the

compass

divisions,

starting

arrangement

anticlockwise

from the

direction indicator for

south ($S = 0^{\circ}$)

ANCHE EXPOSITION COMPASS

30°,

35°,

40°,

45°)

inclination

scale

sighting

direction

Objectives:

- Improving average by means of a avalanche ris awarenes education
- a cheap and easy to handle toolkit.
- numbers (statistics),

Visualizing..

pictograms / icons, oral / written from regional / local avalanche risk reports information <u>Q</u>

experts.

scale

of

the

map

25

000)

VINENK

line

spacings

for

25°

inclination

key

with

length

scale,

contour

25

even

at

-30°C/

-22°F!)

with

liquid (bubble

free

compass

capsule,

- Measuring ...
 ... current wind directions or
- past wind directions from like dunes or zastrugis. or zastrugis "fossil" indicators

Major target groups:

Backcountry recreationists School teachers, university

- Professional mountain guides and ski instructors
- Military, forestry, hunters, mountain rescue teams Geoscientists

What is new and different?

5

an imaginary contour line the field). In other words (c

In other words (or

(Or

the

contour line

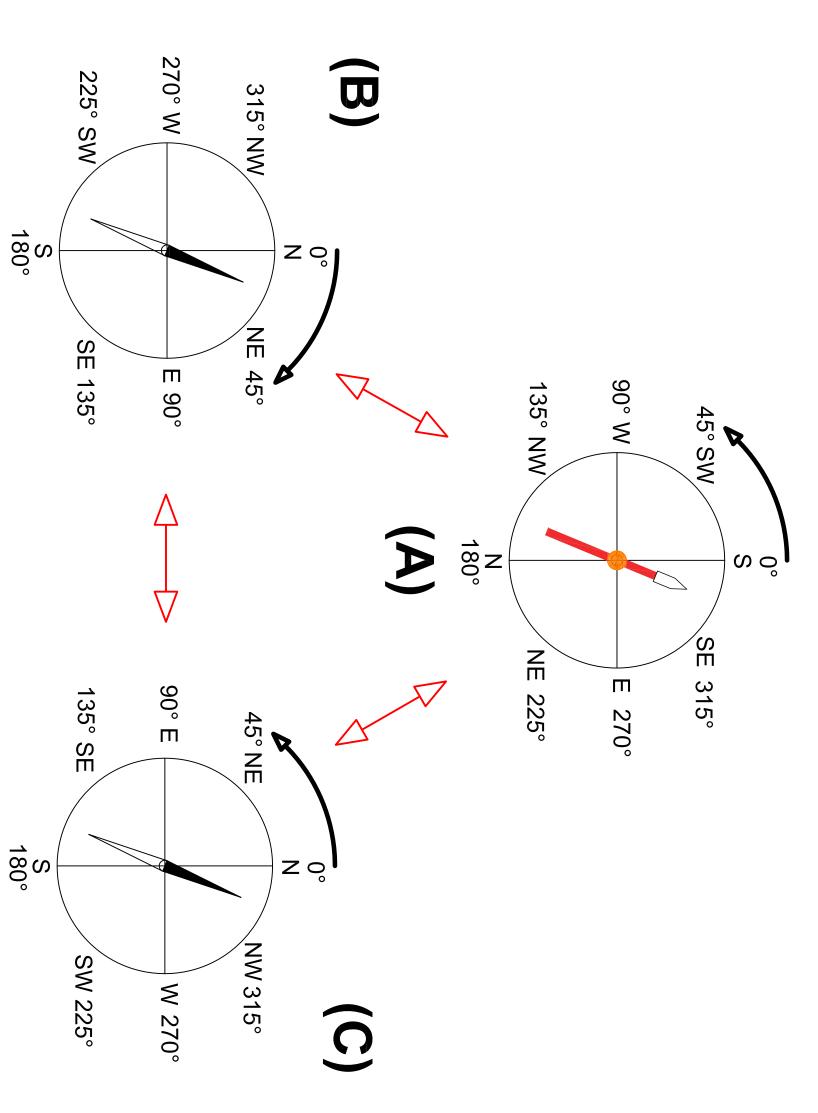
of the map

Using AREC is quite simple: The sighting direction south

simple:

must point perpendicular to

and the Compare e AREC (A) to the norm geological compass (C) the normal sighting



<u>CO</u> for the strike direction is mpass geologists): Once the E

direction of the

slope

<u>≤</u>

1:5000, take an AVALA For education, a map sca 1:10 000 is appropriate (AVALANCHE 10).

scale

아 HE

LANC If you use with cor'

contour lines

r photograph es in the scale an AVALANCH

ANCHE

25° 40°

₹≥3

ANCHE

nap i

map.

둑

the

заlе с 000,

of your), take a

to

match the

scale

of the

inclination

scale

adjusted

AVALANCHE

2

compass

an

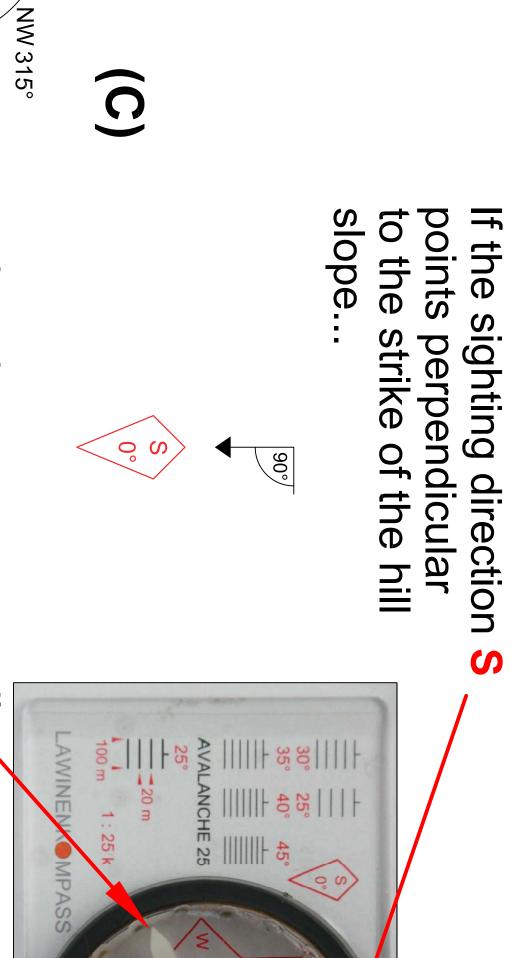
choose

will measure

the

of the hill slope, the

aligned parallel to



The next step is to orient the map or air photograph towards

North. For this you align the meridians with the pointer.

This means that "up" in the

tells directly trie capetion (= dip direction) of the hill slope (here: WNW, betwee W and NW). then the compass exposition needle

on the

map (or the

air photograph)

in the

same

direction as

5

map

or air photograph is

pointing North.

Now everything

reality.

AREC

on the

Consequently,

quently, you use map or the air

photograph in the same as you use it in the field.

you use

together with a n the **first step** is t 一 you use the a map, compass

Most (50 **W – NE**. % to 60 %) fatalities occur in the sector

Com

bining

AREC

with

statistical information

pictogram from the avalanche risk report

pictogram

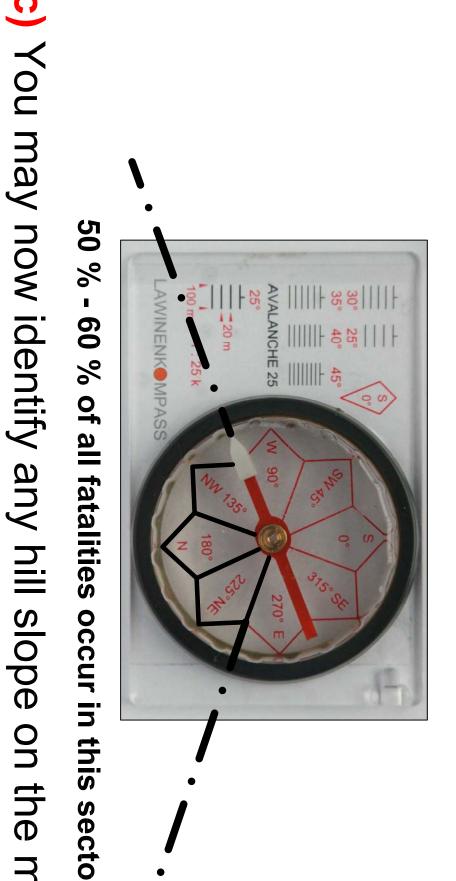
compass

need/e

(pointer)

transparent baseplate

b) If your the respective direction indicators your you generally want to avoid this sector because personal risk management strategy, just colour NE compass, as it is shown below sector because of



c) You may now identify any hill slope on the map, the air photograph or in the field belonging to that group by pointing with the sighting direction south (S) perpenticular to the strike of the respective hill slope.

e) AREC now tells you which according to the experts is regarded to

tells you wether you point at an ng to the consensus view of the arded to be dangerous.

exposition, local

f) From the that the hill :

being dangerous.

slope

zastrugis

d) Once again, you may the map, the air photograthis group by pointing within the different properties of the control of the c

n, you may now identify any hill slope on air photograph or in the field belonging to pointing with the sighting direction south llar to the strike of the respective hill slop

spective

(S) perpenticu

f) Depending on your personal risk management, you may now decide wether you follow the consensus view of the experts and avoid these expositions during your

winter recreat

ion activity,

or not.

d) AREC tells you, w which belongs to a g which belongs testatistically 50 statistically group) 60 % wether you point at an exposition group of expositions, where of expositions, of all fatalities occur.

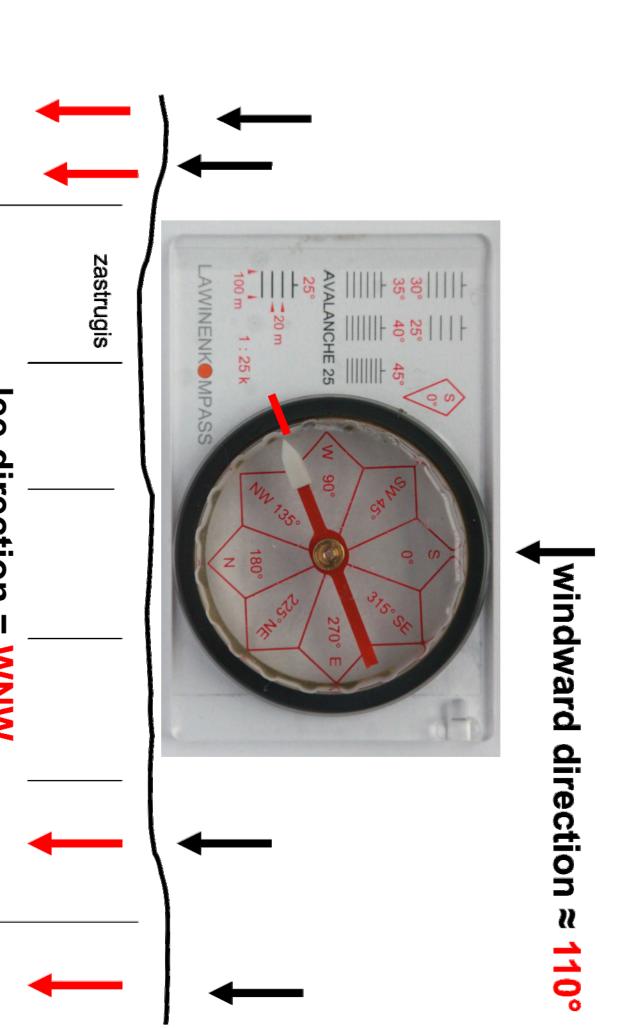
You may now decide wether you want avoid this part the hill, or not.

2) AREC + information from avalanche risk reports

- Translate detailed information avalanche ailed information (e. g. text, num risk report into "tactical icons" numbers)
- avalanche risk report tells the popinion the sec a pictogram or icon risk report, publicly available via internet. This the public, that according to the local experts sector fields between NW and E are s dangerous sectors. The text is translated dangerous taken from Bavarian
- experts because of your personal risk management strategy, modify AREC by means of this pictogram and colour the respective direction indicators. and E of your compass, as it is shown below: indicators NW, N, NE

3) Visualizing "fossil" windward and lee directions

- directions, e.g. zastrugis mentioned in the avalance phenomenon is locally too Sometimes the zastrugis or dunes, which are not e avalanche risk report, because the locally too restricted.
- b) These "fossil" signs are very avalanche safety. They tell not directions of the past, but also to directions, where redistributed snow accumulations be expected. Hence, you may get an idea, in which expositions instable snowpacks may occur. of the the y important with ronly the windwa possible mindward lee
- c) In the following windward directi ion of example, the zastrugis show a on of 110°.



expositi lee direction with redistributed WNW snowpack

d) As can be seen from AREC, the corresposition for a (potential) snowpack the corresponding nowpack is ≈ WNW.

compass divisions an windward direction the corresponding I means, that local smatransmitted by mean translated into potent of the ction is automatically connected to ding lee direction and vice versa. This all small scale meteorological data, if means of a mobile phone, can directly be potentially dangerous expositions. and its special arrangement of AREC's and its direction indicators, the indicators

Location A:

because of your personal risk management strategy, just colour the respective direction or even the twadjacent sectors, W and NW, of your compass. igis example above one may exposition of **WNW can be r** you want to avoid this regarded the two sector respect to should be dangerous place, experts, this is a According to the Exposition N, avalanche avoided wi slope local which

t

not the

case.

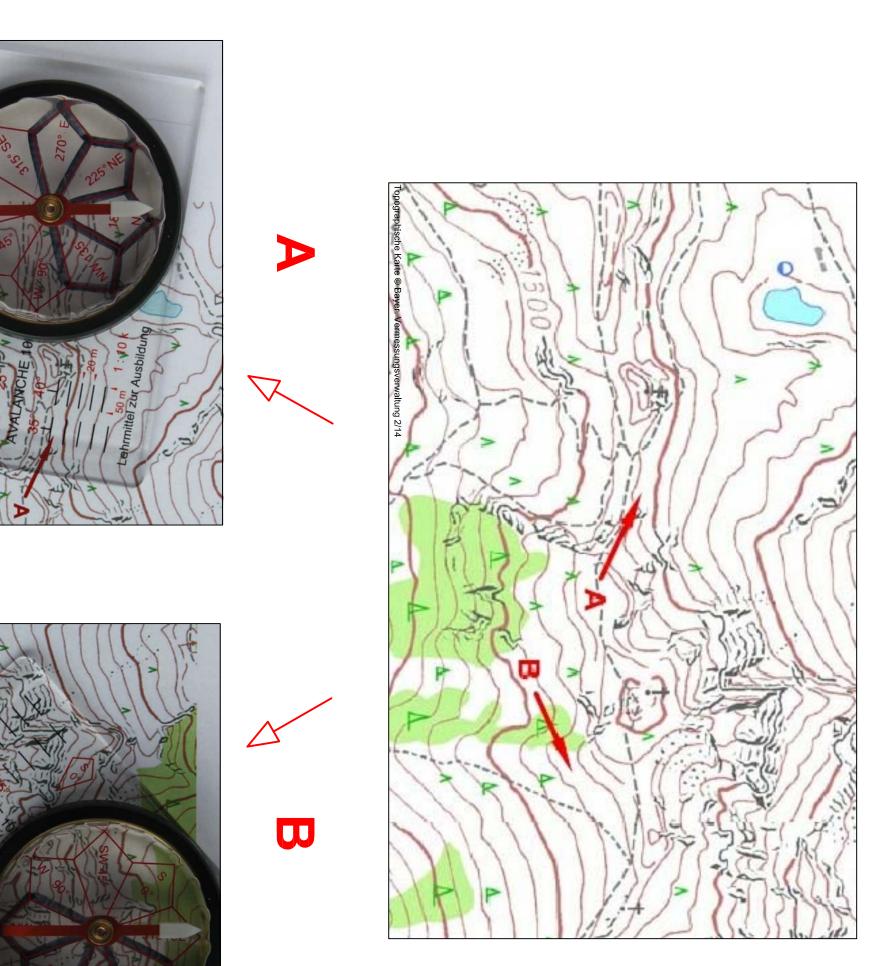
teaching in the control of the problem to an exercise as classroom o SOIV sroom e is qu om or to you may use it for or for winter field training. simple, but real life:

dangerous exposition are between NW and avalanche risk report, above 30° should be The story: "After a period of snowstorms, the tions at Mount Mousehole E. According to the local hill slopes with an inclination avoided in these sectors". The pictogram:

Are location A, or location B, or even both locations dangerous places under these circumstances, according to the consensus view of the local experts?

question:

The two locations and W at Mount Mousehole:



35° **Location B:**

safety! place, although the hill slope is > 30°. Howeve must be fulfilled, which is report, both conditions slope is > according to the Exposition SE, This is not a dangerous . However slope 35° risk