

# Enhancing permafrost research capacity and community engagement in Humla

02 – 12 June 2025



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ICIMOD

This field report was prepared by Prashant Baral, Sonam Wangchuk and Sudan Bikash Maharjan, at the International Centre for Integrated Mountain Development (ICIMOD). This expedition was supported by the Swiss Agency for Development and Cooperation (SDC). Photographs included in this report were taken by Prashant Baral, Sudan Bikash Maharjan, and Sonam Wangchuk.

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Cover Photograph: Photograph captured during a UAV survey in Til Village using a senseFly eBee X fixed-wing drone. Credit: Sudan Bikash Maharjan.

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## **1. Summary**

The extent and dynamics of permafrost in the Hindu Kush Himalaya region are not well understood. In response to this knowledge gap, ICIMOD initiated a pilot permafrost research program in Humla in 2021 (Figure 1). Since 2021, the program has included yearly field expeditions aimed at engaging local communities on cryospheric changes and developing the next generation of permafrost scientists by training university students. These field activities include activities such as installing and maintaining micro-weather stations, deploying ground temperature sensors, collecting data from existing ground temperature sensors and weather stations, and communicating with the members of the local community about changes in cryosphere and related impacts.

Fieldwork conducted between 2021 and 2024 confirmed the presence of permafrost and highlighted potential risks associated with its degradation for remote communities in Humla. Between 2021 and 2024, the Cryosphere Intervention team installed micro-weather stations and ground temperature sensors at various sites across Limi Valley. Micro-weather stations were established in Tungling, Halji, and Zang. Ground temperature sensors were deployed at multiple points along the route from Chhungsa to Lapcha La Pass, as well as in Halji Village, Tungling Village, and Seji La Pass (Figure 2).

## **2. Til Village flood**

On the night of May 15, 2025, around 10 p.m., the village of Til in Limi Valley, located in the Nepal Himalayas, was struck by a flood that caused significant damage to local infrastructure. The flood damaged the village hydropower plant and transmission lines, agricultural fields, irrigation canals, roads, and the drinking water supply system.

Initially, residents suspected a glacial lake outburst flood (GLOF). However, a preliminary assessment by experts from ICIMOD, using video footage and photographs from social media posts and Google Earth imagery, ruled out a GLOF. Instead, the flood was found to have originated from the sudden drainage of two small thermokarst lakes (Figure 2), approximately

2,500 m<sup>2</sup> and 2,300 m<sup>2</sup> in area (as of 2016), located on the surface of a rock glacier. Field photographs taken by locals further confirmed that these thermokarst lakes were the source of the flood.

While the drainage of thermokarst lakes from rock glaciers is not unprecedented, such lakes are ephemeral by nature, forming, draining, and often reoccurring. The phenomenon is relatively rare in the Himalayan region compared to the Arctic. Nevertheless, the rock glacier and now-drained thermokarst lakes above Til Village warrant further investigation for several key reasons:

1. **Recurring formation:** Thermokarst lakes are known to reform after draining. The wide-open channel observed in the high-resolution images suggest that similar drainage events may have occurred in the past but of a smaller magnitude.
2. **Active rock glacier:** Morphological evidence, particularly the visible ridges and furrows on the glacier surface, indicates that the rock glacier is active. This activity could close existing drainage channels, leading to renewed ponding and lake formation.
3. **Proximity to settlement:** Til Village is located just 3–4 km downstream from the rock glacier and thermokarst lakes. In the event of a future outburst of greater magnitude, the village could face significant risk.
4. **First known impact:** This is the first known case in the Himalayas where the drainage of thermokarst lakes has caused measurable downstream impact.
5. **Timing and permafrost thaw:** The flood occurred at the onset of the thawing season, suggesting a potential link to permafrost degradation.

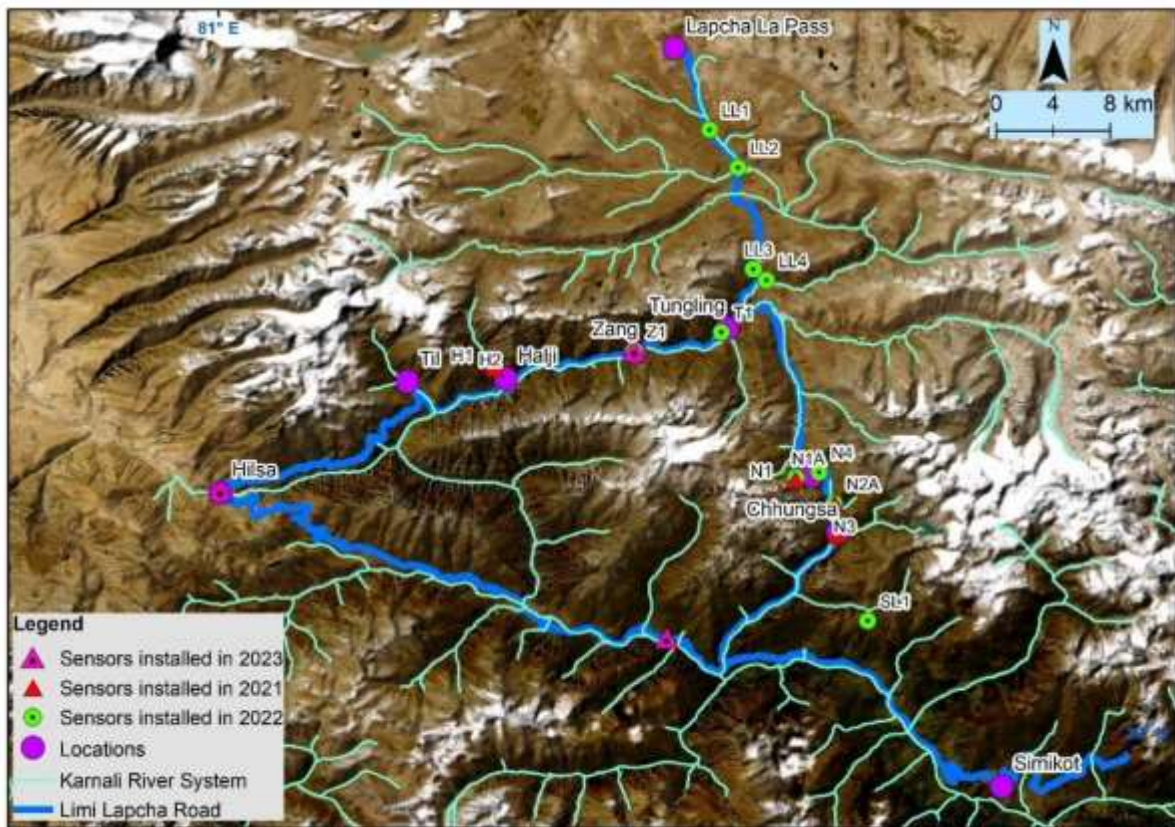


Figure 1. Map of Humla showing the locations of sensors installed in 2021, 2022, and 2023.



Figure 2. Thermokarst lakes and rock glacier extent before the flood. Image was acquired on 11/5/2016 by Maxar.

### 3. Objective of the field mission

The field mission aims to:

1. **Collect data:** Collect data from existing ground temperature sensors and micro-weather stations in Limi Valley deployed during fieldwork between 2021-2024.
2. **Document the event:** Collect field-based scientific data and observations across upstream, midstream, and downstream areas affected by the Til Village flood. This information, which cannot be acquired through remote sensing alone, will help improve our understanding of permafrost and thermokarst lake dynamics in the Himalayas.
3. **Verify flood mechanism:** Identify and validate the specific flood-triggering mechanisms of the Til Village flood event to support numerical flood modeling and predictive studies.
4. **Support evidence-based action:** Provide robust, evidence-based scientific insights to inform local and regional decision-making for risk reduction and adaptation.
5. **Engage with communities:** Interact with community members in and around Til Village to discuss the recent flood event, assess its impacts, and gather local observations on cryospheric changes, contributing to a deeper understanding of climate-related risks.

### 4. Participants

Three team members from SG1-AAA: Managing Cryosphere and Water Risks participated in the fieldwork.

S. No.	Name	Photo	S. No.	Name	Photo
1	Prashant Baral Cryosphere Analyst ICIMOD		2	Sonam Wangchuk Cryosphere Specialist, ICIMOD	
3	Sudan Bikash Maharjan Remote Sensing Analyst, ICIMOD				

Figure 3. Fieldwork participants of the Huml fieldwork in 2025.

### **Field team composition and roles**

The field team consisted of three members, each with a defined role:

**Sonam Wangchuk** – Conduct upstream assessments of rock glaciers and thermokarst lakes, including identifying triggering mechanisms.

**Prashant Baral** – Collect data from existing ground temperature sensors and micro-weather stations in Limi Valley, coordinate with local communities for downstream impact assessments, and manage field logistics.

**Sudan Bikash Maharjan** – Perform geological assessments and conduct UAV (drone) surveys of the affected area associated with the Til Village flood.

### **5. Logistical support**

Logistical support was provided by Himalayan Research Expeditions (HRE).

### **6. Field itinerary**

The field itinerary for the 2025 Humla campaign, presented in the table, was developed to clearly identify the critical activities and locations necessary for achieving the project objectives. The schedule was systematically organized to ensure efficient use of time while enabling thorough coverage of all priority areas.

Toward the latter phase of the fieldwork, unexpected extreme weather conditions disrupted the planned activities. Intense snowfall in high-altitude regions, including key mountain passes, significantly affected team mobility and logistical arrangements. As a result, modifications to the original itinerary were required to safeguard personnel and sustain operational viability.

Consequently, the team concluded the fieldwork and returned four days earlier than originally planned. This decision was made as a precaution to mitigate the risk of isolation caused by potential road closures at Nyalu Lagna Pass, a critical access route within the study area. Despite these challenges, the team managed the situation effectively and completed the fieldwork without compromising safety.

**Table 1. Field itinerary for the field work in Humla in 2025.**

<b>S No</b>	<b>Date</b>	<b>Program</b>	<b>Elevation (m a.s.l.)</b>	<b>Remarks</b>
1	02 June	Fly Kathmandu-Nepalgunj	Nepalgunj (150 m a.s.l.)	Stay at a hotel in Nepalgunj
2	03 June	Fly to Simikot	Simikot (3025 m a.s.l.)	Stay at a hotel in Simikot
3	04 June	Drive from Simikot to Tungling	Tungling (4155 m a.s.l.)	Stay at a hotel in Tungling
4	05 June	Drive from Tungling to Halji & Trek from Halji to Til Village	Halji (3730 m a.s.l.) Til Village (3950 m a.s.l.)	Stay in a camp at Til Village
5	06 June	Field investigations at Til Village	Til Village (3950 m a.s.l.)	Stay in a camp at Til Village
6	07 June	Trek from Til Village to camp site near Lake area	Camp site near lake area (4800 m a.s.l.)	Stay in a camp near lake area
7	08 June	Trek from camp site near lake area to the lake area. Investigation of the source area of the flood.	Camp site near lake area (4800 m a.s.l.)	Stay in a camp near lake area
8	09 June	Trek from camp site near lake area to Til Village	Til Village (3950 m a.s.l.)	Stay in a camp at Til Village
9	10 June	Trek from Til Village to Halji and drive to Tungling	Tungling (4155 m a.s.l.)	Stay at a hotel in Tungling
10	11 June	Drive from Tungling to Lapcha La, return to Tungling and drive to Simikot	Tungling (4155 m a.s.l.) Simikot (3025 m a.s.l.)	Stay in a hotel in Simikot
11	12 June	Fly-Simikot-Nepalgunj- Kathmandu	Kathmandu (1400 m a.s.l.)	Return to Kathmandu

## **7. Micro weather station and sensors installed in 2021, 2022, 2023 and 2024**

In September 2021, the ICIMOD Cryosphere team established a HOBO micro weather station at Nyalu Pass (4800 m a.s.l.), equipped with sensors measuring soil temperature, soil moisture, and solar radiation, along with an external sensor for air temperature and relative humidity. In addition, five ground surface temperature sensors were installed at three sites along the Chhungsa–Nyalu Pass transect and at two locations in the vicinity of Halji Village. During August–September 2022, a second HOBO micro weather station with comparable instrumentation was installed at Tungling (4160 m a.s.l.). At the same time, ten ground surface temperature sensors were deployed: four along the Tungling–Lapcha La Pass route, one near the Tungling micro weather station, one near Zang Village, one at Seji La Pass, one along the Selima Lake–Nyalu Lagna Pass route, one at Selima Lake, and one close to the site of a previously lost micro weather station at Nyalu Lagna Pass. The planned installation of a micro weather station at Halji (HJ1) in September 2022 could not be carried out due to technical constraints; however, the station was subsequently installed in October 2022 by a Humboldt University team on behalf of the Cryosphere Initiative. In 2023, three additional micro weather stations were installed at Yalbang, Hilsa, and Zang, while no new ground surface temperature sensors were deployed during that field season. In 2024, nine additional ground temperature sensors were installed across multiple locations in Humla.

## **8. Status of micro weather station and ground temperature sensors installed in 2021, 2022 and 2023 during fieldwork in 2025**

As the 2025 fieldwork primarily focused on the emergency assessment of the Til Village flood, not all ground temperature sensors and micro weather stations could be accessed for data retrieval and maintenance. Only selected sensors and weather stations were reached for data download and routine maintenance. The operational status and maintenance activities of the accessed micro weather stations and ground temperature sensors installed during the 2021, 2022, 2023, and 2024 field campaigns are summarized below, with detailed information provided in the following table.

**Table 2. Location and details of micro weather stations and TidbiT temperature sensors installed in Humla between 2021 and 2024, along with their status and maintenance activities during the 2025 fieldwork.**

SN	Site	Latitude (N)	Longitude (E)	Instruments [reference]	Status/activities during field trip 2023
1.	T1: Tungling	30.253399	81.650276	HOBO Micro Weather Station and HOBO External Temperature/RH Sensor	The micro weather station was dismantled and relocated for installation near the source area of the Til Village flood event.
9.	T1: Between Lapcha La Pass and Tungling (a few meters away from micro-weather station at Tungling)	30.25331	81.65032	TidbiT v2 Temperature Data Sensor [UTBI-001]	The ground temperature sensor was retrieved and relocated to the source area of the Til Village flood event.
12.	HJ1: Halji	30.253399	81.650276	HOBO Micro Weather Station	The station and all associated equipment were intact. Data was downloaded but the data was available only for a limited period. Batteries were replaced and logger was launched again.
3.	ZA1: Zang	30.241890	81.595250	HOBO Micro Weather Station	Data was downloaded and logger was launched

## 9. Micro weather station and temperature sensors installed near the source area of the flood

### 9.1 Micro-weather station

A micro-weather station was installed on 08 June 2025 at 11:00 am at N30.24372 E81.46115 at 5279 m elevation near the source area of the flood. Two TidbiT temperature sensors were placed a few meters away from the station installed.



Figure 4. HOBO micro weather station installed near the source area of the flood.

**Table 3. List of sensors/instruments installed at the micro weather station near the source area of the flood by the Cryosphere team in 2025.**

SN	Reference	Instrument	Purpose	Quantity
1.	H21-USB	HOBO USB Micro Station Data Logger (5 slots)	Data Logger	1
2.	S-TMB-M002	12-Bit Temperature (2m cable) Smart Sensor	Temperature Sensor	2
3.	S-SMC-M005	EC5 Soil Moisture Smart Sensor	Soil Moisture Smart Sensor	2
4.	S-LIB-M003	Silicon Pyranometer	Solar Radiation Sensor	1
5.	M-LBB	Light Sensor Bracket	Sensor support	1
6.	MX2302A	HOBO External Temperature/RH Sensor + Data Logger	Temperature/RH Sensor Logger	1
7.	RS3-B	Solar Radiation Shield	Temperature Shield	1



Figure 5. Sensors/instruments installed at the micro weather station

### 9.1.1 HOBO USB Micro Station Data Logger

The installed permafrost monitoring station has a HOBO USB Micro Station Data Logger with 5 slots for 5 different sensors. The data logger records data from two soil temperature sensors, two soil moisture sensors and one solar radiation sensor.

### 9.1.2 Soil Temperature Sensors

Two soil temperature sensors with serial no. 21397612 and 21397613 were placed at 30 cm and 10 cm deep from the ground surface respectively. The sensors were transmitting.

### 9.1.3 Soil Moisture Sensors

Two soil moisture sensors with serial no. 21390645 and 21390647 were placed at 10 cm and 30 cm deep from the ground surface respectively. The sensors were transmitting.

### 9.1.4 Solar Radiation Sensor

A solar radiation sensor with sensor height almost 200 cm from the ground surface was installed. The sensor was transmitting.

### 9.1.5 HOBO External Temperature/RH Sensor + Data Logger

One HOBO External Temperature/RH Sensor with a separate data logger is also fixed at the same station. The sensor was transmitting.

## 9.2 Temperature Sensors

Two TidbiT v2 temperature data sensors were placed in different locations in Humla to study changes in ground temperature regime.



Figure 6. TidbiT Sensor deployed near the installed micro weather station.

### 9.2.1 TidbiT Temperature Sensor

Serial Nr	21402330	Access Code	Not Applicable
Elevation (m)	5280	Aspect	
Slope		Position on slope	Middle section of the valley
Latitude	30.24372	Longitude	81.46115
Date & time	08 June 2025 (11:30 am)	Depth from the surface	20 cm
Cloud coverage	0%	Moisture content on ground	Moist soil
Weather	Clear weather with sunshine	Precipitation	No
Comments on site and site visit	The site is located on the way from Til Village to the source area of the Til flood. The site is about 1100 meters away from the thermokarst lakes that drained out. There are big rock boulders near the site. The site is about a meter away from the micro-weather station that was installed.		
Name of the researcher(s)	Sonam Wangchuk, Sudan Bikash Maharjan, Prashant Baral		
Attributes that describe the ground and the vicinity where the Plot is placed	<p>1.Vegetation: Less than 5% area is vegetated.</p> <p>2.Disturbance: No grazing, No human activities, No transhumance</p> <p>3.Surface features: Small and large rock boulders fixed to the ground surface</p> <p>4.Surface micro-topography: Rugged</p> <p>5.Drainage: Good soil, moist</p> <p>6.Surface roughness: Rough</p>		

### 9.2.2 TidbiT Temperature Sensor

Serial Nr	21946969	Access Code	Not Applicable
Elevation (m)	5280	Aspect	
Slope		Position on slope	Middle section of the valley
Latitude	30.24372	Longitude	81.46115
Date & time	08 June 2025 (11:30 am)	Depth from the surface	03 cm
Cloud coverage	0%	Moisture content on ground	Moist soil

Weather	Clear weather with sunshine	Precipitation	No
Comments on site and site visit	The site is located on the way from Til Village to the source area of the Til flood. The site is about 1100 meters away from the thermokarst lakes that drained out. There are big rock boulders near the site. The site is about a meter away from the micro-weather station that was installed.		
Name of the researcher(s)	Sonam Wangchuk, Sudan Bikash Maharjan, Prashant Baral		
Attributes that describe the ground and the vicinity where the Plot is placed	1.Vegetation: Less than 5% area is vegetated. 2.Disturbance: No grazing, no human activities, no transhumance 3.Surface features: Small and large rock boulders fixed to the ground surface 4.Surface micro-topography: Rugged 5.Drainage: Good soil, moist 6.Surface roughness: Rough		



Figure 7. Placement photographs of the two TidbiT sensors deployed near the micro-weather station installed near the source area of the flood.

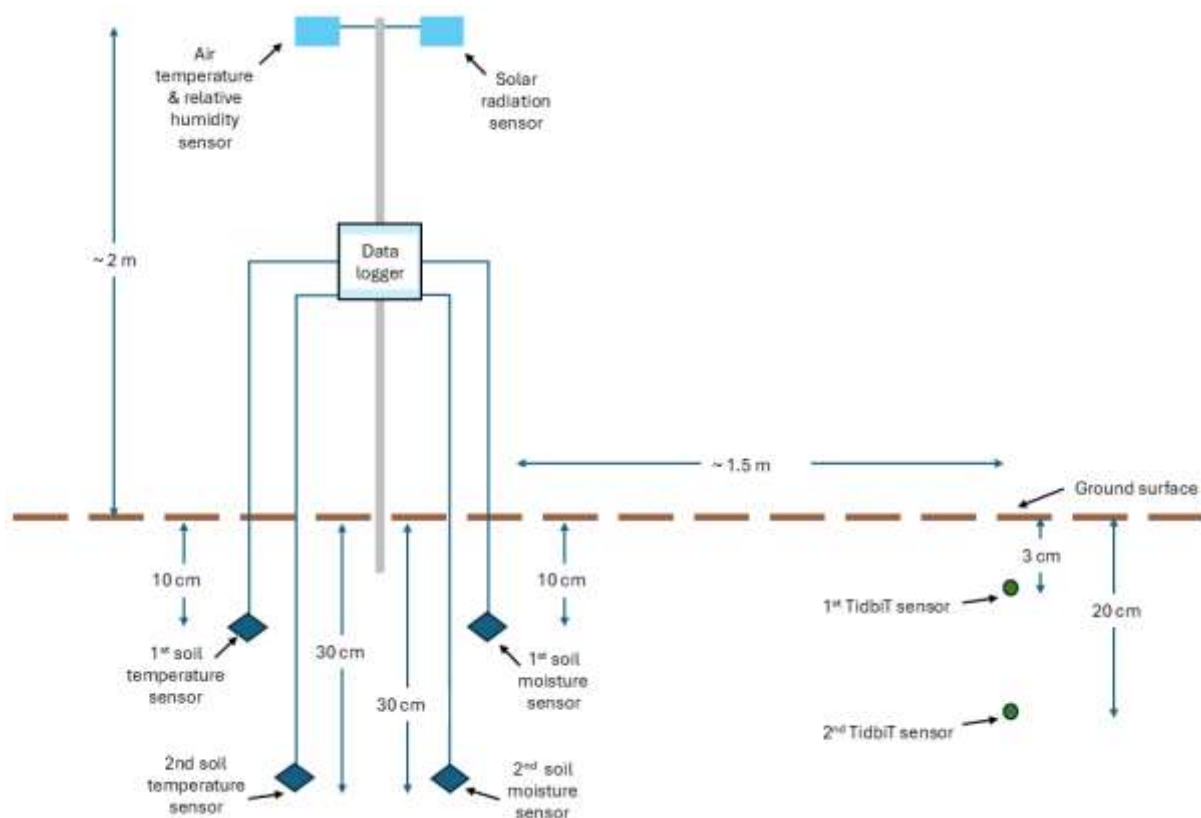


Figure 8. Schematic representation of the installation of the micro weather station and ground temperature sensors

## 10. Field survey and impact assessment

We conducted an Uncrewed Aerial Vehicle (UAV) survey in Til village using a SenseFly eBEE X fixed-wing drone, paired with a differential Global Positioning System (dGPS) in RTK mode to ensure precise geolocation of captured images. The survey collected imagery at a ground resolution of 8 cm, with 80% lateral and 70% longitudinal overlap to ensure high-quality data coverage. A total of 62 images were captured, covering an area of approximately 0.2 km<sup>2</sup>, with a total flight time of around 14 minutes. The imagery was processed using Agisoft Metashape software to generate ultra-high resolution orthophotos and a digital surface model (DSM) at 10 cm spatial resolution. This dataset was used to delineate the flood impact area, produce hazard maps, and analyze erosion and deposition patterns within the river valley. Comparisons were made with a high-resolution (2 m) Earth DEM to assess changes. To ensure accuracy in comparing pre- and post-event elevation models, the DEMs were co-registered using the Nuth and Kääb co-registration method. In addition to the UAV analysis, expert visual assessments were carried out along the drainage path—from the flood's origin

to its downstream impacts in Til village, and further downstream to the confluence of the Til and Limi rivers. These assessments focused on identifying geological and geomorphological changes caused by the event.



*Figure 9. Photo from the UAV showing the 15KW HP Powerhouse washout area including the collection of penstock pipes impacted by the flood. (Source: Sudan Bikash Maharjan).*

## **11. Direct observations**

### **11.1 Rock glaciers**

During the survey, three rock glaciers were documented, aligned laterally along a west–northwest (W–NW) direction. The largest rock glacier terminates at an elevation of approximately 5,235 m a.s.l. It displays a steep frontal slope that is actively wasting mass, with visible surface streams and well-developed subsurface flow. The middle rock glacier, which is the smallest of the three, has its toe at roughly 5,330 m a.s.l. and shows active subsurface drainage. The uppermost rock glacier terminates near 5,356 m a.s.l., where thermokarst lakes have formed at its foot, indicating localized thawing and ponding.



*Figure 10. Path used to access the thermokarst lake, traversing the surface of a rock glacier and partially covered by snow.*

## **11.2 Thermokarst lakes**

Two thermokarst lakes were identified, both of which have completely drained due to subsurface water loss. The frozen surfaces of both basins have collapsed inward as a result of this drainage. The lakes are separated by approximately 17 m of debris. The elevation of the lakes measured at that point was 5347 m.



*Figure 11. One of the thermokarst lakes at the flood source area that breached and triggered the flood event.*

### **11.3 Subsurface streams and inflows**

At the time of the investigation, subsurface streams carrying snowmelt water were actively feeding into the basins of the drained thermokarst lakes. Similar subsurface drainage was confirmed for the other two associated rock glaciers, indicating a widespread network of active subsurface meltwater flow within the complex.

### **11.4 Ponds along the rock glacier toe**

Four small ponds, each approximately 3–5 m in extent, were observed along the toe of the rock glacier that hosts the thermokarst lakes. The pond elevations ranged from 5,349 m to 5,358 m

a.s.l., slightly higher than the surface level of the drained lakes. All ponds were interconnected by a combination of surface (slushy flow) and subsurface channels, forming a linked drainage system. A 30–40 m high mound of rock debris separates these ponds from the main thermokarst lake basins, acting as a natural barrier between the pond system and the larger lakes.

### **11.5 Drainage path**

Subsurface drainage from the lake was observed extending up to ~1 km downstream, with no visible surface flow during this stretch. The lake's surface ice had fully collapsed following the drainage, leaving behind a crater-like depression. A few small ponds were present near the foot of the rock glacier. Surface flow (outlet) likely began around 1 km from the lake, as indicated by erosion of talus terrain. The flood eroded 5–10 m of rocky talus and boulders followed by 15–20 m fine sediment terrain until the headwall near the campsite.

## **12. Interaction with local communities**

Since 2021, ICIMOD team members have actively engaged with local stakeholders, including representatives in Simikot and residents of Halji, Tungling, and Zang. These collaborative interactions supported the installation of micro weather stations and temperature sensors and provided valuable contextual information through field visits and discussions with religious leaders and community members. This participatory approach has contributed to an improved understanding of cryospheric processes and their impacts in the region.

During the 2025 fieldwork, expedition members engaged with residents of Til Village to document the flood event, including its onset, progression, early warning and response, evacuation actions, and post-event living conditions. Community members provided detailed first-hand accounts of the incident, offering critical insights into the sequence of events and local response mechanisms.

## Annex

### Annex I: Letter from NDRRMA requesting ICIMOD for the investigation of Til Village flood event

	<p>नेपाल सरकार गृह मन्त्रालय</p> <p><b>राष्ट्रिय विपद जोखिम न्यूनीकरण तथा व्यवस्थापन प्राधिकरण</b></p> 	<p>सिंहदरवार, काठमाडौं नेपाल ।</p> <p>मिति: २०८२/०२/०४</p>
<p>पत्र संख्या : ३०८११०८२ चलानी नं. : १९८६</p>		

श्री International Centre for Integrated Mountain Development (ICIMOD),  
खुमलटार, ललितपुर।





विषय: आवश्यक सहयोग सम्बन्धमा।

प्रस्तुत विषयमा मिति २०८२/०२/०१ गते बिहिबार राति करिब १०:३० बजे हुम्ला जिल्लाको नाम्खा गाउँपालिका वडा नं. ६, तिलागाउँमा भएको लगातार पहिरोले उक्त स्थानका मानविय तथा भौतिक क्षति पुगेको विदितै छ। उक्त क्षेत्रमा पहिरोबाट भएको क्षतिको satellite imagery का माध्यमबाट के-कस्तो अध्ययन/अनुसन्धान गर्न सकिन्छ तर्जुमाटो से को अध्ययन पश्चात विस्तृत प्रतिवेदन तयार गरी यस प्राधिकरणमा पठाई आवश्यक सहयोग गरिदिनुहुन आदेशानुसार अनुरोध छ।



(निर्मला रेग्मी)  
मेटेरियोलोजिष्ट

**Annex II: Letter from NDRRMA requesting ICIMOD for the investigation of Til Village flood event**

	<p><b>नाम्खा गाउँपालिका</b> नाम्खा रुरल म्युनिसिपालिटी <b>Namkha Rural Municipality</b></p>	
पत्र संख्या: २०८१/०८२		सल्याङ, मुस्ता कर्णाली प्रदेश, नेपाल
खलानी नं: ९९८		मिति: २०८२/०२/१६
विषय: अनुमति प्रदान गरिएको सम्बन्धमा ।		
श्री ICIMOD Nepal सुमलटार, ललितपुर ।		
<p>प्रस्तुत विषयमा यस नाम्खा गाउँपालिकाको वडा नं ०६ तिल गडौंमा मिति २०८२/०२/१६ गते छति करिब १०:३० बजे तिर गएको सुछसा पहिरोले उक्त स्थानमा भौतिक छति पुर्‍याएको ब्यहोरा बिदितै छ । उक्त क्षेत्रमा पहिरो घट भएको छतिको Satellite Imagery को माध्यमबाट छतिको विवरणको अध्ययनका साथी तही कार्यालयका तत्काल बसोत्रिमका विज्ञ टोलीहरूस्यै अध्ययन/अनुसन्धान कार्य गर्नुका साथी अनुमति प्रदान गरेको ब्यहोरा जानकारीको साथी अनुरोध छ ।</p>		
तपसिल:		 प्रम बशुदुर लामा प्रम बशुदुर लामा आध्यक्ष
१. Sonam Wangchuk		
२. Sudan Bikash Maharjan		
३. Prashant Baral		
<p>०८७-६८०२८०, अडियो नोटिस बौडै : १६१८०८७६८०२८० वेबसाईट : <a href="http://www.namkhamun.gov.np">www.namkhamun.gov.np</a>, ईमेल : <a href="mailto:info@namkhamun.gov.np">info@namkhamun.gov.np</a></p>		
		

### Annex III: Photographs



*Members of the ICIMOD expedition pose for a photograph at Simikot Airport.*



*Sonam Wangchuk and Sudan Bikash Maharjan discuss the field investigations in the evening following the survey of the flood source area, while members of the logistics support team warm themselves by a fire.*



*Vehicle used for transportation from Simikot to Tunling immobilized by heavy snowfall near Nyalu Lagna Pass*



*Camp site at around 4800 meters asl near the source area of the Til Village flood.*



*Main flood channel near Til Village associated with the thermokarst lake outburst flood.*



*Til Village in the background and agricultural fields in the foreground; the field camp site at Til Village is also visible.*