

M C P S E R V E R

N O C O D E

C L O U D H O S T E D

Cold Stress Assessment MCP

Get precise physiological safety data for extreme cold environments.

Cold Stress Assessment MCP calculates wind chill and estimates the time remaining before hypothermia or frostbite occurs. You can input air temperature, wind speed, activity levels, and clothing insulation to get immediate safety assessments and clothing recommendations through your AI client.

A+ Quality Score 100/100

weather

hypothermia

frostbite

safety

cold-weather



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.

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.

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.

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

Encryption at rest

Ed25519

PKI vault signatures

24h TTL

Ephemeral session keys

V8 Isolate

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.

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.

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.

06 — Honeypot Trap System

Phantom credentials are injected into isolated environments. If a honeypot 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.

FinOps

Cost tracking per tool, payload compression savings, budget optimization signals, and consumption trends.

Firewall & DLP

PII redaction activity, sensitive data protection counters, and security event timeline.

Agent Activity

Which AI clients are connecting, how often, and what they're doing — real-time session tracking.

Tool Health

Slowest and most error-prone tools, with actionable root-cause insights and performance baselines.

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.

Cold Stress Assessment MCP

4 tools available

Cloud-hosted on Vinkius

When you are working in freezing conditions, guessing at safety risks isn't an option. This MCP gives your AI agent the ability to process environmental data and turn it into actionable physiological warnings. You can feed it specific variables like wind speed, current temperature, and even how much insulation your gear provides. Instead of just looking at a thermometer, your agent can tell you exactly how much time you have before frostbite becomes a threat or how much more clothing you need to stay safe. It handles the math for wind chill and core temperature drops, letting you focus on the task at hand while your AI monitors the physiological danger levels.

Core Capabilities

01 — Wind Chill Calculation

Your agent calculates the perceived temperature based on wind speed and air temperature.

02 — Frostbite Risk Timing

The AI estimates how much time remains before frostbite affects exposed skin.

03 — Hypothermia Monitoring

Your agent tracks the time remaining before a dangerous core temperature drop occurs.

04 — Insulation Guidance

The AI provides specific clothing insulation recommendations to manage thermal risk.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/cold-stress-assessment — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius hosted MCP.
- 02 Provide the air temperature and wind speed to your agent.
- 03 Include details like activity level or clothing state for more accuracy.
- 04 The AI uses the tools to calculate risks and provide safety recommendations.

Connect the MCP to your AI client and start feeding it environmental data.

Built For

This MCP is built for professionals operating in sub-zero environments who need to monitor physiological safety. It turns environmental data into survival metrics.

Field Safety Officers

They hand off environmental readings to the AI to generate safety reports and risk timelines.

Outdoor Expedition Leaders

They use the AI to determine necessary clothing adjustments and rest intervals.

Industrial Site Managers

They use the tool to assess worker safety risks in cold weather work zones.

What Changes When You Connect

- 01

Converts raw weather data into specific time-to-danger metrics.
- 02

Provides specific insulation requirements based on activity and temperature.
- 03

Calculates perceived wind chill to account for wind speed impact.

Real-World Applications

Winter Construction Safety

A foreman uses the AI to check how long workers can stay outside before frostbite becomes a risk.

Search and Rescue Operations

Rescuers use the tool to estimate the hypothermia risk for subjects found in freezing environments.

Arctic Expedition Planning

An explorer asks the AI for clothing recommendations based on expected wind chill and activity levels.

Remote Field Research

Scientists monitor environmental conditions to determine safe work durations in the cold.

4 Tools Available

#	TOOL	DESCRIPTION
01	assess_frostbite_danger	This tool determines the risk level and the estimated time until frostbite occurs on exposed skin.
02	calculate_hypothermia_risk	Use this to estimate the time remaining before a person reaches a dangerous state of core temperature drop.
03	get_clothing_recommendations	This tool suggests the specific insulation levels needed to mitigate the identified cold risks.
04	get_wind_chill	This tool calculates the perceived temperature based on the current wind speed and air temperature.

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 wind chill if it is -10°C with a wind speed of 20 km/h?



The wind chill equivalent temperature is -16.4°C.

U How long until I face frostbite at -15°C wind chill if my clothes are wet?



At a wind chill of -15°C with wet clothing, frostbite risk is high and could occur within 30 minutes.

U I am sedentary in -5°C with 10 km/h wind. What clothing do I need?



A recommended Clo value of 1.5 is suggested to maintain thermal comfort.

Frequently Asked Questions

01 How does this MCP calculate frostbite risk?

The tool uses environmental conditions to estimate the risk level and the specific amount of time before frostbite occurs on exposed skin.

02 Can I get clothing advice from the AI?

Yes, the tool provides clothing recommendations by suggesting appropriate insulation levels to mitigate the identified risks.

03 What information do I need to provide for an accurate assessment?

You should provide air temperature, wind speed, activity levels, and details about your clothing insulation.

04 Does this work with any AI client?

It works with any MCP-compatible client like Claude, Cursor, Windsurf, or VS Code.

05 How is wind chill handled?

The MCP includes a tool to determine the perceived temperature based on the specific wind speed and air temperature provided.

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 <code>"cold-stress-assessment": { "url": "..." }</code>
 Windsurf	MCP Settings → <code>mcp_settings.json</code> → 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

Cold Stress Assessment 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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DOCUMENT INFORMATION

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Platform	Vinkius Cloud for AI Agents
Endpoint	https://edge.vinkius.com/{token}/mcp

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