

Avalanche Analysis for France 2008-2009

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The 2008-2009 ski season in France saw 35 avalanche fatalities in 24 incidents. The number of fatal incidents is above the median established since 1989 of 19 incidents. The season had good snow conditions from late November through to May with four major periods of avalanche activity.

The majority of fatalities and accidents were to ski tourers and snowshoers. This continues a trend observed since 2006. Three major incidents involving touring parties in March accounted for ten deaths.

The first skiable snow fell in the mountains at the end of October. The ski season in the Pyrenees got off to a good start with a meter of snow above 2000 meters in the western part of the region. The ski resort of Puigmal opened its first lifts in mid-November. However the far east of the range only had significant snow cover from the second half of January.

In the Alps a number of weather systems crossed the mountains from mid November to mid December with above average snow cover over 2000 meters. Weather fronts moving in from Italy brought the heaviest snow to the Southern Alps and border areas.

The first avalanche death was a ski tourer close to the resort of Chamrousse near Grenoble. The sector is popular, especially early in the season. Equipped with a beacon the victim was recovered by his companion in 15 minutes but was already dead. The rescue services flew a number of other missions that day. This provoked a plea for calm from one rescue worker who thought that backcountry enthusiasts were taking unnecessary risks, ignoring the dangers of early season snow including strong temperature gradients creating a weak base.

The most serious period of avalanche activity occurred early in the season in the Queyras region of the Southern Alps. An alert was issued by Meteo France on the 14th of December. There was 85cm of snow overnight in the ski resort of Montgenevre. Electricity and phones were cut to some villages. Numerous spontaneous avalanches blocked roads and damaged infrastructure including ski lifts and buildings. Les Abries used the radio of a local park ranger to communicate with the outside world. By the time the snowfall abated on the 17th some 250cm had fallen and avalanche maps would have to be redrawn. The Fourche avalanche at les Abries was the biggest event since 1946. At Valpreveyre an unusually large avalanche on a south facing slope destroyed a 300 year old chapel. Apart from the deaths of two skiers only one other person was injured during



Avalanches and Spring Sking, end of December 2008

On the 11th March a high school group lead by a mountain guide were hit by a slide close to the ski resort of Valmeinier. The students were studying a snow sports curriculum. The group was hit from above by a large slide while touring to a pass. The avalanche was triggered remotely, this phenomena is not widely understood by many recreational ski tourers in France. The avalanche risk was 3 although a local bulletin issued by the ski resort gave the risk as 4. Three students and the guide were killed.

There had been fresh snow and high winds over the previous days. However the students would need to have experience on the ground, adapting route choices to the conditions and the route seemed to take these into account. Visibility was poor due to low cloud and the group had strayed onto steeper terrain. According to one survivor the guide had asked the group to spread out but the seven members had trouble maintaining the required 20 meter group spacing which was inadequate given the size of the avalanche.

The final major incident occurred on the 13th April when three ski tourers were killed by a large avalanche in the Queyras range. The slide hit 12 out of a group of 16 skiers as they were climbing to the Pointe Joanne. The avalanche risk was 3. The area had 2 meters of fresh snow a week before and strong winds on the preceding days had formed slabs at altitude (incidentally the author had chatted with a couple of the victims a couple of weeks earlier while touring).

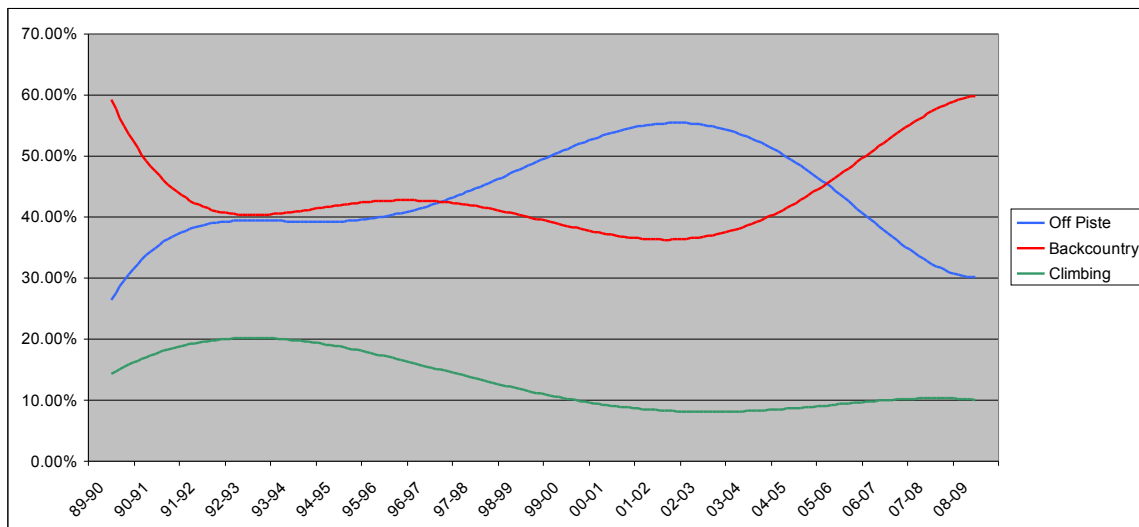
From mid March conditions turned spring-like with above average and sometimes record temperatures. Conditions were relatively stable with fresh snow at the end of March and again at the end of April. There was a rapid thaw in May and the touring season finished ahead of schedule except in areas that had seen considerable snow over the winter. The final fatal incident occurred on the 24th of June when two climbers were killed in the Mont-Blanc range.

Conclusions

Snow conditions during 2008-9 were better than average in the Northern Alps and exceptional in the Pyrenees, Southern Alps and Corsica where 30 year records were broken. As can be expected in a long season with good snowfall both avalanche deaths and incidents were above the long term median (35 deaths compared to the median of 28 established since 2000/01). The good early season snow cover prevented a catastrophic situation such as that experienced in 2005/6, where a thin snow pack results in a persistent weak base, from developing.

The heavy snowfall in the Southern Alps and Pyrenees created several episodes where roads and buildings were hit by avalanches but the authorities coped well with the circumstances.

There were a number of deaths involving guides, other professionals and “experienced” groups. In total 11 French guides were killed last season in avalanche incidents and falls; a very high figure in what remains a dangerous career. The curriculum for French guides is being revised.



Fatal avalanche incidents by activity (5th order Polynomial)

There were more fatalities involving tourers (ski and snowshoe) compared to off piste skiers. Only the Savoie saw more fatal incidents involving off pisters, 5 incidents out of a

total of 9. This could be related to a shift from off-piste to “adventure” skiing although statistics are hard to find. Information on ski touring websites may be contributing to this development. Ski areas may also be doing more to educate and protect off piste skiers although the lack of search and rescue gear amongst victims would argue against this. The main winter holiday periods also saw relatively stable conditions in the Northern Alps where the majority of ski resorts are located.

The three major incidents all affected touring parties illustrating the additional dangers these groups are exposed to compared with off piste skiing¹. The fatality rate was 1.46 deaths/incident. Higher than the median established since 2000 of 1.25.

Ski touring groups seem to be well equipped with beacons, probes and shovels and in a number of incidents were able to carry out their own rescues before the arrival of outside help. In contrast it is rarer for off piste skiers, snowshoers and climbers to carry beacons and recovery often has to wait for the arrival of avalanche dogs or probe teams.

The touring incidents indicate areas where skills can be improved. In two incidents victims had not switched on their beacons. Checks at trail heads and practice sessions seem to be relatively rare amongst French ski tourers although many clubs are insisting on practice sessions with each outing. There were other issues with route choice and group management as well as a lack of appreciation as to how slabs are formed and triggered.

References

Flashback on the December 2008 avalanche crisis in the Queyras massif, Sebastien ESCANCE, Neige et Avalanches no. 126, July 2009.

Additional weather data from Meteo France (www.meteo.fr)

Additional avalanche data from the ANENA (www.anena.org)

When Should We Dig?, Frederic Jarry The Avalanche Review, Volume 27, no 2, December 2008

¹ See When Should We Dig? The Avalanche Review Dec 2008.