

An aerial photograph of a winter mountain landscape. A dark, paved road runs diagonally from the top center towards the bottom right. To the left of the road, there are several small houses with dark roofs and some evergreen trees. The ground is covered in a thick layer of snow, with some bare trees and shrubs visible. The overall scene is a typical alpine winter setting.

Wyssen Reference Project Experiences from a long and complex avalanche cycle

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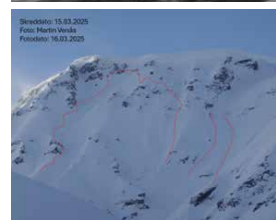
Experiences from a long and complex avalanche cycle

Project:	Site specific avalanche warning in Tromsø municipality
Place:	Tromsø
Country:	Norway
Year:	2025
Customer:	Tromsø municipality
Protected Object:	Settlement area
Installed systems:	WAC.3®
Services:	Avalanche warning

Long and complex avalanche cycle

The avalanche cycle from March 15 to 21, 2025, was the longest and most complex avalanche cycle Wyssen Norway has experienced in our mission to provide site specific avalanche warnings for buildings in the municipality of Tromsø. In addition to a fatal outdoor accident at Pollfjellet in Lyngen, extensive power outages and closed roads in the region, the residents of Tromsø had to evacuate due to high avalanche risk.

In the warning areas around Ullsfjorden in Tromsø municipality, eight large avalanches were documented during the cycle. At Breivikeidet, four of the avalanches hit the road, which has been mapped as being within the danger zone with an annual nominal probability of 1/100 and 1/1000. The largest avalanche stopped 40 meters from an evacuated residential building. Local residents around Ullsfjorden have since described the event as the most significant in decades. In Lyngen, Kåfjord, and Nordreisa municipalities, buildings were also evacuated and large and rare avalanches occurred.



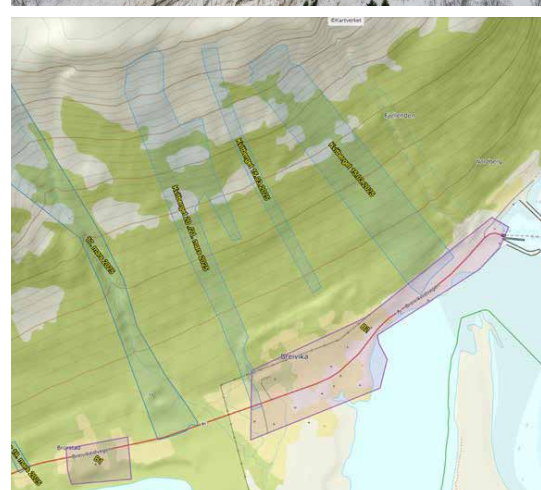
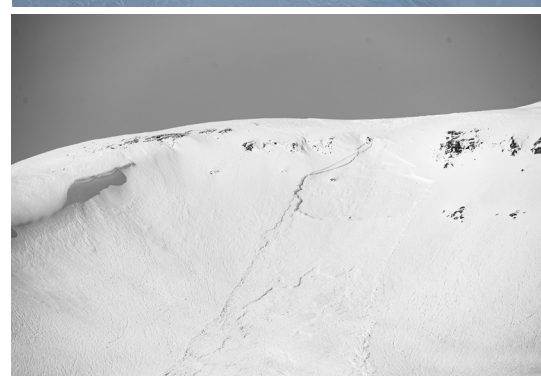
Many avalanche cycles are characterized by a rapid and marked increase in avalanche danger due to a single weather event. In this case, the opposite was true, the weather situation was not critical on a day-to-day basis, but steady snow accumulated over several days and in combination with a weak snow pack, eventually reached a critical state. A gradual decrease in precipitation and improvement in the weather did not bring an obvious end to the avalanche cycle. This time, nature gave us clear answers, with large avalanches in the warning areas at the start, during, and at the tail of the avalanche cycle.

Handling

On behalf of Tromsø Municipality, Wyssen Norway closely monitored the situation, providing assessments in the form of site specific avalanche warnings and evacuation recommendations, conducting field observations, and holding meetings with risk owners (Tromsø Municipality) and decision-makers (the police) throughout the avalanche cycle.

Although the avalanche cycle in March 2025 was not characterized by extreme weather and may not have been perceived as acute as the avalanche cycle in March 2023, it was an unusual and demanding situation. The gradual build-up of the situation made it challenging to determine when measures should be implemented. And at the other end of the cycle, the gradual de-escalation also made it difficult to lift the evacuation order after a clear avalanche danger peak.

The evaluation shows that the situation was managed effectively under challenging conditions. After a significant avalanche cycle with multiple avalanches in the warning areas, both Wyssen Norway and the municipality of Tromsø have identified important lessons and improvements for the future. Central to these lessons learned are cooperation and network building to strengthen the flow of information between avalanche warning services, agencies, and local resources so that all stakeholders understand the risk and have the ability to respond appropriately to their respective interests and areas of responsibility.





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