



My Drift Title: PyeongChang 2018 Written by: Jerry D. Petersen Date: 10 Mar 2018 Article Number: 282-2018-06

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PyeongChang County, South Korea. I'm going to throw out a bunch of facts, some information, and a few comments about PyeongChang, the Winter Olympics, and what happened this year and hope we all learn something.

South Korea is one of my favorite countries and I went there many times as part of my job with the Federal Government and the Army. Most of my work was in Seoul and Taegu. I never made it to PyeongChang County. Look closely and you will find these places on the following map:



PyeongChang

PyeongChang is a 565 square mile county in Gangwon Province, South Korea. It is about 180 km (110 miles) east southeast of Seoul, the capital of South Korea, and connected by expressways and high-speed passenger railways. PyeongChang's slogan, "Happy 700 PyeongChang", is taken from its average elevation of approximately 700 meters (2,300 ft). The population is about 44,000. It's known for Odaesan National Park, with trails crisscrossing the Taebaek Mountains. The park is also home to several Buddhist temples, including Woljeongsa Temple, with its 9-story octagonal pagoda. Lee Hyo-seok Culture Village explores the life of early-20thcentury poet Lee Hyo-seok. On the Heungjeong Valley bank are the 7 themed gardens of Herbnara Farm.



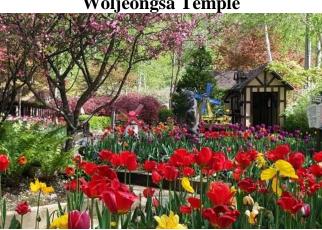
Odaesan National Park



Woljeongsa Temple



Lee Hyo-seok Culture Village



Gardens of Herbnara Farm

Geography

As you might have guessed, PyeongChang County is located mostly in the mountains. The altitude of Pyeongchang is wide-ranging, with 84% of its territory comprising mountains with average elevations of 750 meters (2,460 feet). Its best-known place, the township of Daegwallveong-myeon, averages between 700 and 800 meters (2,300 and 2,600 feet) above sea level, with some areas over 1,000 meters (3,300 feet) high.

PyeongChang County's winters are long, dry, and very cold, while summers are relatively short. The warmest months of the year are July and August, with January and February being the coldest. The average annual temperature of PyeongChang is about 7 degrees Celsius or 44.6 degrees Fahrenheit. Annual precipitation in the region averages 1,555 Millimeters (mm) or 61 inches.

The Games

The 2018 Winter Olympics, officially known as the XXIII Olympic Winter Games and commonly known as PyeongChang 2018, was a major multi-sport event held between 9 and 25 February 2018 in PyeongChang County with the opening rounds for certain events held on the eve of the opening ceremony, 8 February 2018. PyeongChang was elected as the host in July 2011, during the 123rd IOC Session in Durban, South Africa. It marks the first time South Korea has hosted the Winter Olympics, and the second Olympics in the country overall after the 1988 Summer Olympics in the nation's capital, Seoul. It also marks the third time East Asia has hosted the Winter Games, after Sapporo, Japan (1972), and Nagano, Japan (1998), and the sixth overall Olympic Games held in East Asia. It was the first of three consecutive Olympic Games to be held in East Asia, preceding Tokyo 2020 (Summer) and Beijing 2022 (Winter).

The games featured 102 events in fifteen sports, with the addition of "big air" snowboarding, mass start speed skating, mixed doubles curling, and mixed team alpine skiing to the Winter Olympic program. 2,914 athletes from 92 countries competed, including the debuts of Ecuador, Eritrea, Kosovo, Malaysia, Nigeria, and Singapore.

- Alpine skiing (11)
- 3 Biathlon (11)
- Figure skating (5)
 Freestyle skiing (10)
- Bobsleigh (3)
 - Cross-country skiing (12)
- Curling (3)

(Numbers in parentheses indicate the number of medal events contested in each sport)

North Korea

The lead-up to these Games was affected by the ongoing tensions between South Korea and North Korea, and the 2017-18 missile crisis, which led to security concerns, with some countries threatening to skip the games unless their safety was assured. In January 2018, after their first high-level talks in over two years, North

- Short track speed skating (8)
- Skeleton (2)
- Ski jumping (4)
- Snowboarding (10)
- Speed skating (14)
- Vice hockey (2)
- **Luge** (4)
 - XNordic combined (3)
- •

Korea agreed to participate in the Games along with South Korea. The countries also agreed to march together, as a united "Korea", during the opening ceremony, and to field a unified women's ice hockey team.

Issues and Complaints

The only complaint I heard while watching the Olympics was how cold it was. Just how cold was it?





Athletes and Spectators had to Bundle Up

The Cold didn't bother these Athletes

Well, during the first weekend, temperatures dipped so low in PyeongChang, South Korea, that the Winter Games experienced all sorts of trouble. Delayed events, warped skis and hypothermia among spectators are just a few issues the frigid weather caused.

The 2018 Winter Games took place in a region not necessarily known for winter sports. The location is plenty cold but there's just not much snow. PyeongChang is located in the Taebaek Mountains, a small chain that runs along the eastern shore of the Korean Peninsula. Although this is close to the Sea of Japan, also known as the East Sea, prevailing winds prevent the relatively warm water from having much of an effect on weather in PyeongChang.

It's so cold in this region, in fact, they are saying that this was the coldest Olympics on record. At a rehearsal for the opening ceremony, for example, the temperature was 6 degrees Fahrenheit with a wind chill of 7 below zero — so severely cold that audiences walked out in the middle of the rehearsal. Everyone was bundled up nearly beyond recognition to guard against the frostbite.

It warmed up for the actual opening ceremony and the rest of the Olympics. They had gusty winds, a few snow flurries, and temperatures between minus 9 and minus 6 C (15-20 F). A normal high temperature for early February in PyeongChang is minus 1 C (30 F) and the normal low is minus 11 C (12 F).

Fake Snow

Did you notice while watching the Olympics on TV that most of the surrounding mountains didn't have much snow on them?



While snow is an indispensable element for the Winter Olympics, not every host city has the luck to stage mountain events at slopes perfectly covered by the natural white stuff. Enter Snow Making Inc. (SMI), a Michigan-based company which has been responsible for installing snow-making machines at seven Winter Olympics including the PyeongChang games. About 98% of the snow needed for this Winter Olympics was man-made.



SMI's Flagship Super PoleCat Snow Guns

It turns out that PyeongChang lacks natural snowfall to host a Winter Olympics without technology's help. The organizing committee spent \$6 million to deploy snow cannons, which compress cooled water to produce artificial snow, for the ski and

snowboard events. Artificial snow, though harmful to the environment, is preferred by professional athletes because it's firmer, consistent, and more durable.

SMI had mounted more than 160 snow cannons on towers and carriages at the ski and snowboard venues and deployed an additional 10 mobile snow guns for portable use. The whole system (fully automatic by the way) has a water storage capacity of 128,000 cubic meters or 33.6 million gallons, which is enough water to fill 51 Olympic-size swimming pools.

SMI personnel were in PyeongChang since early November 2017 and they pretty much made snow from November 15 until about January 10. They converted around 200 million gallons of water into snow during that time and then stored it until the games began.

PyeongChang Olympic Stadium

Did you know that the PyeongChang Olympic Stadium will be tore down after the Paralympics?



In the past, Olympic host cities spent billions of dollars on grandiose structures that soon become "white elephants." Montreal's "Big O" Olympic stadium, used for the 1976 games, currently costs the Canadian province about \$32 million to maintain each year and has never been able to pay for itself, despite its afterlife hosting trade shows and movie shoots. More recently, Athens and Rio de Janeiro each saw their Olympic venues deteriorate soon after the games concluded.

This year's Winter Olympics host, PyeongChang, is taking a different tack.

The most visible of the South Korean county's new venues is the 35,000-seat PyeongChang Olympic Stadium. After being used four times in total, including the Winter Olympics and the Paralympics opening and closing ceremonies, the plan is to tear it apart. Some might argue that demolishing a brand-new stadium is wasteful.

But it's one of basically two ideas—at opposite ends of the spectrum—for how to host large-scale games more economically.

Rather than let a venue fall into inevitable disrepair, the logic goes, it's better to build in a short shelf life. That allows you to skip things you'd include in a long-term structure and keep costs down. According to the PyeongChang organizing committee, PyeongChang Olympic Plaza cost about \$110 million, including \$75 million for the stadium.

By comparison, Russia's Fisht Olympic Stadium cost around \$600 million to build, and Tokyo's new national stadium for the 2020 games is expected to cost \$1.5 billion.

The PyeongChang organizers deserve "some credit for being a lot more modest in their outlook" regarding the stadium's future. After all, the county's population is only slightly greater than the stadium's seating capacity. Maintaining this stadium would be impossible for this area.

PyeongChang 2018 Facts

- 1. PyeongChang is the smallest host city since the 1994 Olympics in Lillehammer, Norway.
- 2. "Happy 700" The city of PyeongChang's slogan relates to the average elevation above sea level of this part of Korea (700 meters). This location is believed by many South Koreans to be the perfect place for people to live in harmony with nature and culture.
- 3. The official slogan for the Games is "Passion. Connected."
- 4. This is South Korea's first time hosting the Winter Olympics. In 1988, Seoul hosted the Summer Games.
- 5. Over three in four Americans (76 percent) watched the Winter Olympics. Of the Americans watching, 78 percent have a favorite sport. Figure skating is by far the most popular (35 percent), followed by ice hockey (16 percent).
- 6. The National Hockey League decided not to participate in the Olympics this year, the first time since 1998.
- 7. Hockey Sisters: Hannah Brandt will play for Team USA while her sister, Marissa, adopted from South Korea as a baby, will play for the host country.
- 8. Seven sets of siblings will compete for Team USA in PyeongChang.
- 9. The 2018 medals are the heaviest in history (gold, 1.29 pounds; silver, 1.28 pounds; bronze, 1.09 pounds). The front of each medal features the Olympic rings logo and diagonal lines symbolizing discipline and determination; the back features the emblem for the games and the name of each event. The teal-and-red ribbon is a traditional textile embroidered with patterns of the host country.

- 10. Introduced in 1924, this is the first Olympics at which coed curling teams will compete. And in case you didn't know, the goal is to get the rocks as close to the center of the circles as possible.
- 11. Big air snowboarding is the newest event joining the Winter Olympics.
- 12. This is the third time that PyeongChang bid to be the host city for the Olympics. The city previously lost to Sochi and Vancouver.
- 13. PyeongChang introduced a new rail system that will get visitors to the city from Seoul in one third the time it used to take. It now takes a little more than an hour to cover the 110 miles.
- 14. Soohorang, the mascot of the PyeongChang 2018 Olympic Winter Games is modeled after the white tiger, long considered Korea's guardian animal.



- **15.** The PyeongChang 2018 Olympic Torch will be sold at a lower price than the manufacturing cost to allow more runners to buy one.
- 16. The honorary ambassadors for the Games will be former Olympic figure skater Yuna Kim, South Korean President Moon Jae-in, former NFL wide receiver Hines Ward, U.S. skier Lindsey Vonn and Los Angeles Dodgers baseball pitcher, Hyun-jin Ryu.
- **17.** The approximate cost of the Winter Olympics is \$10 billion.
- 18. To avoid any potential confusion with North Korea's capital, Pyongyang, the Pyeongchang resort which is just 50 miles south of the demilitarized zone that separates the two countries has changed its name for the games, by capitalizing the "C."
- 19. In total, 13 venues, split between PyeongChang and neighboring Gangneung, were used during the 17 days of the Games. Six new venues were built, and additional venues were renovated for the Games.
- **20.** 48 European countries will be competing in PyeongChang, making up more than half of the total number of competing nations at the Games.
- 21. For the first time, viewers in all US time zones will have access to live coverage of the games, instead of a delayed replay.

Here's the final medal count for each country at the 2018 Winter Olympics with 10 or more medals.

	Population	No. of Athletes
Norway: 39 medals	5.3 Million	109
14 gold, 14 silver, 11 bronze		
Germany: 31 medals	82.3 Million	152
14 gold, 10 silver, 7 bronze		102
Canada: 29 medals	35.3 Million	225
11 gold, 8 silver, 10 bronze		
United States: 23 medals	326.8 Million	241
9 gold, 8 silver, 6 bronze	520.0 Willion	271
Netherlands: 20 medals	17.1 Million	34
8 gold, 6 silver, 6 bronze	17.1 1/111011	54
South Korea: 17 medals	51.2 Million	123
5 gold, 8 silver, 4 bronze		125
Russia: 17 medals	144.0 Million	168
2 gold, 6 silver, 9 bronze	144.0 101111011	100
Switzerland: 15 medals	8.6 Million	167
5 gold, 6 silver, 4 bronze		
France: 15 medals	65.3 Million	106
5 gold, 4 silver, 6 bronze		
Sweden: 14 medals	10.0 Million	116
7 gold, 6 silver, 1 bronze		
Austria: 14 medals	8.8 Million	104
5 gold, 3 silver, 6 bronze		104
Japan: 13 medals	127.2 Million	124
4 gold, 5 silver, 4 bronze		147
Italy: 10 medals	59.3 Million	120
3 gold, 5 silver, 4 bronze	57.5 IVIIIIUII	140

Wait a minute!! We seem to be missing a major country. Can you guess which one?

Of course – what in the world happened to China in these games? With a population of 1.42 billion people and 80 athletes in PyeongChang, they could only muster up 9 total medals.

Well, that's not too bad when you consider that India has almost as many people as China (1.35 Billion versus 1.42 Billion) and they could only qualify 2 athletes for the games. They won no medals.

The big winner is Norway with 39 medals (14 gold, 14 silver, and 11 bronze). I think we should give a shout out to the Netherlands who won 20 medals with only 34 athletes. I'm happy that the U.S. with 23 medals and host country South Korea with 17 medals did well.

What is the secret behind Norway's Winter Olympic success?

It's a nation made up of only 5.3 million people, but as far as the Winter Olympics goes Norway is on top of the world. Norway has dominated not only PyeongChang 2018 but has also won more medals than any other nation since the first Winter Olympics in 1924 -- with 330 in total according to data compiled by Sports Reference. But that's not all. Norway won a staggering 39 medals -- 14 of those being gold in PyeongChang -- as it topped the overall medal table.

That's 10 medals more than Canada overall and eight clear of Germany, which also has 14 golds to sit second in the medal table. Team USA is 16 medals behind Norway. Norway's last medal, Marit Bjoergen's gold in cross-country skiing, moved its tally two clear of USA's record of 37 medals set at Vancouver in 2010. It is also equaled Canada's mark of 14 golds, also set at Vancouver.



Norway's Marit Bjoergen wins 5th medal of 2018 Games In her final Olympic race, the most decorated athlete in the history of the Winter Games obliterated the field Sunday, winning the 30kilometer mass start crosscountry ski race by 1 minute, 49 seconds over silver medalist Krista Parmakoski of Finland. With Norway's population roughly the same size as the US city of Atlanta, the Scandinavian country has one great advantage over its Olympic rivals -- it has almost unlimited access to snow with 30,000 kilometers (18.6 miles) of marked trails. They have snow all year around.



Team Norway's Johannes Høsflot Klæbo -- who has won three gold medals at these Games -- told CNN Sport that skiing is a part of Norwegians' lives. "We always say you are born with your skis on," said the 21-year-old cross-country skier. "On Sundays everyone goes into the woods with their skis on ... everyone wants to do it."



Norway's gold medallists Ingvild Flugstad Oestberg, Astrid Uhrenholdt Jacobsen, Ragnhild Haga and Marit Bjeorgen pose on the podium after the cross-country women's 4x5km relay.



Gold medallists Norway's Daniel Andre Tande, Andreas Stjernen, Johann Andre Forfang and Robert Johansson celebrate during the victory ceremony in the men's large hill team ski jumping final round.

Other Stars of PyeongChang 2018



German luge queen Natalie Geisenberger defended her Olympic gold medal in the women's singles in style as her nation extended its stranglehold over the event to 20 years.



Olympic Athletes from Russia celebrating their 4-3 overtime win over Germany in the men's hockey gold medal game.



Canadian ice dancers Tessa Virtue and Scott Moir won the gold medal in the ice dancing becoming the most decorated figure skaters in Olympic history.

17-year old Red Gerard won gold in the snowboarding slopestyle event to give the Americans their first medal at the 2018 Winter Games. Gerard entered his third and final run in 11th place before pulling off the run of his young life, which included nailing a backside triple cork 1440.



The U.S. men's curling team celebrates its surprise win over Sweden. It was the first team gold in the sport by an American team.



Germany's four-man bobsled piloted by Francesco Friedrich took home the gold with a cumulative final time of three minutes, 15.85 seconds over four heats.





The world of Alpine skiing was shaken to the core when Ester Ledecká of the Czech Republic beat defending champion Anna Veith by a hundredth of a second.



Dutch star Jorien ter Mors earned the third gold medal of her career with a record-setting victory in the 1000-meter long-track speed skating event.



King of the large hill, Poland's Kamil Stoch wins Olympic gold in ski jumping.



Chloe Kim became the youngest woman to win an Olympic snowboarding medal when she won gold in the women's snowboard halfpipe at the age of 17 years.



Charlotte Kalla became the first Swedish woman to claim three gold medals at the Olympic Winter Games in Cross-Country skiing events.



Lizzy Yarnold retained her Olympic skeleton title and secured Britain's first gold medal of the PyeongChang Games.



The real rock stars of the PyeongChang Olympics are a humble group of Korean curlers who had no idea they've become a global sensation. They are called the ''Garlic Girls,'' the South Korean women's curling team with the fairy-tale story whose moniker reflects the locally-famed garlic grown in their hometown. Never considered a medal contender coming into PyeongChang, they've played their way into the gold medal game while earning worldwide attention for their fierce talent and funny personalities.

Curling (Here is everything you ever wanted to know but were afraid to ask)

Most of the more popular Olympic events like skiing, snowboarding, and ice skating were on the primary NBC TV channel. However, I found myself watching less popular events like bobsledding, luge, and curling on the other NBC stations.

Yes, I said curling! After watching it for several hours, I decided it was quite interesting. However, I don't think it is a sport – I think it is a game played on ice.

History



Evidence that curling existed in Scotland in the early 16th century includes a curling stone inscribed with the date 1511 uncovered (along with another bearing the date 1551) when an old pond was drained at Dunblane, Scotland. The first written reference to a contest using stones on ice coming from the records of Paisley Abbey, Renfrewshire, in February 1541. There are two curling paintings (both dated 1560) by Pieter Bruegel.

The Basics



Curling Ring

Throwing rocks and stones at houses

A curling ice sheet is roughly 146 feet long by 15 feet, seven inches wide; about the length of a hockey rink with some room to spare.

There are two houses — 12-foot bullseyes with a center known as the button — located at opposite ends of the sheet. Teams aim for one house one way during the odd-numbered ends and the other for the even-numbered ends.



A curling stone weighs around 42 lbs.

Teams have eight stones (called rocks in North America) per end and take turns delivering their rocks until all have been thrown. Rocks are removed from play by either touching the side boards or crossing the back line behind the house. The main goal in curling is to score more rocks closer to the center of the button than your opponent's nearest stone. Only one team can score per end and each rock is worth one point, so the maximum points a team can score in a period of play is eight.



How many players are on each team? Each team on the ice includes four players:

SKIP	This is the "Captain" who calls the shots. Throws the seventh & eighth stones.
	Throws the seventh & eighth stones.
THIRD	Sweeps the first four stones.
	Throws the fifth & sixth stones.
	In the house during the skip's stones.
SECOND	Sweeps the first two stones.
	Throws the third & fourth stones.
	Sweeps the final four stones.
LEAD	Throws the first & second stones.
	Sweeps the following six stones.

How many ends are there?

Olympic curling games are played to 10 ends, which are similar to innings or periods in other sports.

Not all games are played to the limit. Sometimes teams will concede early by shaking hands if they don't think they'll be able to mount a late comeback.

If a game is tied after 10 ends, an extra end is played.

What's the hammer?

The hammer means you get to throw last in the end.

Teams finish off their practice with a draw-to-the-button shootout. The team that is closer to the center of the button, the pin, begins the game with the hammer.

What if the team without the hammer has the closest rock?

This is called "a steal" and the team without the hammer scores those points.

The maximum number of points a team can steal per end is eight.

When a steal happens, the team that has the hammer keeps it for the following end since they did not score.

What happens if there are no rocks in the house when an end is complete? The end is considered a blank. No points are awarded and the team that has the hammer keeps it for the next end.

Why would a team want to blank an end instead of scoring one?

Scoring one point is not desirable. Ideally, you'd like to score two or more when you have the hammer. That's why when teams score a single point it's really the other team has forced them to one so that the hammer switches sides.

Why doesn't the team with the hammer just knock out all the other team's stones every end and then score one in the 10th?

Ah, now you're thinking like they did in the 1980s. That was the strategy employed back in the day and made for some uninteresting and predictable curling games.

Things changed in the 1990s with the free-guard zone and the four-rock rule. The free-guard zone is the arena outside the house from the tee line (the horizontal line cutting through the middle of the house) up to the nearest hog line (the horizontal line where rocks must cross in order to stay in play).

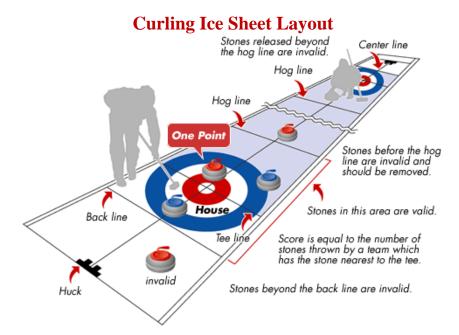
Stones sitting in this area are called guards and cannot be removed from play until four stones have been thrown (aka the four-rock rule). This allows teams to place guards and then draw around them with their following stones so that they're harder to eliminate.

The fifth rock of play is the first one that can eliminate guards.

There are still ways around it as teams can tick guards — but not eliminate them — so that they're less troublesome.

What are the hog lines?

The hog lines determine if a rock is considered in play. While sliding, the shooter must release the rock before it crosses the first hog line and the rock must cross the second hog line to remain in play.



What happens if the thrower releases the rock too late or it doesn't cross the other hog line?

The rock is considered "burned" and is removed from play.

Is the ice different from hockey? How do the rocks curl?

Ice makers sprinkle the surface prior to the start of games to create pebbles, which create more friction between the stone and the ice and help the stones curl.

What are some different types of shots?

Draw: A rock thrown with the intention of finishing at a specific spot on the ice.

Hit: A rock thrown with the intention of making contact with another stone.

Runback: Hitting a rock higher up on the sheet to promote it or have it make contact with another stone.

Come-around shot: Making a stone curl around another rock.

Tick shot: When the four-rock rule is in play, this shot is used to nudge a guard out of the way but keep it in play.

Peel: Hitting a stone to remove both it and the shooter from play.

Nose: Hitting another stone right on top so the shooter doesn't roll out. Sometimes this is done by accident when a team is looking to peel but hits the opposing stone at the wrong spot.

Freeze: Drawing on top of a stone and making the shooter difficult to eliminate from play.

Split: A precise shot where the shooter looks to hit a guard promoting both it and their thrown stone into the house so they both count as points. Not to be confused with "splitting the house" or "splitting the rings" where teams attempt to place rocks at opposite sides making it harder for their opponent to remove both.

Wreck: When a stone accidentally makes contact with another stationary stone the thrower was hoping to avoid.

Jam: Attempting to take out a rock but it makes contact with another stone and it stops to stay in play.

Flash: A rock that is thrown through the house; either a draw that is heavy or a hit attempt that goes untouched.



Why are they sweeping the ice?

The curling brush consists of a fiberglass or carbon fiber shaft with a fabric head used in a sweeping motion perpendicular to the path of the rock to clear debris from the ice and help maintain the trajectory of the stone.

Rocks are sensitive to the ice conditions and can pick up debris from the ice — known as a pick — which can veer the rock off course.

Can teams take as long as they want to throw a rock?

No. In Olympic curling each team has 38 minutes of "thinking time" per game which is indicated on a timer at the end of the sheet. The clock ticks down while the team is deciding which shot to make.

What happens if a team runs out their clock?

The team cannot throw any more rocks for the remainder of the 10-end game.

ENOUGH CURLING ALREADY!!

See what watching too much curling can do to you. It can make you get a little carried away. I believe curling belongs in the Olympics. I still think it is a game but remember that the official name of the PyeongChang Winter Olympic was "the XXIII Olympic Winter Games" not "the XXIII Olympic Winter Sports".

Well, I just hope that I live another four years so that I can watch more curling at the XXIV Olympic Winter Games being held at Beijing, China in 2022.

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