

# Planning of snow and fire safety

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lapha.fi

Lapin hyvinvointialue  
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# Goals of the workshop

Participant:

- **Understands** the role of fire safety in outdoor tourism
- Can **plan and act** to minimize fire hazard
- Can **describe** snow avalanche hazard
- **Knows** where additional information and training for avalanche safety can be found



# Wildfire warning

Voimassa olevat varoitukset, 5 vrk

pe	la	su	ma	ti
31.5.	1.6.	2.6.	3.6.	4.6.

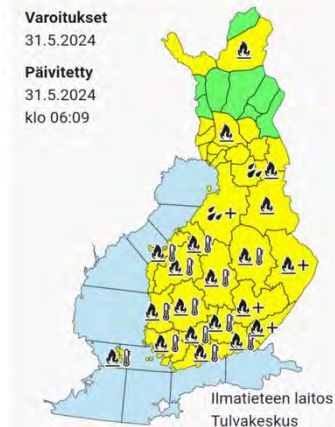
Varoitukset

31.5.2024

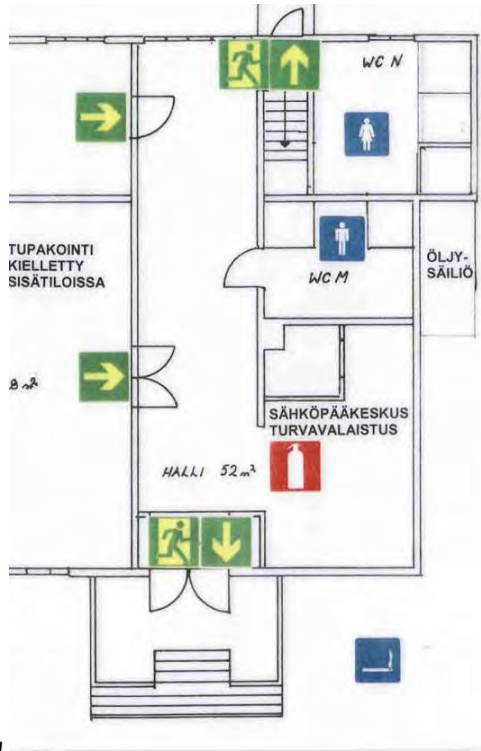
Päivitetty

31.5.2024

klo 06:09



# Fire safety in outdoor activities



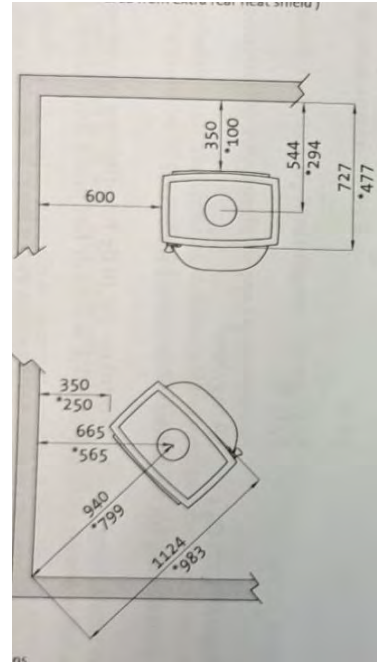
OR ?



Plan evacuation routes ahead!



# Heat / Fire



# Carbon monoxide



©hs.fi



CO poisoning symptoms:

- Headache
- Dizziness
- Nausea & vomiting
- Loss of consciousness -> death





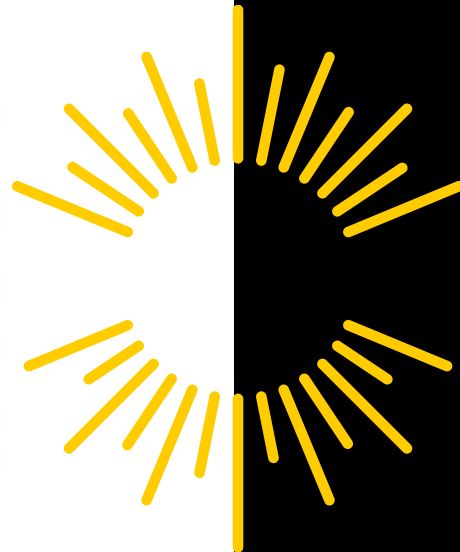
# Fuels



©Metsähallitus



# Extinguishing





# Avalanche safety - Background

- In Finland four people have died in avalanches in the past 50 years
  - As a culture, we are not used to avalanches being risks
- Incidents and accidents are increasing
  - Popularity of outdoor sports is growing
  - Climate change can increase avalanche hazard in the Arctic

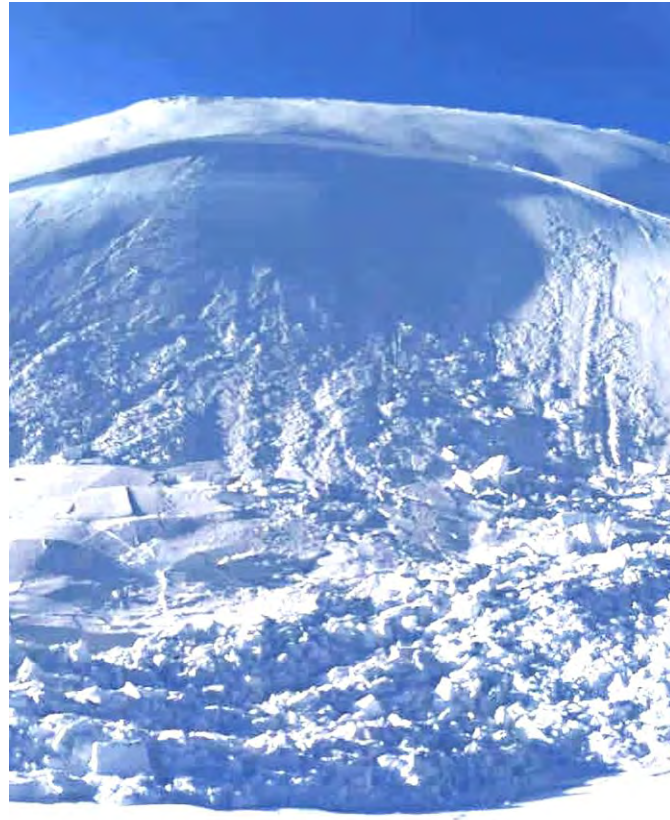


# Snow avalanches



# Avalanches

- Mass of snow slides down steep slope
- Can be naturally triggered
- Often triggered by humans
- Slope needs to be steep enough ( $>25$  degrees)



Luosto 10.2.2023, © Luosto Ski resort



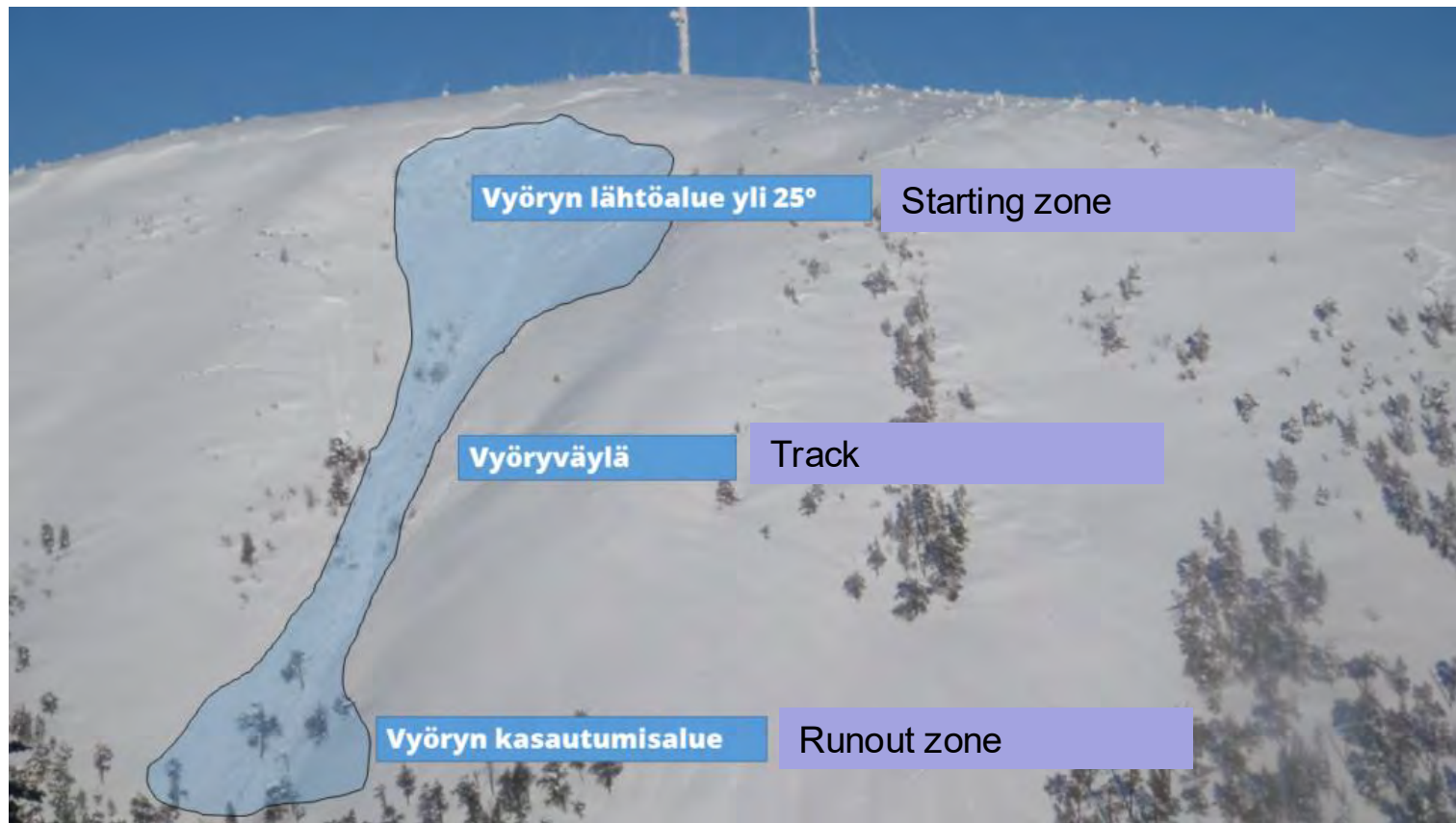
# Slab avalanche

- Starting zone >25 degrees
- Snow breaks into large chunks
- Large mass
- n. 95% of avalanche accidents

Phases of dry avalanche:

- Avalanche triggered
- 2 s, 15 km/h
- 5 s, 40 km/h
- 10 s, 70-130 km/h
- Avalanche slows down, stops and hardens





© FINLAV





# Terrain traps



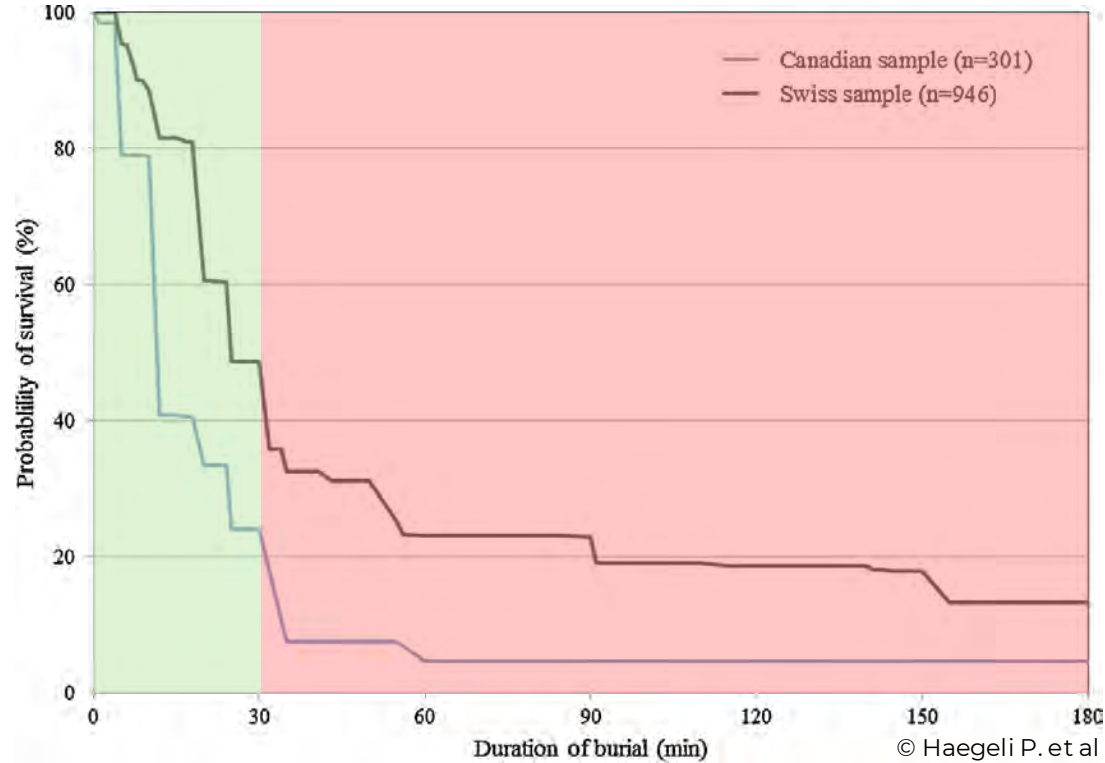


# Avalanche accident

- Majority caused by victim him/herself
  - Freeskier
  - Nordic skier, snowshoer
  - Snowmobiler
  - Pistenbully
- Many freeskiers have training and gear for companion rescue
  - Other recreationalist types often don't
- In Finland most potential avalanche incident locations are hard to reach for the rescue service, and rescue takes time.
  - **Planning**
  - **Training**
  - **Companion rescue**



# Statistics of **fully** buried avalanche victims



Companion rescue

Organized rescue

# Tools for planning and additional training



# Responsibilities of service providers

## Duty of care

According to the duty of care, **the service provider is responsible for the safety of the service.** The service provider must ensure that **the service will not pose a danger to anyone's health or property.** The service provider must know their services, and they must have sufficient training, experience and competence to **provide the service safely.** The personnel must be able to act correctly in all service situations, and especially in case of emergency.



<https://tukes.fi/tuotteet-ja-palvelut/kuluttajille-tarjottavat-palvelut/palveluntarjoajan-velvollisuudet>

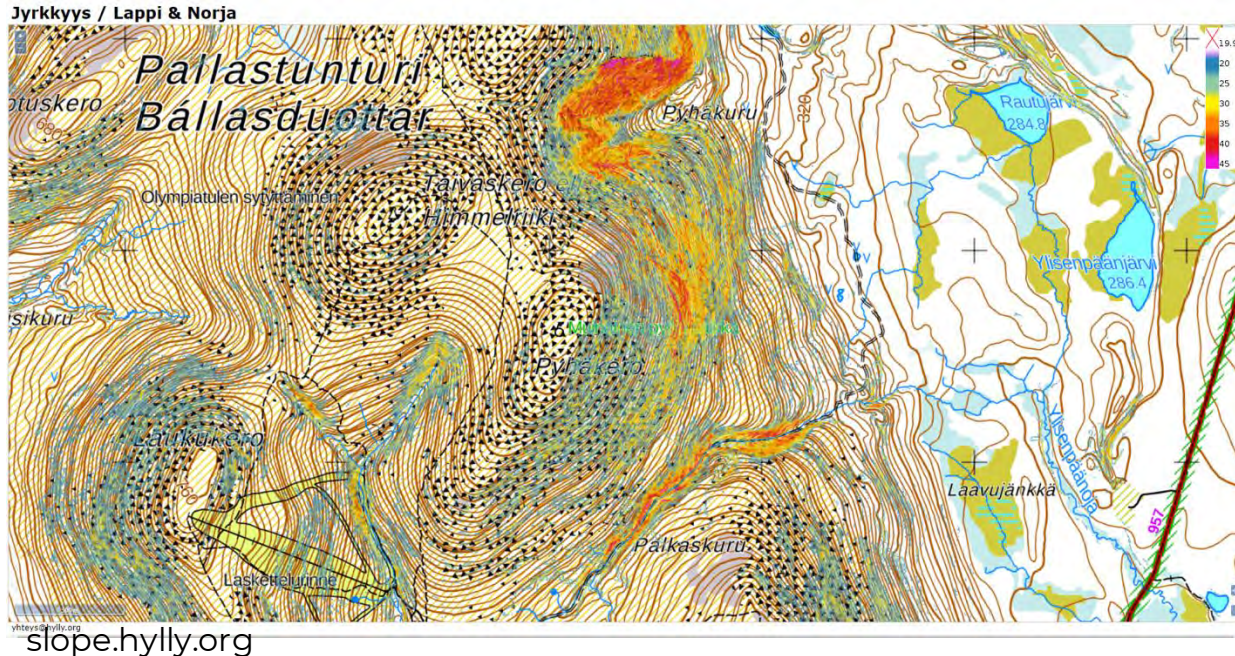
## Huolellisuusvelvollisuus

Huolellisuusvelvollisuuden mukaan **palveluntarjoaja vastaa palvelun turvallisuudesta.** Palveluntarjoajan pitää varmistaa, että **palvelu ei aiheuta vaaraa kenenkään terveydelle tai omaisuudelle.**

Palveluntarjoajan on tunnettava palvelunsa, ja hänellä pitää olla riittävä koulutus, kokemus ja osaaminen palvelun järjestämiseksi turvallisesti. Henkilöstön pitää osata toimia oikein kaikissa palvelutilanteissa ja erityisesti hätätilanteissa.

# Do you operate **near** or **in** avalanche terrain?

- Slope > **25 degrees**, at least **10 x 10m area** -> **but also downslope area below**
- Slope steepness evaluation in the field requires training
- Tools: <https://slope.hylli.org> or <https://ulko.fi/browser> (check label for meaning of colors!)



Yes or not sure?





# FINLAV Curriculum Tracks

## AVALANCHE SAFETY COURSES RECREATIONAL TRACK

FINLAV  
AVALANCHE SAFETY 1 (16 h)



FINLAV  
AVALANCHE SAFETY 2 (32 h)

## AVALANCHE SAFETY COURSES PROFESSIONAL TRACK

FINLAV PRO 1 (24 h)



FINLAV RESCUE COURSE (8 h)



FINLAV/SVELAV PRO 2 (60 h)



FINLAV  
INSTRUCTOR TRAINING

WORK  
EXPERIENCE



SVELAV WORKSHOP  
WEATHER & ADVANCED  
SEARCH AND RESCUE

WORK  
EXPERIENCE



CAA LEVEL 2

FINLAV INSTRUCTOR  
WORKSHOPS  
Avalanche safety 2/PRO1/Rescue



FINLAV



Finnish Avalanche Education: <https://www.ski.fi/lumivyory/>

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Mereltä tuntureille –  
kaupungeista erämaihin!

Kiitos!



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Kuva: Lapin materiaalipankki