

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

Hiking Water Calculator MCP

Plan your hydration needs with mathematical precision.

Hiking Water Calculator MCP calculates exactly how much water you need to carry for any trek. It accounts for how hard you're working, how long you'll be out, and the temperature you'll face. Your AI client uses these specific calculations to ensure you don't run dry or carry unnecessary weight on the trail.

A+ Quality Score 100/100

hiking

hydration

safety

outdoor-planning

water-calculation



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.

Hiking Water Calculator MCP

4 tools available

Cloud-hosted on Vinkius

Planning a hike involves more than just picking a trail. If you under-pack water, you risk dehydration. If you over-pack, you're carrying dead weight that makes the climb harder. This MCP solves that math problem for you. You give your AI client the details of your trip, and it runs the numbers to find your ideal water volume.

It doesn't just guess. It uses specific multipliers for different effort levels, like a casual stroll versus a steep, strenuous climb. It also factors in heat, because sweating in 90-degree weather changes your requirements entirely. You can even check if your plan is realistic. If you're planning a short walk but your math says you need 15kg of water, the MCP will flag that as physically unfeasible. It's a safety tool that turns your AI agent into a reliable trip planner.

Core Capabilities

01 — Heat Compensation

The AI calculates extra volume needed when temperatures rise.

02 — Effort Scaling

Your agent adjusts water needs based on the intensity of the terrain.

03 — Feasibility Checks

The MCP flags if your water weight is too heavy for the planned duration.

04 — Total Volume Calculation

Your AI client generates a final water target for your entire trip.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/hiking-water-calculator — connect your AI agent in three steps.

- 01 Connect your AI client to the Vinkius-hosted MCP.
- 02 Tell your agent your planned hike duration and intensity.
- 03 Provide temperature data for heat adjustments.
- 04 The AI uses the tools to calculate and validate your water needs.

Connect the MCP to your AI client and start asking for hydration math.

Built For

This is for anyone who spends time on trails and wants to remove the guesswork from hydration planning.

Backpackers

They hand off trip duration and intensity to the AI to set pack weights.

Outdoor Guides

They use the tool to ensure client safety by calculating accurate water requirements.

Thru-hikers

They use the heat adjustment tools to plan for extreme weather conditions.

What Changes When You Connect

- 01 Reduces the risk of dehydration on strenuous climbs.
- 02 Prevents carrying excess water weight that slows you down.
- 03 Provides mathematical validation for your trip logistics.

Real-World Applications

Summer Trekking

Use the heat adjustment tool to plan for high-temperature hikes.

Weight Optimization

Run feasibility checks to make sure your water load isn't too heavy for your pace.

Strenuous Ascents

Adjust your water needs upward when the intensity multiplier increases for steep climbs.

Daily Trip Planning

Get a total water volume recommendation for any standard hike duration.

Patterns to Avoid

Ignoring temperature shifts

❌ AVOID

You plan a hike for a 90-degree day but only use standard water estimates. You end up dehydrated because you didn't account for the heat.

✓ INSTEAD

Always use `get_heat_adjustment_volume` to find the extra water needed for high temperatures.

Overpacking heavy water loads

❌ AVOID

You calculate a massive water requirement for a short walk and realize your pack is too heavy to actually move.

✓ INSTEAD

Run `validate_hike_parameters` to check if your planned water weight is physically realistic for your trip duration.

Underestimating terrain difficulty

❌ AVOID

You treat a steep mountain ascent like a flat walk through a park. Your water supply runs out halfway up the climb.

✓ INSTEAD

Use `get_intensity_multiplier` to adjust your requirements based on how strenuous the terrain actually is.

The Right Fit

Connect this MCP if you plan strenuous treks or manage group safety in varying climates. Do not connect it if you only do casual,

climate-controlled walks. The decision rests on whether you need mathematical validation for your hydration logistics.

Hiking Water Calculator Tools for Precise Hydration Planning

These tools handle the math for water volume, heat compensation, and terrain intensity. They turn your AI agent into a specialized trip logistics expert.

#	TOOL	DESCRIPTION
01	get_heat_adjustment_volume	Calculates the extra water volume required to compensate for high temperatures.
02	get_intensity_multiplier	Provides standard multipliers based on whether your hike is leisurely or strenuous.
03	get_water_requirement	Determines the total recommended water volume for your specific hiking plan.
04	validate_hike_parameters	Checks if your planned water weight is actually realistic for the duration of your hike.

See It in Action

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

U How much water should I carry for a 4-hour hike with a base rate of 0.5 liters per hour and strenuous intensity?



For a 4-hour strenuous hike with a 0.5 L/h base rate, you should carry 3.0 liters of water.

U I'm planning a 2-hour walk. Is carrying 10kg of water reasonable?



No, carrying 10kg of water for a 2-hour hike is not considered feasible as the weight is disproportionately high for that duration.

U What is the extra water needed if the temperature is 35 degrees Celsius?



At 35 degrees Celsius, you should add an additional 1.5 liters of water to your total requirement.

Frequently Asked Questions

01 How does this MCP calculate water needs?

It uses duration, intensity multipliers, and heat adjustments to find the total volume.

02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any MCP-compatible client like Claude, Cursor, or Windsurf.

03 Does it account for heat?

Yes, it has a specific tool to calculate extra water needed based on the temperature.

04 What if my water weight seems too high?

The `validate_hike_parameters` tool will tell you if your planned water weight is physically unrealistic for your hike.

05 Do I need to host this myself?

No, Vinkius hosts and manages the MCP for you. You just connect and use it.

06 How does the tool calculate my water needs?

The tool uses `'get_water_requirement'` to combine your hike duration and base consumption rate with optional multipliers for intensity and heat, plus a safety buffer.

07 Can I adjust for extreme heat?

Yes, you can use `'get_heat_adjustment_volume'` to find the extra water needed for high temperatures or include a heat factor in the main requirement calculation.

08 How do I know if my water weight is too heavy?

You can use `'validate_hike_parameters'` to check if the weight of the water you plan to carry is realistic for the duration of your hike.

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>"hiking-water-calculator": { "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

Hiking Water Calculator 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 Hiking Water Calculator. 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	September 2026
MCP Server	Hiking Water Calculator MCP
Server ID	01a0cd45-41fa-73de-a5a5-06734f3e16c1
Platform	Vinkius Cloud for AI Agents
Endpoint	<code>https://edge.vinkius.com/{token}/mcp</code>

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/en/ai-agent-connect/hiking-water-calculator.