pollen counts from an allergy site; and finally, you use a weather app just for the UV index. Copying dates, locations, and pollutant names between these three or four different platforms is time-consuming and prone to human error.

With this MCP, your agent handles all that clicking in one go. You simply ask it, 'What's the safety risk in Downtown Miami next Saturday?' And you get back a single report combining data from get_air_quality, get_pollen_forecast, and get_uv_index. It's instant, reliable, and complete.

Get Comprehensive Air Quality Reports with Open-Meteo Air Quality

The manual effort of checking multiple pollutant types—from PM2.5 to carbon monoxide—and then having to manually calculate if the resulting index is 'Unhealthy' or 'Moderate' disappears entirely.

Now, when you need an environmental report, you just ask for it. The system gathers every pollutant level, compares them against two global standards (US/EU), forecasts allergens, and checks UV risk—all without a single manual step.

Your agent handles both the raw data retrieval and the standardized rating via get_aqi_index.

Open-Meteo Air Quality: 4 Tools

These four tools allow your agent to gather a complete, multi-faceted environmental report by pulling data on pollutants, allergens, and sun risk.

#	TOOL	DESCRIPTION
01	`get_air_quality`	Checks current concentrations for key pollutants like PM10, ozone, and carbon monoxide at any location.
02	`get_aqi_index`	Retrieves the Air Quality Index using both US and European measurement standards for immediate risk scoring.
03	`get_pollen_forecast`	Provides a detailed forecast of airborne allergens, including counts for birch, grass, and ragweed.
04	`get_uv_index`	Calculates the current and predicted UV index to warn users about sun exposure risk.

See It in Action

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

U Is the air quality in Beijing safe for outdoor exercise today?

Beijing — Air Quality Report

US AQI: 156 (Unhealthy) ⚠️
PM2.5: 68 µg/m³ | PM10: 124 µg/m³
Ozone: 45 µg/m³ | NO_2: 38 µg/m³

❌ **Not recommended** for outdoor exercise. Sensitive groups should avoid all outdoor exertion.

U What's the pollen forecast for Berlin this week?

Berlin — Pollen Forecast

Birch: HIGH (78 grains/m³) ⚠️
Grass: Moderate (32 grains/m³)
Alder: Low (5 grains/m³)
Ragweed: None detected

Birch allergy sufferers should take antihistamines and limit outdoor exposure.

U What's the UV index in Sydney right now?

Sydney — UV Index

Current UV: 9.2 (Very High) 🔴
Clear-sky UV: 10.1
Recommendation: Apply SPF 50+, wear protective clothing, avoid sun between 10am-2pm.

Frequently Asked Questions

01 **How do I check air quality with Open-Meteo Air Quality MCP?**

You use the get_air_quality tool, providing the specific location and date. This retrieves concentrations for major pollutants like PM2.5, ozone, and sulfur dioxide.

02 **Does this MCP only give US AQI scores? (get_aqi_index)**

No, it gives both the European and US Air Quality Index standards. This means your agent provides two separate risk ratings for complete coverage.

03 **How do I know if pollen is bad for my pet?**

While this MCP focuses on human health metrics, get_pollen_forecast provides detailed counts for birch and grass that you can correlate with known pet sensitivities.

04 **What does the UV index tell me? (get_uv_index)**

The tool calculates your sun exposure risk. It tells you if you need SPF 50+ or if it's safe to be out without much protection.

05 **Can I check multiple pollutants at once? (get_air_quality)**

Yes, the get_air_quality tool is designed to retrieve a full suite of pollutants—PM10, Ozone, NO_2, SO_2, and CO—in one single data pull.

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 `"open-meteo-air-quality": { "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

Open-Meteo Air Quality 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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