

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

Altitude Acclimatization Timeline MCP

Plan safer climbs with physiological ascent modeling.

Altitude Acclimatization Timeline MCP uses physiological modeling to help you plan safer high-altitude climbs. It calculates the time you need to reach specific elevations, predicts when you might feel sick, and builds day-by-day movement schedules to minimize the risk of Acute Mountain Sickness.

A+ Quality Score 100/100

altitude

climbing

physiology

safety

trekking



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.

Altitude Acclimatization Timeline MCP

4 tools available

Cloud-hosted on Vinkius

Planning a high-altitude climb isn't just about knowing the route; it's about managing how your body reacts to thinning air. This MCP gives your AI client the ability to run physiological models that account for ascent rates and target elevations. Instead of guessing how many rest days you need, you can get a data-driven schedule that balances progress with safety. You can check the statistical likelihood of developing Acute Mountain Sickness based on your planned climb speed, or forecast exactly when physiological symptoms might start to show up. It turns your agent into a specialized climbing assistant that understands the math behind acclimatization, helping you avoid dangerous rapid ascents and plan your movement day by day.

Core Capabilities

01 — Ascent Planning

Your agent uses this to create specific daily movement and rest plans.

02 — Risk Assessment

The AI checks the statistical likelihood of AMS based on your ascent speed.

03 — Time Estimation

Your client calculates the total duration needed to reach a target elevation safely.

04 — Symptom Forecasting

The tool predicts the time window when physiological symptoms are likely to occur.

One Click on Vinkius — From Prompt to Execution

Available at vinkius.com/en/ai-agent-connect/altitude-acclimatization-timeline — connect your AI agent in three steps.

- 01
- Connect the MCP to your client like Claude or Cursor via Vinkius.
- 02
- Tell your agent your current altitude and target elevation.
- 03
- Specify your intended daily ascent rate.
- 04
- The AI uses the tools to run physiological models.
- 05
- Receive a detailed schedule or risk assessment.

Get your climbing data into your AI client and start planning immediately.

Built For

This MCP is built for anyone managing high-altitude expeditions or trekking routes.

Mountain Guides

They hand off the math for client safety schedules to the AI.

Expedition Leaders

They use the tool to build logistical timelines for entire teams.

High-Altitude Climbers

They use it to personally verify their own ascent rates and risk levels.

What Changes When You Connect

- 01
- Calculates necessary rest days based on physiological needs.
- 02
- Identifies high-risk ascent rates before you leave the ground.
- 03
- Provides a structured day-by-day movement plan.

04 Forecasts potential symptom onset windows.

Real-World Applications

Expedition Scheduling

Build a complete itinerary for a multi-week climb from base camp to summit.

Risk Mitigation

Determine if you need more rest days to avoid Acute Mountain Sickness.

Safety Verification

Check if your planned daily ascent rate is too fast for your target altitude.

Personal Training

Plan a gradual ascent for a solo trekker to ensure safe acclimatization.

4 Tools Available

#	TOOL	DESCRIPTION
01	generate_ascent_schedule	This tool builds a day-by-day breakdown of when you should move and when you should rest.
02	evaluate_health_risk	Use this to find the statistical probability of developing Acute Mountain Sickness (AMS) at your planned altitude.
03	get_acclimatization_estimate	This tool calculates the total amount of time required to reach a target altitude safely.
04	predict_symptom_timeline	This tool forecasts the specific window of time when you might start feeling physiological symptoms.

See It in Action

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

U I am at 2000m and want to reach 5000m climbing 300m per day. How many days will it take to acclimatize?



It will take approximately 14 days to safely reach 5000m with a 300m daily ascent rate, including necessary rest days.

U What is my risk of altitude sickness if I climb to 4500m at a rate of 500m per day?



The risk level is High due to the rapid ascent rate at that elevation.

U Give me a schedule for climbing from 1500m to 3500m at 250m per day.



Day 1: 1750m (Ascent), Day 2: 2000m (Ascent), Day 3: 2000m (Rest), Day 4: 2250m (Ascent), Day 5: 2500m (Ascent), Day 6: 2500m (Rest), Day 7: 2750m (Ascent), Day 8: 3000m (Ascent), Day 9: 3000m (Rest), Day 10: 3250m (Ascent), Day 11: 3500m (Ascent).

Frequently Asked Questions

01 How does this MCP help with climbing safety?

It uses physiological modeling to estimate rest days and assess the risk of Acute Mountain Sickness based on your ascent speed.

02 Can I use this with Claude or Cursor?

Yes, you can connect this MCP to any compatible client like Claude, Cursor, or Windsurf through the Vinkius platform.

03 What is Acute Mountain Sickness (AMS)?

AMS is a physiological condition caused by rapid ascent to high altitudes, which this MCP helps you evaluate and avoid.

04 Does it provide a daily itinerary?

Yes, the generate_ascent_schedule tool provides a day-by-day breakdown of recommended movement and rest periods.

05 How accurate are the ascent estimates?

The estimates are based on physiological models that calculate the time required to safely reach target altitudes.

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>"altitude-acclimatization-timeline": { "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

Altitude Acclimatization Timeline 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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