

High-Altitude Field Deployment at Tilicho Lake (4,919 m): A One-Page Expedition Summary

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Abstract—This document presents a concise academic summary of a high-altitude field expedition conducted at Tilicho Lake (4,919 meters), Nepal. The expedition culminated in a symbolic technical deployment executed under extreme environmental constraints. The work demonstrates the feasibility of structured field documentation and deployment practices in remote, high-altitude environments.

I. OBJECTIVE

The objective of this expedition was to plan, execute, and document a high-altitude field deployment while recording route timing, environmental constraints, and operational milestones in a reproducible, research-oriented format.

II. EXPEDITION LOCATION

Tilicho Lake is located in the Manang District of Nepal at an elevation of 4,919 meters above sea level. The site presents logistical challenges including low oxygen levels, snow and ice terrain, and limited operational windows during early morning hours.

III. METHODOLOGY

- Pre-dawn ascent from Tilicho Base Camp
- Time-stamped route milestone logging
- Snow and ice zone traversal
- On-site deployment initiation at lake perimeter
- Controlled descent and data consolidation

IV. KEY TIMELINE

Time	Event
03:06 AM	Trek initiated from base camp
05:37 AM	Entry into snow and ice zone
06:27 AM	Arrival at Tilicho Lake
06:55 AM	2 Website deployment initiated
07:31 AM	Departure from lake
10:28 AM	Return to base camp

V. OUTCOMES

- Successful high-altitude deployment at 4,919 m
- Complete ascent and descent without incident
- Structured expedition log produced
- Research-grade documentation artifact created

VI. SIGNIFICANCE

This expedition demonstrates how non-traditional field activities can be formalized into structured technical documentation. The work bridges expedition practice with research methodology, emphasizing reproducibility, discipline, and environmental awareness in extreme conditions.

VII. AVAILABILITY

The complete expedition log and supporting materials are publicly available with a persistent DOI via Zenodo.

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