MCP SERVER | NO CODE | CLOUD HOSTED

Geocodio MCP

Map Addresses to Census and District Data

Geocodio lets you handle all your North American location data through natural conversation. It performs batch geocoding and reverse geocoding for US/Canada, pulling deep Census demographics and legislative records directly into your workflow. Use it to validate addresses, find coordinates, or pull neighborhood statistics for thousands of points at once.

A+ Quality Score 100/100

geocoding | reverse-geocoding | address-validation | census-data | data-enrichment | spatial-data

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vinkius.com/mcp/geocodio

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.

Geocodio MCP

10 tools available
Cloud-hosted on Vinkius

Need to understand a physical address—where exactly is it, what area does it fall into, and what kind of economic data belongs there? This MCP connects your AI client directly to Geocodio's powerful location tools. Instead of jumping between spreadsheets, mapping services, and census websites, you ask your agent, 'What's the demographic profile for this block?' The tool handles the complex process of finding coordinates, validating the address against official records, and enriching that data with everything from timezones to congressional district boundaries. It’s built for high-volume work; whether you're analyzing a list of 50 or 5,000 addresses, it processes the batch efficiently. Because this MCP is hosted on Vinkius, your AI client accesses all these complex location functions through one single connection point, making geo-analysis as simple as chatting with a colleague.

Core Capabilities

01 — Geocoding Addresses

Takes an address string and reliably outputs precise latitude and longitude coordinates for US/Canada locations.

02 — Reverse Geocoding

Turns a set of coordinates back into a formatted street address, identifying the specific neighborhood or grid system it belongs to.

03 — Census Data Enrichment

Appends detailed demographic information—like median income or unemployment rates from ACS data—to any given location record.

04 — Legislative Mapping

Determines which political boundaries, such as congressional districts or state lines, encompass a specific geographic point.

05 — High-Volume Batch Processing

Processes large arrays of up to 10,000 addresses in one go, managing the workflow without manual intervention.

One Click on Vinkius — From Prompt to Execution

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

01 Subscribe to this MCP and provide your Geocodio API Key within your client's settings.

02 Tell your agent what you need. You can ask it to geocode a list of addresses or reverse geocode coordinates.

03 The MCP runs the necessary checks, validates the data against US/Canada records, and returns structured JSON containing the coordinates, demographics, and any other requested context.

The bottom line is you get clean, validated geographical and demographic data without ever leaving your chat window or IDE.

Built For

Data Analysts who manually map addresses to Census blocks, Real Estate professionals needing neighborhood context for listings, or Compliance Managers verifying political boundaries across large datasets. If you spend time cross-referencing address lists in multiple tabs, this is for you.

Data Analyst

Uses the MCP to run batch checks on thousands of addresses, appending Census or legislative data without manually uploading spreadsheets.

Real Estate Specialist

Performs reverse geocoding and analyzes neighborhood demographics for a property's coordinates using natural language queries.

Compliance Manager

Verifies congressional districts or state legislative boundaries for large datasets to ensure regulatory compliance in real-time.

What Changes When You Connect

01 Stop manually cross-referencing addresses. Use `geocode_us_address` to get coordinates, then use `geocode_enriched_fields` in a single chat turn to pull associated ACS economic data.

02 Handle massive datasets without hitting limits. The batch tools (like `batch_geocode_addresses`) process up to 10,000 locations at once, saving hours of manual API calls and spreadsheet work.

03 Pinpoint political boundaries instantly. Use the MCP's capabilities to determine which congressional district a coordinate belongs to, essential for compliance or campaign modeling.

04 Improve data integrity by validating every entry. If you run `batch_enriched_reverse`, the tool validates addresses against Census models before giving you results, reducing junk data.

05 Understand what data is available upfront. Run `list_schema_fields` to know exactly which demographic or legislative fields your agent can pull for any given location.

Real-World Applications

Analyzing a new development site

A real estate developer needs to understand the potential market. Instead of guessing, they prompt their agent: 'Get me the Census data and time zones for these 50 coordinates.' The tool uses `batch_enriched_reverse` to deliver median income and local economic indicators immediately.

Compliance auditing a mailing list

A compliance officer receives a list of addresses that need jurisdiction checks. They use the MCP to run the batch through `batch_geocode_addresses` first, then follow up with a request for legislative boundaries using the tool's capability to map congressional districts.

Validating user-submitted locations

A software developer needs to ensure that location inputs are clean. They use `geocode_us_address` and then run it through a structured test using the MCP's field validation logic, confirming the data type matches expected coordinates.

Building an internal logistics map

A supply chain manager needs to know the exact street address for GPS pins received from drivers. They use `batch_reverse_pins` with a batch of raw coordinates, which immediately returns validated delivery alternatives and street grids.

Patterns to Avoid

One-off single lookups

✗ AVOID

Manually entering 10 different addresses into the agent one by one: 'Geocode this address.' then waiting for a response, repeating ten times.

✓ INSTEAD

Use `batch_geocode_addresses` to input all 10 addresses in a single prompt. The MCP handles the entire batch request efficiently, saving time and ensuring consistent data formatting.

Ignoring data context

✗ AVOID

Just getting coordinates (Lat/Lng) for an address but having no idea if that area is commercial or residential.

✓ INSTEAD

After running `geocode_us_address`, immediately follow up by requesting enriched fields to pull demographic data. This gives you the full context, not just a point on a map.

Manual API integration

✗ AVOID

Writing custom Python code every time you need to check for census boundaries because your current tool doesn't support it.

✓ INSTEAD

The MCP exposes the capability to determine which political boundaries, like congressional districts, apply to a point. You just ask your agent; no custom scripting required.

The Right Fit

Use this MCP if your core problem involves location—specifically, you need to convert addresses into coordinates, or vice versa, and then enrich those points with high-value context like Census demographics, timezones, or political districts. It's the tool for geospatial data modeling.

Don't use this if all you need is simple text parsing (e.g., extracting a name from an unstructured paragraph) or general API rate limiting management. For those tasks, you'll want a dedicated NLP-type MCP instead of a location service like this one.

Tracking down specific neighborhood data used to be a massive headache.

Think about the old way: You get a list of addresses in an Excel sheet. To find out the median income for those areas, you copy-paste the whole list into one website. Then, if you want to check who represents that area politically, you have to go to a second site and manually look up coordinates. It's tedious, slow, and prone to human error.

Now, with this MCP, your agent does all of that in a single conversational prompt. You ask for the location data and tell it which demographics or legislative fields you need. The AI client processes the entire batch, pulling together validated coordinates, Census stats, and district info—all without you leaving the chat.

Geocodio MCP delivers structured demographic context.

The biggest time sink? The manual reconciliation of disparate data sources. You spend hours validating if a coordinate point actually belongs to a specific census tract or congressional district, usually requiring multiple platform logins and copy-pasting between them.

This MCP eliminates that friction. It centralizes the entire process into one structured request. What you get now is clean, validated JSON—a single source of truth for your North American data.

Geocodio: 10 Location Tools

These tools allow your agent to perform every step of geospatial analysis, from validating a single address to processing massive lists of coordinates.

#	TOOL	DESCRIPTION
01	batch_enriched_geocode	Processes multiple addresses simultaneously and adds detailed time zone information.
02	batch_geocode_addresses	Identifies the precise coordinates for a list of specific addresses in bulk.
03	batch_enriched_reverse	Automatically validates a batch of addresses and pulls associated Census demographic models.
04	batch_reverse_pins	Takes a list of coordinates and verifies them to find the matching street address or delivery point.
05	format_coordinate_string	Creates a standardized JSON payload structure from existing location strings for easy use elsewhere.
06	geocode_us_address	Finds the coordinates and structured data for a single US or Canadian address input.
07	geocode_enriched_fields	Extracts detailed demographic properties, such as Census information, from an address location.
08	list_schema_fields	Checks and reports exactly which fields of data are available for retrieval from the service.
09	reverse_geocode	Takes coordinates and retrieves the full associated street address in the US or Canada.
10	reverse_enriched_fields	Retrieves specific structured rules, such as congressional district boundaries, for a given set of coordinates.

See It in Action

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

U Geocode this address: '1109 N Highland St, Arlington, VA'

Address geocoded! The coordinates for 1109 N Highland St are Lat: 38.88667, Lng: -77.0944. This location is now mapped into valid coordinate blocks for your analysis.

U Reverse geocode '38.886, -77.094' and show me the Congressional District

Reverse geocoding complete! The address is '1109 N Highland St, Arlington, VA'. This location belongs to Virginia's 8th Congressional District. Would you like the representative's name?

U Get economic data for this address: 'White House, DC'

Retrieving Census data... For the White House area, the ACS economics data shows a median household income of $120k+ and an unemployment rate of 3.2%. I can provide full neighborhood statistics for this block.

Frequently Asked Questions

01 **Can Geocodio MCP handle more than 10,000 addresses?**

The listing supports batch processing up to 10,000 physical locations in a single request. For extremely high volumes beyond this, you'll need to implement chunking logic within your client workflow.

02 **What kind of data can I pull using geocode_enriched_fields?**

You can retrieve structural properties like Census demographics (ACS), timezones, and state legislative layouts. The tool's schema is flexible, allowing you to query specific fields.

03 **Does Geocodio MCP support addresses outside of the US or Canada?**

No. This MCP is specifically designed for geocoding and validating addresses within North America (US/Canada) only. It will not process international locations.

04 **What is the difference between reverse_geocode and batch_reverse_pins?**

The `reverse_geocode` tool takes coordinates to find a general, formatted street address. The `batch_reverse_pins` tool is designed for high volume, taking a list of pins to verify them against specific delivery alternatives.

05 **How do I check what data fields are available before running a query?**

Use the `list_schema_fields` function. It validates the API logic and informs your agent exactly which demographic or legislative bounds you can request synchronously, saving time on faulty queries.

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 `"geocodio": { "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

Geocodio 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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