

BASE jumping

Article Talk

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BASE jumping (/beɪs/) is the recreational sport of jumping from fixed objects, using a [parachute](#) to descend safely to the ground. "BASE" is an [acronym](#) that stands for four categories of fixed objects from which one can jump: [buildings](#), [antennas](#) (referring to [radio masts](#)), [spans](#) ([bridges](#)), and earth ([cliffs](#)).^{[1][2]} Participants exit from a fixed object such as a cliff, and after an optional [freefall](#) delay, deploy a parachute to slow their descent and land. A popular form of BASE jumping is [wingsuit BASE jumping](#).

In contrast to other forms of [parachuting](#), such as [skydiving](#) from airplanes, BASE jumps are performed from fixed objects which are generally at much lower altitudes, and BASE jumpers only carry one parachute. BASE jumping is significantly more hazardous than other forms of parachuting, and is widely considered to be one of the most dangerous [extreme sports](#).^[3]



BASE jumping from Sapphire Tower.

Equipment [edit]

In the early days of BASE jumping, people used modified skydiving gear, such as by removing the deployment bag and [slider](#), stowing the lines in a tail pocket, and fitting a large [pilot chute](#). However, modified skydiving gear is then prone to kinds of malfunction that are rare in normal skydiving (such as "line-overs" and broken lines). Modern purpose-built BASE jumping equipment is considered to be much safer and more reliable.



Jumpers from a cliff wearing tracking suits

Parachute [edit]

The biggest difference in gear is that skydivers jump with both a main and a reserve parachute, while BASE jumpers carry only one parachute. BASE jumping parachutes are larger than skydiving parachutes and are typically flown with a [wing loading](#) of around 3.4 kg/m² (0.7 lb/sq ft). Vents are one element that make a parachute suitable for BASE jumping.^[12] BASE jumpers often use extra large pilot chutes to compensate for lower airspeed parachute deployments. On jumps from lower [altitudes](#), the [slider](#) is removed for faster parachute opening.^[13]

Harness and container [edit]

BASE jumpers use a single-parachute harness and container system. Since there is only a single parachute, BASE jumping containers are mechanically much simpler than skydiving containers. This simplicity contributes to the safety and reliability of BASE jumping gear by eliminating many malfunctions that can occur with more complicated skydiving equipment. Since there is no reserve parachute, there is little need to [cut-away](#) their parachute, and many BASE harnesses do not contain a [3-ring release system](#). A modern ultralight BASE system including parachute, container, and harness can weigh as little as 3.9 kilograms (8.6 lb).^[14]

Clothing [edit]

When jumping from high mountains, BASE jumpers will often use special clothing to improve control and flight characteristics in the air. [Wingsuit flying](#) has become a popular form of BASE jumping in recent years, that allows jumpers to glide over long horizontal distances. Tracking suits inflate like wingsuits to give additional lift to jumpers, but maintain separation of arms and legs to allow for greater mobility and safety.

BASE jumping is considered an extreme sport, because it is extremely dangerous. To date, over 300 BASE jumpers have died as a result of accidents that occurred during BASE jump attempts. Regular skydiving is much safer than BASE jumping.

BASE jumpers must overcome two major [obstacles](#) that skydivers don't face: low altitude and [proximity](#) to the object they're jumping from. Skydivers usually [deploy](#) their parachutes at about 2,000 feet in elevation. BASE jumpers, however, often jump from objects well under 2,000 feet tall.

This means BASE jumpers must open their parachutes very quickly after they jump, and there isn't much time to deal with any problems that might [arise](#). Fortunately, BASE jumpers can use modern, [rectangular](#) ram-air parachutes that give them greater control over their [descent](#). These custom parachutes can cost \$1,500 or more.

In the early years of BASE jumping, fatalities were fairly consistent at about five per year. That number began to rise in the early 2000s, however, with the introduction of a new piece of specialty gear: the wingsuit.

<https://wonderopolis.org/wonder/what-is-base-jumping>

Volcano boarding

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Volcano boarding or **volcano surfing** is a sport performed on the slopes of a **volcano**. One of the most popular places for the activity is the **Cerro Negro** near Leon in western **Nicaragua**. Riders hike up the volcano and slide down, sitting or standing, on a thin **plywood** or metal board.^[1] The sport is also practiced on **Mount Yasur** on **Tanna, Vanuatu**, **Mount Bromo** in **Indonesia**, and very few other locations.^[2]

Volcano boarding can be an **extreme sport**. Potential dangers include falling and getting cut by the rough volcanic ash, breathing poisonous gasses, contracting **histoplasmosis** (otherwise known as "caver's disease"),^[3] or being hit by flying molten lava. Protective gear, including jumpsuits and goggles, is often used. Cerro Negro is also an active volcano, although the last eruption was in 1999. Mount Yasur is far more active and more dangerous, with volcanic eruptions occurring every day.

The activity can reach high speeds, with rides typically lasting only a few minutes and reaching up to 43 mph (70 km per hour). The current record for volcano boarding speed is 54 mph (almost 90 km per hour).^[4]

Sandboarding, a similar activity performed on **sand dunes**, was established in the 1970s and 1980s: Derek Bredenkamp and others boarded **Swakopmund** in **Namibia** around 1974; Jack Smith and Gary Fluitt popularized it in California in the early 1980s.

National Geographic Channel adventurer and journalist **Zoltan Istvan** credits himself with inventing the volcano boarding sport on Mount Yasur on the island of Tanna in Vanuatu in 2002, though Istvan first visited the active volcano in 1995.^{[5][6][7]} He filmed his adventure, and it later aired on the **National Geographic Channel** in a five-minute news segment.^[8] Istvan differentiates volcano boarding into two forms: 1) boarding down an active volcano where immediate dangers come from flying molten lava and lethal volcanic gases, and 2) boarding down an inactive volcano where no immediate danger is present (similar to sandboarding).^[9] Other locations popular for their volcano boarding include, **Mount Fuji** in Japan, **Mount Etna** in Italy, and **Pacaya Volcano** in Guatemala.^{[10][4]}

In Hawaii, an ancient sport known as **he'e holua** or lava sledding is a similar activity.^[11]

Equipment and Safety Gear [\[edit \]](#)

For volcano boarding, participants typically use a specialized board, similar to a snowboard but with an extra layer of laminated material at the bottom to reduce friction. Safety gear includes a jumpsuit, dust-proof goggles and gloves.^[12]



A boarder sliding down Cerro Negro, Nicaragua

Is it safe to surf on a volcano?

Yes, volcano boarding in Nicaragua is generally safe, but it is an extreme sport and there are risks. Scrapes and bruises can occur if you fall off your board, but serious injuries are rare. Follow instructions and ride at a speed you are comfortable with. Tours provide you with a jumpsuit to keep your skin covered.



It's fast, exhilarating, and dangerous. Some call it volcano surfing, while others prefer the terms ashboarding and volcano sledding. Discover one of the craziest outdoor activities you've ever seen.

Whatever you name it, volcano boarding is a unique adventure sport that involves riding down the slopes of an active or dormant volcano on a board or sled.

This exciting outdoor activity has become increasingly popular in recent years, drawing thrill-seekers from around the world to destinations such as Nicaragua, Indonesia, and Vanuatu.

It is a discipline within **sandboarding** that, as the name implies, involves a few risks that some are willing to take.

In the end, the adrenaline of riding an active volcano is similar to surfing a big wave or skiing away from an avalanche.

Drop in and let that smoke blow - lava's up.

Bouldering

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From Wikipedia, the free encyclopedia

Bouldering is a form of [free climbing](#) that is performed on small rock formations or [artificial rock walls](#) without the use of ropes or [harnesses](#). While bouldering can be done without any equipment, most climbers use [climbing shoes](#) to help secure footholds, [chalk](#) to keep their hands dry and to provide a firmer grip, and [bouldering mats](#) to prevent injuries from falls. Unlike [free solo climbing](#), which is also performed without ropes, bouldering problems (the sequence of moves that a climber performs to complete the climb) are usually less than six metres (20 ft) tall. Traverses, which are a form of boulder problem, require the climber to climb horizontally from one end to another.^[1] [Artificial climbing walls](#) allow boulderers to climb indoors in areas without natural boulders. In addition, [bouldering competitions](#) take place in both indoor and outdoor settings.^[2]

The sport was originally a method of training for roped climbs and [mountaineering](#), so climbers could practice specific moves at a safe distance from the ground. Additionally, the sport served to build stamina and increase finger strength. Throughout the 20th century, bouldering evolved into a separate discipline.^[3] Individual problems are assigned ratings based on difficulty. Although there have been various [rating systems](#) used throughout the history of bouldering, modern problems usually use either the V-scale or the [Fontainebleau scale](#).

The growing popularity of bouldering has caused several environmental concerns, including soil [erosion](#) and trampled vegetation, as climbers often hike off-trail to reach bouldering sites. This has caused some landowners to restrict access or prohibit bouldering altogether.

Climbing has become so popular it will make its debut at the Tokyo

Bouldering is climbing in its simplest form, sans ropes, harnesses and hardware on rock faces that are shorter than the walls at cragging areas. It's easy to see why so many people are drawn to this type of climbing and why bouldering is great for beginners: It's relatively affordable, accessible and it's social—unlike climbing, it's easy to do with large groups of friends.

At a bouldering area or in a gym, you'll see complete newcomers to the climbing world, as well as experienced sport and trad climbers working on their craft. You'll also see climbers who focus exclusively on bouldering.

Bouldering requires significantly less gear than other forms of rock climbing. In fact, if you plan to boulder indoors at a gym, all you really need is [a pair of climbing shoes](#), which you can usually rent at the gym. If you're headed outdoors, you'll also need a crash pad to cushion your falls. Though it's not common, some outdoor boulderers choose to wear a [climbing helmet](#) for extra protection. Extras that may come in handy indoors and out include chalk, a brush for cleaning off dirty, greasy holds and a roll of white athletic tape for protecting your fingers.

Bouldering doesn't require a belay partner like roped climbing does, but having one or more people along to spot you while you're on the rock in case you fall is a good idea. And it can be a lot of fun to hang out, share tips and push each other to climb harder while trying the same boulder problems. If you don't have a group to go with, consider signing up for a class where you'll learn technique and meet other people interested in bouldering.



Kite landboarding, also known as land kiteboarding or flyboarding, is based on the sport of [kitesurfing](#), where a rider on a surf-style board is pulled over water by a kite. Kite landboarding involves the use of a [mountain board](#) or landboard, which is essentially an oversized skateboard with large pneumatic wheels and foot-straps. Kite landboarding is a growing sport, and there are several competitions. Kite landboarding is attracting growing publicity^[when?] although it is not yet as popular or as well known as kitesurfing.^[citation needed]

Technique [edit]

Typically, kite landboarding takes place in large open areas where the wind is constant and there are no obstructions such as trees or people. Large hard-packed sandy beaches are typical landboarding locations because of the large space available and wind conditions.

Equipment [edit]

The kite is a large sail, usually made of strong [ripstop nylon](#), and is flown on either 2, 3, 4 or 5 lines. Models of kites can have several different sizes within the range - because the stronger the wind is, the smaller the kite used. The kite is controlled via a control bar or a set of handles ([kite control systems](#)). There are various types of kites used in kite landboarding. Foil type kites, from manufacturers such as [FreakDog](#), [HQ Powerkites](#), [Flexifoil](#), [Ozone Kites](#), [Flysurfer](#) or [Best Kiteboarding](#) can be fixed bridle or de-power systems. De-power systems allow the rider to change the kites angle by moving the bar toward or away from them to power or de-power the kite respectively. Most riders prefer de-powerable kites^[citation needed] as it is possible to easily adjust the power in case of gusts or an increase in wind speeds. Alternatively "[arcs](#)" are growing in popularity thanks to several kites made by [Peter Lynn](#).

There are many different types of boards. Landboards are often made out of wood, although some riders prefer lighter composite boards.^[citation needed] Size and width of the board varies. Longer and wider boards are more stable and tend to be for larger riders or beginners while narrower smaller boards are for smaller people or for pulling off more tricks.^[citation needed] Many boards also have suspensions which can be adjusted to preference. These can usually be adjusted by adjusting the central suspension or by inserting a "feet-rod" (a see-shaped rubber shock absorber) into the suspension. The

Safety concerns [edit]

Due to the power that the kites can generate, riders can hit high speeds and propel themselves several feet in the air. As this is a land-based sport, there have been several concerns about the possibility of injury to the rider or to others. As a result, several safety equipment items are used by riders in this sport. [Helmets](#) are essential, especially for the more advanced moves, where a rider may find himself rotating and flipping. Padding, including shoulder and knee pads, can be worn to protect from hard falls. Many kite-flying sites in the UK are introducing measures to only allow riders who have helmets and have valid 3rd party insurance policies.

In addition to this, many kite manufacturers have incorporated safety designs in their kites in order to depower the kite in order to stop it dragging the rider after a fall and protecting any other people in the vicinity. These tend to include safety leashes connected to the rider which, when the rider lets go of the kite's control system, will completely depower the kite and bring it gently back to the ground.



Paragliding

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From Wikipedia, the free encyclopedia

Not to be confused with [Parasailing](#) or [Hang gliding](#).

Paragliding is the recreational and competitive [adventure sport](#) of flying **paragliders**: lightweight, free-flying, foot-launched [glider aircraft](#) with no rigid primary structure.^[1] The pilot sits in a [harness](#) or in a cocoon-like 'pod' suspended below a fabric wing. Wing shape is maintained by the suspension lines, the pressure of air entering vents in the front of the wing, and the aerodynamic forces of the air flowing over the outside.

Despite not using an engine, paraglider flights can last many hours and cover many hundreds of kilometres, though flights of one to five hours and covering some tens of kilometres are more the norm. By skillful exploitation of sources of [lift](#), the pilot may gain height, often climbing to altitudes of a few thousand metres.

Paragliders use lifting air (thermals) in exactly the same way as other gliding aircraft, although their low speed precludes their use in strong winds. Using thermal [lift](#), soaring flights of 100 miles (160 km) are common. In competition pilots fly routes to distant goals, recording their progress by aerial photographs or [GPS](#) (Global Positioning System) traces. In favourable weather the routes may be 60 miles (100 km) or more and incorporate several turn points. By the late 1990s the world record for straight distance was 208 miles (335 km). The [Fédération Aéronautique Internationale](#) (FAI) World Paragliding Championships have been held every other year since the first championship at Kössen, [Austria](#), in 1989. [England](#) hosted the first World Paragliding Accuracy Landing Championship in 2000.

Paragliding, sport of flying [parachutes](#) with design modifications that [enhance](#) their [gliding](#) capabilities. Unlike [hang gliders](#), their close relations, paragliders have no rigid framework; the [parachute](#) canopy acts as a [wing](#) and is constructed of fabric cells with openings at the front that allow them to be inflated by movement through the air—the “ram-air” effect.

The pilot is suspended in a seated harness and controls the wing via lines attached to the trailing edge of the paraglider. These lines may be operated individually to turn the paraglider or simultaneously to influence pitch and speed. Takeoff and landing are on foot and usually occur on a hill or mountain. To launch, the pilot first inflates the wing by pulling it up like a [kite](#) and then runs down the hillside until flying speed has been reached. Usually a speed of about 12 miles per hour (19 km per hour) is enough to launch the craft. Paragliders may also be launched from flatland by towing, either with a winch or behind a vehicle.



paragliding

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Wingsuit flying

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From Wikipedia, the free encyclopedia

Wingsuit flying (or **wingsuiting**) is the sport of skydiving using a webbing-sleeved jumpsuit called a **wingsuit** to add webbed area to the diver's body and generate increased lift, which allows extended air time by gliding flight rather than just free falling. The modern wingsuit, first developed in the late 1990s, uses a pair of fabric membranes stretched flat between the arms and flanks/thighs to imitate an airfoil, and often also between the legs to function as a tail and allow some aerial steering.

Like all skydiving disciplines, a wingsuit flight almost always ends by deploying a parachute, and so a wingsuit can be flown from any point that provides sufficient altitude for flight and parachute deployment – a drop aircraft, or BASE-jump exit point such as a tall cliff or mountain top. The wingsuit flier wears parachuting equipment specially designed for skydiving or BASE jumping. While the parachute flight is normal, the canopy pilot must unzip arm wings (after deployment) to be able to reach the steering parachute toggles and control the descent path.

Wingsuits are sometimes referred to as "birdman suits" (after the brand name of the makers of the first commercial wingsuit), "squirrel suits" (from their resemblance to flying squirrels' wing membrane), and "bat suits" (due to their resemblance to bat wings or perhaps the aptly named DC Comics superhero Batman and his signature costume).



Wingsuit flyer over fields in the UK

Launch [edit]

A wingsuit pilot enters free fall wearing both a wingsuit and parachute equipment. The details of a wingsuit launch depend on whether it is a skydive from an aircraft, or a BASE jump from a fixed object.

Exiting an aircraft in a wingsuit requires skills that differ depending on the location and size of the door. These techniques include the orientation relative to the aircraft and the airflow while exiting. It is also important that wingsuit pilots spread their legs and arms at the proper time to avoid hitting the tail or becoming unstable. The wingsuit immediately starts to fly upon exiting the aircraft in the relative wind generated by the forward speed of the aircraft.^[6]

Exiting from a BASE jumping site, such as a cliff, requires a different technique. In these situations, a vertical drop using the forces of gravity generates the airspeed that wingsuits need to generate lift. This is also the case when exiting from a helicopter, a paraglider, or a hot air balloon. Unlike when exiting an airplane, it takes time to build up airspeed to inflate the wingsuit and provide aerodynamic control. So exiting the cliff in a proper orientation is critical.

To practice wingsuit flying, two fundamental elements are required: a wingsuit and a parachute.

The purpose of the wingsuit is to convert vertical freefall into horizontal flight, while the parachute at the end of the jump is used to land safely on the ground. There are many different designs, but they all follow a set of principles. The jumpsuit is made of nylon (or another durable material) and has three wings: two between the arms and torso, and one between the legs.

The principle behind the function of a wingsuit is based on the generation of lift and the conversion of vertical fall into horizontal movement. The wingsuit's shape and design allow it to create a significant amount of lift, which slows down the descent and converts it into a horizontal gliding motion. The wingsuit pilot can control the direction and speed of the flight by changing the angle and shape of the wingsuit. However, it is important to note that a wingsuit does not provide enough lift to enable the wearer to fly upward like an airplane. Instead, it enables the wearer to glide through the air horizontally at high speeds. The parachute is still required to land safely on the ground.

The function of the suit is to maximize the total surface area of the body in order to increase resistance against the vertical fall and enable greater horizontal displacement. Wingsuit flying requires precise coordination skills of the entire body, from the back and shoulders to the hips and arms. Experienced wingsuit pilots are able to move up to 3 meters horizontally for every vertical meter.

After a proper dose of adrenaline, every wingsuit flight comes to an end. As one can imagine, it requires one more element, as a wingsuit is difficult to slow down.

Therefore, a pilot needs to deploy a parachute towards the end of the jump. After that, the pilot glides to the ground in a leisurely manner.