

## General information for your Arctic diving voyage



### ARCTIC (Spitsbergen)

Svalbard or Spitsbergen is situated between Norway, the North-Pole and Greenland (between 74 and 81° western length). The administrative centre is Longyearbyen, where about 1,500 people live. Most of them work in the mining industry, but others work in tourism (hotels, pensions, small expedition wholesalers, shops). Spitsbergen is an ideal area for scientists. Until 1970, Spitsbergen was a very isolated area. The Norwegian post-ships (Hurtigruten) offered the only connection between Svalbard and Norway. In 1970, an air service started between Tromsø and Longyearbyen. Today, two Norwegian carriers (Scandinavian Air System and Braathens SAFE) offer daily flights to Spitsbergen.

### Land excursions:

On board, there are five zodiacs with strong out-board motors, ensuring comfortable zodiac cruises (approaching beautiful fjords and the pack-ice) and safe shore landings. We usually organise one morning excursion and one tour after lunch. The duration of the excursions may vary, but they normally take 3 to 4 hours. On land, it is very important to follow the guidelines of the tour leaders. It is not allowed to leave the group (in the Arctic we must take the Polar Bear danger very seriously, it can show up everywhere and attack without any warning!), touch, remove and, or take plants, stones, feathers etc. Disturbing the animals is naturally forbidden.

Please be aware of the fact that some birds nest on the ground. Be careful where you walk, do not approach the nests. Be aware of the fact, that when such a bird's nest is disturbed, it's extremely vulnerable. Glaucous gulls, Skuas and Arctic foxes are quick to grab the opportunity to feast upon unprotected eggs or chicks.

### Expedition Staff

Our expedition team consists of one expedition leader and two guides / lecturers and dive guides. All members of the team are experienced and worked with us for many years. Every morning after breakfast the passengers will be informed about the day's program (position of the vessel, general information regarding the area, itinerary and the expected wildlife during the excursions). The excursions will be evaluated in the afternoon and after dinner. Occasionally, the expedition team will organise lectures, sometimes supported with slide shows to inform the passengers about various interesting features of the Arctic.

### Climate:

The voyages in Spitsbergen are organised in the northern summertime, so it is not really cold. During this period, the sun shines 24 hours a day. Temperatures are between 0 and 6 Celsius.

You can find more detailed information in the Expedition Manual, which will be sent to you after your booking is confirmed.

**Our thorough knowledge of the Polar areas enabled us to develop voyages combining nature cruises with diving expeditions, offering you the best dive sites in a fascinating world of ice. These polar diving cruises are still true expedition style.**

Do I have to be an experienced diver?

These voyages are not for beginners, you'll have to be a very experienced diver 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 logbook and insurance policy.

The first dive of the trip will be a 'check' dive to try out your gear and weights and for our dive master to see if all individual divers have enough experience to dive in the Antarctic waters.

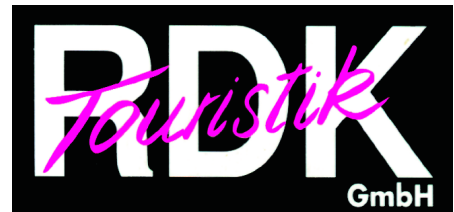
If our dive master feels that the diver does not meet the necessary experience, he can decide to exclude the diver from the dive program (this decision will be made for your own safety). In this case, Oceanwide Expeditions cannot be held (financially) responsible and does not grant any claims. All divers 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.

### A combination of nature and diving!

During the voyages, experienced dry suit divers have the opportunity to explore the wildlife from below the surface. Diving the Arctic is fascinating indeed. However, the topside is as exciting. During the trip, with the prior approval of your expedition leader, you can choose to participate at any time in our thrilling land excursions and zodiac cruises instead of diving. This combination characterizes the uniqueness of our voyages. It will certainly be the ultimate experience for you!

### What will you see while diving?

The dive sites will vary from shallow ice diving, diving along a wall, from a beach or from the zodiac. The maximum depth is around 20 meters / 60 feet. The combination of sunlight and the often-extraordinary formations of ice cause an overwhelming, ever-changing spectre of colours, with a fantastic variety of shades and brilliance. While snorkelling or diving along the ice floes, you will be amazed and never forget these deep blue colours. In the Arctic waters we may observe typical marine life such as sea squirts, squat lobsters, many species of starfish, spider crabs, soft corals, anemones, peacock worms, and dogfish. Diving in the Polar areas does not only offer ice, but also an interesting marine life, such as kelp walls, sea-snails, crabs, sea butterflies, various Arctic fish, shrubby horse-tails, jelly-fishes, sea-hedgehogs and starfishes. In Spitsbergen we may dive with seals. Near the Island Møffen (Spitsbergen) we may observe many walrus approaching the zodiacs. When



they are within close proximity of the zodiacs, we may even try to observe these animals from under the surface with your snorkel and mask. Because of the possible danger we will not dive with the walrus.

### **Number of dives**

We plan at least one to 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.

### **Dive master**

Our dive masters are highly experienced polar dive masters and instructors, being assisted by one or two dive guides. The main language of the dive operation will be in English.

### **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 wanting to make deep dives are kindly asked to stay at home! 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.

### **Diving procedure**

The voyage will start with a check-dive so all divers can get used to the cold water and try out their equipment and the number of weights they need. 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.

You don't need to store your dive gear in your cabin. Upon arrival our dive staff will show you where you can leave your dive equipment. Only take your regulator with you in your cabin. Every diver is expected to prepare his own equipment well in advance prior to each dive. Bring your own spare parts for your regulators and dry suit in case of leakage or damage. The divers are expected to set up and carry their own equipment in and out of the zodiac and sometimes up and down the gangway.

The dives will be done on a 'buddy system' basis. The dive guide will not be in the water to accompany and lead the divers. The guides will stay on the surface for the divers' safety. 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.

### **What to pack for your Diving**

*Please 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)
- Freeze protected regulator
- 2 separate regulators, **because we dive with special bottles with two separate outlets.** The tanks we are using are 10L steel tanks. They 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 BCD 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
- Weight belt (weights available on board)

Please note that the snorkel is a vital part of the safety equipment and will often be used when snorkelling with seals and such.

**IMPORTANT:** Do not bring any new equipment on this expedition that you have not already tested in the water and you are not very familiar with. ***The Polar Regions are not the place to test out new equipment.***

**It is required that you complete a few dives with all the equipment you will be using before coming on the trip. This will also allow you to fine-tune your buoyancy and trim characteristics, and make a note of how much weight you will need when diving with all your equipment.**

### **Equipment on board**

**On board we have a Bauer compressor (200 litres), 35 steel bottles of 12 litres each, 200 bar, with DIN and Yoke adaptable connections and two separate outlets. This will allow for the attachment of a primary and a secondary backup regulator, which allows for either regulator to be independently isolated if there is a malfunction or a free flow.**



### Weights

You will be provided with hard led weights and a belt. There are no ankle weights available. We do not have any rentals on board. **Please make sure you check out all your dive gear before leaving.** Bins are available for storage.

### Setting up your gear

You need two sets of regulators:

1<sup>st</sup> set includes:

Freeze protected First stage  
Second stage (incl. hose)  
Hose for BC  
Pressure gage / computer

2<sup>nd</sup> set includes:

Freeze protected First stage  
Second stage (incl. hose)  
Hose for Dry suit

### Ice and weather

Please note that the itinerary in the Arctic is always weather and ice permitting. It is always possible that because of the pack ice and drift ice, we have to change our sailing schedule. It is possible that certain bays or fjords are closed because of ice. In such a case, we have to re-route our voyage. Possible alterations that relate to weather and ice conditions can never be a reason for claims, reimbursements or whatsoever. When changing the itinerary, we can assure you that the captain, expedition leader and dive master will do their utmost to provide an alternative program, along the same lines as the originally planned cruise itinerary.

### Diving expedition

These diving voyages are true expeditions. Although we know the destinations in detail, each dive will be a surprising event. Please note, that ice is not static but always in movement.

This means, that the actual situation (colours, marine wildlife) under the surface, always depends on the conditions and formations of the ice. Not achieved personal expectations in reference to the diving cannot be grounds for claims, reimbursements or whatsoever. However, our experienced dive master will do his utmost to offer the best dive sites.

### USEFUL TIPS FOR SCUBA DIVERS

***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 not 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

#### Dry Suit

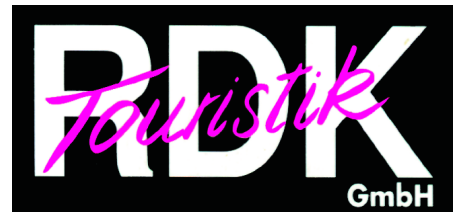
The only adequate protection from thermal exposure in the Arctic where the water will be as cold as  $-1^{\circ}\text{C}/30^{\circ}\text{F}$  is a dry suit. The type of dry suit you use is not important so long as it fits you, is waterproof and you are comfortable using it. Neoprene dry suits have the 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.

#### Insulating Undergarments

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.

#### 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 in the market. 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.



### **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.

### **Diving Equipment Regulator**

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 (1<sup>st</sup> & 2<sup>nd</sup> 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.

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.

### **Face 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 facemask 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.



## DIVING IN SPITSBERGEN

### What will you see?

The years of experience have showed us that there is no such thing as a guarantee about weather, wildlife or ice conditions. There is no such thing as a 'better dive site', or 'better period of time'. Every voyage is different than the previous one. And every year the ice and weather conditions are unpredictable.

**Currents** could be present anywhere at any time, we simply haven't dived these sites often enough to know exactly where it might occur. We always make sure one of our experienced dive guides drops in first and has a quick "look see" before putting others in the water.

### Visibility

A lot of pack ice often means clear visibility underneath and flat water.

Little pack ice often means a lot of plankton bloom because there is more daylight and more swells. The ice and weather conditions are different of course every year, so there is no way you can predict anything.

**Drifting** pack ice is a real hazard. If it comes in while divers are underwater then it can be very hard to see people if they surface in the middle of it.

Therefore it is very important to only dive around icebergs that are either hard aground or floating in water well clear of brash or pack ice.

Many of the sites have slopes or faces that go much deeper than the 20 meters maximum limit for the divers. Divers must act responsibly and show self-discipline.

**Diving in the Arctic** is exploratory and there is still so much to discover. Ice, weather, visibility etc., might change the sites we have dived in the past from year to year. Therefore we like to give you some general information about what you may encounter and see while diving in Spitsbergen.

### Blomstrand Island, Ny Alesund

This site is a good place to checkout the divers, a beach slow gradient, with reasonable visibility. Sand and small stone sea bed, depth to 7 meters.

### Andoyane Island, Liefdefjorden

Inside the archipelago is a protected location with good visibility. There is a gentle gradient with a soft silt bottom, interspersed with rocks, large leaf kelp and bushy brown algae with lots of critters.

**Jakobsenbukta, Woodfjorden**, a good area for ice diving. If we are lucky we find some nice pieces of blue ice grounded in about 20 meters of water.

Another good place for diving around nice pieces of blue ice is Smeerenburg glacier.

### Alkefjellet Hinlopen

This is an excellent dive site along the bird cliffs, just 200 meters north of the shear wall. Beautiful visibility and lots of benthic life

### Faxevaagen, Lomfjorden

We had some good diving here in the past with lush kelp beds and great visibility. Gentle slopes with sand and gravel are interspersed with boulders thus giving some rocky bottom fauna.

### Hamiltonbukta, Raudfjord

Here we had one of our best dive sites. A sandy and rock bottom with rock outcrops on either side. At the inside towards Hamiltonbukta we will dive a spectacular wall with lots of critters and all the usual benthic life. If we are lucky we might see some Walrus in this area.

At **Eagle Island** at the North tip of **Fugelsund** we have clear waters and some good benthic life, but there might be some current.

**Kongsfjorden** – the side fjord, **Krossfjord** has a number of possible dive sites along the eastern shoreline. We made two dives in two different spots and they seemed alike, with steep sloping rocky bottom and kelp forests down to 15 meters. Then rocks with lots of benthic marine life. According to the depth curve it continues down very deep. Visibility is good here.

At the Northern tip of **Prins Karls Forland** – **Fuglehuken** we go snorkelling in shallow water, with the northernmost colony of harbour seals. The seals are very friendly and curious, once they get used to the divers, and will play with them – Great experience!

In the **Bellsund** outside **Midterhuken** we will have a typical rocky dive with a kelp forest.

**Sagaskjeret** reef outside **Trygghamna** fjord is one of our last dives before returning to Longyearbyen and a very good one too. Sediments and glacial runoff do not affect the reef so the visibility is very good, almost tropical. Large kelp leaves spread out down to 15 m and then there is a forest of sea anemones on the sloping rock wall, really quite spectacular.