



THE BASICS
to Freeride safely

SAFETY BASICS

FOR  **FREERIDING**

WARNING

Skiing off piste involves considerable risk and requires years of practice and experience.

This booklet should be used at your own risk. *La Chamoniarde* accepts no responsibility for any accident or injury incurred while using the information it contains.



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La Chamoniarde

BASICS



Your avalanche transceiver (beacon), shovel and probe do not protect you from avalanches. First, consider whether it's safe to go (ref. Basics) and if you decide to go, make sure you are equipped adequately. You can never be too careful.

BASICS

SNOWPACK



Made up of different layers that change over time.

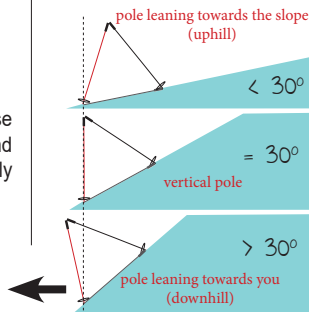


On slopes above 30° , avalanches might release naturally with additional loading (rain, snow, wind accumulation, cornice breaking) or be accidentally triggered by one or more skiers.

TIP: the pole test

(to see if the slope is steeper than 30°)

Make a vertical line in the snow with your pole. Place a pole at either end of the line. Join the 2 handles together.

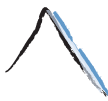


TIP: download an inclinometer app onto your smartphone so you can determine the steepness of the slope.

3 types of avalanche



New snow
(powder/during snowfall)



Slab
(most common and most dangerous)



Wet snow
(warmer temps or rain)

- Sudden changes of temperature and wind can have an immediate effect on the stability of the snowpack.

- The stability of the snowpack and the avalanche risk is greatly dependent on the weather of the past week/days/hours.

HOT TIP

WIND – RAIN / SNOW?

RECENT AVALANCHE ACTIVITY?

TEMPERATURE INCREASE?

BASICS



Avalanche risk info board

- 5** **Extreme.** Better go watch TV !
- 4** **High.** Very dangerous avalanche conditions. Travel in avalanche terrain not recommended.
- 3** **Considerable.** Careful consideration needed in choice of areas to ride, several slopes will be hazardous
- 2** **Moderate.** Snowpack is reasonably stable but some risky areas should be avoided
- 1** **Low.** Generally OK. Off piste (out of bounds) hazards still exist, eg. rocks, tree roots

- The info board gives **an overview** of avalanche risk, but doesn't provide enough information to decide where to ride off piste.
- **Knowing the danger level is not enough.** You have to read the avalanche report to learn more about the quality of the snow and understand what slopes are more or less exposed to avalanches.

AVALANCHE REPORT

(see an example on the next page)

Estimated risk:

- 1, 2, 3, 4, 5
- at what altitude
- on which slopes

Essential tool!

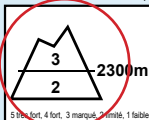
It gives an analysis of snowpack stability

(things you can't see when you're standing on it)



ESTIMATION DU RISQUE JUSQU'AU JEUDI 23 JANVIER 2020 AU SOIR

Au-dessus de 2300 m : Risque marqué. En-dessous : Risque limité.



Départs spontanés : Coulées de neige humide au soleil.

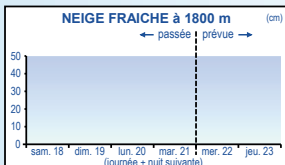
Déclenchements skieurs : Plaques dures au dessus de 2300m.

STABILITE DU MANTEAU NEIGEUX

MANTEAU GLOBALEMENT STABILISE

Départs spontanés : l'après-midi, quelques coulées et avalanches de petite taille en neige récente humide sont encore possibles dans les pentes raides ou barres rocheuses ensoleillées. Éventuellement, une rupture de plaque de fond, rarement de grande taille.

Déclenchements accidentels : Au dessus de 2300m, quelques plaques (de type dures essentiellement) sont déclenchantes au passage d'un unique skieur, suite au transport de vent, l'épaisseur de ces plaques est assez variable, il faut donc particulièrement se méfier des accumulations les plus importantes. Ce risque est surtout présent à l'approche des cols et des crêtes dans un très large secteur Nord. En dessous de 2300m sur les versants ensoleillés, ce risque est peu probable. En versants ensoleillés, possibilité de déclencher une coulée de neige récente humide sous les skis.



**APERCU
METEO**

nuit



jeudi 23 janv.

matin



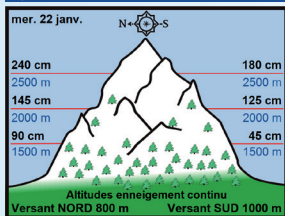
après-midi



pluie-neige

iso 0°C	2900 m	2500 m	2900 m
vent 2000 m	nul	↑ 20 km/h	↓ 30 km/h
vent 3000 m	nul	↓ 40 km/h	↑ 50 km/h

EPAISSEUR DE NEIGE HORS-PISTE



QUALITE DE LA NEIGE

Enneigement faible à moins de 1300/1500 m, mais correct au-dessus.

Jeudi, 20/25 cm de neige récente, souvent travaillée par le vent, notamment près des cols et des crêtes. Elle reste néanmoins poudreuse dans les combes et versants abrités et ombragés. En versants ensoleillés, neige croûtée en surface le matin, et plus ou moins portante, puis s'humidifiant au fil des heures.

TENDANCE ULTERIEURE DU RISQUE

vendredi 24



samedi 25



BULLETIN NEIGE ET AVALANCHES

08 92 68 10 20 Service 0,35€/min - prix appel

Elaboré le
22-01-2020 à 16h leg.

Bulletin rédigé par Météo-France avec la contribution des observateurs du réseau nivo-météorologique. Partenariat : ANMS (Maires de Stations de Montagne), DSF (Domaines Skiables de France), ADSP (Directeurs de Pistes et de la Sécurité des Stations de Sports d'Hiver) et autres acteurs de la montagne.

CENTRE METEOROLOGIQUE DES ALPES DU NORD

Corriel : alpes-du-nord@meteo.fr / Tel : / Fax :

Fake news:

BASICS



photo: Gianvi Galtarossa

- ☹️ ~~there are tracks here so it must be fine~~
- ☹️ ~~the snow is firm so it won't slide, it's cold so the snow will stick together~~
- ☹️ ~~it's great snow and it's a lovely day~~
- ☹️ ~~it's just next to the piste~~
- ☹️ ~~I've always skied here and nothing has ever happened~~
- ☹️ ~~there are loads of trees, they hold the snow~~
(not true and an avalanche could happen on slopes above the trees)
- ☹️ ~~risk level 1 or 2 = no worries!~~

definitely
not!



A small slide could take you over a cliff or push you against a tree. Or if you're on a south-facing slope at 2pm in the spring, the actual risk isn't the same as the forecast risk.

Skiing off piste in a group:

BASICS



- **NEVER SKI DOWN ALL AT THE SAME TIME:**

Watch each other and ski one at a time. Leave enough distance between each skier.

- **STOP IN SAFE PLACES:**

... beneath a large boulder, in a group of trees, on a ridge...

Gear: BASICS

Take the appropriate gear for skiing off-piste!

OFF PISTE

UN GROOMED (powder snow, unskiable snow)

UNMARKED (no maps, no warning signs, no numbers, no colours = no way of explaining where you are)

UN SECURED (dangers of avalanche, cliffs, rocks, roots, ice, crevasses...)

UN PATROLLED (if there is a problem, no one will see you)

KIT FOR COMFORT



KIT FOR RESCUE



A Recco reflector is
«AN ADDED EXTRA»
detectable
by rescue services only.
Does NOT replace
a beacon.

KIT for PROTECTION



An avalanche airbag

THIS IS NOT AN
ANTI AVALANCHE BAG!



KIT for ROUTE FINDING

Map, compass, altimeter, map apps... anything
that can help you find your way!



Make sure you keep your beacon at least 20 cm from
ALL other electronic device (telephone, GoPro, connected
watch...).

Beacon: searching for a single victim

BASICS

ONLY the person searching for the victim should have their beacon switched on. The person calling rescue services should stand away from the search area. Only after the victim has been located with a probe, can everyone turn beacons back on. **If you are on your own, start by calling the rescue services!**

Person searching, turn off your phone and keep it at least 50 cm away from your beacon.



Start your search at the point the victim disappeared

NO SIGNAL

INITIAL SIGNAL SEARCH

- Ski quickly in zigzags across the avalanche area

BEEP: SIGNAL

SECONDARY SEARCH

- Distance to victim diminishes
- Follow the direction of the arrow

FINAL SEARCH

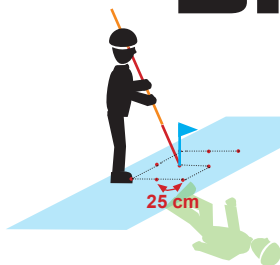
- 10, take off your skis and slow down (1 step/sec)
- Hold your beacon flat, in 2 hands
- 3, your beacon should be held at knee height



then

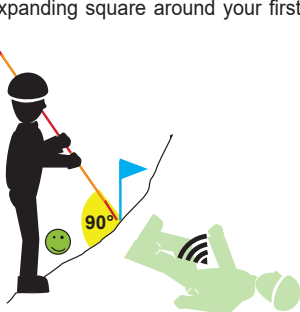


BASICS



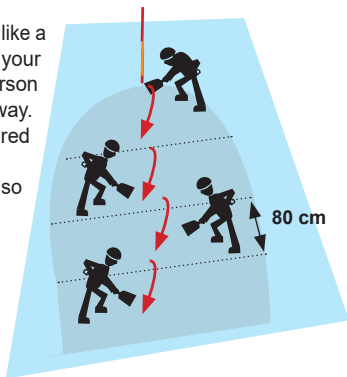
Probe at the exact location marked by your beacon. If you don't hit anything immediately, probe in an expanding square around your first point.

Probe **perpendicular** to the snow surface. As soon as you hit something, leave your probe in position.



For more efficient shoveling, hold your shovel like a paddle. Start **below** your marked point and your probe. If there is a team of diggers, one person digs and the others shovel the snow away. Make sure you take turns to avoid getting tired (2-4 min turns).

Dig in a U shape downhill from the victim so you can get them out quickly and administer first aid (watch out for snow blocking the victim's mouth).



The chance of survival is greatly reduced with each passing minute.

Digging out a victim who is 1 metre deep means digging around 2.5 tonnes of snow!

THE MORE YOU PRACTISE, THE FASTER YOU'LL BE ABLE TO RESCUE!

Training: **BASICS**

Use the beacon parks!

Savoy - Balme - Lognan - Flégère - Les Houches

photo : Eric Courcier

PRACTICE AND YOU COULD SAVE A LIFE!

- 2 groups
- Kit: beacon, shovels, probes
- Group A buries a bag with a beacon in it, around 80cm under the snow. The timekeeper starts the timer, and Group B organises the rescue. 1 person searches for the signal.
- If Group B takes longer than 15 minutes for the search, probe and dig/rescue, the victim's chances of survival are small. Efficient probing and digging can save a lot of time.
- Groups A & B swap roles.



The free **Montagne Secu** app notes the 5 stages of a search and is a great training tool.

To go or not to go:

BASICS

Who decides to go freeriding when it's high avalanche risk, or blowing a blizzard, zero visibility, or somewhere super steep, rocky or icy?

NO ONE!

Things to check the day before you go:

- ☒ Weather
- ☒ Avalanche report
- ☒ Skill level
- ☒ Planned route
- ☒ Snow conditions



MAISON DE LA MONTAGNE
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WEATHER

First, check the forecast and avalanche report, then consider:

- **visibility** • if it's cloudy or foggy, you won't be able to see cliffs, rocks, the slope or your crew
- **wind** • if it's windy, it feels colder (-10°C will feel like -20°C with 40 km/h winds)
- **temperatures** • beware of frostnip if it's really cold
- **rain/snow** • low visibility



AVALANCHE REPORT

If you missed the first pages of this masterpiece, please turn back and make sure you understand the AVALANCHE REPORT.



SKILL LEVEL

Skiing a 45° slope or a narrow couloir might not be everyone's idea of fun. Make sure everyone is comfortable with the chosen itinerary.



PLANNED ROUTE

- are there safe points on the route?
- is it exposed? (crevasses, seracs, cliffs ...)
- does it get skied a lot?
- are the slopes > 30°?
- are there a lot of steep sections?

YOU NEED TO KNOW YOUR ROUTE!

In case,

- the weather changes (fog)
- you have to call for rescue
- anything else happens...



CONDITIONS

Off piste conditions are always changing: a slope can be good one day and un-skiable the next (after strong winds overnight for example). Make sure you check!

If everything on your checklist is ticked off, let your family and friends know where you are going and when you expect to be back.

Crew:

BASICS

YOUR PARTY CREW / THE BIGGEST JOKERS /
THE ONES WITH THE NEWEST KIT / OR YOUR MATE WITH A GOPRO

AREN'T ALWAYS THE ONES
WHO KNOW THE MOST!



**Being the Boss of the group
isn't about impressing your mates,
or looking cool,
or being the freeskiier of all times.**

It's a big responsibility and means looking after the group
and their safety.

PAY ATTENTION TO THE SKILL LEVEL, MOTIVATION,
AND MOOD OF THE GROUP.

ALSO PAY ATTENTION TO YOUR OWN MOOD AND FITNESS.

THAT'S IT

almost...

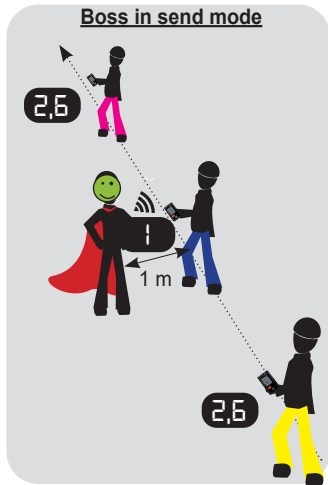
At the meeting point, check the weather and conditions:

- Is the weather the same as what was forecast?
- If you are near a piste, ask a ski patroller about the snow conditions and your choice of route.

Group beacon check

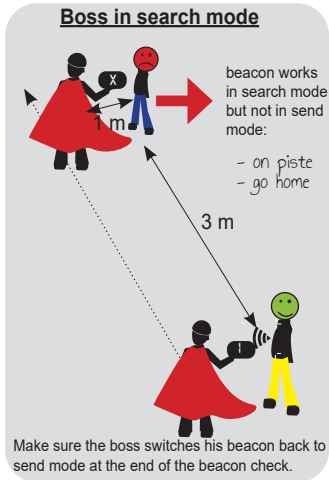
- Make sure every beacon has enough battery (according to manufacturer's instructions)
- Check everyone's beacon is functional both in send **AND** search modes.

Boss in send mode



Everyone goes past the boss one by one, checking that their distance indicator gets lower.

Boss in search mode



The boss puts his beacon on search mode and goes towards each member of the group to check their beacons are emitting a signal.

THROUGHOUT YOUR RUN, OBSERVE, LISTEN, FEEL, ASK QUESTIONS, EVALUATE, AND IF IN DOUBT, TURN BACK!

- ☐ Is there any evidence of recent avalanche activity? Any cracks under your skis as you ski over a windslab?
- ☐ Are there any 'whumpfing' sounds under your skis, or hollow sounds?
- ☐ Are there any signs of wind blown snow (drifts, cornices, or wind scoured slopes)?
- ☐ How deep do you go when you take your skis off? Boot height? Knee? Thigh?
- ☐ If you push your pole into the snow handle first, can you feel the unseen layers in the snow?

Pay attention to any of these indicators.

TOOLS

- data-avalanche.org 

You can consider 6 variables:



avalanche
risk



slope angle



recent
avalanche
activity



rise in
temperature



new snow or rain,
wind loading



hidden weak
layers in the
snowpack

- **NIVO TEST** (free app or printed version)



The **Nivo test** is a tool for freeriders and ski mountaineers who want to assess the avalanche risk more accurately.

WHAT TO DO

if there is an avalanche.

- Watch the victim for as long as possible and try to establish a last seen point.



STAY CALM AND CALL FOR HELP

If **others are nearby**, call out, whistle, wave your poles, or signal with a headlamp if it's dark.

Telephone :

France **112**

Switzerland (Valais) **144**

Italy (Aosta valley) **112**

Take a moment to check where you are, before calling the rescue services (piste map, GPS on your phone)

WHO?

Your name

Your telephone number

WHERE? *GPS coordinates*

Describe location as precisely as possible:
route followed, altitude

WHAT?

Size of avalanche

Number of victims

WEATHER?

Visibility

Wind

Possible helicopter landing area

If you have no phone reception*, send 2 people you trust to find phone reception, or find the nearest hut or ski lift, or rescue post.

** It could happen even with calling 112! 112 can switch networks but sometimes there just isn't any reception!*

**If there is no phone reception and you are by yourself,
go straight to the rescue stage.**



AVALANCHE RESCUE

- conduct a beacon search and use your probe to pinpoint the victim
- switch back to send mode after locating the victim
- dig the victim out
- perform First Aid
- protect from the cold and reassure the victim
- prepare a helicopter landing area close by the accident area
- try calling the rescue services again

Signal to helicopter:



The rescue services arrive... who are they?

- ski patrol if close to the ski area
- rescue helicopters : gendarmerie (blue), Civil service (yellow & red)
- rescue services (PGHM, CRS, GMSP, rescue organisations, rescue dog handlers)
- high mountain medical professionals if needed

TRANSCIEVER TRAINING PARKS

Open & free access



**DVA
P
A
R
K**

PREVRISK
Prévention Montagne

LA CHAMONiarde



NORT-BLANC
RESCUE DOCT

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AVALANCHE RESCUE WORKSHOPS



Info

www.chamoniarde.com

PRACTICE AND GET READY FOR WINTER!

La Chamoniarde, Société de Prévention et de Secours en Montagne