MCP SERVER | NO CODE | CLOUD HOSTED

# OpenWeather MCP

## Access Global Weather Data in Natural Conversation

OpenWeather MCP delivers comprehensive global weather data straight from your AI client. Get real-time temperature readings, 16-day forecasts, severe weather alerts, and air quality indexes for any location on Earth. It handles everything from converting city names to coordinates to pulling historical climate records.

A+ Quality Score 98.33/100

weather-forecast | air-quality | real-time-data | meteorology | climate-data

MAINTAINED BY VINKIUS CLOUD FOR AI AGENTS · JUNE 2026
vinkius.com/mcp/openweather

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.

# OpenWeather MCP

11 tools available
Cloud-hosted on Vinkius

This MCP connects your agent directly to global weather APIs, giving you far more than a simple forecast. You can ask about current conditions—temperature, wind speed, pressure, and visibility—for specific locations right now. Need to plan an outdoor event? Request the daily or hourly forecasts that include min/max temperatures, precipitation probability, and UV indexes for up to 16 days out. The MCP also tracks air quality over four days, listing key pollutants like PM2.5 and ozone levels. Beyond predictions, you can check historical weather data for any past date or pull detailed sun times. If your workflow requires converting a city name into precise coordinates, this MCP handles that first step. Because Vinkius hosts all these tools in one place, you don't need to connect separate services; you just use your AI client to ask the question and get the full data set back.

## Core Capabilities

**01 — Get current conditions**

Retrieve real-time data, including temperature, wind, humidity, and visibility for a specific location.

**02 — Predict future weather patterns**

Generate multi-day forecasts, offering both high-level daily summaries (up to 16 days) and detailed hourly breakdowns with precipitation chance.

**03 — Monitor air quality indexes**

Check the current Air Quality Index (AQI) or get a four-day forecast detailing pollutant concentrations for any spot.

**04 — Research past climate data**

Pull specific weather metrics, like temperature and wind speed, for any date in history.

**05 — Handle location mapping**

Convert a city name into precise latitude/longitude coordinates, or vice versa, to target the right data set.

## One Click on Vinkius — From Prompt to Execution

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

01 First, subscribe to this MCP and input your unique OpenWeather API Key.

02 Next, tell your AI client exactly what you need—like 'What was the air quality in London last Tuesday?'

03 The MCP executes the request using its tools and delivers structured data directly to your agent.

The bottom line is, you ask for complex weather information in plain English, and this MCP handles all the necessary API calls behind the scenes.

## Built For

Anyone whose job relies on location-aware planning—from event staff to logistics managers. If your workflow fails when a storm rolls in or if you need to check historical data for compliance, this MCP is what you need. Stop checking multiple weather sites and start talking to your AI.

**Event Planner**

Uses the daily forecast tool to monitor temperature swings and precipitation probability across a multi-day outdoor festival.

**Logistics Manager**

Checks current weather conditions or severe alerts for shipping routes before dispatching equipment or personnel.

**Research Analyst**

Retrieves historical weather data to track climate changes or analyze past pollution trends in a specific region.

## What Changes When You Connect

01 Never manually check multiple sites for weather. You can ask your agent for the 4-day air quality forecast and current conditions simultaneously, consolidating all data points into one answer.

02 Planning long trips? Use the daily forecast to see up to 16 days of temperature ranges and precipitation chances, eliminating guesswork when booking outdoor activities.

03 Need precise location context? The ability to run reverse geocode converts raw coordinates back into a usable city name, letting your agent know exactly where you are without extra steps.

04 For emergency planning, the weather alerts tool pulls active severe warnings instantly. You don't have to search multiple government sites; just ask for 'active alerts in [city]' and get an immediate report.

05 It saves time on data prep. If your task requires knowing coordinates but you only have a city name, simply run geocode first before asking for the hourly forecast.

## Real-World Applications

**Planning a multi-day outdoor conference**

The event manager asks their agent: 'What's the weather outlook for downtown Chicago over the next two weeks, including air quality and UV index?' The MCP runs get_daily_forecast and get_air_quality_forecast to provide comprehensive planning data.

**Assessing site viability for construction**

A project lead needs to know if a remote piece of land is safe for work. They ask the agent using coordinates, which triggers get_weather_alerts and get_current_weather to confirm there are no active severe warnings.

**Analyzing historical climate records**

A researcher needs data on how pollution changed in a factory town. They ask for the air quality forecast using get_historical_weather, specifying the exact date range required.

**Optimizing travel routes mid-trip**

While traveling, you need to know if your next destination is safe. You use the agent with a city name, which runs geocode first, then uses get_current_weather and get_sun_times to provide immediate context.

# Patterns to Avoid

### Assuming one tool covers everything

✗ AVOID

Asking for a multi-day forecast using only the 'get current weather' function, which will fail or give incomplete data.

✓ INSTEAD

If you need future planning details, use get_daily_forecast. If you need granular hourly detail, run get_hourly_forecast. Don't try to combine them into one prompt.

### Forgetting the location mapping step

✗ AVOID

Trying to ask for a forecast using coordinates without knowing what they are, and receiving an error.

✓ INSTEAD

Always check if you have coordinates. If you only have a city name, first run geocode or reverse_geocode until your agent confirms the correct latitude/longitude pair.

### Overlooking time constraints

✗ AVOID

Asking for historical weather data without specifying the date format (YYYY-MM-DD), causing the request to fail.

✓ INSTEAD

Remember that get_historical_weather requires both precise lat/lon coordinates AND a specific YYYY-MM-DD date string.

## The Right Fit

Use this MCP if your workflow depends on any kind of location data, whether it's current weather, pollution levels, or historical records. You need to know *what* is happening at a place and time. Don't use this if you simply need general knowledge about geography; for that, a standard search tool works fine. Crucially, don't rely on this just for simple definitions of climate terms. This MCP delivers actionable, data-rich metrics like min/max temperatures or specific pollutant concentrations (PM2.5). If your task requires analyzing the relationship between multiple weather variables (e.g., how temperature correlates with air quality), then this is the right choice.

## Checking Local Conditions Used to Be a Manual Nightmare

Think about planning a major event or just checking on family far away. You used to have to open three different websites: one for the current temperature, another for the 7-day forecast, and a third just for pollution alerts. Then you'd spend five minutes copying coordinates from one site and pasting them into another.

Now, you tell your agent exactly what you need—say, 'Give me the full weather picture for Miami next week.' The MCP handles all those complex data calls automatically. You get a single, unified report that includes everything from the daily forecast to active severe warnings.

## OpenWeather MCP: Instant Access to Global Data

The manual steps of converting city names to coordinates using one tool, then taking those coordinates and running them through a second API for the air quality index, are gone. Your agent handles the entire chain automatically.

You don't just get data; you get certainty. You can trust that every metric—from min/max temps to pollutant levels—was pulled directly from the source.

# OpenWeather: 11 Tools for Climate Data

These tools let your AI client perform every type of weather data retrieval imaginable—from getting current conditions to analyzing pollution trends.

| # | TOOL | DESCRIPTION |
|---|---|---|
| 01 | `geocode` | Takes a city name and returns the top five matching locations with their coordinates, country codes, and state names. |
| 02 | `get_air_quality` | Gets the current air quality index for a location using required latitude/longitude coordinates. |
| 03 | `get_air_quality_forecast` | Pulls a four-day outlook on air pollution, including AQI levels and concentrations of major pollutants like PM2.5 and ozone. |
| 04 | `get_forecast` | Retrieves a 5-day weather forecast with temperature, humidity, wind, and pressure using either a city name or coordinates. |
| 05 | `get_historical_weather` | Returns detailed historical weather data for a specific past date, requiring both latitude/longitude and the YYYY-MM-DD format. |
| 06 | `get_current_weather` | Delivers the immediate weather conditions (temperature, wind, etc.) for any city or given coordinates. |
| 07 | `get_daily_forecast` | Provides a daily weather summary for up to 16 days, including min/max temperatures and UV index, requiring latitude/longitude. |
| 08 | `get_hourly_forecast` | Outputs an hourly weather breakdown with temperature, humidity, wind, and precipitation probability using the One Call API. |
| 09 | `get_sun_times` | Calculates the exact times and elevation angles for sunrise and sunset at a given location's coordinates. |
| 10 | `get_weather_alerts` | Returns active severe weather warnings, including alert type, severity, and start/end times, requiring latitude/longitude. |
| 11 | `reverse_geocode` | Converts given coordinates back into a readable city name, state, country, and postal code. |

# See It in Action

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

**U** What's the current weather in São Paulo?

São Paulo is currently 24°C (75°F), partly cloudy. Humidity: 65%, Wind: 12 km/h SE, Pressure: 1013 hPa, Visibility: 10 km. Feels like 25°C. Sunrise at 6:12 AM, sunset at 6:45 PM.

**U** What's the 7-day forecast for Tokyo?

7-day forecast for Tokyo: Mon 22°C/15°C (rain), Tue 19°C/14°C (cloudy), Wed 21°C/16°C (partly cloudy), Thu 23°C/17°C (sunny), Fri 24°C/18°C (sunny), Sat 22°C/17°C (light rain), Sun 20°C/15°C (overcast).

**U** Is the air quality good in Beijing right now?

Beijing's current AQI is 4 (Poor). PM2.5 is 75 µg/m³ (3x WHO guideline), PM10 is 120 µg/m³. Ozone and NO2 levels are moderate. Sensitive groups should reduce outdoor exposure.

# Frequently Asked Questions

01 **How do I get an OpenWeather API key?**

Visit [**openweathermap.org/api**](https://openweathermap.org/api), click **Sign Up** for a free account, go to **API Keys** in your account settings, and create a new key. Copy it — it's a 32-character hex string. Free tier includes 60 calls/minute.

02 **Can I get weather alerts for my location?**

Yes! Use `get_weather_alerts` with lat/lon coordinates. Returns active alerts with sender name, event type, severity, description and start/end times. Useful for monitoring severe weather, floods, heat waves and other dangerous conditions.

03 **Can I get historical weather data?**

Yes! Use `get_historical_weather` with lat/lon and a date in YYYY-MM-DD format. Returns the weather conditions for that specific day including temperature, humidity, wind and pressure.

04 **How do I find coordinates for a city?**

Use `geocode` with the city name (e.g. 'London', 'São Paulo', 'Tokyo'). Returns the top 5 matching locations with their latitude, longitude, country code and state. Use these coordinates with other weather tools.

# 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 `"openweather": { "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

# OpenWeather 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

## INDEPENDENT PLATFORM DISCLAIMER

Vinkius is an independent platform and is not affiliated with, endorsed by, sponsored by, verified by, or otherwise authorized by OpenWeather. All third-party trademarks, logos, and brand names are the property of their respective owners. Their use in this document is strictly for informational purposes to identify service compatibility and interoperability.

## DOCUMENT INFORMATION

| | |
|---|---|
| Generated | June 2026 |
| MCP Server | OpenWeather MCP |
| Server ID | `019d8468-9a7b-73fc-8980-fc4cb238453d` |
| Platform | Vinkius Cloud for AI Agents |
| Endpoint | `https://edge.vinkius.com/{token}/mcp` |

## LICENSE & USAGE

This document is generated automatically by the Vinkius PDF Engine. Content reflects the MCP server configuration at the time of generation and may change as updates are deployed. For the most current information, visit vinkius.com/mcp/openweather.