

2020 International Report on Snow & Mountain Tourism

*Overview of the key industry
figures for ski resorts*



Laurent Vanat

12th edition - April 2020

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Laurent Vanat is an international expert in ski business and ski resort management. He gained his experience first in Switzerland, benchmarking the largest resorts and starting a comprehensive collection of visitation data in 2004. His work resulted since winter 2004/05 in the Swiss end of season report. In order to benchmark Swiss ski resorts with their fellows in the Alps and North America, the Swiss report initially gave a very short overview of these respective markets.

The demand for international benchmarking data was however growing, as the demand for extending the scope of countries covered. Thus, starting in 2009, a broader overview of international ski markets was presented in a dedicated report. The later grew from the initial 7 countries reported in the 2009 issue to 71 in 2018.

Today, the **International Report on Snow & Mountain Tourism** is acknowledged worldwide as the reference for ski industry figures. Since 2016, it has been translated into Chinese and 2018 saw an exceptional French version, to mark for the 10th issue of the report. Data from this report has already been presented on the occasion of numerous international meetings, including the OITAF congress in Rio de Janeiro, those of UNWTO in Andorra, Almaty, Tbilisi and Ulsan, ALPITEC / ISPO in Beijing, Mountain Planet in Grenoble and various meetings of the FIS. It has been quoted by numerous press articles, reports and other Medias and has been a reference in several conferences and TV interviews.

Beside his dedication to follow up the ski business, Laurent Vanat has his own consultancy practice specialising in business management and planning.

Disclaimer

The present document compiles data provided by numerous sources, together with estimates done in the absence or insufficient reliability of available statistics. All the information set out in this report has not been systematically verified. The author is not responsible for any inaccuracy, nor is he liable for any damage whatsoever, direct or indirect, from using this document or its contents.

The contents of this document are updated on a yearly basis with the goal of continually improving accuracy. Therefore, readers of past editions should be aware that some data may have been amended in line with this objective. Since new and more reliable statistics are made available every year, some data changes must be interpreted carefully. Unless clearly specified and presented with historical series, some variances from one edition of this report to the next are not necessarily significant (increases or decreases). It may be only modification due to more reliable sources. Unaware comparisons with former editions of this report may thus lead to inadequate conclusions.

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¹ Available at following address : www.vanat.ch/tarif-WR-data-2020.pdf

A winter scene with snow-covered trees and a blue cable car against a clear blue sky. The trees are heavily laden with snow, and the sky is a deep, clear blue. A blue cable car is suspended from a cable, moving across the frame. The foreground shows a snowy slope with a blue safety netting.

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Glossary²

Aerial lifts: A lift where skiers hang in a carrier over the ground (which is held to the cable by fixed or detachable grips). This includes chairlifts, gondolas, combined lifts (chairs & gondolas, also called telemix or chondolas), cable cars, funitels, 2S lifts, 3S lifts.

Alpine country: Those countries that are part of the European Alps (Austria, France, Italy, Lichtenstein, Slovenia and Switzerland). Often, reference in this document is limited to the 4 majors.

FIS: International Ski Federation, based in Switzerland. It was founded in 1924 and now comprises 118 national ski associations. Its mission is to promote and direct the development of ski and snowboarding activities worldwide, and oversee competition.

Hourly lift output (skiers/hour): The manufacturer's rated number of skiers per hour that a lift can transport to the top of the lift. Total country capacity is the sum of all the individual lift capacities.

Lifts (ski lifts, ropeways): General term to designate any aerial lift, surface lift or funicular.

Number of skiers transported: The number of passengers transported per lift; one skier taking the same lift 5 times accounts for 5 skiers transported, also referred to as *frequencies*.

National participation rate: Domestic skiers as a percentage of the total country population. This represents the total number of nominal skiers without any consideration for the frequency of visits to a ski resort. Thus, this rate includes skiers that did not ski during the latest season³.

Ski area: A designated place where one skis (in some countries, these areas may not have lifts).

Ski resort: In this report, a ski resort is considered as an organized ski area with more than four lifts.

Skier: One person participating in skiing, snowboarding or other downhill sliding activity, independent of the frequency of his visits to ski resorts. Thus the wording also covers *nominal* skiers that do not ski each season.

Skier visits (or skier-days): One person visiting a ski area for all or any part of a day or night for the purpose of skiing, snowboarding, or other downhill sliding activity. Skier visits include full-day, half-day, night, complimentary, adult, child, season pass and any other type of ticket that gives a skier/snowboarder the use of an area's facilities. A skier skiing for a whole week at a resort accounts for 7 skier visits (for example). The figures

² A French / German / Chinese glossary is available at the end of the report.

³ Some countries, like the US, calculate a specific participation rate for each season, which only covers the related season's active skiers and may vary considerably from the nominal participation rate.

indicated in this report for countries or individual resorts usually refer to the last 5-year average.

Skier visits per inhabitant: Ratio of domestic skier visits divided by the population.

Skier visits per foreign visitor: Ratio of skier visits of foreign visitors divided by the total number of foreign visitors.

Surface lift: Any kind of ski lift where the skier remains standing on their skis, pulled or pushed on the ground. This includes draglifts, rope tows, tow lifts, platter lifts (or button lifts), T-bars and beginner lifts.

Vertical Transport Metres per Hour (VTMH): Product of each individual lift's hourly capacity multiplied by the vertical drop (the figure is usually expressed in thousands).



Foreword by Jimmy Petterson



Laurent Vanat and I have for many years shared a passion for skiing. Our interest, however, goes beyond the normal realm of achieving a sense of euphoria by bouncing effortlessly through powder or stimulating our endorphins by cruising at high speed on a perfectly groomed blanket of corduroy. Over the years, we have both taken a keen interest in following the development of skiing in all the countries of the world.

I have shared my photos, my experiences, and my thoughts and emotions derived from my ski travels in my articles and books, while Laurent has worked more with statistical analysis to bring a concise business perspective to the ski industry in his annual Report on Snow & Mountain Tourism. It is an honor for me to contribute a brief foreword to this—the 12th such report.

I personally look forward every spring to Laurent's newest information. He includes an impressive array of statistics, including such items as a country-by-country chart of skier visits as well as a compilation of the most frequented resorts in the world. He adds stats explaining which nationalities visit which ski countries, the number of snowsports participants in each country, the number of actual resorts in each land, and more. Most importantly, Laurent proceeds to draw important conclusions about the health and future of the ski industry by crunching the numbers.

Following his macro analysis of the ski industry comes a report on each of about 70 ski countries, where no land that offers even a semblance of skiing is omitted. For any skier who wants to stay in the know, it is enjoyable to find out what new ski lifts have been built in the Alps or the Rockies. But beyond that, for those of us with an adventurous spirit, it is of great interest to learn what kind of skiing opportunities are available in the likes of Turkey, Lesotho, or Mongolia.

How many pistes are there at North Korea's Masikryong ski resort? Are there any plans in the works to revive the defunct Algerian ski resorts of Tikjda and Chrea? Has the Pakistani ski center of Malam Jabba been rebuilt since it was destroyed by the Taliban? Are the ski pistes in Iran segregated or may men and women actually frequent the same trails? Laurent's report is where you will most likely get the answers to all these questions and much more. So, whether you are the mountain manager of a major Alpine resort or a poor ski bum hoping to locate the cheapest ski resorts, you are likely to glean some relevant information from Laurent in this document.

Jimmy Petterson

Writer & Photographer

Author of Skiing Around the World Volumes I and II

Ski experiences in 75 countries

www.skiingaroundtheworldbook.com

Introduction

10 years ago, the 2010 introduction to this publication mentioned that it was aiming at becoming the reference in the industry. Even before being a comprehensive inventory of the ski resorts countries all over the world, it soon became an acknowledge source of data for the ski industry. And since 2018 issue, it covers all the countries in the world that have or used to have at least one equipped ski area, fulfilling the goal of offering to the ski business a yearly overview of the key industry figures.

One goal of the report was also to raise awareness about less well-known markets as the major players and share some updated information about the achievements in such countries, where some of the readers may have even not suspected it was possible to ski. Thus, even if ski business in some given countries may appear insignificant compared to Alpine countries, it has been given some extended coverage.

This **12th edition** of the **International Report on Snow & Mountain Tourism** introduces a new player in the circle of the *equipped ski countries*. Further to the news that a homemade ski lift has been installed in some Himalayan village, Nepal also gained a place in this report and becomes the 72nd country reported.



The best season of the current millennium

The 2018/19 ski season presented in this report is the best of the new millennium as far as global visitation figures are concerned. It is a pleasure to see that despite adverse conditions the ski industry is facing, with climate change, increasing competition and the demographics, it still has the potential to feature globally 3 seasons in a row with growth. In today's depressed environment further to covid-19 abrupt closure of the 2019/20 season in most of the northern hemispheres' ski areas, this is heralding of a better tomorrow. It demonstrates the strength of the ski industry notwithstanding the current situation and allows dreaming that the 2020/21 season will enable to return to a high level of attendance at ski resorts all over the world.



During 2018/19 winter, United States ski areas recovered with excellent snow conditions and performed well above average. The country is back on the top of the podium for the 2018/19 season. Visitation level was the 4th best in the past 41 years. It may also have been boosted by the spread of the *mega-passes* that the enhanced competition created by the consolidation of the industry is heavily promoting. This trend, together with dynamic pricing, has also now reached Europe. Both are introducing a disruption in the traditional business model of the industry that is still viewed with a touch of scepticism in some places and not yet widely adopted. However, discounted multi-resort seasonal passes seem to have helped for the

recovery of attendance at Swiss resorts for instance. Czech Republic, Poland and Slovakia are also featuring some interesting examples, which integrate interactive customer relationship management systems.

China has built a powerful ski-breeding infrastructure, even if it is not yet used to its full potential, with the development of ski training centres including ski simulators, dry slopes and a growing number of indoor ski halls. However, the industry there still needs to get more mature and has not yet found the *golden way* to introduce early beginners to skiing with a high customer satisfaction rate that generate a high level of returning guests. Unfortunately, western ski areas have nothing better to offer in support, as this has been for now 2 decades an unsolved pain point in European and North American ski destinations. In spite of this weakness, Chinese ski industry managed to sustain its growth and reached over the 20 million skier visits mark in 2018/19 season.

In Asia, Japan and South Korea still feature a worrying situation. When South Korea ended up showing continuously deteriorating visitation numbers, with a stabilisation in 2018/19, after 6 years of decline, Japan saw again lower attendance. After having stabilised over the former 2 seasons at a level that was about half than 20 years ago, Japanese skier visits figures were dropping again in 2018/19. Iceland and Scotland also experienced very poor seasons, due to bad weather conditions and lack of snow.

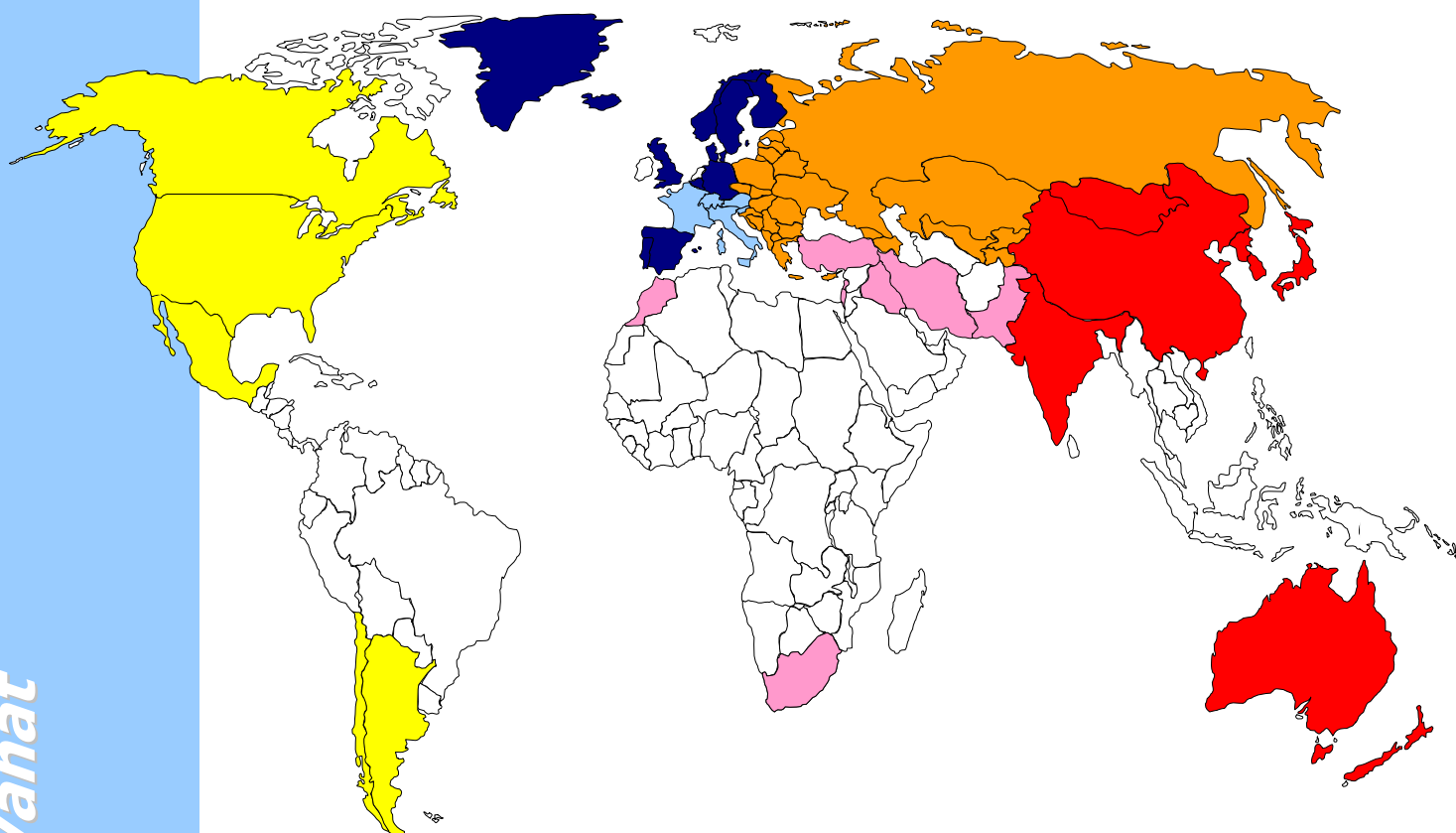
Despite the picture is not bright for all industry players, major ones have been favourably influenced in 2018/19 winter. A return to a better level of snowfalls in some regions in the United States that may have been so much spoiled in the past by favourable conditions that they are not yet used to rely on snowmaking to secure the opening of the season. The growing Chinese market still stimulated by the 2022 Winter Games perspective. A recovery in some Alpine countries, experiencing improvements in visitation for several years in a row. The end of the erosion of skier visits in the other western European countries, with even a sustained growing trend in Scandinavia as also in the southern hemisphere. All these contributed to make season 2018/19 the best of the new millennial.



The world ski market

Participating countries

Accounting for ski countries may vary according to the definition of skiing and of a ski area. **There are currently 68 countries in the world that offer equipped outdoor ski areas covered with snow.** They are shown colour-coded on the map below. Taking into account indoor facilities⁴, mountaineering-only areas and other types of facilities such as dry slopes, the figure can be as high as 100⁵. Even if snowfields are much more numerous⁶, about 2'000 ski resorts have been identified worldwide. Besides the major ski destinations in terms of skier visits, there are a number of other, smaller destinations, where skiing has been an industry for a long time, or is currently developing. The most obvious emerging destinations are Eastern Europe and China, but there are a number of other small players spread out across the globe: Cyprus, Greece, India, Iran, Israel, Lebanon, Lesotho, Morocco, New Zealand, Pakistan, South Africa, Turkey and many more.



⁴ There are about 90 indoor snow centres operating in 20 countries around the world.

⁵ According to a detailed breakdown prepared by famous ski-journalist Patrick Thorne.

⁶ The estimate is 5'000 to 6'000 designated areas for skiing.

The 68 countries offering equipped outdoor ski areas covered with snow are described in detail in this report. The report covers 4 additional countries, which no longer have any organised ski area in operation but use to offer skiing: Afghanistan, Algeria, Bolivia and Colombia.

It is estimated that the industry currently offers about 6 million commercial beds in the mountains. These are primarily concentrated in the industrialised ski markets, which have a high volume of skier visits.

100 countries offer skiing?

Famous ski journalist Patrick Thorne (Snowhunter) published in a 2013 press release his count of countries where it is possible to ski. He concluded that 100 countries across all continents have reliable snow coverage for all or part of the year, or artificial surface slopes, to allow snow sports. How does this figure reconcile with the data published in the *International Report on Snow & Mountain Tourism*?

Now that the *International Report on Snow & Mountain Tourism* completed taking inventory, which started with the edition issued in 2009, it features reports on 68 countries having at least one ski area with lifts. 4 additional countries once had one or more ski lifts, but these are no longer in operation (Algeria, Afghanistan, Bolivia and Colombia are also written up in this document and still offer unorganised skiing opportunities). 13 others countries offer some permanent or temporary snow coverage in some mountains, making it technically possible to ski:

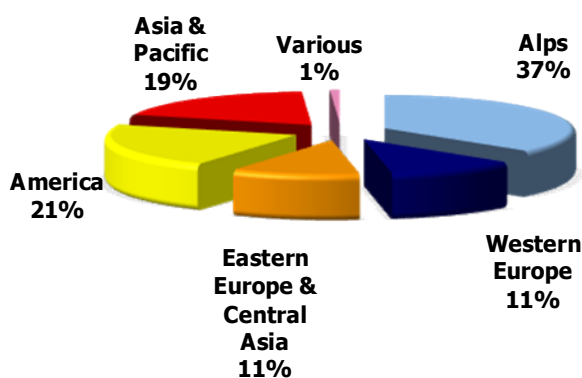
- **Bhutan**, with snow covered mountains in winter;
- **Democratic Republic of the Congo**, with a glacier and occasional snowfall on the highest peaks;
- **Ecuador**, with glaciers and occasional snowfall on the highest peaks;
- **Ethiopia**, with occasional snowfall on the highest peaks;
- **Indonesia**, with some small quickly-melting glaciers;
- **Kenya**, with occasional snowfall on the highest peaks;
- **Myanmar**, with high snow-covered mountains at the Himalayan border, and even a projected ski resort;
- **Nicaragua**, with the highest volcano receiving snow every few years;
- **Peru**, with tropical glaciers and snowfall in the mountains in winter, and possibly even some temporary lifts;
- **Syria**, with snow in the mountains in winter (a ski resort was in planning before the civil war);
- **Tanzania**, with a glacier and occasional snowfall on the highest peaks;
- **Uganda**, with a glacier and occasional snowfall on the highest peaks;
- **Venezuela**, with a snowfield at the top of the Merida lift, not usually used for skiing.

With these, the total reaches 85 countries where outdoor skiing is possible on snow. There are a further 15 countries offering either indoor ski centres or outdoor dry slopes, bringing the total to 100.

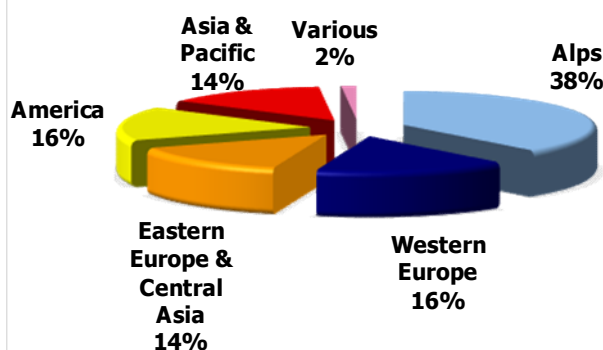
Ski resorts and infrastructure

Based on the latest situation, the key figures for ski resorts and their equipment are presented in following tables. The colour of each slice matches with that of the geographical area shown on the above map.

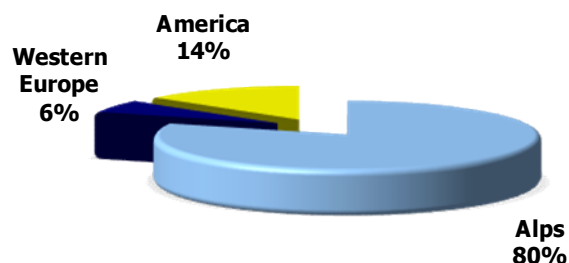
Distribution of the number of ski resorts worldwide (2'084 resorts): More than one third of all ski resorts are located in the Alps.



Distribution of the number of lifts worldwide (25'857 lifts): The number of lifts emphasises the weight of the Alps in the industry.



Distribution of the number of major resorts worldwide (52 resorts): There are a limited number of major resorts worldwide⁷. 80% of them are located in the Alps.



⁷ A resort is considered as major if its attendance reaches over 1 million skier visits per winter season.

The major ski resorts worldwide have been ranked below based on their average annual skier visits⁸ during the last few winter seasons.

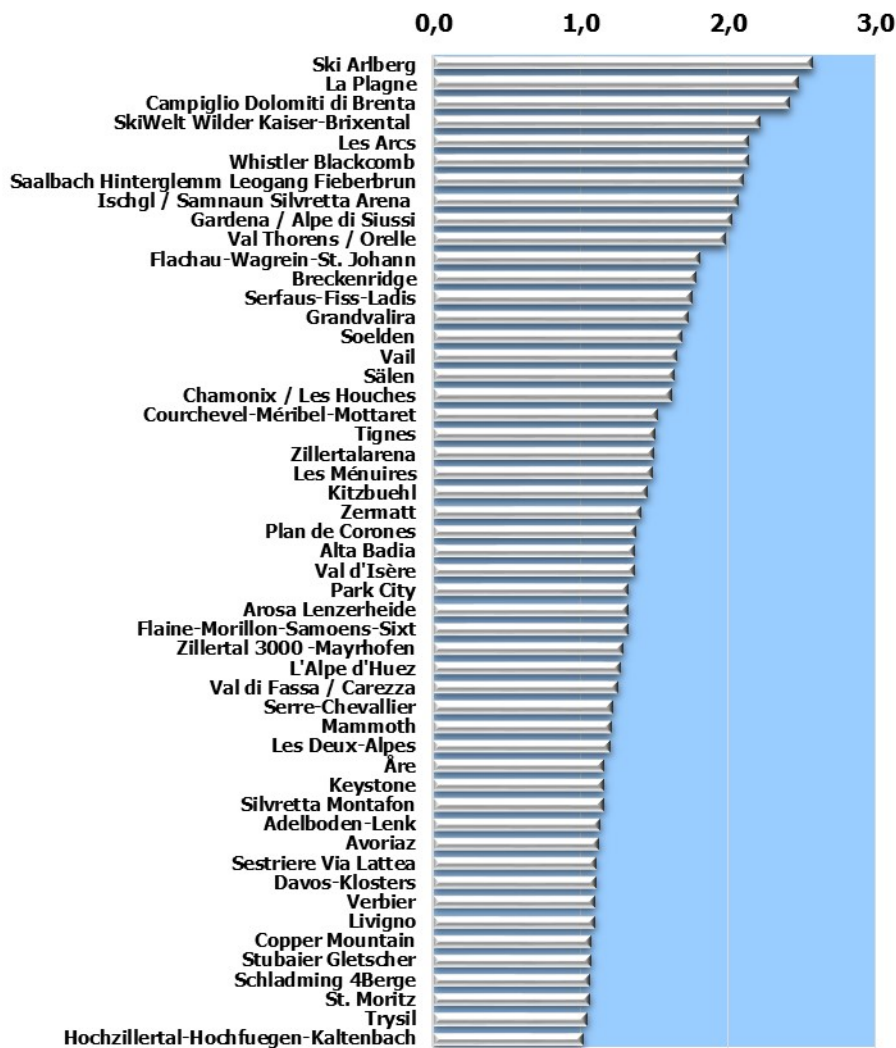


Figure 1: Top world resorts in millions of skier visits

Most of the industry is concentrated around the resorts that generate more than 100'000 skier visits per year. Even if they only account for 20% of the resorts, they account for 80% of all skier visits.

Although often important at a regional level, the altitude of a ski resort is not really an important benchmark worldwide, since at some places around the globe one can ski at sea level, whereas in other countries, one needs to be at much higher elevations to access decent snow conditions.

⁸ Publicised data or estimates when required; based on the operating company or marketing operator.

Evolution of worldwide skier visits

Although data collection within the industry is not always well organized and yearly number of visits may vary mainly due to weather conditions, for several years the estimate has been an overall draw of approximately **400 million** skier visits worldwide⁹. The assumption is that the total figure has been rather stable over the last 15 years, as major mature markets experienced reduced growth (when not experiencing a dramatic decline as with Japan), while other markets were emerging.

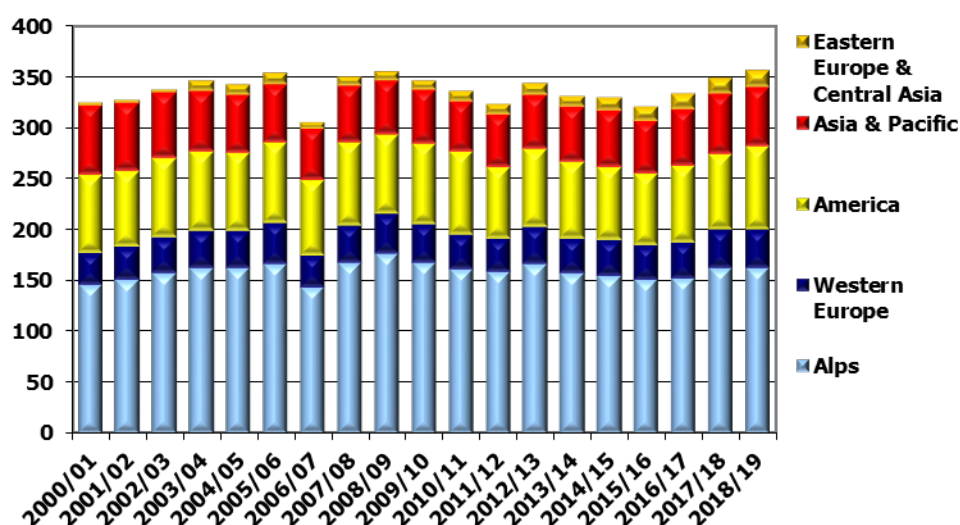


Figure 2: Evolution of skier visits per region (millions)

The chart above appears to confirm this assumed trend, and reflects the evolution of skier visits in those countries considered to be a large sample¹⁰ of the most significant industry players over the last decade. The good results of 2018/19 cannot be considered at this stage as reflective of a long-term growing trend.

Market share of worldwide skier visits

The relative importance of the major destinations is showed in the pie chart below. Clearly, the Alps are the biggest ski destination in the world, capturing 43% of skier visits. The second biggest destination is America (mostly North America), accounting for 21% of skier visits worldwide.

⁹ Including visitors to indoor ski centres.

¹⁰ This sample refers to the countries where skier visits are measured and publicised on a yearly basis. In spite of the very representative sample, it is of course not a comprehensive sample of all countries with ski areas.

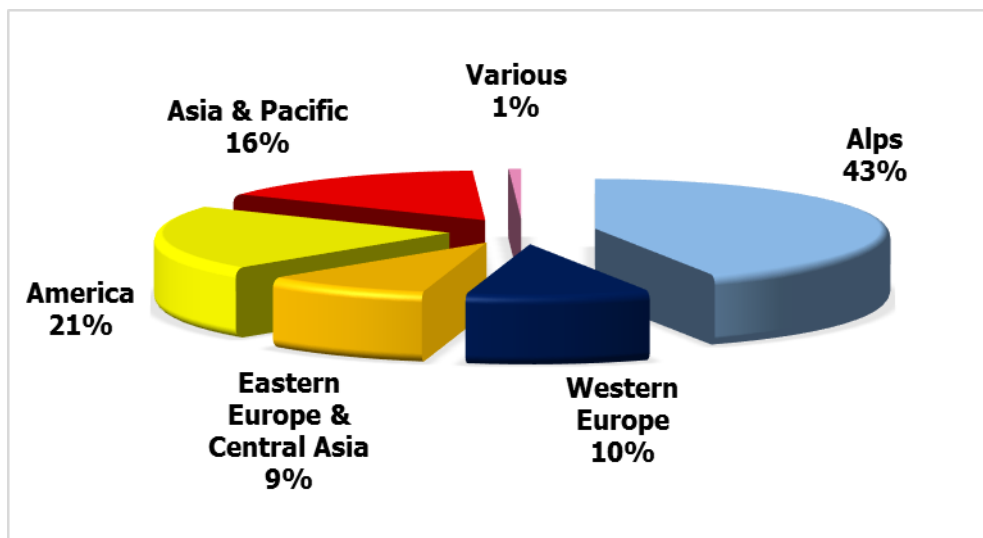


Figure 3 : repartition of skier visits worldwide

Asia & Pacific used to have the same market share as America. However, the continuous decline of the industry in Japan has still not been replaced by the growing ski market in China. In the very long term, countries such as India and Pakistan could maybe join them and contribute to increasing the weight of Asia in the international spread of skier visits¹¹. Northern, Southern and Western European non Alpine countries (grouped under the label of Western Europe) also attract 10% of the market, even if skier visits are spread primarily over a large number of small resorts.

Skiers per region of origin

The total number of skiers worldwide was estimated based on both the number of skier visits in the various countries as well as on the national rates of participation¹². The figure is currently estimated to be around **135 million** and seems to be growing, thanks to the development in Eastern Europe and Asia¹³. Although some countries have no ski areas (in some instances only ski domes), they have skiers who ski abroad. For example, this is the case with the Netherlands, which accounts for about 1 million outbound skiers.

¹¹ This seems however to be an uncertain perspective, since up to now, the projects in these countries failed to be implemented, or only on a small scale. Moreover, skiing has recently been banned in some areas in India by environmental protection laws.

¹² It must however be stressed that the number of days actually skied per potential skier may vary significantly from one country to another. Skiers are considered independent from their frequency of visit to ski areas – see glossary.

¹³ Interestingly, this is not yet fully reflected in the evolution of skier visits, as the participation rate of new entrants is still lower than those of declining skiing populations.

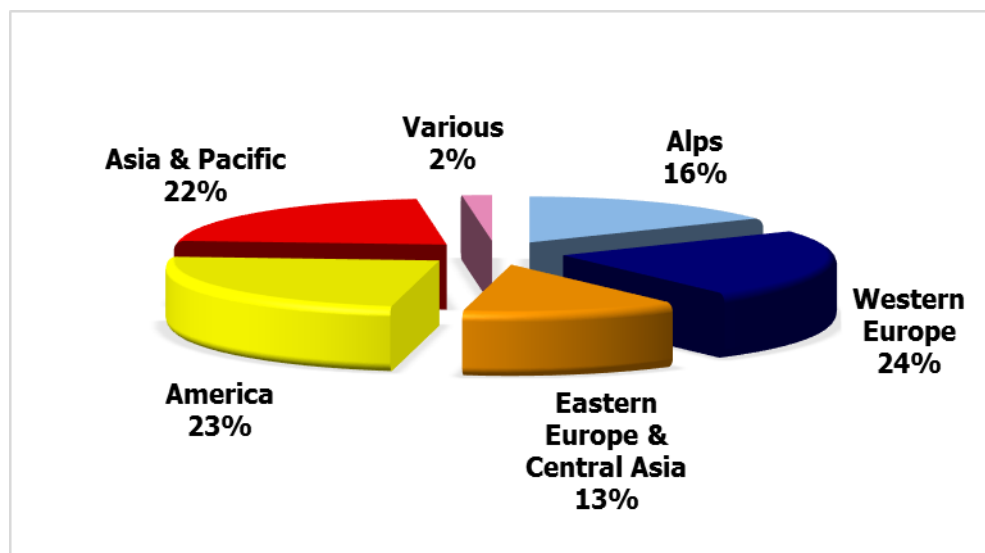


Figure 4: distribution of skiers by region of origin

This chart, comparing to skier visits, clearly shows the regions that are exporters of skiers and those that are recipients. The Alps is the most internationally visited ski destination, attracting most of the inbound-skier travel. Even though it hosts 43% of skier visits, it only produces 15% of the skiers. No other region has such a high proportion of foreign visitors.

International skiers flows

The international flows of skiers are primarily concentrated within Europe. The number of skiers using long haul flights to go skiing is rather small. For instance, overseas skiers represented only 3.5% of total skier visits to US ski resorts in 2016/17 (including Latin American visitors). The weight of international customers is limited for most ski destination countries. Moreover, the international catchment areas are also limited, due to various factors such as market size, transportation, travel time and costs, and possible saturation of airports at ski destinations in Europe.

Worldwide, in a global perspective, the share of foreign visitors in the number of skiers is limited to about 12% of total participants. There are few big players both in the inbound and in the outbound markets. Skiing is mostly based on the domestic markets and the national customer base is very strong in most of the big player countries. Often, foreign visitors are concentrated in a few top international resorts.

There are only 2 big outbound markets, Germany and the United Kingdom, providing skiers to a few inbound markets. Most of the outbound countries have few to no ski areas but a ski culture. This is an important issue, as countries with no ski culture are not likely to be major suppliers of international skiers, even if they have huge populations. The major international skier flows concentrate on a very limited number of

destinations. The table below ranks the flows for over 200'000 yearly skiers.

Inbound country	Outbound country				
	Germany	United Kingdom	Netherlands	Belgium	Switzerland
Austria	1	6	5		9
France		3	7	8	
Italy	2	10			
Switzerland	4				

Outbound European markets are not increasing but will be spread over more destinations in the future. For instance, British customers familiar with the Alps and Andorra now also have other destinations to choose from such as Bulgaria, Romania, Slovakia, etc. It is also foreseeable that the new markets will supply themselves at a regional level. The recent growth of skiing in Asia will feed resorts in Japan and South Korea, before eventually, if ever, benefiting resorts in the European Alps or North America.

Future trends

On the western markets, the high competition to ski activities combined with the demographics and the stagnation of the middle class do not provide for substantial development perspectives. In addition, with the exception of a few resorts in Canada¹⁴, no new resorts have been created in the traditional markets.

As it appears from figures 3 and 4, the regions of Eastern Europe & Central Asia and Asia & Pacific provide 35% of the skiers worldwide, but only produce, at this stage, 25% of skier visits. These regions clearly represent the future growth potential of the market. Besides, a look at new deliveries of lifts confirms that Eastern European and Asian countries are building up at a higher rate than the more traditional ski regions, if the figures are analysed in relative terms.

In Eastern Europe & Central Asia, the growth is however still to be expected. It does not materialise as quickly as the prospects of the early 2010s were promising. The renewal and introduction of new lift infrastructure does not seem to have brought large effects yet. Even if Poland, Slovakia and Czech Republic have pretty well modernised their resorts, attendance still seems rather stagnant. Other Eastern European

¹⁴ Kicking Horse Mountain Resort was developed beginning of 2000s and expansion is still increasing. Revelstoke Mountain is the newest ski resort in Canada. It opened in 2007 with a gondola and a few chairlifts and aims at offering the greatest lift-served vertical drop in America (total forecasted investment is USD 1 billion over 15 years). And there are further ski area development projects in the Canadian Rockies, with Jumbo Glacier Resort and Valemount.

countries where the industry was less developed did not either achieve to build all the ski areas that they had planned.

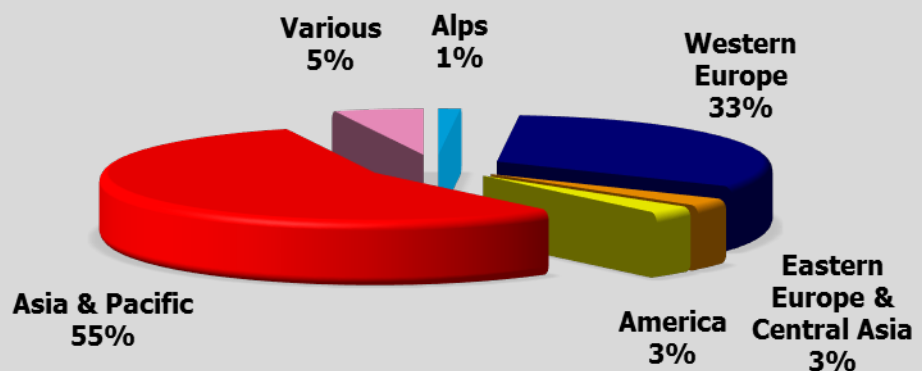
In China, consumption patterns of skiing still need to be improved, so that skiers show a higher commitment to the sport and visit more often the ski areas than currently. Despite the growth perspective of the number of skiers in China still remains, their impact on ski area visitation will highly depend on the dedication to skiing that Chinese skiers will gain.

Therefore, even if the growth potential of the Eastern Europe & Central Asia and Asia & Pacific regions remains, it is not clear when it will actually be materialised in the skier visits statistics.

Indoor ski centres

Earlier versions of indoor snow centres date back to the 1920s in Berlin and Vienna and in the early 1950s, a complex using crushed ice as a snow surface for part of the year opened in Seibu, Japan. Now fitted with an artificial slope surface under the snow, this complex celebrated 60 years of operations in 2012. The longest established and still operational *real snow* indoor snow centre is generally agreed to be Tamworth Snowdome in the UK, which opened in 1993.

More than 100 indoor snow centres have been built in approximately 30 countries over the past 25 years, and around 90 are still operational. Some of them are dedicated to cross-country skiing (ski tunnels) and some are only *snow experience* areas. The number offering downhill skiing is closer to 70. Over the recent years, the number of indoor ski areas in China has been growing tremendously. 19 Indoor ski centres opened in China between 2015 and 2018. The distribution of operating indoor downhill ski centres is presented hereafter.



China is the country in the world offering the highest number of indoor ski centres (31), followed by the Netherlands, United Kingdom, Germany, Japan and India. The largest one in terms of slope surface area is the newly opened Harbin Wanda Snow Park, in China, and in terms of slope's length is the Amneville Snow Hall in France.

Guangzhou Snow Park

With an area of 75'000 square meters, Guangzhou Sunac Snow World is the second-largest indoor ski resort in the world. From its opening on June 15, 2019, to December 31, 2019, Guangzhou Sunac Snow World has received a total of 550'000 skier visits and is expected to become the most attended indoor ski center in the world. With 4 separate ski runs with a combined length of nearly 900 metres and what is believed to be the world's first indoor gondola lift it is definitely one of the biggest yet. Besides skiing, the indoor snow playground, described as a *4th generation indoor snow centre*, offers around 30 snow entertainment activities such as snow slides, skate park, ice bumper cars, ski rotator and Santa sleigh, providing fun and recreation for the whole family.



Source : 2019 China Ski Industry White Book, Snowhunter

North America's First Indoor Snow Ski Centre Opening 11 Years after Construction

A day some thought would never come appears to be here with Big SNOW, North America's first indoor snow centre for skiing and boarding opening around 11 years after it was built.

The slope is at the larger end of mid-sized on the current scale of indoor snow centres with a 300-metre long main run and a 48-metre vertical covering about 3 acres of snow slope in total, with the steepest pitch at 26%. The facility is reported to need 5'500 tons of snow to open. Its exterior is currently being painted with a huge mural, which will reportedly become one of the world's largest art works. Big SNOW is part of a huge retail and entertainment complex in New Jersey, most recently named American Dream, which was first conceived last century and largely built between 2003 and 2008 for over USD 5 billion. However, its then corporate owners went bust with the global economic crash, and at least one subsequent owner since went the same way, and the project is so big it has taken this long to get it back to opening. American Dream began opening in late October 2019 but the indoor ski park opened on December 5, 2019. The park will also offer skiing, snowboarding, introductory lessons, private coaching, children's programs, snow play, corporate team building and private events.

The indoor ski and snowboard park has seen 25'000 visitors in its first month of opening.

The snow park's on-snow capacity is reported to be 500 people but the company that runs it, SNOW Operating, says it usually limits access to 250 people per hour. It sells slope access for 2-hour blocks, and these were reported to be completely sold out between Christmas and New Year.

Dozens and dozens of indoor snow projects for the US, and some for Canada, have been announced over the past 30 years with their backers convinced that once one opened and Americans could understand what they are, more would quickly follow. That remains to be seen.

Source: Snowhunter

Country benchmark - top 20

Various organisations and entities usually collect ski resort data at a national level. This information has been compiled to produce an international overview of the key figures for the industry. For some countries, since data is lacking or incomplete, some research has been conducted in order to either collect or consolidate detailed national data or to extrapolate figures based on known benchmarks. Numerous sources were checked to ensure the most accurate figures. Some general information was also provided from global directories or statistics. Although some definitions may vary from one country to another, the section hereafter presents a summarised benchmark of some of the key figures for the industry¹⁵.

Under the country review section, charts are presented for those where attendance at ski resorts is measured and consolidated on a yearly basis. On the charts, in addition to yearly data, the evolution of the 5-year average has also been included (blue line). It helps to understand the long-term trend for each of these markets. In current chapter, the charts hereafter generally only show the top 20 countries ranked.

The United States, Japan, France and Italy have the most **ski resorts** with more than 200 each (not included are small ski areas with less than 5 lifts – see glossary).

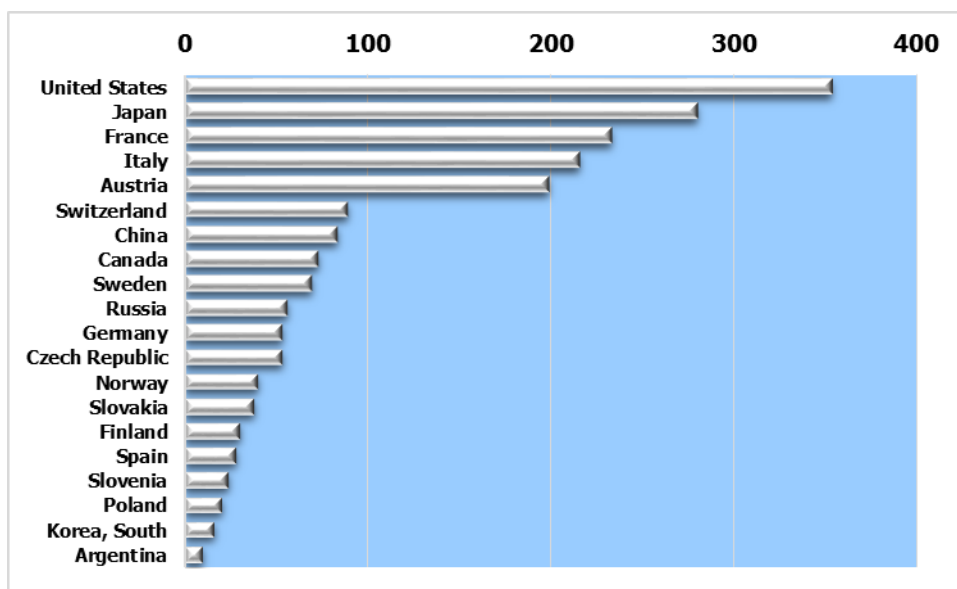


Figure 5 : Number of ski resorts with more than 4 lifts

¹⁵ Please refer to the Glossary at the front of the document for further definitions of the terms employed.

If Germany also shows a significant number of ski areas, most of them are very small ones that are not considered as ski resorts under the definition used in this report.

Only Austria and France have more than 10 **resorts that generate over 1 million skier visits per season**. Thanks to recent lift-interconnexions between ski resorts, Austria now accounts for a higher number of such resorts than France, which used to host the highest number of very large ski resorts for a long time.

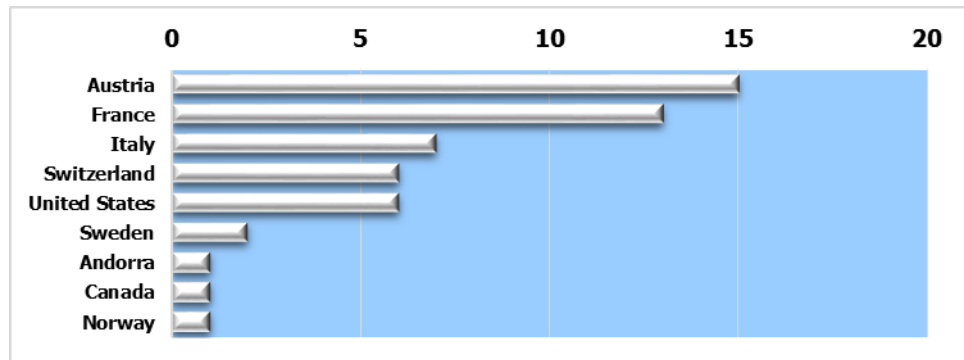


Figure 6 : Number of ski resorts with more than 1 mio skier visits

France, Austria and the United States top the list of countries with the most **lifts**, with about 3'000 each.

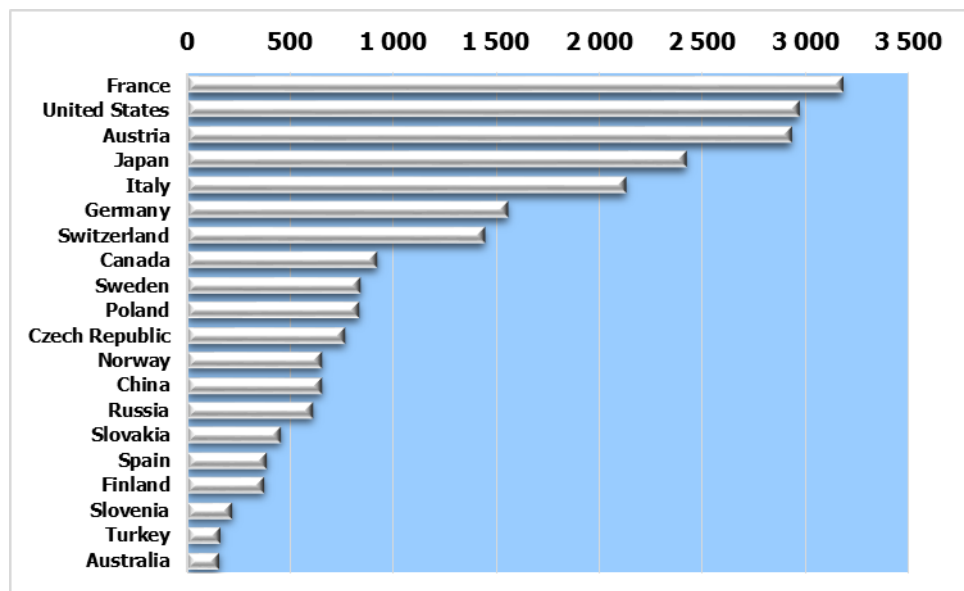


Figure 7 : Number of lifts per major country

They are also the countries posting the highest **5-year average skier visits** figures, with more than 50 million each. United States are back on

the first rank, after France took the place after season 2015/16.

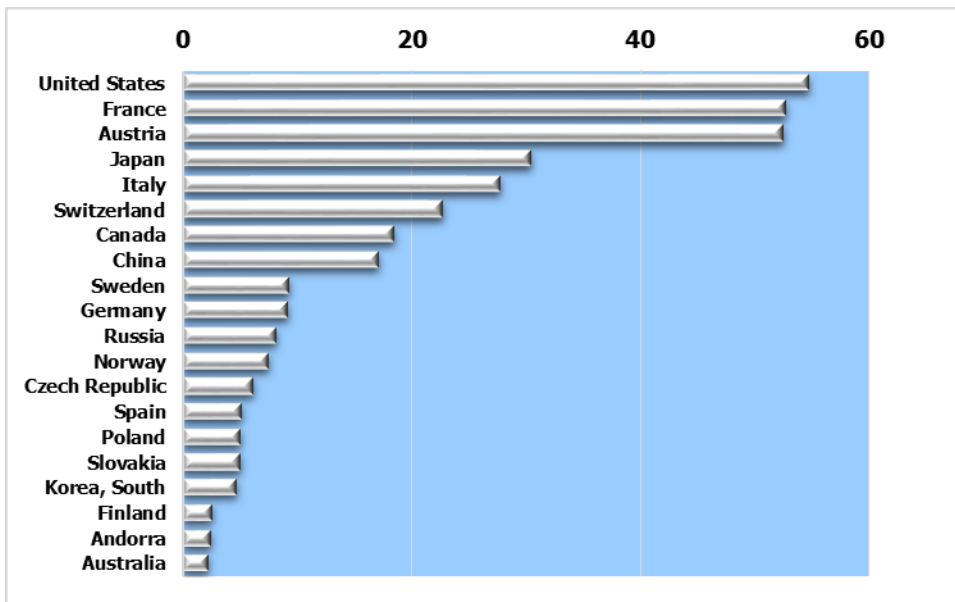


Figure 8 : Skier visits per country (5-year average, in millions)

New Seal of Approval for ski area size claims

The company run by German ski writer and cartographer Christoph Schrahe, who 3 years ago highlighted discrepancies in claimed ski area size, has launched a new independent *Seal of Approval* for resorts that want to verify that the ski area size they claim is genuine.

Schrahe's precise research, based on more than 20 years of detailed study of ski areas around the world, found that most ski areas exaggerate their claimed size, although the amount of exaggeration widely varies.

The findings caused uproar, particularly in the Austrian media, when ski areas rationalized their claims with explanations that included measuring piste width multiple times, treating them as 2 or 3 runs, and measuring the length of a snaking skiers S-track descent of a run rather than a straight line from top to bottom.

Surveys of skier preferences have found that ski area size is the number one criteria when considering where to ski.

An Austrian ski resort association subsequently introduced a code of practice for slope measurement and several areas shrunk in claimed size – the Ziller Valley by around 20%, for example. Others, including the Skiwelt, brought in their own independent professionals to verify their numbers. Schrahe subsequently published several annual guides to what he claims to be the true size of the world's 100 largest ski areas from his precise and standardised measurement system¹⁶.

Now Schrahe's Montenius Consult Company, whose main business is ski resort design, has launched the, *Verified Piste Length* seal. To receive the seal the resort must allow Schrahe's company to measure all runs, going down the precise centre

¹⁶ *The list of the world's 100 largest ski areas – Analysis of relevant statistics in different categories*, available from www.montenius.com

line of each piste, to come up with a figure.

A new multi-lingual website, www.pistelength.com, has been set up to promote the service. Schrahe's first 2 customers are reported to be 2 of the 5 biggest ski areas in Austria.

Source: Snowhunter

South Korea features a record-breaking figure as far as **skier visits produced per lift** is concerned, with 31'500 skier visits generated per lift per season. The number of skier visits per lift is also higher in Canada and the United States than in other countries. This reflects the difference in business model from Europe where an emphasis is placed on lift mechanics and sophisticated infrastructure.

With more than 1'300 million inhabitants, the biggest **national market** of the sample is China, far greater than any other. However, at this stage, the size of the ski industry is not proportional. India, which also has over one billion inhabitants, still has a very low number of skiers. The United States represent the largest mature market, with a population of over 300 million inhabitants.

The Lichtensteinese, Swiss and Austrians are the populations with the highest nominal **participation rates**, with more than 30% of the population participating in skiing.

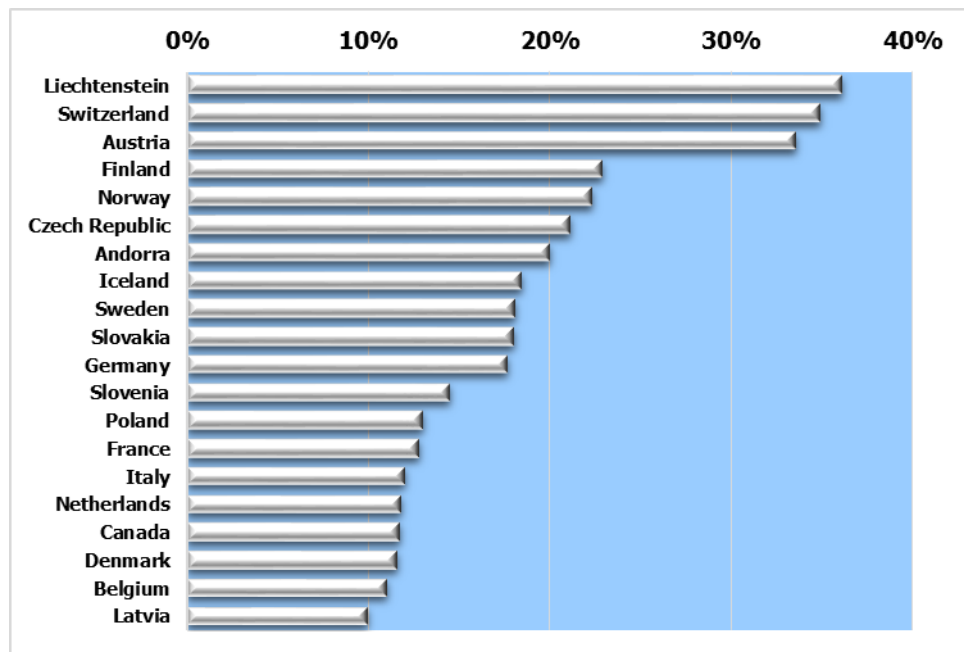


Figure 9: Participation rate of the population (nominal)

However, since they benefit from much larger populations, the United States, Germany and China account for the highest **number of national skiers**. China is new on the top-3 podium further to the continuous growth

of participants' numbers. Formerly, Japan occupied the 3rd rank but is now losing some ageing skiers.

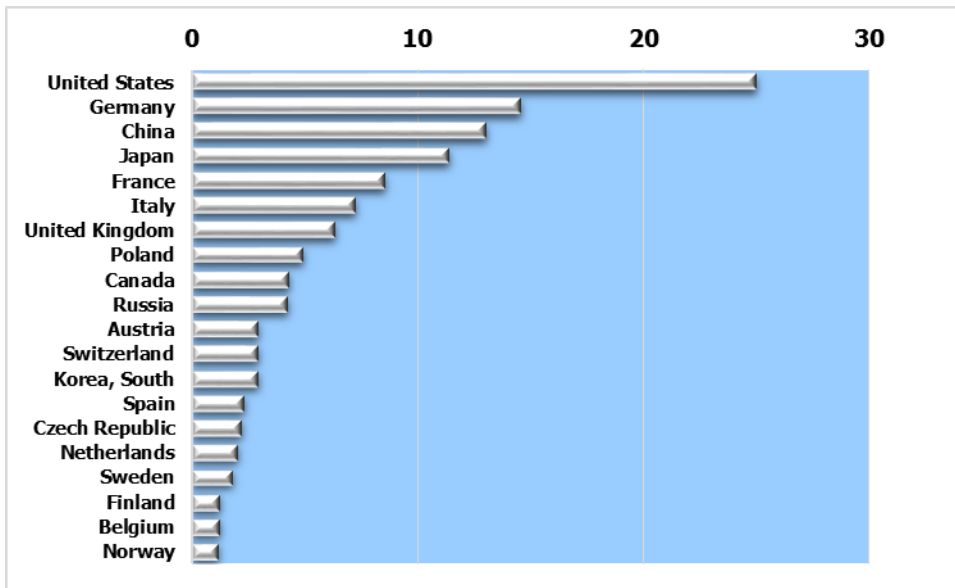


Figure 10: Number of national skiers (nominal - in millions)

France, the United States and Spain are the **countries with the most foreign tourists**, but it is only in France that they provide a noticeable benefit to ski resorts. Most foreign visitors, however, do not come to ski. For the 2 other countries, foreign tourists only marginally contribute to the number of visits to ski resorts.

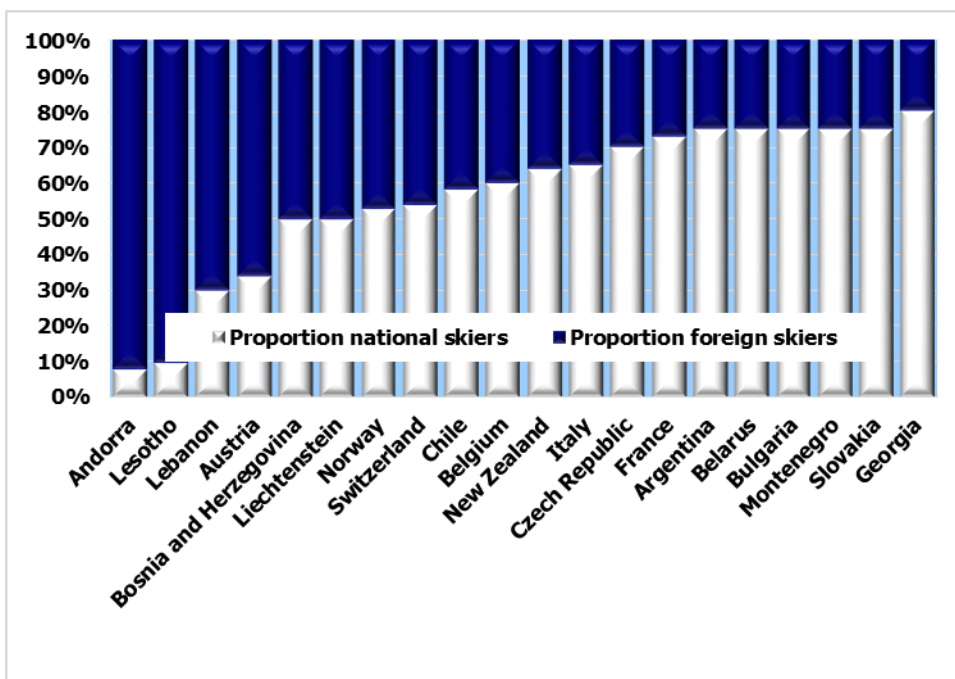


Figure 11: Proportion of national and foreign skiers

In nearly every country, the main portion of skier visits consists of **domestic skiers**. Apart from some anecdotal small ski destination countries, there are only 2 major markets worldwide where **international customers** represent more than half of skier visits. In Andorra and Austria, foreign customers represent respectively 92% and 66% of all skier visits. Besides posting a record proportion of foreign skier visits, these countries also have the highest ratio of skier visits per inhabitant and per foreign visitor of the sample, clearly showing the importance of winter tourism.

Summer ski options

Currently up to 8 glaciers open at some point between June and September in Austria (although half of these close at the start of June and do not re-open until late September), 3 in Italy, 3 in France, 3 in Norway, 2 in Switzerland and 1 each in Canada and the USA.

In the 1980s and 1990s, up to 40 resorts, primarily in the Alps, opened for summer skiing with famous resorts including Verbier, La Plagne, Zugspitze, Val Thorens, Monterosa and Marmolada offering this option. While many of these resorts stopped offering summer snow sports at the start of this century, the numbers have remained relatively constant for the past decade.

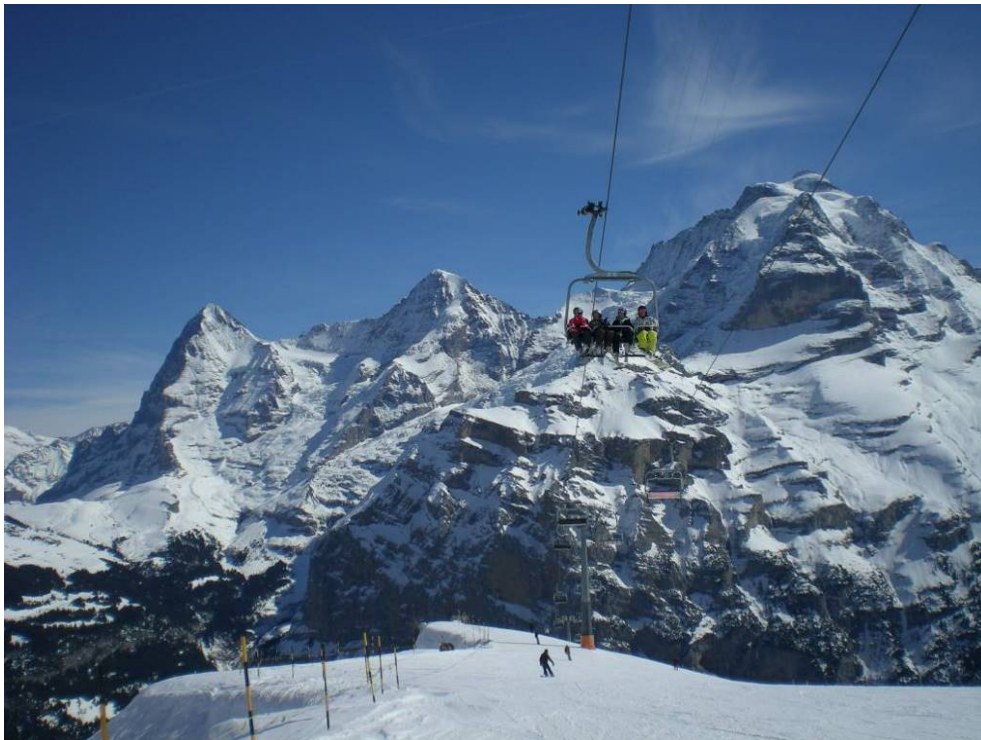
The maximum number of ski areas open in July and August is now a dozen, although Hintertux in Austria, Zermatt in Switzerland and Timberline in Oregon, USA, are usually open more-or-less year round (except for weather/maintenance breaks). There are long standing plans to build a year round ski centre, Jumbo Glacier, in BC, Canada.



Source: Snowhunter

The Alps

The Alps are by far the largest inbound ski market on the planet, capturing 43% of worldwide attendance. It is also the most intensely equipped region of the industry, totalling more than 10'000 lifts. Unsurprisingly, it is home to 4 of the major players of the ski industry. Although geographically part of Western Europe, the Alpine countries have been treated as a separate group in this report, due to their importance in terms of market share¹⁷.



¹⁷ Despite Germany is also part of the Alpine Convention, the alpine range covers only a very limited part of its territory and the Alpine area of the country only hosts a fraction of the german ski resorts. Thus, Germany has not been consolidated with the Alps region in this report but with the rest of Western Europe.



Austria



Part of the Alps, Austria is covered mostly by mountains. 68% of the country is located above 500 metres. Only the eastern side of the country partly consists of lowlands. The Alps cover 62% of the land area, culminating with the Grossglockner at 3'798 metres above sea level. Thus, contrary to the other Alpine countries, Austria does not feature any summit above 4'000 metres.

Winter sports already appeared in Austria at the end of the 19th century. Some ski competitions were organized as early as 1906 and the first ski schools emerged. The *Arlberg* ski teaching method was the standard at that time. In the 1930s, ski schools and ski clubs were founded in several locations. In 1936, the first surface lift was installed and in 1947, the first chairlift. Together with the slope preparation, they contributed to making winter sports increasingly popular. A lot of farmers' villages in the mountains discovered the opportunities winter tourism offered, and after Second World War, it progressively developed into a major industry.

Ski resorts have never ceased to improve. With more than EUR 7 billion spent since the year 2000, Austrian operators have been massively investing, showing the most updated lift infrastructure of the industry. 550 new lifts¹⁸ have been installed over the last 15 years. To some extent, or when measured to other countries' standards, the infrastructure in some places even tends to be luxurious, with equipment such as 8-seater detachable chairlifts with heated seats, bubbles and underground parking. It is worth noting that the economic sustainability of such a high level of investment is still difficult to demonstrate, when more than 50% of revenues have been reinvested for several consecutive years.

The industry now also covers more than 60% of the slopes with snowmaking. A yearly average of EUR 130 million has been invested on snowmaking since 2008.

Austria has a strong ski culture and remains the only country where schools still go on ski weeks on a regular basis. For the observer, there is a high level of individuality between the ski resorts, and the business models of the Alpine villages show some particularities. Austria is the European

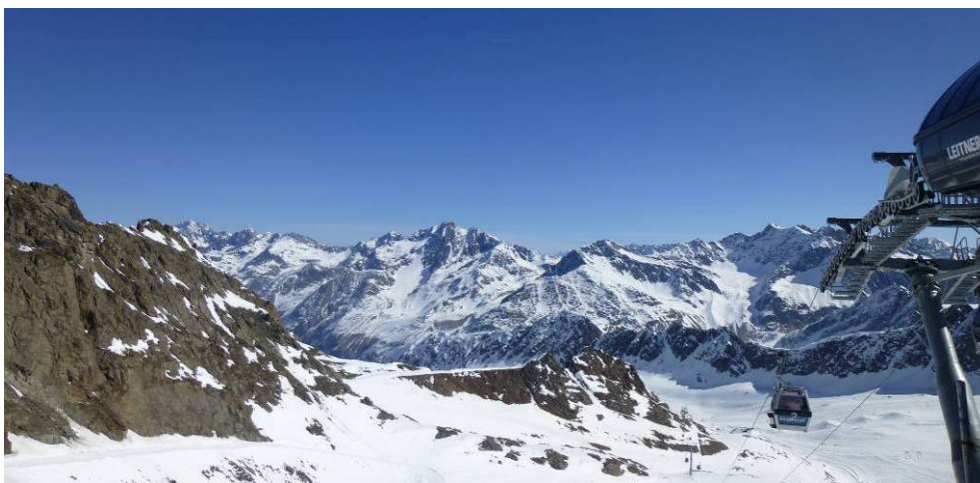
¹⁸ Including lift renewals.

country with the largest hotel accommodation offering and the lowest number of secondary homes. Since most of these hotels are family-owned¹⁹, they still have a very conservative approach to marketing, but benefit from loyal returning customers. The owners invest very regularly to maintain rooms and infrastructure up to date, resulting in a very good price/quality ratio of most of the accommodations. This seems to be successful with both the domestic and the large German and Dutch customer base (respectively 12%, 47% and 12% of overnight stays²⁰). In fact, the country is a big importer of skiers: Austria is the country in the world that welcomes the most foreign skiers. Even if the level of traditional German clients have been rather stagnant for more than 20 years now, and Russian clients showed a sharp decline after Winter 2014, Austrian ski resorts still benefit from a global increase of foreign guests. Most nationalities are up – possibly a switch from Switzerland due to the rise of the Swiss currency. Domestic customers remain stable.



A couple of Austrian resorts have a very strong market positioning. Some, although not connected, have joint marketing efforts, showing an example of a new dynamic. Despite the fact that it is not possible to ski between each of the resorts, the benefits of using this common brand have appeared, for instance by allowing higher pricing and joint advertising actions. By the way, the number of interconnected resorts has been growing over the recent years. The race to become Austria's biggest interconnected resort seems to be open!

In the western part of the country, Tyrol is likely to be the most densely ski-resort populated area in the world. With 79 ski areas and 480 major lifts²¹, Tyrol captures 49% of Austrian skier visits. Large ski resorts can also be found in Vorarlberg, Salzburg and Carinthia. The smaller ski resorts in the eastern regions are visited by guests from the Vienna area and neighbouring Slovakia and Hungary, mostly just for day trips.



¹⁹ The same families also often own shares in the lift companies.

²⁰ Figures from the 2017/18 winter season, Statistik Austria, Tyrol, Salzburg & Vorarlberg.

²¹ Not taking into account the surface lifts.

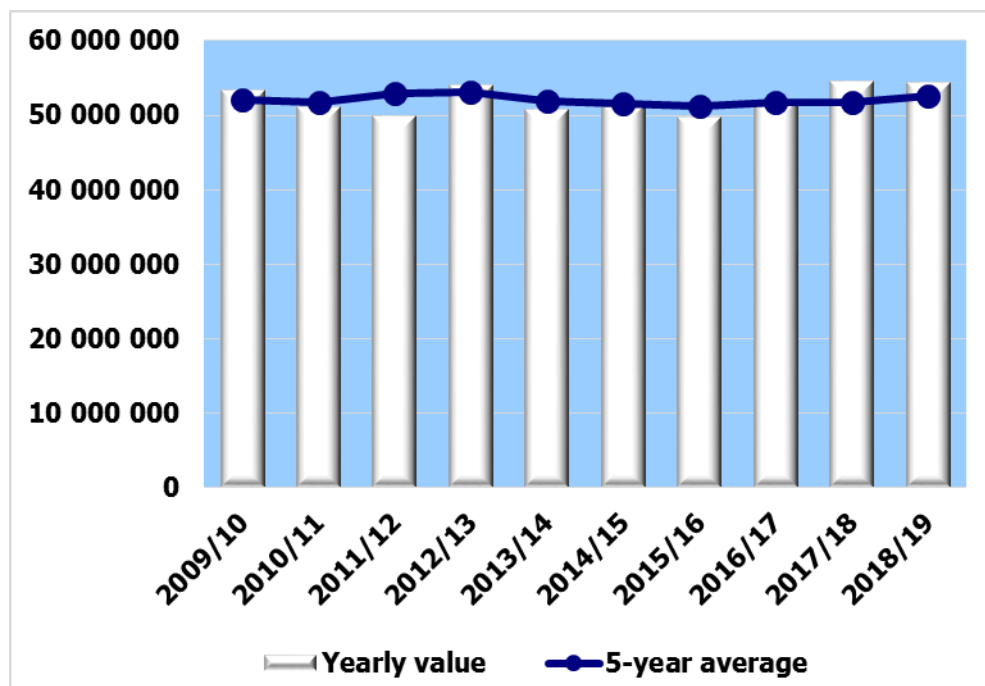


Figure 12: Austria, evolution of skier visits

With an average yearly increase of 2.25% since beginning of the century up to the record 2008/09 season, Austria has been continuously growing its attendance. Then, yearly attendance began to decrease, as with other Alpine destinations. Despite very good visitation figures during the 2012/13 winter, the situation then stagnated at lower levels, translating to an overall decline in the long term trend up to winter 2015/16, which was 3.3% down from the former one. Season 2016/17 however looked better with a 4.4% increase and the 5-year average trend on the rise again. This was confirmed by the 2017/18 winter, with a further increase of 4.8% in attendance. Due to poorer figures in France and the United States, Austrian ranked first on the winter 2017/18 skier visits podium for the first time in recent history. Despite good attendance also in 2018/19, top of the podium was recovered by the United States that overperformed.



Austria

253

ski areas

Ski areas with 5 lifts or more



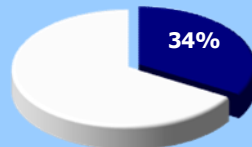
2'930 lifts

16 major resorts (>1 mio SV)

2'960'000

national skiers

Participation rate nationals



6.0 skier visits per national skier

17'932 skier visits per lift

52'540'000

average skier visits

Proportion foreign skiers



2.0 skier visits per inhabitant

1.3 skier visits per foreign visitor



New Largest Ski Area in Austria to Fully Open Next Winter

The connection between the Saalbach ski region and Zell am See's local Schmitten ski area is due to be fully completed this winter, creating what's believed to be the new largest ski area in Austria. The Saalbach Hinterglemm Leogang Fieberbrunn combined ski area has 270 kilometres of runs whilst the Schmitten area at Zell am See has 77 kilometres of runs so the combined area of the 2 will be around 350 kilometres. The opening of the new *zellamseeXpress* gondola lift in winter 2017 was the first step in the process of connecting the Schmittenhöhebahn with the Glemm valley with a 3.5 kilometre long descent created.

The lower section of the *zellamseeXpress* will transport skiers and snowboarders

directly from the valley station in Viehhofen into the Schmittenhöhe ski region with the 10-person gondola. Winter sports enthusiasts can, if they wish, also take the ski bus and travel to the Skicircus Saalbach Hinterglemm Leogang Fieberbrunn in just a few minutes. The way back from the Skicircus again takes visitors via the direct and comfortable connection on the number 68 natural snow slope directly to the zellamseeXpress valley station in Viehhofen.

The current largest area is the Arlberg around St Anton and Lech Zurs, with 305 kilometres of runs. Although the inter-connected area looks to be around 350 kilometres, putting it among the 10 biggest areas in the world, the Zell am See area is going for a figure of 408 kilometres of slopes and 121 lifts in its publicity, by including the unlinked Maiskogel-Kitzsteinhorn ski area above Kaprun that's part of its ski area. The resort is launching a new lift pass, the Ski Alpin Card, to cover the combined 408 kilometres area.

Source: Snowhunter



France



France hosts, together with Italy, the highest summit of the Alps (Mont Blanc, topping at 4'810 meters above sea level). There is a total of 24 Alpine peaks that reach over 4'000 meters in France. If the French ski resorts in the Alps are the largest and most well known, several other mountain ranges in the country have ski resorts: the Jura, the Pyrenees, the Massif Central and the Vosges. There is even a ski area in Corsica Island.

France saw the first Winter Olympics Games, held in Chamonix in 1924. At that date however, they did not include downhill ski competitions. Ski began to develop in France in the 1930s and Chamonix was joined by other mountain villages, like Mégevè. After a first development phase of ski areas around existing villages, French developers began to build resorts from scratch. It first started with village-like resorts and then moved to high altitude densely urbanised integrated resorts, which saw construction of big housing blocs in the mountain in the 1960s and 1970s. The French Government highly supported the development of these suburb-looking mountain towns, such as La Plagne, Val Thorens, Avoriaz, les Arcs, Tignes and others (Plan neige). Last and most recent development phase returned to more village-like lower altitude resorts, smaller and better integrated in the environment.

Some of the major French resorts that were created from scratch, initially as integrated operations, were later on dismantled in the 1980s and lift operations were distributed among numerous actors, giving birth to the Compagnie des Alpes, the world's largest ski resort operator. France is the only European country with such a dominant operator who runs nearly all the major resorts (13 large Alpine resorts totalling more than 15 million skier visits are operated fully or partly by Compagnie des Alpes). There are also a few other smaller operators that manage lifts for several ski areas, such as Labellemontagne and Altiservice. Savoie Stations Participation is a public / private company that holds interests in 17 ski areas. In France, ski lifts are still considered to be a public service, and some of the operating companies are either partially owned or even directly managed by municipalities.

Another particularity of French resorts, especially in the big purpose-built resorts, is the extremely high proportion of apartment housing. Hotels are quite rare and most customers spend their ski week in what is called a *Résidence de tourisme*, which are to some extent the French equivalent of



the North American condos, with much less surface area per guest, and with a level of comfort in many cases still based on the standards of the 1970s. This latter issue is even becoming a problem, as it generates a decrease of the number of beds that can be properly marketed.

Although France is the number one destination in terms of arrivals in world tourism, the ski industry is still primarily driven by the domestic market. However, the domestic market is very mature, with a number of skier visits that shows a slight declining trend after an inflection point in winter 2012/13. On the other hand, there are about 2 million foreign skiers who visit France each winter season and their number used to tend growing and compensate the retiring domestic customers. The British represent one quarter, followed by the Italians, Belgians, Germans and Russians. The latter became increasingly numerous at ski resorts, accounting for 7% to 9% overnight stays in hotels, before the Ukrainian crisis.

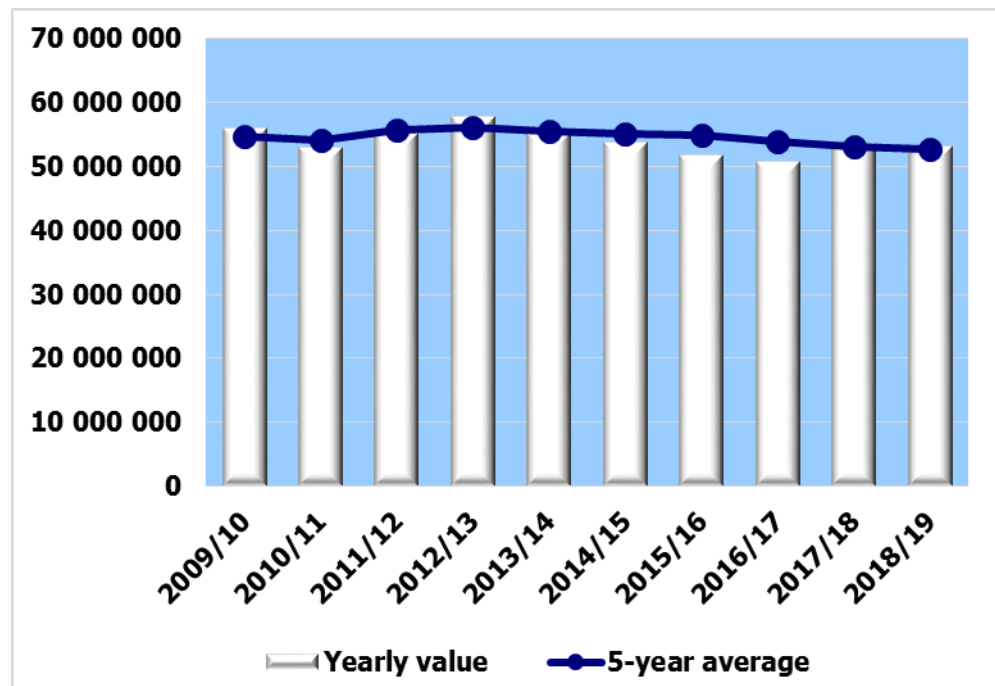
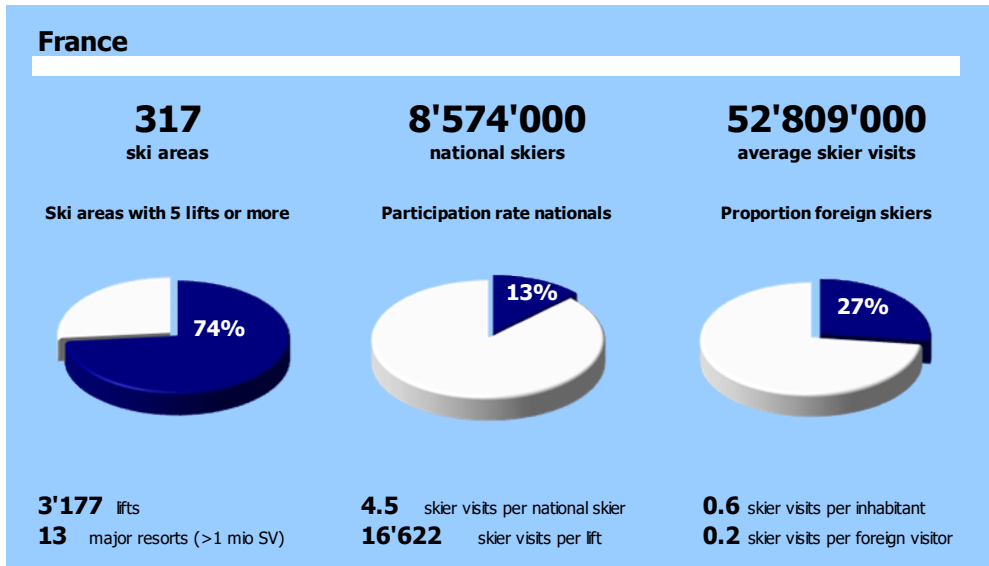


Figure 13: France, evolution of skier visits

After 4 seasons in a row with a decrease in visits to French ski resorts, winter 2017/18 showed fortunately better figures. Attendance improved by 5.6% to 53.8 million skier visits, but still remained 0.4% below 5-year average. Even if snow was there in large quantities, the weather was rather disturbed nearly all over the season and sunny days were scarce. Operating conditions were difficult, with some disruptions and requiring much grooming. Conditions were better in 2018/19 but attendance declined 0.8% on former year due to unfavourable holiday's periods.

The 5-year skier visit average trending slightly downwards highlights the overall trend in Europe. As outlined in the introduction of this report, both domestic and foreign customer bases are flattening and it will be imperative in the very near future to find new ways to introduce massively new clienteles to skiing.





A share of 35% of Italian territory is mountains and a further 42% is covered by hills. 2 major mountain chains cross a large part of the country and are linked together. The highest one, the Alps in the North, ranging from East to West, culminates with the Mont Blanc, on the border with France. The second range, the Apennine, crosses the country from Liguria to Calabria. It is not so high as the Alps but much longer, as it extends over 1'500 kilometres. Its highest point, Corno Grande, in the Gran Sasso, reaches 2'914 meters

above sea level. The Etna volcano, which by the way hosts a ski area, culminates over island of Sicily at 3'340 meters above sea level. Italy shares also with Switzerland the Matterhorn, one of the most iconic summits of the Alps.

Although most of the ski resorts are concentrated in the northern regions of Piemonte, Valle d'Aosta, Lombardy, Trentino, Alto Adige (Südtirol) and Veneto, there are minor ski resorts throughout most of the country, including on the islands of Sicily and Sardinia.

Despite some older traces of skiing in Italy, it seems that modern skiing was introduced in 1897 in the region of Torino. In 1901, Ponte Nossa and Torino ski clubs were the first ones in Italy. They concentrated at the beginning mostly on the promotion of backcountry skiing. The first ski race was organised in Italy in 1904 in Bardonecchia. Italian Ski Federation was founded in 1913. First World War gave an impulse in Italy to train 88 Alpine battalions.

The erection of Sestriere was started in 1930, as the first purpose-built Alpine resort. Cervinia completed its first Breuil - Plan Maison cable car in 1936. The lift was built within 2 years of the founding of Cervino in 1934, and played a crucial part in the resort becoming one of the most important ski resorts in Italy.

Corvara, in Val Badia, was the first place to introduce dedicated ski lifts in Italy. It started in 1938 with a sledge-lift, cable-dragged across the snow. Then the first chairlift was built in 1946. It was a single seater with wooden towers. Its huge success led to expanding the area with other lifts over the next year, creating the famous *Skicarosello Alta Badia*.

In 1956, the Winter Olympics were held for the first time in Italy, in Cortina d'Ampezzo. 50 years later, the 2006 Winter Games returned to Italy, in Torino.

The Italian ski industry is similar to the Austrian model in the South Tyrol and eastern regions, and shares some similarities with the French resorts in the west. Some players are very dynamic, like the *Dolomiti Superski* area (featuring 450 lifts and 1'200 kilometres of trails), and offer a high level of infrastructure and state-of-the-art lifts and snowmaking facilities under a common brand name. This packaging is, however, formed by a multitude of small operators. The evolution of some other areas has been slower, contributing to stagnation in skier visits.

The Italian industry is quite fragmented, with no major operator. It relies primarily on domestic customers and for about one third from European outbound markets. Large international resorts are popular for guests from Germany, United Kingdom, Netherlands and Poland.



From 2002 up to 2009, 20% of the lifts were removed and a further 20% have been renewed, for a total of 445 new lifts. Although Italian operators have been investing quite heavily in the beginning of 2000s, attendance started to decline. Even if the market was then recovering up to 2010/11 season, Italy seems to have a rather mature market profile, with the trend towards declining skier visits ever since and yearly figures stabilising at a low level for 6 winters in a row. Season 2016/17 looked however a little better, stabilising the 5-year average. Winter 2017/18 was much better, with a 6.8% improvement in visitation (on national average; some resorts, like Dolomiti Superski, even enjoyed a 12% increase). Positive trend continued in 2018/19 with a new increase in attendance of 1.0%.

Italy is the only major market that does not supply proper national yearly attendance statistics. Skier visits figures rely on estimates²².

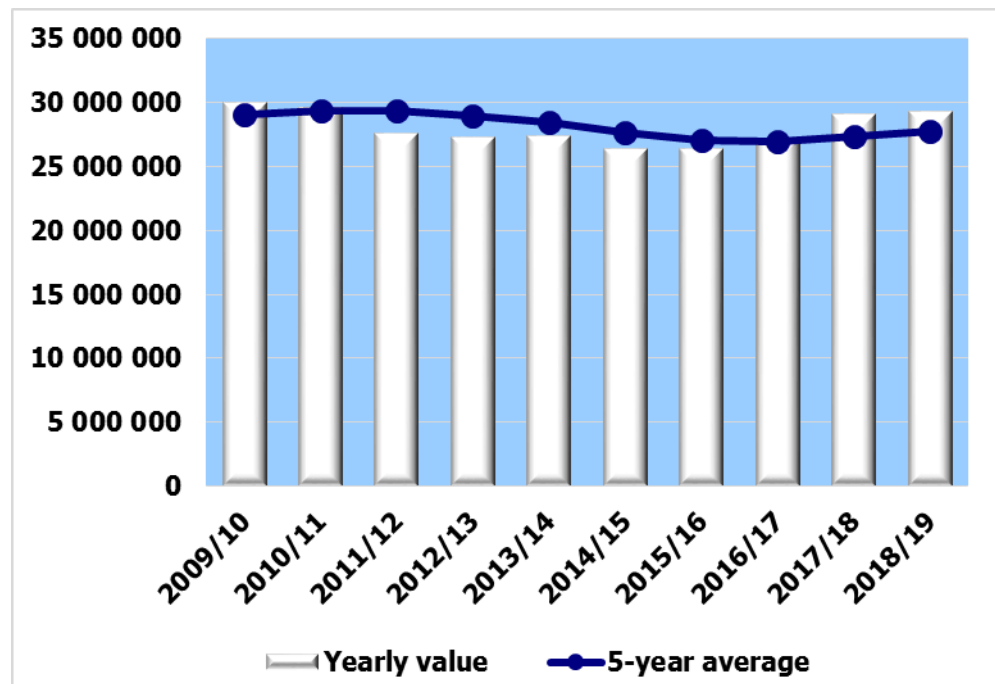
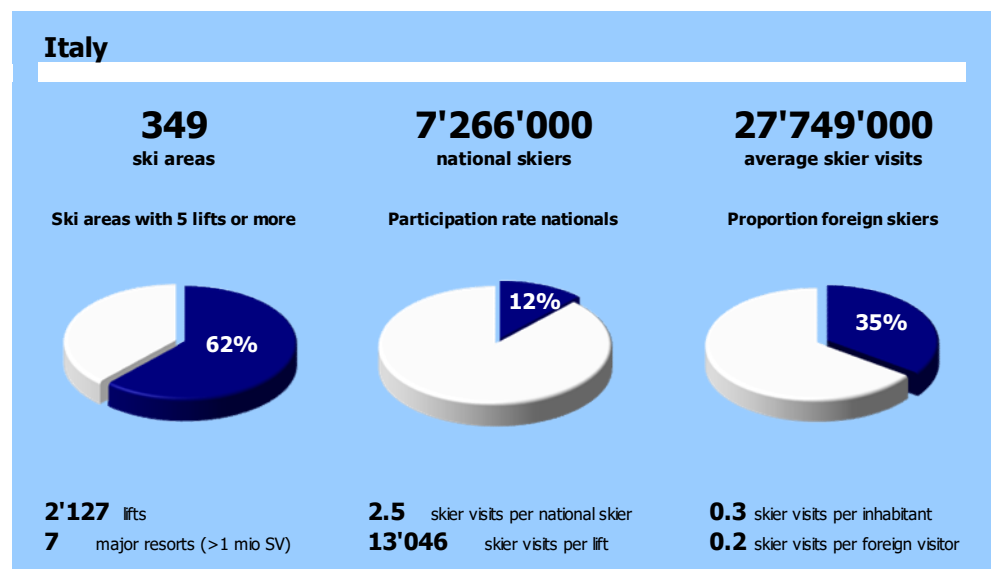


Figure 14: Italy, evolution of skier visits



Half-Century Old Cable car Replaced at Cortina d'Ampezzo

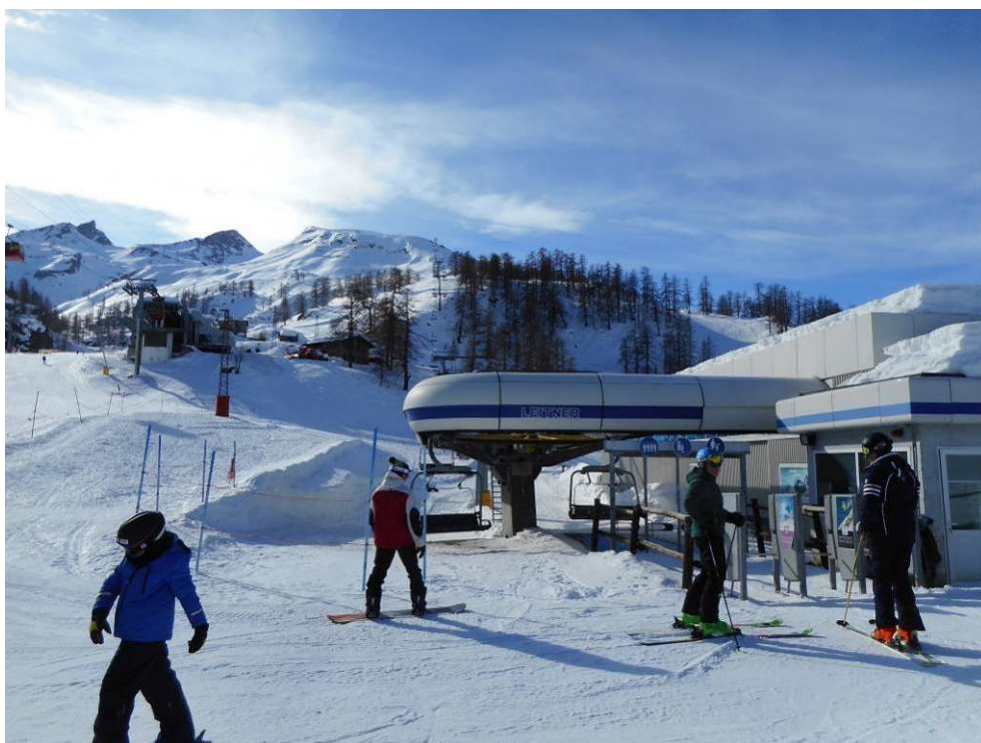
The iconic cable car that ran between Cortina d'Ampezzo and Col Drusciè in the Tofana sector has been replaced after 50 years. The cable car, installed in 1969, is replaced by a new 10-seater gondola, nearly tripling capacity on the route from 675 to 1'800 people per hour. The new gondola also substitutes the

²² The present report does not rely on the officially communicated estimates.

chairlift from Colfiere to Col Drusciè: there is an intermediate station in Colfiere where skiers are able either to get off the gondola or step in. For this reason, the ascent up to Col Drusciè will last 90 seconds more but it will reduce queues and waiting time. In addition, it has been announced that for the winter season 2020/21, a new high-speed quad chairlift with pull-down weather-protection hood is also being built in the resort's Tofana sector.

The area was made famous on the world scene during the 1956 Olympics in Cortina when ski-racing legend Tony Sailer won the special slalom ski race. Cortina will host the Alpine Skiing World Championships again in February 2021. In addition, in the Cinque Torri ski area, a new slope is expected to be ready for the beginning of next winter season. The piste will be named Lino Lacedelli, after the famous climber from Cortina. It will be used for the trainings during the 2021 World Ski Championships. Work is starting this summer also for a new artificial lake to guarantee easy snowmaking and other use of water in the Cinque Torri area.

Source: Snowhunter



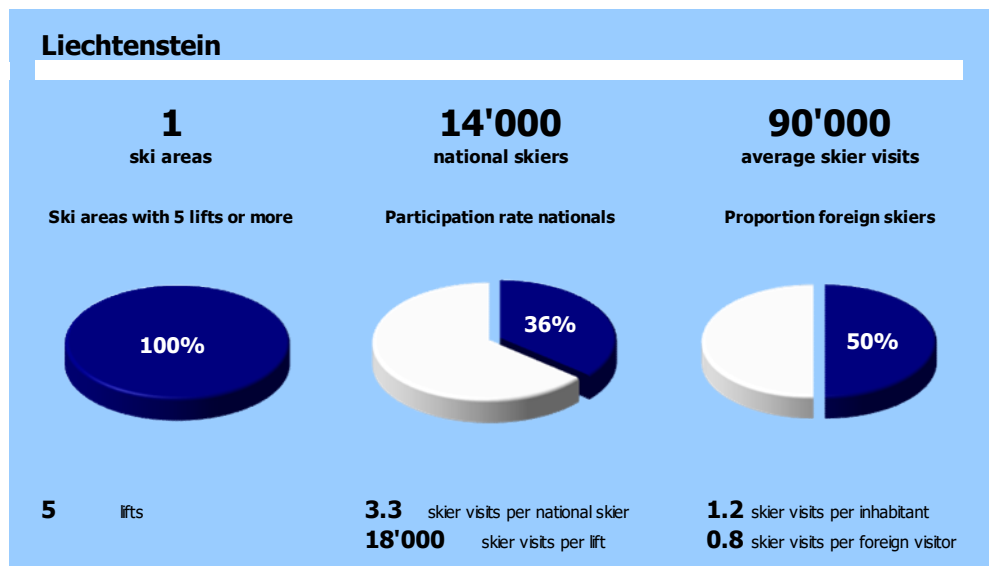
 **Liechtenstein**



Liechtenstein is a small Alpine principality in Central Europe bordered by Switzerland to the west and south and by Austria to the east and north. The majority of its 162 square kilometres is mountainous, with the highest summit topping out at 2'599 metres above sea level (Grauspitz), making it a destination for winter sports, although the small country only accounts one single ski resort, Malbun.

Malbun is pretty close to the capital, Vaduz, but the road up to the resort can be an intimidating one for inexperienced mountain drivers, with steep gradients and sharp corners.

Skiing in Malbun appeals to the nostalgia of the days before the sport became industrialised, with package tours and lift queues. It is not a place to ski record vertical, or to spend a lot of money on après-ski. However, Malbun is the perfect resort for a romantic getaway to remind oneself what a ski vacation was once all about. Like the country, the resort is tiny, with only a handful of hotels amongst the private chalets and houses. It is only equipped with 5 lifts that rise to a maximum altitude of 2'000 metres. The snow conditions normally remain pretty good.





Slovenia



Slovenia has 28 peaks over 2'800 metres high. The highest peak, Triglav, culminates at 2'864 metres above sea level. The Alps, including the Julian Alps, the Kamnik-Savinja Alps and the Karavanke mountain range, tower above Northern Slovenia along its long border with Austria and Italy. In the 17th century, skis were already used there as a means of transportation. Today, hiking and trekking are among the most preferred sports in Slovenia. Thanks to attractive winter resorts such as Kranjska Gora, Rogla and

Krvavec, skiing has developed into a major sport in the past few decades, even though other European winter sport destinations are strong competitors due to higher altitudes and the guaranteed snow. Tourism is the highest growing economic sector in Slovenia and is increasingly competitive.

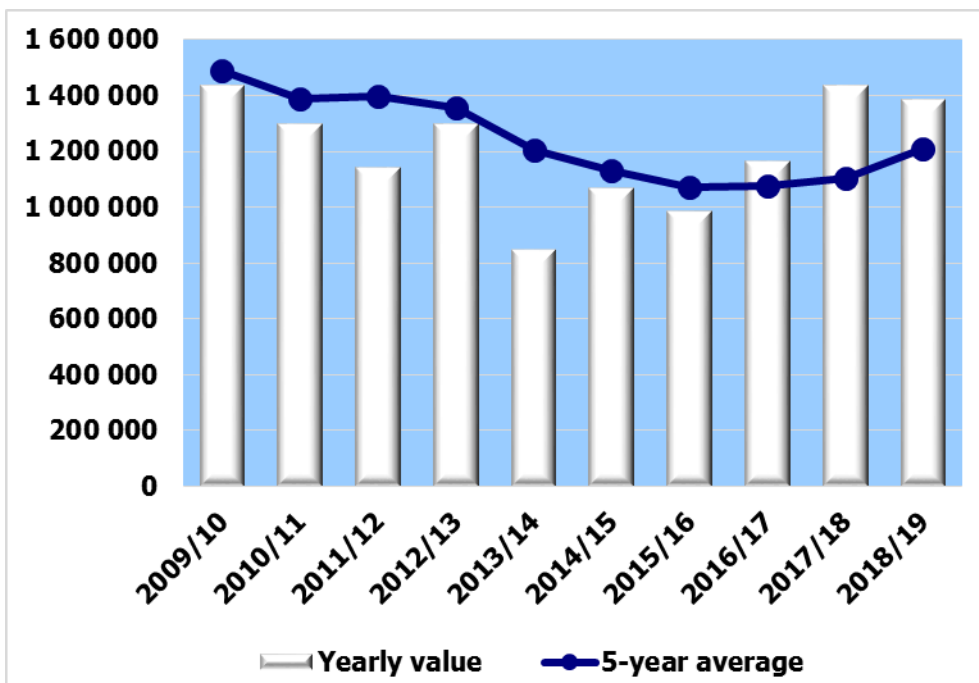
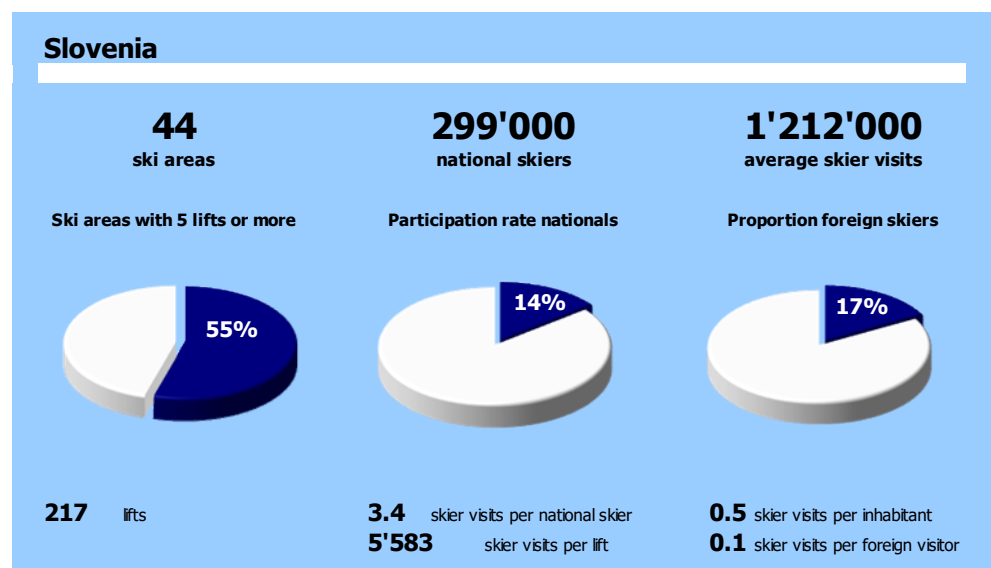


Figure 15 : Slovenia, evolution of skier visits

The evolution in skier visits reveals a strong dependency on snow conditions. After a substantial growth in the beginning of the 2000s, several seasons have shown a declining trend in attendance. It has however been reversed over the last 2 winter seasons, with a return to higher visitation figures. 2018/19 was unusually warm and ski areas, on the whole, posted declining skier visits numbers.

Slovenia has 44 resorts with a total of over 200 ski lifts. It offers a very good price/performance ratio, modern ski runs, cross country skiing, good infrastructure, snowmaking, and well-equipped holiday apartments and hotels.

Mariborsko Pohorje is one of the most well known resorts. It hosts an alpine World Cup ladies' downhill event every year. 43 kilometres of ski runs, modern spas, beautiful landscapes and being near the city of Maribor make this a very attractive destination. The resort guarantees 100 snow days per season. Another popular ski resort is Kranjska Gora. It hosts an alpine skiing World Cup event every year and has trails for every level, from beginners to expert skiers and snowboarders. The highest winter resort in Slovenia is Kanin, which is connected with the Italian resort of Sella Nevea. It offers 30 kilometres of ski runs, 13 lifts and snow through early spring. Cerklno is the most modern family ski resort in Slovenia, located on the slopes of the 1'291 metre high Črnič peak. This ideally situated ski area is 100% covered by an extensive snowmaking system, which guarantees a minimum of 70 ski days per winter.





Switzerland



With 49 summits, Swiss Alps account the largest number of peaks that reach over 4'000 meters²³ of the whole mountain chain. The Alpine mountain range crosses all Switzerland from East to West and covers 62.5% of the

national territory. Another 10% of land is covered by the lower mountain range of the Jura, which is also shared with France and Germany. Jura only reaches 1'679 meters above sea level at its highest point in Switzerland.

Mountain tourism developed already during the 19th century in Switzerland, in places like St. Moritz, Davos and many others. At the beginning, it was concentrated at summer time. Winter tourism in Switzerland is considered to be born in 1864 in St. Moritz. First winter sports were sledging, curling and ice-skating. Ski competitions appeared over the next century. World's first downhill race was held over the Plaine Morte Glacier in Crans-Montana in 1911. In 1921, the first modern slalom race was held in Mürren. The second Winter Olympics were held in St. Moritz in 1928 (without downhill skiing competition at that time). The first T-bar lift was installed in Switzerland in 1934 in Davos²⁴.



Therefore, Switzerland was, for quite some time during the last century, the most well known ski destination in the world, with some places still garnering lasting recognition. The country was also once the leader in terms of lift infrastructure. However, the industry lost part of its lustre in the 1980s; too many fragmented operators fighting over the same

²³ Some are located on the boarder and shared with Italy.

²⁴ In fact it was first a J-bar lift installed, that was later on converted into a T-bar.

mountains led several companies into a poor financial situation. Investment has slowed down for quite some time and Switzerland has lost part of its appeal to foreign tourists. This has not been helped by its legendary, but not always true, reputation as being an expensive destination. However, for several years now, the exchange rate between the Swiss Franc, the Euro and the British Pound has been unfavourable and has led to a renewed reputation for being expensive. The situation became even worse when, on January 15, 2015, the Swiss National Bank discontinued the minimum exchange rate of the Franc with the Euro.

Swiss ski areas used to host an important foreign customer base, made up of Germans, British, French, Italians and Dutch²⁵. Over the last few years, the number of Spanish, Russian and Asian customers has increased, but this has not made up for the decline of Switzerland's traditional foreign customer base. Over the last 10 years, winter resorts lost 1.5 million overnight stays related to the loss of the latter. Nowadays, the average proportion of foreign guests on the slopes has dropped below the 50% mark.

On top of this, the Swiss ski industry is facing the same demographics issue with its domestic and foreign customer base. Baby boomers are retiring and the new generations are less engaged in the sport. The skier visit figures present thus a long-range declining trend.

Final Connection Creates 180 kilometres of Linked Slopes

A new cable car lift that has been completed to link the ski areas of Sedrun and Disentis means 180 kilometres of inter-connected ski slopes are now available at the SkiArena Andermatt-Sedrun-Disentis, which straddles the border between the cantons of Uri and Graubunden.

The region's redevelopment, which has seen approximately 10 new state-of-the-art high-speed chair and gondola lifts installed, and now a cable car, as well as a new luxury hotel in Andermatt and a new resort base, had been planned for a decade and seen construction ongoing over the past 5 years. The connection between Andermatt and Sedrun was completed at the start of last winter creating an initial 140 kilometres ski area. The new cable car, built at a cost of almost 25 million Swiss Francs, which has a capacity of 70 people per cabin, climbs 724 vertical metres up from Sedrun to the 2'203 meter high Cuolm da Vi connecting it on to the Disentis ski area.

Source: Snowhunter

From beginning of 2000s, Switzerland first experienced a period of stagnation, which ended after winter 2008/09 when attendance began to show a steady decline. This happened in spite of continued efforts by Swiss ski resorts to extend snowmaking facilities and renew lift infrastructure. Unfavourable snow conditions repeated for 3 years in a row starting winter 2014/15. After early snowfalls in November, weather became mild and dry up to the end of the year. In several areas, there has been no snowfall /

²⁵ Top 5 in hotels overnight stays during the winter season in mountain regions.

rainfall at all during the month of December. Snow was lacking in many resorts for Christmas / New Year holidays. Genuine winter conditions only arrived later.

Winter 2017/18 experienced however better conditions. Attendance figures rose 10.3% over previous season. Despite weather conditions have not been always very favourable throughout the first half of the season, 2018/19 also experienced a further growth of 6.2% in skier visits, which reached 10.3% over the 5-year average. This improvement did not yet fully recover for the 25% skier visits lost over a 10-year period up to 2016/17.

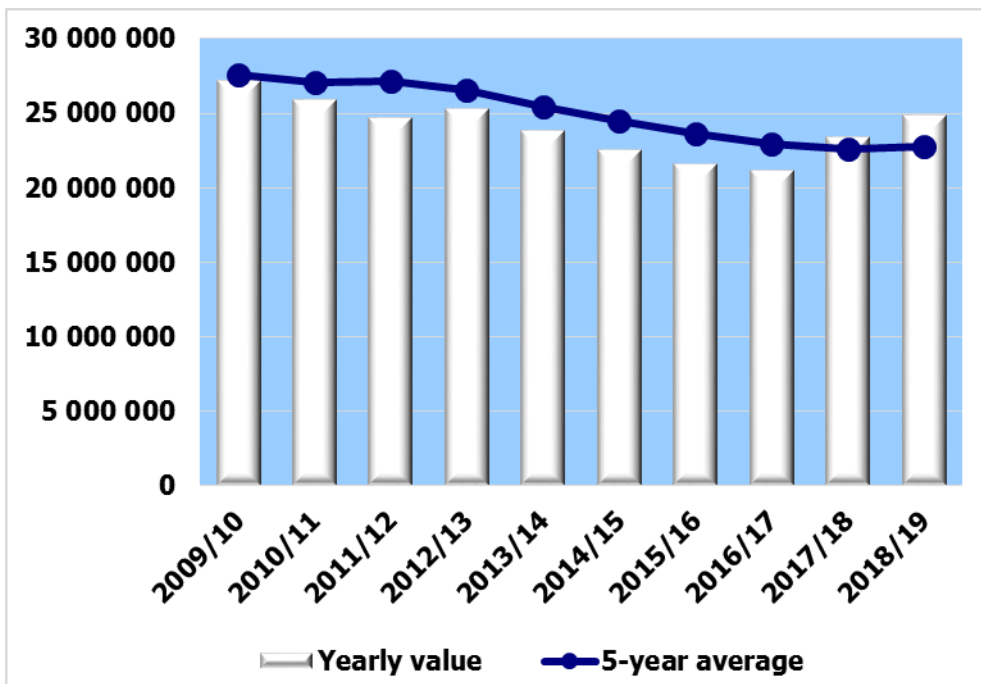


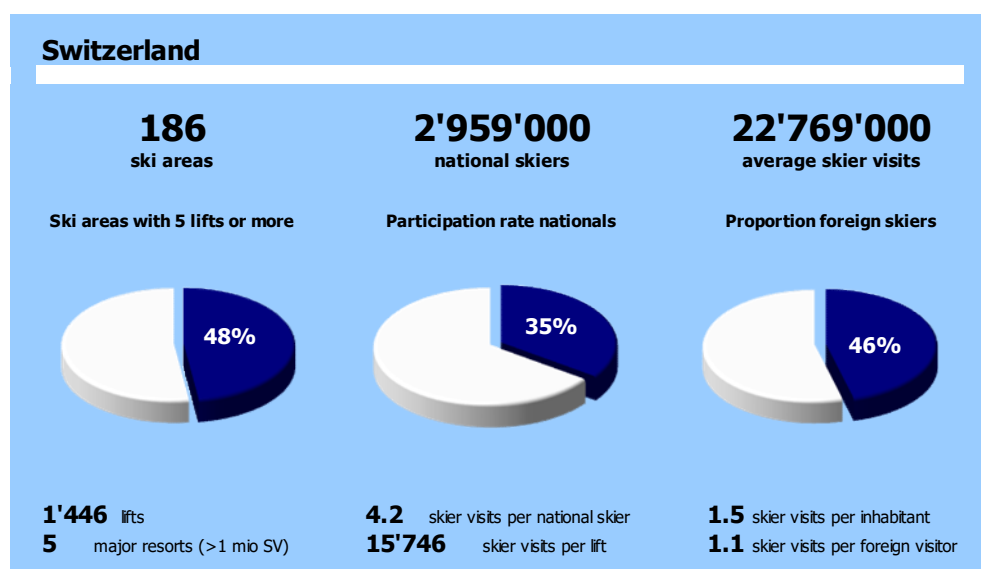
Figure 16: Switzerland, evolution of skier visits

Several ski areas are currently entering into disruptive pricing strategies in order to try to recover part of the clients and attract newcomers. The first one to propose heavily discounted season passes was Saas-Fee, with a CHF 222 offering in 2016/17. Although the resort was very successful with it on the first season, the 2017/18 was not so bright. 25 Swiss ski areas got also together in 2017/18 to offer a multi-resort season pass with very interesting discounted price in pre-sale. They were able to globally increase their skier visits figures by 30% over the former season, which is 20% more than the Swiss average. Other ski areas also introduced offers of this kind and some resorts are now working on the adoption of dynamic pricing. It will however need some years before conclusions can be drawn from all these initiatives.

The future is still unclear and is a concern for ski area operators. For the time being, Swiss operators have not taken any considerable measures to

anticipate the impact of the demographic changes in their client base. Some campaigns were launched over the last few winters to get citizens of major cities acquainted with the pleasures of skiing. Various ideas are being studied but customer knowledge still needs to be improved to develop successful CRM programs.

Further improvements to the client experience will also pass through the modernization of part of the aging hotel infrastructure, which offers very unequal quality depending on the destination. The increase in the non-skiing offer will also help the Swiss Alpine resorts to be more appealing to a larger customer base both in winter and in summer.



Western Europe

Western Europe (except the Alpine countries mentioned separately above) is for the present time the largest outbound skiers market. It is home to more than 30 million skiers. It is also home to nearly 1'100 ski areas, an amount quite comparable to the Alps. However, even if several Western European countries have their own ski resorts, many skiers enjoy travelling to the Alps. Thus, attendance in Western European resorts represents only about 25% of the total Alpine skier visits.



 **Andorra**



With 62 peaks over 2'000 metres high within the country's 468 square kilometre surface area, the Principality is located in the highest part of the Pyrenees and has the largest ski area in the Pyrenees. The resorts are located at altitudes between 1'550 and 2'640 metres above sea level. Due to the southern location, the climate is milder and sunnier than in the other European ski regions. Even if susceptible to unreliable snowfall, snow conditions are generally good, enhanced by a solid snowmaking system.

As the Andorran population is very small, the national customer base is insignificant. Most skiers are foreign visitors. Although there is no direct access by rail or air to Andorra, the ski areas are close to big cities from neighbouring Spain and France, and also attract other international visitors, such as British and Russian skiers. The resorts offer many hotels for all tastes and budgets. They are also valued for their nightlife and shopping.



Due to the huge portion of international customers in the number of skier visits, Andorra is the only destination in Europe that experienced a decrease in skier visits immediately after the 2008 crisis. They however quickly stabilised and showed again some trend upwards over the recent years. For the first time after 11 seasons, skier visits have returned over the 2.5 million mark during winter 2017/18, which was the level at the beginning of the 2000s. The country has nevertheless to fight against increasing international competition and lacks a domestic market. 2018/19 saw again a 3.0% decrease in visitation.

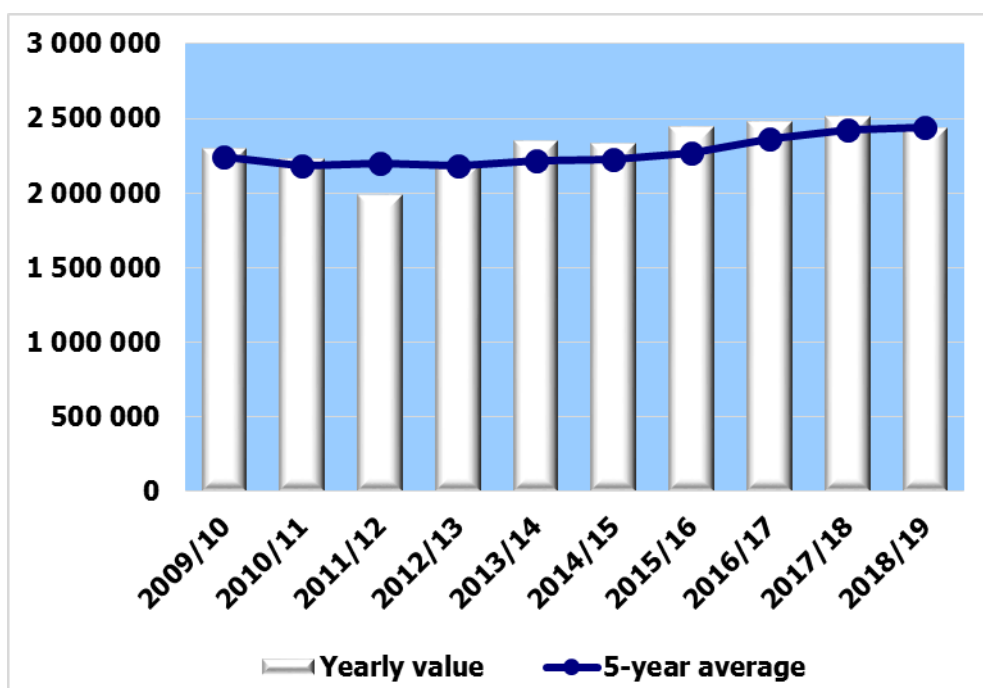


Figure 17: Andorra, evolution of skier visits

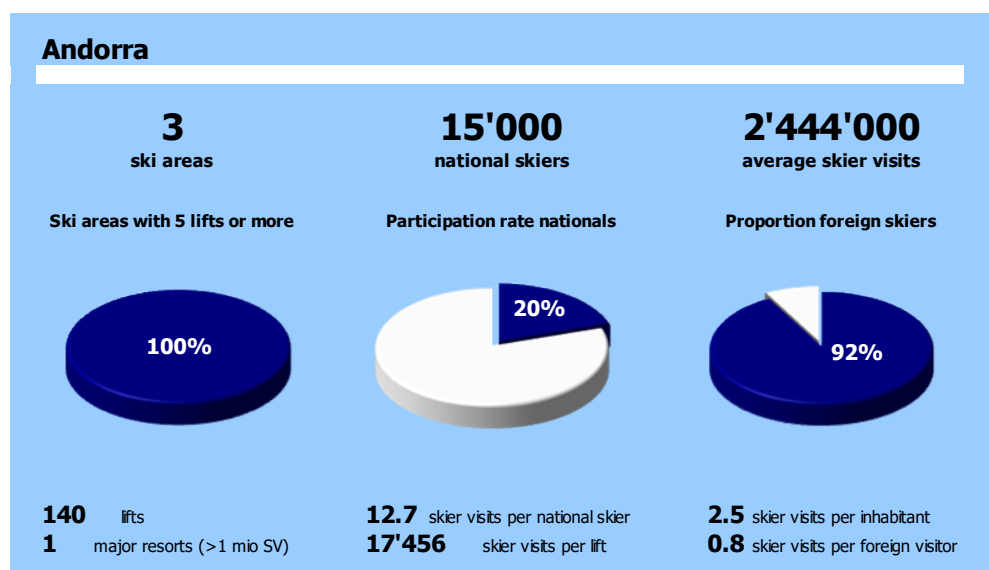
Despite modern infrastructure, good snowmaking, and large enough resorts to compete with the Alps, part of the skier market does not consider Andorran resorts as attractive as those in the Alps, claiming their layout differs slightly. The country has an image deficit to address (as for all Pyrenees resorts). Villages are extensively connected over wide areas, but vertical drop is lower than in the major Alpine resorts.



Le Pas de la Casa-Grau Roig and Soldeu-El Tarter form the Grandvalira ski area. Grandvalira is the largest interconnected ski area in the Pyrenees. With its 71 lifts, 128 runs for a total of 210 kilometres of skiing, it has

entered the exclusive club of the top 50 largest resorts in the world (over one million skier visits per year).

The other resort is Vallnord, which is made up of the 3 distinct ski areas of Arcalis, Arinsal and Pal. Since 2004, the 3 areas are covered by a common lift pass, offering guests the opportunity for a wide variety of skiing and snowboarding. Arinsal and Pal, now marketed as *Vallnord Pal Arinsal*, are linked via a 50-person cable car and offer 31 lifts, 49 runs totalling 63 kilometres. Arcalis, now marketed as *Vallnord Ordino Arcalis* is a 40-minute bus ride away and features 16 lifts and 34 runs for a total of 30 kilometres of skiing. Since winter 2017/18, it is also possible to purchase a combined ski pass for Ordino Arcalis and Grandvalira, further to a new commercial alliance.



Belgium



Despite Belgium being qualified as *the Flatlands*, with an average altitude less than 300 metres above sea level, the southern part of the country has some hilly terrain. The Ardennes range tops out at 694 metres (Signal de Botrange).

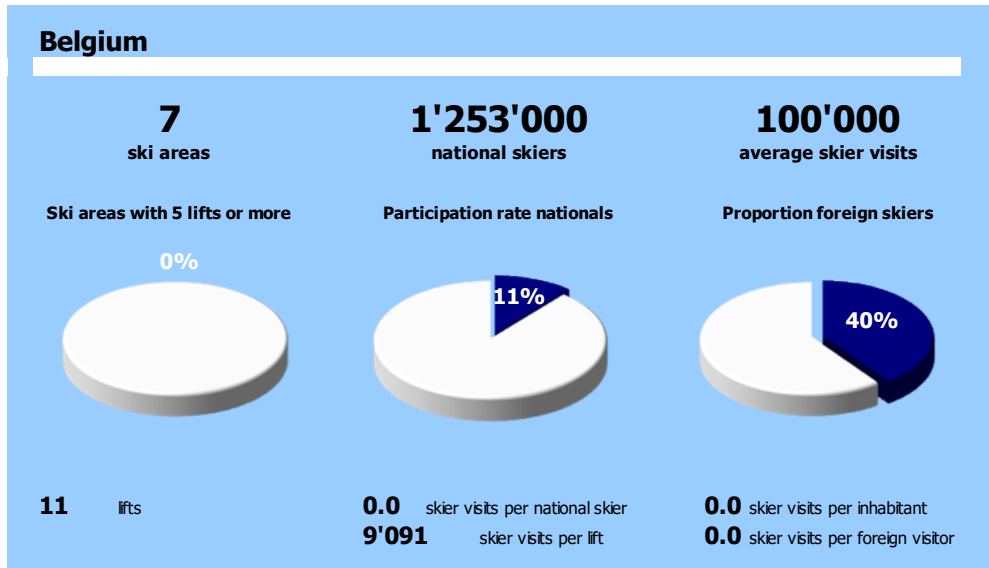
Since Belgians like to ski, and even though they spend most of their winter sports vacation abroad, 7 small ski areas have become popular in the Ardennes, in addition to a few indoor and dry slope facilities. Snow coverage is an issue, as good conditions are never guaranteed

during the winter. January and February are the most likely to offer snow. On average, Belgian ski areas operate between 30 and 80 days in a season.

The ski areas are small and local, offering only surface lifts. It is possible to rent skis in most places. They are suitable for families with young children as they offer mostly beginner slopes (and also often a sledge run). Incidentally, several ski areas ban snowboarding for safety reasons. These areas offer a good opportunity for novice skiers to get a taste for skiing before heading to the larger ski resorts in the Alpine countries. Belgian slopes also attract neighbouring French and Dutch skiers.

The best-known ski areas are Baraque de Fraiture and Mont des Brumes. Baraque de Fraiture has the highest slopes in Belgium (reaching up to 652 metres above sea level) and also features night skiing. Mont des Brumes has been the cradle of skiing in Belgium. The place was discovered by skiers in 1946 and a ski club was founded 2 years later. The area was soon equipped with ski lifts and it was one of the early places in Europe where snowmaking facilities were installed.

The longest trail in Belgium (1'200 metres long) is located in Val de Wanne ski area.





Denmark



Denmark is one of the flattest countries in the world, with an average altitude of about 30 metres above sea level. There are absolutely no mountains and the highest hill culminates at 173 metres. However, the country also includes Greenland, which features heights up to 3'733 metres above sea level (Fjeld Gunnbjorn). Greenland is a peculiar territory, with more than 75% of its surface covered with an ice cap and only contains 56'000 inhabitants.



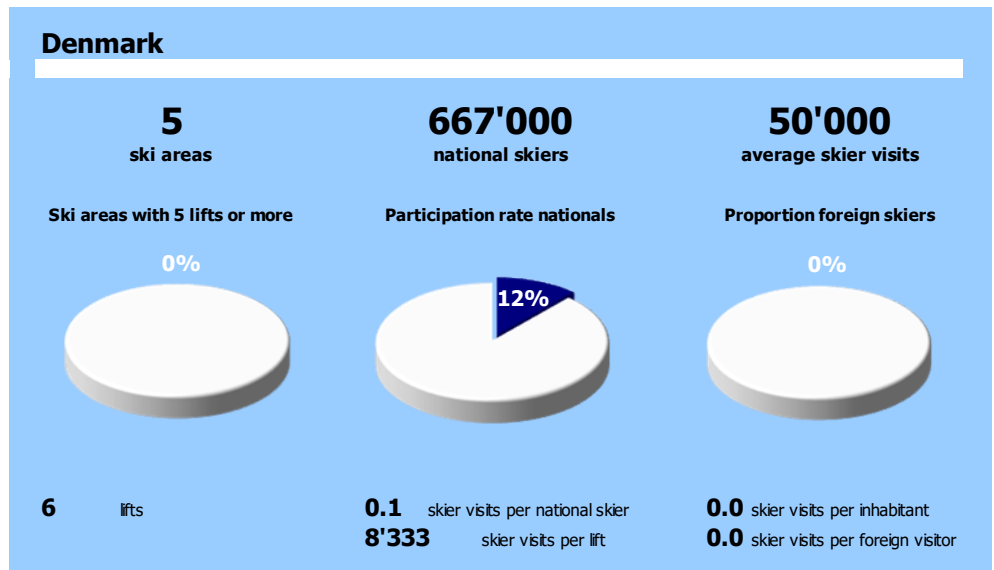
On top of a lack of any terrain relief, Denmark also often lacks snow. The Danish winter is unpredictable and snowfall sporadic. It is usually mild, with an average temperature of 0 degrees Celsius in January and February. However, sometimes the winters are much colder and include snowy days, while other winters there is no snow at all, or the snow melts as soon as it falls. Sometimes several years pass between two snowy winters.

In addition to a couple of indoor ski facilities, there are a few outdoor ski areas with limited vertical drop and infrastructure. Skiing is a popular sport in Denmark and many Danes go skiing every year, travelling abroad, either to Scandinavia or to the Alps.

While the 3 ski areas in Denmark (Hedeland, Kolding and Bornholm) are mostly equipped with rope tows or beginners lifts (only Bornholm features a draglift), the 2 ski areas in Greenland (Nuuk and Angmassalik) have one or

more ski lifts. Hedeland is equipped with some snowmaking facilities.

The wild mountainous areas of Greenland, covered with fresh polar powder snow, offer some exclusive spots for heliskiing. It is possible to ski 2'000 metres of vertical down to the water's edge.





Finland



Despite the coastal plains and the flat terrain of Southeast Finland, the country's high point is Mount Halti, 1'328 metres above sea level, located in the mountainous region along the Finnish-Norwegian border. Even with few mountains, Finland has about 80 ski areas in the North and Lapland (22), the South (26) and in the middle of the country (28).

The longest ski trail is in Lapland (over 3'000 metres long) but the average length of a ski run in Finland is between 600 and 800 metres. Finnish lift passes are among the cheapest in Western Europe.

Skiing has been in Scandinavia for several thousand years and it is said that the Vikings already used skis as a means of transportation. If the existence of skiing is very old, its practice as a sport is more recent. It was developed after 1850, when the first races were held (mainly in Norway), and the Finnish Ski Federation was founded in 1908.

Ski season in Finland can last substantially longer than in the Alpine countries, with some resorts opening already mid of October and operating until mid May²⁶.



The progression of skier visits in Finland is quite low. With ups and downs, the long range trend seemed however to be improving over the years

²⁶ Ski resort of Ruka opened the 2016/17 season on October 10th, using 30'000 cubic meters of snow from former season that had been piled into 3 huge mounds. Winter 2017/18 already began on October 6th, using the same technique.

through winter 2013/14, where attendance was down 15% and remained so for the consecutive seasons. Winter 2016/17 saw however a 6% increase over the former one and winter 2017/18 remained about the same level. It started early in Lapland but exceptional late in middle and southern Finland. Last year saw also big investments in many ski resorts and especially in Ruka: new gondola, new chairlift and new village. Despite conditions of the winter 2018/19 were considered as the worst for 30 years, with less snow, higher temperatures and a difficult season start, it ended up without any visitation loss on the former one.

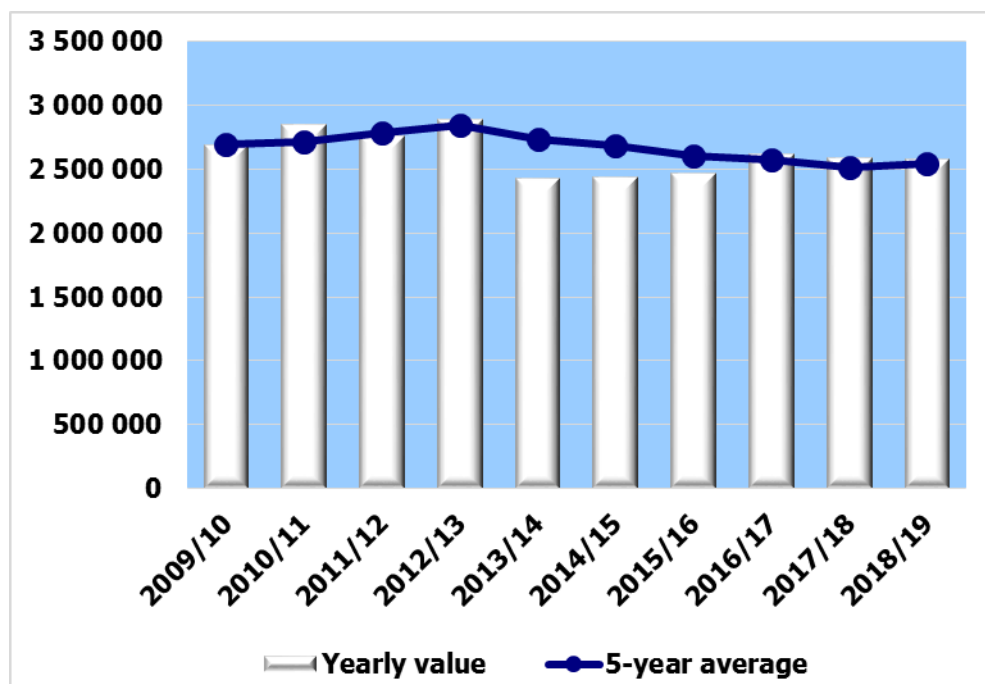


Figure 18: Finland, evolution of skier visits

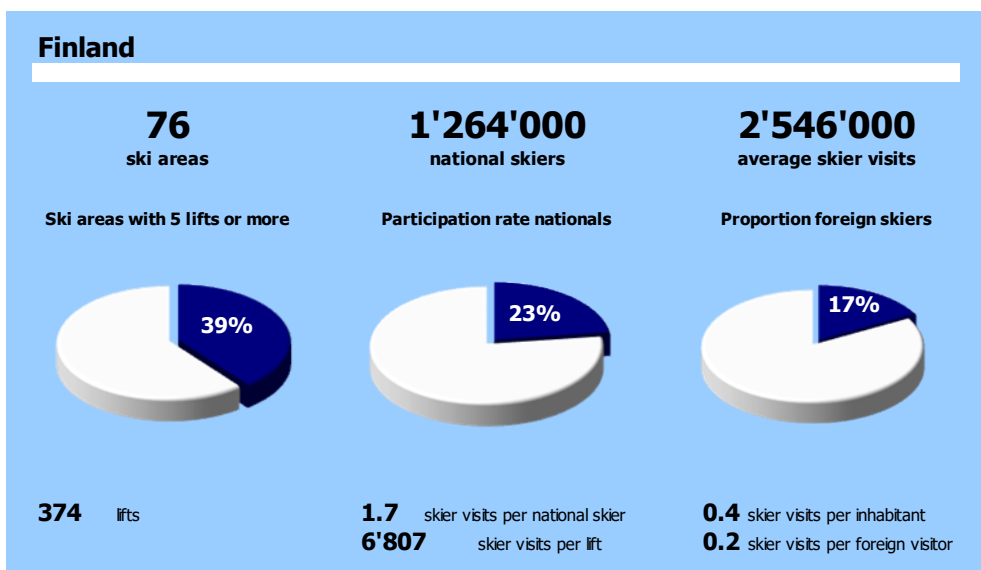
The biggest resorts are located northern of the country and offer unique combination of alpine skiing or snowboarding and true winter wonderland (arctic circles, reindeers, northern lights, Santa Claus, pure nature and clean air ...). Finnish Lapland has recently attracted a number of new routes with direct scheduled flights from United Kingdom, Germany, France and Switzerland.

The main ski resorts in Finland are Levi, Ruka and Ylläs. They primarily target families, recreational skiers and people attracted to the many adventure activities they offer (excursions, etc.). Levi is the fastest growing ski resort in Finland. It is located in the northern part of the country, has 2 cable cars, 1 chairlift and 25 surface lifts with a total capacity of 27'900 people per hour. Levi offers 230 kilometres of runs and 10% of them are lit for night skiing. From time to time the resort hosts Alpine Ski World Cup races.

The Ylläs ski area consists of 7 peaks and 2 original Lapp villages. At 718 metres above sea level, Mount Ylläs itself is one of the highest peaks in Finnish Lapland. The Ylläs ski resort features 29 ski lifts, 61 trails, a Super-G-slope and the longest run in Finland (3.5 kilometres).

The northernmost ski area of Finland is Saariselkä²⁷. The resort features 6 lifts and 15 slopes, 7 of which are illuminated. Vertical drop is 180 meters.

There is also a great network of local ski areas around Finland. Local ski areas are very popular not only for kids and beginners but especially for expert freestyle skiers and snowboarders. In such small resorts with snowparks and efficient lifts, it is possible to enjoy very good training conditions.



²⁷ The resort even claim to be the northernmost resort in Europe. However, there are a few ski lifts in Tromso, Norway, that are more north than Saariselkä.

 **Germany**



There are about 500 ski areas in Germany to satisfy the largest population of skiers in Europe: more than 14 million. However, nearly half of these areas only have one lift. The country's main resorts are located along the southern border of the Black Forest and in the Bavarian Alps, which border Switzerland and Austria. The German Alps, the Harz Mountains, Black Forest, Bavarian Forest, and the Thuringian Forest are middle altitude mountains, rising as high as 1'500 metres above sea level. Ski areas often sit at altitudes lower

than Austrian or Swiss resorts, and skier visit figures have shown higher sensitivity to snow conditions in the past. Resorts have therefore heavily invested in snowmaking systems in order to mitigate the meteorological risks. Visitors' figures have followed the same trend than in the Alps over the last decade, beside an exceptional season in 2012/13. The long-term trend appeared to be declining on recent years, before stabilising in 2017/18.

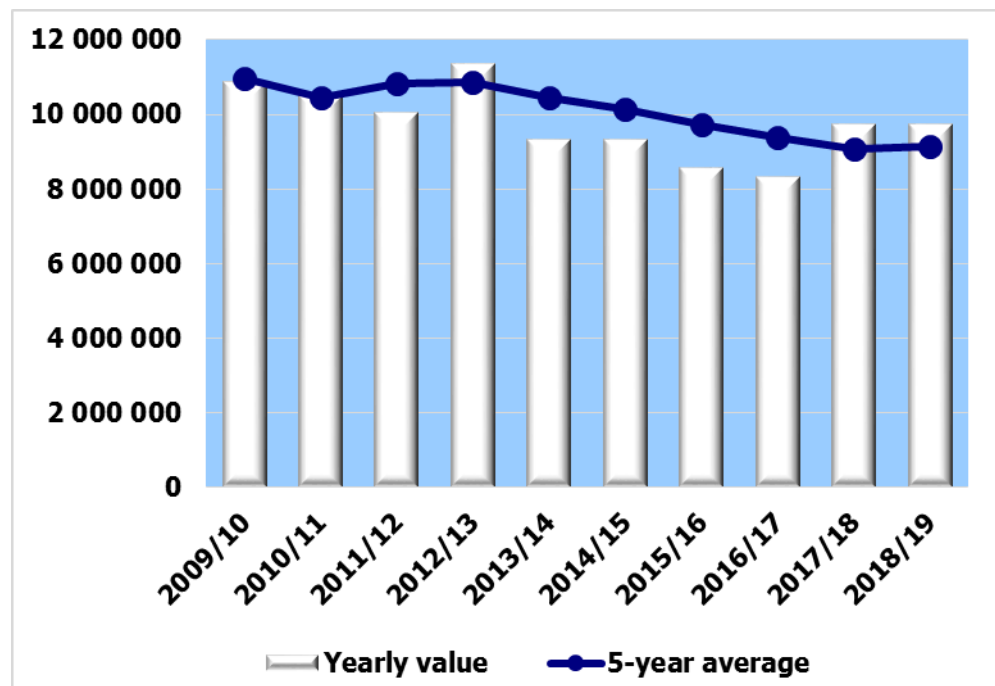
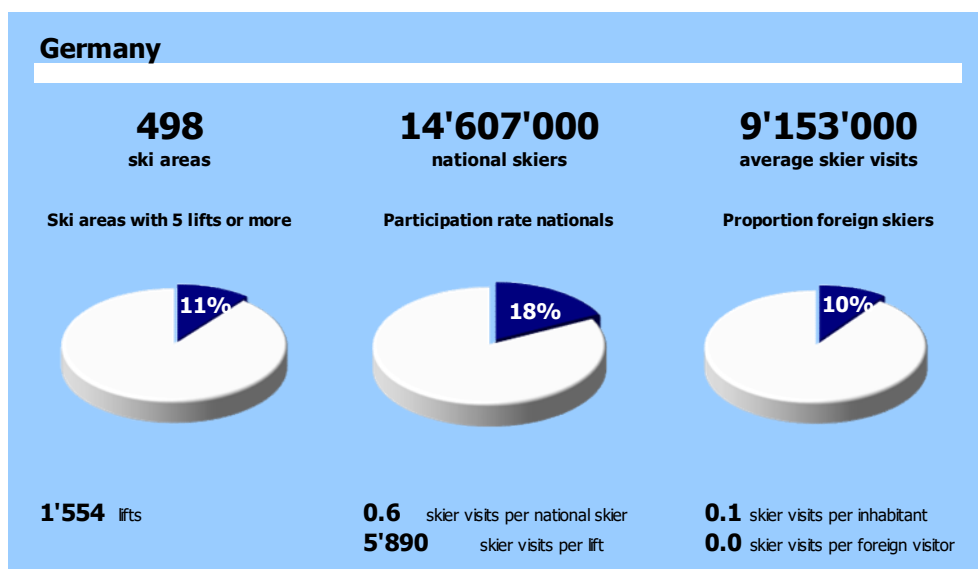


Figure 19: Germany, evolution of skier visits

The major catchment areas for German skiers are Munich, Stuttgart and regions further north. However, the Germans are big consumers of skiing abroad, and represent, for example, the largest foreign customer base for Austrian resorts. However, the behaviour of German skiers is basically similar at domestic level than on inbound markets, with a stagnating appetite for skiing coupled with the influence of seasonal snow conditions. For instance, the level of German winter overnight stays in the major Austrian ski regions has been stable for now 25 years.

Garmisch-Partenkirchen is the undisputed German winter sports capital. Renowned for its traditional New Year's ski jumping competition and for being an Olympic city, Garmisch today is a cosmopolitan place. Its ski area extends to the Austrian border, and includes over 60 kilometres of trails. The Zugspitze is the highest ski lift in Germany, topping out at 2'830 metres. Skiing in Germany is however not limited to Garmisch. In Western Länder, there are ski areas such as Oberstdorf, Balderschwang and Oberammergau in the Bavarian Alps, or Reit im Winkl, Oberaudorf and Berchtesgaden in the East.





Iceland



In spite of the country's name, it may often be warmer at ski resorts in Iceland than at many ski areas in Europe or North America. The snow conditions are in general cold and firm instead of powdery. Most of the Icelandic mountains are no higher than 1'500 metres above sea level. The ski areas may therefore lack the vertical drop needed for experienced skiers. Several ski areas are located near urban centres, including the capital, Reykjavik. The main areas are equipped for night skiing, which is absolutely necessary given the very short

winter days. They usually offer a reasonable variety of runs. Many also offer cross-country ski trails, skating rinks and the possibility of renting snowmobiles.

The 2 best-known resorts are Bláfjöll, 30 minutes away from the capital, and Akureyri, on Mount Hlíðarfjall. Bláfjöll is the largest in the country with 11 lifts (2 chairlifts and 9 surface lifts) and a total hourly capacity of over 8'000 people. Opened in 1982, it has 16 runs for all levels, but only a small portion is for advanced skiers. The area ranges between 480 and 700 metres altitude, offering limited vertical drop. Glacier skiing is possible during the summer. Accommodations are limited, with only 100 beds available for visitors in homes belonging to 3 ski clubs. One daily lift pass costs less than EUR 20. However, life in Iceland is pretty expensive for the extras.

Akureyri is the most popular and most comprehensive ski destination in the country. It is equipped with 7 lifts, including a chairlift and a moving carpet, and features a wide variety of downhill ski runs from the summit. 24 runs cater primarily to beginner and intermediate skiers. With an altitude ranging between 500 and 950 metres above sea level, the area is equipped with a snowmaking system. In addition to skiing and a skating rink, visitors can also enjoy the snowpark, a swimming pool heated by geothermal activity and a fitness centre. Accommodations at the ski area only amount to 100 beds, but other options are available in the town of Akureyri, 7 kilometres from the resort. The daily lifts pass costs around EUR 20.

2017/18 winter season's attendance increased more than 30% on former year, as snow conditions were much better. Winter 2016/17 had been missing snow. Weather has then been bad in 2018/19, bringing attendance figures to a lower level again.

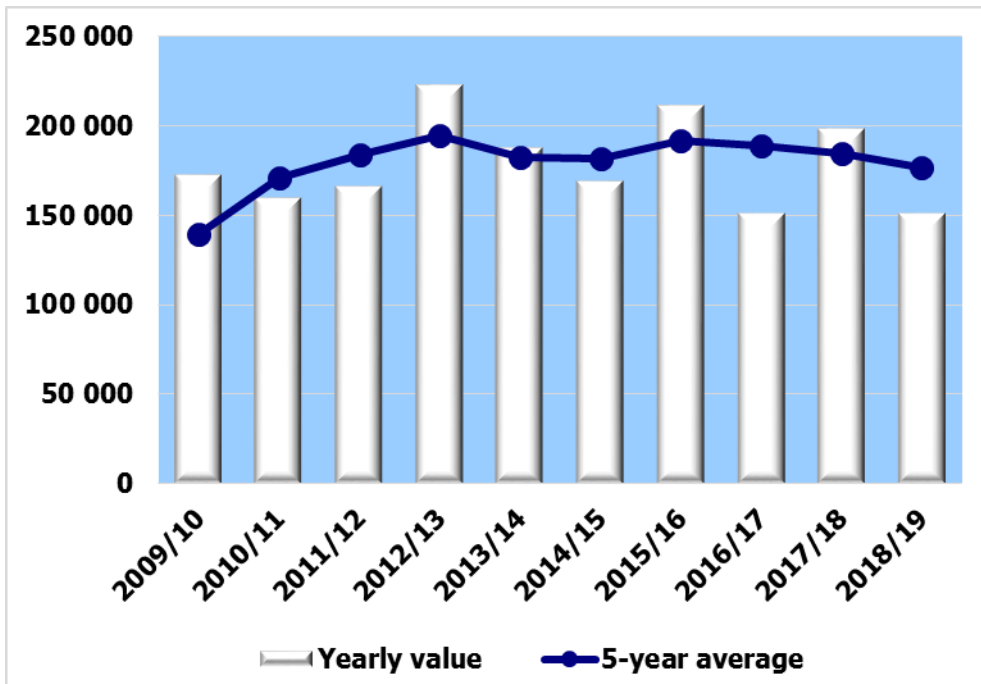
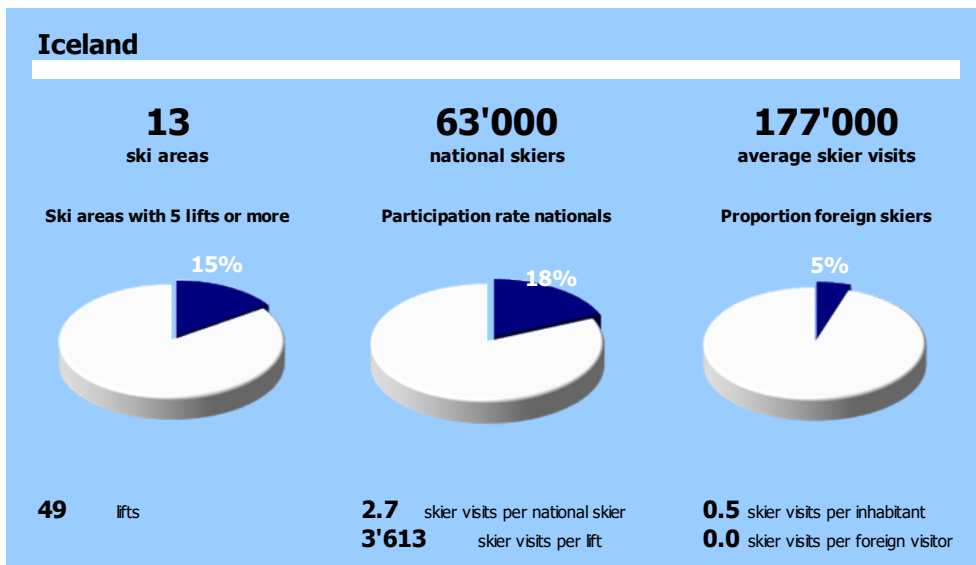


Figure 20: Iceland, evolution of skier visits



 **Norway**



Most of the country is dominated by mountainous regions or high terrain, with 26 peaks higher than 2'300 metres above sea level. The highest summit tops out at 2'469 metres.

Skiing has been an activity in Norway for over 4'000 years and modern skiing was invented here. Initially, skis were solely a means of transportation, but skiing soon became a recreational activity. Morgedal, the birthplace of Sondre Norheim, the skiing pioneer and inventor of the telemark technique, is considered to be the cradle of skiing and was chosen 3 times to light the Olympic torch for the Winter Games. Norway has more than 200 ski resorts and over 650 ski lifts. After some declining and stagnating years, skier visits have now been on the growth for 4 seasons in a row and reached over 8 million in winter 2017/18, the highest figure ever reached in Norway. Winter 2018/19 saw however a 3.0% decline, without affecting the positive long term trend.

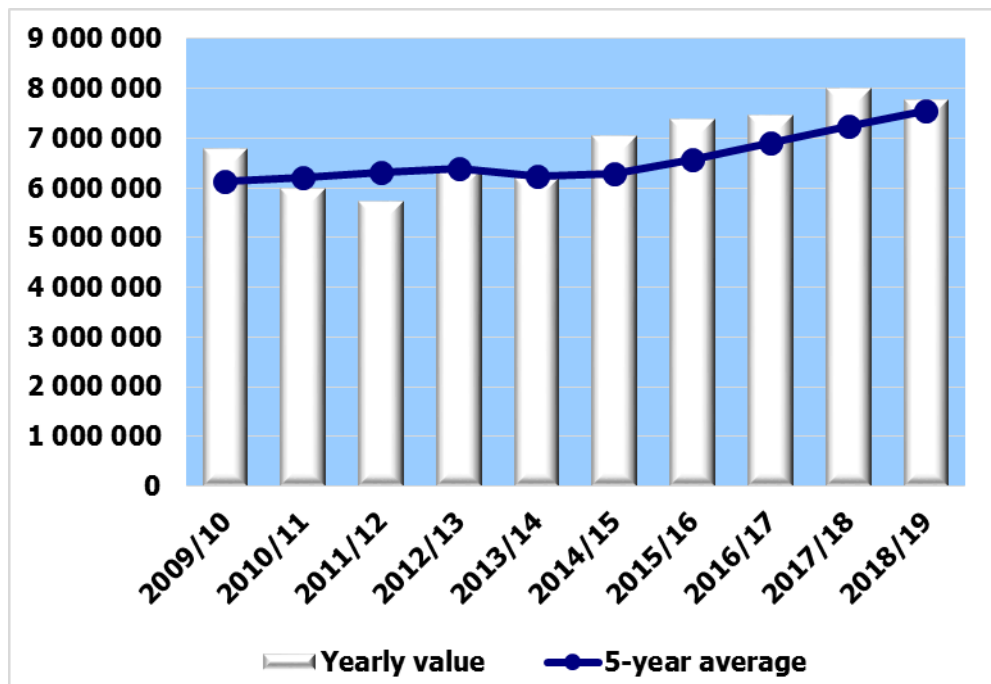


Figure 21: Norway, evolution of skier visits

Norway is an ideal holiday destination for families, thanks to excellent childcare facilities. Children under the age of 7 can ski for free, provided they are wearing a helmet. The ski season begins very early and lasts from November until Easter. Norwegian ski resorts benefit from good snow conditions and are not as overrun as elsewhere, so that ski lift lines are rare. The 2 largest ski resorts – Trysil and Hemsedal – even offer their guests a snow guarantee: if the guaranteed ski trails are not open for an extended period of time, the resort refunds their guests the money for their hotel, ski school, ski rentals and lift pass.

In the far North, there are no major resorts, but there is a wide variety of ski areas with cosy holiday cottages that are often rented out by private owners. Many holiday homes and hotels are very close to the ski lifts. Norway also offers several snowboard parks and over 30'000 kilometres of cross country skiing trails. 2'500 kilometres of tracks are lit, as night falls very early in Norway.

Geilo is the oldest ski resort of Norway and has since become a modern resort with good infrastructure, excellent ski runs, snowboard parks, mountain restaurants, hotels and spas. Spread on several areas, it has 4 chairlifts and 13 surface lifts with a total capacity of 22'000 people per hour, all located between 800 and 1'178 metres above sea level.

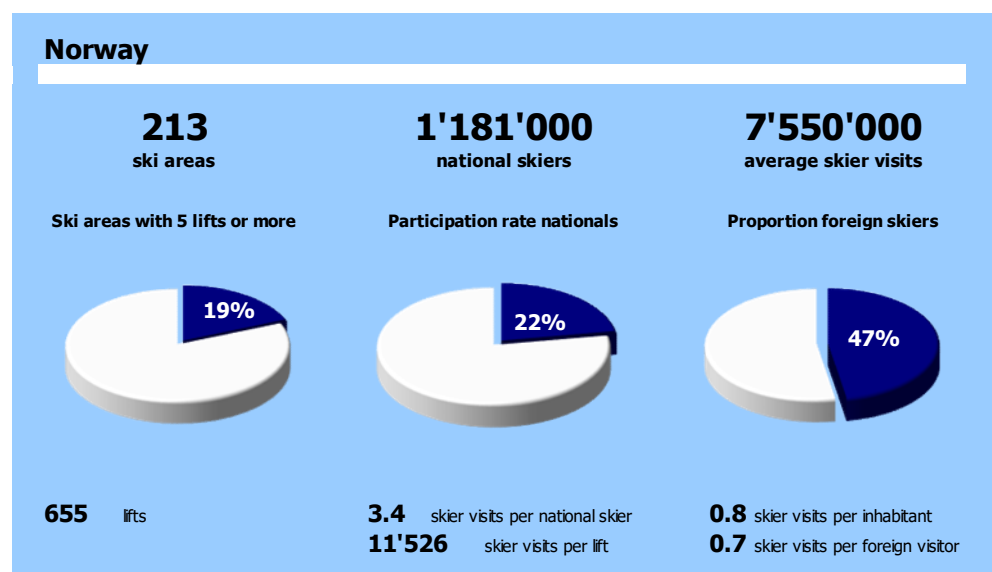


Hafjell is the third largest alpine ski area in Norway, 2 hours drive north from Oslo, well-known thanks to the 1994 Lillehammer Olympic Winter Games. With 835 meters vertical drop, it has 1 gondola, 3 chairlifts, 11 surface lifts, 44 kilometres of well-maintained ski runs and 300 kilometres of groomed cross-country skiing trails. Hafjell is a very modern and sunny ski resort. Snowmaking facilities cover 87% of the skiable area.

Hemsedal, in the Scandinavian Mountains, is a 3-hour drive from Oslo (230 kilometres). The summit of the resort culminates at 1'450 metres above sea level, offering 830 meters vertical drop. Hemsedal features 49 downhill runs for a total of 46 kilometres of skiing, 6 chairlifts, 12 surface lifts, with total capacity of 28'500 skiers per hour. Accommodations offer 4'800 commercial beds. There are 2 mogul runs and 2 runs are lit for night skiing.

Despite the title of northernmost ski area is heavily disputed between the 3 Scandinavian countries, it falls to the small resort of Tromso, featuring 4 kilometres of slopes and 2 T-bar lifts.

Norway also accounts 3 summer-only ski areas: Stryn Glacier, Folgefonn and Galdhoppigen. They are all located on glaciers and are usually open from May to October / November.





Portugal



Although Portugal is among the countries most famous for their beaches, the northern half of the country is mountainous and marked with valleys, highlands and cold winters. Ponta de Pico, the highest point of Portugal (2'351 metres above sea level) is located in the Azores Islands.

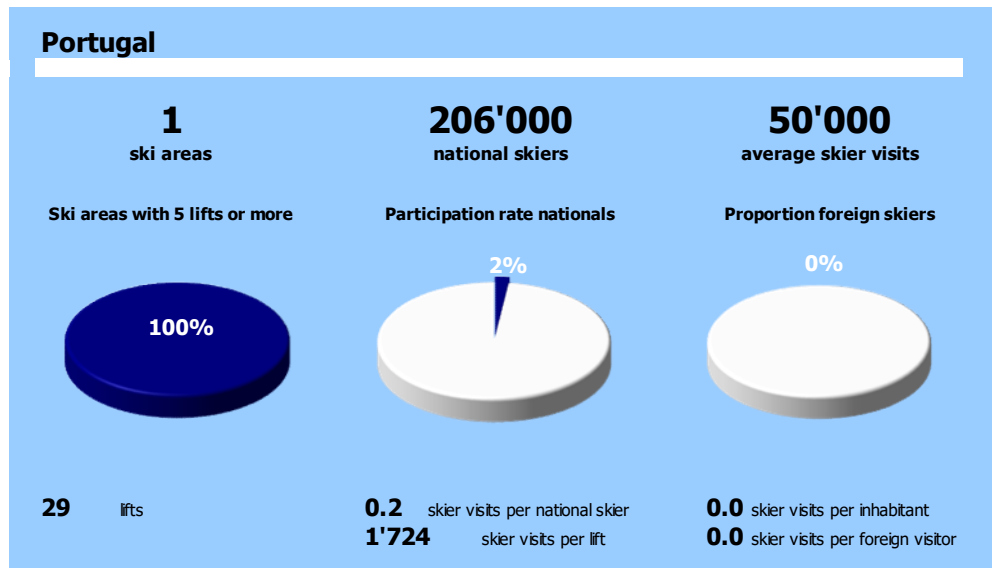
The continental Portuguese mountains culminate with Serra da Estrala, a little less than 2'000 metres high. Cold weather and natural snowfall in winter enables skiing, and the country's only ski area was developed there as early as the 1950s. The ski area offers a vertical drop of 134 metres, between 1'851 and 1'985 metres above sea level. There is 1 chairlift and 2 surface lifts, together with 2 other beginner lifts. Snowmaking facilities have also been built to secure good skiing conditions.

The resort features 2 hotels and other accommodations, ski rentals, snowmobile tours and other various leisure activities.

The neighbouring village of Manteigas also offers the possibility for year-round skiing on its 400-metre long synthetic slope, equipped with a ski lift and lights for night skiing.



Skiing facilities in Portugal are beginner oriented. More experienced Portuguese skiers travel abroad in the Spanish and Andorran ski resorts, or further to the Alps. The resort of Sierra Nevada, for instance, hosts a large number of Portuguese skiers every winter.





Spain



Despite the image of beaches commonly associated with Spain, the country ranks well among the mountainous regions of Europe (with a mean altitude of 650 metres above sea level, the country is even the fifth most mountainous in Europe). It has a centuries-old tradition of skiing, with 32 ski resorts located throughout various parts of the country. Spaniards, like many Europeans, love winter sports. Families go skiing or snowboarding on weekends and many people own second homes in the Pyrenees. Even former

King Juan Carlos used to spend several days a year in the spotlight at ski resorts. In most resorts, 90% or more of skier visits consists of domestic skiers. One peculiarity of the ski season in Spain, when compared to other European countries, is that it usually starts at the beginning of December due to certain public holidays. Attendance is therefore fairly well balanced over the 4 full months of the season: December to March. In April, attendance is low, as ski resorts start competing with the beaches.



With the exception of those seasons that experienced bad snow and weather conditions, skier visits at Spanish ski resorts grew slightly during the first few seasons of the new millennium, before declining and flattening out, following the record 2008/09 winter. Since, the attendance seemed

impacted by the country's difficult economic situation and had stabilised for 5 consecutive years at an average around the 5 million mark. However, winter 2017/18 showed a 7.9% increase in visitation over former season. 2018/19 was again 4.2% down, nevertheless 4.4% over 5-year average.

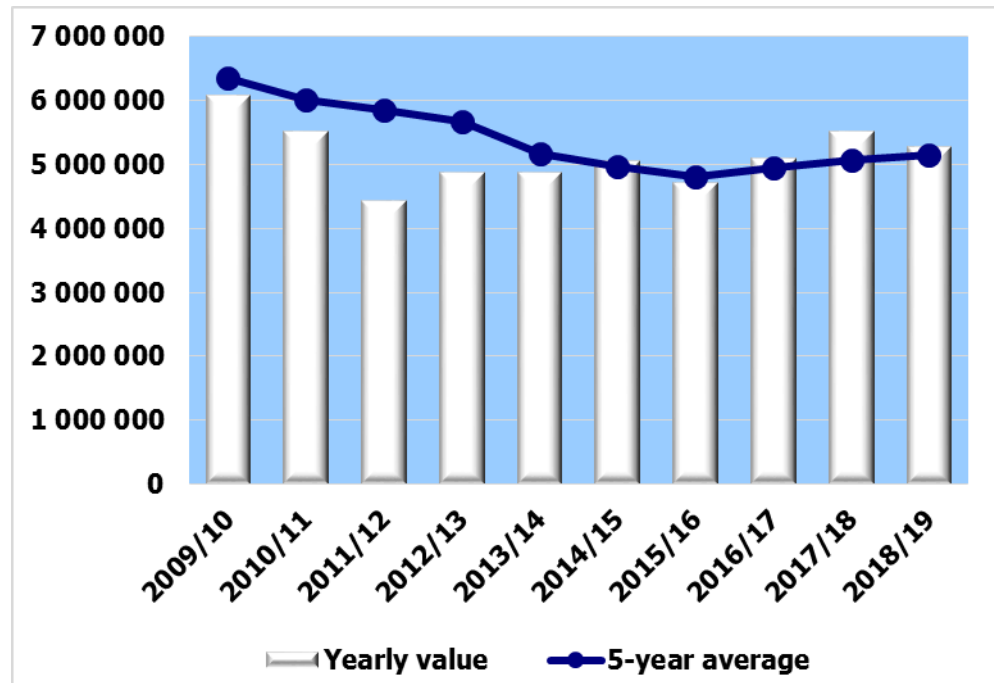


Figure 22: Spain, evolution of skier visits

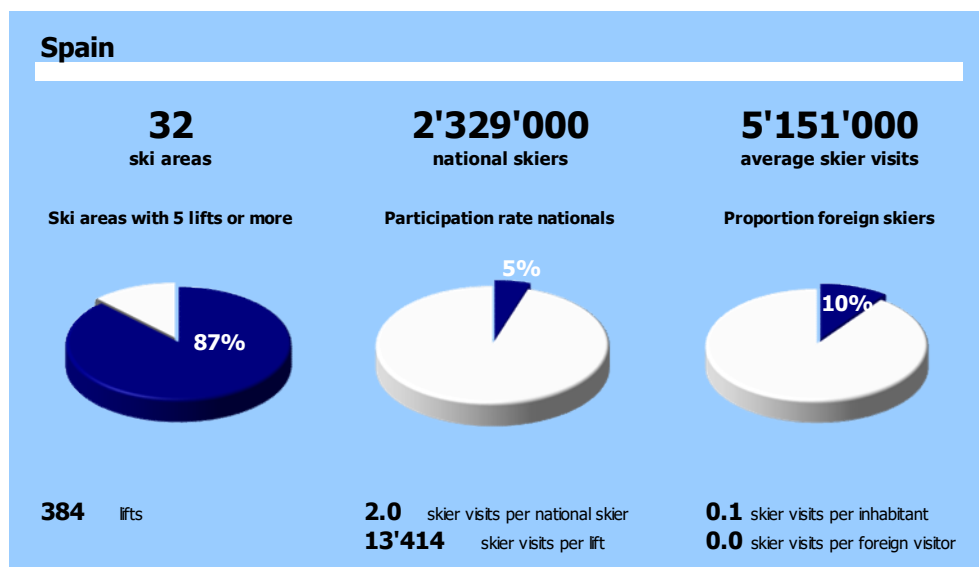
The ski areas in Spain are well equipped and suitable for skiers of all levels. The on-mountain facilities are continuously being improved upon: trails, infrastructure, machinery, access, accommodations and services. Snowmaking systems at many resorts cover more than 50% of the trails. Annual investments, totalling millions of euros at the beginning of the 2000s, have contributed to bringing the resorts up to international standards, with major infrastructure expansion. For instance, the number of lifts grew from 228 in 2003 to over 380 today. This was done in an ongoing effort to respect the environment and natural sites. Some areas have been certified by the *Q trademark* for Spanish Tourism Quality. This label is granted to establishments that meet the quality standards required.

Snow conditions are usually good; daylight hours are longer in the winter than in the Alps. In addition, resorts offer a wide range of complementary activities to visitors.

In the North, the Pyrenees form a natural barrier between France and Spain and have offered favourable conditions for building multiple ski resorts. Among the famous ones of the region, Baqueria Beret is located in the Aran Valley. It was founded in 1964 and is today one of the largest in Spain, featuring 78 slopes totalling 153 kilometres and 25 lifts. It offers a vertical drop exceeding 1'000 meters. Formigal resort is another internationally renowned resort in the Pyrenees.

Apart from the Pyrenees, which represent the most extensive ski region of Spain, the centre of the country, the Cordillera Central, has 4 ski resorts located essentially on the outskirts of Madrid, Salamanca and Segovia.

Last but not least is Andalusia. It is home to the most attended resort in Spain, Sierra Nevada, which sees on average 800'000 skiers visits per winter. Located in the second highest mountain chain in Europe, it is the southernmost resort in continental Europe, with 14 peaks over 3'000 metres high. Skiing at an altitude of 3'400 metres an hour's drive from the Mediterranean Sea offers an exotic experience, as there are very few places where you can swim or surf in the sea in the morning and ski or snowboard in the afternoon. With over 105 kilometres of ski runs, 18 lifts and snow coverage about 5 months per year, Sierra Nevada offers all winter sports, for beginners and experts alike. It is also possible to ski at night on certain weekends or during holiday periods. The resort has many accommodations, bars, restaurants, and discotheques for evening entertainment.





Sweden



The Scandinavian Mountain Range runs along the border with Norway, from the North Sea to the North Cape, over 1'700 kilometres. It reaches 2'104 meters above sea level at its highest point in Sweden, Mount Kebnekaise (the highest summit of the range is located in Norway).

The Swedish winter is long, with a lot of snowfall. In the North, the season lasts until May. Sweden is a sought-after winter sports destination as snow is practically guaranteed. In addition, cross-country skiing is very popular and the beautiful landscapes, lakes and forests offer a breath-taking panorama for skiing and relaxing.

Downhill skiing has already more than 70 years history in Sweden, with the first lift installed in 1940 in Åre. About 20 ski areas were developed in the 1950s, but the big boom of the industry happened in the 1960s. Today, Sweden has over 200 ski areas with a total of more than 800 ski

lifts. They are spread throughout all the country, even if the largest resorts are located in the middle section of the country, in the Scandinavian Mountains, close to the Norwegian border.



New investments have been made, with extension of hotel and lodging capacities in several resorts and renewal of lifts over the last years. Attendance has been growing for 4 winters in a row at Swedish resorts, pushing the long-range trend towards the rise after having shown for a long time a very flat evolution. 2017/18 season was 7.6% over former one and 15.4% over 5-year average. 2018/19 remained about the same level.

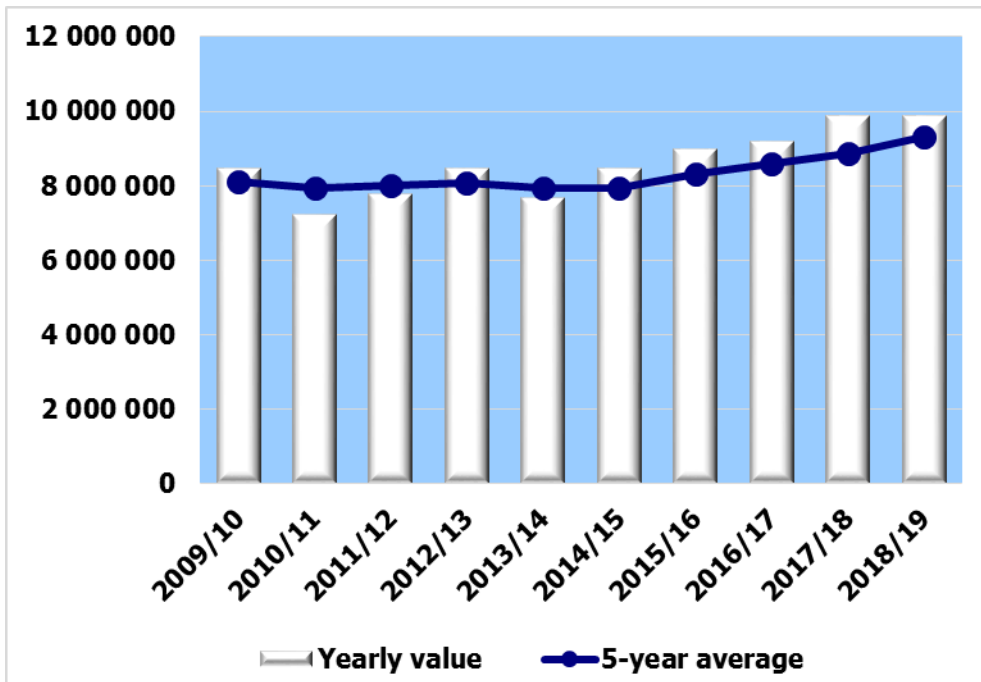


Figure 23: Sweden, evolution of skier visits

Climate change, and its consequences for countries in the European Alps, is considered to be an advantage for Sweden, as ski tourism may shift to the colder northern Scandinavian countries.

The largest ski destination of the country is Sälen, situated in the northwest of the province of Dalarna, approximately 420 kilometres from Stockholm. It consists in fact in 4 mountains interconnected into 2 large skiing areas – Lindvallen/Högfället and Tandådalen/Hundfjället. Sälen offers more than 100 trails and 87 lifts, totalling a capacity of 87'600 skiers/hour. Accommodations feature 13'900 commercial beds.

The second largest ski destination in Sweden is Åre. It is situated 650 kilometres northwest of Stockholm and consists of 3 ski areas: Åre Björnen, interconnected with Åre By and the single area of Duved. Each one has its own profile and target group. Åre has 42 ski lifts, 89 ski runs and 5'800 commercial beds. Åre is the most internationally visited resort in Sweden.

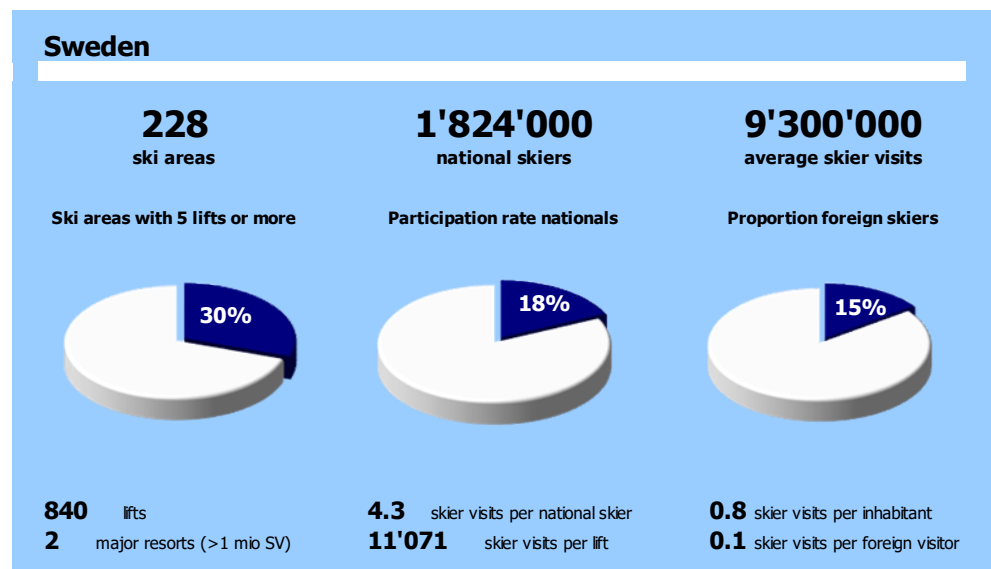
Vemdalen is the third largest ski destination in Sweden. It lies approximately 480 kilometres northwest of Stockholm, and consists of 3

areas: Björnrike, Vemdalskalet and Klövsjö/Storhogna. They total 35 lifts and 58 slopes.

All 3 major ski destinations are operated by SkiStar, the largest Scandinavian ski resort company.

Located in Swedish Lapland, 200 kilometres north of Polar Circle, Riksgfänsen is the northernmost ski area of the country. With its 6 ski lifts and 15 ski runs, it is famous for skiing under the midnight sun and for high-speed snowboarding. Slopes are elevated between 522 and 909 meters above sea level.

In order to improve accessibility of Swedish ski resorts, Scandinavian Mountains Airport opened by the end of 2019. Funded by an investment grant of SEK 250 million from the Swedish Government, it is located in Dalarna, close to the Norwegian border. From there, it is easy to reach Sälen, Idre, Trysil and Engerdal ski resorts (2 latter are located in Norway). The airport has being constructed on the site of an existing small airfield.





United Kingdom



Although many English people are fans of skiing, there are only 5 ski resorts with natural snow in the United Kingdom, located in Scotland, plus a few ski areas managed by ski clubs in Northern England and Wales. However, the country does have roughly 50 to 60 dry slopes, where skiers can slide down slopes covered with synthetic material²⁸. Furthermore, there are 6 indoor snow centres, where skiers can enjoy manmade snow at any time of the year.

Skiing has a long history in Scotland, with resorts such as Glencoe and Glenshee built in the early 1930s. Although at that time they were already equipped with a small engine-powered tow, the first permanent lifts were installed in the 1950s. Skiing took off in the 1960s with several developments that proved unsustainable, especially due to the unreliable snow conditions. After Lecht opened in the 1970s and Nevis Range in the 1980s, with the first modern gondola in the United

Kingdom, Scotland currently has 5 ski areas in operation.



The Scottish resorts reach a total yearly average of 200'000 skier visits, but attendance is highly sensitive to weather and snow conditions and can double from one season to another. The Scottish ski season usually starts at Christmas, but ski lifts sometimes open in October. The end of the

²⁸ There were over 200 dry slopes in the 1970/80's, but most have closed.

season may also be extended. One of the record seasons, the 2009/10 winter, lasted through May and even June at some resorts. Winter 2016/17 was very bad with very low snow. Many snowfalls were quickly followed by mild weather, making it difficult to maintain slopes. The snow kept melting before a base could be established. On top of these adverse conditions, there was no snow in the Central Belt or by the coast, so customers thought there was no snow anywhere – the *no snow in the backyard* issue. Attendance was thus at its lowest over the last 10 years and decided Glencoe Mountain Resort to purchase an all-weather snowmaking system. Fortunately, 2017/18 season was much better, recording the best attendance over last 5 years. However, situation worsens again with 2018/19 winter. The attendance was just above the all-time worst ever winter just 2 years ago. Ski areas were unable to open full slopes until February and then suffered some of the warmest winter weeks ever, to see snow cover thaw away fast.

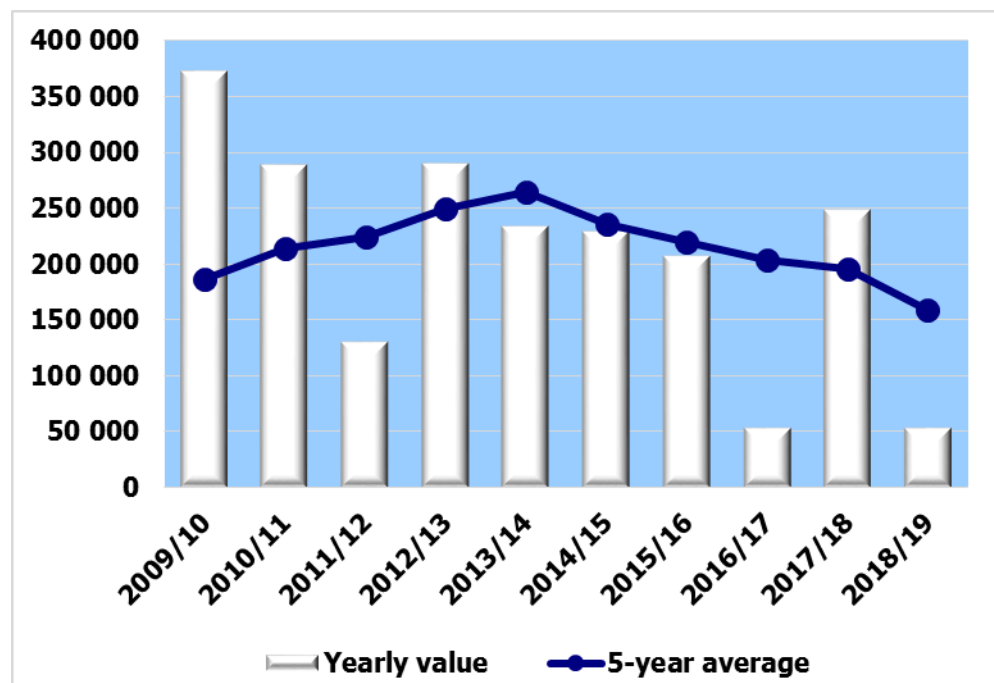


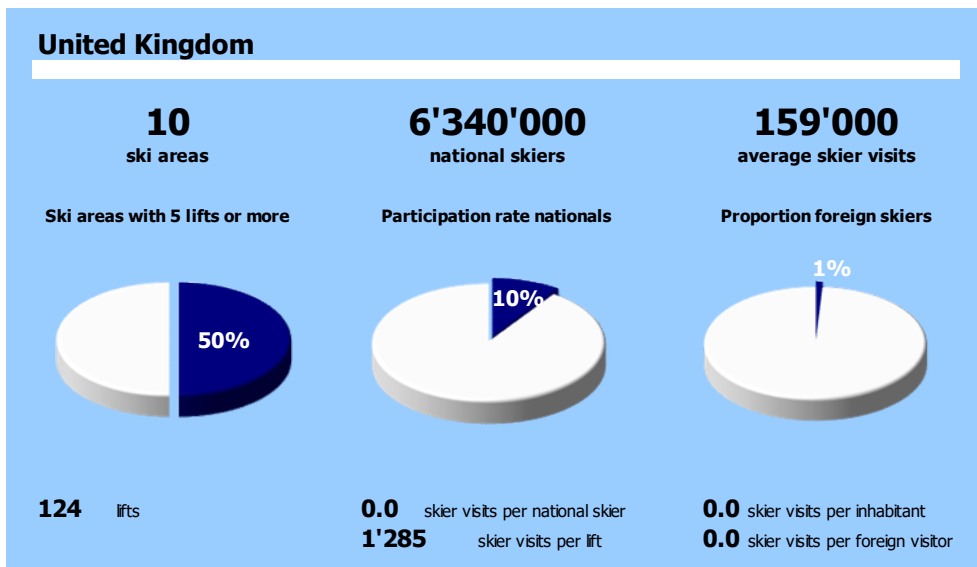
Figure 24: United Kingdom, evolution of skier visits

With its 19 surface lifts and 3 chairlifts, the resort of Glenshee offers the country's most extensive skiing and snowboarding facilities. Culminating at 1'108 metres above sea level, with a base elevation of 305 metres, Glencoe Mountain resort has the highest vertical drop and also offers the longest and steepest runs in Scotland. While Cairngorm offers the only Scottish funicular railway, Nevis Range features the only gondola lift. Both also operate during the summer months.

The indoor slopes are working hard to attract new people to snowsports, which is a benefit for the industry. One indoor ski centre offers a *Learn to Ski in a Day* program, which is very attractive for first time skiers and

snowboarders. The artificial ski slopes are also good opportunities to enable novices to learn and become familiar with skiing. The national snowsports governing body is working to introduce snowsports to people who have never skied or snowboarded before. Some private clubs even have their own artificial slope.

In the 1980s and 1990s, skier visit figures in the United Kingdom were higher than they are today. But with improving roads and air connection to Europe, together with the introduction of low-cost airlines, most of the UK ski business is currently abroad. Every year there are more than one million skiers who travel to the Alps or other destinations for winter sports²⁹. Even if it lost some of its market share, France is still the most popular country among British skiers, accounting for more than one third of travellers. Austria is ranked second, capturing about 25% of the British skiers market. Next is Italy (about 14%), then Andorra (about 6%), which is on a par with Switzerland (also about 6%), North America (less than 5%) and Bulgaria (about 4%). British skiers used to travel primarily through tour operators (with several major firms specialized in winter ski travel) but now increasingly arrange their own travel and book their own accommodations, or even stay in properties either they or their friends own. For the 2012/13 season, 54% of British skiers claimed that they booked their trip independently.



²⁹ A recent survey commissioned by Ski Weekends concludes that 1.5 million UK skiers are going skiing at least once a year.

Eastern Europe and Central Asia

Eastern Europe and Central Asia have been grouped as a single region in this report, since the concerned countries are currently in the processes of developing their ski industry. Even if skiing is nothing new for most of these countries, the ski areas in many places have only recently been developed into resorts and marketed internationally. Part of the growth potential for the industry will come from this region, whose evolution is interesting to follow from an aggregate perspective. With more than 400 million inhabitants, the population of this vast region is even with the Alps and Western Europe together, but skis 3 times less³⁰. Thus, the number of participants is still much lower, but will no doubt grow in the near future. The region already has close to 1'200 ski areas, which is comparable to the Alps or Western Europe. With about 34 million skier visits, attendance in this region also nearly matches with those of Western Europe (excluding of course the Alps).

It must however be stressed that over the years, several big resorts development projects have been put on hold or did not materialise to the extend originally planned. This lowers somehow the future growth expectations that could be placed on this region. Unfortunately, some projects had unrealistic expectations of international visitation and the concern for getting domestic clients has been underestimated.



³⁰ Based on the penetration rate of skiing – which is roughly 4% in the region compared to a consolidated 12% for Western Europe including the Alps.

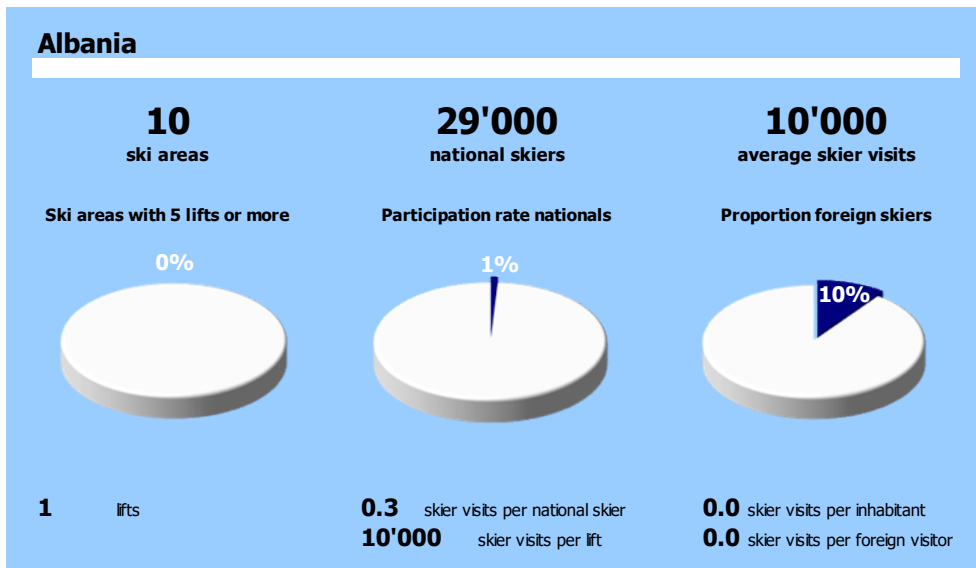


Albania



Albania is a mountainous country, with about 70% of its surface area covered by mountains and hilly terrains. The country's high point is Mount Korab, 2'764 metres above sea level. The mountains in the North are a continuation of the Dinaric Alps and the Montenegrin limestone plateau. The mountain range along the eastern border is the highest zone. The terrain is difficult to access, folded and rugged, with deep valleys and few roads (often unpaved). The non-coastal part of the country has a

continental climate with lots of precipitation in the highlands, especially in winter. From north to south, the inland part of the country can offer the right conditions for skiing, including powder snow.



However, and in spite of this attribute, the country is not well known as a ski destination. There are a limited number of unequipped areas to ski and the first surface lift was only installed in 2012. The areas that offer skiing are not resorts, but villages in the mountains where one can go skiing, similar to the Alps one century ago. Albanian ski enthusiasts are few in numbers, and for years the local situation did not really favour the development of this activity, even if it was not an unknown pastime. If they want to ski, Albanians would prefer to travel to the neighbouring countries, which are better equipped. Backcountry skiing in the mountains is mostly enjoyed by foreigners.

The ski area of Bigell, near Dardhe, is at present time the only area equipped with a surface lift.



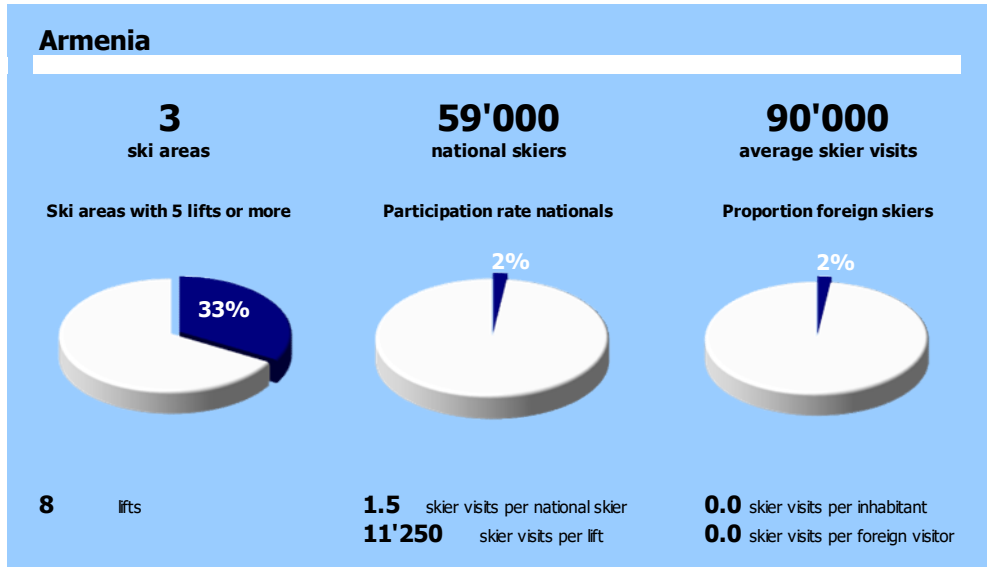
Armenia



Half of Armenia is covered by mountains. The largest part of the country is at an altitude of more than 1'000 metres above sea level. Winters are cold, and offer ideal snow conditions for winter sports.

Yet, the country has only one ski resort equipped with more than 4 lifts, Tsakhkadzor, located 55 kilometres from the capital, Yerevan. Once upon a time it was the training grounds for the Soviet Olympic team. The first lift system was installed in 1972, turning the city into a ski resort.

A ski-teaching centre was founded there in 1986, training athletes, including some who participated in the Olympic Games. The ski area is located between 1'966 and 2'819 metres elevation, east of Mount Teghenis. In 2005, the Government started a special program to develop Tsakhkadzor into an international tourist destination. Since then, the site has expanded quickly and every year features new hotels and recreational facilities. New lifts, built to international standards, were installed between 2004 and 2008. Among them a 3-stage chairlift, offering new runs and growing the popularity of Tsakhkadzor as a genuine ski resort. The total hourly capacity of the lifts is 4'400 skiers. The ski area extends for over 30 square kilometres and includes 10 runs, for a vertical drop of 853 metres. Most runs will suit beginners, and the ski area offers excellent off-piste conditions. 5 groomers are planned to maintain the slopes. The season runs from late December to late March. All-day lifts pass costs about EUR 20. In 2002, improvements to the highway leading to the resort were made to meet with international standards and to improve safety. In addition to being a ski area, the city of Tsakhkadzor is also a spa centre.



There are 2 other ski areas in the country, each one with only one ski lift: Akhtamar ski centre, next to the Sevan Lake, is equipped with a quad chairlift, and Jermuk has a double chairlift.





Azerbaijan



About half of the country is flat, with some lowlands situated below sea level (the Caspian Sea is located 28 metres below sea level), and the other half is considered to be mountainous terrain. Except for its eastern Caspian shoreline, Azerbaijan is surrounded by mountains. To the north, part of the Great Caucasus Mountains crosses its territory, offering peaks rising up to 4'485 metres above sea level (Bazarduzu Dagi) along the Russian border. To the west, the Lesser Caucasus Mountains are located on the Armenian

Border, and top out at 3'500 metres, together with the Karabakh Mountains and volcanic highlands. South, along the Iranian border, the Talish Mountains rise to 2'477 metres above sea level.

Ski resorts are something new in Azerbaijan. There are presently only 2, which were recently built.

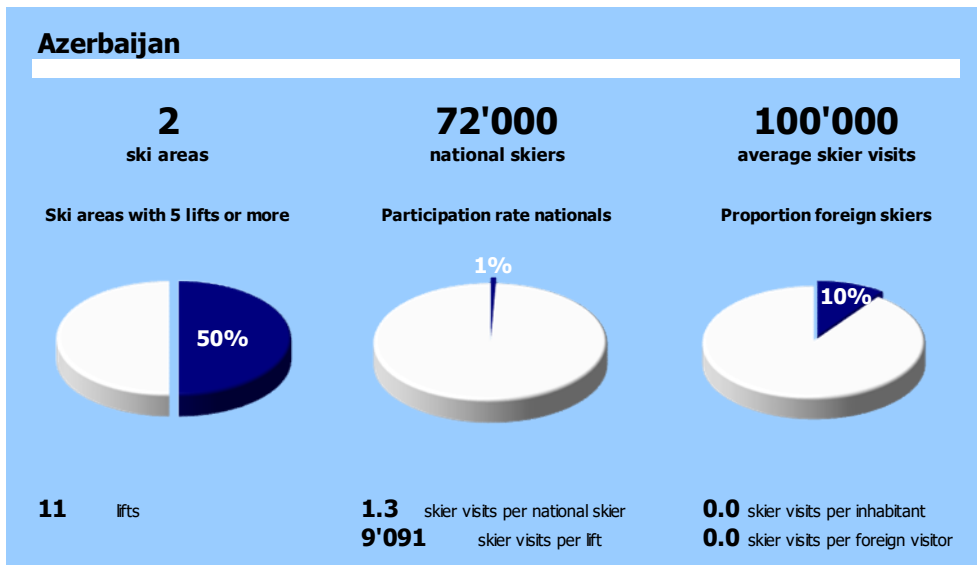


Shahdag, named after a nearby 4'243 metre peak, is currently the largest ski area in the country. Construction started in 2009. The resort is located in a large national park and will offer year round mountain activities and a complete range of accommodations, from luxury hotels, individual chalets and cottages, to camping (in the summer). The budget for the 10-year development plan for this world-class complex has been said to be over EUR 2 billion. In winter, it will offer 19 ski runs and the same number of lifts, as well as snowmaking. The base of the ski area is located at an altitude of 1'435 metres, and the village area at 1'650 metres. Lifts will rise to a maximum elevation of 2'525

metres. For the 2016/17 ski season, 7 lifts and 4 magic carpets were in operation, serving 17 kilometres of trails. 160 snowmakers ensure coverage of 100% of the resort's skiable area. 5 hotels and 20 restaurants and bars are ready to welcome customers. The ski resort is located 200 kilometres from the capital city of Baku, and its airport is a 4-hour drive away.

About 40 kilometres away, close to the city of Qabala, Tufandag Mountain Resort has also been built recently. A gondola and a mixed lift (8-person gondola – 6-person chairs) were installed in 2012. Two other lifts of this kind were installed the next year. The ski area features 10 trails for a total of 15 kilometres, equipped with snowmaking, and a 963 meters vertical drop. 3 hotels accommodate guests close to the slopes.

The resorts expect to host mostly foreign customers from neighbouring Russia, Iran and Turkey, plus guests coming from countries further away, such as China, India and Arab countries.





Belarus



With an average altitude of 162 metres above sea level, Belarus is a country covered with plains and forests. Its highest point, Dzyarzhynskaya Hara, is only 346 metres above sea level and is located near the capital city of Minsk. It is part of a range of low-lying mountains called the Byelaruskaya Hrada (Belarus Range). The northern part of the country offers landscapes with several lakes, hills and gentle slopes. Nearly one third of the southern part of the country is covered in swamplands. Winters are mild to cold with

an average January temperature ranging between minus 4 and minus 8 degrees Celsius. It snows during the 105 to 145 day winter season, offering the chance to enjoy powder.

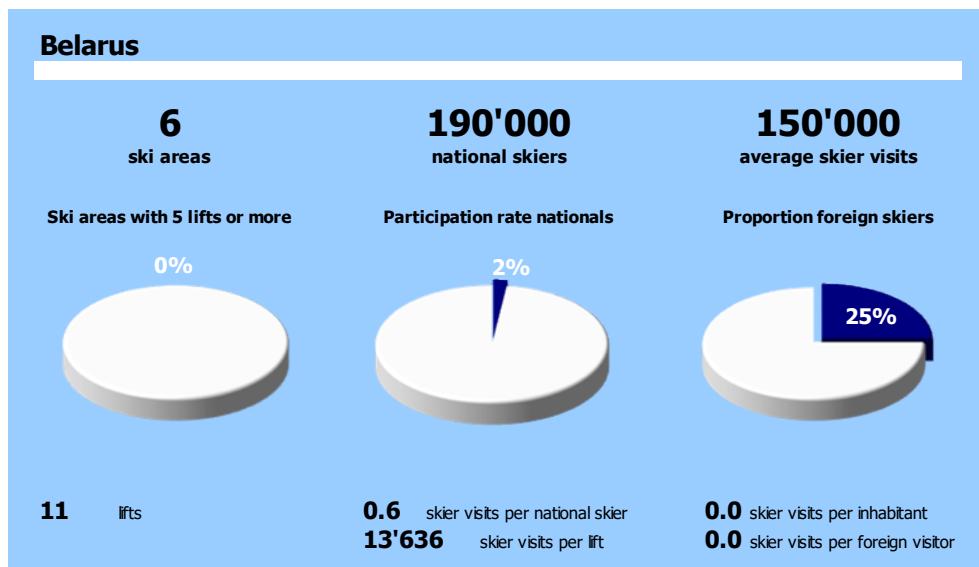
Despite the lack of real mountains, alpine skiing started in the 1950s in Belarus, on hills near the city of Minsk. In 1964, the Raubichi ski-training centre was built, an initiative of the Belarus Federation of Alpine Skiing and Ski Jumping, and the first championship was held in 1965. Nowadays, downhill skiing has become increasingly popular on the higher hills and steep ravines. In the 2000s, several 4-season recreational areas opened and offer skiing and snowboarding in winter. Alpine skiing facilities are found in Minsk, Minsk Oblast, Gomel Oblast and Vitebsk Oblast. They attract domestic skiers, together with ski aficionados from Lithuania, Latvia and Russia.

The 2 major most recently built ski areas are Logoisk National Ski Centre and the Silichi recreational centre. Both are located in the Minsk region.

Logoisk was the first centre of its kind to be built in Belarus. With a vertical drop of 82 metres, it features a fixed-grip quad chairlift and one surface lift, 8 trails totalling 3.6 kilometres, equipment rentals, night skiing, a ski school, a 50 bed hotel and restaurants.

Silichi centre opened in 2005 as a 4-season recreational area. For snow sports, it offers 2 fixed-grip chairlifts (1 double, 1 quad) and a beginner rope tow, 4 trails totalling 2.8 kilometres, snowmaking facilities, night skiing, a half pipe, ski school, snow-tubing, an ice skating rink (which is used in the summer for indoor sports), snowmobiles, a 104 bed hotel, 12 dachas (wooden cottages), restaurants and cafés. In order to increase the vertical drop and offer a steeper slope, the builders artificially raised the hill an additional 24 metres, for 100 metres of vertical drop. The centre receives more than 100'000 yearly visitors, and skiers can train all year round thanks to a skiing simulator.

In 2009, the Sunny Valley ski area was built within the city of Minsk, offering 2 ski lifts, equipment rentals and night skiing for its citizens, without having to leave the town.



 **Bosnia & Herzegovina**



Bosnia & Herzegovina is a mostly forested and mountainous country; the Dinaric Alps run from the northeast to the south of the country with numerous valleys and peaks. The highest summits rise up to 2'386 metres above sea level near the border with Montenegro (Peak Maglic).

In 1984, Sarajevo was the host city for the Winter Olympic Games, evidence of the long history of skiing in Bosnia & Herzegovina. However, the war in 1992 left scars still visible at ski areas today. It is only recently that the major ski areas have started to modernise, by either building new ski lifts or renovating old ones, as well as building new accommodations. Thanks to these infrastructure improvements, skier visits have increased in recent years, and with it the hope that Bosnia & Herzegovina will find its place among international ski destinations. However, most resorts do not have the means at this stage to install snowmaking systems.

About 5% of the Bosnian population skis. The country has less than 20 ski areas and some are too small to really be considered. Most foreign visitors come from Serbia, Slovenia, Croatia or Montenegro.

Jahorina, Bjelasnica and Igman, the major ski areas in Bosnia & Herzegovina, are located in the Sarajevo region. In addition to these popular places, Mount Vlasic, in the centre of the country, also has a ski resort. In the West, Kupres and Blidinje Natural Park are also 2 destinations for connoisseurs. All resorts in the country provide alternative activities to skiing, such as cross-country skiing and snowmobile tours. It is also possible to night ski. A small but important detail for visitors: in Bosnia & Herzegovina the roads are not routinely salted in the winter, meaning that access to ski areas can sometimes prove a challenge.

Jahorina, which hosted some of the events during the 1984 Olympics, presents itself as one of the major skiing and tourism centres of the Balkans. Damaged during the war in the 1990s, the area has since been refurbished and new hotels built. With its 20 kilometres of runs for skiers of all levels, 5 chairlifts (2 old fixed grip doubles and 3 new detachable 6-pack), 4 surface lifts and a baby lift, the resort features a total hourly capacity of 13'230 skiers. It is located between 1'300 and 1'880 metres above sea level. Visitors have a wide choice of restaurants and a selection of hostels to 4-star hotels. An all-day lift pass amounts to less than EUR 25. Grooming may be of poor quality and the runs are not always well marked. A large part of the mountain was turned into a national park to preserve the natural beauty of the region.

The neighbouring resort, Bjelasnica-Igman, was also a former Olympic competition site. In addition to 6 runs of various levels and 11 kilometres of skiing, it has 2 ski jumping facilities. Compared to Jahorina, this ski area has fewer runs, but they are better maintained. The uphill infrastructure includes 8 lifts (4 surface lifts and 4 chairlifts), for a total capacity of nearly 9'000 skiers per hour. A number of investments have been made at the resort in recent years. It is now equipped with a snowmaking system and 2 brand new chairlifts have been built in 2017 (one fixed grip quad and one detachable 6-pack). Moreover, hotels were recently built in the area. The restaurant selection is still limited, although sufficient for the basic needs of the resort. The price of an all-day lift pass is roughly equivalent to one at Jahorina.

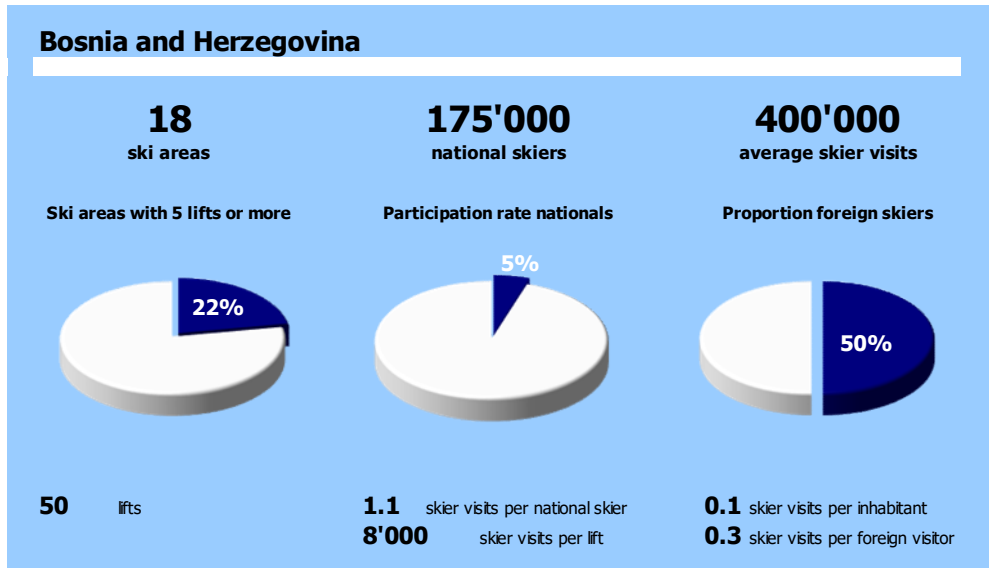
Vlasic offers 14 kilometres of beginner to intermediate runs, so is well suited for novice skiers. It has 6 ski lifts with a total uphill capacity of 4'600 skiers per hour. The runs are poorly groomed. Some facilities that hosted



events during the 1984 Olympics were damaged during the war and never rebuilt. However, the resort belongs to a private owner who is investing to improve services for the entire area. Through this modernisation, the ski area hopes to earn the title of second best ski area in the country with regard to popularity and visits. Visitors will find rooms in one of several new or renovated hotels, or at a few private accommodations (cottages or pensions).

The small city of Kupres has a ski area that features 4 runs for 13 kilometres of skiing, 2 chairlifts and 3 surface lifts. The area, which also has 2'000 beds, is especially well suited for beginners. Risovac, located in Blidinje national park, has 1 chairlift and 2 surface lifts with a total hourly capacity of 2'960 skiers. It has 4.5 kilometres of ski runs and a certified FIS slalom run. The resort offers 700 beds.

A study conducted in 2009 by the Foreign Investment Promotion Agency of Bosnia and Herzegovina (IFAP) shows that the country only utilizes a fraction of its potential for winter tourism. The document recommends different investments to improve infrastructure in the Bosnian Mountains, which still lack a sufficient number of lifts, lodging and proper ski run maintenance.





Bulgaria



Bulgaria is the highest country of the Balkan region, with an average altitude of over 450 metres above sea level. 8 mountain ranges rising higher than 2'000 metres cover one-third of the country. The highest peak culminates at 2'925 meters above sea level (Mount Mousala).

The robust development of skiing in Bulgaria in the past few years is mainly due to significant investment in mountain resorts and the country's attempts to host the Winter Olympics (despite several

bids, the candidacy has never been retained). In addition, the quality of the services and activities offered has also improved. A few resorts possess world-class infrastructure. One of the main assets of Bulgarian ski resorts is their excellent price/quality ratio, much less expensive when compared to the Alps; this attracts a number of international visitors. Foreign tourists from Russia, Romania, Macedonia, Serbia, Turkey, the United Kingdom, France and Israel visit Bulgaria's ski resorts. The number of Russian tourists recently decreased, while the number of Turkish tourists was on the rise.

Despite the lack of official figures, ski resorts are estimated to attract roughly 1.2 million skier visits per year. The country's most internationally renowned ski resorts are Bansko, Borovets and Pamporovo.

Bansko, often referred to as the Winter Capital of the Balkans and said to be the most modern resort of Eastern Europe, contains a wide variety of hotels up to 5-star. The slopes are equipped with a modern gondola and state-of-the-art detachable chairlifts. Investments of EUR 100 million were made to upgrade the lift system and the ski slopes, enabling Bansko to gain international recognition by organising FIS World Cup Ski races. Bansko has 75 kilometres of ski runs and 14 ski lifts with a capacity of 23'100 people per hour. The resort has many restaurants and a very dynamic après-ski offering, which is very appealing to both national and international tourists.

Borovets ski resort claims to be the leader in the Bulgarian ski market and the largest ski area of Eastern Europe. It is the oldest Bulgarian ski resort, with a history that dates back to 1896, when it was established as a hunting place for the Bulgarian kings. Aristocrats and members of the Bulgarian elite followed the trend and subsequently built their summer cottages and chalets in Borovets. Winter sports developed and the first downhill race was held in 1930. The resort expanded in the 1960s and 1970s based on the French ski resort development model and hosted its

first FIS competition in 1974. Borovets has 13 ski lifts with a total capacity of 16'300 people per hour. Large expansion plans have been developed for the *Super Borovets* project. Once fully completed, it would provide around 17'500 hotel rooms, extend the number of slopes and double the number of lifts. However, it never turned into reality because of setbacks and environmentalists oppositions.



Pamporovo, the sunniest of the Bulgarian mountain resorts, is nestled in the heart of the Rhodopes Mountains at 1'650 metres above sea level. It is the perfect resort for beginners and it claims to have one of the best ski schools in Eastern Europe. Pamporovo has 14 ski lifts with a total capacity of 13'000 people per hour.

Vitosha ski resort is only a few kilometres away from the capital city of Sofia and easily accessible by public transportation. It used to be popular for people living in Sofia to go skiing there on the weekends. However, the lack of lift renewal appears to have decreased the area's appeal.

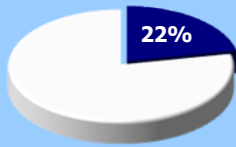
Lifts renewals and resort development has been a challenging issue for Bulgarian ski resorts over the last 10 years, as environmental activists seem to systematically oppose any new lift projects. With an aging infrastructure and less than optimal connections, a few resorts may lose some of their international popularity, likely limiting the industry's growth and development in the country.

Bulgaria

32

ski areas

Ski areas with 5 lifts or more

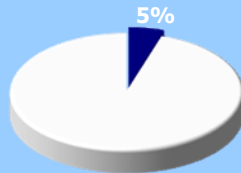


110 lifts

349'000

national skiers

Participation rate nationals

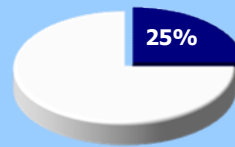


2.6 skier visits per national skier
10'909 skier visits per lift

1'200'000

average skier visits

Proportion foreign skiers



0.1 skier visits per inhabitant
0.0 skier visits per foreign visitor





Croatia



Croatia extends from eastern end of the Alps through the Dinaric Alps, up to the Adriatic Sea. The highest point of the country is Dinara Peak, which rises 1'831 metres above sea level. The central and southern regions near the Adriatic coastline consist of low-lying mountains and forested highlands. The first snow usually falls in autumn and lasts through spring, providing the right opportunity for winter sports.

Skiing is nothing new in Croatia. In the highland area of Mrkopalj, not far from the Adriatic coast (only a half-hour drive), winter sports developed at the beginning of 20th century. There are records of a ski competition as early as 1913. The first ski jump was built in 1934, where international competitions were held. In the 80s, under the former Yugoslavian regime and around the time of the Sarajevo Winter Olympics, a ski-training centre was built in Bjelolasica. At that time, winter sports connected to skiing were actively promoted.

Today, the Zagmajna Croatian Biathlon Centre is located in the same region, together with the ski areas of Begova Razdolja, Bjelolasica and Velika.

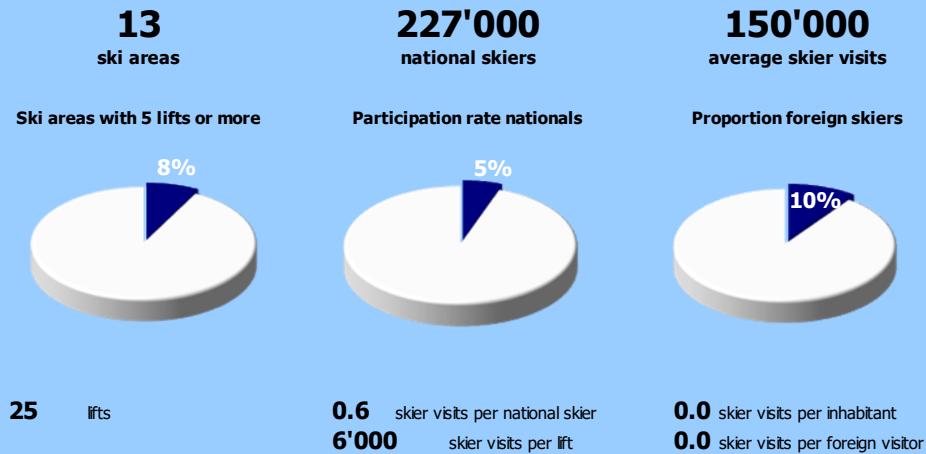
The resort of Sljeme / Medvednica is located only 10 kilometres away from the capital city of Zagreb, (and 33 kilometres from the airport). It is equipped for night skiing and is close to a variety of accommodations.

The largest ski resort in Croatia has only 5 lifts and less than 10 kilometres of trails. Bjelolasica offers a vertical drop of 800 metres. A few resorts are equipped with snowmaking systems. However, several resorts only offer a single lift or only a magic carpet.

Even if skiing is not well developed at this stage, there are several projects to expand existing resorts and to build new ones, mostly in the coastal region of Gorski Kotar. About 1'900 hectares of land have been set aside for recreational sports and ski area development. Maj Cicak should turn into the best Croatian resort.

Even if domestic offer is not so wide, it seems that numerous Croatian skiers are heading to Italy, Slovenia and even Austria and France to spend some winter sports holidays.

Croatia



Croatia's Main Ski Area Undergoing Major Upgrade

Croatia's Platak ski area has begun major upgrading work in a 2-year project intended to ensure a sustainable snowy future for the centre. Located close to the Adriatic sea, Platak is a major stop on the FIS World Tour around New Year each season, but often has to contend with temperatures well above freezing. The resort has used an all-weather snowmaking system for some years due to this, but the upgrade project, due to be completed in time for the 2020/21 season includes a major investment in improved snowmaking, including a new reservoir for snowmaking water at the top of the mountain. The intention is to expand the ski season here back up to 40 to 50 skiing days around December to February each year as climate change has been shortening the already short ski season in the region.

The lake is also intended to be a summer visitor's attraction, as summer visitors numbers have been growing as people seek to escape the increasing heat in the valleys. A new lift is also going to be built (currently there's a double chairlift and three drag lifts plus a carpet lift) with the idea of connecting Platak with the Risnjak National Park, and finally the road to Platak is also undergoing reconstruction.

Source: Snowhunter



The forested Troodos Mountains stretch across most of the western side of Cyprus, offering a cool sanctuary in the summer, and the opportunity for winter sports at the only ski area in the country. Imagine skiing under the blue Mediterranean sky!

The ski area is located just a one-hour drive from the seaside town of Limassol or from the capital city Nicosia. It is perched high on the slopes of Mount Olympus, whose summit rises to 1'951 metres above sea level, just 2 kilometres away. The ski area itself ranges from 1'800 to 1'920 metres altitude, features 4 lifts (1 chairlift and 3 T-bar lifts), snowmaking facilities and a total of 2 kilometres of skiing spread over 8 runs for all levels. The ski area also offers cross-country skiing.

The Cyprus Ski Federation organises an international FIS ski competition every year at Troodos Mountain, on the officially sanctioned, 380-metre long Zeus slalom run. The first race was held in 1969, with participants from 9 countries.

The ski season is rather short, running usually from the beginning of January to the end of March.

Skiing has a history here, having officially started in Cyprus in 1947, with the creation of the Cyprus Ski Club. At that time, the roads were not cleared and the pioneers used to walk to Troodos in order to practice their sport. The first lift was soon built with local means and ingenious ideas from the pioneers. In the late 1950s, 2 portable lifts were installed in the winter. The first modern ski lift started operating in 1967 and is still in use today.



Czech Republic



The 2 main regions of the country, Bohemia and Moravia, are both surrounded by numerous mountains and hills. The highest summit in the Czech Republic is the 1'602 metre high Sněžka peak in the Sudetes mountain range, Giant Mountains sub-range (Krkonoše). The latter accounts the largest ski resorts of the country.

However, in spite of much lower altitudes than in the Alps, there is a large number of ski resorts nearly all over the Czech

Republic (about 200 ski areas with a total of almost 800 ski lifts), all of them located between 900 and 1'300 metres elevation (only 3 ski areas top over 1'300 meters above sea level). Despite this lower elevation than in the Alps, the northern situation of the country provides for relatively enough snow. Most of the resorts are small; the larger ones often made of the aggregation of several small operators, and not always fully connected. A lot of ski areas are easily accessible from Germany or from the country's capital city of Prague. Snowmaking enables skiing throughout the entire season, mitigating climate risks.

Skiing has a long history and tradition in Czech Republic resulting in an important share of skiers in the population; the first ski club was founded in 1887 by Josef Rössler-Orovský. In 1893, the first ski races took place in Jilemnice (Krkonoše – Giant Mountain) and in 1903 the Association of Skiers in the Czech Kingdom was founded, which was the first ski association in the world. The first hanging (cabin) cableway was installed in Ještěd (Liberec) in 1933 and in 1940 the first chairlift appeared in Pustevny (Beskids Mountains). With single chairs and wooden towers, it was the earliest one in Europe³¹. It was reconstructed with steel towers in 1956, later on replaced in 1987 with a double seater, and modernised again in 2006. This latter version is still in service.

Over the last 10 years, resort infrastructure has been renewed and expanded. 50 new lifts were delivered by the major manufacturers.

Despite this, attendance at Czech ski resort has been showing a stagnant or even declining trend for several years. Obviously, the ski industry in Czech Republic faces the same problems than most of the major mature

³¹ The first chairlifts in the world were installed at Sun Valley, United States, in 1936 and 1937.

markets. Winter 2017/18 saw a 2% improvement in attendance, reaching the best score in at least 10 years. The 2018/19 season was on average 4 days shorter than former one, with a slight decrease in attendance.

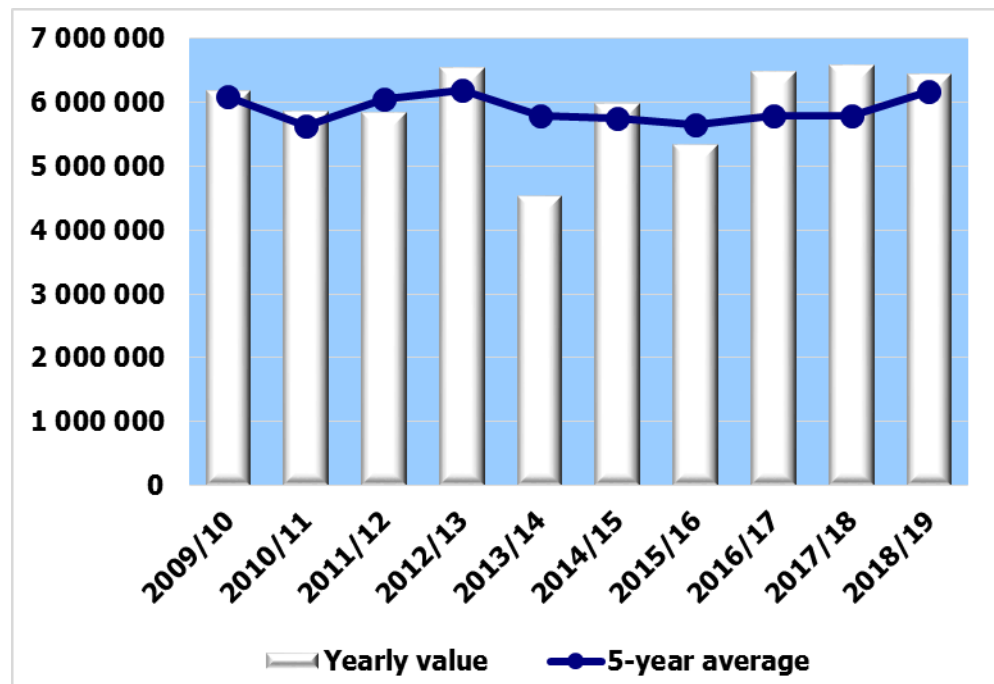


Figure 25: Czech Republic, evolution of skier visits

With 41 kilometres of ski pistes and some 40 lifts accessible with the same pass, ski resort Černá hora - Pec, located within the Giant Mountains National Park, sells as the largest resort of Czech Republic. It is however not fully interconnected. Despite a snowcat ride allows to connect from Černá hora-Janské Lázně to Pec pod Sněžkou, other smaller areas can only be reached by bus connections. The resort is located at the base of the country's highest mountain, Mount Sněžka, which is accessible via a new gondola, built in 2013 to replace its 50-year old predecessor. The first lift was built there in the 1940s. Ski resort Černá hora - Pec offers approximately 13'000 beds. The season lasts from mid-December to mid-April.

Spindleruv Mlyn is one of the largest and most famous resorts in the country. The first lift was built there as early as 1947. The resort developed, split into several sub areas that will be soon all interconnected by lifts and ski trails (Svaty Petr, Hromovka, Medvědin and Horni Mísečky). Hromovka has the second longest night skiing run (1'500 metres) in the country. Svaty Petr hosts World Cup Alpine Ski races, acrobatic ski events and snowboard races. Horni Mísečky hosts also several events. The full resort has more than 20 ski lifts, 25 kilometres of ski runs, of which 12% are black (difficult) trails³². To make up for any lack of natural snowfall, snowmaking covers 85% of the ski area. Various base villages offer a wide

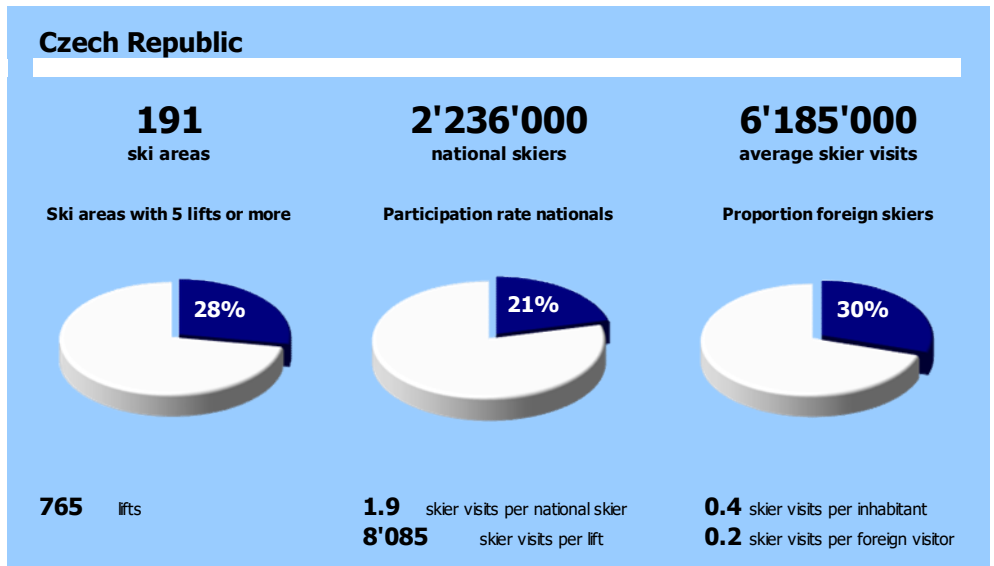
³² With the projected interconnexion, total slopes' length will reach 40 kilometres.

range of accommodations, totalling 12'000 beds, including chalets, apartments, privately rented homes and hotels, together with a wide choice of restaurants. The resort also features a very lively summer offer.



With also more than 20 lifts, Rokytnice Nad Jizerou also accounts among the largest Czech resorts. Its target public is skiers of all levels, even though it has predominantly blue (easy) slopes. The resort is split into 5 sub areas (Horni Domky, Studenov, Modra hvezda, Parez and Udatny) and has a total of 18 kilometres of ski runs. Rokytnice Nad Jizerou belongs to *skiregion.cz*, a ski area alliance totalling 4 resorts and 35 lifts, 37.5 kilometres of ski runs. It allows skiing with the same ticket in all affiliated ski areas.

Another popular resort is Malá Morávka - Karlov pod Pradědem, in Moravia near Mount Praděd, in the Northeast. Although it is split between several operators and not all slopes are interconnected, the ticket system is united. Due to its low altitude (maximum 940 metres above sea level), it is very sensitive to lack of snow. The slopes are nearly fully equipped with snowmaking. The runs are aligned one next to the other and the vertical drop is limited to 150 metres offering little appeal for experienced skiers. The resort has about 15 ski lifts and a total of 22 kilometres of ski runs, 53% of which are blue (easy).



Estonia



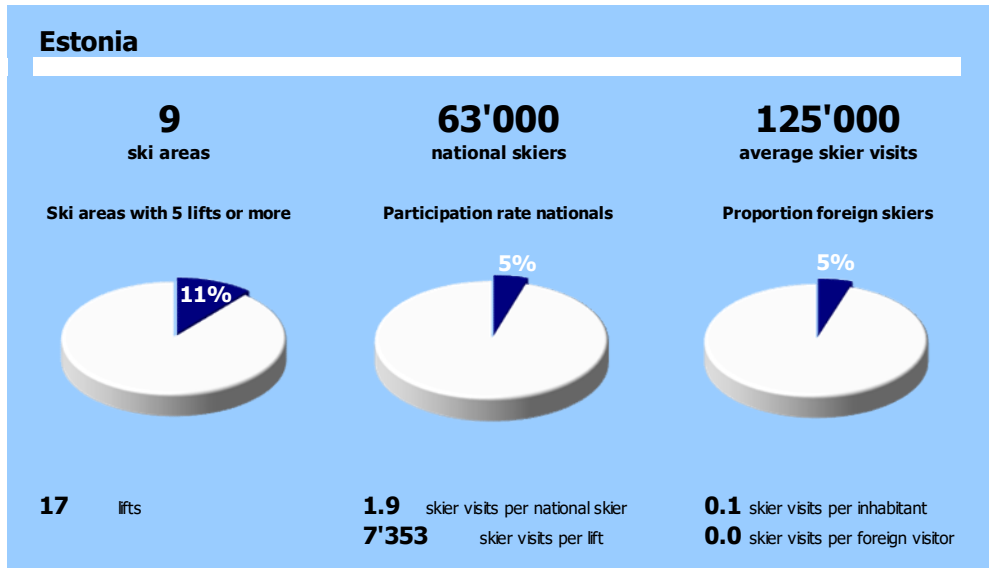
With cold and snowy winters, Estonia offers decent conditions for winter sports. The winter climate is one of the most stable in Europe, with few sudden changes that could harm the ski season. However, due to the lack of any real mountains (the high point Suur Munamägi is only 318 metres above sea level) and low altitude, the snow season is short, and cross-country skiing and snowshoeing are much more popular than alpine skiing. Cross-country skiing has a long history in the country, with the first competition being held in Tartu

as early as 1921. It later on became a yearly tradition and the Tartu Ski Marathon is a well-known and highly attended race by national and foreign cross-country enthusiasts. Otepää is called the *Winter Capital* of Estonia and has hosted World Cup cross-country skiing events.

However, downhill skiing and snowboarding have become increasingly popular among the youth. One hundred metre long low-angle slopes work well for beginners. However, although not very long, there are steeper slopes for more experienced skiers. Several ski areas have no lifts, including some simply equipped with a magic carpet that may also be used for snow tubing; a few offer terrain parks for snowboarders. Several rental shops next to cross-country trails also offer downhill ski equipment, even if there is only an adjacent unequipped snow hill. Hills that are more sophisticated offer a beginner lift and groomed slopes.

Night skiing is popular, and several ski areas have lighted runs, a necessity since the days are very short in winter at these latitudes.

A few more elaborate ski centres are operated in various areas of the country, on either natural or artificial hills (built from mining waste). There is an adventure park near Kivioli that features a few ski runs, and a ski centre in the White Mountains next to the city of Tapa. The region of Otepää, south of the city of Tartu, also has a few ski runs spread over several ski areas. This region has the largest ski areas in the country: Kuutsmäe has 5 lifts and Munakas has 3 lifts.





Georgia



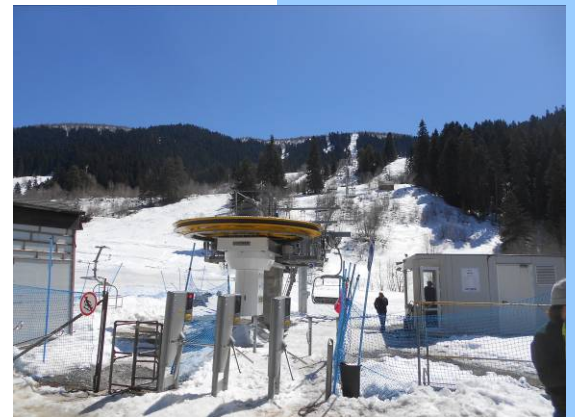
Georgia is located on the historic and geographic barrier between Europe and Asia, between the Black Sea and the Caspian Sea. Mountains cover a large part of the country, with the Greater Caucasus Mountains in the North and the Lesser

Caucasus Mountains in the South. Some reach impressive altitudes, with the Mount Shkhara, located on the border with Russia, culminating at 5'201 metres above sea level.

Georgia used to be one of the popular winter sports destinations of the former Soviet Union. Winter tourism developed there in the 1970s. With its colossal mountains, there are plenty of options for mountaineering and several spots to go heliskiing. Georgia unsuccessfully bid for the 2014 Winter Olympics. It attracts tourists from neighbouring countries, and especially Russia, as well as from the USA, Germany, Israel and Turkey.

In addition to a few ski areas with limited infrastructure, Georgia has 2 resorts equipped with lifts that also offer heliskiing: Gudauri is located in the Greater Caucasus Mountains, 120 kilometres from Tbilisi, the capital of Georgia. Gudauri has guaranteed snow from November to May. The average snowpack is about 1.5 metres deep. The resort's high point is the 3'007 metre summit of Mount Kudebi. The area enjoys great weather in spite of its high elevation. The resort benefited recently from a complete redesign by a leading international master planner. Accommodations are in the process of being upgraded to 2 to 5-star hotels, some with international brands. The ski area has 13 lifts, which were recently replaced, retrofitted or newly built. A 10-seater gondola lift was added in 2011 and a further investment program of EUR 70 million was set to develop the resort from 2014-2017. It brought 6 additional high-speed detachable lifts, including a 3-leg gondola connexion with neighbouring Kobi ski resort. Ski mountaineering is also very popular in Gudauri. The attendance in the resort has been growing dramatically over the last couple of years.

Bakuriani, the second resort, is located on the Didveli slopes of the Lesser Caucasus Mountains, in the southeastern part of Georgia, at an altitude of 1'800 metres. The highest skiable mountain of the resort is Mount Kohta, culminating at around 2'200 metres above sea level. The resort lies 30



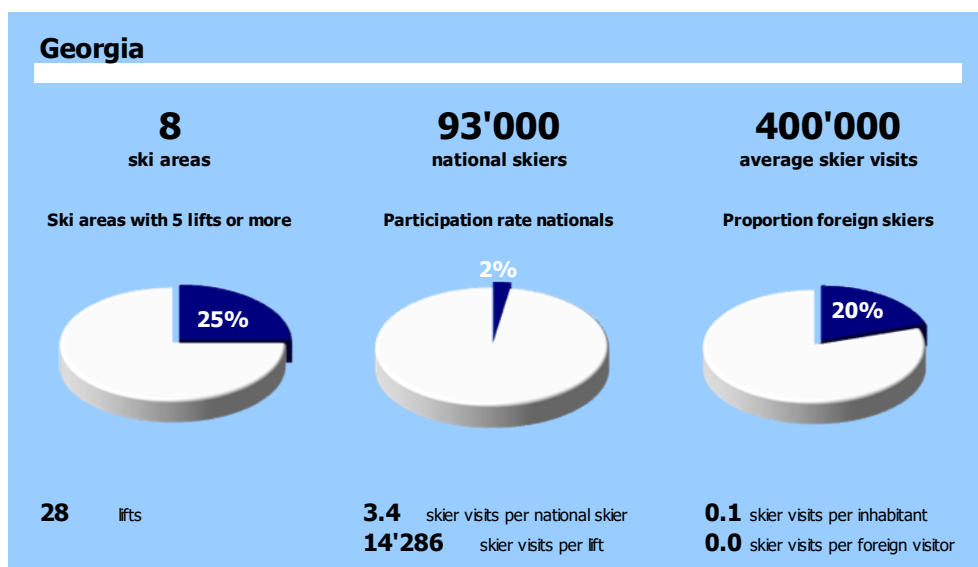
kilometres from Borjomi and is located within the Bakuriani Depression. It is connected with Borjomi by an electrified narrow gauge railway line. Bakuriani offers both downhill and cross-country skiing for skiers of all abilities. The resort has accommodations ranging from 3-star hotels to small private hotels and guesthouses. It has 12 ski runs of varying difficulty. New chairlifts and a gondola were recently added. The resort is family oriented, with a year round offering. The forest-covered mountains, the mineral water springs, the roads leading to the spectacular natural or cultural monuments of the Borjomi Valley are appealing for vacationers. Further to an important private-public partnership, a new resort base named Kokhta-Mitarbi has now been connected to the ski area. It is supported by a USD 150 mio investment by the Georgian State in infrastructure improvement. On top of this, the resort has also secured FIS 2023 Freestyle Ski & Snowboard World Championships.



New resorts have also been planned. One is at Goderdzi Pass. The Georgian Department of Tourism has contracted with a foreign company in order to develop a new ski resort in the high mountains of Adjara. The resort will accommodate about 7'000 tourists and offer 35 kilometres of runs. The resort is located 90 kilometres from Batumi, with an elevation ranging between 1'700 and 2'400 metres above sea level. A first gondola lift was delivered in 2012 and a detachable chairlift in 2014.

Another project is located in the remote high-mountain town of Mestia, where officials hope to establish a year round tourist destination at Mount Tetnuldi, with an initial budget of USD 145 million. It will feature 6 ski lifts and a run with 988 metres of vertical drop to meet Olympic standards. The first lifts have already been installed through financial support from the Georgian and French governments. Closer to Mestia, the ski area of Mount Zuruldi / Hatsvali has also been refurbished and equipped with new lifts.

Since 2010, a 4-seater chairlift enable skiers and pedestrians to reach the top of the mountain restaurant, featuring a beautiful view on the valley and the famous Mount Ushba twin peaks. The slope is equipped for night skiing. Since 2017, an additional detachable 6-pack chairlift is connecting the ski area with the town of Mestia.



3 New Chairlifts for Leading Georgian Resort

Georgia's Bakuriani ski area is to get new chairlifts over the next few years as the resort prepares to host the 2023 FIS Freestyle, Freeski and Snowboard World Championships.

The 3 new chairlifts, with a total combined length of 5 kilometres, will be installed in the resort's Didveli area, which is also to be accessed by a new 3 kilometres long by-pass, which will take tourists around the congested old resort to the newer area. The Municipal Development Fund has investment a total of GEL 55 million (USD 19 million) in infrastructure in Bakuriani leading up to the 2023 Freestyle Ski and Snowboard World Championships.

At a signing ceremony, Georgian Prime Minister Mamuka Bakhtadze said, *As an ordinary Georgian, I am very proud that Georgia will host the 2023 Freestyle Ski and Snowboard World Championships.* He said the country has also applied to host the Youth Olympics in 2025 with the aim of helping the country gain experience and prepare for a more ambitious goal – to one-day host the Winter Olympics. Bakuriani already operates 17 lifts and has installed 5 lifts over the past 3 years, including 3 draglifts and a quad plus a 6-seater chairlift.

Source: Snowhunter



Greece



Skiing in Greece is a unique experience. Surprising as it may sound, while Greece is mostly well known for its warm sunny weather and beautiful beaches, skiing is also well developed. This is no secret for Greeks and a handful of other Europeans. But the majority of skiers in Europe, the United States and other countries around the world fail to imagine the numerous skiing possibilities that Greece can offer. Mountains cover 80% of Greece with a majority of peaks topping out at over 1'500 metres above sea level, thus

providing some areas with ideal conditions for winter sports resorts. These resorts are located all over Greece. In Central Greece there are the resorts of Parnassos, Karpenissi (Velouchi), Vassilitsa and Pilion. Located in Northern Greece, in the historical region of Macedonia (not to be confused with the country nearby), are the resorts of Seli, Tria-Pente Pigadia and Kaimaktsalan. In the Peloponnesus, in Southern Greece, are the resorts of Kalavryta and Mainalo. Greece has a total of 21 ski resorts and those mentioned above are the most well-known, and also equipped with modern infrastructure.

During the winter season, many Greeks enjoy winter sports and although all skiers are not as well trained as those living in Alpine countries, the skier level, especially for children, is improving every year. Skiing is still popular in Greece, and most ski resorts are full with skiers and visitors on the weekend.

The largest ski resort is Parnassos Ski Resort, in Central Greece, only 200 kilometres from Athens, and very close to the well-known ancient city of Delphi. Runs are between 1'600 and 2'250 metres elevation. In Parnassos, one can ski in the morning and bathe in the sea at lunchtime. The nearby Gerontovrachos ski area offers another 2 lifts and it is possible to ski to and from Parnassos. The Fterolaka ski area was built in 1975 and in 1981 the Kellaria ski area was fully operational. Today it has 19 runs for a total of 36 kilometres of skiing. Fterolaka and Kellaria have 14 lifts: 1 gondola, 6 chairlifts and 7 surface lifts. The Ermis lift that connects Fterolakka and Kellaria was built in 1988 and offers skiers and visitors unbelievable views. Looking to the North one can admire the Mountain of the Gods, Olympus; looking to the South, the clear blue waters of the beautiful Corinthian Gulf. It is usually operated throughout the year, including the summer season, offering countless hiking options for residents and tourists. The winter season starts in December and usually ends in April. Parnassos has hosted multiple FIS alpine skiing and snowboarding races at the end of March-April, and foreign racers have always been surprised by the snow quality and quantity.

In Central Greece, in addition to Parnassos, is the ski resort of Karpenissi (Velouchi), near the city of Karpenissi. The resort is located at an altitude of 1'750 metres and tops out at 2'000 metres. It has 3 chairlifts, 3 surface lifts and 12 runs. Another ski resort in Central Greece is Vassilitsa, close to the city of Karditsa. Snow conditions are very good and it has 2 chairlifts and 4 surface lifts of varying lengths, ranging from 900 to 2'000 metres long. The Agriolefkes ski resort (Central Greece) on Mount Pilion, near to the city of Volos, is located between 1'178 metres and 1'471 metres elevation. It is one of the oldest ski resorts in Greece and has 3 chairlifts, 3 surface lifts and 5 kilometres of runs.

Another well-known ski resort is Kalavryta on the Peloponnese (Southern Greece). It is located 200 kilometres from Athens in the region of Achaia. It is nestled at an altitude of 1'650 metres, with runs starting from as high as 2'340 metres. It has 7 lifts and more than 10 runs. The ski resort of Mainalon is also located on the Peloponnese, near the city of Tripolis, at an altitude of 1'500 metres, with a top elevation of 1'860 metres. It features 4 lifts and 8 runs.



The largest ski resort in Northern Greece, in the region of historical Macedonia, is Mount Kaimaktsalan. Its ski area is located between 2'050 and 2'480 metres above sea level. It features 10 runs for a total of 4 kilometres of skiing. It has 7 lifts, including a chairlift and 6 surface lifts. Skiers can take advantage of 430 metres of vertical drop. It also has a half pipe and snowpark for experienced snowboarders and skiers. Snowmaking equipment includes 4 mobile cannons and 6 snow lances.

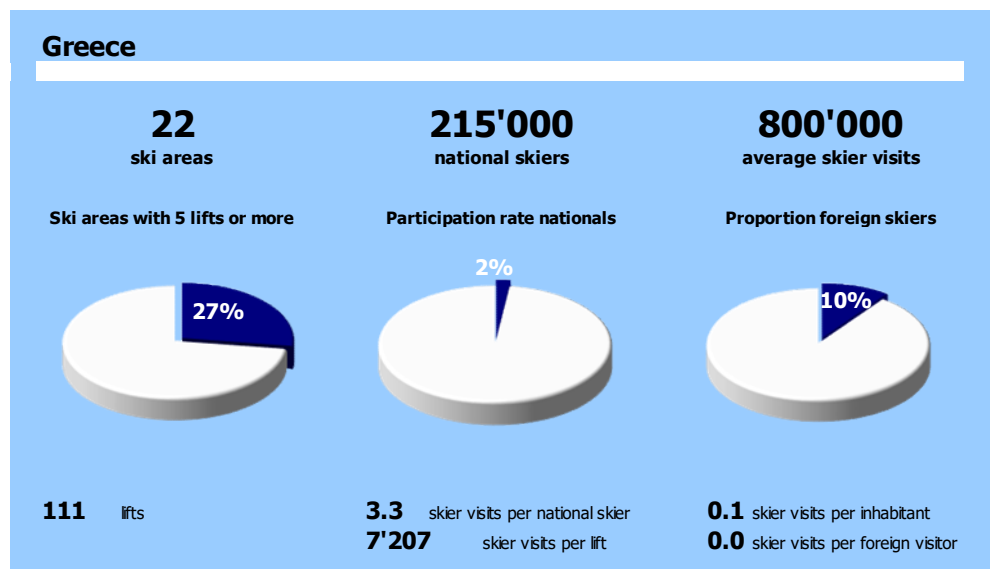
Another ski resort in Northern Greece in the historical region of Macedonia is the 3-5 Pigadia, located between 1'430 to 2'005 metres elevation, near the town of Naousa on Mount Vermion. There is 1 chairlift and 5 surface lifts, as well as cross-country skiing. This resort is used by several national



sports teams (football – track and field, etc.) as a training camp, and has top-notch equipment. Most of the Super-G races in Greece take place in 3-5 Pigadia, as the slope length meets FIS standards. The ski resort is equipped with snowmaking equipment to ensure excellent snow conditions throughout the entire ski season.

The Seli ski resort, where the first ever ski lift in Greece was installed in 1955, near the town of Veroia, is among the most beautiful ski resorts in Greece. Seli is located at an altitude of 1'515 metres, and tops out at 1'874 metres. It has 1 chairlift and 8 surface lifts that serve 14 runs. Cross-country skiing is also popular in Seli.

In all the above ski resorts, there are officially sanctioned ski slopes that host FIS alpine and cross country skiing races every year. All ski resorts have restaurants, cafeterias, ski schools, ski shops, ski rentals and medical facilities.





Hungary



Even though only 2% of Hungary is located higher than 400 metres above sea level, a number of small ski areas exist. A mountainous region stretching over 200 kilometres is located in the northern part of the country next to the Slovak border. It consists of Börzsöny, Cserhat,

Matra (including the country's highest peak, the 1'014 metre high Mount Kekes), Bükk and Zemplen Mountains. However, one of the biggest and most popular ski resorts in Hungary, Epleny, is located in another region, the Bakony Mountains, on Lake Balaton in the western part of the country.

Skiing has become popular in Hungary: about 600'000 of the 10 million Hungarians ski. However, more than 90% of them travel abroad for winter



sports, as the Hungarian mountains are not high enough, the ski lifts are somewhat antiquated and snow coverage is insufficient. Thus, skier visits in the country are only estimated to be around 400'000.

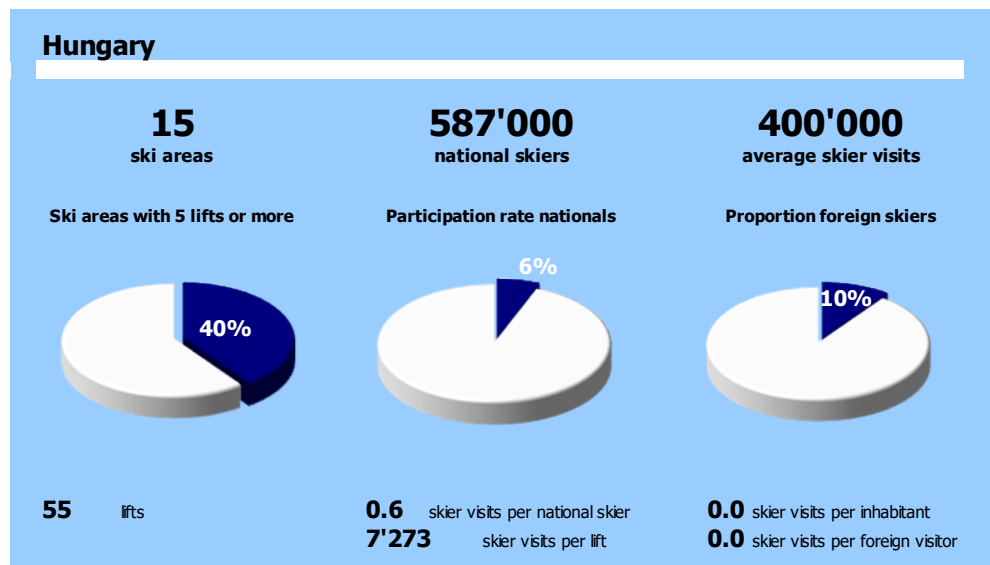
There are 15 ski areas with a total of 55 ski lifts in Hungary. Only 6 resorts have more than 4 ski lifts each. The most important ones are the already mentioned Skiarena Epleny, which has the most runs, with a total of 7.2 kilometres of trails, Matraszentistvan Skipark, Kekesteto, the highest ski resort in Hungary, Visegrad and Bankut. The latter resort operates the most lifts (9).

In Bankut, snowmaking systems are not yet allowed, so the number of operating days per winter is limited. The ski resorts of Epleny, Matraszentistvan, Kekesteto, Visegrad and Satoraljaujhely are relatively modern and have snowmaking equipment, which allows them to operate

for up to 100 days per winter if the temperature is low enough. Satoraljaujhely also features a synthetic slope.



There used to be many smaller ski areas in Hungary, with only 1 or 2 short lifts, but they no longer operate due to poor snow conditions and high costs. However, there is a plan to revitalise the well-known, historical slopes of Normafa, in the Buda Hills, which could become popular with people living in the capital city of Budapest.







Kazakhstan



Kazakhstan is a big country, ranking 9th in the world in area. It offers a variety of terrain, from desert zones, which cover nearly half of the country, to high mountains in the Southeast. The highest peak of the Tien Shan Mountains rises to 7'439 metres above sea level, and the mountainous range that continues well into China, starts from the suburbs of Almaty.



In most areas, there is a wide temperature difference between summer and winter, which can be very cold. The ski season begins in mid-November and lasts until mid-April.

More and more Kazakhs are discovering the pleasures of skiing. The ski resort of Shymbulak, near Almaty, has been around for a long time. The resort is located in the Zailii Alatau Mountains. It started to attract skiers at

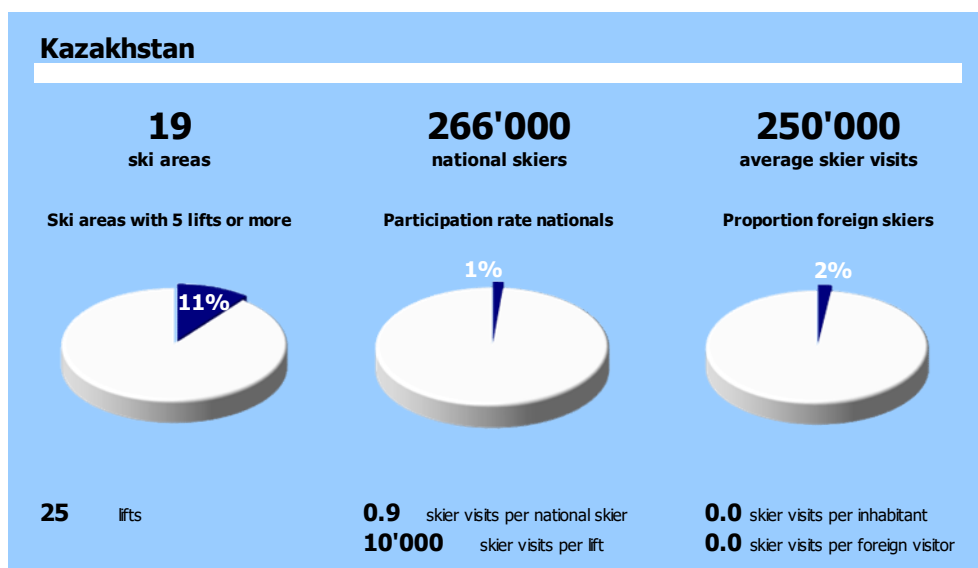
the end of the 1940s, and in 1954 it was established as a ski resort and equipped with its first ski lift. Ski competitions were held there, and until 1962 it had a monopoly on skiing in the former Soviet Union. Since 1983, it has operated as an Olympic centre for downhill ski training and additional lifts were added. The resort was recently refurbished, with 5 new lifts out of a total of 6. It even has one of the longest gondolas in the world, with a 4'572 metre section that provides easy access to the ski area, connecting Almaty's public bus system with the ski resort. There are a total of 15 kilometres of runs between 2'200 to 3'163 metres elevation. Some of the runs are FIS certified. The resort hosted the 2011 Asian Winter Games.



The famous Medeo ice rink is located at the base of the mountain, where numerous competitions have been held, and 120 world records established.

Another major resort in Kazakhstan is Ak-Bulak, recently equipped with 4 new lifts, and also not far from Almaty. It offers one high-quality hotel and an important 4-season indoor and outdoor sports centre.

In addition to these well-known resorts, there are several other ski areas, located either in the Almaty Region (Enbekshikazaksky resort) or in the eastern part of Kazakhstan. In the latter, ski areas are located in the suburbs of cities such as Ust-Kamenogorsk, Zyryanovsk. The Nurtau resort, Altai's Alps, Edelweiss, Stardust Camp and Eagle ski areas offer a wide variety of runs for all levels of skiing and snowboarding.



The ski industry of Kazakhstan aspires to continue to develop. 3 major new resort development projects were presented (Kokzhailau, Kaskasu Mountain and Koksai) in 2013 when the City of Almaty applied, unsuccessfully, to host the 2022 Winter Olympics. Now, it seems that the City and the Government have approved new projects to modernise and expand 7 existing ski areas and to build 3 new resorts within the coming years. Work

is already underway in Oi Qaragai / Lesnaya Skazka, where a new chairlift has been built and ski slopes have been expanded from 3 to 13 kilometres. Expansion in a further stage will bring a 10-seater gondola and a 6-seater detachable chairlift, to expand skiing over more than 40 kilometres of slopes, including also snowmaking. Shymbulak will further develop as well.





Kosovo



A large part of Kosovo is mountainous, with the highest peaks rising to 2'656 metres above sea level (Mount Gjeravica, located on the western border with Albania).

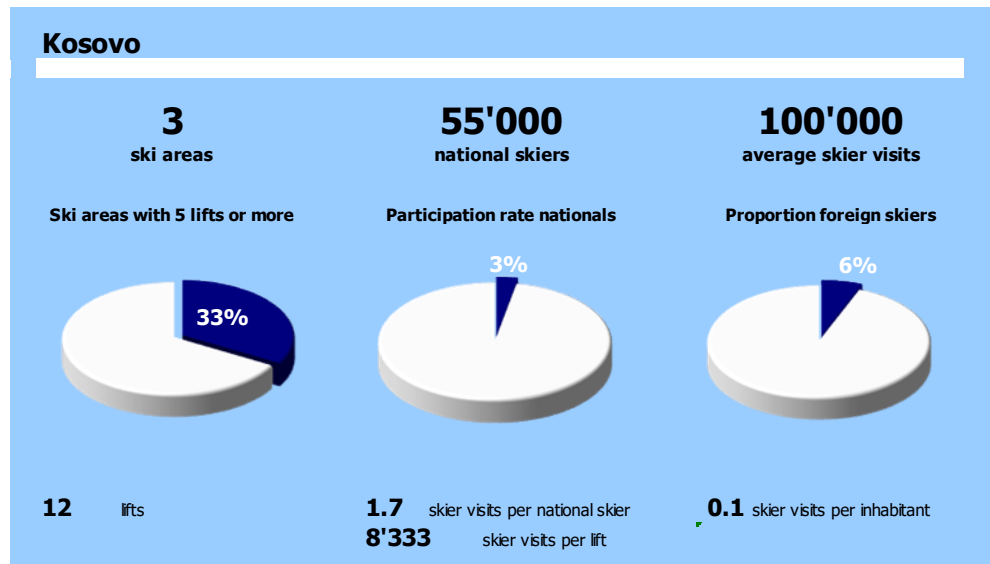
Despite several mountain ranges, there are only 3 ski areas in Kosovo.

The largest ski area, Brezovica, is located in the South, on slopes facing the Sharr National Park. It is conveniently located only 60 kilometres from Pristina Airport and 70 kilometres from Skopje Airport in Macedonia.

The current ski area was originally established in 1954. In 1979, the first ski lift was installed. Brezovica served as an alternative site for downhill skiing events at the 1984 Sarajevo Winter Olympics and hosted several FIS events in the 1980s and 1990s. However, due to the difficult situation of the country, the resort has not received any meaningful investment for more than 2 decades. The site nevertheless offers favourable conditions for a ski resort, with snowfall from mid-November through May, for an average of 128 skiable days. The ski area currently features 10 lifts, carrying skiers up to an altitude of 2'500 metres, with a total capacity of about 10'000 people per hour. There were recent plans by the Government to develop Brezovica into a genuine 4-season resort. EUR 410 million were likely to be invested to develop more than 100 kilometres of trails and build new lifts. A contract had been announced with a French consortium. However, the whole story was later on denied by some of the said interested parties and the financing anyway failed to materialise.



The other smaller ski areas are Bogaj (Bogë), in the Rugova Valley in the West and Brod, in the Dragash municipality, in the South. They are equipped with a limited number of lifts but offer nice slopes and spectacular villages. In Brod, there is a hotel and the ski area hosts competitions between local ski clubs and those from neighbouring Albania.





Kyrgyzstan



Kyrgyzstan is a small country with just over five million people and is often compared to Switzerland because of its potential for developing alpine skiing. Indeed, the climate and the significant vertical drop are factors that offer great conditions for skiing. Over

90% of the country is covered by mountains. Its average elevation is 2'750 metres above sea level and a majority of the peaks rise to over 3'000 metres. The highest summit, Pobedo Peak, is 7'134 metres high.

Skiing is however at this stage not widely developed, even though the country has 19 ski areas, many of them near the capital city of Bishkek. They are small, often at an early stage of development, with no or only one hotel, and a limited range of standard services such as equipment rentals or ski schools. Not a single ski area has a modern detachable lift. The most



advanced system is 3 or 4-seater fixed grip chairlifts. Some have only rope tows. Poor master planning is a common issue for many ski areas. For instance in one place, lifts do not serve all slopes and skiers need to go up by road. Most of the ski areas however feature old second-hand groomers to prepare the slopes.

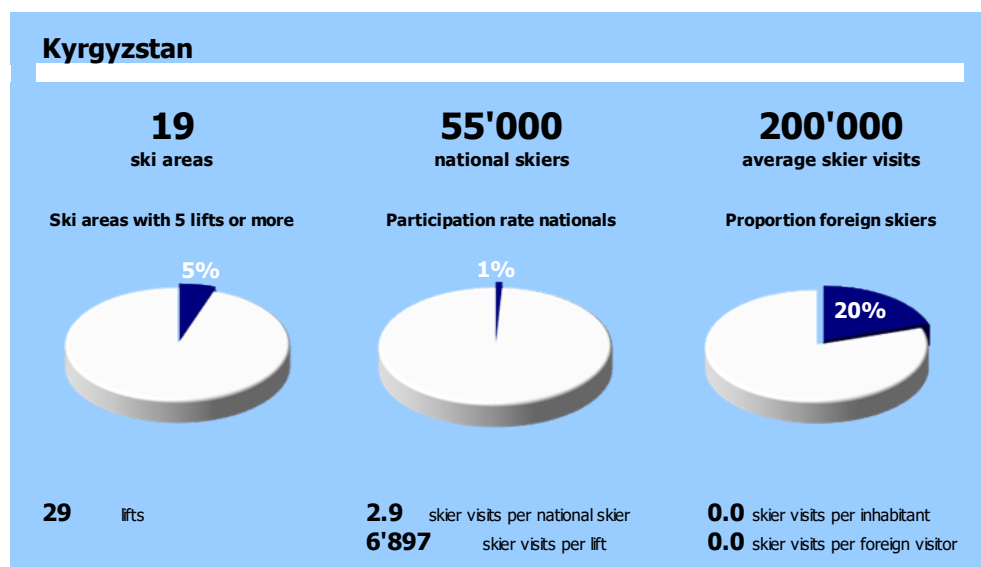
7 kilometres from the town of Karakol, a ski resort of the same name is located on the slopes of the Tian-Shan mountain range. Its base area sits at 2'300 metres above sea level. It has a temperate climate and offers

views of the second largest mountain lake in the world, Lake Issyk Kul. Most of the 20 kilometres of runs descending through the forest are of varying difficulty and between 400 and 3'500 metres in length. The highest point of the resort is 3'040 metres above sea level, providing a total vertical drop of 800 metres. Karakol features 4 lifts: 2 double and 2 triple chairlifts. The 2-metre average snowfall per year offers a sufficient base for the entire ski season due to low nightly temperatures. In addition to downhill skiing, there are also plenty of options for backcountry skiing, mountaineering or snowmobile tours.

Opened in 1967, Orlovka has grown in recent years. A new lift was built, as well as new buildings (cottages, restaurant). Lighting for night skiing was installed and the resort has acquired its first snowmaking equipment, becoming one of the few in the country able to guarantee snow throughout the entire season. The resort has a total of 5 lifts: 4 chairlifts and 1 surface lift, with a total capacity of 4'200 skiers per hour. Skiers have access to 9 runs of varying difficulty and between 150 and 2'900 metres long. Snowmobile rentals are also available.

Norus, about 40 kilometres from the capital, is located at 1'980 metres above sea level. It has 3 lifts and 15 kilometres of trails for all levels. The area is however particularly well suited for children. There are also drop off zones for heliskiing.

35 kilometres from Bishkek, the Kashka-Suu ski area is located at 2'000 metres above sea level. 2 lifts (1 chairlift and 1 surface lift) serve 6 runs of varying levels for a total of 10 kilometres of skiing. A sauna, an ice rink and conference rooms are also available to visitors.





Latvia



With the highest hill just 311 metres above sea level, Latvia is not a mountainous country. However, snow is an integral part of the winter season, and over recent years, skiing has gained much interest. The short but steep slopes offer a suitable location for quick runs on skis or snowboard. While it may seem unusual, alpine skiing is one of the favourite wintertime activities in Latvia. Ski runs are located in almost every town, including well-marked and well-lit runs where one can cross-country ski. Since vertical drop is

always limited (often less than 100 metres), most ski areas are equipped with only one or a few surface lifts, and sometimes a small chairlift. Ski areas are also often limited to one only run.

The ski season usually starts in the first quarter of December and finishes in the last week of March. Most ski runs are equipped for night skiing.

The ski area of Riekstukalns is close to Riga. It features 8 runs and 11 lifts and some snowmaking equipment. The longest run is 350 metres long.



In the North, the resort of Baili has 7 lifts and 100% snowmaking. The longest run is 180 metres long. In the West, there are the ski areas of

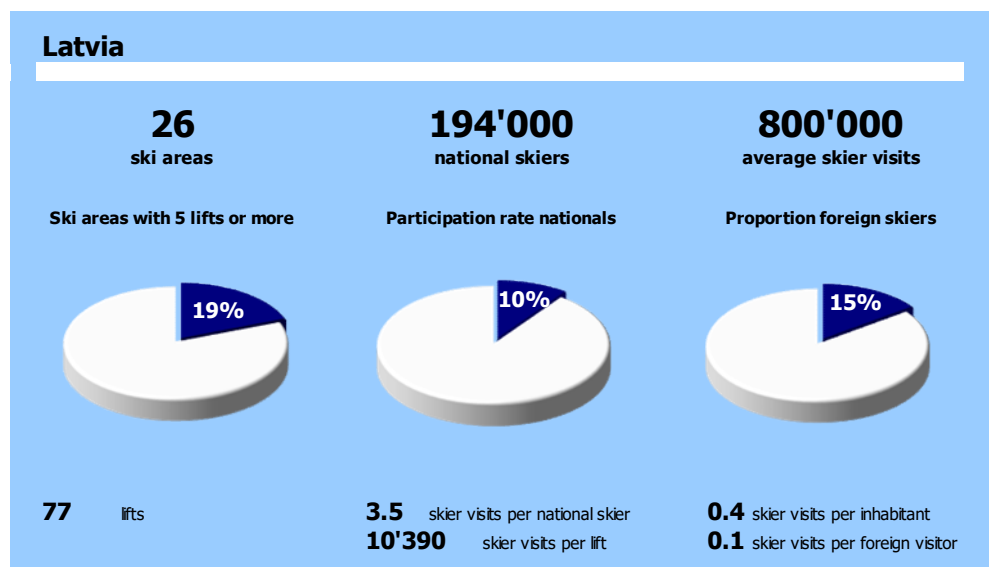


Milzkalns, with 8 lifts, and Zviedru Cepure (4 lifts, also equipped with a summer toboggan run). The recreational park of Lemberga Hūte offers a recently refurbished slope on a manmade hill next to Ventspils. Every year since 2005 this hill has been made higher, using construction debris and old asphalt from repaved streets. It is now 58 metres high and equipped with 3 lifts as well as snowmaking. The longest run features 240 meters of slope. As with other ski hills in Latvia, it turns into an adventure park in the summer and is a popular leisure and sporting facility for the inhabitants of Ventspils.



The area around Sigulda has at least 6 ski runs. There is, for example, the recreational centre in Kakitis, Korde slope and the leisure complex in Reina Trase, which is located a little bit farther. The only cable car in the country (which by the way is also the only one in the Baltics) is also located in Sigulda and connects both sides of the Gauja River. It is not used for skiing.

Near the city of Cesis, the ski areas of Zagarkalns and Ozonkalns are equipped with a chairlift, snowmaking, a snowpark, a beginner and children's zone, ski schools and cafés. The longest run is 500 metres long.



Lithuania



Lithuania is a rather flat country with a few gently rolling hills but no real mountains; its highest point is 294 metres above sea level.

Lithuanians started to show interest in skiing only a few years ago and focusing primarily on cross-country skiing, but there are a few downhill ski areas. Most are limited to snowfields on hills, offering a few hundred metres of runs, equipped with one or more lifts, where skiers can pay for a 2-hour pass that includes equipment rental. No ski

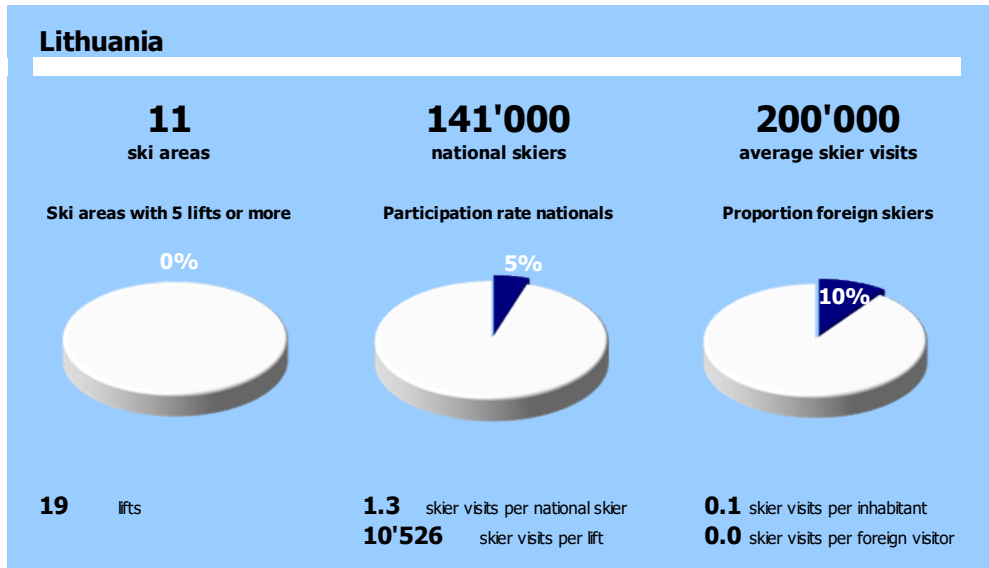
area has more than 4 lifts. The majority are located about 80 kilometres from the capital city of Vilnius. They also do not offer hotel accommodations, but there are country homes available for rent near a few ski areas. Some also offer night skiing and have snowmaking systems.



An indoor ski centre opened in 2011. At a cost of EUR 32 million, it offers Lithuanians the opportunity to ski year-round. The facility is one of the very few in the world to feature an outdoor slope during the winter season. As the other outdoor ski areas are rather small in size, this 640 metre-long outdoor slope is one of the longest in the country.

The Liepkalnis Ski Hill in Vilnius offers at wintertime 10 lifts and 10 tracks, for all levels of skiers. Total length of the tracks is 2.6 kilometres and the ski area is equipped with efficient snowmaking system. There are current plans to upgrade the Liepkalnis Ski Hill area by adding a complex of iconic buildings to make it an epicentre of entertainment, leisure and culture for the city of Vilnius.

The ski season in Lithuania is a bit peculiar when compared to resorts in the Alps. It begins in September with the first snowfall, and ends in February. However, winters are pretty stable.





Macedonia



Macedonia is a small landlocked country, in the southernmost part of what was once Yugoslavia. Reaching altitudes up to 2'764 metres (Mount Korab), the country's mountainous region boasts snow coverage through the end of May, in spite of its southern location.

Civil war and regional conflicts considerably slowed the pace of ski industry development. Even if the country is emerging as a budget winter destination, with weeklong lift passes at EUR 69.00, ski areas are still primarily

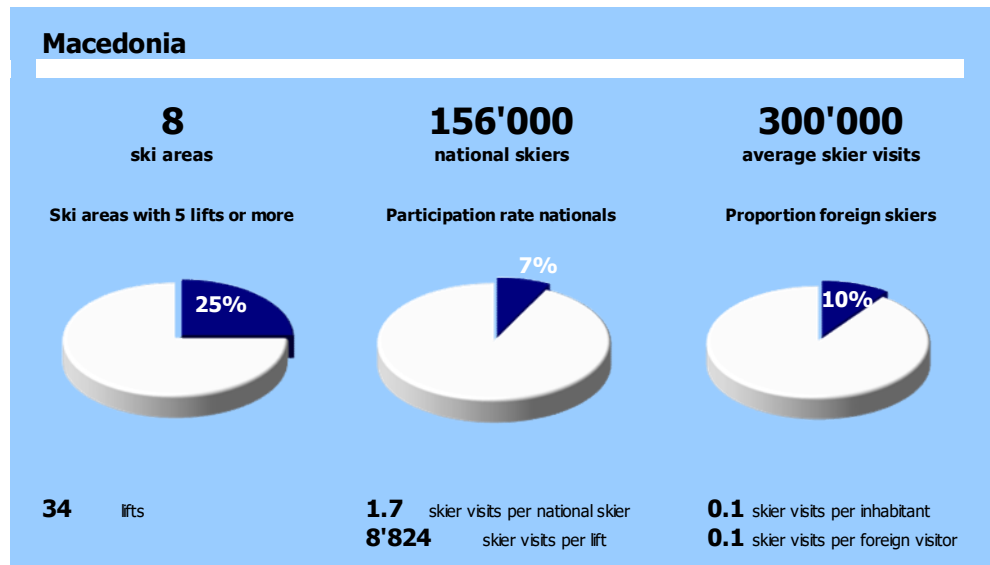
visited by local Macedonian skiers. Due to the conflict, the country has had a hard time building up a skier population base large enough to support ski resorts and offer state-of-the-art facilities. Lifts, trail marking, grooming and even cleanliness are not yet up to western standards. The ski areas tend to be crowded by locals on the weekends, with long lifts lines, and empty on weekdays, when lifts may even close. The foreign customer-base is currently limited to Albanians, Greeks and Bulgarians.

The Zare Lazarevski ski area, in Mavrovo national park, a one-hour drive from the capital city, is the largest in Macedonia. It has 14 lifts, and tops out at 1'860 metres above sea level. The resort features several hotel accommodations, including 4-star hotels. It has FIS approved downhill, super giant slalom and giant slalom runs. However, the lift infrastructure is ageing, with no high-speed detachable lifts.

Popova Sapka, another one of the most popular resorts, is located in the northwestern part of Macedonia, just 35 kilometres from the capital of Skopje. With bars, restaurants and hotel accommodations, it is able to successfully attract foreign customers. The ski area is equipped with 9 lifts. It has hosted both European and Balkan ski championships. One of them, the *Shara Mountain Cup*, dates back to 1947. Popova Sapka was linked to the neighbouring city of Tetovo via a 7-kilometre long cable car that was destroyed in the 2001 hostilities. Slopes are located between 1'708 metres and 2'510 metres above sea level, and the snow pack lasts 135 days per winter on average. A new latest generation 6-seater chairlift has just been built there.

Beforehand, only the Ski Centar Kožuf was equipped with new state of the art lifts. It is located next to the border with Greece. Even though it only has 3 lifts, there is a EUR 73 million development plan to extend the resort and add further lifts and accommodations.

Finally, a special mention for the Sharplania ski area, which brings skiers to the top of pristine slopes by using 2 snow cats since the area is not equipped with lifts. 14 freeriders can sit in each snow cat.





Montenegro



Known primarily for its sun-kissed coastline, Montenegro also offers plenty of mountain scenery, lakes and the longest canyon in Europe, through which the Tara River flows. The country has a lot of mountains and valleys. The highest peaks in Montenegro rise to over 2'500 metres above sea level (Maja Kolata, Prokletije Mountain, 2'534 metres; Bobotov Kuk, Durmitor Mountain, 2'523 metres). Some winters receive extremely heavy snowfall; during this type of winter, some places become inaccessible by

car.

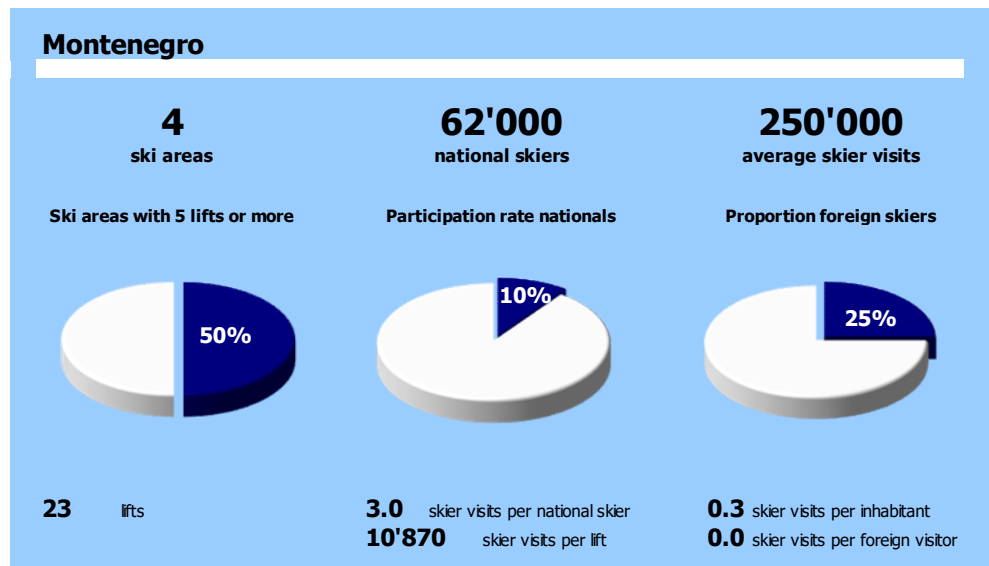
There are several winter resorts for both downhill and cross-country skiing. The most popular ones are Kolasin and Durmitor, which are at the foot of beautiful and massive mountains.

The resort of Kolasin 1450 is the most modern resort in the country. Located in Jezerine, near to the city of Kolasin, it was known in the past under the name of *Bjelasica Ski Centre*. After being acquired during bankruptcy proceedings, it was renamed, developed and some lifts were replaced. A high-speed 6-person detachable chairlift was recently installed (2010) in addition to 1 other fixed-grip chairlift and 3 surface lifts. The ski area features the only snowmaking system in Montenegro. Kolasin 1450 offers both winter and summer activities. Rustic wooden restaurants and mountain huts make the place a picturesque location, together with two 4-star mountain resort hotels.

Located close to Durmitor National Park and in the shadow of one of the country's highest peaks, Zabljak is the highest town in northern Montenegro and an epicentre for winter sports. It enjoys snow 120 days per year, from December to April. The Durmitor resort is made up of several small ski areas for a total of 12 lifts that rise up to 2'313 metres elevation. Some high-quality mountain ski chalets and new hotel ski-lodge accommodations have opened in recent years.

Both resorts are trying to increase market awareness and attract more local and foreign customers. Durmitor has hosted international downhill ski competitions. Various entertainment and sporting events are organised by the National Tourism Organisation throughout the season, with the slogan, *A hot winter in the mountains*. Ski passes, equipment rental and ski lessons are a bargain here. An all-day lift pass costs about EUR 15.00, a pair of skis

and boots can be rented per day for EUR 10.00 and a one-hour private ski lesson costs EUR 20.00.



Since Montenegro only gained independence in 2006, the tourism industry is still thinking about the major developments to invest in. Until now, the country's ski areas have primarily been the domain of locals and a few visitors from the Balkans. In the future, a number of tourism projects will enhance the country's tourism appeal. Mountain centres are a key part of this strategy and 8 resorts have been planned for development. Some are starting from scratch, such as the Zarski, Torine, Jelovica and Komovi ski resorts; others intend to further develop the existing ski area of Kolasin.



Poland



The Carpathian Mountains cross the southern part of Poland and form a natural border with neighbouring Czech Republic and Slovakia. In the High Tatras region, the highest part of the Carpathian Mountains, Poland has 70 peaks over 2'000 metres high. The range culminates with the 2'499 metre high Mount Rysy. The Beskidy and the Giant Mountains are Carpathian sub-ranges, with slightly lower altitudes. They all contain winter sports areas. Skiing also exists in the central and northern parts of the country. In these regions, the

slopes are gentler and ideal for beginners or those who want to get in shape before going to the mountains.

Even though skiing has been around for a while, up until recently Poland was not a very popular winter ski destination for international tourists. The opening of Polish air space to low-cost airlines and the development of the highway system have given a big boost to tourism in Poland. The relatively low prices and pristine wilderness are other factors that have helped to make Poland popular with tourists.



The climate in Poland provides good conditions for winter sports. The season begins in December and lasts until April at some resorts. However, the best conditions for skiing are from January to March.

The country offers nearly 200 ski areas and a total of over 800 lifts. Many ski areas are pretty small, with only a few trails and one or a couple of lifts. Most of the time, skiing is consumed on an hourly or pay-as-you-go basis. Snowmaking and night skiing are common.

The most famous ski destination in Poland is the town of Zakopane, which attracts 2 million visitors yearly. Nestled in the heart of the Tatras Mountains, it started out as an intellectual centre in Poland. Since the 1930s, the area evolved into one of the most popular holiday destinations in the country, with a flourishing winter sports centre, as well as year round activities and a busy nightlife. Zakopane hosted the FIS World Ski Championships as early as 1929, 1939 and 1962. However, even if it has a total of almost 50 lifts, it is not a ski resort like those of international renown. The fact is that the town is surrounded by several small ski areas with a few lifts each that are not interconnected and that do not offer a common lift pass. Most of them have short surface lifts, either running parallel or not connected to one another. Some were installed in the 2000s, but there are still some rather archaic relics. The ski areas are privately owned and require separate lift tickets (usually priced for a specific number of rides). From Zakopane, it is also possible to drive to larger resorts.



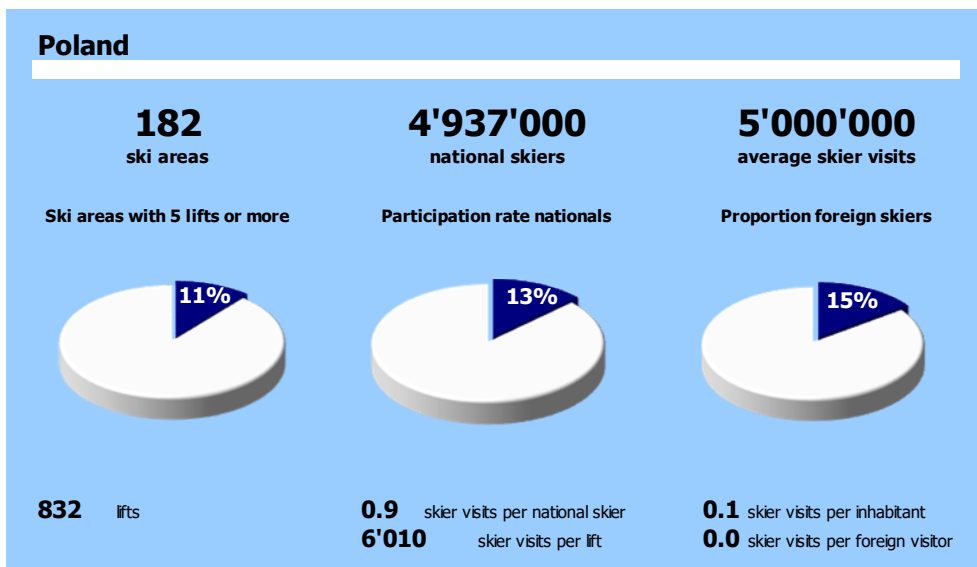
The beginner-friendly ski area of Zieleniec features more than 20 ski lifts (mostly surface lifts and 2 quad chairlifts) and 7 baby lifts. In terms of lifts, it is the largest single resort in the country. Even if its altitude is rather low (950 metres above sea level), it benefits from a unique alpine microclimate, which guarantees snow nearly 150 days per winter. Together with a snowpark and 10 runs equipped with lighting for night skiing, the resort's broad offering suits skiers of all levels.

The ski areas of Czarna and Solisko combine to form the popular resort of Szczyrk. It has about 20 ski lifts as well as several baby-lifts, 30 downhill trails totalling 60 kilometres, with an approved FIS run, snowmaking, night skiing, ski school, restaurants and equipment rentals. The first chairlift was installed in Szczyrk in the 1950s due to the area becoming an Olympic training centre. 2 new detachable chairlifts with bubbles and a 10-seat gondola have been installed in 2017.

With 16 lifts, Bialka Tatrzańska is also among of the largest ski resorts in Poland. It is 40 minutes away from the city of Zakopane, has recently expanded, and infrastructure was improved with the addition of several new chairlifts. It offers runs for all skiing abilities, and has a number of bars, restaurants and shops.

Recently, there has been a revival of ski tourism in Poland. Cross-country skiing and backcountry skiing have become more popular, and there are well-marked itineraries not only in the South of Poland, such as in Karkonosze - Jakuszyce in the famous Race Piast - and at the foot of the Tatras, but also in other parts of Poland, including Masurian Suwałki, the lake region in Kashubian, the Cracow-Częstochowa plateau and the

mountainous Roztocze. Furthermore, 60 new lifts have been built at Polish ski resorts over the last 10 years.





Romania



The Carpathian Mountains are the second largest mountain range in Europe. They dominate the centre of Romania, with 14 peaks reaching over 2'000 metres. Culminating 2'544 metres above sea level, Moldoveanu Peak is the high point. There is snow between November and April and snow conditions can be very good through the end of March or even April, with often very cold temperatures. The ski resorts have decent infrastructure, and the hotels are comfortable and offer interesting specials

packages. Nevertheless, the poor access roads are sometimes an issue.

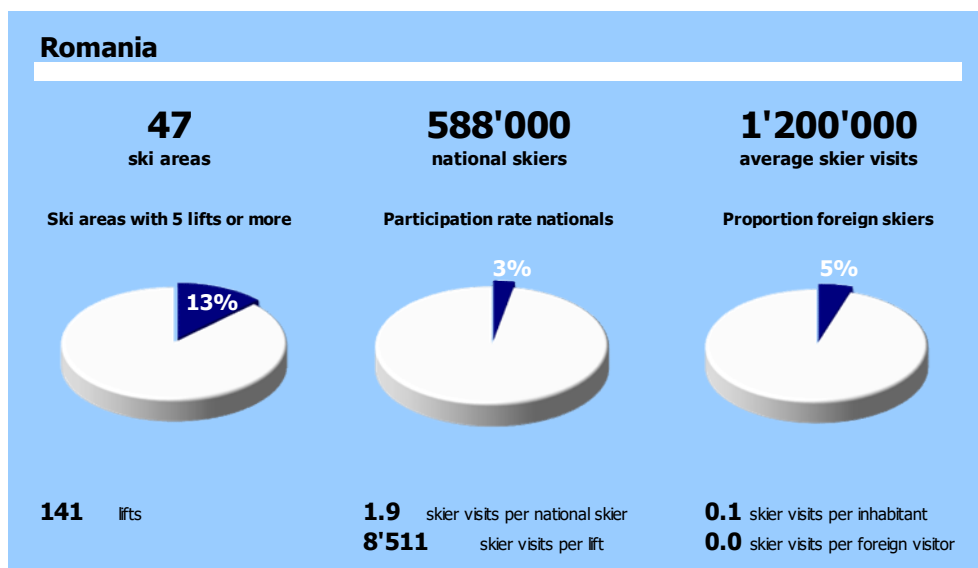
Romania is still a rather unknown and undiscovered winter holiday destination. It features 44 ski resorts with about 150 ski lifts, 20% of which have been installed or renewed over the last 15 years. It is an attractive destination for foreign visitors, as prices are relatively low when compared to most of Europe, and some ski runs are lit for night skiing. However, lift passes are not considered cheap due limited infrastructure and poor grooming. Romanian ski resorts are estimated to attract around 1.2 million skier visits per year.

The main ski areas in Romania are Poiana Brasov, Sinaia, Busteni, Predeal, Azuga in the Southeastern Carpathians, Paltinis in the Southern Carpathians and Borsa, Vatra Dornei, in the Eastern Carpathians.

The popular destination of Poiana Brasov is only 13 kilometres from the medieval city of Brasov. More restaurants, villas and hostels have been built there than anywhere else in the country. The region hosts several sporting events every year. It has 11 ski lifts, a snowmaking system, cross-country skiing, ice rinks, swimming pools as well as several bars, restaurants and discos. The resort offers a capacity of 4'500 visitors per day and the lodging infrastructure can accommodate 4'000 guests.

Sinaia, with a maximum altitude of 2'000 metres above sea level, is located 125 kilometres from Bucharest. It is called the *Pearl of the Carpathians* because of its beautiful landscape. The mountain resort has 10 recently upgraded lifts, cross-country skiing and lots of restaurants, bars and discos. The highest city in Romania is Predeal at 1'000 metres above sea level, 145 kilometres from Bucharest. It is one of the main ski resorts in the country and has 7 lifts.

Recently, a new ski resort opened. Initially called *Star Trek Voineasa*, the now official name is Transalpina. It features a 2-section gondola, 1 quad chairlift and 2 surface lifts. Developers want to add more lifts to make it the largest resort in the southern Carpathian Mountains. The finalised project features 31 lifts and 80 kilometres of trails. The resort is being built by the Romanian Ministry of Sustainable Development and Tourism as part of their EUR 80 million *Ski the Carpathians* program, backed with EC funding, which includes the dramatic upgrade of several Cold War era resorts as well as the development of new centres.



EUR 32 Million Expansion Plan for Romanian Ski Area

Romania's leading ski area of Poiana Braşov has been lined up for a EUR 32 million investment, which will include 10 kilometres of new ski runs served, by a new gondola and chair lifts. The expansion will increase the ski runs by almost a half to more than 30 kilometres and capacity on the slopes from 4'000 to 5'000 people. Some of the new runs will be floodlit. The plans from the local municipality envisage expanding over 30 hectares of new terrain, with the ski area being extended towards the neighbouring town of Râşnov, in the Cheișoara area.

Initially allocating around EUR 50'000 to a detailed feasibility study, the mayor of Braşov said that 2.3 million skiers have used the lifts at the resort over the past 3 winter seasons. A timescale for the expansion plan has not been published, only that construction will begin once the feasibility study is completed. Poiana Braşov and other ski resorts in Romania and the wider region suffered a poor start to this season with no snow and warm temperatures so snowmaking systems could not operate until Christmas Day. The resort is hoping to bid to host the Winter Youth Olympic Games of 2028.

Source: Snowhunter



Russia



Out of all the countries in the world, Russia boasts the largest number of mountain ranges, from the rolling hills of the Khibiny range, to the majestic peaks of the Caucasus and the volcanoes of Kamchatka.



Skiing has been practiced in Russia since ancient times. An old set of skis dated from 6300 BC was found near Lake Sindor, in the Vychegda basin of Russia (northern Russia). Rock paintings near the White Sea, dated from 3000 to 2000 BC also confirm an old history of skiing. Other petroglyphs, dated between the 3rd century BC and the 4th century AD were found only 600 kilometres from the Altay Mountains of northwestern China.

Since the 1950s, there has been a Russian alpine ski instructors association. In 1967, it launched a national training programme. However, at the time of former USSR, winter sports were mostly reserved for professional athletes and training centres were built in various republics that are now independent. It is only since the early 2000s that recreational skiing became more popular and that ski areas were developed or re-developed. Starting from 2000, 140 news lifts were supplied in Russia by major western manufacturers.

Ski resort development for the 2014 Sochi Winter Olympics has been driving a growing market with future potential. Of Russia's 140 million inhabitants, only 3% ski. But the market is expanding through an increasing number of domestic skiers, and an increased attendance at domestic ski resorts. The trend has been clearly noticeable since the Sochi Olympics, triggered by the state-of-the-art resorts. On the other hand, the drop in the rouble's value, due to recent political issues, encouraged Russians to ski in Russia. Between January 2014 and January 2016, Russian rouble lost half of its value. Tours to Russia became much cheaper

for foreigners and, accordingly, travelling abroad became much more expensive for Russians. Therefore, many Russians who used to spend their winter holidays in European resorts skied domestically. According to recent surveys, the number of Russian tourists travelling abroad decreased by about 30% in 2015/16.

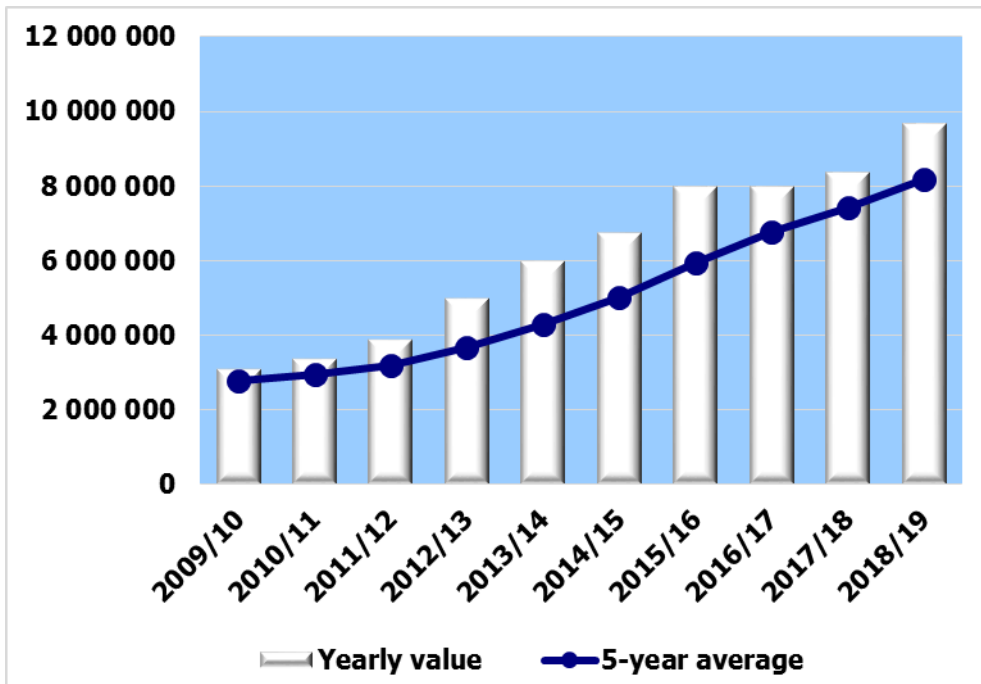


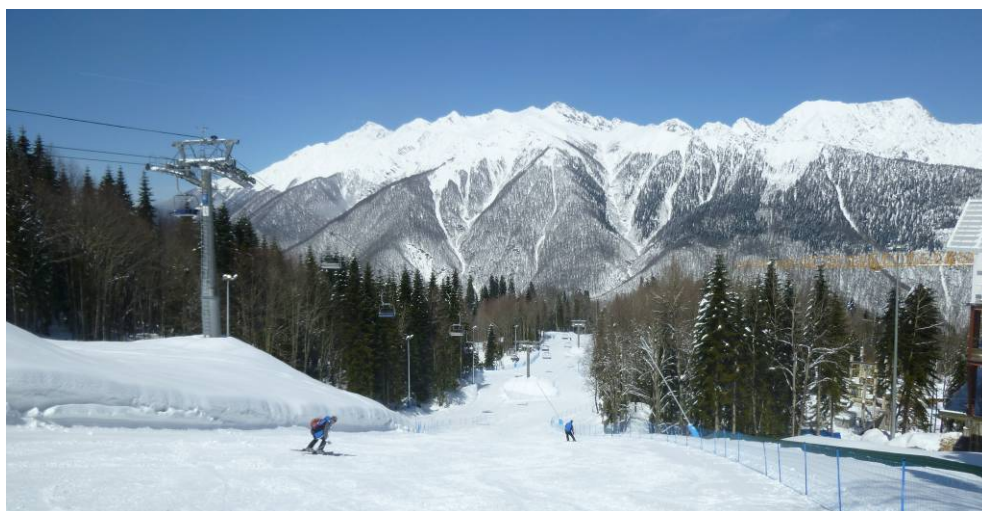
Figure 26 : Russia, evolution of skier visits

It looks that visitation in Russian ski resorts was boosted after Sochi Olympics but then tend to be stagnating in 2016/17 at former years' level. Visitation at many Russian ski resorts even slightly decreased, despite relatively good snow conditions. Winter 2017/18 looks a bit better with an estimated growth in attendance of 5%. Sustained growth in Northern Caucasus and Siberia pushed 2018/19 visitation further upwards.

The number of ski areas in Russia increased significantly since 2012. Many of them still feature limited infrastructure and lifts that require some renovation. There are about 40 small ski areas around Moscow and a few around St-Petersburg, even though neither city is located in a mountainous region. The main ski resorts in the country are located in the Ural and the Caucasus Mountains, but many other regions also offer ski areas, from the vicinity of St-Petersburg over Siberia up to Sakhalin Island and Kamchatka peninsula. Currently, 75 of the 83 regions or *subjects* of the Russian Federation offer one or more, totalling over 350 ski areas.

70 kilometres from Sochi, the resort of Krasnya Polyana served as the main site for the 2014 Olympics. It is spread over 4 different ski areas: Alpika Service, opened in 1993, lies between 690 and 2'050 metres above sea level, offering a vertical drop of over 1'300 metres. Laura, whose real name

is Gazprom (but some people call it Laura because of the name of the river running through it), first opened for the 2008/09 season. It now features 14 lifts. Some gondolas are open all year round, since they are designed for more than just skiing. Gorky Gorod was built specifically for the 2014 Olympics, and has 30 kilometres of trails and 11 lifts. An efficient snowmaking system was also built to guarantee that the problems encountered at the Vancouver Olympics would not be repeated. This also allows extending the season further into the spring. Some lifts also operate all year round. Rosa Khutor is Krasnya Polyana's largest resort, and hosted the alpine skiing events during the 2014 Olympics. The resort features 102 kilometres of runs for all levels, from beginners to Olympic champions, and 25 lifts (7 gondolas, 11 chairlifts and 7 surface lifts). It is spread over 500 hectares, with the highest point culminating at 2'320 metres above sea level. Some gondolas are open almost all year round. Various ski and mountain biking competitions and several festivals are held there. After the Olympics, the resort has proved to be very popular and has been recording about 800'000 skier visits each winter.



Another well-known ski resort of the Caucasus Mountains is Dombai, located close to the Georgian border. Although the resort was equipped 10 years ago with 3 modern lifts, part of the infrastructure still looks from a past era.

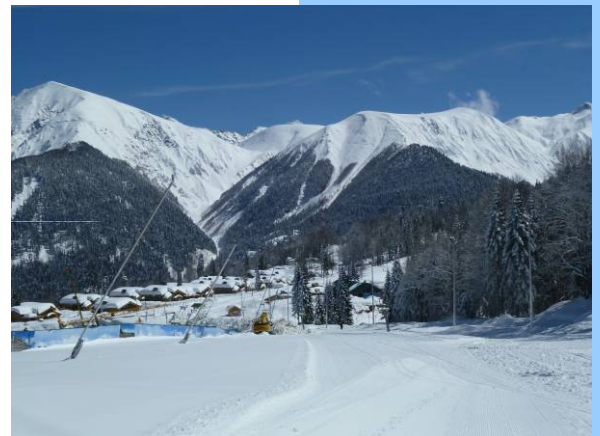
The most popular resort in the Ural Mountains is Abzakovo. It is also one of the largest in the region. With a spa, the area is both a ski resort and a sports and health complex. For years it was essentially the resort of choice for residents in the city of Magnitogorsk, 60 kilometres away. But with the construction of a new complex and modern skiing facilities, its popularity has spread throughout Russia. Abzakovo features a dozen runs with a total length of 18 kilometres of skiing, including FIS approved slalom and giant slalom runs. The 5 ski lifts and the baby lift can carry 5'000 skiers per hour. In addition, the resort has a snowmaking system and offers the possibility of renting snowmobiles. Visitors also have the opportunity to enjoy ice-skating.

Sheregesh ski resort, in Siberia, is one of the largest and most visited of Russia. It was open in 1981 and accounts 18 lifts, including gondola, combined lifts and high-speed quads. Slopes total more than 50 kilometres, with a vertical drop of 680 meters. It is famous for its end of season ski festival, where everybody skis or snowboards in bath suits! It features a lot of cafés and restaurants. A total of 3'000 commercial beds are distributed in various accommodations ranging from hostels and hotels to VIP apartments. They are all located within walking distance of the mountain infrastructure. Some slopes are FIS homologated. Another popular Siberian resort is Baikalsk-Sobolinaya, on the banks of Lake Baikal. It offers 7 lifts, including 2 designed for beginners and was established in the beginning of the 1990s.

In Kamchatka, the Krasnaya Sopka ski centre is located close to the city of Petropalvovsk. The top of the hills is only 450 meter high. In Sakhalin, the Gorny Vozdukh ski area is also located close to the city of Yuzhno-Sakhalinsk and offers a vertical drop of 500 meters. It was recently equipped with a new 8-seater gondola and a combined lift, on top of 2 high-speed quads.

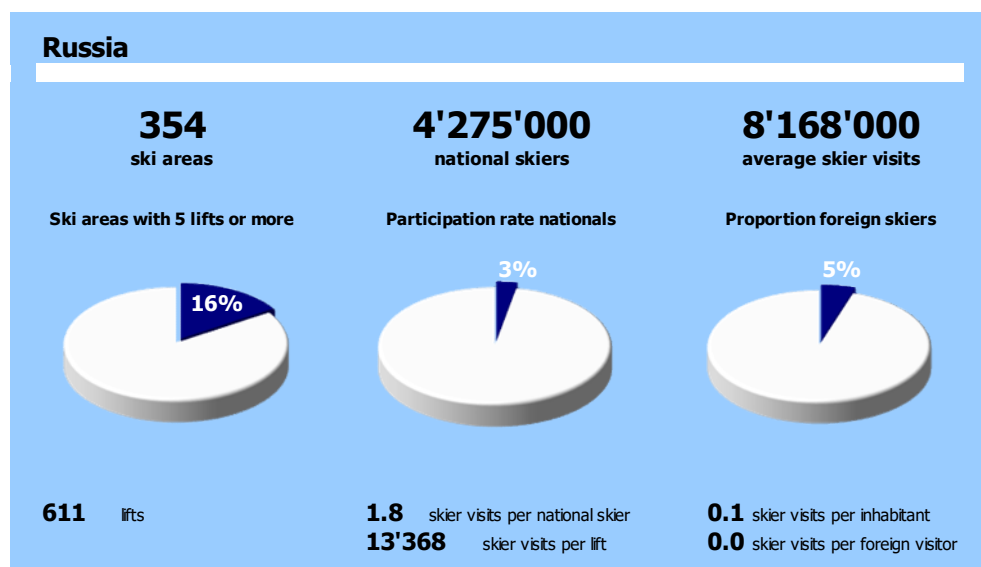
In 2008, drawing on foreign experience for such projects, an indoor ski centre opened in Krasnogorsk, in the Moscow province. *Snezh.kom* comprises, in addition to a ski slope, an ice skating rink, a fitness centre, an aquatic centre, conference rooms, restaurants, shops and other entertainment facilities. Snow is produced through ice crash technology, consisting of grinding thin ice plates to produce snow. 3 machines make 90 tons of fresh powder every day. The advantage of this technique is that it does not increase the humidity inside the complex. 56 chillers, air conditioners and de-humidifiers run constantly to maintain a temperature between -5° C and -7° C. The slope, 400 metres long with 65 metres of vertical drop, holds up to a metre of snow and requires constant maintenance. 2 groomers are available for this purpose. A 4-seater chairlift and a baby lift allow skiers to reach the top of the run.

The Caucasus is a mountainous region that includes Mount Elbrus (5'600 metres above sea level) and is one of the snowiest areas in the world. With winters longer than the rest of Europe and the opportunity to ski on glaciers and at high altitudes, it has the natural potential to compete with the Alps. However, the Caucasus is subject to cycles of violence (bombings, explosions, terrorist attacks, etc...) on a regular basis. In order to bring the region to more peaceful status, the government's goal is to develop the tourism industry and attract investors. Under the name of *Northern Caucasus Resorts*, a broad regional project was designed to build 5 resorts through a public-private partnership, spread among the various semi-autonomous Russian republics of the region. These resorts were aimed at having a total of 179 lifts and 879 kilometres of ski runs, with the goal of accommodating 150'000 guests daily. After the multi-billion euro project would be complete, over 10 million tourists would be expected to visit the mountains on an annual basis. However, currently some of the planned areas have



been put on hold and the project focuses on 3 only. For the time being, most of the operation is concentrated in the Soviet legacy resort of Elbrus and Cheget, situated in Elbrus National Park, near the Georgian border. In Elbrus, a new record holding gondola³³ was recently added to its original 3 gondolas and 2 cable cars³⁴. They provide the opportunity to ski through August on Mount Elbrus, offering 21 runs for 35 kilometres of skiing. The negative point however is that lift lines are long. In nearby ski area of Cheget, lifts are aging and grooming is substandard. In Arkhyz ski area, one of the other projected resorts, several lifts (2 gondolas and 2 chairlifts) have already been delivered and some further are expected in the near future.

A project for a new year-round resort of international standing is also in the planning phase in the Nizhny Novgorod region. The infrastructure will be able to accommodate 1'900 people.



³³ Highest gondola in Europe, reaching up to 3'847 meters above sea level

³⁴ Gondolas are from the 2000s while cable cars date from the 1960s.



Serbia



If northern Serbia consists mostly of plains, 75% of the country is covered with hills and mountains. The highest peak culminates at 2'169 metres above sea level. There are several mountain ranges, offering good conditions for winter sports, with up to 5 months of snow on the ground per year.

The mountains in Serbia therefore offer options for winter sports enthusiasts. Among the more than 20 ski areas, the country's most developed and popular ski resorts are

Kopaonik, Tornik Ski Centre on Zlatibor and Stara Planina, which has FIS certified ski runs and hosts international competitions. These areas were modernised by the government company, *Ski Resorts of Serbia*, which is working to build up skiing infrastructure and transforming Serbian ski resorts into an international ski destination. The goal is to make the resorts more attractive to domestic and foreign tourists with a year-round offer.

Serbian ski resorts were popular with Irish and British skiers when tour operators offered them as destinations. However, the major operators stopped offering these destinations a few years ago. Today, more and more skiers are locals and Russians.

The resort of Kopaonik has taken the lead in Serbia's ski industry. It is located at an altitude of 1'600 metres above sea level, with runs that start from as high as 2'000 metres. It benefits from about 160 snow days per year and offers more than 50 kilometres of ski runs serviced by 23 lifts, including 6-, 4- and 2-seater chairlifts, together with some surface lifts. They can accommodate 32'000 skiers per hour, which ranks Kopaonik among the largest ski areas in this part of Europe. The resort is equipped with snowmaking that covers 97% of its runs and offers one trail equipped with lighting for night skiing and a snowpark. The village base offers various accommodations, from cottages up to 4-star hotels (and soon even 5-star), bars, restaurants and a vibrant nightlife.

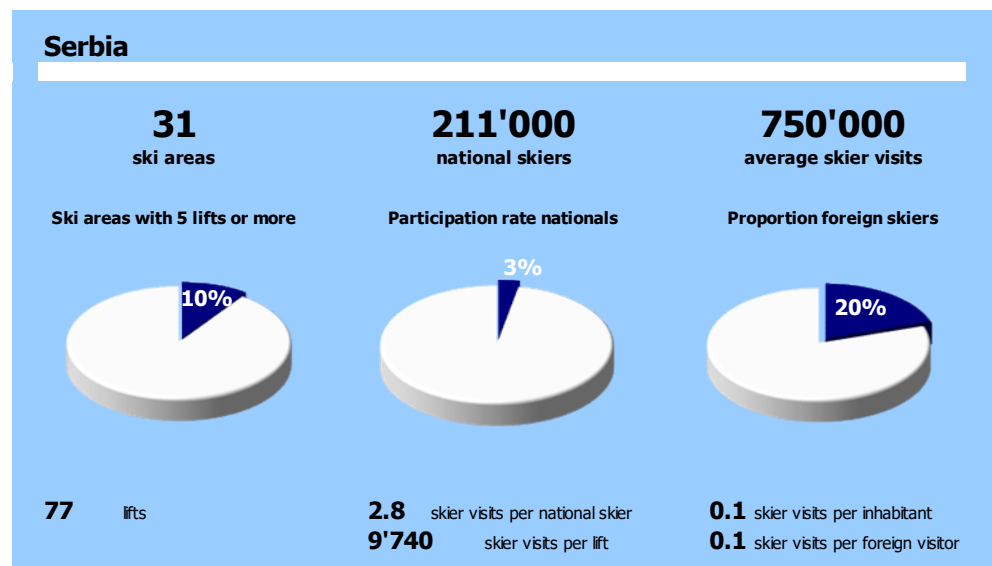
Near the Bulgarian border, located in a high mountain range, the resort of Stara Planina offers considerable potential for tourism development. A few years ago, it had only 2 lifts, but now has 5, including the first gondola in Serbia. It is expected to further expand with new chairlifts and runs (to reach a total of 100



kilometres of downhill skiing compared to currently 13 kilometres), accommodations and other infrastructure, and should become one of the country's most important ski resorts. The planned Babin Zub base village will offer 8'000 beds. The timing when the plans will be implemented is however not clear yet.

In the region of Zlatibor, the Serbian capital of mountain tourism, the Tornik Ski area has a modern 6-seater chairlift and 2 surface lifts. In addition to skiing, it also offers tubing runs.

Some other smaller resorts offer limited infrastructure. The Iver Ski Resort, on Mount Tara, has 4 runs 900 to 1'100 metres long, equipped with snowmaking and one lift. Divcibare Ski area, on Mount Maljien, is a place specifically designed for beginners, with several short runs, and one intermediate slope, equipped for night skiing. Several other ski areas are only equipped with one lift. A few even have no lifts but are designated places where people ski.







Slovakia



Approximately 80% of the country is located at an altitude of 750 metres above sea level or more. The highest point is Gerlachovský Peak, 2'655 metres above sea level. Slovakia already has a long ski history. Since 1940, lifts have been in

the Tatras Mountains. With about 40 new lifts delivered by the major manufacturers over the last 10 years, there are now more than 100 ski areas in the Slovak Republic, most of them located in the northern part of the country.



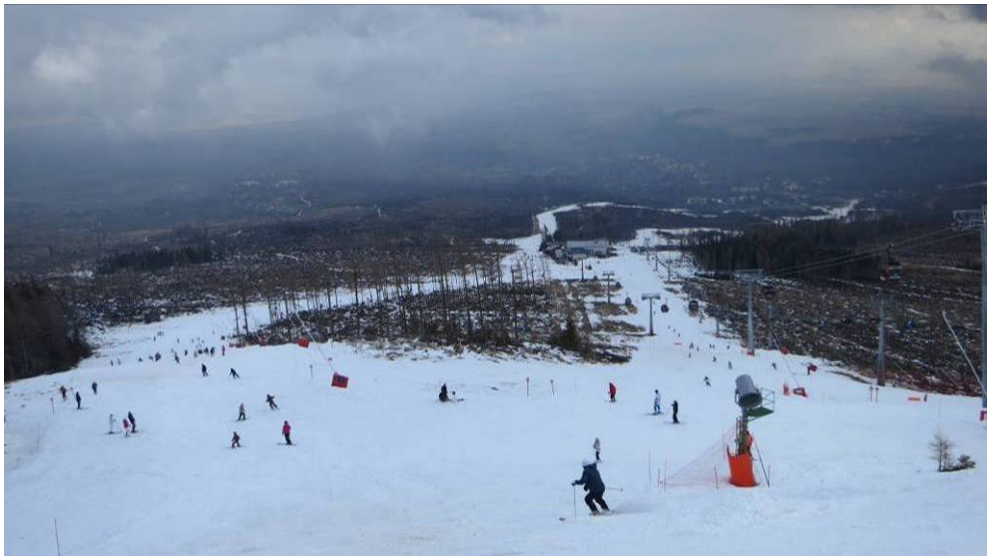
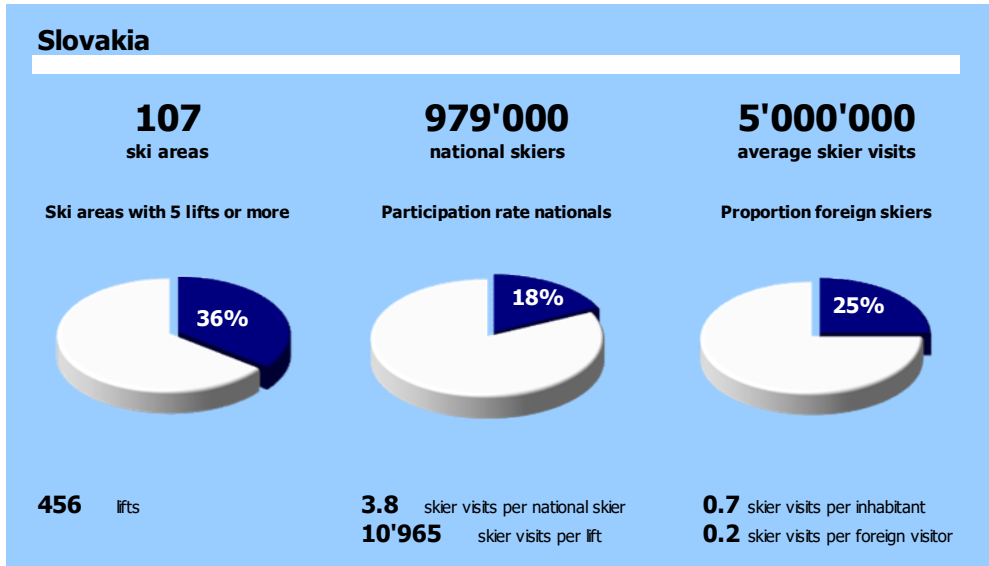
The majority of the ski areas are located in nature reserves. With regards to environmental preservation, their development is limited to some extent. Slovakia has a little less than 500 lifts. Due to the low altitude of many ski areas, snow coverage is not always guaranteed. Nevertheless, Slovakia seems well on its way to becoming a popular ski destination in Eastern Europe.

Slovak ski resorts were estimated to have attracted about 4 million skier visits per year at the beginning of the 2000s. This figure is now at about 5 million.

Currently, visitors from Poland, Hungary, Russia, the Czech Republic and the Ukraine come to Slovakia to ski. Thanks to very competitive prices, the Slovak ski resorts are now trying to expand their catchment area to the Western European market. A group of 4 ski areas (Snow paradise Velka Raca/Oscadnica, Park Snow Strbske Pleso, Jasna Nizke Tatri and Park Snow Donovaly) has launched an advertising campaign aimed at the French, British and Benelux middle classes. These 4 ski resorts have recently made different investments and are now able to offer infrastructure and services similar to those in Western Europe (64 kilometres of ski runs for all levels, hotels, chalets and guest houses, 6-seater chairlifts, bubble equipped chairlifts ...). The Tatra Mountain Resorts Group, which operates 4 ski resorts and several hotels, invested EUR 190 million over 7 years from 2007 to 2013 to upgrade facilities and expand its resorts.

Donovaly is one of the major ski resorts in Slovakia. It is located in the centre of the country between the Low Tatras and the High Tatras. It is popular with Slovaks as well as with foreign visitors. Donovaly has 15 ski lifts and offers 18 kilometres of ski runs. Jasna Nizke Tatri – Chopok North is the largest ski resort in the country. It is located in the Carpathian

Mountains, in the Low Tatras. It features 18 surface lifts, 7 chairlifts and 4 gondolas, including a funitel, with a total capacity of 30'744 people per hour. 29 of the 45 kilometres of ski runs are equipped with snowmaking. The Bystrianska Dolina ski resort is located between 1'216 metres and 2'005 metres above sea level in the Low Tatras. It has 14 ski lifts and 7 ski runs, 2 that are considered difficult. The vertical drop is 789 metres.





Tajikistan



With 93% of the territory covered in mountains, more than 10 mountain ranges and 72 peaks over 6'000 metres high, Tajikistan is one of the most mountainous countries in the world. It shares the high Pamir and Tian Shan mountain

ranges with its neighbours Afghanistan and China. The highest summit, Peak Ismoil Somoni, tops out at 7'495 metres above sea level. The 70 kilometres long Fedchenko Glacier is the longest and thickest glacier in the world, outside the Polar Regions. About 50% of the country is located over 3'000 metres, with an average altitude of 4'000 metres in the highlands in Eastern Pamir.



Despite the vast natural potential, mountain tourism is not very developed, recording very few visitors. It is not part of the local culture.

The only ski area of the country, formerly known as Takob, is now called Safed Dara. It was developed during the Soviet era, in the 1980s, about 100 kilometres from the capital city Dushanbe. Access roads are not in very good conditions and driving there can take 3 hours. The ski area is located about 2'250 metres above sea level and was equipped with 2 old surface lifts, of which only one operated. However, in 2016, a brand new 8-seater gondola lift was installed and the old building with accommodations located at the base of the slopes, which was falling into disrepair, has been renovated entirely. Attendance seems mostly concentrated on the weekends.

However, since mountains and snow are not scarcities, there is plenty of potential for ski touring and ski mountaineering and there are 2 reputable locations for heliskiing, one in the Pamir and the other in the Fann Mountains. Those who have skied there reported deep untracked snow and stable sunny weather.

Ukraine



Part of the Carpathian Mountains extends through Western Ukraine, followed by lower hills to the centre of the country. The highest peak in the Ukraine is Hoverla Peak, which culminates at 2'061 metres above

sea level, near the Romanian border. Ukraine is hardly known internationally for its ski resorts, but there are many places to ski in the country. Most ski resorts are located in the Carpathian Mountains, but there are also a few ski areas in the other regions and several urban ski areas (hills next to cities equipped for downhill skiing).

The ski industry has been developing and Ukraine's ski resorts have considerably improved in the last 10 years. 18 brand new lifts were delivered by major manufacturers between 2004 and 2009, but no more since. In the first decade of the century, several small hotels, holiday houses and apartments were built and some resorts have upgraded a portion of their ski lifts to current standards, even if ground transportation remained problematic for access to some resorts. Secondary ski areas usually have only basic equipment, and runs may not be groomed. Lifts queues can last more than one hour on the weekends.

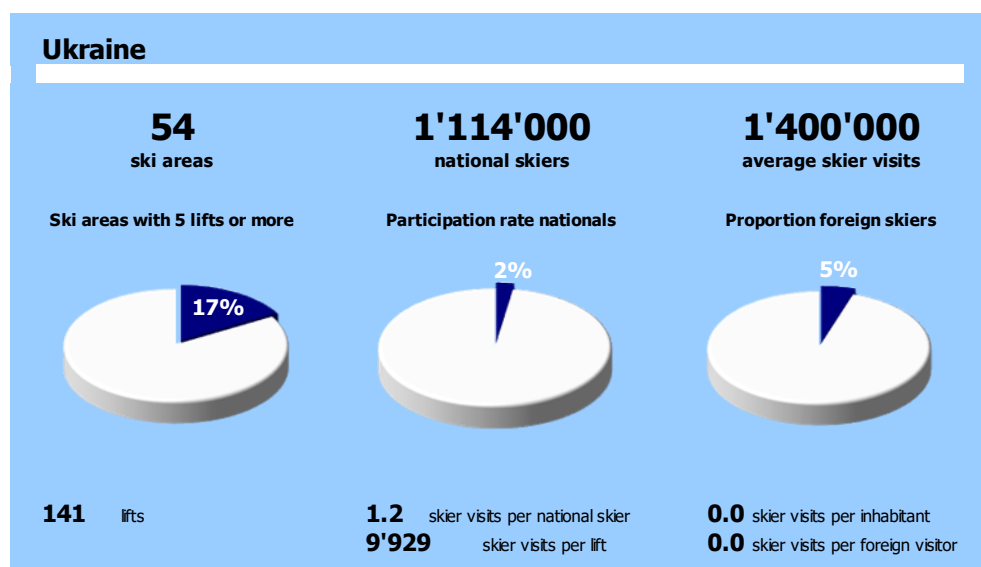
The price for lift passes, ski rentals and ski lessons are relatively cheap compared to Western European standards.

The newest and most modern ski resort in the Ukraine is Bukovel. It was built in the 2000s and is for the time being the only one with world-class facilities: with high-speed chairlifts and meticulously groomed runs, snowmaking facilities, organised lift lines and safety personnel. Even if Bukovel is the second highest resort in Ukraine, its base elevation is only 900 metres above sea level and the highest ski lift reaches 1'370 metres. This makes the resort very weather and temperature dependent. In 2011/12 winter season, the ski area only fully opened at the end of January. Additional snowmaking systems will help reduce dependence on weather conditions and allow an earlier start to the season. The mountains around the resort protect it from the cold wind. It has 16 lifts, 60 kilometres of runs and quality ski and snowboard instruction.



The resort of Slavsko was the most popular in Ukraine for many years (until Bukovel was built after 2000). It is also one of the easiest to access. Located in a picturesque village at 600 metres above sea level, it is surrounded by mountains that protect the resort from strong winds. With 4 different mountains, the resort offers a wide variety of runs. The most famous one is the Mount Trostian, which offers nearly 500 metres of vertical drop and 8 lifts (1 chairlift and 7 surface lifts).

The highest ski resort in the Ukraine is Drahobrat, located at 1'360 metres above sea level, in an area with heavy snowfall and a stable snowpack. It is the first ski area to open for the season and the last one to close. The resort features 8 lifts, 8 ski runs and claims to meet the requirements for Olympic competition. It is very popular with skiers and snowboarders because of the guaranteed snow. The natural landscape in and around Drahobrat, and the view from most hotels are appealing. However, access to the resort is a challenge. The only way to drive there is to use old Soviet all-terrain vehicles on an unpaved road.



Plans for Giant New Ukraine Ski Resort Unpopular With Some

Plans, first announced in 2017, for a new resort in Ukraine, the country's biggest to date and dubbed the *East European Alps*, are not going down well with some of the local population where the resort will be located, nor environmental groups, according to a report by news agency Al Jazeera. The ski area is planned for the Svydovets massif, in the Ukrainian part of the Carpathian Mountains, 60 kilometres north of the Romanian border. Environmental activists say the project, which ultimately envisages 60 hotels for 22'000 tourists a day skiing over 230 kilometres of ski slopes would risk destroying a unique ecosystem. Locals interviewed by Al Jazeera say they want to keep the land as it is for future generations and fear investors in the project will come from individuals wanting to make use of funds held off shore. Environmentalists say that numerous species of flora and fauna will also be impacted.

In the context of climate change, activists have also questioned the long-term viability of a ski resort where the highest mountain barely reaches 1'800 metres. However not all locals are against the plans with many saying the investment should be good for infrastructure in the region, which has suffered from a population drain, creating jobs and facilities. Construction has not yet started and all the objectors are waiting for the publication of a legally required environmental assessment of the project.

Source: Snowhunter





A large part of the country is covered with a mostly flat and rolling sandy desert with dunes, and broad, flat, intensely irrigated valleys along the Amu Darya, Syr Darya and Zarafshon rivers. However, the eastern part of the

country along the Tajik and Kyrgyz borders is surrounded by mountainous terrain. The country's high point rises to 4'301 metres above sea level (Adelunga Toghi).

Although skiing has a relatively low national participation rate, the country has 3 ski resorts located in the Western Tian Shan Mountains, about 80 kilometres away from the capital city of Tashkent. Every year, more than half a million tourists from Tashkent and other neighbouring areas visit the 3 health–recreation complexes that have been built in the mountains. 2 of them offer skiing during the winter: Chimgan and Beldersay.

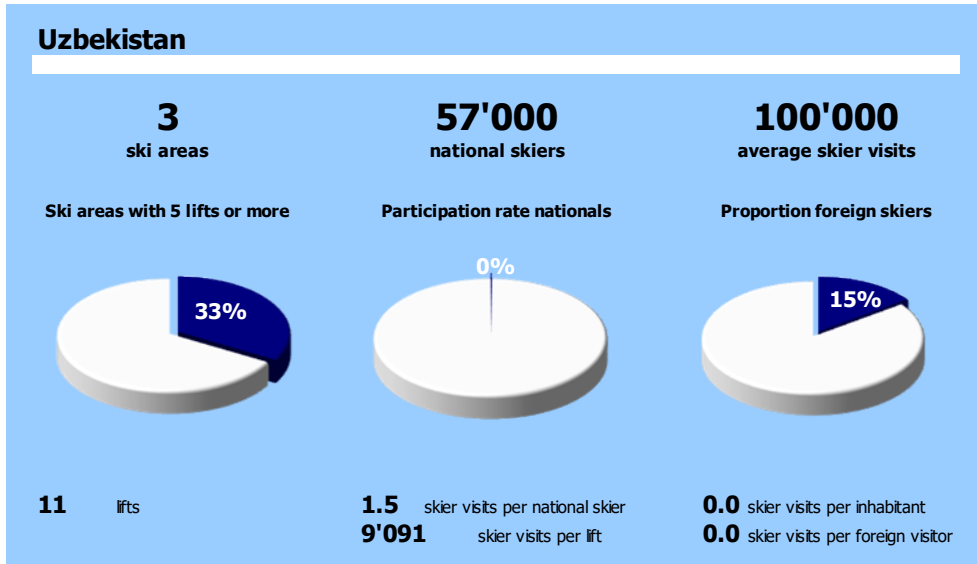
With a base elevation of 1'600 metres, Chimgan lies below the massive 3'309 metre high Big Chimgan peak. As early as the 19th century, the climate made the area an appealing destination. The elite began to build summerhouses and cottages, and then a sanatorium and resorts. Much later, 6 ski lifts were built for winter sports. The ski season is not very long; it starts in December and lasts until mid-March.

With a slightly longer season, Beldersay ski area is located close to Chimgan, on the slopes of Kumbel Mountain. The ski area advertises more than 300 sunny days a year and abundant snowfall. Runs are more geared towards skilled skiers and snowboarders and one is FIS certified. The ski area's infrastructure is limited to 2 lifts and minimal accommodations.

Various locations in the Western Tian Shan Mountains also offer heliskiing opportunities. Skiers are flown to altitudes ranging between 2'500 to 4'200 metres above sea level. Descents are often 10 kilometres long and offer up to 2'000 metres of vertical drop.

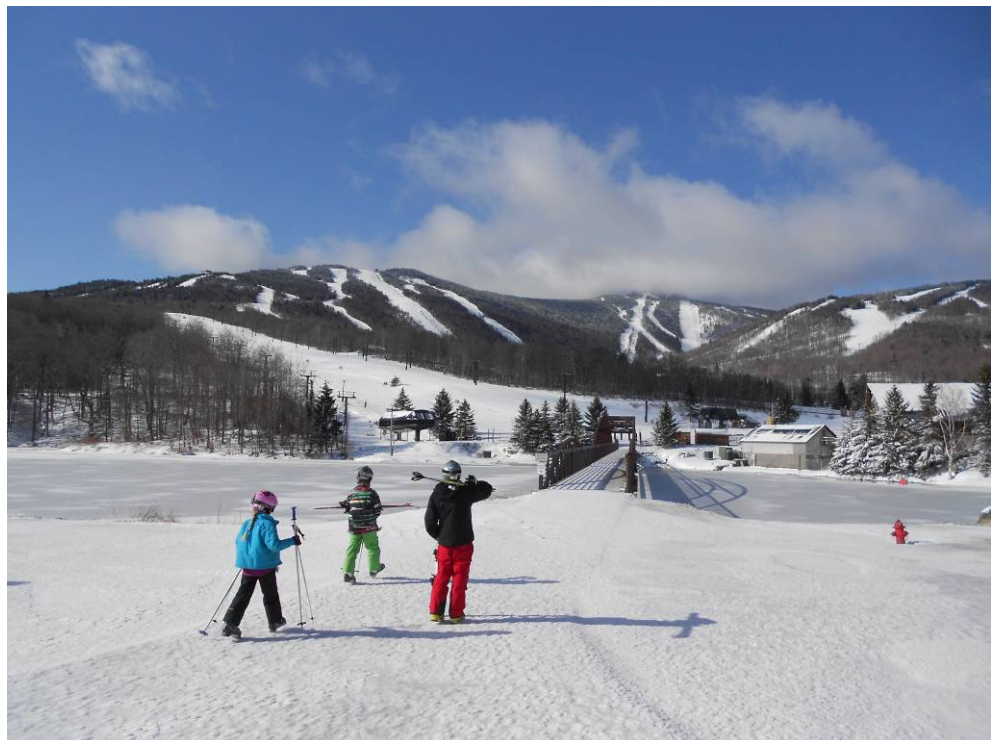
A further new 4-season resort named Amirsoy Mountain Resort has now open near Tashkent, in the western part of the Tian Shan Mountains, on the northern slopes of the Maygashkan Mountain of Beldersay. It is equipped to international standards. Its construction began in 2018. It currently offers 12 ski runs totalling 15 kilometres of different difficulty level and served by 3 lifts. The resort features equipment rental services, ski school, and currently covers 900 hectares. Development plans target upon

completion, in 2022, a total of 28 ski runs totalling 21.3 kilometres served by 7 lifts including gondola, chairlifts and conveyor lifts. Some floodlit will be provided for night skiing, together with modern snowmaking system and snow grooming machines to offer high quality slopes.



The Americas

Both North and South America have ski resorts. Although the region has a market twice the size of Europe, including the Alps, with approximately 900 million inhabitants, penetration rate for the ski industry is low. Proportion of skiers among the population is only one third of what it is in Europe³⁵. In spite of 2 continents spread across 2 hemispheres, both with high mountains, more than 90% of the ski resorts are located in North America. Overall attendance is only the half of the skier visits in the Alps, even if this region is second to the Alps in terms of big ski resorts (with 7 resorts in the top 50).



³⁵ About 4% for the Americas compared to around 12% for Europe



Argentina



23% of Argentina is covered in hilly and mountainous terrain. The longest mountain range in the world, the Andes, runs down the entire western side of the country for more than 3'000 kilometres, and includes the chain's highest summit, Aconcagua, topping out at 6'960 metres above sea level. However, in spite of the high summits of the Andes, the ski resorts are located at lower altitudes, primarily between 1'000 and 2'000 metres elevation. At the southern end of the country, ski areas are located even lower. As is typical for winter sports resorts in the Southern Hemisphere, the ski season in Argentina starts in June and lasts through mid-October.

Before skiing became a leisure activity, and due to the mountains and the presence of snow, skis were already used in the 19th century as a means of transportation by foreigners who brought the activity over from Europe. It developed as a recreational activity in the 1930s, mostly concentrated in

the area surrounding San Carlos de Bariloche under the management of ski clubs and promoted by some European pioneers. Ski areas developed even before being equipped with lifts. The first lift was installed in Cathedral, Bariloche's ski area, in 1939 and ski racing started in Argentina in the 1940s.



South American ski resorts have experienced new growth and development over the last decade. With nearly unlimited off-piste possibilities and good powder snow on pristine slopes, they offer an appealing option during off-

season for resorts in the European Alps and North America. Skiing has until now remained fairly exclusive, as Argentinians do not have the mountain culture of the Alps and costs are relatively high. General interest is increasing, with an annual dedicated trade show, *Expo Nieve*. Visits to ski resorts are not limited to nationals. Skiers from Brazil, Chile and even Mexico come to Argentina, and some resorts are crowded with this international clientele in July and August, the middle of the austral ski season.



Argentinean ski areas are estimated to generate around 1.5 million skier visits per year, mostly concentrated in the top 7 resorts.

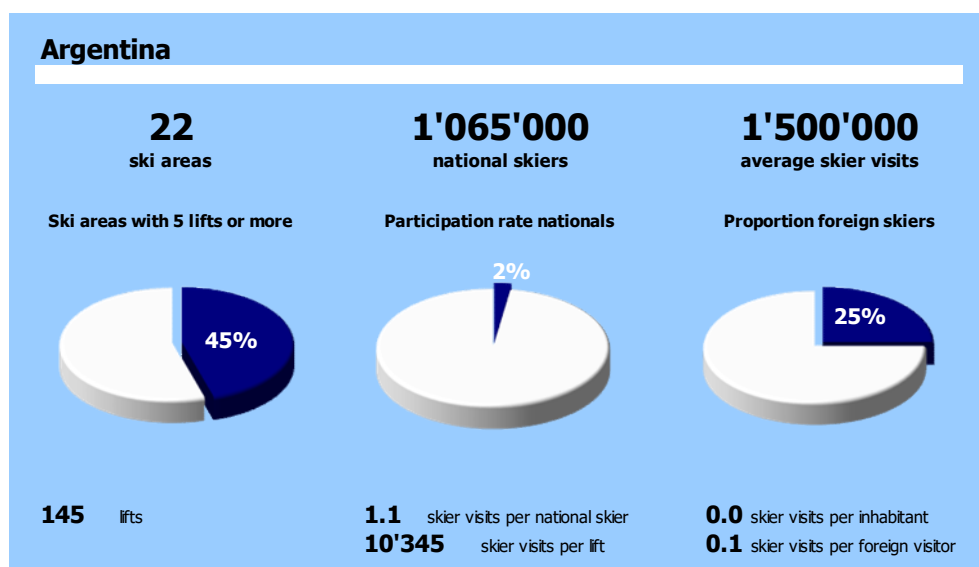
The biggest resort in Argentina is Cerro Catedral, which stands for *Mount Cathedral* in Spanish, due to its summits resembling the towers of a medieval cathedral. It is located in a national park near San Carlos de Bariloche, whose name may be more familiar to foreigners. The majesty of the place is well known by skiers from all around the world. The resort was a pioneer in South America. It operates as a 4-season resort and is today the most international and fully equipped ski area in the country. It continues to update facilities in order to provide visitors with the most advanced infrastructure. It is considered to be the *Chamonix* of South America. With 53 runs, 39 lifts, a snowmaking system covering 10 hectares, it offers 600 hectares of skiable terrain, with a top elevation of 2'180 metres above sea level. For years Catedral has hosted the most important international competitions and snow festivals in Argentina.

Las Leñas is among the most popular ski resorts in Argentina due to snow quality, runs for all levels, the outstanding off-piste descents and cross-country skiing. The resort is located a few kilometres from the City of Mendoza. It is the highest in the country. With a vertical drop of 1'200

metres, the area is located between 2'240 metres and 3'430 metres above sea level. Due to its dry climate, the snow quality for the 230 hectares of skiable terrain and 40 runs is famous worldwide. The terrain is served by 13 lifts and, if necessary, supported by a snowmaking system.

Another spot close to Mendoza is Penitentes. With views of Mount Aconcagua, it is also very close to Chile. Inaugurated in 1979, the resort occupies more than 300 hectares of skiable terrain and offers 25 runs. Several runs are FIS approved and are used for competition. The hotel infrastructure, with a capacity of nearly 2'000 beds, includes all kinds of accommodations, from hostels to 4-star hotels.

Among the other major ski areas of the country, Chapelco, in Patagonia, offers fantastic scenery from its 1'980 metre high perch. It is advertised as combining adrenaline pumping activities and beautiful landscapes. Caviahue, with a base elevation of 1'647 metres above sea level, is located at the foot of the Copahue Volcano on the shores of a lake with the same name. With over 1'000 hectares of skiable terrain, and 20 runs, it offers the longest season in the southern hemisphere. The 8-kilometre long off-piste descent from the volcano's crater to the base of the resort is legendary. Popular with families, La Hoya, located in a forest, lake and waterfall covered landscape, was opened in the 1950s. The first lifts were installed in the 1960s and the resort was subsequently modernised in the 2000s. It now features 10 lifts, 24 runs and snowmaking equipment. For those who like skiing at the far reaches of the planet, Cerro Castor, the newest resort in Argentina and the southernmost on Earth, is close to the capital of Tierra del Fuego, where the sea and the mountains meet. The ski area base is only 195 metres above sea level and the summit rises to 1'057 metres. Cerro Castor enjoys very good weather and quality powder snow. Due to stable temperatures, it has one of the longest seasons in South America. Opened in 1978, Mount Bayo ski resort is located within a beautiful natural landscape. Surrounded by forests and with a majestic view of a lake, it offers 200 hectares of terrain for alpine skiing, with a 700-metre vertical drop. It has 22 marked trails and 12 lifts.





Bolivia



The Andes are running through the western side of the country in 2 distinctive ranges separated by the Altiplano, a highland plateau situated between Occidental and Oriental ranges of the Cordillera. The Andes feature very high altitudes in Bolivia and are topped at 6'542 meters above sea level (Nevado Sajama). The country capital city, La Paz, is itself situated at an altitude of 3'640 meters. The town is overlooked by mountains reaching over 6'000 meters, with snow-capped peaks in the northernmost part of the Cordillera Oriental, the Cordillera Real.

The upper slopes of these mountains have some glaciers and are covered year long with snow, at altitudes over 4'600 meters. Over 5'500 meters high, climate can be polar. However, global warming has been showing its impact. Permanent snow-covered slopes are scarcer and some glaciers already disappeared.

This caused the highest ski area in the world to get out of business. For a long time, Chacaltaya, situated at nearly 5'400 meters above sea level held this record and was an attraction for the middle class of La Paz, about 30 kilometres and one-hour drive away. The at that time existing Chacaltaya glacier was served by a single home-made lift, offering a slope that was skiable 7 or 8 months a year, together with some après-ski. It was once home of the Club Andino Boliviano, which established there already in 1939.



The place has however been a witness of climate change over decades. Bolivian scientist started measuring the Chacaltaya glacier in the 1990s. In 2005, it was predicted that it would survive until 2015. However, it completely melted down already in 2009. Now the defunct ski area looks like a ghost place, with the ruins of the base area building. The skilift has been dismantled.



Ski areas in Canada are located in the Rocky Mountains of the West and in the Québec, Ontario and Atlantic³⁶ provinces of the East. While the Rockies have ski resorts that can compete with the European Alps in terms of vertical drop, skiing in the East takes place on lower altitude mountains and hills.



It is considered that alpine skiing, created in Europe, got its first roots in North America in the Laurentians. Even before lifts were installed, railways from Montreal to the Laurentians were already bringing skiers in special trains as early as 1920s. North America's first rope tow was installed in 1931/32 at Shawbridge, in Quebec, in fact a rope moved along pulleys by the tireless wheel of an old car. Mont Tremblant was the first destination in Canada to be equipped with a chairlift, around 1938, and the second in

³⁶ Prince Edward Island, Newfoundland, Labrador, Nova Scotia and New Brunswick

North America. A lodge was also opened there by a young and wealthy Philadelphia American named Joseph Bondurant Ryan, and he initiated the development of the site into a world-class resort, quickly popular among the aristocratic clientele of New York. The death of Ryan in the 1940s stopped the development of the site. The resort was sold a first time in 1965 and saw its attendance reduced to local customers³⁷. But many other ski areas developed in Quebec and Ontario. Nowadays, these provinces account respectively more than 70 and more than 60. In the 1980s, the practice of skiing moved west to the Rocky Mountains. For instance, despite the first lifts opened already in 1965 in Whistler, the development of the Whistler Blackcomb resort was planned at the end of the 1970s and the resort grew into one of the biggest of North America only in the 1980s-1990s. It reached over 1 million skier visits in 1988 and over 2 million in 1999. Several other resorts developed in Alberta and British Columbia, with the 1988 Calgary Winter Olympics used as a booster for the sport.

Canada has now a mature market, with serious concerns about an ageing clientele and the ability to renew the customer base, and is also facing challenging ethnic issues. Skier visits have been flat for the last decade, mostly influenced by weather conditions. These can be much different from East to West, mitigating the overall impact on national attendance figures.



However, market studies show that the number of skiers continues to decline. The purchasing behaviour of most skiers has been influenced by the economy and they have more actively sought out deals or to ski close to home. Some still say that weather and poor snow conditions are the prevailing cause. Winter 2015/16 was the worst season over at least 20 years for Ontario and Quebec, resulting in a depressed national total.

³⁷ After 2 operators succeeded each other without investing, the resort fell into bankruptcy at the end of the 1980s and was purchased in 1991 by Intrawest. At that time the world leader in ski resort development, it decided to revitalise the area with billion dollars development plans in several phases that transformed the place into a 4-season destination of international renown. It is today the social and economic engine of the entire region of the Upper Laurentians and part of Alterra Mountain Group.

Attendance improved in 2016/17 and 2017/18. The snow conditions were generally better all across the country. The latter season, Canadian resorts enjoyed a strong international visitation. Snow, low Canadian dollar and the inclusion of Whistler Blackcomb on the Epic pass were all factors. The ascending trend went further with the 2018/19 winter season, which recorded the highest visitation total in more than 10 years. This performance was aided by several favourable factors which included snowfall, good internal economic factors, multi resorts passes and relatively cheap Canadian dollar compared with other world currencies. Domestic skier visits grew by an estimate 980'000 or 5.8%. This growth largely occurred in the most populous provinces of Ontario and Quebec where solid snow and favourable temperatures helped stimulate interest. International visits grew by only 100'000. US visits now accounts for 56% of the international market. The increase in the number of multi resort passes (Ikon and Epic) combined with the favourable exchange rate to the US dollar are considered to be a major factor in this change.

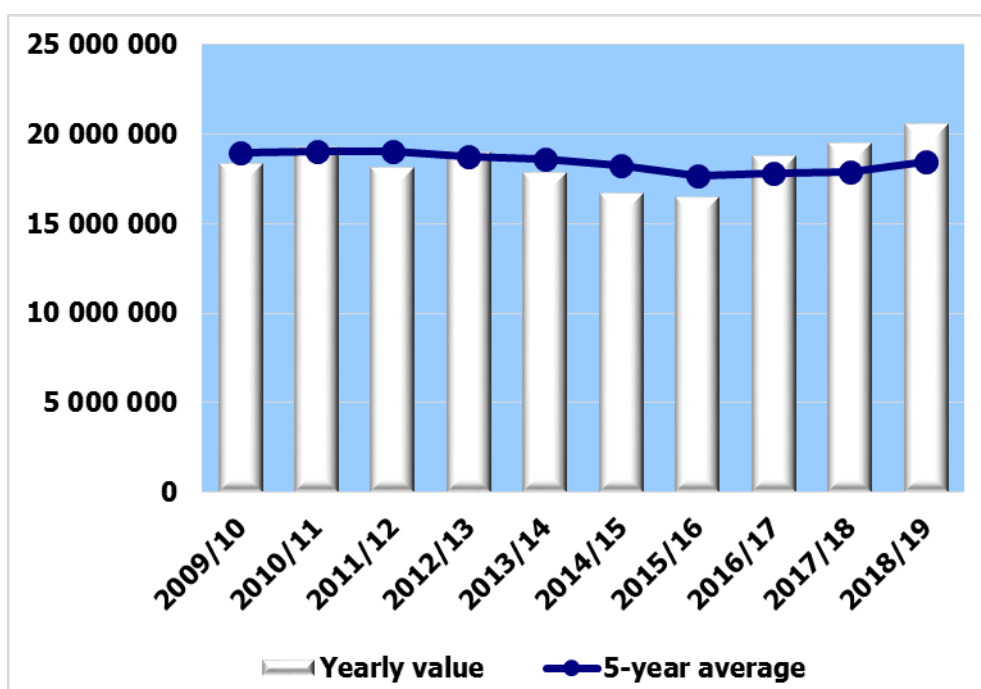
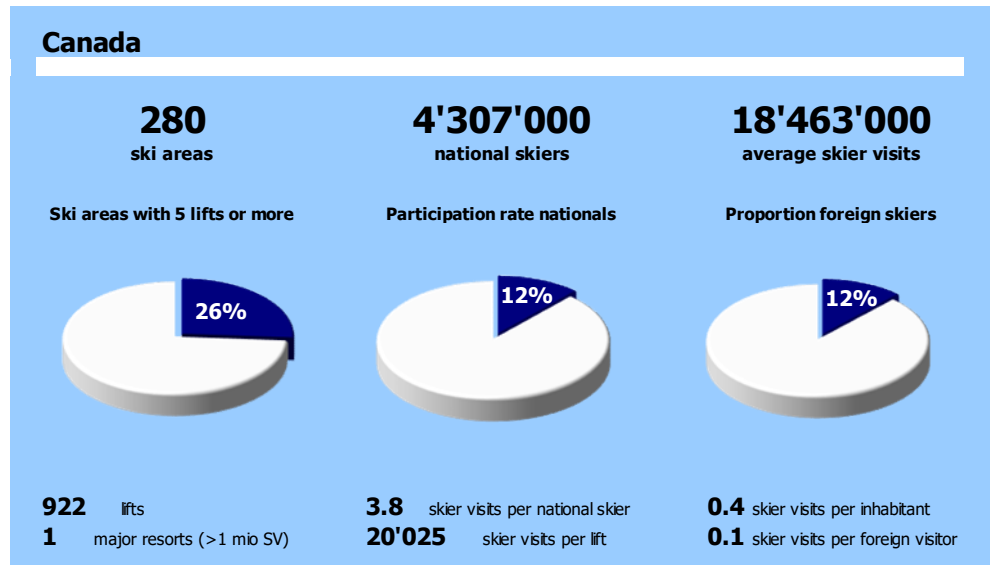


Figure 27: Canada, evolution of skier visits

Although Canadian ski resorts mostly depend on a domestic and US customer base, it is interesting to stress that some of the well-known resorts, such as Whistler Blackcomb, Banff and to a lesser extent Tremblant, also attract some overseas skiers, even if the proportion of foreign visitors is relatively low. Furthermore, some very small resorts also appear to attract British tour operators. Mont Saint-Sauveur International and Resorts of the Canadian Rockies are the largest multi-resort operators in Canada, with 6 resorts each. Further to the demise of Intrawest, some of its former resorts are now being operated by the 2 large US multi-resorts groups. Otherwise, operators are mostly local.

Due to the ongoing stagnation of attendance, the Canadian ski industry has conducted detailed studies about the demographics, implementing the *Model for Growth*. Several operators have also diversified their activities and some of the major resorts now offer numerous summer activities that enable them to balance out visits for both seasons. The idea of a year-round resort has been highly developed and promoted. Some resorts near metropolitan areas have developed water rides and other such summer activities, which even allow them to use some of the lifts during the summer, as well as to sell year round passes.





Chile



The Andes run 4'000 kilometres up and down the entire length of the Chile. 80% of the country is covered in mountains, rising to very high altitudes in the north, with year round snow coverage on summits over 4'800 metres high. In the south, after having reached its highest point, the Andes are a bit lower, with most peaks topping out in the 3'000 metre range. Most ski resorts are typically located at these altitudes. Further south, Patagonia offers huge glaciers that plunge into the sea, where several fjords shape the coastline.

The first Andean skiers were already identified in 1887, when investigation work started for the construction of a railway from Valparaíso to Santiago, crossing the mountains into Argentina, from Mendoza to Buenos Aires. With snowfall of up to 8 metres in the high passes, the most efficient way for the European engineers to travel was on skis. Skiing was, for instance, the only realistic way for workers to reach Uspallata Pass, which is near the

present-day Chilean resort of Portillo. During construction of the Trans Andean Railroad, skis were then used by engineers to travel around in winter. There are also historical records of skiers hired to transport mail across the mountains in the winter of 1889. Finally, after the inauguration of the railway, in 1910, recreational skiers began to use the railway as a ski lift.

In the 1930s, a rudimentary lift was built in the Portillo area (so called because it was a small pass between the mountains) and adventurers from Europe and North America became the first ski tourists. Ski instructors were brought from Europe and a rustic mountain lodge served as the first hotel. In 1946 Portillo installed a chairlift, the first one on the continent. In 1949, the Gran Hotel Portillo was inaugurated. In 1960 the Chilean government, who had owned and operated the ski area up to that point, decided to sell Portillo, making it one of the first state-owned companies sold to the private sector in Chilean history. In 1966, the World Alpine Ski Championships were held in Portillo, which focused international attention on Chile's emerging ski industry, and also increased national interest in the sport. Over the years, 3 speed records were set on Portillo's slopes,

including the 1978 record for US skier Steve McKinney, who surpassed 200 kilometres per hour for the first time in skiing history. During the 1960s, top international ski racers began to train during the northern hemisphere's summer on Portillo's slopes, and then later on in El Colorado, La Parva and Valle Nevado.



During the 1950s and 1960s, the sport expanded rapidly with new ski areas being built in the central Andes near Santiago and in southern Chile, largely on the slopes of volcanoes. During the 1980s, improvements to infrastructure included new ski lifts, increased and better hotel capacity, and improved roads. With fewer tourists than in Europe and the United States, the ski industry in Chile remained relatively quiet until the 1990s. Improvements such as new ski lifts, added capacity to hotels, saunas and swimming pools served to provide Chile's ski resorts with a world-class reputation.

There are 3 principal geographic ski regions in Chile. The Central Chilean Andes, where ski resorts are located between 2'800 and 3'000 metres, on wide-open mountains, above tree line. The snow is generally dry and the terrain varied, providing slopes for skiers and boarders of all abilities. The main resorts are El Colorado, La Parva, Valle Nevado, Portillo, Lagunillas, and Chapa Verde. The already mentioned ski resort of Portillo is the oldest in South America. It is surrounded by snowy peaks that rise to 5'000 metres above sea level. The resort has a few odd 5-person T-bar lifts, unique in the world. The resort offers 23 runs, features 14 lifts and claims to limit access to only 450 guests, offering a unique experience. Tres Valles, with an interconnect between El Colorada, La Parva and Valle Nevado, is the largest ski area of South America, with a total of 48 lifts and about 120 kilometres of groomed runs. The area, located 40 kilometres from Santiago, tops out at 3'630 metres. In addition, the Valle Nevado base area, nestled at 3'025 metres above sea level, is recognised as the highest in the world.

In the Southern Andes, where the mountains are lower on average, precipitation is much higher, and as a result, there is both more and

heavier snow. The resorts are largely located on the lower slopes of volcanoes, many of which are active, and provide terrain with dense native forests. The views of lakes, forests, and distant volcanoes are exceptional. The major resorts are Termas de Chillán, Villarrica, Antillanca, Lonquimay, Las Araucarias, and Corralco.



Patagonia offers skiing at Cerro El Fraile and at Cerro Mirador in Punta Arenas, where one can ski and enjoy spectacular ocean views. Due to the latitude, these resorts have the longest ski season of anywhere in Chile. Cerro Mirador is the southernmost ski area in Chile. It was equipped in 1947 with its first lift, in spite of the fact that it was already considered a ski resort as early as 1938. Still today, the area features one unique lift, but 14 runs, which allow skiing from mid-June to mid-September with spectacular scenery of the Straits of Magellan.

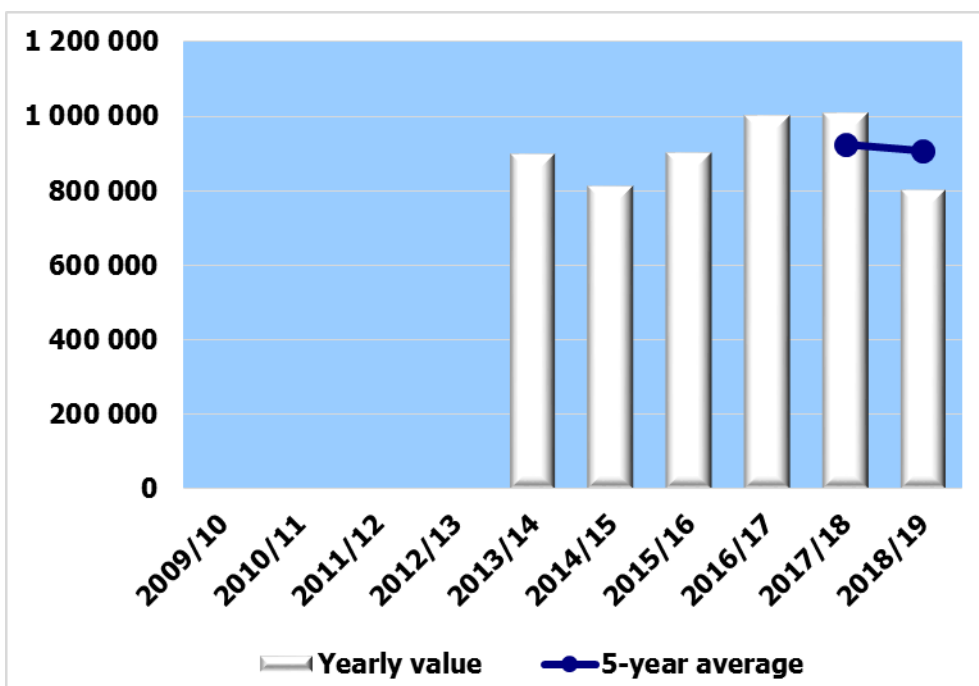
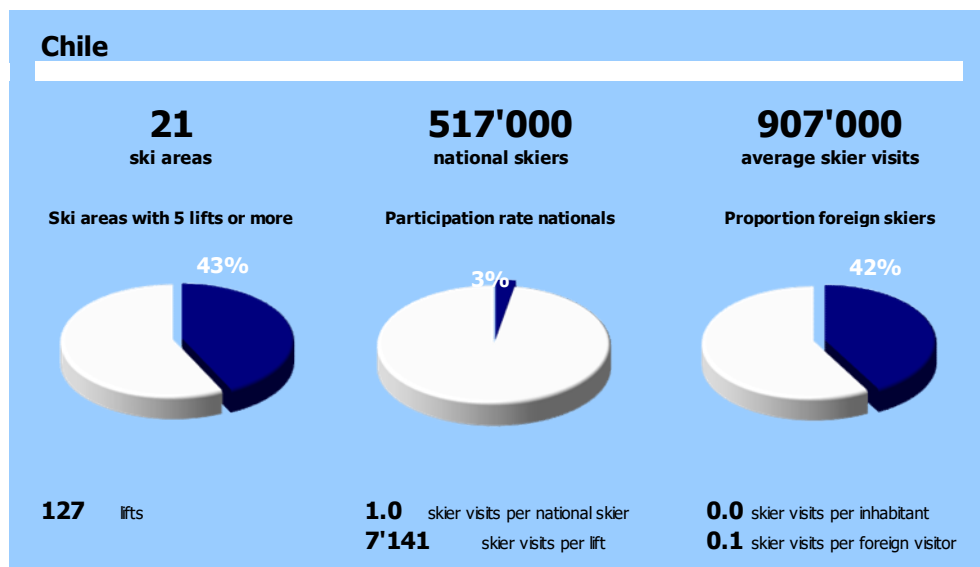


Figure 28: Chili, evolution of skier visits

After 2 goods seasons in 2017 and 2018, 2019 saw a decrease in attendance at the Chilean resorts. With an average length of only 84 days, the season was 17% shorter than former year. Climate conditions were harsh in Central Chili and snowfalls down 29% over former winter.



Colombia



Colombia offers a wide variety of terrain: it combines flat coastal lowlands, central highlands, high Andes Mountains and eastern lowland plains. Altitudes range from sea level up to Pico Cristobal Colon and Pico Simon Bolivar, both topping at 5'775 meters.

Colombia no longer accounts in the current world ski areas inventory, but it deserves however to be mentioned as it used to host a small lift equipped ski area, despite it has already belonged to

the past for a long time. The idea to ski on the very high slopes of Nevada del Ruiz, a 5'305 meters high active volcano of Cordillera Central, already emerged in 1949. This mountain is located in a compact cluster of volcanic mountains near the centre of Colombia and is included in Los Nevados National Park. It is partly covered by a glacier. The ski area was located over 4'800 meters and a T-bar lift was installed in 1956, allowing to host the same year the South American Ski Championships. A second T-bar lift was installed later on and whilst the ski season corresponded to the northern hemisphere winter, there was enough snow there for the lifts to operate on any day of the year, subject to demand.

Skiing in Columbia was driven by a couple of enthusiasts but as no Colombians succeeded in international (or national) competition, interest warned rapidly and the lifts fell into disrepair by the late 1970s. Later on, it is reported that the lift cables were partly buried in glacial ice. The volcano had a major eruption in 1985 and more than 23'000 people were killed³⁸. Following that eruption, the mountain remained continually active for several years, melting down part of the glacier. Eruptions culminated in 1991 and 1992. The last eruption dates from 1996.

Even if accessibility is sometimes restricted due to seismic activity, Nevada del Ruiz remains a popular climbing area in Colombia, as well as a popular unorganised ski spot in winter. Some parts of the glacier and snow still remain on the mountain year-round, even if they are expected to melt down over the next 30 years.

³⁸ The 1985 eruption was the world's second most deadly eruption in the 20th century, the first being the 1902 eruption of Mont Pelée, which killed 29'000 people.



Mexico contains several mountain ranges. The Sierra Madre Occidental and the Sierra Madre Oriental run from north to south along the western and eastern sides of the country. The Mexican highlands (Altiplano) range between 1'000 to 2'000

metres elevation. From the Pacific Ocean to the Gulf of Mexico runs the 900 kilometre long Trans-Mexican Volcanic belt, the Cordillera Neovolcanica, which marks the geological divide between North and Central America. The Cordillera Neovolcanica features the country's 3 highest volcanic peaks, all over 5'000 metres. At 5'675 metres above sea level, Pico de Orizaba (Citlaltépetl) is the third highest mountain in North America.

Snow can be found in winter on the high peaks of the Sierra Madres, as in other places in the Northern Altiplano. There are even some remaining glaciers on the 3 highest peaks³⁹, where mountain aficionados sometimes enjoy skiing after their mountaineering endeavours.

Skiing is nevertheless not very popular among Mexicans. There is only one small ski area in the north, named Monterreal, close to the city of Monterrey. It is a 4-season leisure centre, equipped with 2 dry slopes (230 and 45 metres long), one platter-lift and one magic carpet. However, between December and January, it is possible to ski there on the natural snow that covers the area.

Despite the significant population of the country, there seems to be very few people who actually ski, as there is no ski culture. The closest destination for Mexican skiers is of course the United States. However, there is in fact no report of important figures of Mexican skiers, among the half million of people that come every year to ski in the United States (most of them are Canadians).

³⁹ Due to volcanic activity and the associated rising temperatures, Popocatépetl is now off limits to climbing and its snowfields are slowly disappearing.



United States



With a territory as large as Europe, the United States represents one of the world's largest ski markets. Beside the Rocky Mountains Range, reaching altitudes higher than 4'300 meters in Colorado, there are numerous other mountains throughout the country. Located in the State of Alaska, the highest summit, Denali, also known as *Mount McKinley*, its former name, reaches 6'144 meters above sea level. Only a dozen of the 50 States do not offer ski areas. The east part is subject to polar winds in winter and ski areas can be located in low altitudes. On the west part, resorts are located at higher altitudes, with some base areas over 3'000 meters⁴⁰ and reaching up to 3'914 meters above sea level with the highest lift in Breckenridge ski resort. This enables some ski resorts like Arapahoe Basin to offer one of the longest ski season in the world, for non-glacier resorts, with opening in October and closing in July.

Ski has a long history in the United States. The sport was obviously brought in by Norwegian immigrants, who founded the first ski club in 1882 in New Hampshire. The National Ski Association was founded in 1905 and a ski factory already existed in 1911. Howelsen Hill Ski Area already opened in 1915 in Colorado and the first rope tow was installed in 1934 in Woodstock, Vermont. United States accounted already more than 50 ski areas before World War II. The first Winter Olympic Games in America were held in 1932 in Lake Placid. However, at that time, downhill skiing was still not introduced as an Olympic discipline. In 1936, Sun Valley opened and installed the first chairlifts in ski history. The first aerial tramway in United States was installed 2 years later at New Hampshire's Cannon Mountain. The first destination resorts already appeared before World War II: Stowe and Sun Valley were the forerunners.

There has later on been a big boom in the development of ski areas in the 1950s to 1970s. From 78 ski areas in North America in 1955, the figure

⁴⁰ Arapahoe Basin, Loveland, Silverton Mountain, Santa Fé, Monarch, Wolf Creek, Cooper ...

increased of 580 in the next 10 years. But contrary to the Alps, new ski areas went on appearing even after the 2000s, even if it is in more limited numbers. In the 1950s and 1960s, participation in skiing grew at 15% annually, meaning that the sport was doubling in size every 5 or 6 year. This development was driven by demographics and its massive adoption by baby-boomers. In the 1960s, average age of downhill skiers was reported to be 24⁴¹. The first snowmaking equipment was tested in winter 1950/51 at Mohawk Mountain and by 1964, 140 ski areas in North America were able to produce snow. The real estate driven development of ski resorts started with Snowmass (next to Aspen) in 1967. By the time, few ski area operators were willing to invest lots of money to build inns and hotels. The solution to extend the offer for accommodation came with the condominium units, which were sold to individual owners and rented out when not occupied.



Nevertheless, due to closures and other misfortunes, the number of ski areas has been steadily decreasing over the years. At the beginning of the 1980s, there were over 700 ski areas in the country, whereas there are less than 500 ski areas still in operation today. The rising infrastructure costs, coupled with the always-increasing expectations of the clients drove several small community ski hills out of business. The adverse consequence is that several convenient and inexpensive places for ski learning disappeared, diminishing easy access opportunities for beginners.

The industry is currently dominated by 2 big players, operating several mostly integrated resorts. They have been growing in size by new acquisitions over the last years, with some billion dollars recent deals. Vail Resorts (which recently acquired Peak Resorts) operates a total of 37

⁴¹ It now reaches age of 39 in the 2016/17 NSAA National Demographic Study.

resorts (4 of which outside the US) and Alterra Mountain Company⁴² operates 16 resorts (2 of which outside the US). Together with Boyne Resorts and Powdr Corporation, they cumulate nearly 50% of US skier visits. Some of the larger players are listed companies. In addition to smaller groups, there are numerous independent ski areas of varying sizes.

Aside from the 2008 crisis, weather conditions have shaped, more than anything else, the change in skier visits over the years. Their pattern throughout the decade reinforces the trend of a mature market since the end of the 1970s. After the 2010/11 winter posted an all-time record of 60.5 million skier visits, attendance entered into a declining trend, until winter 2018/19 showed a reversal. With 59.3 million skier visits, it was up 11.4% from 2017/18. This result represents the fourth best season in the past 41 years.

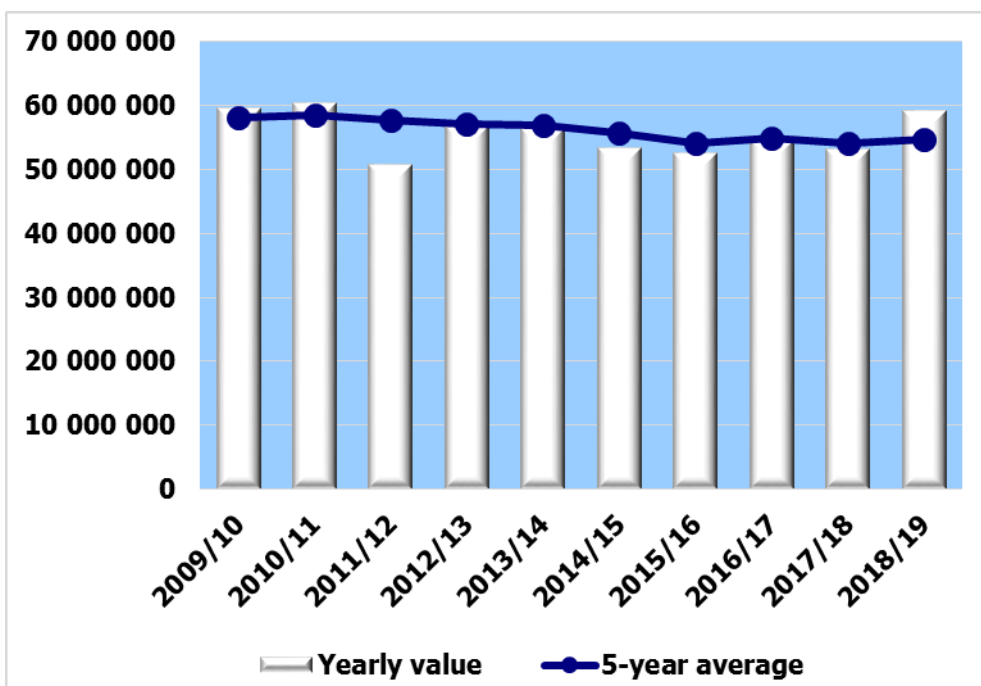


Figure 29: USA, evolution of skier visits

Visits were up in all geographic regions of the country, with increases from 2.4% in the Southeast region up to 21.8% in the Pacific Southwest. Of major weight to the US industry, Rocky Mountains experienced an increase of 17.4% to a record 24.4 million skier visits. With skier visits climbing from 6.07 million year-over-year, US ski industry had not experience such a jump from former season since 1981/82. It is considered a response of the market to favourable weather conditions and attractive product offerings introduced by the spreading of the *mega-passes*. Nationally, the average snowfall was up. Despite it was slightly down in some regions, it was strongly up in the Rocky Mountains and Pacific Southwest. Resorts were open an average 6 days more than former winter. The number of season

⁴² A joint venture between Henry Crown & Company (owner of Aspen) and KSL Capital Partners.

passes sold was up 7.5% and it is estimated that the average season pass holder skied 9.9 days in the 2018/19 season. Visits from season passes rose to 43.4%, which is an increase of 34.7% compared to 10 years ago.



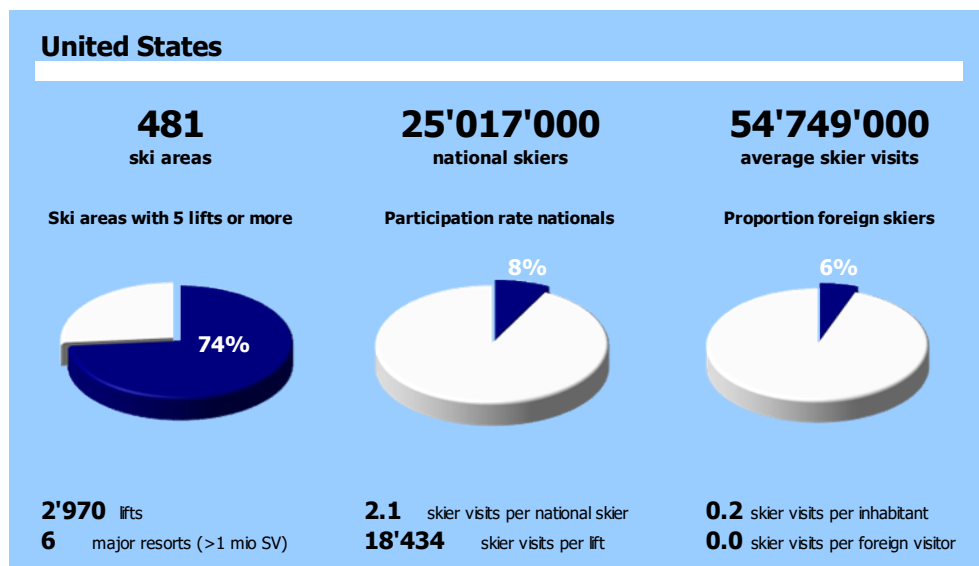
The ski industry in the United States has been the most closely analysed ski industry over the years. There is a substantial history of statistical data available, already since early 1980s. It was the first in the industry to raise issues in the discrepancies between population growth and skier visits, especially since it primarily depends on domestic skiers. In spite of its huge population, the actual yearly participation rate is low. The number of active snow sports participants⁴³ followed yearly even shows a decrease since 2012/13. It was estimated to 6.5 million active skiers and 2 million active snowboarders in 2015/16. Active snow sports participants represent only 2.6% of US population nowadays. They were still 3.2% 20 years ago (winter 1996/97) and some consider that the decline in the number of young people entering the sport already began in the 1970s. To address demographics, the US ski resort industry closely monitors the yearly results of its *Model for Growth*. This aims at addressing the aging population, the increasing proportion of minorities and skier retention rates (increasing beginner interest, converting them into lifelong skiers and preventing regular skiers from abandoning the sport). For several years now, measures have been taken in order to implement this *Model for Growth*, even if some drawbacks have arisen and the US ski industry still continues to have difficulty in growing its customer base. The results show that continuous efforts are required and their benefits are limited, so they need

⁴³ Participants who participated in a snow sport at least once during the given season. This rate is of course much lower than the number of nominal participants (see Glossary). It is estimated that about 25 million people in the United States know how to ski (nominal participants).

to be multiplied. With a market as big as Europe but only one third of the number of skier visits, the US industry still appears to have some potential.

Another issue that the US ski industry is facing is the increasing prices, paid by a declining number of customers. The window price of daily lift ticket rose from an average of USD 59 in 2005/06 to USD 130 during the 2018/19 season⁴⁴. In some Colorado resorts, it is now usual that the daily window price reaches over USD 200 on peak days. Average daily rates in accommodations in the western resorts also rose from an average 30% since 2009/10. This tends to make skiing less affordable, and especially for the beginners, who usually purchase daily passes, the less discounted tickets. In an overall, the business model of the large US resorts can be summarised as trying to get always more money from always less customers. The question is to know if it will still be sustainable for a long time.

The spreading of the *mega-passes*, discounted multi-resorts season passes that are sold in advance of the season, only offers part of the answer to this important issue. Although they have gained much popularity and Vail Resorts announced 925'000 Epic passes sold for 2018/19 season, which some offers focused at less frequent skiers, one can doubt that real beginners will invest in a more affordable multi-day advance purchased ski pass when they have no clue if they will enjoy their first trial⁴⁵. So it looks that with the *mega-passes*, US ski industry managed to make existing skiers skiing more often, but yet failed at bringing in new skiers.



⁴⁴ Even if yield per lift ticket did not increase that much, rising from USD 31.94 to USD 59.23.

⁴⁵ And the US ski industry, which is one of the best informed in the world, through regular surveys of customers behaviour, already identified that the conversion rate of beginners is lower than 20%.



Developer Plans New Utah Ski Resort

One of the first new full-service ski resorts in the US for 40 years may be built in Utah, if a new developer has their way. The planned resort, named Mayflower Mountain Resort, would potentially be one of North America's largest with 5'600 acres close to Deer Valley ski area. Indeed, there is reported to be the potential to link the 2 ski areas to create a bigger area still. Most of the initial publicity is about the residential development at the bottom of the mountain, potentially 1'520 residential units, 825 hotel rooms and commercial units, rather than about the plans for the ski slopes. However, it has been announced that there would initially be 5 lifts. The resort's promoter also highlights the fact it would be located 35 minutes by freeway from Salt Lake City International airport with no traffic lights in-between.

The land where it is to be located was formerly mining land, but has not been used for 50 years. Promoter hopes the resort could begin to open from 2021 on. A number of ski resorts have been built since the 1990s but they have not really prospered as stand-alone ski areas. The Canyons by Park City grew to operate one of the largest ski areas in North America but has since been absorbed into Park City ski area, by owners Vail Resorts – that is now the largest ski area in the US thanks to the merger. Similarly Moonlight Basin is now just a part of Big Sky in Montana, whilst Tamarack in Idaho floundered after the 2008 economic crash and whilst it continues to operate, it is yet to reach its planned potential.

Source: Snowhunter

Asia-Pacific

With more than 3 billion inhabitants, this region is by far the largest potential market. It combines countries with a long ski history and others that are still completely novice to the industry. Despite the fact that some countries will remain mostly unreached by the industry over the next decades, some others have demonstrated over the last 15 to 30 years a considerable potential for development. This has compensated for the decline or stagnation in attendance of the more traditional markets of the region.





Australia



The geography of Australia is extremely diverse, ranging from snow-capped mountains in the south to large deserts, tropical and temperate forests. The country culminates at 2'228-metre Mount Kosciuszko, in the southeast.

Even if there are other mountain ranges of lower altitudes throughout the country, the local climate does not allow for snow sports. Downhill skiing and snowboarding thus primarily take place at 10 resorts in the states of New South Wales and

Victoria, in a region called the Australian Alps, located between Melbourne and Canberra. There are also 2 small ski resorts on Tasmania Island, located in National Parks, where snowfall is not always sufficient to enable skiing every year.



Skiing already has a long history in Australia. Miners are said to have started skiing in the 19th century. Records indicate that they founded the first ski club in 1861. The 1920s saw an explosion of winter sports. The industry organised and Australia's first ski lift started operating in 1937. On-slope lodging facilities remained limited through the 1950s. Then skiing became more popular and resort development increased, with strong influence from the United States, Canada and Europe. However, some ski areas are located in Natural Parks and their expansion has been under tight control. The boom of the ski industry lasted through the 1970s and then entered a consolidation phase, with skier visit figures flattening. They have been rather stable for the past 10 years, with occasional good years,

alternating with average and poor years. Last 2 seasons saw increasing visitation figures.

The Australian ski industry had an excellent 2018 season, with 2.4 million skier visits recorded. This was a new record, exceeding the previous best of 2.3 million skier visits reached in 2012. Australia was blessed with good quality natural snowfalls throughout the season, making for good skiing conditions from start to finish. 2019 season experienced less favourable snow conditions, with snowmaking proving essential for certain periods of the season⁴⁶.



There is a very high level of interest in Australia’s Alpine resorts at present, with strong visitation coming from a wide range of customers. Australia has a strong immigration program, which in effect creates a whole new emerging market within its own borders. Many *new Australians* come from countries with no snow and no winter culture. These people are very keen to experience snow and *have a go*. This market is embracing snow tourism and flocking to the Alpine resorts, particularly on weekends. A number of Australia’s resorts are experiencing capacity issues in some areas of operations as they strive to convert snow tourists into ski/snowboard enthusiasts. These are problems the industry is mostly pleased to be dealing with. Australian resorts are now adjusting to this large influx of new customers and hope to work with governments and other stakeholders to provide tailored facilities for every customer group.

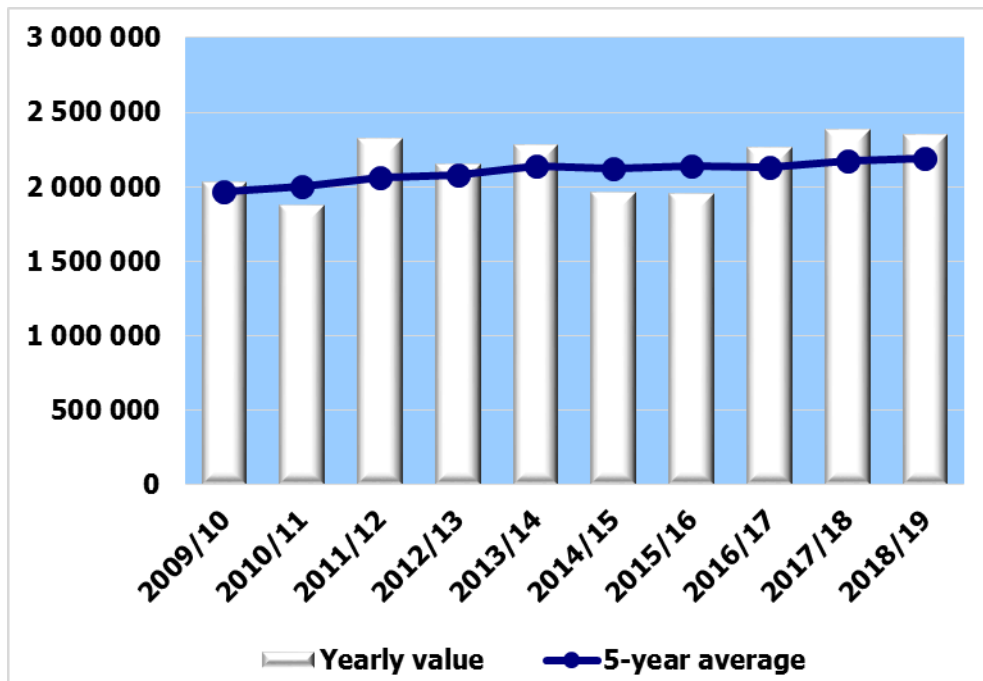


Figure 30: Australia, evolution of skier visits

⁴⁶ The Australian ski industry is now far less reliant on natural snowfalls than ever before, with all resorts investing in the very latest in snowmaking technology and resources. As a result, all resorts managed to commence operations on time and remain open until the scheduled end of the season, with some resorts extending operations beyond.

The future of the Australian ski industry seems bright, although threats and actual damages from recent bushfires is now a reality. This is creating a host of new challenges.

Thredbo, built on the European ski resort model with its shops, nightlife and accommodations, is an example of the kind of resorts that exist in Australia, with 50 runs served by 14 lifts. The resort also offers the longest run in Australia, 3.2 kilometres long with a vertical drop of 670 metres. Thredbo is located on the slopes of the highest mountain in Australia, in the Southern Snowy Mountains. Another example is Perisher Blue, located in the Snowy Mountains of New South Wales. This is the largest ski resort in Australia, with 4 villages (Perisher, Smiggin Holes, Blue Cow and Guthega) and 7 summits (including 5 of the highest in the country) served by 49 lifts. There are 99 kilometres of runs for all levels, but 60% are intermediate.

Apart from this big resort, most of the ski areas are rather small with limited vertical drop. Most areas have snowmaking capabilities. Some resorts have a vibrant nightlife, but they are perceived as expensive and even luxurious.

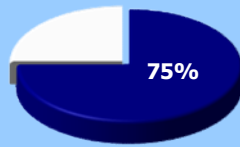
With foreign visitors representing less than 2% of skier visits, Australian resorts are clearly not very appealing to international customers, since New Zealand offers a close alternative with much greater vertical drop, lower prices and at least as much fun. It even competes for domestic customers, who in part also prefer to go skiing in New Zealand. Besides New Zealand, Australia is also an important outbound skier market for Japan and South Korea.



Australia

12
ski areas

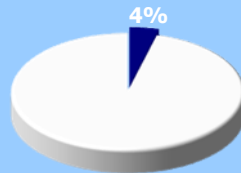
Ski areas with 5 lifts or more



158 lifts

1'002'000
national skiers

Participation rate nationals



2.2 skier visits per national skier
13'842 skier visits per lift

2'187'000
average skier visits

Proportion foreign skiers



0.1 skier visits per inhabitant
0.0 skier visits per foreign visitor



China



Two thirds of China is covered by mountains. As the country has boundaries with Nepal and Pakistan, China shares with these countries 11 of the 17 highest peaks in the world, including Mount Everest and K2. In addition, it has also one summit over 8'000 metres above sea level exclusively on its territory (Mount Shishapangma, 8'027 metres). 40% of China lies above 2'000 metres, mostly in the western part of the country. Mountains in the eastern part are much lower, with top altitudes limited to 2'600 metres above sea level.



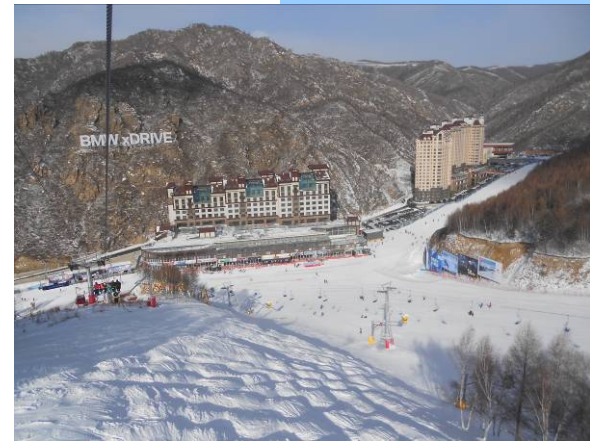
Skiing is not new at all in China, even if it looks that modern skiing only became popular since the early 2000s. In fact, skiing is very likely to have been invented in China. Skis were used already thousands years ago by hunters in the Altay Mountains. Petroglyph paintings showing skiers have been found there and experts agree to date them more than 10'000 years ago. It would be from the Altay cradle that

skiing was then exported to Northern Europe, Russia and other places⁴⁷. Long and wide traditional wooden skis are still currently used in the Altay Mountains. They have their base covered with animal skin, which allows for both climbing and sliding downhill in the very cold and powder snow that uses to cover the ground during the winter.

Modern skiing and snowboarding practice started in the northeastern part of the country, in the Harbin region, which still contains most of China's ski areas, but where temperatures can be extremely tough. The first ski areas emerged in the 1980s, mostly designed for training ski racers, with usually only one slope and poor accommodations. Since Yabuli was awarded the

⁴⁷ Rock paintings picturing skiing hunters were found in Altay in 2005. The International Ancient Skiing Cultural Forum held in January 2015 in Altay gathered international experts that agreed together that Altay was the oldest skiing region in the world.

1996 Asian Winter Games, interest in skiing has developed quickly. Besides building the necessary infrastructure to host the Games, ski areas suddenly began to develop around major cities. The ski area of Saibei pioneered Chongli region in 1996. It was developed by a few enthusiasts of winter sports, with rudimentary means. It brought appetite for skiing and later on the Wanlong ski resort opened in 2003. The pace of growth also increased in the 2000/01 winter, when the first snow stadium near Beijing was built.



With the boost of winter sports triggered off by 2022 Winter Olympics, ski areas are now blossoming in nearly all Chinese provinces, up to the south-west. Only in 2019, 28 new ski areas opened, bringing the total to 770 ski areas. Most are still poorly equipped and are rather ski fields for beginners, only equipped with one or a few magic carpets. Only 25 approach Western standards, but often without accommodations and only a limited number can be considered genuine ski resorts. However, in recent years, this restricted circle has been growing by one unit yearly and now includes Beidahu, Cuiyunshan (also known as Galaxy), Fulong, Genting Resort Secret Garden, Songhua Lake, Thaiwoo, Wanda Changbaishan, Wanlong and Yabuli ski areas. Soon a few other new 4-season destinations will join the group. There are also 31 ski-domes (mostly in the Beijing and Shanghai regions) and 24 snow stadiums around Beijing with 100% snowmaking and a maximum vertical drop of a few hundred metres. Attendance at these indoor ski centers is included in the national skier visits data below.



Over the last years, the market for ski simulators has been growing and 140 venues offer such equipment, mostly in Beijing, Shanghai and Guangdong. Dry slopes are also offering another option for beginners to

practice and the number grew from 2 in 2012 to 45 in 2019. It is estimated that these facilities generate now a yearly 1.1 million visits (not included in attendance figures in the chart below).

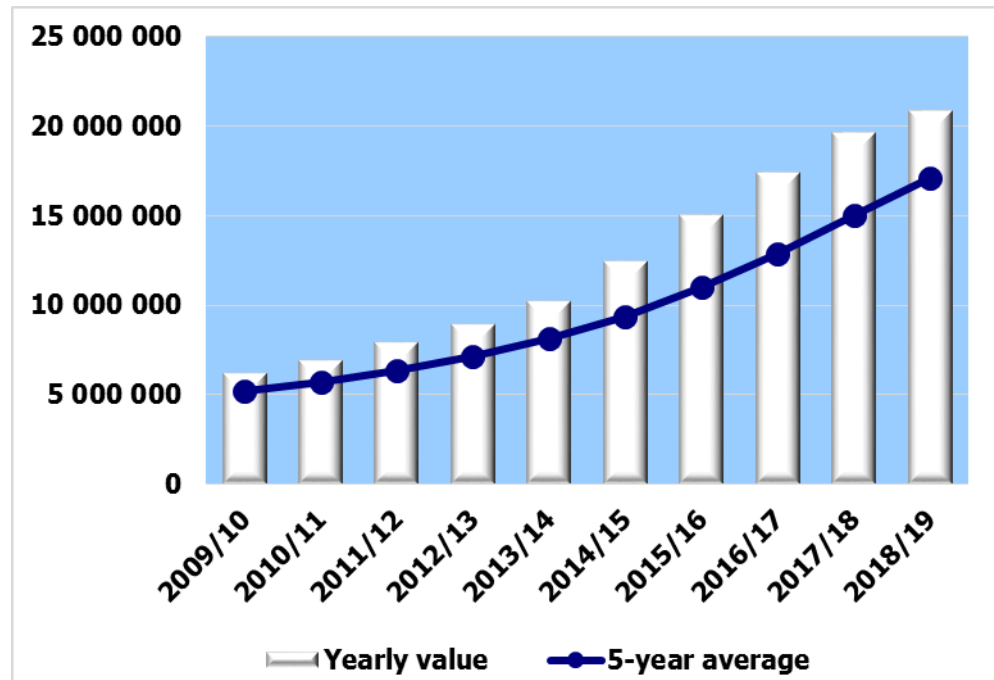


Figure 31: China, evolution of skier visits

Growth in attendance has been dramatic since 2000 and boosted since 2015 by the awarding of the 2022 Winter Olympics, which has generated further enthusiasm for skiing. The last few winter seasons experienced considerable growth, with the 20 million skier visits mark reached last season and visitation rising further. It therefore seems that China will very soon rank among the big players of the industry.

The number of skiers in China is also growing quickly and is currently estimated to be above 13 million. At this stage, the market potential mostly remains untapped. It was estimated at 27 million skiers by the UNWTO in 2003, revised to 120 million in the plans of the Chinese government to encourage winter sports (share of skiers in the global plan aiming to have 300 million Chinese participating in winter sports). Support from the government seems very strong. However, when this figure will be reached is still anyone's guess, even if it is likely that after 2022 Olympics, there may be more than 1'000 ski areas in China and 40 million skier visits.

Ski culture is not widely spread. Most Chinese skiers do not ski more than once per season and 80% are beginners. Some ski areas even have paid employees to help skiers get up after they fall and to retrieve their equipment! Most ski areas offer packages for 2 hours of skiing, including ski gear. Skiing is often consumed as a kind of entertainment product rather than a sport that requires repeated practice. For the time being, ski

areas are considered more as ski playgrounds than as mountain resorts, and one-time skiers account for a considerable portion of skier visits. Skiing is nevertheless becoming more and more popular among Chinese between the ages of 25 to 35. About 80% of the skiers are under 40.

A big challenge facing the ski business in a market such as China is the learning process. As various foreign surveys already pointed out, the first ski experience is often very disappointing for first-time beginners, with extremely low return rates. Unfortunately, ski areas crowded by uncontrolled beginners do not offer ideal conditions for a good learning experience. On top of this, the traditional alpine ski teaching methods are mostly designed for skiers staying for one week at a ski resort and may not be the best adapted for the current Chinese consumption pattern. The industry needs to quickly develop a suitable ski-teaching curriculum in order to be able to capture this huge market potential and not drive it away from skiing for good.

Among the destination resorts, one of the oldest and most well known in China is Yabuli, in the Heilongjiang province, near Harbin. It has been brought close to European and Japanese standards in terms of infrastructure quality, with the interconnection of the 3 mountains, offering a total of 46 runs. Some of the accommodations are now managed by a well-known international hospitality & leisure operator. Located in the far Northern China, temperatures can be frigid. Heilongjiang accounts numerous other resorts. However, despite the province was at the origin of development of modern skiing history in China, Hebei and Jilin provinces are now experiencing a quicker development, when measured to attendance figures.

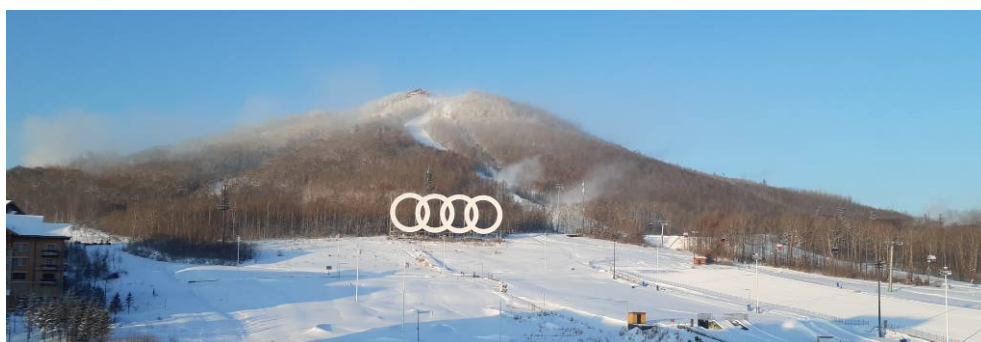
In Jilin province, Wanda Changbaishan is one of the most modern and state of the art in China. It is comparable to modern resorts in North America. It offers a combination of hot springs and snow. The resort has views of 16 peaks in the Changbai Mountains. It is located at an altitude of 800 to 1'206 metres above sea level and was built in only 23 months. It features state of the art lifts and slopes, with an emphasis on a lively base village and comfortable accommodations: it offers 5'700 hotel beds under management contracts by international brands and another 1'200 rented apartments. Recently 2 other big ski resorts opened in the region, one is Changbaishan Luneng and the other is Changbaishan Tianchixue. The distance among these three ski resorts is less than 90 kilometres.

Beidahu is also located in the Jilin province. It is surrounded by mountains with summits over 1'200 metres that are covered in snow for half of the year. It offers one of the highest vertical drops in China and received recently the addition of a large accommodation facility operated by an international group. It is close to Vanke Group's



Songhua Lake resort, featuring a 5-star hotel and state of the art detachable lifts, with heated seats. Vanke also manages another ski area, Shijinglong, near Yanqing⁴⁸.

Close to Beijing, about a 3-hour drive northwest, in Hebei province, the city of Chongli⁴⁹ seems to develop into the ski capital of China. The already well established resort of Wanlong (improving every year its infrastructure, now including detachable chairlifts and combined chair / gondola lifts called there *chondolas*, all Chinese-made), was quickly followed by the development of Genting Secret Garden, where the freestyle competition of the 2022 Winter Olympics will be held. The resort of Thaiwoo opened not far away for winter 2015/16, featuring a North American like village base. A further state of the art resort was opened in December 2016 by the Fulong Group, just next to the city. It was followed in December 2017 by Cuiyunshan-Galaxy ski resort, featuring also hotels and real estate development, and there are still other ski areas projected in the neighbourhood. With the opening of the new 1-hour high-speed train link between Beijing and Chongli in December 2019, the further development of Taizheng Village at the heart of the Chongli Olympic venues, the place is continuously consolidating its role of a major winter sports cluster in China.



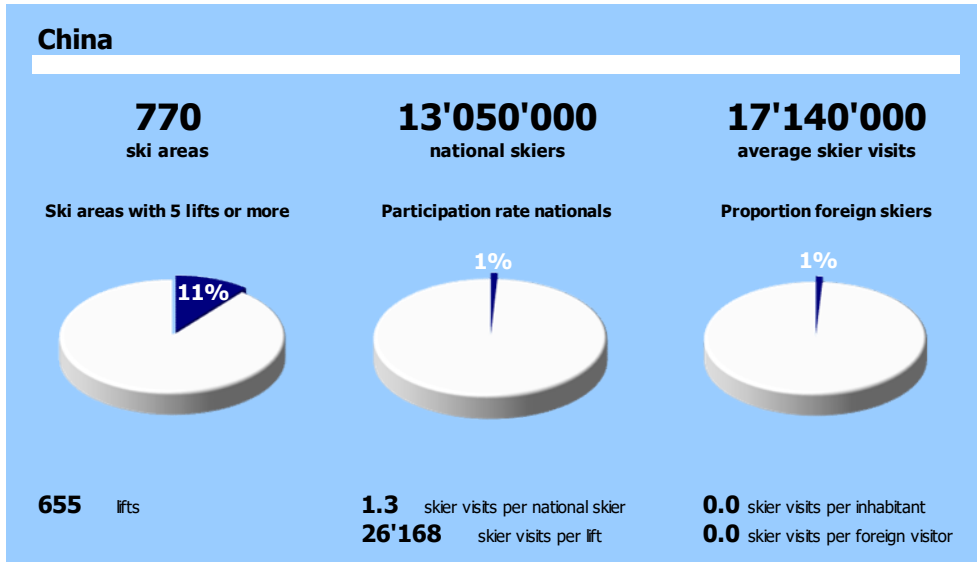
In the south-west, the mountains are much higher. Dagu Glacier Ropeway, installed in 2008 in the Sichuan province, is the highest gondola in the world. The summit station is located at 4'860 metres! Xiling Snow Mountain, in the same province, currently features a gondola lift and several 2 and 4-seater chairlifts. Surrounded by mountains more than 5'300 metres high, the resort represents the largest ski area in Southern China. Ski areas are also being developed even more southern, in Yunnan, Guangxi and Guizhou provinces. In the latter, for instance, the city of Liupanshui opened Plum Blossom Mountain International Ski Resort, a ski area located at latitude of 26.6 degrees. There is also a project of ski area for Lhasa, capital of the Tibet autonomous region, which has an average altitude of 4'500 meters above sea level.

Because of the natural conditions, Xinjiang province in the north-west offers quite good snow quality. Silk Road Ski Resort is 38 kilometres away

⁴⁸ Vanke Group Ice & Snow Business division has also 2 other ski resorts projects moving forward. Xiaohaituo, which will become the Alpine Centre of 2022 Beijing Winter Olympics and a new ski resort project in Chongli.

⁴⁹ Part of the Zhangjiakou area

from Ürümqi city and Jianguan Shan just next to Altay city. Altay Powder Park is located in Kelan Grand Canyon and has the first heliskiing program in China. There are currently other plans to develop skiing in the Altay Mountains.





India



Northern India is a mountainous region with several peaks over 7'000 metres high. Skiing was introduced there by Europeans in the early 1970s and has become increasingly popular with foreign skiers. Even if some Indians love skiing, most are not yet familiar with the discipline. Operators are beginning to develop more modern ski areas, which are also among the least expensive in the world.

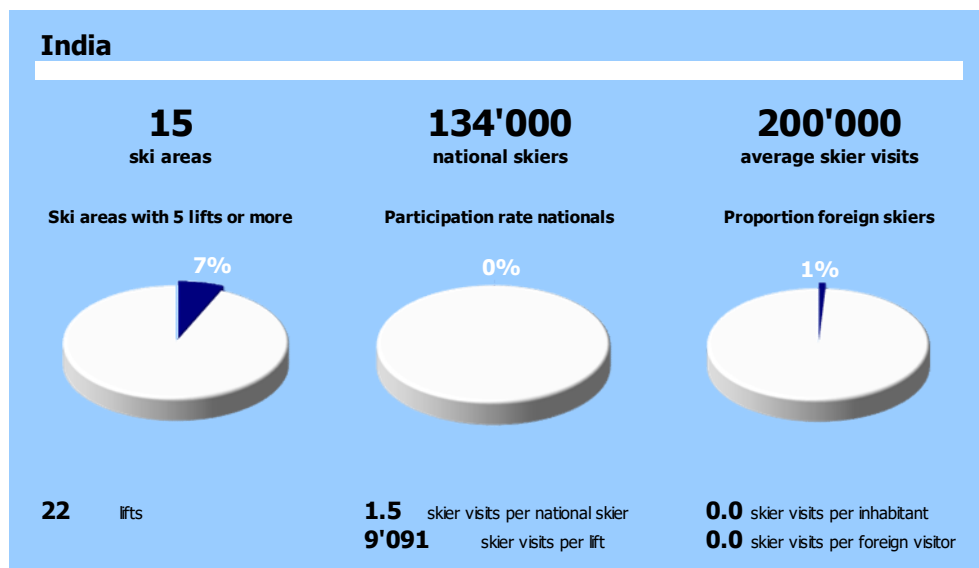
Skiing takes place in the Manali Valley, located in the State of Himachal Pradesh, in northwestern India. This region, in the foothills of the Himalayas, concentrates most of the country's few and limited ski areas. The lift infrastructure remains modest, but some rise to impressive altitudes, as the region is located between 4'500 and 7'000 metres above sea level. There is also skiing in Kashmir, a neighbouring region of the Himachal Pradesh. This region of the Indian subcontinent is still disputed territory between India and Pakistan, giving rise to armed conflict from time to time, which may cause access restrictions in some places.

There are 3 acknowledged ski areas in the country. The largest one is Gulmarg, in the State of Jammu and Kashmir. It is one of the most famous in this region of Asia. Runs range from 2'600 to 3'200 metres long. The ski area was equipped a few years ago with a 2-section gondola, famous for carrying skiers to an altitude of nearly 4'000 metres above sea level at its top station. A quad chairlift at the same high-altitude was recently added, making it the highest in the world. The area offers more than 1'000 metres of vertical drop, with pristine slopes. The village of Gulmarg lies at 2'500 metres above sea level. The base area sits below the 4'124 metre Mount Apharwat. This gives the place a magical feel for skiers. The resort is one of the few places on Earth where there may be 2 continuous weeks of snowfall. Furthermore, it offers a variety of runs: skiers will enjoy the high slopes of Aparwath, which offer magnificent views of K2 during good weather, or the runs in Kongdori. The best time to come to Gulmarg is from mid-January to mid-February, especially for skiers looking for a balance between a stable snowpack, combined with the powder snow down to Gulmarg, in the valley.

Auli is the most select resort in India, offering the best possible infrastructure. It hosts the Indian national ski Championships and an Indian ski festival. It is nestled in a collection of snow covered Himalayan peaks (the Garhwal Mountains). Auli offers 2'000 metres of slopes, equipped with lifts.

The ski area of Manali is located at the northern end of the Kullu Valley. It is best known for heliskiing but also operates a few lifts. It has a multi-season sports offering.

The country's other ski areas usually have only one lift. The small Kufri ski area is nestled in the hills of Himachal Pradesh. It is one of the best destinations for skiing in this state and a destination easily accessible for anyone in northern India. This quiet town becomes a winter paradise as soon as the snow begins to fall. Kufri is home to an annual festival of winter sports in February. Narkanda resort is located 65 kilometres from Shimla. At 3'143 metres above sea level, it is one of the oldest resorts in India. The ski season is concentrated between late December and early March. Narkanda offers beautiful landscapes and splendid views of the Himalayas. Dayara Bugyal is another ski area, located at an elevation of 3'050 metres.





Japan



Japan is one of the countries with the highest number of ski areas. Resorts are located all throughout the Japanese islands, from the northern island of Hokkaido to the main southern island of Kyushu. Almost the entire population is only a couple hours away from a ski area. With its high number of inhabitants, this represents a huge potential.

The Japanese ski industry experienced a tremendous boom in the years from 1970 to 1990, when skier visits

showed record figures and the number of active skiers reached over 18 million in a season. They are estimated around only 8 million nowadays⁵⁰. In the 1980s, resort development was extraordinary, with several new, expanded or fully rebuilt ski areas. The country offered the finest and most modern facilities in the world. Skiing became very fashionable, and the most popular sport among young people. The resorts were busy and crowded to such an extent that it was sometimes difficult to actually ski! There were long lift lines and crowded slopes. This surely contributed to skiing becoming less appealing. Furthermore, Japan experienced a significant economic downturn at the beginning of the 1990s and real estate was affected. Many resorts had difficulty financing their huge investments. Skier visits began to decrease significantly.



⁵⁰ Skiers having actually skied last season.

In the past, Japan was also the country with the most indoor snow centres and the world's first such centre (the first one opened in 1959). However, in recent years, several of these facilities have closed. This seems to be a further sign of the loss of interest in skiing.

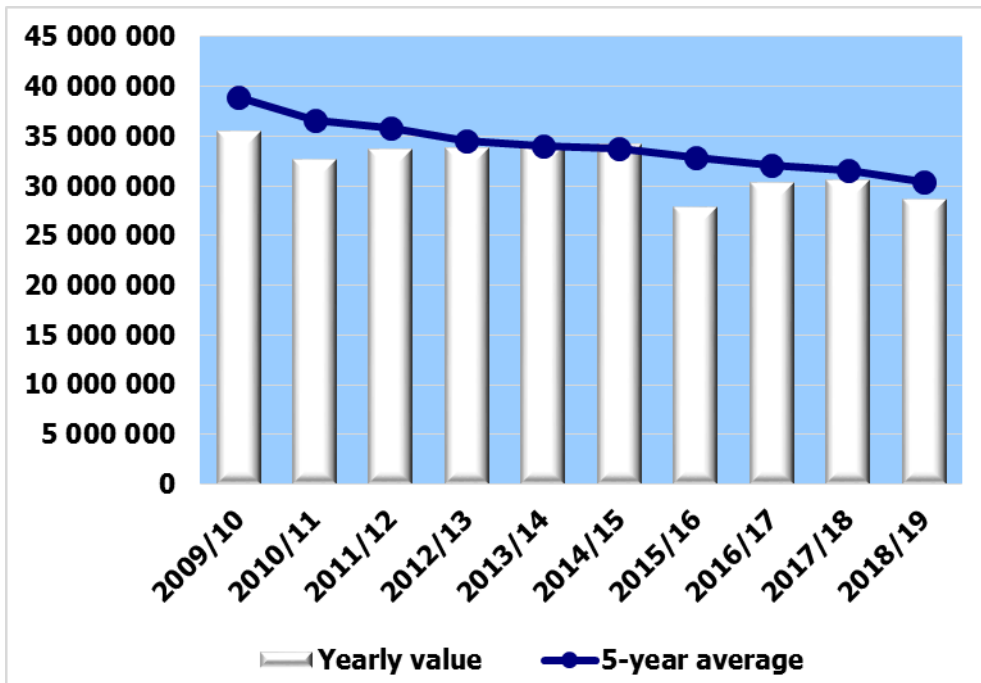


Figure 32: Japan, evolution of skier visits

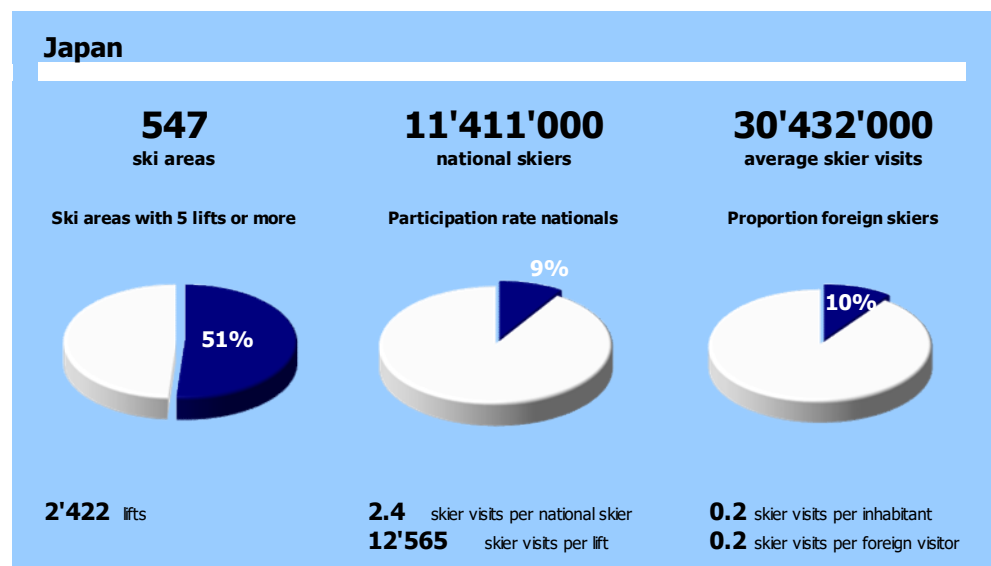
Skier visits currently hardly reach 30 million per year, less than half of what they were in the 1980s. After a succession of seasons with decreasing attendance, the situation seemed to have stabilised, despite in the season 2015/16, riders counts decreased 18% due to warm weather conditions (Japanese resorts feature a lower equipment level in snowmaking than the Alpine region, with 65.8% of ski areas having no snowmaking). After this season that was one of the worst for 50 years, season 2016/17 did however not show a full recovery. Neither did 2017/18 and 2018/19 was down again. The Prefecture of Hokkaido is however showing a distinctive trend. With very favourable snow conditions, it was not affected by the overall decrease in visitation during recent seasons and attendance even shows a move upwards. But it may still take time before Hokkaido recovers the 7 million skier visits it had at the beginning of the century⁵¹.

Ski resorts have started to make attempts to revitalise the industry, but they have to fight against demographic reality of the aging Japanese population. The latter may unfavourably affect the overall participation rate. Nowadays, the Japanese slopes are no longer overcrowded and the industry is trying to attract new clients. Some ski areas have turned into big resorts where skiing is only one of many activities to choose from. Investments are directed to make these places attractive to both skiers and

⁵¹ Attendance in Hokkaido was 5.1 million skier visits in 2017/18.

non-skiers. True mountain base villages have been developed, offering housing and multiple facilities. Some are even afraid of an almost *Disneylandification* of the mountain.

With these changes, Japanese ski areas have subsequently attracted an increasing number of foreign visitors. Before the 2000s, nearly no foreign visitors came to Japan to ski. After the 9/11/2001, Australian skiers began to come to Japan instead of flying to North America. They were followed by visitors from neighbouring Asian countries, even some without any ski culture. Efforts have been made to produce trail maps, sign and menus in English, Korean and Chinese. Today, the country attracts more and more skiers from abroad. It is now common to see skiers from Australia and East Asia. Very recently, China became one of the most promising markets for skiing in Japan and Chinese skiers going to Japan currently represent the largest international skiers flow in Asia-Pacific region. Focus has also now turned to attracting European and American skiers.





Mongolia is a large country combining highlands and mountains. The lowest altitude in the country is 518 metres above sea level, and the average altitude is 1'580 metres. The western and

northern parts of the country are crossed by the Khangai and Altai mountain ranges, featuring the country's highest summit, the 4'374-metre high Kujten Uul (formerly Nayramadlin Orgil). There are also several volcanoes in the area. One third of Mongolia is covered by the famous Gobi desert.

With an extreme continental climate, the country has long, dry, cold winters and short summers. The average temperature is below freezing from November to March. Minus 20 degrees Celsius is common in January and February and night temperatures can reach minus 40. Lakes and rivers freeze in winter. Snowfall is limited. The level of precipitation is low and mostly concentrated during the summer months.

Even though Mongols are accustomed to winter, the first and only ski area of the country opened in 2009. Sky Resort is located next to the capital city of Ulan Bator. Its base elevation is 1'379 metres and the top of the lifts reach 1'570 metres, offering about 200 metres of vertical drop. It is equipped with 2 quad chairlifts and 2 surface lifts, plus 3 moving carpets, comprehensive snowmaking facilities and lighting for night skiing. All of the equipment was manufactured in China. The ski season lasts from November to March / April, but the resort is operated as a year-round recreation destination. It features various outdoor activities, including a golf course.



Nepal



Nepal is an 800 kilometres long on 200 kilometres wide territory landlocked between India and China. Although Nepal is well known for its Himalayan Mountains, the altitude in the country ranges from as low as 60 metres in the subtropical lowlands of

Terai, on the northern rim of the Ganges River, to the top of the world, with the 8'848 meters high Mount Everest (shared with China). The country accounts some 90 peaks over 7'000 meters and 8 of them are over 8'000. This wide range of terrains involves also a wide range of climates, and annual precipitations vary on average from 160 millimetres to 5'500 millimetres depending the region.

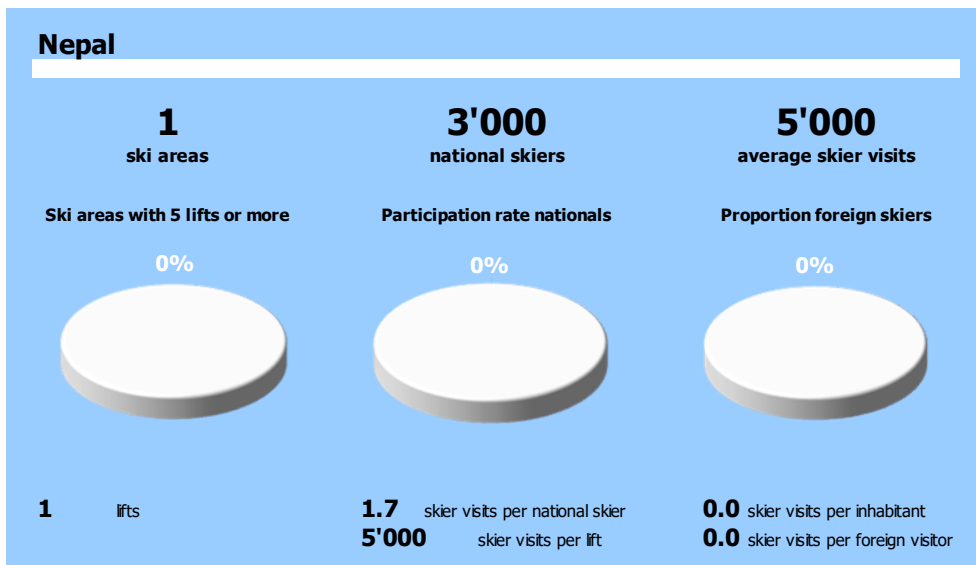
Nepal is highly affected by global warming, with its glaciers melting down. From 1997 to 2010, the country lost 25% of them, putting some areas at risk with the sudden creation of lakes that can be a threat for the populations located in the valleys below.

The zone with mountains over 3'000 meters covers about 15% of the country and populated villages reach up as high as 4'500 meters above sea level. However, the snowline is at an altitude of 5'000 to 5'500 meter, making it difficult to find comfortable skiing conditions.



Occasionally, it may snow at lower altitudes and in 2019, a first ski lift was installed on a temporary basis at the Kuri area in Kalinchok of Dolaka, at an altitude of 3'842 above sea level. With the help of a rope and some home made machinery, a 60-meter long rope tow was inaugurated for snow lovers. Ski and Snowboarding Foundation Nepal organised a 2-month

festival with an aim to make Kuri of Kalinchok a popular ski park, expecting 10'000 visits over the period. Kalinchok is a famous Hindu pilgrimage site with beautiful sceneries and it features a sightseeing cable car and hotels for visitors.





New Zealand



The southern island of New Zealand is the more mountainous of the 2 main islands, crossed through the middle by mountains referred to as the Southern Alps. They include 18 peaks over 3'000 metres, culminating with the 3'754-metre Mount Cook. Although the northern island has fewer mountains, it features some volcanoes. The highest peak, Mount Ruapehu (2'797 metres above sea level), is a still an active volcano.

New Zealand is a major destination in the Southern Hemisphere for skiing and snowboarding. The resorts are well equipped and fairly evenly spread out over the 2 main islands that make up the archipelago. Snow conditions are good, even if the powder is not as light as in the European Alps, Japan or the Andes, due to the maritime climate. Only a few resorts offer more than 500 metres vertical drop. The others have shorter slopes. The season starts in late May and ends in early November.

In addition to 13 commercial ski areas, New Zealand has 10 private ski clubs. Heliskiing is also highly developed, with numerous possibilities and departures from 10 different bases.



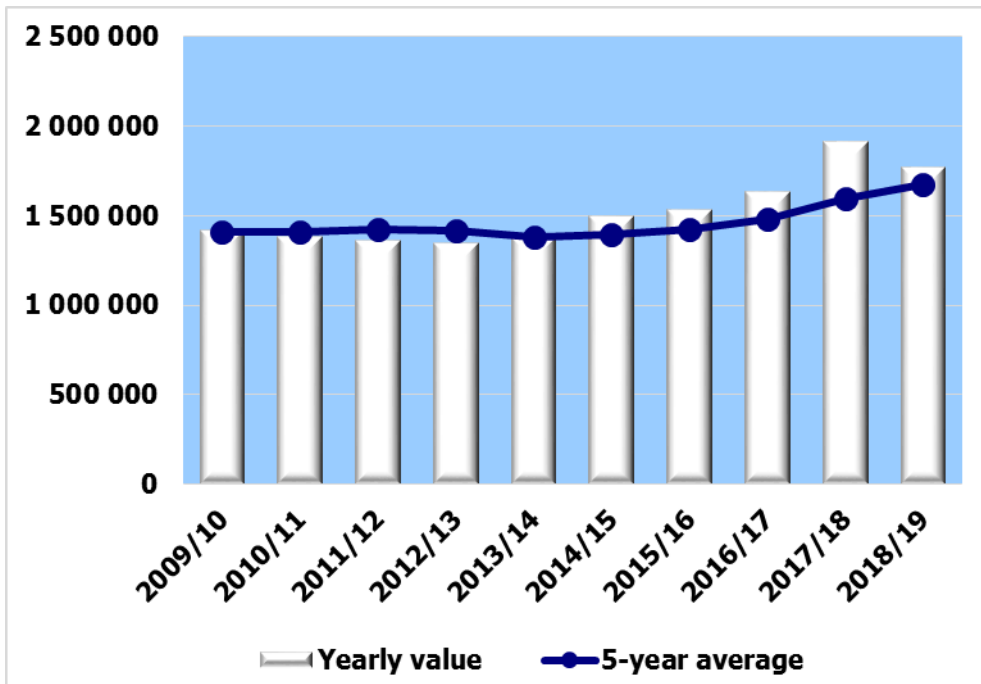


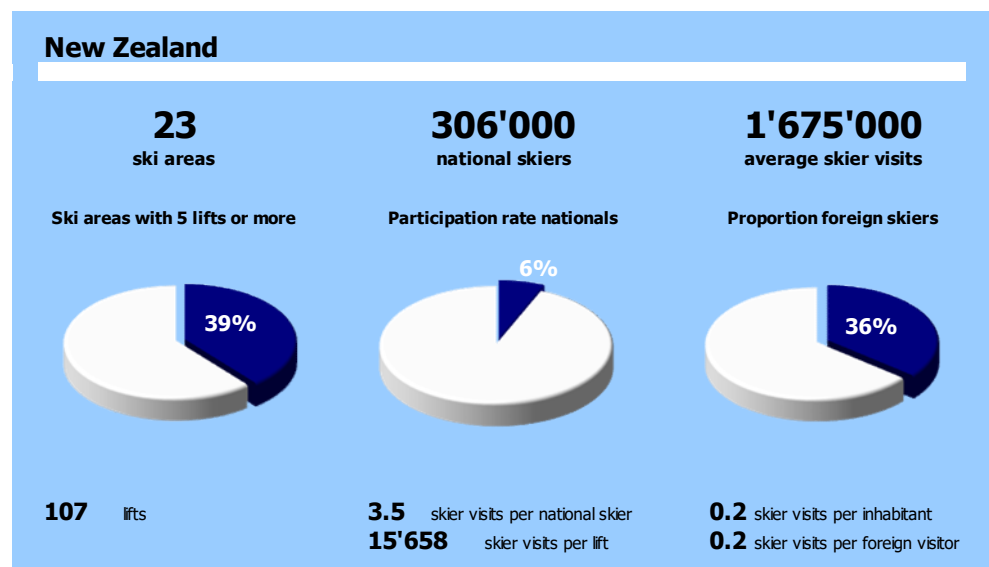
Figure 33: New Zealand, evolution of skier visits

In the new century, skiing has grown. Before the 2000s, only exceptional seasons saw more than one million skier visits. Since the early 2000s this has been the rule. The growth emphasised after winter 2015 which saw record snowfalls and an extended season, some resorts having their highest ever number of visits. Winter 2016 and 2017 renewed with very good attendance figures and were again bet by 2018 season, which clocked a record 1.9 million skier visits, 16% over former season. It was said a



phenomenal snow year, which ensured that the season was longer than usual. Intense marketing, sales and investment contributed significantly also. Ski areas have invested in new chairlifts and snowmaking (5 new lifts delivered between 2014 and 2017). In some resorts, the introduction 3 years ago of cheaper season passes is considered having encouraged New Zealanders to return to the slopes or visiting them for the first time. Season 2019 could not match the former one, although very good indeed. It records as the second best, even if season start was slower than normal for many ski areas. Some did not open in time for the July school holidays. And when the snow did arrive, some areas endured a higher number of closed days than usual.

The southern part of the country offers the best ski resorts in New Zealand. Near Queenstown, the Remarkables mountain range boasts a vast ski area of about 220 hectares that rises to 1'935 metres above sea level. There are 4 ski resorts on the northern Island. Whakapapa and Turoa are the most popular ski areas, topping out at 2'300 metres above sea level on the northeast side of Mount Ruapehu. They recently merged and draw many skiers and snowboarders every year. Despite being the largest resort in the country, it is small when compared to other international destinations. It has only 43 trails and 16 lifts spread out over 400 hectares.





North Korea



With its high point Paektu-san rising to 2'744 metres above sea level, North Korea is a country covered by forested hills and mountains, separated by deep, narrow valleys. It counts 50 peaks over 2'000 metres. There are some coastal plains wide in the west, discontinuous in the east.

Although the climate is tough, with long cold winters and a decent amount of snow, the socio-economic situation for most of the population does not generate an important demand for leisure activities. The number of skiers is very limited.

A couple of limited ski areas offers a few second hand ski lifts but is reported to be only used by the military and other selected members of the North Korean population. The small ski resort of Begaebong features a second hand chairlift retired from the Alps. Another single downhill slope equipped with a ski lift has been identified in Samjiyon, close to Mount Paektu.



Due to the UN embargo, Austrian, French and Swiss manufacturers had to refuse to sell the country a new detachable chairlift to equip a planned ski resort on Mount Masik, the first with the goal of meeting international standards. Despite this drawback, the resort was officially inaugurated at the end of December 2013 with unusual media visibility for North Korea. Due to the embargo, the originally planned brand new western manufacturers' installations were replaced with second-hand equipments (surface lift and fixed grip 2-seater chairlift). Later on, a gondola lift having served before in Austria was installed, and some further Chinese-manufactured lifts. The ski area features an impressive hotel, ski rental shop and restaurants (even one top of the mountain panoramic restaurant). The final plans would call for 110 kilometres of ski trails and a

heliport. It is considered to be the first ski area in the country to open to the general public.

Rumours of building another new ski area mention a project, which would be located 50 kilometres away from Chinese border. The ski area would feature 2 slopes.



Fourth Ski Area Coming To North Korea

North Korean leader Kim Jong-un has said that he would like to see more ski resorts developed in the country. Speaking at the Hot Spring Tourist Area in Yangdok County, Kim is reported to have said, *The Yangdok region has natural and geological conditions that are well suited for the construction of a ski resort.* He went on to call for an *all-inclusive physical and cultural leisure spot where visitors can both soak in the hot springs and go skiing.* This expands the original plan for the area, which was focused on hot springs tourism, into a resort combining hot springs and skiing, drawing upon North Korea's experience running the Masikryong Ski Resort.

Other sites at Samjiyon (a mountain resort) and Wonsan (a port city) are reported to also being developed as multipurpose resorts with a view to opening up to the outside world. Samjiyon is actually already home to what is believed to have been North Korea's first ski slope, created on Mount Paektu using a chairlift reputed to have been donated by Swiss resort Villars before the nuclear tests and sanctions regime as a friendship gesture before Masikryong Ski Resort gained worldwide attention when it opened in 2013. A third ski area, Kanggye Ski Resort, opened in North Korea in early 2018 complete with a draglift and conveyor lift.

More details have emerged of construction progress on North Korea's fourth ski area at Yangdok Hot Springs Tourist Area. An organisation called *NK Pro* which

describes itself as *the ultimate resource for professionals working on North Korea*, has posted a detailed report on the project. The report says the resort area will cover around 4 square kilometres and that a railway line is being built to it. The North Korean leader Kim Jong Un is reported to have visited the site 3 times in the past year and that progress has been stepped up each time with a completion deadline of October 10, 2019. Satellite imagery shows that the ski slope element of the project began to take shape in the hill at the southern edge of the zone in early May 2019. *NK Pro* speculate on why Kim Jong Un wants another ski area 40 kilometres from the well-publicised Masikryong ski resort and concludes the area's closer proximity to capital Pyongyang could be one reason, another that it is more aimed at domestic skiers than Masikryong, which brings in foreign revenue, although is also used by North Korean groups. The ski slopes and hot springs combination would also be a first for the country.

Source: Snowhunter



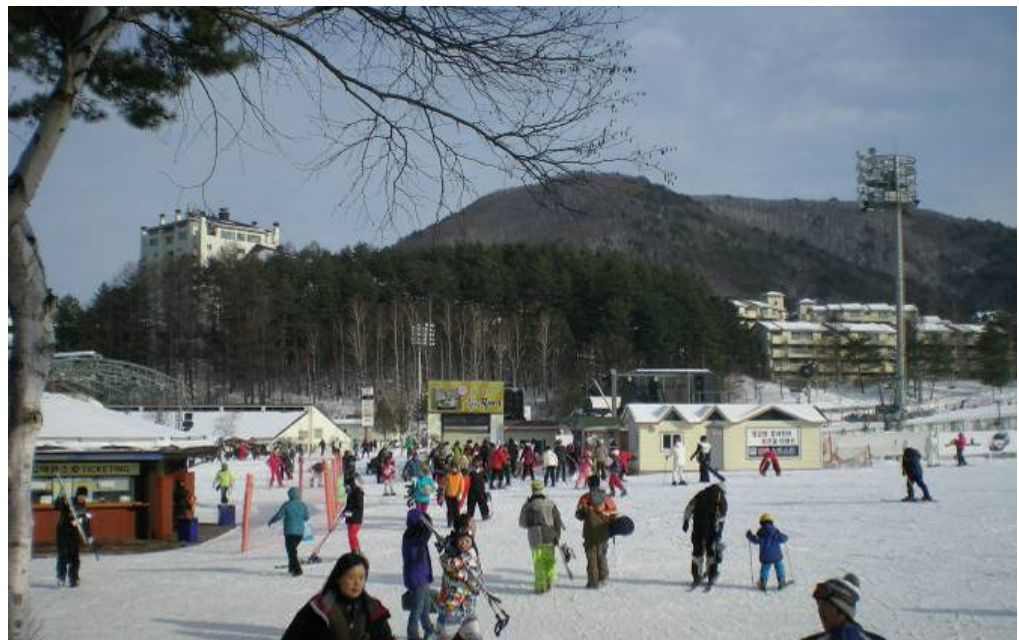
South Korea



South Korea is a mountainous country with relatively cold winters. Ice skating or gliding over the snow was already familiar to part of the population before the advent of skiing. When the first ski resort was developed in 1975, it rapidly became popular. A few years later, it was followed by several new openings, mostly resorts equipped to international standards. Even if the financial crisis that hit South Korea in 1998 slowed down new developments for years, they resumed after 2002 but stopped again by 2010.

A total of 19 ski areas were built over the years in the country. However, starting from 2006/07, some began to close temporarily or for good. There are currently 5 ski areas that remain closed.

Korean resorts are based on the North American model, very capital intensive. They are generally built on land that must be fully or partially



acquired by the operator, who then controls the entire business. As all ski resorts have been created from scratch, they require significant investment in roads and utilities, not to mention the need to build the entire base area infrastructure. Accommodations are almost exclusively condominiums. The

peculiarities of the terrain also create the need for a lot of civil engineering work. This generally limits ski resort operation to powerful financial groups. Several ski areas are owned by large, typically Korean, conglomerates, like Hyundai and LG. The smaller developers have often suffered financial difficulties or gone bankrupt only to be acquired by a big investor.

With the significant increase in supply up to 2010, some resorts have been losing market share as the market has become much more competitive. In light of the huge investments, some may have to fight to survive in the short term and some even already closed.

All resorts offer year-round activities. Most have at least one golf course, an indoor swimming pool and shops. Indoor malls are filled with recreational activities like bowling, ping-pong, video games, movies, karaoke, and of course restaurants, bars, clubs and night-clubs, as many of the resorts are active both day and night. 3 resorts even offer a water park and a theme park.

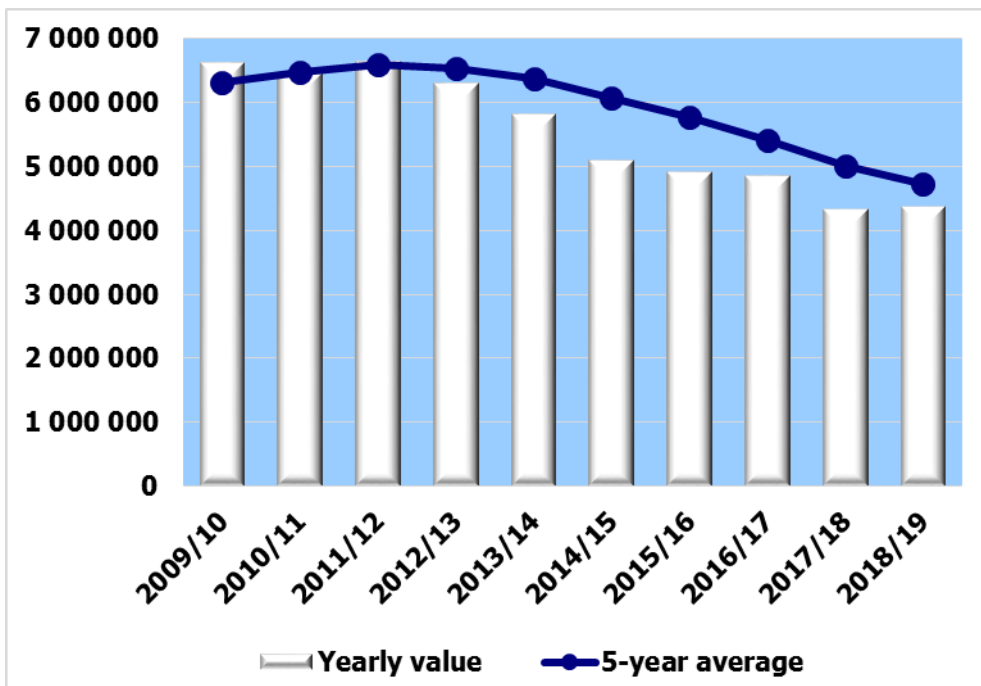


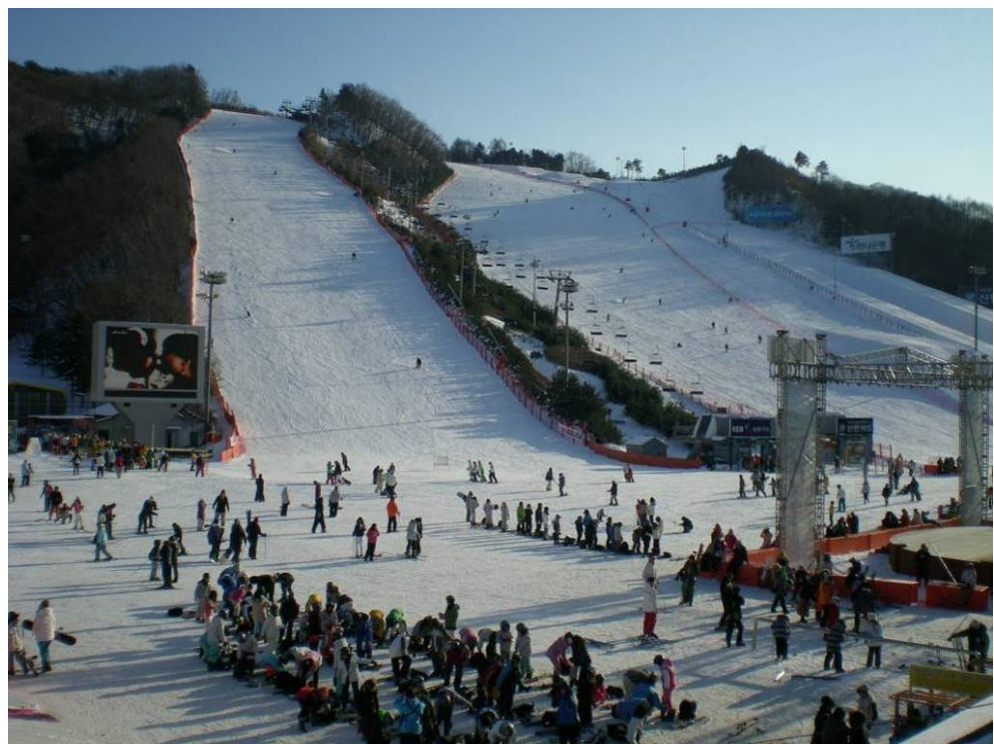
Figure 34: South Korea, evolution of skier visits

Starting at the beginning of the 2000s, attendance records grew steadily through 2008. Since then, yearly skier visits have stagnated and then dropped below the 5 million mark. This happened in spite of several new high-quality resorts that have opened in the late 2000s. It was expected that they would stimulate demand. South Korea also expected an increase in foreign customers, boosted by promotional efforts made by the government. But the reason for the stagnation probably has to do on one hand with current economic conditions and a depressed market, both

nationally and in Asia⁵². On the other hand, ski has been so much packaged like a leisure activity in South Korea that this makes it much more sensitive to trendy fashion as if it had been presented as a sport and healthy practice. It seems that there is currently a switch towards other leisure activities at domestic level. Considering the last 5-year average, it is reasonable to fear a long-term decline at this stage.

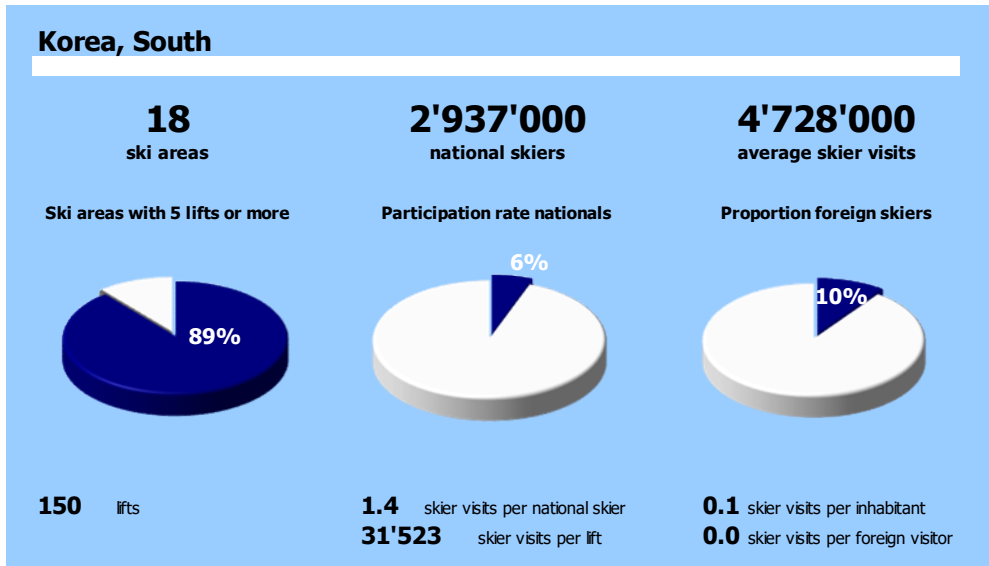
The PyeongChang 2018 Winter Olympic Games completely failed to contribute increasing the popularity of skiing. The 2017/18 winter season visitation was 10% down former one and 20% below 5-year average. 2018/19 however marked a stop to the declining numbers, with a stabilisation around former year level.

With 2.5 million skiers for a population of more than 48 million inhabitants, a participation rate of about 5%, the potential for the Korean market is still partially untapped and demand could however be developed. In addition, the high-quality equipment at Korean ski destinations, meeting the highest of international standards, offers an attractive alternative to European resorts for skiers throughout the entire Asian continent. Prices are also more attractive than in Japan, and Korean ski areas offer a great deal of fun, with several ski resorts operating their lifts nearly around the clock. With this kind of controversial situation, the Korean ski industry seems at a turning point. Either it finds way to stimulate a revival of skiing demand; either it will have to transform the business model of the ski resorts. But adding more leisure activities may only make the business more subject to temporary trends and fashion.



⁵² South Korea is perhaps the country where attendance is the least dependent on the climate. With a lot of snowmaking and relatively cold temperatures, snow is nearly guaranteed. Furthermore, much skiing consumption is done at night, with little concern for sunny skies.

The ski season is peculiar in Korea. It is relatively short, but very dense. The school year matches the calendar year, so students have their annual holidays in December and January, which is followed by mid-February and spring holidays. The ski season begins in late November / early December and ends in March, but has virtually no lag time.



The Middle East & Africa

Every continent offers options for skiing. Even if much scarcer than in other regions of the world, there are ski resorts spread across the Middle East and Africa, and in both the Northern and Southern hemispheres for the latter.





Afghanistan



The country is mostly covered by rugged mountains, with the Hindu Kush range and 100 peaks rising to over 6'000 metres above sea level. The highest point tops out at 7'485 metres above sea level (Nowshak Peak). With such an arid climate, the cumulative snowfall in the mountains during the cold winter serves as the primary water supply. The Koh-e-Baba (Grandfather Mountains) is the western extremity of the Hindu Kush mountain range of Afghanistan and Pakistan. It contains glaciers and permanent snow.

Modern skiing was introduced to the country by European visitors in the 1960s. At that time, the Afghan tourism organisation established Afghanistan's first ski area at Chowk-e-Arghande, near a low pass just outside Kabul known for its heavy snowfalls. With the help of a German ski enthusiast, Afghanistan's first rope tow was installed in 1967. A few years later a second rope tow was installed to take skiers to a higher, steeper slope. Together the two lifts offered a roughly 700-metre descent. Most skiers were expatriates living in Kabul. Some locals, including women, also got acquainted with skiing and a few races were organised in the 1970s (the last ski races were held at Chowk-e-Arghande during the 1978 winter). Through the subsequent 4 decades of conflict, snow sports became all but impossible to pursue in the country.

Today, the widespread poverty among most of the population does not allow for expensive leisure activities (living standards are among the lowest in the world). However, sledging has remained a popular activity in the snowy mountainous regions. Boys and girls sliding down on homemade sleds is a common sight. In 2010, during a local festival in Bamyan, a ski race was once again organised to familiarise people with snow sports. Second-hand skis from France, together with others made by local artisans, were used.

In spite of the few favourite spots of a couple pioneering skiers and snowboarders, there is no organised and equipped ski area. The rope tows have been destroyed along with most infrastructures. For the time being, the only available ski lifts are donkeys, but things may be changing. A homemade ski lift has been put in operation in 2019 at the Bamyan ski area, located 100 miles west of the country's capital Kabul. The rudimentary ski lift, like many of the early ski lifts in North America and Europe, utilises a motorbike engine to pull a simple cable lift. The bottom pulley wheel is fixed in an upturned wheelbarrow. The lift is reported to have been created by an American family who live locally.

The lift is the latest development since the creation of the annual Afghan Ski Challenge, originally established by a Swiss journalist in 2011 and now organised by the Bamyan ski Club, which is a ski touring race over 2.5 kilometres. Indeed, the Bamyan region offers tremendous backcountry skiing potential. More than 200 ascent/descent options have been described in a recent backcountry guide to Bamyan and Band-e-Amir region.

Although country's tourism appeal is debatable, some places were very popular with tourists through the 1970s. 4 decades of war have destroyed the country, including its once profitable tourism industry. The Bamyan province, formerly the centre of Afghanistan's tourism industry, aspires to once again become an appealing destination for tourists, with its culture, natural beauty and snow-covered mountains. In fact, in several countries across the world, tourism has already demonstrated an ability to rebound quickly following a war.





Algeria



Although the highest point of Algeria is located in the Saharan part of the country (Mount Tahat, in the Hoggar, 3'003 metres above sea level), the Atlas mountain range in the coastal region also rises to over 2'000 metres high. In Kabylia and in the Aurès, several mountains are covered with snow during the winter. In several areas, there is sufficient snowfall to ski for 2 to 3 months during the winter.

Even though the country uses gondolas for urban transportation in several major cities and recreational areas, there are no longer any operating ski lifts in the country. For the time being, ski resorts in Algeria are a thing of the past. Although at least 4 ski areas used to be equipped with ski lifts, they have all been either destroyed or no longer function. In recent years, there were plans to rehabilitate 2 of these areas, but this has not yet been implemented.

For instance, in the Blida area, 70 kilometres away from the capital city of Algiers, the Chréa National Park used to have a ski area. Located 1'500 metres above sea level, it was the first one in Africa when it opened in the 1940s and was equipped with a surface lift. Later, in the 1980s, an additional chairlift was installed as well as a 7-kilometre long 2-section gondola, in order to enable direct access from the city of Blida. All lifts were later damaged by the civil war and only the gondola was renovated in 2007. Today, on the weekends, the small slopes are sometimes crowded with locals sledging, even if there is no longer any organised form of skiing.

Another place that became famous for skiing in 1948 is Tikjda. Rising to over 2'000 metres above sea level and offering a vertical drop of about 500 metres, it used to be equipped with 2 ski lifts and a chalet-hotel. Even if they are no longer on use, Tikjda remains the second place in Algeria where people still do some snow sports.



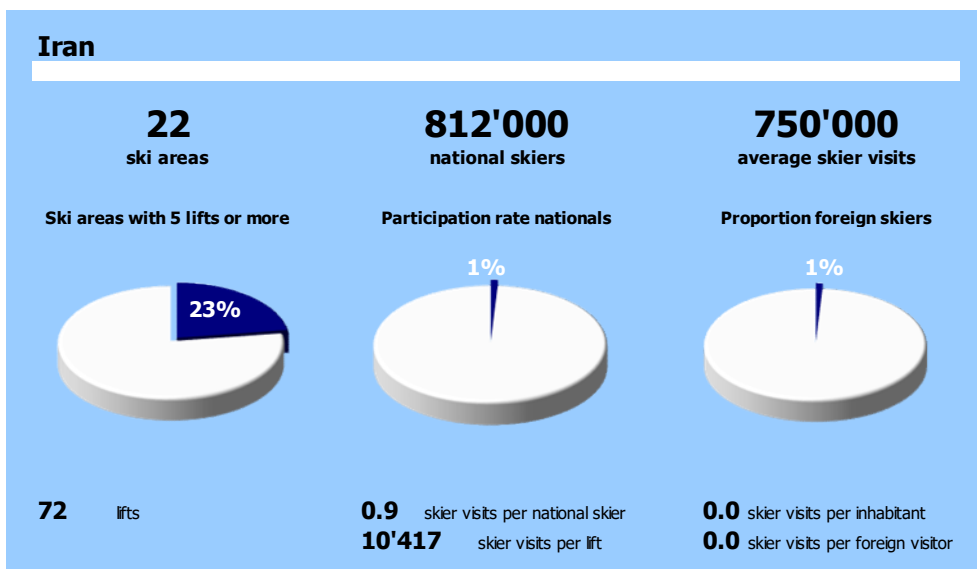
Modern skiing was introduced in Iran around 1930. Germans, who were in the country to build the national railway, and Iranian students, who studied in Switzerland and France and learned to ski there, helped to introduce the sport. In 1947, the Olympic Federation of Iran and the Iranian Ski Federation were founded. The first lift was installed in 1951. Iran was represented for the first time in history by a skier in the women’s competition at the 2010 Vancouver Winter Olympic Games.

Most ski resorts were built during the reign of the Shah. When he was overthrown in the 1979 revolution, the Iranian clergy closed all ski areas, as they were considered emblematic of the decadent western lifestyle. In the mid-1980s, growing demand put pressure on the government to reconsider its position and reopen the ski resorts. Today, there are a dozen in operation, and the most important are located in the Alborz Mountains above Tehran, in the northern part of the country. The highest peak in Iran is located here, Mount Damavand, a giant dormant volcano rising to over 5'600 metres above sea level. Even if several new gondolas were delivered in the 2000s, infrastructure is still rather old and facilities often limited. However, the resorts are located at high altitude and have excellent snow conditions. Several resorts also offer spring and summertime activities, such as tennis, volleyball, climbing, mountain biking or grass skiing. Although runs are no longer segregated between men and women, the lifts still are. There are two separate lines and it is illegal for a man and a woman to share a gondola.



The biggest resort in Iran and even in the Middle East is Dizin, 70 kilometres north of the capital. Founded in 1969, the ski area lies between 2'650 and 3'600 metres above sea level. It thus accounts among the highest ski resorts in the world. It covers 470 hectares and receives about 7 metres of snow per year. With 23 runs for all levels, 4 gondolas, 3 chairlifts and 9 surface lifts, it is the first ski area in Iran to have been officially recognised by the FIS as suitable to host officially sanctioned international competitions. The mountain also offers a lot of freeride options. Dizin has 2 hotels, 19 cottages, villas and private apartments. An all-day lift pass costs USD 30.

Shemshak is the second largest ski area in the country. Located 60 kilometres northeast of the capital, it opened its doors in 1958 and lies between 2'550 and 3'030 metres above sea level. It was originally designed to offer a trendy spot to the Teheran jet set. With 2 chairlifts, 5 surface lifts and 8 runs, it is well suited for experienced skiers and snowboarders. The resort offers the opportunity to ski at night as well as cross-country skiing. There is only one official hotel, Shemshak Hotel, built in the style of an old Austrian chalet; the resort has adopted a somewhat Western style.



The Tochal recreation complex, which is connected to Tehran by a 7.5 kilometres 3-section gondola lift⁵³, features a ski area at the top. In addition to the gondola, there are 2 chairlifts and 1 surface lift that serve the 4 runs.

Ab-Ali is the oldest resort in Iran, where the first lift was built in 1951. It helped to instigate the development of skiing in the country. Recently renovated, it has a few new lifts: 1 gondola and 8 surface lifts for a total hourly capacity of 4'500 people. The 5.5 kilometres of runs at this ski area, located between 2'400 and 2'650 metres elevation, are well suited for beginners and intermediate level skiers.

⁵³ One of the longest gondolas in the world, climbing 1'840 meters vertical. 500'000 people use it annually. There has been recently a project to extend it to a total of 8.1 kilometres.

The newest ski area in the country is Darband-Sar, opened in 1982. Originally, a very small ski area with only one chairlift, it has been purchased by a private investor that is now developing it further. Designed for beginners and intermediate skiers, it has 6 lifts: 1 gondola, 3 chairlifts and 2 surface lifts. Ski area of Darband-Sar is close to Dizin (with currently and interconnexion project under study).

Iranian ski resorts require new investment, since most of them still operate with equipment from the late 1970s. However, this would require promoting skiing at a national level to attract more skiers and to increase resort revenues in order to provide the financial means to make any new investments. With regard to foreign visitors, apart from the occasional diplomat, tourists are a rare sight at ski areas around Tehran.





Iraq



Even if large parts of the country are flat deserts and of low altitude, Iraqi Kurdistan, in the northeast, is a mountainous region, with peaks reaching up 3'611 meters above sea level.

Snow is not unusual in the mountain in this autonomous region of Kurdistan, even if not all places are accessible due to some hostilities and unsettled disputes. Already several decades ago, the mountain near Haj Omran, next to the Iranian border, was an acknowledged place for skiing,

even if the place was not equipped. Recently, an ice and snow festival was held there at Kudu Mountain.

It is reported that a first ever ski school was opened in the mountain village of Penjwin in early 2010s. It does not operate any ski lift. The only infrastructure is a simple municipal building that houses the equipment.

The only equipped ski area in Iraq, Korek Mountain Resort, opened in 2013. Located about 100 kilometres east of the city of Arbil, it features a 3.7-kilometres gondola lift, bringing the people from base station in Bekhal up to the mountain, 1'690 meters above sea level, where there are some facilities for skiing. Equipment rental and a magic carpet allow everybody that can afford to have a taste of snow sports. The place has become a popular attraction for Iraqis and Kurdish people seeking to have some respite in the snowy landscape. Some are coming from regions that do not experience snow and have there their first contact with it. Some visitors are even coming from the neighbouring countries Turkey and Iran. In one packed day, the place can welcome up to 2'500 visitors. Of course, only a fraction is skiing, despite ski can also be practiced without snow, thanks to a dry slope. The mountain also offers some amusement park style attractions, zip-line, tubing, chalets and food outlets.





In spite of its small size, Israel is home to a variety of geographic features, including mountain ranges in Galilee, Carmel and the Golan Heights in the north. Even if the city of Jerusalem receives snow at least once per year, only the Golan Heights are high enough in altitude to offer the requisite conditions for winter sports.

The sole ski resort of Israel is located there, just next to the UNDOF buffer zone with Syria. Although Mount Hermon is located in this buffer zone, the Israeli ski area is called Hermon Ski Resort. It is located on the southeastern slopes of the Mount Hermon, between 1'600 and 2'040 metres elevation. During the winter, when the mountains are covered in snow, the resort attracts a lot of visitors that come to enjoy the snow. It offers family activities, like sledging and of course skiing. On peak days, it hosts up to 12'000 visitors.

The first lift was built in 1971. Now, the resort offers several chairlifts and surface lifts. It even features a FIS-approved competition run. Winter operations usually run from January to March. However, during some seasons, skiing may be limited to only 2 to 4 weeks due to the lack of snow. In 1999, the resort had no sufficient snow at all for skiing.

The resort also offers summer activities.



Lebanon



Only 23% of Lebanon lies in coastal plains and lowlands; it is a mountainous country, with 2 mountain ranges parallel to the Mediterranean coastline. Both ranges run up and down the entire length of the country. The first row of mountains is called the Lebanon Mountains and varies in between 10 to 56 kilometres wide. Narrow and deep gorges cut through the range. The Lebanon Mountains top out at 3'088 metres above sea level, with Al Qurnat as Sawda as the high point. They gradually descend to the south

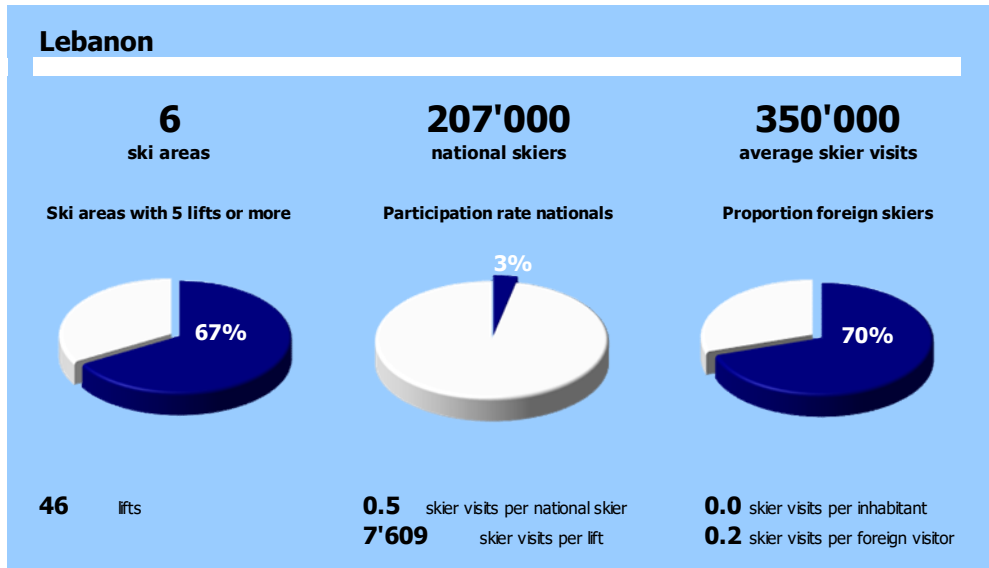
before rising again to a height of 2'695 metres at Mount Sannine. The second range, the Anti-Lebanon (Antilibanos) Range, is separated from the first range by the Biqa Valley. It runs parallel to the first, bordering with Syria and Israel. Mount Hermon, its highest peak (2'814 metres above sea level), is situated in the South, on the geographical border with Syria. Parts of both of these mountain ranges are covered in snow in winter.

Lebanon is one of those countries where it is possible to ski in the morning and to swim in the sea in the afternoon. It has 6 ski resorts with lifts and groomed slopes. The ski season last about 4 months, from mid-December to the beginning of April.

Skiing developed and became popular in the 1930s, when the first ski club was founded, soon followed by the first ski school. The first lift was installed in 1953 in Cedars. This resort is reputed for its charming natural surroundings. It is located at an altitude of 2'000 metres and benefits from an extended season (sometimes beginning in early November and lasting until late April). Resort capacity was enhanced in 2005 with the addition of a few chairlifts. Further projects include the construction of a gondola and new accommodations.

Mzaar offers world-class infrastructure and facilities for tourists. It is the best-equipped and most popular resort. It features 18 lifts and 42 runs totalling 80 kilometres. With a base elevation of 1'850 metres, the resort tops out at 2'465 metres above sea level.

Faqra is a private ski club, meaning the club owns the land, the 4 lifts and all other facilities.





Surrounded entirely by South Africa, 66% of Lesotho's land area is mountainous. Its lowest elevation is 1'000 metres above sea level, and the highest peak is 3'600 metres. With some natural snowfall, the country almost brings together all the necessary criteria to operate a successful ski resort. This was enough to motivate a few entrepreneurs to start Afriski Mountain Resort.

It is located in the arid Mahlasela Valley, 3'222 metres above sea level, in the Drakensburg-Maluti Mountains. The ski area features a 1 kilometre long T-bar as well as 2 beginner lifts and a magic carpet for kids and beginners. The resort is not always covered with natural snow during the winter months. In general, snow falls 3 to 4 times per winter season, but is quite unpredictable: it can snow 10 out of 12 months a year at the resort's altitude. The ski area is equipped with a snowmaking system, which guarantees skiing from June to the beginning of September.

The ski area is far from any urban area. The nearest city is located 110 kilometres away, and it takes four-and-a-half hours to drive there from Johannesburg, South Africa. The ski area offers winter and summer activities. Various chalets and group accommodations provide for 250 beds at the resort. Since Afriski is an alliance of individual companies and private homeowners that work in cooperation with each other, similar to a European ski resort, a central booking office services the rooms available at the resort. Winter and summer activities, including equipment rental and meals, can also be booked through this agency.

The ski area hosts around 12'000 skiers per season, with a good portion of them being foreign visitors. 90% are South Africans, who come up primarily from Johannesburg. There are also skiers who travel from farther away, such as Germans, the Dutch and North Americans.



Morocco



Morocco has several mountain ranges: in the north, the Rif, the Middle and High Atlas in the centre and the Anti-Atlas close to the Saharan plains. The highest summit, Jbel Toubkal, south of Marrakech, rises to 4'165 metres above sea level.

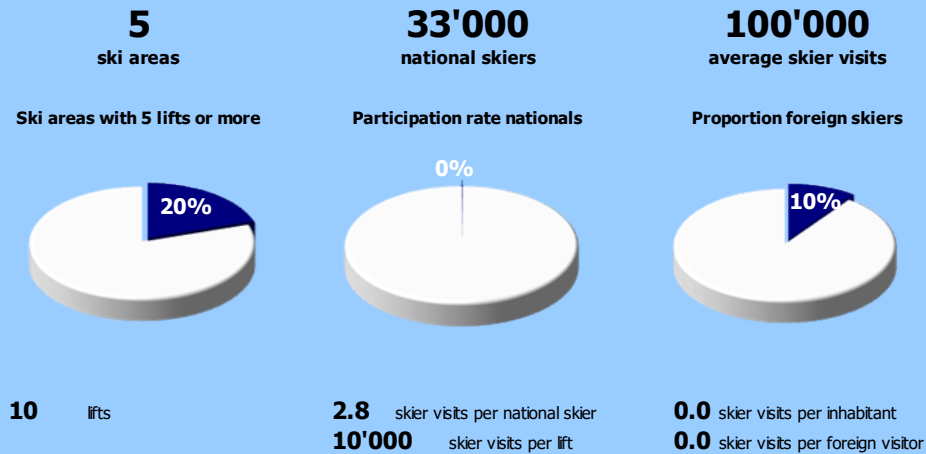
In the 1930s, mountaineers and skiers already enjoyed the snow-covered mountains of Morocco, even if access was rather difficult at that time due to poor or inexistent roads. Situation improved in the 1960s, and skiing became fashionable.

The largest and most well known ski resort in the country is Oukaimeden. Chalets and hostels were built there in the 1940s and 1950s. In the 1960s, the first ski lifts were installed and the resort continued to develop by adding restaurants and nightclubs. Today, it features 5 surface lifts and 1 chairlift and tops out at 3'200 metres above sea level (the base area is at 2'600 metres elevation), which makes it the highest ski resort in North Africa. It is possible to ski from November to April. The resort is also popular in the summer. Close to Marrakech, it provides a cool refuge during the warm summer months. Mountain biking, climbing and mountaineering are all popular here.

The other ski area operating in Morocco is Mischliffen, in the Ifrane region. This city is located in a region with a cold climate, one that posts the lowest temperatures in Africa. The mountains are lower, with cedar forests and smaller vertical drops. The area rises to only 1'650 metres above sea level and is equipped with 2 ski lifts and some accommodations. The ski season is shorter, with slopes skiable from December to end of February.

The area of Azrou was also once known for skiing, with 2 surface lifts installed in the 1950s at Borg Doumergue and Djebel Hebri. They are now out of service. In the past, they used to host ski races. The first one was held there in 1936, even before any lifts were built.

Morocco



Upgrades Announced for Ski Area in Morocco

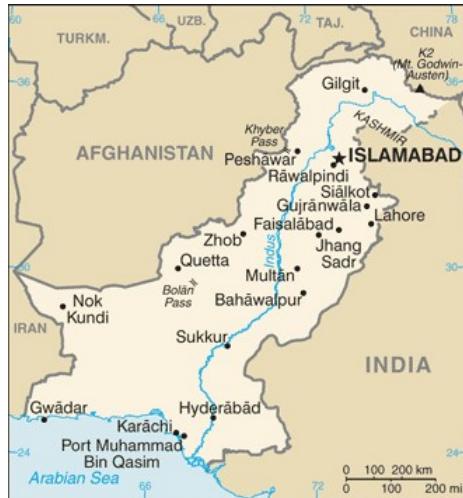
One of the few ski areas in the Atlas mountains of North Africa could be about to receive a major upgrade. 204 million Moroccan Dirham (around EUR 18 million) spending by the Wilaya of Marrakech-Safi on upgrading the ski centre is being planned. However whilst there is talk of improving the aging ski infrastructure, most of the money looks likely to be spent on making the centre more of a year-round sustainable tourist destination with the plan including the development of the area's lake, creating zip lines, an amusement park and a karting course. The aim is to grow tourist numbers to 500'000 a year. Morocco's Minister of Tourism Mohamed Sajid is reported to be overseeing the plan and currently it is being determined whether it should be brought forward by a to-be-appointed private concessionaire or to create a locally run development company.

Oukaimeden, located about 80 kilometres from Marrakech, opened as a ski centre in 1942 whilst under French Colonial rule. There have been numerous plans to improve the ski lifts over the years but little has really changed over the years. Snow cover is increasingly erratic.

Source: Snowhunter



Pakistan



With peaks rising to over 8'000 metres above sea level, Pakistan is blessed with majestic mountains. 7 of Asia's 16 highest peaks are located in Pakistan. K2's 8'611 summit makes it the second highest peak on the planet. The western and northern parts of the country are covered in mountains. The highest peaks are in the north, while in the west, the mountain ranges rise up to 3'000 metres above sea level.

The first ski area in Pakistan to be equipped with a chairlift was Malam Jabba. It was owned by the Pakistani Tourism Development Corporation and featured a 50-room hotel and an 800-metre long slope located 2'804 metres above sea level. The resort was equipped with modern facilities through cooperation with the Austrian government and was completed in 1988. It was however left on standby for the next 10 years due to disputes over operations.

Malam Jabba quickly became a popular retreat, especially for families and students from Islamabad and Peshawar. Many of them drove the 4 to 5 hours to the resort not for skiing but just for the snow. Malam Jabba gets a lot of it; the snowpack can reach up to 3 metres deep. Even in summer, the place was packed with people who just came for the fresh mountain air, took a ride on the chairlift to the summit ridge (2'670 metres) and enjoyed the stunning views of Nanga Parbat. It all came to an end when the Swat valley fell under the influence of the Taliban in 2006. Since they consider skiing to be un-Islamic, they blew up the hotel, the chairlift and the grooming equipment.

In 2009, the Pakistani army regained control over the Swat valley but it took another 5 years before contracts to rebuild the resort were signed. Under a lease from the Pakistani government, a large tobacco company from Islamabad won the tender to develop Malam Jabba, to build a 4-star hotel and other 3-star accommodations, a new chairlift and run the place as a 4-season resort. In exchange, the government promised to rebuild the road and take care of the power supply. The chairlift was rebuilt in summer 2015, supplied by a Chinese manufacturer who also supplied the magic carpets for a beginner area and a toboggan run. Nevertheless, skiing there never actually stopped. A simple lift has served about half of the vertical drop and locals have continued to offer ski rentals and lessons. The new hotel will be managed by a local brand and is scheduled to open in June 2019.

In 2014, Naltar ski area became the second ski resort in Pakistan to get a chairlift, with the help of the Ski Federation of Pakistan. This second-hand lift previously in use in the Swiss ski resort of Villars-Gryon replaced an old surface lift. Access to the ski area is difficult and requires either a four-wheel drive vehicle or helicopter. Actually, the ski area is located in an army base and is primarily used by army officials. The staff is employed by the Pakistani Air Force. The resort features the country's longest ski run at 2.5 kilometres in length.



South Africa



South African interior highlands are separated from the coastline and its lowlands by the Great Escarpment, a 3'500 kilometre long geological formation along the edge of the Central Plateau with mountains that range from 2'000 to 3'300 metres. In the east, the highest stretch of the Great Escarpment is known as the Drakensberg Mountain range and features the country's high point, Peak Mafadi, culminating at 3'450 metres above sea level, on the border with Lesotho. Other mountain ranges are

located between the coastal plains and the Great Escarpment (Swartberg and Langeberg).

South Africa has only one single commercial ski resort, even if it is possible to ski in different areas in the mountains. Located near the border with Lesotho, on the highest mountain in the region, Ben McDhui Peak, the Tiffindell ski area tops out at 2'900 metres elevation.

Since opening in 1993, an area for beginners, and 2 main runs from 2 T-bars were built. A recent investment was made to renovate the 2 T-bars, increase the length of the ski runs, add a terrain park and upgrade services in order to improve its offering. Although its location on the southern face of Ben McDhui Peak receives enough natural snow, the ski area is equipped with a modern snowmaking system that covers 3 hectares.

There are daily entertainment programs offered to children and adults. Tiffindell also has an attractive after-ski scene, with mountain-themed bars to relax after a day on the slopes. The accommodation consists of rustic log cabins for 4-8 people, Luxury Mountain Chalets for up to 12 people and Mountain Suite rooms for 2 people – for a total of over 150 beds. Popular ski week packages include meals, lift passes, ski equipment and instruction.

The ski season extends from late May to early September (Southern Hemisphere). Skiing in South Africa is of course a completely different experience than skiing in Europe. The number of runs and infrastructure is limited, as is the snow quality. In spite of such a limited offer, the country has a ski association. Founded in 1990, Snow Sports South Africa (SSSA) is affiliated with the FIS and recognised as an official organization for everything relating to skiing in South Africa. It serves to coordinate and promote the development of skiing in the country.

In conjunction with Tiffindell, the association organises the South African National Skiing Championships every year. Incredibly, in 2014, SSSA and Tiffindell also hosted the first Men's FIS slalom ever to be staged on the African Continent and again in 2015 the men were joined by the women for the first Ladies' FIS race in Africa. Competing racers were from Austria, Sweden, Belgium, Iceland, the USA, Slovenia, Italy and Slovakia. A local ski club called the Ikhephu Ski Pups train around 120 children from the surrounding schools annually. There is a Winter Sports Academy based at the resort, which provides 24 children with both schooling and race training for the ski months of June, July and August.

From a snow perspective, there was little to no natural snowfall in South Africa (and Lesotho) during the 2014 ski season, but low temperatures allowed Tiffindell as well as Afriski in Lesotho to make snow in order to open the ski areas. In Tiffindell's case, this was the longest season on record thanks to a newly extended snowmaking system. 2015 conditions were better, with some natural snowfall.



Turkey



Turkey, in addition to its beaches, is also a mountainous country with almost 60% of the territory covered in mountains. They are spread all over the Anatolian region, with the Köroglu and Pontic ranges in the north and the Taurus Mountains in the south; they meet join in the Eastern part of the country. The average altitude in Turkey is 1'131 metres above sea level, but in eastern Anatolia, this average increases to 1'600 metres. Located in the far eastern part of the country, Turkey's highest mountain, with an elevation of 5'137 metres above sea level, is the legendary Mount Ararat, the supposed final resting place for Noah's Ark.



The Turkish Ski Federation was founded in 1936, the year when the Turkish Olympic team first participated in the Winter Olympic Games. This was the impetus to develop skiing in Turkey and build ski resorts, especially Uludag (the highest mountain in western Turkey, topping out at 2'543 metres above sea level, about 45 kilometres

from Bursa), Erciyes (Mount Erciyes is the highest point of Central Anatolia with 3'916 metres) and Elmadag (in the province of Ankara). Internationally sanctioned competitions were first organised in Turkey as early as 1944. To increase participation in the skiing, ski training clinics and holiday camps are organised every year, but for the time being, this only reaches a small section of the population.

New ski areas have been built on a regular basis in Turkey and the pace increased over the last decade. In 2000, there were 20 ski areas. Today, there are more than 40, spread all over the country, plus another 50 additional sites identified as having the potential to become new ski areas. For the time being however, less than 10 ski areas offer more than 4 lifts. Hotels provide approximately 15'000 rooms all ski resorts combined.

One of the most famous resorts in Turkey is Palandoken, which hosts FIS competitions. It lies in the eastern part of Turkey, near the city of Erzurum and has one of the coldest climates in the country resulting in very good snow conditions. The Winter Universiade in February 2011 was the driving force to bring the Turkish ski industry to new heights. In preparation for the event, Palandoken invested nearly USD 100 million. In 2014, the brand GrandErzurum was born from the merger of Palandoken with the neighbouring resort Konakli. Although both ski areas are not physically connected, GrandErzurum totals 65 kilometres of ski trails and 14 lifts. It is now managed by an international ski operator. 212 snowmakers guarantee snow coverage for 75% of the resort's skiable area, located between 2'200 and 3'180 metres above sea level.

Although it was already possible to ski at the base of Mount Erciyes for a long time, the area developed into a modern, state of the art ski resort – the largest in Turkey. Initiated in 2005 by Kayseri Metropolitan Municipality and later on managed by its wholly owned development company Kayseri Erciyes A.S., it was inaugurated in 2011. After a global investment of EUR 350 mio, the resort now offers 13 aerial lifts, including gondolas and 4 and 6-seater chairlifts, some with heated seats and bubbles, totalling capacity of 26'750 skiers per hour. 58% of the 102 kilometres of slopes are equipped with snowmaking. They range between 2'200 and 3'400 meters above sea level. The resorts offers 1'450 beds (with some further hotels planned, together with additional lifts on the other side of the village) and the 25 kilometres away neighbouring city of Kayseri offers an additional 6'000 hotel beds, including international brands. Lift passes are priced very attractively, with a daily pass sold TKL 70 (EUR 15) in winter 2017/18. The resort has FIS homologated slopes and already hosted several world cup events. It also offers night skiing and promotes *cultural skiing*, with tours of Cappadocia in addition to days spent on the resort slopes.



Kartalkaya, located west of the Balkan Sea, in the Koroglu Mountains, built the first professional snowpark in Turkey. The ski area lies between 1'850 and 2'250 metres above sea level and has 18 lifts serving 12 runs of all levels. Kartalkaya has 3 major 4-star hotels with a total capacity of 2'250 beds. The resort hopes to become better known worldwide by hosting international competitions in the future. Since it snows a lot, the ski season lasts an average of 120 days.

Turkish Centre Sees Booming Business From Iranian and Iraqi Skiers

A ski centre in Turkey's Southeastern province of Hakkari, close to the borders with Iran and Iraq, has seen booming business last season, according to local reports. Hakkari Ski Centre attracted 30'000 visitors last season but after adding a new chairlifts and more trails this winter, reported 50'000 visitors over the first three-and-a-half months of this season. Around 15 million Turkish Liras (around USD 2.3 million) has been invested in a new 1.2 kilometres long chairlift with other investments. *Snow can pile up to 3 metres deep at certain spots in the resort*, Emin Yıldırım, the provincial director of youth and sports, told Anadolu

Agency, adding, *in normal years the skiing season starts in December and lasts until the end of May.*

The ski centre, which also has an 885-metre long draglift, is located around 12 kilometres from Hakkari city centre and is reported to be easier to reach from Iran and Iraq than other centres in the region. The next project is a 120-bed hotel to be constructed over the summer and due to open next season.

Source: Snowhunter

With 2 gondolas, 6 chairlifts and 8 surface lifts, Uludag is one of the largest resorts in Turkey. It is located near Bursa, offers an uphill capacity of 19'630 people per hour, and 28 kilometres of runs. Snowfall generally averages 3 metres per winter. In addition to alpine skiing, the area enjoys favourable conditions for cross-country and heliskiing. Located in a national park, the ski area also has swimming pools, fitness centres and a well-developed nightlife. With its 27 accommodations for all levels of expectations (some are State properties), Uludag offers 3'000 beds.

Over the last 10 years, about 50 new lifts were installed in the Turkish mountains. To diversify the tourism offering (primarily beaches), there are major projects in the works to further develop Turkey's winter tourism and bring the number of ski resorts to 100. This project, which includes EUR 50 billion in investments, 1'000 new lifts and 275'000 beds for 14 million of skiers, has recently been discussed in the media. At present, although resort capacity is on the rise, they are not yet at a stage to compete with foreign resorts in attracting an international clientele. The potential for the Turkish mountains is not yet fully exploited. The Minister of Sports has declared the willingness of the government to promote winter sports among children, in a country where only an estimated 1% of the population participates in skiing.

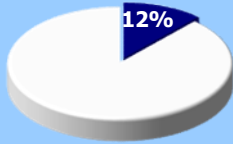


Currently, foreign skiers are primarily from Russia, the Ukraine or Iran. Thanks to the 2011 Winter Universiade, which brought together 58 nations, the country has hopes of attracting more Europeans. In addition, many Turks still travel abroad for their winter holidays. Improvement in local infrastructure will increase the retention rate within the country.

Turkey

60
ski areas

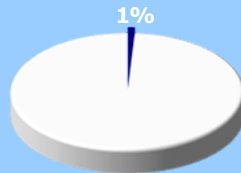
Ski areas with 5 lifts or more



159 lifts

807'000
national skiers

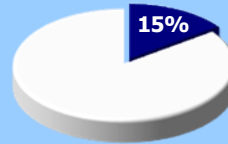
Participation rate nationals



1.3 skier visits per national skier
7'547 skier visits per lift

1'200'000
average skier visits

Proportion foreign skiers



0.0 skier visits per inhabitant
0.0 skier visits per foreign visitor



Conclusion

Since the first editions of the International Report on Snow & Mountain Tourism raised numerous industries issues 10 years ago, some measures have been taken by ski resorts and the industry has made some significant achievements. Some opportunities also arose. However, there is still much to be done, as some issues and risks persist. An overview of the evolution over 10 years of major items is presented hereafter as a conclusion to this report.

Already in the early 2010s, the industry became aware that it was still heavily dependant on the baby boomers, expected to retire within 10 next years. Industry made some **convenience** improvements (carved ski, lift comfort ...) and customer loyalty programs were introduced to keep the baby-boomers skiing longer. It was the start of the discounted multi-resorts season passes, which later on turned into the *mega-passes*. Customer service was expected to become a driver. However, it seems that today, there is still very much room for improvement in this regard at ski resorts. Apps and e-services are nice, but if they are not really supported by service, they remain irrelevant to enhance guest experience.



There are 2 ways to increase attendance at ski resorts. One is to increase the frequency and length of stay of the existing skiers. The second one is to bring in new customers. The royal way for the latter is an introduction by existing skiers. The discounted season passes managed to reach the first of these goals. However, the industry remains in front of the challenge to bring in new customers. Retention rate of beginners remained under 20% even in countries that addressed the issue. Introduction of the ski to new skiers remains an issue where the industry still has not found an ideal solution. The need for a new **growth model** remains, to renew the baby boomers that are going to retire from the market. Such a model would need to change socio-demographic focus in order to acquiring new skiers from the large population ranges with no skiing tradition. In large metropolitan areas of North America and Europe, it was already estimated that they represented 50% of the new generations 10 years ago. Some

programs were introduced to facilitate access to the ski, mostly focused on kids. The industry yet did not find a way to introduce widely non-ski cultures to the ski, nor to attract massively the younger urban generation. In the mature ski markets, the middle class has reached a level of stagnation and there are no big development perspectives in the future. Still hard work remains to be done to find how to introduce young urban multicultural generations to the ski. The issues of insufficient growth of the middle class and difficult cultural penetration of the ski are major issues, yet unsettled. The more the new generation get multicultural, the less the penetration of the ski culture. There is a big challenge to change now of paradigm and **MAKE THE SKI URBAN**. The potential of revolving carpet simulators, indoor training centers and dry slopes to contribute bringing ski to the young urban generations must be better exploited. Partnerships with ski resorts in order to feature *a progressive introduction to skiing* packaged offer needs to be built.



Much expectation was laid on the **regional development potential** of eastern European countries and Turkey. Investments in new resorts and in lift renewals in existing resorts did not materialise in substantial attendance growth as may have been expected. A longer timeframe may be required so that local population adopt ski culture or for the improvement of the size of the middle class. In fact, it comes back to mostly the same problems as for growth in mature ski markets.

Branding was also considered as an issue. It was stated that each individual ski area develops its own brand and there were too many brands on the market. The customer was not getting able to differentiate them. Since, tourist offices joined their forces together, some resorts got interconnected and merged into one unique brand (when still several operating companies). The entrance of the *mega-passes* created mega-brands that go beyond individual resorts.

10 years ago daily lifts prices were around EUR 30 to 50 in Europe and averaged USD 90 in the US. In front of the constantly increasing operation costs (pushed up by the new detachable lifts, widely spread snowmaking and grooming expectations of customers), resorts were seeking how to use

pricing for value creation. Prices of ski passes have been heavily on the rise in the United States, reaching now over USD 200 window price. European resorts have been much more modest with their price increase, but both now converge in introducing dynamic pricing. Advanced sales are gaining in importance every year. Dynamic pricing is not yet fully mature and widely accepted, especially in Europe. The potential of value adds-on to ski passes is still mostly untapped.

Consumption patterns are changing and ski is becoming more considered as a leisure activity than as a sport. This was heavily noticeable in South Korea, but also now points out on other mature markets. Very few have been done to address this issue and it is even doubtful that the industry realised the threat that is connected to this change. Persistence of this trend puts the ski industry at risk, as leisure is much more subject to trends and fashion than sport. It may be pushed up, as it was in Korea, but once it was no longer fashionable, it lost most of its interest and the industry is now at pain there. This is a very serious issue, which the industry needs to address. It concerns both mature markets and emerging ones. In markets like China, the industry will be at high risk if it does not manage to get the people more dedicated to the ski as a sport and a healthy activity worth some sacrifices.

In fact, many conclusions raised in the 2009, 2010 and 2011 reports, about the need to develop the customer base, gain its loyalty and maximise guest satisfaction in producing a distinctive experience are still up to date nowadays. Some of the achievements of the last decade have been showed above, but a lot more still needs to be done.



Sources and acknowledgments

As comprehensive information is not available worldwide for the industry, and even quite scarce for some countries, the present report compiled data from numerous sources.

A lot of effort has therefore been focused on presenting the data as accurately as possible. The data has been crosschecked numerous times. If, however, a reliable source has been omitted or the data insufficiently updated, the author would very much appreciate being informed for future reference. Please address any comments to **vanat@vanat.ch**.

Besides the personal historical database assembled by the author, and in addition to conducting extensive web research, the following sources of data were used:

- Reports and news from national or regional ski areas associations: ACESKI - Asociacion de Centros de Ski de Chile A.G., ANEF (Associazione Nazionale Esercenti Funivari), ASAA (Australian Ski Areas Association), ASSQ (Association des Stations de Ski du Québec), ATUDEM (Asociacion Turistica De Estaciones de Esqui y Montana), CWSAA (Canada West Ski Areas Association), DSF (Domaines Skiabiles de France), NSAA (National Ski Areas Association), RMS (Remontées Mécaniques Suisses), SHKY (Finnish Ski Area Association), SLAO (Swedish Ski Area Association), VDS (Verband Deutscher Seilbahnen und Schlepplifte), WKO (Fachverband der Seilbahnen Österreichs) and others
- Annual reports from large ski resorts operators, such as Compagnie des Alpes, Skistar, Tatra Mountain Resorts ...
- Altay-China International Ancient Skiing Cultural Forum Report, Shan Zhaojian
- ATOUT France, Chiffres clés du tourisme de montagne, 7e édition, and others
- China Ski Industry White Book, Benny Wu & Wei Qinghua
- China Ski Resort Encyclopedia
- CIA 2013 Yearbook
- Doppelmayr, Leitner and Poma, reference lists and annual reports
- Ökonomische Bedeutung des alpinen Wintersports in Österreich
- Rapport Rolland
- RRC Associates, Kottke reports
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- Tourism Management 2010
- UNWTO World Tourism Barometer
- Webpages (among others) wikipedia.org, skiofpersia.com
- Wintersportanalyse in Europa, Manova, Octobre 2010

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Maps: CIA Factbook

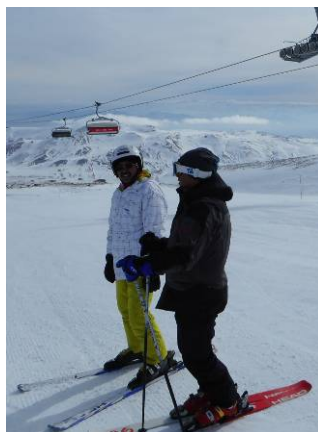
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French / German / Chinese glossary

English	Français	Deutsch	中國
Aerial lifts	Téléportés (terme générique)	Luftseilbahn	架空索道
Alpine country	Pays alpin	Alpenland	高山国家
Alpine skiing	Ski alpin	Ski alpin	高山滑雪
Backcountry skiing	Ski hors piste	Skifahren ausserhalb der Pisten	后山滑雪
Button lift	Téleski à perches / assiettes	Tellerlift	圆盘式拖牵
Cable-car	Téléphérique	Pendelbahn	箱式缆车
Cat skiing	Ski avec montée en chenillette	Skifahren mit Aufstieg per Pistenwalze	雪猫滑雪
Chairlift	Télesiège	Sesselbahn	吊椅式缆车
Combined lift	Télémix	Kombibahn	吊箱吊椅混合式缆车
Cross-country skiing	Ski nordique, ski de fond	Langlauf	北欧滑雪, 越野滑雪
Detachable	Débrayable	Kuppelbar	脱挂式
Downhill sliding	Sport de glisse (gravitaire)	Schneesportarten (Abwärts)	速降
Drag-lift	Téleski	Skiift	拖牵
Fixed grip	Pince fixe	Feste Klemme	固定抱索器
Freeride skiing	Ski freeride (pratique libre, hors cadre formel)	Freeride Skifahren	自由滑雪 (多指滑野雪)
Freestyle	Freestyle (figures lors de sauts)	Freestyle (Figuren im Sprung)	自由式滑雪 (多指花样或技巧类)
Gondola lift	Télécabine	Gondelbahn	箱式缆车
Groomer (vehicule)	Dameuse, chenillette	Pistenraupe / Pistenfahrzeug	压雪车
Grooming	Damage	Pistenpräparierung	压雪
Hourly lift output	Capacité horaire	Stundenleistung	每小时运力
Lifts	Remontées mécaniques	Seilbahnen	索道
Magic carpet	Tapis roulant	Förderband	魔毯

English	Français	Deutsch	中國
Nordic skiing	Ski nordique, ski de fond	Langlauf	北欧滑雪, 越野滑雪
Off-piste skiing	Ski hors piste	Skifahren ausserhalb der Pisten	道外滑雪
Participation rate	Taux de pratique	Ausbungungsrate	参与率
Quad	Télesiège 4 places	4er-Sesselbahn	4人缆车
Rope-tow	Télécorde	Kleinskilift	小拖牵
Ropeways (cableways)	Installations de transport à câble	Seilbahnen	索道
Six-pack	Télesiège 6 places	6er-Sesselbahn	6人缆车
Ski area	Zone de pratique du ski	Ski Übungsgelände	滑雪区
Ski lift	Téléski (terme générique)	Skilift, Schleplift	拖牵
Ski resort	Station de ski	Skigebiet	滑雪场
Ski touring, ski mountaineering	Ski de randonnée	Skitouren	滑雪旅游
Skier	Skieur	Skifahrer	滑雪者
Skier transported	Passagers transportés	Beförderte Personen / Frequenzen	运送的乘客
Skier visits	Journées-skieurs	Skifahrertage / Skier-Days	滑雪人次
Snowboarder	Néviplanchiste / snowboarder	Snowboarder	单板滑雪者
Snowcat	Chenillette	Pistenwaize	雪地履带车 / 雪猫
Surface lift	Téléski, télécorde (terme générique)	Skilift, Schleplift	拖牵
Snow field	Stade de neige	Schneefeld	滑雪场
T-bar lift	Téléski à arbalètes / archets / pioches	Bügelift	T型拖牵
Terrain park	Zone freestyle, snowpark	Freestyle-Bereich, Snowpark	地形公园
Trails	Pistes	Pisten	雪道
Tram (aerial)	Téléphérique	Pendelbahn	缆车
Vertical drop	Dénivelé	Höhendifferenz	垂直落差



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