

Antarctica

General Information

Antarctica remains the last vast wilderness on earth. A continent encircled by pack ice, huge tabular icebergs and covered with an ice sheet miles deep. A beautiful mysterious place, enticing explorers, adventurers and dreamers over the decades. Remote, inhospitable and without permanent inhabitants. It is the windiest and highest continent, which is capped by an ice sheet over 4 km thick in places. Antarctica is 58 times larger than the United Kingdom, and surrounded in winter by a vast girdle of sea ice larger in area than the continent itself. Antarctica's key role in global processes is now recognized. The ice sheet holds 90% of the world's fresh water, which, if melted, would raise sea level by 65 m. The ice sheet drives the Southern Hemisphere weather patterns and modulates world climate.

For many, perhaps, the most appealing aspect of Antarctica is its wildlife. Although there are only a few native species, those that have adapted to the harsh environment thrive in large numbers. Seals, whales and Penguin populations are counted in the tens of thousands in some rookeries. One of the characteristics of the south polar region is that its birds and mammals (such as seals and whales) depend on the sea. In the end, the penguins evolved to a swimming way of living and because they had no land-predators to fear, they lost their ability to fly.



Antarctica is so vast that only a small portion of it can be explored during a two week period. The Antarctic Peninsula, that part of the continent that points toward the tip of South America, is so long that it spans 12 degrees of latitude, approximately 1200 km or 800 miles.

Humans never inhabited Antarctica and exploration of the continent is relatively recent. New discoveries continue to be made. In 2007, for example, our vessels, while exploring the Antarctic Peninsula, sailed uncharted waters.

Antarctica is devoid of power lines, billboards, and highways. There are no designer coffee shops or cellular networks. When the engines are turned off, the only sounds you hear are natural - wildlife, water and the occasional boom of icebergs calving. If you listen closely, you can hear your heart beating with excitement!

How to get there ?

Most visitors to Antarctica arrive by ship, from the closest port, Ushuaia, in the province of Tierra del Fuego, Argentina. Longer expeditions depart (or disembark in) from New Zealand, Australia, and Stanley in the Falkland Islands (Islas Malvinas).

Most of our expeditions start in Ushuaia, the gateway for most of the ships sailing to the Antarctic Peninsula. Ushuaia is the Southern most city of Tierra del Fuego, Argentina. You fly to Ushuaia from Buenos Aires, several flights per day. The flight time takes approx. 3 - 4 hours.

We strongly advise you to arrive one day before departure to arrive in Ushuaia. This will help you to acclimatize to time difference and relax after your long flight from Buenos Aires and allow for

luggage delay to arrive in time before the ship sails.



Getting to Antarctica is as much a part of the experience as exploring it. The body of water that separates Antarctica from South America is the Drake Passage. The Drake acts like a funnel, concentrating the energy produced by the winds and currents of the Southern Ocean. The result can be rough water, some of the roughest in the world. Yet some crossings are relatively quiet, providing extraordinary opportunities for birding and whale watching. The unpredictability of the Drake Passage is intoxicating. A crossing is the perfect introduction to expedition-style travel, where unpredictability is the only thing you can truly count on.

Ushuaia

Ushuaia is the Southernmost city in the world located in the shadow of the Andes, right at the Beagle Channel shore, one of world's most stunning locations. Expect wonderful views of the Beagle Channel, and the peaks of the Five Brothers from the airplane on its descent. The airport in Ushuaia is small. Taxicabs are easy to find for the transfer to your hotel. Your hotel is not far from the airport and the taxi fare is reasonable.

The area of Ushuaia has a great variety of possibilities to enjoy a few days of exploration. Special excursions, trekking, horse riding, sport fishing, mountain bike, journeys through unexplored sites. Ushuaia is a duty free area and nice for shopping. The Museum of the End of the World or the Maritime Museum (and ancient jail) are also worth a visit. Enjoy the ride of the little tourist train to Tierra del Fuego National Park.

We can also organize a pre-cruise dive package for those who like to dive in the Beagle Channel and around Ushuaia before boarding the ship.

As one of the gateways to the South Pole Ushuaia has an exciting and buzzing atmosphere and is worth a visit before you take off for your Antarctica adventure.



Best Travel Period for Antarctica

Antarctic wildlife is at its most active during the southern summer, November - March. The beauty and solitude of Antarctic seas and mountains conceals the frantic activity of the shoreline colonies of birds and mammals.

Summer arrives first in the South Shetland Islands and spreads south along the Antarctic Peninsula. As the Antarctic year progresses, from spring to autumn, the Antarctic Peninsula and Islands change in appearance and character, each season offering a different range of spectacular sights and possibilities to the visitor.



March (autumn)

Nightly Darkness returns as the sun sinks farther below the southern horizon, but temperatures are still above zero, though we may experience a touch of Antarctic winter with night frosts, creating beautiful patterns of thin sea ice on the surface. The snow cover is at its minimum allowing for easy and extensive walks in the South Shetland Islands.

- Penguin chicks are in their adolescent state now and quite curious about visitors.
- The adult penguins moult and the young go to sea.
- Concentration of Leopard Seals increases hunting for chicks.
- Receding ice allows exploration farthest south along the Antarctic Peninsula.
- Spectacular green and pink algae blooms on snow-slopes and ice cliffs.
- Whale watching is very good.
- Chances to see Aurora Australis.



Falklands and South Georgia

In Falkland Islands and South Georgia spring and summer arrive earlier than in the South Shetlands & the Antarctic Peninsula and consequently the breeding activities of sea-birds and sea mammals start earlier there. South Georgia is home to several birds with a cycle longer than one year, so eggs and young in King Penguin colonies can always be found from November to March. November is full spring in South Georgia, comparable with December in the South Shetlands, but without sea-ice.



Antarctica Diving Information

Polar Diving in Antarctica

For our dive and photography expeditions to Antarctica we have chartered ice-strengthened polar vessels well suited to our purpose. Our mission is the exploration of Antarctica's underwater environment, a truly unique experience for the advanced diver. You will see amazing ice formations and marine life seemingly from another planet, such as the Giant Isopods and salps. Seals race fearlessly by, graceful in a way not possible above the surface. Sunlight from above creates a stunning, ever-changing spectrum of color among the diverse benthos. Take your time to explore an environment few divers have ever experienced: the kelp walls, sea snails, crabs, sea butterflies, Shrubby horsetails, jellyfish, squid, Sea hedgehogs, starfish, krill and various Antarctic fish.

The waters of the Southern Ocean also support an economically important world fishery of fin fish, squid and krill, and the waters of the Southern Ocean affect all other world oceans.



Dive operation

The dive operations managed by the Waterproof Expedition team, relies on more than 15 years of experiences in Polar diving and is organized by polar dive experts who have experienced many extreme situations in the field and who are trained to search out the best opportunities for diving, taking into account the unpredictable weather and ice conditions. We maintain the highest level of safety in combination with quality diving.

We don't dive through a wide hole in the ice (no ice diving !), but in a controlled environment around small grounded icebergs, from the shore or a zodiac or an ice shell.

Trip Itineraries are a guideline. We will always try to hold to the itinerary as much as possible, but SAFETY is number one. Since this is an expedition to a remote part of the world, unpredictable weather conditions, availability of anchorages, wind conditions, and other factors beyond our control will always dictate when its safe to make a dive.



Although the diving you will be doing while in the Polar Regions is not really considered "technical" in professional diving terminology, the conditions and gear required to dive safely do require a fair bit of experience and training.

Since diving is an equipment intensive activity, diving in Polar Regions requires an extensive amount of additional equipment because of the cold weather and water, and a higher level of diving experience because of the remote location involved. You will find more detailed information on [Polar Diving Procedures](#) in our section Travel Resources. Diving is no fun if you are cold and uncomfortable. Divers in cold water may have a higher air consumption rate, expend more energy, and can become more fatigued. Cold water also decreases a diver's ability

to perform complex tasks that require manual dexterity.



Equipment

It is therefore extremely important that you, prior to coming on the trip, have acquired all the appropriate equipment needed for diving in Polar Regions, and that adequate training and experience is gained in the use of new and unfamiliar equipment. In order to avoid any unnecessary problems you should complete several dives with all the equipment you intend to use, prior to your voyage.

For further details on what to bring for your dive expedition, please check out the section on [Diving Equipment](#), or contact our office for more details.

Expedition Programme For Divers and NON- Divers

For non-divers we always have a zodiac ready for those explorers who do not wish to dive, but who like to go for a long hike or take their time for topside photography.

Large Zodiacs with powerful outboard motors will usually be the boat of choice to transport divers and non-divers comfortably to their intended destinations and to get closer to nature and wildlife.

What to pack

Prepare for your Polar Expedition

Clothing

The choice of clothing for cold climates is a very personal matter. It depends on your individual experience with cold conditions. Are you more susceptible to cold temperatures than other people?

A common complaint is it not the cold, its the wind, but an equally common polar maxim is there is no such thing as bad weather, only bad clothing !

The secret to keep warm is dressing in layers. It is better to have several light layers of clothing than one heavy layer. This also gives you flexibility in your clothing so you can take off a layer if you are too warm or put another layer on if you are cold. The most important layer is the outer waterproof and windproof shell because even a light wind of 6 kph (about 4 mph) can carry away eight times more body heat than still air ! The so-called wind chill factor measures the increase in cooling power of moving air, whether its wind that is blowing or you who are moving rapidly and, in effect, creating a wind against yourself.

Tips to stay warm

- Avoid overdressing to reduce perspiration
- Wear water repellent outer garments that will keep you dry on the outside and still breathe

enough so that moisture from your body can escape.

- Body heat is most likely to be lost from parts that have a lot of surface area in comparison to total mass - namely, the hands and feet. Keep them warm and dry. For hands, mittens are better than gloves.

- If you have cold feet, put a hat on. If the rest of your body is covered, as much as 90% of the heat you lose can come from your head, so be sure to wear a cap, beanie or balaclava. These items can be pulled down to protect your ears, forehead, neck and chin. The neck also needs protection with a woollen or synthetic scarf, that can be wrapped around the face when travelling against the wind.

- Dress in comfortable, loose layers. For anyone out in the cold, it is far better to wear layers of relatively light, loose clothing than one thick, heavy item. Between each layer there is a film of trapped air which, when heated by your body, acts as an excellent insulator.

- Wool and silk are superior to cotton because they can trap warm air. Synthetic fabrics that spring back into shape after compression are also good. When damp or wet, polyester down is a better insulator than goose or duck down. Polar fleece is popular and recommended.



Recommended packing list

What to pack for your shore excursions

When packing, don't weigh yourself down with too many clothes or too much gear. Select informal, practical attire

for your trip that can be worn in layers, including:

Rubber boots;

A pair of pull-on rubber, unlined and completely waterproof boots that are mid calf or higher with a strong, ridged non-skid sole is ESSENTIAL for landings. Expect poor footing on the ice and ashore. For this reason boots such as Sorrels, snow boots, hiking boots or low rubber boots are not satisfactory (you'll get wet feet wet). Your boots are probably the most important item you need to bring, so if you have questions or just need some further advice please don't hesitate to contact us.

Warm Trousers;

Ski pants are suitable if you have them; otherwise, bring any sturdy trousers that can be layered between your long underwear and rain over-trousers. Jeans and corduroys are good both for excursions and wearing aboard ship.

Waterproof Trousers;

Water resistant over-trousers are essential for your comfort. Wear them over your regular clothes to keep you warm and dry. Gore-Tex and similar fabrics are both waterproof and breathable.

Thermal Underwear;

Silk or polypropylene underwear is highly recommended since it keeps you warm without adding bulk. Most people prefer a lightweight version - but this depends on your personal thermostat.

Sweaters;

Wool sweaters or a polar fleece jacket of medium weight are recommended.

Mittens and gloves;

Keeping your hands warm and dry is a challenge - and important. Thin polypropylene gloves can be worn underneath warm mittens. Thus, you can take off the mittens to operate your camera and still have some protection from the cold. It's a good idea to bring an extra pair of wool mittens to wear if your other pair gets wet (or lost).

Woollen cap;

A warm cap to protect your ears - and a scarf.

Warm socks;

Sturdy, tall wool socks worn over a thin pair of silk, polypropylene or cotton/wool socks should provide enough insulation for your feet. Bring several pairs, since you will inevitably get your feet wet.

Waterproof & Windproof Jacket;

A well-fitting jacket with attached hood that can be worn over your under layers with reasonable

comfort. It is most important that this garment is thoroughly waterproof. Gore-Tex or sailing gear are ideal although it is possible to find cheaper waterproof gear.

Backpack;

A waterproof nylon backpack, rucksack, or similar bag with shoulder straps, for carrying your camera and other gear during shore excursions. Be sure to choose one with shoulder straps so that your hands are free. It is very important that you have some means of keeping your camera dry. Every summer we have disappointed people whose camera has been splashed in a Zodiac.

Sunglasses;

Good quality sunglasses. Note that the glare from the water and surrounding snow/ice can be quite penetrating, even when the sky is overcast.

A pair of binoculars is highly recommended.

Camera and plenty of film or memory cards and spare batteries.

Earplugs may be useful if you are sharing a cabin with a snorer !

Teva Sandals or similar are very useful to wear around the ship and when using the shared showers.

T-shirts are recommended (to wear inside the vessel as temperatures are comfortably warm).

Rental Expedition Gear

Save some luggage weights

You can save some luggage by renting expedition gear in Ushuaia for your trip to Antarctica. Rubber Boots, Parka's are some of the items you could rent for your expedition. The company [Antarctic Equipment](#) has a rental shop in Ushuaia for expedition gear.

Rubber boots

A pair of pull-on rubber, unlined and completely waterproof boots that are mid calf or higher with a strong, ridged non-skid sole is ESSENTIAL for landings. Expect poor footing on the ice and ashore. For this reason boots such as Sorrels, snow boots, hiking boots or low rubber boots are not satisfactory (you'll get wet feet wet). Your boots are probably the most important item you need to bring, so if you have questions or just need some further advise please don't hesitate to contact us.

Polar UW Photography

Introduction



After taking both still and video images in the Polar Regions for more than 10 years, Göran Ehlme likes to share his experiences with you and give you some advise on photography, techniques and equipment for your expedition to the Antarctica or the Arctic.

The Polar Oceans are some of the most incredible, yet difficult environments in the world to take video in or photograph. Conditions of low light, high particulate matter and surge are often combined, creating a challenge for even the most experienced of underwater photographers. The common perception is that the Polar waters are so cold, (between -1.9°C - 0°C), it is absent of life. Nothing could be farther from the truth. Antarctica and the Arctic have one of the richest marine environments in the world, full of surprises. The creatures found there are colorful and astonishing, offering many opportunities for stunning and unique images.

Preparation



This section should not be taken as an introduction of how to shoot underwater in Antarctica or elsewhere. You should not spend your precious time in Antarctica or the Arctic learning, you should be comfortable and proficient with your gear before you start your journey. It is a common theme nowadays, especially with a busy work life, that we do not take the time to prepare as well as we would like for our "vacations." However, for many, this is a once in a lifetime vacation, and one which should not be looked upon lightly. Whether you are on land or under water, you want everything to go as smoothly as possible, so you can enjoy it that much more.



Often we treat ourselves to new gear before big expeditions, assuming we will have enough time to learn and become comfortable with it once we get our trip underway. Unfortunately, we grossly underestimate the time available, and the complexity of our gear. It is quite conceivable you may not even open your camera case before arrival at your final destination. This may leave only a few hours before your first dive to familiarize yourself, so do yourself the favor and learn your equipment, all of your equipment from regulators to cameras, before you leave home.

If you are not familiar with underwater shooting, we suggest you get a good beginners book or take an instructor class so you have the basics down before you embark.

Be familiar with your equipment



Getting to know your equipment and shooting with it is the most important thing, even if you can only spend time in a pool photographing tiles to do it. This practice will not only allow you to get used to your dry suit and other essential dive equipment, but will also give you the building blocks needed to maximize your time underwater: you want the operation of your equipment to be almost like second nature. Write down your favorite camera settings on a plastic write card, and analyze your images, making notes of what works best in which situation.

Cold fingers



The first thing that will begin to get uncomfortable during a dive, no matter what kind of gloves you wear, will be your hands. Although you may not be able to simulate the cold, get used to switching the small knobs and buttons on the underwater housing with large cumbersome gloves. You should be able to find your shutter release without having to look for it, you should know exactly where to go in the menu to change the speed of your camera, and all of this should be done relatively quickly (as quickly as you can move with 35 kilos of gear on your back). In all aspects, Antarctica is unpredictable, so you may have your camera set for shooting benthic animals, when a Leopard Seal appears. You'll have to move fast in order to capture the image.

What kind of equipment



Since Goran started photographing underwater, he had had the great fortune to experience a revolution in the way images are taken. It has taken nearly twenty years for cameras and quality of equipment to change, but suddenly with the advent of digital and HD, underwater photography/videography has gone to a new level. Instead of being confined to 36 frames a dive, where the mix of natural light, strobes, and particles in the water often made it difficult to predict outcomes, we have options upon options. Then, we can see the results immediately and adjust accordingly – nothing like instant gratification. We can take hundreds of pictures or

hours of footage each dive, and although only one may give us the image we want, at least the option is open to us. Better yet cameras continue to improve and give us enhanced quality all the time.

Digital photography has opened the door for the holiday photographer, those of us who really only get the chance to take underwater pictures when we are on vacation. We may not have the largest or most sophisticated cameras and/or housing, but enjoy photographing subjects underwater. Don't let those small "point and shoot" cameras fool you, some have amazing features, and allow a lot of freedom.

Maintenance



Yet with advanced technology, comes additional things to worry about: Electronics do not like water or moisture, so it is important to take the following into account: Once your camera has been set up and exposed to the cold outside, NEVER bring it inside the ship or cabin, or any other place that is warm. If you bring your camera into a warm area, and then open it up, all the moisture in the air will "off condensate" onto the camera which will then be all wet.

Antarctica may be the driest place on earth, but you can bet your camera will find any moisture there is in the air. Likewise if you open up the digital card compartment, it will also attract the moisture, and not only ruin your card but the pictures that are on it as well. Your best bet is to leave your camera, in the housing, outside for a while, so that it drips off, and later dry it with a towel. Then take it to a sheltered place, still in a colder environment, remove the card and the battery, placing them into a Ziplock bag, allowing them to heat up for an hour or two before opening the bag again. The best is if you keep the camera and housing outside (sheltered of course) so it is only the card and the battery you have to worry about changing. Speaking of batteries, in Polar Waters, the rule of thumb is battery power will be half of what it is normally, so if you have older batteries, buy new ones before you leave, and always bring spares.

Another trade secret is to buy lots of silica gel bags (the kind found in shoe boxes) to soak up moisture, frequently changing them in and out of your housing. For those who are only terrestrial photographers, all this applies to your "topside" cameras as well, at the very least make sure you bring a waterproof bag to protect them when in boats or bad weather.

Regardless of your precautions, sometimes a little patch of moisture forms at the center of the lens, especially with lenses that actually have contact with the water. This usually disappears in 30 – 60 minutes, just before you finish your dive. It is most often caused by direct sunlight heating up the lens of your camera, so whenever possible keep the camera covered and out of the elements, this also applies to your time in the Zodiac.

Camera housing



Purchasing a housing for your camera can be a mind boggling experience, there are so many

choices; some are made of aluminum, some are synthetic, some are negatively buoyant, and some are positive. If a suggestion can be made, it would be to make sure your camera and housing be slightly buoyant, but again this is a personal preference. Think of it as a safety precaution for yourself and your rig just in case it is dropped into the water. You would be surprised how many times your camera changes hands: it is handed down into the support boat, then to you in the water, you will carry it with you throughout the dive, then hand it back up after the dive into the support boat, and eventually back onto the ship. It only takes one person with cold or inflexible hands to drop it... Even with the best intentions of keeping it positively buoyant, the addition of external pieces such as strobes, may make the rig negative, so a safety cord is another good precaution to take. Good recommendations for underwater camera housing are [Seacam](#) and [Hugyfot](#).

Shooting techniques



The best days of shooting above the water come not when everything is sunny and blue skies, but when it is a little overcast. This also applies to underwater photography as no camera likes large variations in light. The Polar Oceans have a lot of particulate matter in them, even when they appear to be clear. It is the sign of a healthy ocean, but can wreak havoc with your exposures, and create backscatter. Some of the problems that might arise are as follows:

- 1) We all dream of shooting the intricate patterns found in ice, but these magnificent ice structures can break the light beams, and cause "bad" reflections that get overexposed.
- 2) Almost all the picture worthy animals in Antarctica, from penguins to nudibranches, have some white on their body, yet are immersed in an external environment that can be extremely dark, again affecting the exposure.



3) Likewise, when you are in shallow water shooting penguins or seals, while trying to compensate for the light reflection from the surface and progressively darker water, whiter body parts can get over exposed

To handle the above problems, make sure that you watch your exposure and adjust the F-stop accordingly. Additionally, if you have seals or penguins in natural light, make sure you have the camera set on a higher speed.

When shooting, always think as wide as possible, except when shooting macro. Forget your zoom, unless you have a wide angle zoom, as it is always better to be as panned out as possible, and then move closer to your subject (if you can). Tip: If you have a subject that is moving, or your auto focus has problems following, we suggest focusing on your fin and locking it. By doing this, you usually get a focus sharpness very close to the lens and eternity.



Usually a lot of the “diving” with Penguins, Seals, and Whales is never done with a tank, but rather using a Snorkel. When Goran worked with Paul Nicklen during his National Geographic Leopard Seal assignment, they almost always snorkeled. A snorkel gives you the quick and silent advantage, which is key to a good encounter. However, this type of photographic activity, usually leads to your camera rising out of and falling into the water, especially if you are attempting half and half shots. The problem with this is small air bubbles often collect on the front of the lens, even when wiped with rain-X. Get in the habit of wiping your lens as often as you can. There is nothing so disturbing and having a good image, obscured by bubbles. When snorkeling with all animals in Antarctica the ambient light is generally enough for pictures, however, even at shallow depths a strobe may give that added “life’s light” into the animals eye.

Shooting animals



Crabeater Seals are usually in large groups. If you move slowly, you may peak their interest causing them to come up to you, especially the younger seals who are a bit more curious.

Furseals are curious and excellent to dive with. They will come in close to investigate so make sure you have your camera set on a high speed, and as wide as possible. However, there are times that “furries” can get a bit too much, making physical contact with you and your gear, so it is possible you may have to abort the dive.

Weddell Seals are often found in shallow bays or hauled out close to shore. They are a shy seal if you compare them to others, however if you are calm and patient, they may even swim up to you and sniff your lens.

Penguins - they all think we are Leopard Seals. The best way to capture them, is to half submerge yourself in a shallow area and wait – this can be very cold! With penguins, it is all about patience, as curiosity will eventually get the better of them, and they will swim over to investigate. Gentoo’s are almost always the most curious, and tend to swim by slowly when you have their attention.



Whales - Humpback or Minke

In general they are a difficult mammal to have a good encounter with as they are big and move quickly. One of the only ways to make it worth while getting in the water with whales is to stay in a large group all together, and then the rest is up to the whale. Remember you can't encounter a whale, it's the whale who encounters you.

Leopard Seal

This is the most perfect animal a photographer could wish for – it is a performer and will continue to give a show hour after hour. As a photographer, you do not need to do anything except for push the shutter release. If you are fortunate enough to have a Leopard Seal bring you a penguin, stay with it, as the Lep will usually stay only a few meters away, and will come back. However, DO NOT touch the penguin or get too close to the seal. The penguin is its prey and it will feel threatened if it is taken away. Let the seal come to you.

For more information on Leopard Seals check out the section on [Diving with Leopard Seals](#).

Once in a life time chance

The Underwater World of Antarctica and the Arctic is a place where few in the world will ever personally venture. It has a bountiful benthic and pelagic community, and there are so many opportunities for images, while on the dive, it is sometimes difficult to concentrate on only one subject. The key is to keep shooting, and then shoot some more. Whether you are a videographer or photographer, the cost and preparation, and put into your expedition to Antarctica or the Arctic will all be worth the effort.

Dive Procedures

Requirements for Divers

These voyages are not for beginners, you'll have to be an experienced diver (Open Water Advanced) and must be familiar with cold water diving and dry suit diving (at least 20 dives). Before departure you will have to show an internationally accepted diving certificate, diver's log book and a statement from your doctor (not older than two years) stating that you are physically healthy to practice scuba diving.

The voyage will start with a check-dive so all divers can get used to the cold water and adjust their weights and equipment. Before each dive, there will be a briefing about the location of the site, the weather and ice conditions and the procedure of the dive.

Experienced Divers

Participants must demonstrate capability in the primary skills required by cold water diving:

Cleaning the mask out of water

Changing the main regulator to the reserve one and vice versa

Tapping into the buddy reserve regulator
Conducting an emergency rising to the surface breathing by means of the buddy reserve regulator
Controlling one's flotation
Communicating with the buddy and with the tender
Overturning upside down under ice and getting back to the standard position.
It will be necessary to demonstrate these abilities to the Dive Staff in the course of the check dive.

Divers without the necessary experience are kindly asked to abort diving and join the land programme for non-divers.

Safety First

Diving in these remote Polar areas is no more dangerous than normal scuba diving as long as one important rule is adhered to: Safety First ! All divers looking for dangerous stunts or want to make deep dives are kindly asked to stay at home.

There is no decompression chamber, medical care in these polar regions is almost non-existent and there is hardly any infrastructure. Although we have a doctor on board the vessel for first aid assistance, we cannot accept risky ventures from any of our divers.

Buddy System

We dive in a 'buddy system'. If you don't have a dive-buddy, one will be assigned to you. The divers are expected to be experienced enough to read their compass, depth gauges and look after each other in order to have a safe dive.

If our dive master feels that the diver does not meet the necessary experience, he can decide to exclude the diver from the dive program (this decision will be made for your own safety). In this case, Waterproof Expeditions cannot be held (financially) responsible and does not grant any claims. All divers are required to follow the instructions of the dive master and guides at all times. All participants are diving 100 % at their own risk, which is also the case while on land during the excursions.

Number of dives

We plan at least two dives per day (except for days at sea), but an exact number of dives cannot be given. It all depends on ice and weather conditions.

Health Requirements

You must be in good physical and mental health. Any physical condition requiring special attention, diet, or treatment must be reported in writing when the reservation is made.

Waterproof Expeditions reserves the right to decline acceptance of any person as a member of a program.

Dive Equipment

What to pack

The dive operation on board provides tanks, a compressor and weights. Each diver needs to bring his own equipment. Before you come on board you must have tested your equipment to make sure you are comfortable with it and it is not damaged.

Contact your airline about their luggage restrictions and request a special allowance for your dive equipment prior to departure. All excess baggage is at your own expense.

- Dry suit with hood
- Thick and warm underwater garment (2 sets), dry gloves or adequate thick wet gloves (make sure they will keep your hands warm in sub-zero waters)
- 2 separate freeze protected regulators. We dive with special bottles with two separate outlets. The tanks are fitted with a "Y" or "H" valve configuration, with DIN or Yoke (INT) adaptable connections.
- Pressure gage
- Stabilizing jacket or some kind of BC with quick release – divers without BDC trusting only their dry suit for buoyancy control will not be allowed to dive.
- Depth gage, watch or computer
- Compass
- Knife and a torch
- Mask, fins and snorkel (Please note that the snorkel is a vital part of the safety equipment and will often be used when snorkeling with for example seals)
- Weight belt (weights available on board)



You need two sets of regulators;
 1st set includes: Freeze protected First stage
 Second stage (incl. hose)
 Hose for BC
 Pressure gage / computer

2nd set includes: Freeze protected First stage
 Second stage (incl. hose)
 Hose for Dry suit

Cold water diving and staying warm

Diving is an equipment intensive activity. Ice diving requires an extensive amount of additional equipment because of the cold weather and water, and the remote location involved. Diving is no fun if you are cold. Divers in cold water may have a higher air consumption rate, expend more energy, and can become more fatigued. Cold water also decreases a diver's ability to perform complex tasks that require manual dexterity. Staying warm is an important element in your polar diving adventure.

Dry suit recommendations

The only adequate protection from thermal exposure in the Arctic and Antarctica where the water will be as cold as $-1^{\circ}\text{C}/30^{\circ}\text{F}$, is a dry suit. The type of dry suit you use is not important so long as it fits you, is waterproof and you are comfortable using it. Neoprene dry suits have the benefit of having good stretch and extra insulation. Shell suits provide no extra insulation but are lighter and dry more quickly. Shell suits serve only to keep the diver dry and require extra layers of garments to be worn under the suit. If appropriate, bring a small dry suit repair kit.

Waterproof dry suits have been tested and tried out in the extreme polar regions and are

designed with polar diving in mind. During the many years of continuous testing in harsh conditions [Waterproof International](#) in Sweden has become the expert in designing high quality dry suits. We have found that nothing can match the 3,5mm Special Hi-Dense neoprene with SD Toughtex lining we use for our most outstanding product, the [DRACO Drysuit](#). Loaded with features this suit brings it all. Kevlar reinforced and angled boot, zip armoured dry zipper, SAS Zip cuff system, embossed and PU-reinforced shoulders and double pockets to mention a few. And all the know-how that we bring from our 20 years experience of diving in the Antarctic & Arctic.



Until now even good neoprene dry suit protection was like armor, bulky and restrictive. Waterproof's Sedna combines premium rubber with silky Spantex Lycra to produce a suit that wears like silk pajamas, not body armor. If ever Comfort needed a face, [SEDNA](#) is the prompt answer.

Undergarment

The function of the undergarments is to trap air against your body to be warmed. The colder the water, the more (or thicker) layers of undergarments are required. It is recommended that you wear two or three layers, depending on your suit. As the first layer you should wear a set of polypropylene liners. This type of material helps wick any moisture away from the body. As the second layer you should wear thick insulating material, such as fleece, synthetic pile, Thinsulate or similar. As the final and outer layer you may wish to wear a windproof shell. The one piece jump suit style is the most common and comfortable configuration of dive wear and is available in a variety of thickness depending on your dry suit and the water temperature.

A comfortable light polar undergarment is the comfortable [Bodyzor](#) of 230 gr. body stretch fleece. Ideally to use under the [Octans](#) or under your expedition clothing.



Regulators

Normal regulators will not function in sub-freezing water as both the first and second stage will freeze. You are required to bring two sets of regulators (1st & 2nd stage), suitable for cold-water/ice diving. Some regulators can be fitted with an environmental seal kit, others come environmentally sealed from the manufacturer.

To avoid regulator malfunction, regulators must be cared for properly before, during and after diving. Regulators should be kept dry and warm before the dive; store them in your cabin. Avoid breathing from the regulator before submersion, except to briefly ensure it is functioning, but when doing so, exhale after removing the regulator from your mouth so as to avoid freezing the second stage with moisture from the exhaled breath.

If during the dive your primary regulator freezes up and causes a free flow, you should switch to your back-up regulator, and turn off the valve to the primary regulator to stop the free flow. The dive must be aborted in any case.

Tips on keeping water out of your regulator:

- Always open the cylinder valve briefly before mounting the regulator, to blow out any moisture from the orifice.
- When purging the regulator for removal, hold the second stage lower than the first stage so that water cannot drip back to the first stage after pressure has dropped.
- Remove the regulator carefully, so as not to allow ice or water to fall into the filter of the regulator.
- Dry the dust cap thoroughly before attaching it to the regulator.
- The dust cap must fit snugly before rinsing the regulator.
- Do not press the purge button while rinsing the regulator.
- Shake excess water from the second stage before hanging the regulator to dry.

Mask

The type of mask you are using is not critical, we recommend using a standard mask and regulator. You may use a full face mask if you prefer, but keep an extra face mask handy in case your regulator free flows. It is best to avoid spitting into the mask for defogging, as this can freeze onto the inside of the mask. Commercial defogging agents work well for ice diving.

Straps can also become brittle in cold weather, and it is highly recommended that you bring a spare strap and a spare mask.



Instruments, Gauges and Computers

You must have one tank pressure indicator for each regulator set-up. Some electronic instruments will not function well in sub-freezing temperatures. Liquid crystal displays may be slow to display and batteries will also run low sooner.

Post dive wear

It is important to bring a warm hat and some warm wind and waterproof gloves to wear before, and especially after the dive. You may also wish to bring wind and waterproof spray jacket and pants to keep the cold wind off your wet dry suit.

Dry suit accessories

If a hood is not attached to your dry suit you will need to bring one. A 7 mm neoprene hood with face and neck seal is recommended. Regular 7 mm neoprene semidry gloves or mitts may be used with any dry suit and are relatively easy to use. Three finger mitts are warmer than five finger gloves. Special dry gloves that deal against rings on the arm of the dry suit are available. To prevent glove squeeze, and to promote warmth, short pieces of surgical tubing, or straws can be inserted under the wrist seals to provide a conduit for air to exchange from the suit to the gloves. This type of glove requires additional practice to use, as they can come off your hand if not used correctly.

FAQ 's Polar Diving

Do I have to be an experienced diver ?

Yes, diving in the Polar Regions is not for beginners. You need to be an Advanced Open Water diver with cold water experience and approximately 20 dry suit dives.

How cold is the water ?

Because of the high salinity in the water, the Polar Oceans freeze at a lower degree. The average water temperature in the summer time is between -1.9°C - 1°C.

Do I have to bring my own equipment ?

Yes, you will have to bring your full equipment.

- Dry suit and undergarment
- Two freeze protected regulators
- Fins, mask and snorkel

We provide weights, tanks and a compressor.

For more details on your equipment please check out our section on [Dive Equipment](#).

How many dives per day are offered ?

We offer two dives per day, (except when crossing the Drake Passage to and from Antarctica) but the final programme of the day always depends on ice and weather conditions.

I am not a diver, can I also join the expedition ?

Yes ! We offer a full land-programme and will always have a zodiac ready for those explorers and non-diving travel partners who do not wish to dive, but who like to go for a long hike or take their time for topside photography. The beautiful surroundings of the Antarctic Peninsula is a paradise for all, divers, adventurers, naturalists and photographers with its amazing array of colours and moods and diverse wildlife.

The opportunity to be in the company of thousands of penguins, watching whales and seals, and cruise around in our zodiacs between brilliant white icebergs and ice floes will amaze you with awe.

What is included in the price ?

The price for your ships passage includes full board (three meals per day), afternoon snacks or cake, coffee and tea.

All landings, excursions and dives (if you have paid for the dive package) by zodiac. On board lecture programme and guidance by professional and experienced leaders and dive guides.

Not included are your travel expenses like airticket and hotels. And the bar- and souvenir expenses and email/phone costs on board the ship.

Do I have time to make land excursions ?

In the morning the divers will have to choose between a dive or a land-excursion for that day. Sometimes, if time allows, the divers will also be able to make a short landing after the dive. It depends on the landing- and dive-site, the weather and time available.

How deep can I dive ?

One of our strict rules is that we don't allow divers to go deeper than 20 mtr. / 60 ft.

The nearest medical facility and decompression chamber is a few days sailing away. We don't want divers to make a decompression or deep dive.

What do you see under water in the Polar Oceans ?

The common perception is that the Antarctic and Arctic waters are so cold, (between -1.9°C - 0°C), it is absent of life. Nothing could be farther from the truth. The Polar regions have one of the richest marine environments in the world, full of surprises. The creatures found there are colorful and astonishing, offering many opportunities for stunning and unique images.

The Polar Oceans are some of the most incredible, yet difficult environments in the world to take video in or photograph. Conditions of low light, high particulate matter and surge are often combined, creating a challenge for even the most experienced of underwater photographers.

