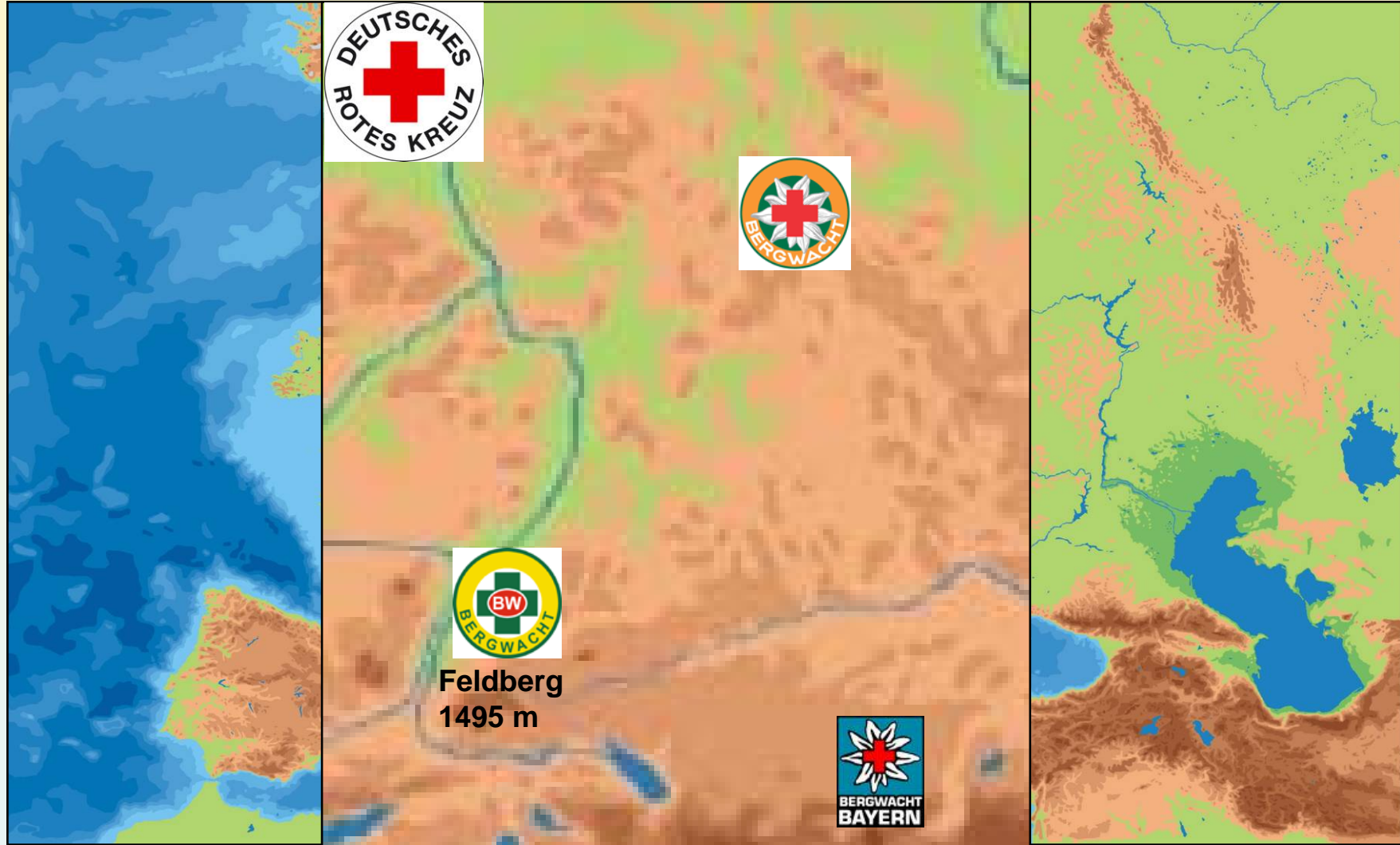




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# Education, equipment and operations on avalanche rescue in the highlands (Black Forest)





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## Area - Weather

**Summit crest areas (1100-1500m)**

**Lee side, steep slopes (N-NE, 35°- 45°)**

**Main wind direction SW-W**

**High wind speed**

**Average snowpack depth: 1,0-2,5 m**





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## Tourism

**The risky steep terrain is attractive to ski mountaineers**

**These areas are frequently visited by skiers, boarder, snowshoeers**

**Low avalanche knowhow**

**The risk of these areas is often underestimated**

**Low prevention, Low renunciation**

**Rare use of beacon, shovel, probe**

**Bad connections for cell phones**





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# Tourism

**Several avalanche accidents per year**

**Most incidents are less injured or partly buried**

**No avalanche bulletin**

**High interest of media on avalanche accidents**





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# Bergwacht Schwarzwald e.V.

## Black Forest Mountain Rescue Service:

**1200 members, volunteers**

**3 employees (office, organization)**

**ca. 10 employees only in winter  
(Skiwacht)**

**Ca. 1000 operations per year,  
ca. 120 of them by helicopter**

**5 emergency helicopters available, 2  
with hoist**

**0-2 avalanche operations per year**





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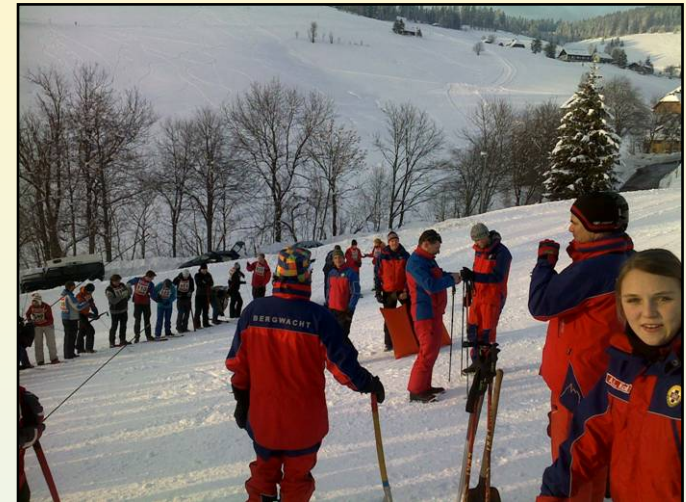
# Training

**Mountain rescue basic training**  
for each member of the mountain rescue service

**Further training:**  
For members who work in areas with the possibility of avalanche accidents

**Special training:**  
for operation leaders and Skiwacht

**Training for externals**  
For emergency doctors, helicopter teams and ski mountaineers





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# Training

## Mountain rescue basic education:

duration 2-3 years

Approx. 80 h lessons of emergency medicine  
including 2 h for special features on  
avalanche accidents

Approx. 75 h lessons of mountain rescue  
including 4 h for education in avalanche  
theory (only basics)

Final test

Practical probing exercise





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# Training

## Further training:

For members who work in areas with  
the possibility of avalanche accidents

search with avalanche beacon

probing

systematic shoveling

RECCO (from 2010/11)

Dog handling (until 2009)







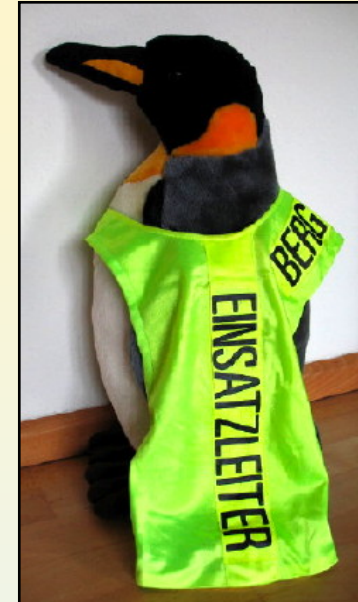
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# Training

**Special training:  
for operation leaders and Skiwacht**

**education of Skiwacht by  
Bergwacht Bayern**

**education of operation leaders**





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# Training

## Training for externals:

for emergency doctors and  
helicopter teams

Prevention:

Black Forest mountain rescue  
service in teamwork with Tourism  
organizations offers avalanche  
education for ski mountaineers





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# Equipment

**For the first rescue team:**  
**(2- 4 persons):**

**Beacon, shovel, probe**  
**ABS- airbag system**  
**RECCO (from 2010/11)**  
**Mountain rescue rucksack**  
**(incl. O<sub>2</sub> for 20 min)**  
**Radio**

**Additional equipment:**

**Mountain rescue rucksack for doctors**  
**Hibler heatpack**  
**Akja sled**





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# Equipment

## Probing equipment:

**Moduls (Rocksnake) with**  
**20 probes**  
**2 shovels**  
**little flags**  
**cord for probing**  
**(signed 60x60 cm)**





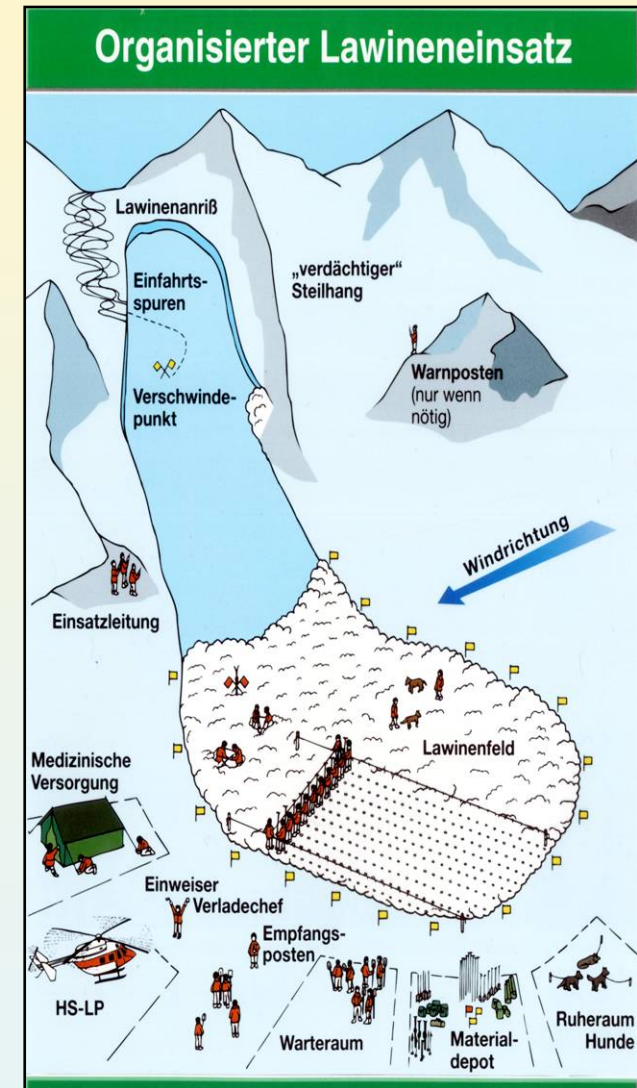
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# Avalanche rescue operation

Quick, but without hectic

Targets: rescue of companions 20 min  
mountain rescue team 90 min

Avalanche rescue operation follows a check list:





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# Avalanche rescue operation

## Incident call

### Alarm

First rescue team  
Emergency doctor  
More mountain rescuers

### Equipment

Beacon, shovel, probe  
ABS, RECCO  
Probing modul  
Mountain rescue rucksack  
Radio

### Logistics

Transports  
Police  
Media  
Light, food





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# Avalanche rescue operation

## At the avalanche area

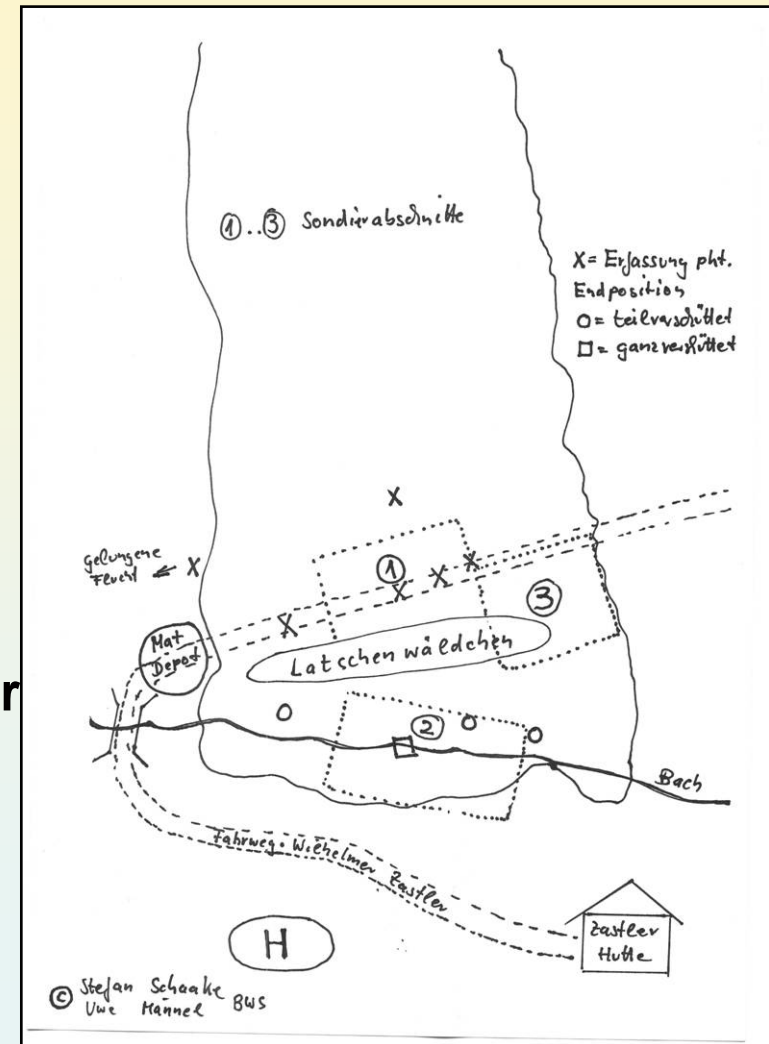
- Qualified report from the avalanche site
- Protection for additional rescuers
- Mark and clear the avalanche surface
- Search with eyes, ears, beacon, recco
- Mark a helicopter place
- Mark a storage of material
- Draw a picture from the site

## Probing

- Teams with 20 rescuers and probemaster

## Evacuation

- quick location – gentle extrication
- watch for an air pocket
- treatment to hypothermia





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Thank you for your attention

... any questions ?

