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PREPARING YOUR VOYAGE



EXPEDITION MANUAL



**OCEANWIDE
EXPEDITIONS**

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1. TRAVELLING WITH OCEANWIDE EXPEDITIONS

Oceanwide Expeditions offers unique, small-group expedition cruises that allow you to enjoy the natural wildlife and scenery of some of the world's most spectacular and pristine shorelines, above and below the oceans. The size, capacity and capability of our ice-strengthened vessels have proven to be a successful formula for many years.

As the number of participants is limited to about 50 passengers, our small-expedition vessels offer a friendly, intimate atmosphere. Accommodation and on-board-life is cosy and comfortable. Our voyages are primarily defined by an exploratory travel programme, spending as much time ashore as possible, combined with educational lectures on board. Moreover, we can be flexible, easily changing the course of the vessel and have our inflatable Zodiacs ready in no time for cruises among ice-floes or even the local wildlife. A friendly and experienced Russian crew, international expedition and hotel staff, most of whom have been with the company for many years, will be anxious to share their enthusiasm and knowledge with you. Reliable vessels, completely rebuilt and operated under the supervision of Oceanwide Expeditions, allow us to navigate safely through pack-ice and occasional remote narrow waterways.

The North Atlantic & Arctic season between May and September enables exploration of the spectacular scenery with its fascinating flora and fauna including Polar Bears, Walruses and myriads of seabirds. The itineraries include rarely visited Scottish islands - Hebrides, Orkney and Shetland – the Faroes, Iceland, Jan Mayen, Bear Island, Spitsbergen, Greenland and Lofoten.

During the Southern summer months November to March Oceanwide's vessels explore the islands of the South Atlantic, and Antarctica where towering snow-capped mountains and enormous numbers of penguins, whales, seals and seabirds offer unparalleled photographic opportunities. The voyages include the Antarctic Peninsula & South Shetland Islands, Falklands (Malvinas), South Georgia & the South Orkney Islands. The Atlantic Odyssey leaving Ushuaia in mid March includes seldom visited jewels such as Tristan da Cunha, St. Helena, Ascension Island and Cape Verde Islands.

2. PREPARING YOUR EXPEDITION VOYAGE

These notes will give you a brief idea of how to prepare for, and what you may encounter on, your voyage. We stress that this is an "expedition" style cruise. Our emphasis is on wildlife encounters, personal contact with the environment, visits to sites of historical interest and, to a lesser extent, scientific stations. Our actual program will vary to take best advantage of local conditions, spontaneous opportunities and wildlife. No two voyages are alike: there is always an element of the unexpected.

Required documents

Valid passport and visa if required. Please make sure your passport is valid for at least six months after your trip ends. Since visa requirements differ for each nationality, we ask that you check with the nearest consulates/embassies and secure visas if required.

Vaccinations

Vaccinations are not required for these cruises. However if you are visiting certain parts of Asia, Africa or South America prior to joining the expedition, you may be visiting areas infected with yellow fever. In that case you will need a yellow fever inoculation. Please consult the Public Health Service nearest to you.

Health

Any major health problem, disability, or physical condition that may require emergency care must be brought to our attention prior to the voyage.

Please complete the Personal Information Form which you have received from your booking agent, and return it to Oceanwide Expeditions, Bellamypark 9, 4381 CG Vlissingen, the Netherlands. Fax: +31 (0)118 410417. Or, our U.S.A. & Canada Reservations Office at 15710 JFK Blvd., Suite 285, Houston, Texas 77032. Fax: 1-281-987-1140. Or return it to your booking agent. (Please also bring a copy with you on board !).

Personal Medications

Be sure to carry ample supplies of any prescription medications you require as well as medication against motion sickness (sea sickness).

3. GENERAL CLOTHING ADVISE

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 ?

For your comfort and safety, avoid getting wet (whether from perspiration, precipitation, unsuitable boots or sea spray). Bring wind and waterproof outer layers.

Beware of tight clothing that leaves no room for trapped air, which is an excellent insulator. Wool, silk and some of the new synthetic fibres like polar fleece retain heat better than cotton.

The secret to keep warm is the “layer principle”. 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 it’s wind that is blowing or you who are moving rapidly and, in effect, creating a wind against yourself.

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



Tips to stay comfortable and warm in cold weather

- 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.
- Another polar maxim is “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. Keep from overheating.
- 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.

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:

- **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.

- **Turtlenecks**

Bring several practical turtlenecks for layering and use around the ship.

- **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.

The waterproof jacket is the most important layer of clothing. There is nothing worse than wind on wet clothes at zero degrees.

- **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.**

From experience, it is advisable to bring an extra camera in case of malfunction or accident. Cameras have been dropped in the water and it is a disappointed photographer who can't take pictures. Bring twice the amount of film you first plan to bring !

- **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).
- **For those who have booked a trip on the Noorderlicht:**
You can rent sailing clothes (Jacket & trousers) on board the vessel.

RUBBER BOOTS (VERY IMPORTANT)

You are requested to bring a pair of knee-high rubber boots. These boots will be used in virtually all of our shore landings with Zodiacs. 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. Stepping out of the Zodiacs to shore almost always involves stepping into water, it is important to have waterproof boots that are high enough to avoid water going over the top and into the boots. Also, 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 your feet wet !).

Do not bring heavy, cumbersome boots that make it difficult to walk. Boots with waffle soles like those on a hiking boot or running shoe tend to give the best footing. Avoid imitation 'rubber boots' made from PVC. These are unyielding and more prone to slipping. Ideal boots are "Wellies" or "Viking" boots: other brands of rubber boots can be purchased from work clothing stores, surplus stores, farm co-op stores, garden supply centres, outdoor stores and marine supply houses.

Sailing boots that are sold at marine stores have good non-skid soles that are good for slick ship decks and wet rocks, but they lack traction on snow, ice or mud. The all-around traction soles are good for ice and snow but are not as slip resistant on slick decks or rocks.

Remember that you will be wearing these boots a lot. So they must be comfortable for extended wear and walking. The boots should not be too tight or too sloppy. If they are too tight you will get cold feet. If they are too loose you can, within reason, add an insole or extra socks to take up the space. For maximum warmth, wear loose-fitting boots and two pairs of socks. Rubber boots generally come in whole sizes and many brands are uni-sex. Be sure to get the best fit no matter what size they are.

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.

Those travelling to Antarctica can rent equipment in Ushuaia instead of carrying all the way from home. Please contact us for further details.



4. ABOARD THE SHIP

We look forward to welcoming you on board one of our vessels which will be your home during the voyages.

The following guidelines are intended to help make the most of your stay on board.

- **Dressing**

In keeping with our expedition's atmosphere, dress on board is informal. Bring casual and comfortable clothing for all activities. Keep in mind that much of the spectacular scenery is best appreciated from the deck, which can be slippery. Bring sturdy shoes with non-slip soles and make sure your jacket is never far away in case the call "Whales!" comes over the loudspeaker and you have to dash outside. Wear layers since it is comfortably warm aboard the ship - and often cold on deck.

- **Combating sea sickness**

Anticipate some rough seas on the voyage. Should you be prone to motion or sea sickness, please consult your physician which medication is appropriate and its side effects.

To avert motion sickness, avoid alcohol, tobacco, excess liquids, and confined spaces. Most people feel better sitting on deck looking at the horizon or lying prone with their eyes shut. Oddly, you will feel better with some food, such as crackers or dry toast in your stomach. Many people eat to avoid feeling sick. Remember, once you start to experience motion sickness, medications are of little help.

- **Electric Current**

The electrical supply aboard the ship is 220v, 50Hz. Electrical outlets are standard European with two thick round pins. U.S. passengers may need a 220v/110v converter.

- **Currency**

The standard currency on board our vessels is the Euro. Other currencies may be accepted at the discretion of the hotel manager at prevailing rates.

- **Credit Card**

On our motor vessels we accept Visa and Euro/MasterCard. On our sailing vessels we only accept cash. We do not accept travellers cheques.

- **Gratuities**

The customary gratuity to the ship's service personnel is made as a blanket contribution at the end of the voyage which is divided among the crew. You will receive detailed guidelines aboard. Tipping is a very personal matter and the amount you wish to give is at your discretion. It is better for the crew, if you can give them cash, either US Dollars or Euros.

- **Bridge visits on board our motor vessels**

You are nearly always welcome on the bridge, an excellent place to watch ship operations and maintain a lookout for wildlife. Please remember, however, that the bridge is a working place.

To enable our officers to navigate the ship, remain on the port side of the bridge and please do not eat or drink. When in port, during rough weather, and other times for reasons of safety, the bridge will be closed to visitors.

- **Non-smoking policy**

On board our vessels we have a non-smoking policy. It is prohibited to smoke inside the ship. You can smoke on deck but do not throw your cigarette filter overboard ! Do not smoke on the aft deck in the proximity of Zodiacs, engines and fuel. Please respect the wishes of non-smokers.



5. COMMONLY ASKED QUESTIONS

- **Do I have to be really “fit” and in good health to join this expedition?**

You must be in good general health and you should be able to walk several hours per day on rough terrain. However, the expedition is ship-based and physically not very demanding: although we spend as much time as possible ashore, you are welcome to remain aboard the ship if you like. **It is very important, in order to join most excursions, that you are able to easily get up and down the steep gangway from the ship to the water level to board the Zodiacs.** Staff will assist you in- and out of the boats. Ashore it can be slippery and rocky. You are travelling in remote areas without access to sophisticated medical facilities, so you must not join this expedition if you have a life-threatening condition, need daily medical treatment or have difficulty walking.

- **What is the age range aboard?**

Passengers on a typical voyage range from their 30s to their 80s - with a majority usually from 45 – 65 (a little bit younger on our sailing vessel). Our expeditions attract independent-minded travellers from around the world. They are characterised by a strong interest in exploring remote regions. The camaraderie and spirit that develops aboard is an important part of the expedition experience. Many departures have several nationalities on board.

- **Can I recharge my batteries and use electrical appliances on board?**

Yes, the power supply is 220v, 50Hz. The wall plugs accommodate two thick round pins like those found in most European countries. You may need a transformer and international adapter for your particular equipment.

- **Are there restrictions on what can be done while ashore ?**

Yes, an overriding concern is the protection of the wildlife, environment and cultures in any of the areas we visit. We will address conservation issues in the on-board briefings and the expedition staff will assist you ashore.

- > **Do not leave anything but footprints**
- > **Do not take anything but memories**

- **How much time do we spend ashore ?**

That is hard to say. Our aim is to spend as much time ashore as possible. But that depends on the weather and the constraints of time and distance. Depending on the voyage, you may spend several days aboard the ship, followed by a series of landings, each several hours long. On some voyages you land two or three times every day. During our time at high latitudes we will have almost continuous daylight, which means we may schedule excursions before breakfast, after dinner, or in the middle of the 'night'. Often the light for photography is best at these times. We would like to show you as much as possible but leave it up to you to skip an excursion.

- **What is the language on board ?**

The board language is English and spoken by all our staff (expedition leaders, purser, chefs). On the motor vessels the crew is Russian, and most of them speak English. The personal contact with the Russian crew is always a nice aspect of our polar journeys. Several departures are dedicated to certain language groups.

- **Sea Sickness ?**

Many people ask us if they will get sea-sick. This depends very much on the individual. Our experience is that a small percentage of people get sick on any trip and most of these people are fine after a day or so at sea. If you feel that you are particularly susceptible to sea-sickness then it is a good idea to talk to your local doctor. Bring motion sickness tablets, be sure you have eaten enough and feel rested.

- **Is there a laundry service on board ?**

Although limited, there is a laundry service on board. In your cabin you will find laundry forms and laundry bags. Please fill out the form, put the laundry in the provided bag and leave it on your bed. The cabin stewardess will pick it up and return it within 48 hours. Dry cleaning is not available.

6. INTRODUCTION

TO THE POLAR REGIONS

Death zone, hostile environment and icy wastes are the labels generally applied to the polar regions, although package tourists can enjoy a glass of champagne in complete safety aboard luxury cruise ships. The Poles – the Arctic to the north and the Antarctic to the south – are the two points on earth farthest from the sun and thus also most alien to life. It is the fundamental disparities of the North and South Pole as well as their similarities and mutual interdependency which underline their global character, not merely as weather machines and historical deep freezes, but also with regard to their spiritual aspects. In addition to their geophysical features, the North and South Pole also exert a strong fascination and stimulate the imagination.

The enormous Arctic region is surprisingly homogeneous. Tundra is the characteristic feature. The inhabitants are herders or hunters; both follow the animals and thus live a nomadic existence. Reindeer provides the herders with everything they need. The spiritual element also has many common aspects in the Arctic, for example Animism and Shamanism. All living creatures, but also many landmarks such as mountains and bays, have a soul. Only the Shaman understands the language of non-humans and only he can undertake journeys to the other worlds where he seeks the advice of the spirits. The spiritual world is present in all aspects of life: a machine or a weapon may be technically perfect but optimum efficiency cannot be achieved until the spirits make a favourable contribution. But the similarities should not conceal the numerous differences, such as language, ethnic origin or economic way of life. The Arctic is only sparsely populated: 100,000 Inuit, 80,000 Saami and about 400,000 members of Siberian peoples. Today they almost all live in settlements with post offices, telephones, schools and hospitals. The village serves as a logistical base for those families still living as hunters or livestock breeders. In the past ten to twenty years the Arctic peoples have been trying to reshape their identity. Inuit (“the people”) has replaced the old word Eskimo in the north American Arctic though the peoples of the Asian Arctic use different names: Inuvialuit, Inupiaq, Yup’iki, Aleut, Chugach and Yuk. Saami has now replaced the old word Lapp.

6.1 EXPLORATION OF THE POLAR REGIONS

From the Vikings via the first whale and seal hunters to Scott and Amundsen, from the maritime explorers Franklin and Nordenskiöld to present-day polar tourism, a quick tour through history reveals some of the aspect which motivated people to extend their horizons. Existential need, sheer curiosity, imperial greed, polar science and a taste for adventure all converged in regions which pardon no mistakes.

The first explorers

The Vikings (c. 800-1050 AD) were intrepid and wide-ranging seafarers. Their open boats had both a rudder and sails, and room for 30 men plus livestock. The Norseman Ottar sailed as far as the White Sea in the 9th century. Later other Vikings reached the coasts of Greenland and North America. They navigated with the aid of primitive compasses, observed and interpreted sea currents, winds, bird flight paths and the favourite location of whales. They may also have been able to penetrate so far north because the climate was somewhat milder than it is today: the effects of the rise in temperature, which had brought about the end of the Ice Age, were still tangible.



Early trade

The Pomeranians lived by the White Sea – the word “pomore” means “along the sea”. They were traders who had migrated from Novgorod in the 13th century. With their vessels, known as “kotsyas”, they sailed both eastwards along the Siberian coastline and to the islands of the Arctic Ocean trading furs, skins and fish. Their most important trading centre was Archangelsk. The 16th century saw an expansion of European trade with China and the major powers began to dream of a North-East Passage to the sea. The Dutchman, Willem Barentz, was among those who attempted to find this passage. In the autumn of 1596, he reached Novaya Zemlya, was forced to spend the winter there and died one year later on the return journey. Central European trade with China had to develop along different routes.

Russian expansion

In the early 17th century, Russia conquered Siberia at astonishing speed. But the majority of Siberia was still largely uncharted terrain. Russian rule was maintained by small isolated garrisons which collected furs and mammoth tusks beside rivers and along the Arctic Ocean coast. During such a trading voyage, the Russian Semen Dezhnev sailed south through the “Bering Strait” in 1648 – 80 years before it was “discovered” by Vitus Bering. His imagination fired by the scientific discoveries of his day, Tsar Peter the Great wanted to explore Siberia and reach America. After his death, the Great Northern Expedition left St. Petersburg in 1733 under the leadership of the Dane Vitus Bering. Sections of Siberian coastline were named after Russian participants, for example K.P. Laptev and S. Tyelyuskin.

The North-West Passage

Britain ruled the waves after the Battle of Trafalgar in 1805. When the war was over, polar expeditions offered a fresh challenge. In the period 1813-1858, there were almost 30 northbound expeditions. In 1845, John Franklin set off with two ships and 133 men to continue the search for the North-West Passage. The expedition was equipped like a military campaign. It vanished without trace and several other expeditions tried to ascertain its fate. It was finally established that Franklin’s ship had become icebound and everyone on board had died of scurvy and starvation. The North-West Passage and large sections of the North American coast were charted during the rescue expeditions.

Nordenskiöld

The name Adolf Erik Nordenskiöld is forever linked with the North-East Passage. He was the first successfully to navigate the notorious “ice cellar”, the Kara Sea, and sail along the northern coast of Siberia to China. Within two summer months in 1878, the steamship Vega travelled almost all the way along the northern coast of Siberia. On 28 September 1878 the Bering Strait was just an autumn day’s journey away. But then the pack ice and cold struck and the Vega was icebound. On 18 July 1879, the ice released the ship and it passed through the Bering Strait two days later. The home journey was via the Suez Canal, Naples and Paris. Everywhere en route, the Vega was greeted with fireworks and festivities. On their arrival in Stockholm on 24 April 1880, Nordenskiöld and his captain, Louis Palander, were welcomed like national heroes.

Nansen

The 1890s were distinguished by national awareness and scientific curiosity. Polar expeditions were extremely popular. The Norwegian Fridtjof Nansen was a man who had taken an early interest in the polar regions and the abilities of Arctic peoples to cope with cold and difficult transport routes. His most famous voyage followed the sea current which moved sea ice through the northern Arctic Ocean between Siberia and Greenland. The journey, in the specially-built schooner Fram, took three years (1893-96). After two icebound winters, Nansen abandoned his ship, heading for the North Pole on skis together with Hjalmar Johansen. They did not reach the Pole and, against all expectations, survived a further winter before being rescued by English polar explorers in the summer of 1896. Nansen was a major explorer and writer. After the First World War he became committed to the cause of war refugees. He was awarded the Nobel Peace Prize in 1922.

Andrée

The Swede Salomon August Andrée had bold dreams. Crossing the northern Arctic Ocean in a gas-filled balloon developed into a fixed idea. The balloon which was to take Andrée, Knut Fraenkel and Nils Strindberg the 3,700 kilometres from Spitzbergen to the Bering Strait, was sewn together in Paris: it was of Chinese silk, 20 metres in diameter, and with a volume of 2,800 cubic metres.

On 11 June 1897, the Örnen (Eagle) was filled with hydrogen and took off from the island of Danskön, carrying a hyper-modern camera and 36 carrier pigeons on board.

The Örnen was only airborne for 33.5 hours. The three men made their way south to the island of Kvitøya where they died in October. They are thought to have died of trichinosis after consuming polar bear meat. The camp on Kvitøya was discovered in 1930 and, amazingly, the men's diaries and equipment, including the camera and some exposed glassplates were saved for posterity.

Alfred Wegener

Wegener was a German natural scientist with a broad range of interests. At the beginning of the 20th century he took part in three expeditions to the inland ice of Greenland. He led the Greenland expedition which spent the winter of 1930-31 there. Wegener died in autumn 1930 during a journey across the ice. Alfred Wegener typified the modern polar explorer - he was primarily a scientific researcher. In 1912, he launched the continental drift theory, though it was to take a further 50 years before his theory became the topic of serious discussion and was proved by the discovery of fossils in the polar regions. The theory, plate tectonics, is now generally accepted.

Russian ice drift stations

In the 1930s, the Communist regime in Moscow developed an interest in the Arctic seas. Scientific and political ambitions were closely linked. Before he could expand maritime travel and aviation in the Arctic, Stalin needed more knowledge about the Arctic Ocean and its climate. Stalin therefore placed his faith in a bold and, for many years, secret innovation of polar research – scientific stations on drifting ice floes. On 21 May 1937, the first transport aircraft landed on an ice floe near the North Pole. Four research scientists under the leadership of Ivan Pananin were left behind to spend the winter – their only link with the outside world was a simple radio. After drifting southwards for 274 days on a melting ice floe, they were picked up off the coast of Greenland. They returned to the Soviet Union as heroes. Then came the war. It was not until 1950 that North Pole Station 2 was established. The programme was discontinued in 1991 after 31 ice stations had been maintained in the region.

The race to the South Pole

In 1909, the Englishman Robert Falcon Scott resolved to conquer the South Pole. At the same time, the Norwegian polar explorer, Roald Amundsen, was planning an expedition to the North Pole. When Amundsen learned in 1909 that Frederick Cook and Robert Peary were both claiming to have reached the North Pole he secretly changed his plans, heading off for the South Pole instead. Amundsen and four companions reached the South Pole on skis and with the help of dogsleds on 14 December 1911. Scott and his colleagues, who had pulled their sledges themselves, arrived on 17 January 1912 – only to find one of Amundsen's tents. Greatly disappointed they set off on their return journey, plagued by cold, hunger, scurvy and exhaustion. None of them survived. Scott and two others died just 18 kilometres from a supply depot. Thus ended one of the greatest dramas in polar history, one which is still the subject of papers and discussions to this day.

Shackleton

On the very same day that England entered the First World War, 8 August 1914, Sir Ernest Shackleton began his second voyage to Antarctica. Churchill eventually gave the order for him to depart after the loyal Shackleton had enquired whether he was required for war duty. When the American Peary claimed to have reached the North Pole in 1909, and the Norwegian Amundsen reached the South Pole in 1911, Great Britain had fallen behind in polar expedition. Shackleton wanted to restore Britain's honour by crossing Antarctica. But his ship, Endurance, sank before the expedition reached the Antarctic Continent. The crew were rescued in a miraculous manner after the dramatic voyage of the ship's boat James Caird. Many regard Shackleton as the greatest of the polar explorers because of his leadership qualities and his intrepid nature.

Exploitation

Animals form the basis for human existence in the Arctic. For thousand of years, reindeer, seals, Arctic foxes, walruses and whales have provided the means of survival for the indigenous Arctic population in the harsh polar climate. They are a source of food and material for clothing, equipment and housing. They also represent an important trading commodity. The hunter must kill to feed himself and his family, a fact which applies to both Man and beast. Because of the extreme environment, hunting requires not only a high

degree of perfection and efficiency in killing, but also deep respect among the indigenous Arctic hunters. People need animals as food and the animals allow themselves to be killed. But humans must in turn observe strict codes of behaviour and treat the souls of the dead animals as guests. The polarity between individual tragedy and biological-social necessity is nowhere more visible than in death.

Whaling

People in the far north and south who share ecological niches with whales and seals have always exploited these renewable resources. Different catch methods were devised and adapted to the specific type of prey. As far as whaling is concerned, the Stockholm Environmental Protection Conference adopted a resolution in 1972 against the ecologically untenable catch quotas issued annually by the International Whaling Commission (IWC). Since that Conference there has been a consensus of opinion among the western industrial nations that whales are taboo for commercial exploitation.



6.2 NATURAL PHENOMENA

Aurora

The auroral light of the polar regions is a remarkable phenomenon. In the clear polar night, arcs, curtains and luminous clusters move across the sky. They are created when streams of solar particles penetrate the Earth's ionosphere and collide with molecules of the upper atmosphere. The Earth's magnetic field attracts the particles down to the magnetic poles and concentrates them in an oval band. Both the location of the ovals and the form of the aurora are governed by the intensity of solar activity. The Northern Lights have always held great significance for the myths and traditions of Arctic inhabitants.

Halo

In earlier times, light phenomena in the sky caused great excitement. They were interpreted as occult messages and people were often afraid. Today we know that these luminous rings, arcs, pillars, crosses and patches on the heavens are physical-optical phenomena. They are created when sunlight or moonlight is refracted by tiny ice crystals floating in the air. In good weather conditions – clear air with sparkling ice crystals – the sky can present a fantastic display. The halo effect is at its most beautiful in the polar regions, but it is also visible in lower latitudes.

Mirage

Many polar explorers have sighted land and islands which simply do not exist. These are optical illusions created when light is refracted in atmospheric layers of differing temperature. The mystic islands on the horizon usually turn out to be pack ice. Mirages also appear in deserts when cold air comes into contact with hot sand. Desert phenomena are termed “inferior mirages”. In the polar regions we see “superior mirages” when warm air moves over a cold surface. The most dramatic and complex form of atmospheric reflection is called Fata Morgana. It is even possible to see images from beyond the horizon. The Viking Eric the Red is thought to have been enticed by a Fata Morgana when he discovered Greenland.

6.3 POLAR WILDLIFE

Polar flora

“Infertile” and “wasteland” are two words one often hears in connection with the polar regions. Yet over 800 species of flowering plants flourish in the Arctic, though by contrast there are only two species of flowering plants on the Antarctic mainland since it is a long way from the next continent, a fact which reduces the chances of new plant species becoming established. The major part of Antarctica is also covered by eternal ice and the climate is much harsher than in most parts of the Arctic. In the few places where plants can grow, mosses and lichens play a bigger role than flowering plants. Some lichens even grow in the polar desert areas in the interior of Antarctica where the conditions are truly extreme. Arctic plants have to be very small to survive. A tall plant would be helplessly exposed to the sharp ice crystals with which the wind would constantly batter it.

Arctic fauna

As in Antarctica, the most important habitats in the Arctic are by the sea. Even the king of the Arctic, the polar bear, is described as a marine animal since it hunts seals from the ice floes. There is an immensely rich variety of seabirds, including guillemots, auks, terns, divers and ducks. Apart from the polar bear, the most frequently encountered land mammals are the reindeer or caribou, musk-ox, Arctic fox and Arctic hare. Marine mammals include seals and the walrus. Fur seals occur in the Bering Strait area.

Antarctic fauna

Apart from the deep sea, Antarctica is the oldest and largest self-contained ecosystem in the world. The animal world is very closely linked with the sea and is consequently to be found mainly on the periphery of the continent. With the exception of a few insects, all forms of life capitulate in the face of the increasingly harsh climatic conditions further inland. The coastal regions are populated by sea birds such as petrels, albatrosses, skuas and penguins as well as marine mammals like the crabeater seal, leopard seal, Ross seal, Weddell seal, fin and right whale, and sea lions. The Antarctic sea regions contain the greatest quantities of animal protein on Earth.

Antarctica's marine food chain

The most common Antarctic shrimp, krill, uses its front legs to catch microscopic unicellular algae known as diatoms. The word “krill” comes from the Norwegian and means “food of the whale”. All living creatures consume 90% of their food for their everyday activities and thus convert only 10% into body weight, meaning that nutritional value declines exponentially as one progresses through the food chain. The whale jumps these links in the chain by preying directly on krill rather than on fish or sea birds. A fin whale requires about 2-3 tonnes of krill per day to reach an impressive length of 24 metres and a weight of up to 80 tonnes.

Antarctic birds

Penguins represent half of the Antarctic bird population, nine-tenths of its biomass. These birds depend on the sea for their food. They eat about 4.7 million tons of food each month – mainly crustaceans and fish, but also squid. While **penguins** dominate the bird biomass, **tube-nosed petrels** constitute the majority of the breeding species. Other groups include **cormorants, skuas, gulls, and terns.**

It takes a tough bird to overcome Antarctica's notorious inclemency. One might infer from the enormous concentrations of sea birds that do occur that the populations are invincible. They are not. The long isolation of Antarctic birds has produced an extraordinarily innocent and docile avifauna – a quality attractive to both scientific study and tourism, but one that leaves these highly vulnerable birds open to harm from human presence or mismanagement.

Natural factors such as storms or abnormally extensive sea ice can cause extremely high mortality in nesting areas. But Antarctic bird species have evolved to overcome these adversities. Human activity is another matter. On the evolutionary time scale, people and their machines have just entered the Antarctic scene. The birds have had little time to adjust. Studies have shown that even casual or occasional contacts with Antarctic bird colonies can adversely affect breeding success. After visits are ended or controlled, bird populations have been observed to return to former levels.

Today, much is known about some of these birds at breeding sites, but virtually nothing about the longer time they spend at sea.

7. THE NORTH ATLANTIC ISLANDS

7.1 SCOTTISH ISLANDS

The green fertile islands of Orkney¹, Shetland and the Hebrides are ideal places to truly get away from it all. The islands provide a vivid contrast to the rugged moorland of the Highlands, the landscape rolling gently to merge with wide open skies and azure blue seas. Peace and tranquillity characterise these islands which lie just miles off the northern tip of the Scottish mainland. Steeped in history, there are over 1,000 recorded sites of interest, many built before the pyramids. Vikings ruled over the islands for nearly 500 years and Scandinavian influence can still be seen and felt. Island and parish names come straight out of the sagas; “Westray” means west island, “Hoy” is the high island.

Very few places in Britain can boast such a concentration of rare and important birds as the Scottish Islands. There are four broad types of habitat set in and around the cattle-rearing farmland. About one million seabirds make the islands their summer destination and the sheer noise of these seabird cities, inhabited by fulmars, guillemots, razorbills, kittiwakes and puffins is incredible.

The Scottish Islands are home to one of the world's long-distance travellers, the Arctic Tern. The birds arrive in mid-May after a 10,000 mile journey from the Southern Ocean, spend about three months in the islands, and then return to the wintering grounds at the other side of the world. Perhaps they come to see the rare, beautiful but diminutive Scottish Primrose. Orkneys is one of the few places it grows!

During our voyages to the Scottish Islands we may visit the following islands:

Copinsey in the Orkneys. A lovely group of small islands with very accessible seabird colonies.

¹ www.Orkney.com

Fair Isle, the most remote inhabited island in Britain, lying halfway between the Orkneys and Shetlands, has a little village as well as small colonies of skuas and Northern Gannets.

On uninhabited **Mousa** in the Shetlands you will find the best preserved Pictish broch. The island is a nesting place for thousands of European Storm Petrels, which return to their crevices in the night. Otters may be seen in this area, while Grey Seals and Harbour Seals are common.

Foula, another Shetland island, is home to thousands of Razorbills, Common Guillemots, Puffins and Kittiwakes, breeding on a breath-takingly high cliff of The Noup. On the island's ponds you may see Red-throated Divers while the colonies of Arctic Skuas and Great Skuas are among the largest in the North Atlantic.

North Rona in the Hebrides is a lovely island studded with remains of the 18th century inhabitation. Here Leach's Petrels nest, and there are also colonies of Great Black-backed Gulls, skuas and Puffins. The island is a breeding ground for Grey Seals. We also circumnavigate Sula Sgeir with its thousands of breeding Northern Gannets. The birds are still harvested during the nesting season.

On **Flannan Islands** there are accessible Puffin colonies. The island lies to the west of Lewis, famous for Loch Roag with the standing stones of Callanish, claimed by many to be second only to Stonehenge in importance.

St. Kilda, lying about 45 miles west of North Uist (and the most westerly of the British Isles) was once inhabited, but finally abandoned in the 1930s. On it a special species of sheep has evolved, grazing among the largest colonies of seabirds in Britain. Boreray and the stacks will be circumnavigated.

Canna, one of the Inner Hebridean islands, has small areas of forest, but is chiefly famous for its waders, Manx Shearwaters, Golden and White-tailed Eagles and Peregrine Falcons.

7.2 THE FAROE ISLANDS

For millions of years the Faroe Islands stood alone in the heart of the North Atlantic. The first settlers were probably Irish monks who, seeking a tranquil refuge, arrived in the middle of the 7th century. What is better known and well- documented, is the Norse colonisation, beginning about a hundred years later and developing throughout the Viking Age, with the Faroes a central part of the Viking settlements along the coasts of the North Atlantic and the Irish Sea.

The Viking settlers established their own parliament with local things in different parts of the islands and the main thing on Tinganes in Tórshavn. Christianity was proclaimed here in about 1000AD. Shortly after, the islands came under control of the Norwegian kings, one of whom being the famous King Sverre, who, as a child, was brought up at the Faroese bishop's seat at Kirkjubøur. Later Norway became part of the kingdom of Denmark, and with the Reformation, the independent Faroese bishopric was abolished and its properties taken over by the Danish Crown.

During the Middle Ages, the Faroe Islands were greatly influenced by neighbouring North Sea countries, especially through the Hanseatic merchants of Bergen. With the Reformation the Danish king increased his control of the trade, establishing a trade monopoly, operated by particular merchants and companies. Then, in 1709, trade was taken over by the Crown through the Royal Trade Monopoly.

The islands were now governed directly from Copenhagen. Danish officials arrived to oversee the trade and to protect it, both from competing merchants and the bands of pirates who for centuries had plagued the islands. Fort Skansin, overlooking Tórshavn harbour, is a remnant of the historic fortifications built at this time, though now when visitors scan the horizon from the fort they see only peaceful fishing boats or, perhaps, the graceful curves of an international cruise liner.

In 1856, the Royal Danish Monopoly ended, and soon enterprising Faroese businessmen were exploring new connections with the outside world. In 1872, an old English sailing smack, named the Fox, was purchased for deep

sea fishing far from the Faroese shore. The Faroe Islanders quickly earned the reputation of being among the best sailors and fishermen in the world, the fishing industry growing into the main source of income for the islands.

Today the Faroes are vigorously engaged in exploring the potential for oil production in the seas around the islands. But vestiges of the ancient history are evident wherever you go, blending with the modern. On Tinganes, now the home of the national government, established according to the Home Rule constitution adopted in 1948, the Lagman (Prime Minister) has his office in one of the former Royal Trade Monopoly storehouses. Looking of his window he can measure the passage of a thousand years carved into the stones at the tip of the peninsula, a passage that the visitor can also enjoy as they stroll around this enchanting spot.

Location and size

Situated in the heart of the Gulf Stream in the North Atlantic at 62° 00'N, the Faroe Islands lie northwest of Scotland and halfway between Iceland and Norway. The archipelago is composed of 18 islands covering 1396 km² (545.3 sq.miles) and is 113 km (70 miles) long and 75 km (47 miles) wide, laid out roughly in the shape of an arrowhead. There are 1100 km (687 miles) of coastline and at no time is an islander or visitor more than 5 km (3 miles) away from the ocean. The average height of the island above sea level is 300 m (982 ft), the highest mountain rising to 882m (2883 ft).

Climate

The weather is maritime and quite changeable, varying from brilliant sunshine to misty hill fog to showers. The Gulf Stream encircling the islands tempers the climate. The harbours never freeze and the temperature in winter is very moderate considering the high latitude. Snow falls occasionally, but is usually short-lived. The average temperature ranges from 3°C in winter to 11°C in the summer. In sheltered areas, the temperature can be much higher, but the air is always fresh and clean no matter what the season.

Population

The population was 45,000 in March 1999. The capital of Thórshavn has a population of 16,000. Klaksvík, the second largest town in the Faroes, has a population of 5,000.

Form of government

Since 1948, the Faroe Islands have been a self-governing region of the Kingdom of Denmark, with its own parliament and its own flag. It is not, however, a member of the European Union and all trade is governed by special treaties.

Languages spoken

Faroese is the national language and is rooted in Old Norse. Nordic languages are readily understood by most Faroese, and English is also widely spoken, especially among the younger people.

Industry

The fishing industry is the most important source of income. Fish products account for over 97% of the export volume. Tourism is the second largest industry, followed by woollen and other manufactured products.

The island of Mykines

On our voyage to the Faroe Islands we plan visit Mykines, (though the quick changes of weather in the area mean that we cannot guarantee a visit), one of the most western islands. In summer the island, which seems the perfect haven for solitary retreat, is home to thousands of migratory seabirds, so many that experts believe it was the mysterious "paradise of birds" that the adventurous seafaring Irish monk, St. Brendan, described in the middle of the 6th century.

The foremost avian summer resident of Mykines is the Puffin. This intriguing little creature is one of the main attractions for visitors. Its brightly coloured bill and its willingness to remain posed with fish in its beak, makes the Puffin the ideal photo opportunity for any budding ornithologist. But though the birds are the main attraction, the island is also splendid walking country.

Apart from the excursion to the stone forest in the Korkadalur valley, the towering summit of 560 metres Knúkur is a target for the keen walker. It is only some three kilometres away from the village, but the climb can be difficult. Less strenuous is the delightful trek out to Mykineshólmur, a small islet on the western side of Mykines.

A footbridge connects the islet with the main island, crossing 35-metre deep gorge. The sea stacks surrounding the lighthouse at the far end of the cape are strikingly beautiful and are home to a Northern Gannet colony. These majestic birds have chosen this western outpost of the Faroes for their home, the only one in the Faroes. Even from a distance the visitor can see the birds sitting on top of the stacks with their young ones.

Though many think that Mykines is the highlight of the Faroes, all of the islands are worth visiting, our choice being made by the weather and the time we have available.

For more detailed information on the Faroe Islands we refer to the following website <http://www.faroeislands.com>



7.3 ICELAND

In 930, the Icelandic settlers founded one of the world's first republican governments; the Old Commonwealth Age, described in the classic Icelandic Sagas, lasted until 1262, when Iceland lost its independence, and in 1944 the present republic was founded. The country is governed by the Althing (parliament), whose 63 members are elected every four years. Four-yearly elections are also held for the presidency; President Ólafur Ragnar Grímsson was elected in June 1996 to succeed Vigdís Finnbogadóttir, and was re-elected in June 2000. The head of state plays no part in day-to-day politics.

Location and size

Iceland is an island of 103.000 km² (39,756 sq.miles), with an average height of 500 m above sea level. Its highest peak, Hvannadalshnjúkur, rises to 2.119 m and over 11 percent of the country is covered by glaciers, including Vatnajökull, the largest in Europe.

Situated on the Mid-Atlantic Ridge, Iceland is a hot spot of volcanic and geothermal activity: 30 post-glacial volcanoes have erupted in the past two centuries, and natural hot water supplies much of the population with cheap, pollution-free heating. Rivers, too, are harnessed to provide inexpensive hydroelectric power.

Climate

There is a saying in Iceland that if you do not like the weather you need only wait 5 minutes because then it will change. Icelanders also say that the island does not have a climate, just samples of other peoples' weather. The island has a very variable climate, sometimes warm sunshine, at other times rain and wind. Be prepared for everything. In winter temperatures are cold, particularly in the interior, and there is often snow, though on the coast this may not last very long.

Population

Out of a population numbering more than 280,000, half live in the capital Reykjavík and its neighbouring towns in the southwest. Keflavík International Airport is located about 50km from the capital. The highland

interior is uninhabited (and uninhabitable), and most centres of population are situated on the coast.

Languages spoken

Icelanders are proud that they still speak the ancient language of the Vikings, but they certainly don't just live in the past. Their cherished ancient heritage lives on in harmony with the most exciting innovations from the world of arts and culture today. This refreshing mix of local, traditional, progressive and cosmopolitan culture appeals to almost every taste. Iceland was settled by Nordic people in the 9th century - tradition says that the first permanent settler was Ingólfur Arnarson, a Norwegian Viking who made his home where Reykjavik now stands. The Icelanders still speak the language of the Vikings, although modern Icelandic has undergone changes of pronunciation and, of course, of vocabulary! Iceland is alone in upholding another Norse tradition, i.e. the custom of using patronymics rather than surnames; and an Icelander's Christian name is followed by his or her father's name and the suffix -son or -dóttir, e.g. Guðrún Pétursdóttir (Guðrún, daughter of Pétur).

Industry

The economy is heavily dependent upon fishing. Fish and fish products constitute more than 70% of Iceland's exports in goods and it is the most important industry. Agricultural land in Iceland is mostly used for growing grass for the making of hay and silage as fodder for livestock. Sheep and dairy cattle make up the main livestock in Icelandic farming. Despite effort to diversify, particularly into the travel industry, seafood exports continue to account for nearly three-quarters of merchandise exports and approximately half of all foreign exchange earnings. Yet less than 10 percent of the workforce is involved in fishing and fish processing.

The travel industry makes up the second-largest export industry in Iceland. The standard of living is high, with income per capita among the best in the world. The economy is service-oriented: two-thirds of the working population are employed in the service sector, both public and private.

For further detailed information on Iceland we refer to the website of the Icelandic Tourist board: <http://www.icetourist.is>

7.4 JAN MAYEN

Jan Mayen is a volcanic island set in the North Atlantic Ocean, halfway between Iceland and Spitsbergen. The still active volcano, Beerenberg, is 2200m high and dominates the island.

The island is named for Jan Jacobsz May, a Dutch whaler who landed here in 1614 (though the island had been seen before) and was a major whaling centre for both Dutch and English whalers. In the years which followed his visit, several settlements being established. These settlements were usually only manned in the summer. Seven Dutchmen who tried to over winter in 1633-34 all died because of scurvy. When whaling ceased, the difficulties of access and the poor climate limited human activities on the island.

At the end of the 19th century Jan Mayen was visited by Austrian research-expedition, then in the early 20th century Norwegian trappers settled, almost wiping out the Arctic fox population. When its fur trappers were active Norway established a weather station on the island, finally claiming sovereignty in 1929. During the Second World War the island was of great symbolic importance as the last piece of 'free Norway'.

The first impression the visitor gets of the island is one of a rough, inhospitable landscape, studded with snowfields, the sides of Beerenberg swept by glaciers separated by steep, rocky faces. The weather is unpredictable: there may be heavy rain, wind and fog but then, soon after, the sun may break through and the air become clear. During the winter Jan Mayen is often surrounded by pack-ice, the slopes of Beerenberg perpetually snow-covered.

The vegetation is scarce, limited to just a few mosses, grasses and a scattering of flowering plants. Yet for all its ruggedness and inhospitable climate there is a wild beauty to the island. On the coast pebble beaches alternate with dazzling high rock faces. On the beaches there are the old bleached bones of whales and the remains of the whaling stations, while the rock faces are home to breeding colonies Glaucous Gull, Northern Fulmars, Kittiwakes, Little Auks, Black Guillemots and Brünnich's Guillemots and Puffins. Common Eiders, Arctic Terns, Ringed Plovers and other waders breed on Jan Mayen, choosing nest sites on flat land behind the beaches.

8. THE HIGH ARCTIC

8.1 SPITSBERGEN

The official Norwegian name for this archipelago including Bear Island and Jan Mayen is 'Svalbard'. However internationally it is known as Spitsbergen, though according to the Norwegians, that is only the name of the largest island. There is some doubt about when Spitsbergen was first discovered – was it the Vikings in the days of the Sagas, or the Russians in the early 16th century? All that is known with certainty is that two Dutch ships under the command of Willem Barentsz and Jan Cornelisz Rijp reached Spitsbergen in 1596 while looking for the Northeast Passage to China. The land they discovered, they named “Spitsbergen” -pointed mountains - after the characteristic mountain formations of the southern island. In time, Spitsbergen became a popular place for whalers, especially for those hunting the Greenland Whale: during the middle 1600's several hundred boats were engaged in whaling each summer.

Since 1700 Spitsbergen has been the goal or departure point for many expeditions both, scientific and exploratory. Some of the most famous are the Andrée Balloon Expedition, Amundsen's venture with the airship Norge and Nobile's with the airship Italia.

The presence of coal was known relatively early to hunters and whalers who visited Spitsbergen and they used it for heating. However, an interest in its financial potential did not arise until the end of the 19th century.

Covering an area almost as big as the Republic of Ireland, Spitsbergen is still today virtually unspoilt wilderness. Despite its closeness to the North Pole, it has surprisingly diverse scenery, including tundra, glaciers, fjords and mountains which, in the western part of the island rise to over 5,000 ft. From time to time the coastal glaciers calve icebergs into the seas with a noise like thunder. Being an eyewitness of such an event is quite an experience.

Almost everywhere the subsoil is permanently frozen from 80cm to a depth up to 400mtr – permafrost. In summer when the topsoil thaws, the water is

unable to drain and the ground becomes boggy. Due to the warming influence of the Gulf Stream temperatures are relatively high and there is an amazing variety of flora: in addition to the typical tundra vegetation of mosses and lichens, there are also 250 species of fungi, 7 species of ferns and 164 flowering plants. There are very few terrestrial mammal species on Spitsbergen, only the Spitsbergen Reindeer being entirely terrestrial. The other mammals - Arctic Fox, Polar Bear, Walrus, Bearded, Harp and Ringed Seals - rely in part or entirely on the sea. Several whale species are still to be found in the waters surrounding Spitsbergen. Although the bird species are not as diverse as in other regions, the huge seabird colonies are very much an attraction.



The east coast is influenced by a cold sea current from the Polar basin (the Barentsz current) and the resulting lower temperatures mean that even in summer pack ice can often make access difficult. In contrast, the west coast is warmed by the Gulf Stream and can be reached by sea, even throughout the winter.

During the period of the midnight sun, in May, June and July, the sun remains above the horizon at midnight and the temperature drops only slightly at night.

From mid June to mid September, a total of about three months each year, the region is accessible for wildlife cruises. The weather is relatively mild

and a fascinating fauna and flora appears to be enjoyed by the visitor during our daily guided land excursions. These visit very remote parts of the island, most of them without any human settlements. On these trips you will have the chance to observe thousands of seabirds such as the Puffin, Ivory Gull, Brünnich's Guillemot, Arctic Skua, Long-Tailed Duck, Red-throated Diver and Barnacle Goose, Rock Ptarmigan, and Purple Sandpiper. We might see Arctic foxes and the Spitsbergen reindeer, which is smaller than its mainland relative and more solitary. When sailing, we have good chances of meeting the king of the Arctic, the Polar Bear and also Walruses and whales. There will also be a chance to visit the ruins of the whaling industry, colourful stretches of land and magnificent glaciers. Don't forget that the sun is shining continuously, a weird but marvellous experience.

Note: Spitsbergen is under Norwegian sovereignty but a visa is not required even to visit the Russian settlements.

Longyearbyen

Your Arctic expedition starts from the seat of local government and Norway's main administrative centre on Spitsbergen - former mining village Longyearbyen. The small colourful community of approx. 1.400 inhabitants has developed from being a typical mining community into a community with a number of businesses and industries and a wide range of cultural activities and opportunities. In general, the population on Longyearbyen is rather young, with many small children.

Leisure and cultural activities abound. Since there are no roads between the settlement areas on Spitsbergen, snowmobiles (in winter) and boats are a common means of transportation. Locals are very fond of outdoor activities, as well as taking weekend trips to cabins and huts.

In Longyearbyen the midnight sun begins in the second half of April and lasts until almost the end of August, whilst in contrast the Arctic Night lasts from 28 October to 2 February.

West Spitsbergen enjoys a maritime climate, while East Spitsbergen has a drier, almost steppe-like climate, although the skies are frequently overcast. Fog can develop very suddenly, especially in the mountains. The prevailing winds are from the north or west and storms can blow up very quickly.

8.2 GREENLAND

“There is a land that rises up from the sea, a land with pack ice and glaciers and bluish mountains shrouded in mist, a land that dreams in the chilly sun of summer nights, a land on the very border of the frigid North Pole itself.”
Helge Ingstad

Geography

Greenland is the largest island in the world. It is located there where the Atlantic meets the Arctic Ocean, a position, which means it, is mostly surrounded by cold ocean currents, and most shores always being cooled. Combined with the effect of cold air caused by the vast inland ice, this gives Greenland an Arctic climate. The ice cap covers 1,833,900 km², 85% of Greenland's total area, and extends 2,500 km² from the north to the south and up to 1,000 km from the east to the west. The ice can be up to 3 km thick in the middle and represents 10% of the world's total fresh-water reserves. The land not covered with ice has an area of 350,000 km², comparable with the size of Norway. In 1974 the world's largest National Park was created when about one-third of Greenland (972,000 km² north-east Greenland) was set aside for this.

Geology

The oldest rocks ever dated on Greenland are 3,700 million years old, compared to the best estimate of the age of our world of 4,600 million years old. The subsoil must be at least 1,600 million years old. Of the minerals found in these ancient rocks tuttupit is found exclusively on Greenland and on Russia's Kola Peninsula. Garnet, rubies, moonstones and nummulite are all found in the mountains of Greenland.

Flora and Fauna

The island's richest plant growth is found in the sub-arctic belt in the southwest. Here birch scrub is found and potatoes, beet and carrots can be grown. In the low-arctic area tall willow scrub grows, while in the high-arctic only low-lying Arctic Willow can survive, though there are also expanses of moorland with ponds and marshes. Around 500 different species of plants and about 5 species of orchid have been identified to date.

The national flower is Rose Bay Willow Herb, considered a weed in many European countries, but prized in Greenland where it is called 'young girl' in Greenlandic.

Another interesting local name is that for flowering Cotton-grass which is called 'something, which looks like a hare', a very beautiful as well as descriptive name.

For hundred of years the flora of Greenland has been used by the human population. Some of the euphoriant plants were dried out and then used as a medication for headaches. Other plants were used for the prevention of scurvy, a disease that afflicted many of the early European explorers of the Polar Regions. The human diet, mainly meat from hunted animals, was also supplemented with different types of berry. Some Greenlandic families still go out and pick buckets full of berries.



There are about 52 bird species on the island. Some of these have adapted – as have the human population – to live permanently on the island rather than migrating to it. The Gyrfalcon's plumage is proof of this adaptation, varying from the north to the south of the island. The bird is palest in those areas where the land is covered with snow and ice for most of the year. Another permanent resident, but only in southwest Greenland, is the sea eagle, a magnificent bird with a 2.5 meter wingspan. Eagles pair is faithful to each other for life. They build their nests of twigs – and anything else, which is available – in inaccessible places. Sea Eagles and Gyrfalcons, together with Snow Owls and Peregrine Falcons are the only indigenous birds of prey on Greenland and are all protected.

Greenland is home to the following mammals: Polar Bear, Arctic Wolf, Arctic Fox, Ermine, Collared Lemming, Musk Ox, European Reindeer and the Arctic Hare.

The curious Musk Ox are closer related to the sheep than to the cow. The Polar Bear is rarely seen on the west coast, but is regularly seen on the northern and north – eastern coasts.

By contrast the Arctic Fox is found throughout Greenland. Foxes vary in colour: the blue fox (which does not change colour in winter) lives mostly by the coast, while the white fox – which is brown in summer and pure white in winter – lives inland.

In the coastal waters of Greenland there are Fin, Minke and Humpback Whales, Narwhals and Belugas (White Whales). Blue Whales, Sperm Whales and Pilot Whales are also seen occasionally.

The Inuit of Greenland prize the skin of the reindeer for its insulating properties, using it to make clothing and as groundsheets in tents.

9. GUIDANCE FOR VISITORS TO THE ARCTIC

Those who travel in Polar Regions should know that the environment in these areas is especially vulnerable. Birds, mammals and plants are all surviving in the marginal existence zone. Because of seasonal light and low air and water temperatures, life processes are slower particularly in plant recovery rates. The Norwegian Ministry of the Environment has promulgated Environment Regulations for Spitsbergen and Jan Mayen. The following general rules should be observed when ashore;

Avoid unnecessary damage to the ground surface and vegetative cover, as regeneration rates are extremely slow. Do not take specimens from plants. Do not pick flowers.

Avoid disturbing or feeding the wildlife. Be aware of your activities and whether they are resulting in a change of the animals behaviour. Be aware that Rabies does occur on Spitsbergen, particularly in Arctic Foxes. Be careful when moving in areas where birds are nesting. If birds are disturbed and leave their nests, the uncovered eggs cool quickly and are easy prey for gulls and foxes.

In the summer, geese and some other ducks species moult their wing feathers. In this condition they are unable to fly and are particularly vulnerable. Avoid accidentally herding or alarming them as this can split the flocks and encourage predators.

On several locations on the islands, cultural monuments and items such as burial sites, crosses, coins, weapons, hunting tools, etc. are regularly encountered. Such cultural monuments are generally protected by law. It is unlawful to destroy or remove such monuments and items from the place where they are found.

Leave no litter ashore and remove any litter you may find while ashore. Do not take souvenirs, including whale or seal bones, live or dead animals, rocks, fossils, plants, or other organic material.

The World Wide Fund for Nature Arctic Programme developed principles and codes of conduct for Arctic tourism. The goal is to encourage the development of a type of tourism that protects the environment as much as possible, educates tourists about the Arctic's environment and peoples, respects the rights and cultures of Arctic residents, and increases the share of tourism revenues that go to northern communities.

Please remember to:

1. Make tourism and conservation compatible.
2. Support the preservation of wilderness and biodiversity.
3. Use natural resources in a sustainable way.
4. Minimise consumption, waste and pollution.
5. Respect local cultures.
6. Respect historic and scientific sites.
7. Arctic communities should benefit from tourism.
8. Choose tours with trained professional staff
9. Make your trip an opportunity to learn about the arctic.
10. Follow safety rules.



10. ANTARCTICA

AND THE SUB-ANTARCTIC ISLANDS

Weather

Our expedition cruises to Antarctica are scheduled for the summer months in the Southern Hemisphere, also known as the Austral summer. You will experience several distinct climate conditions while on this trip.

Buenos Aires

December – March is summer in Argentina. Expect temperatures in the high 80's to 90's F or 20's to 30's Celsius, with high humidity during the day and a little bit cooler at night. Light-weight summer clothing is advisable for your days in Buenos Aires.

Ushuaia

In Ushuaia, the southern most city in South America, it is often cool and windy, and rain is possible. Temperatures can range between 40° and 50° F (5° – 10°C).

Ushuaia pier information

There is only one pier in Ushuaia located in the main port on Maipu street. The entrance to the pier is opposite of Lasserre street, the Government building and the Hotel Albatros. Passengers must be able to show their Boarding Pass, otherwise access can be denied by port authorities. It is only a few minutes from the airport. A taxi will currently cost approximately US\$5.00.

Please proceed on your own to the pier. Boarding time is at 4 pm on the day of departure. We do recommend that you arrive a day earlier in Ushuaia to have some additional time in case of flight delays and lost luggage on the day of arrival. The vessel will sail at 6 pm and will not be able to wait for missing passengers or luggage.

Falkland Islands (Malvinas)

The Falkland Islands and South Georgia are generally cool and windy because they are situated in the stormy latitudes of the southern westerly winds or “Roaring Forties”. Temperatures can range between 40° –50° F (5° – 10° C).

The Falkland Islands are among the few places left that can truly be described as “off the beaten track”. Most first-timers are pleasantly surprised. Breathtaking scenery, a fascinating way of life and abundant wildlife all contribute. In the book “the Visitor’s Guide to the Falkland Islands” , you will find lots of information about the flora and fauna, as well as useful information about the culture and history of the islands. The guide book supports the charity of the Falkland Conservation that takes action for nature in the Falkland Islands.

South Georgia

Home to the Wandering Albatross, large colonies of King Penguins (over 200,000 pairs) and thousands of Fur Seals, this beautiful island was once a major whaling station, but is now mostly uninhabited.

Many of the beaches are occupied by large groups of Elephant Seals, lying piled up together in muddy, stinking wallows to keep warm until their new winter coats grow.

You will have the opportunity to join in an uplifting walk, retracing a portion of the island crossing, Polar explorer Ernest Shackleton took to rescue his men, almost 90 years ago. This trek will have you hiking up hills, sliding down a glacier and walking through beautiful valleys to reach the whaling station of Stromness. We shall also land at Grytviken where we visit Shackleton’s grave facing the sea with rugged mountains behind.

Antarctica

The Antarctic Peninsula is generally a cold dry, and windy climate with a chance of snow flurries. Temperatures can range between 20° and 50° F (-5° – 10°C) also summer temperatures average around 30° F (0° C). Even warmer days which are sunny and warm may occur, and it can also be overcast, windy and wet. Plan to dress like going on a skiing holiday. See information on layering

11. CONSERVATION TIPS

Large numbers in limited places

All Antarctic birds, except the Emperor Penguin, must come to snow-free land to nest. Vast numbers of mostly colonial seabirds concentrate in large numbers in limited places. It is easy to adversely affect lots of birds at once.

Landing beaches are for everyone

Penguins (except Emperors) come to land to breed only where they can enter from a beach. This is where scientists also want to build stations. Penguins thus are vulnerable to every kind of human disturbance. In the early days of exploration they suffered greatly from this. They still can, if people forget that landing beaches are for everyone.

A very short summer

The breeding season is generally from late October to early February. That's less than 4 months for hatching and development. If eggs or young ones are destroyed, there is little time left for second broods (gulls, skuas, and gentoo penguins lay again if their eggs are lost early in the season). Antarctica's summer is very short.

Long-lived yet late breeders

Antarctic birds are long-lived. Several wandering albatrosses still breed in South Georgia at more than 35 years old. Skuas probably live to 70. These seabirds take a long time to reach maturity. The average age for first breeding in the Adélie penguin is 5 years; a grey-headed albatross may not breed until 13. Breeding places must remain intact until they return.

Right of way

When penguins are coming and going from landing beaches to feed their young, they use traditional highways where visitors, like the penguins, find the walking easiest. Please keep clear of these penguins right of way.

Adult and juvenile behaviour

Experienced adult penguins return to old nests, usually stick with former mates, and co-operate to bring food from the sea to their chicks. Younger parents change nest sites and partners more frequently, often failing to raise their chicks. Juveniles (often non-breeding wanderers) return from sea to their natal rookery and try to imitate adult behaviour.

These young explorers are easily frightened. If they are disturbed, they explore elsewhere. The rookery where they were hatched will slowly decline, and no one will know it for years. Watch for these juveniles and give them extra space.

No place for heroics

What's the best thing to do if you find an incubating bird buried on its nest after a blizzard? Leave it alone. Trying to help will frighten the bird causing the snow to cave in and the egg will be smashed.

Predators and scavengers

The same applies to predators and scavengers. It's upsetting to see a helpless penguin chick being killed by a skua. But the skua has to feed its young. It will select the easiest prey: usually one that is starving and has been deserted by its parents.



Feeding is not for the birds

Skuas, gulls, and sheathbill are easily attracted by human garbage or visitors tossing food. This gives them an undesirable advantage over other species, many of which they prey on. They should never be fed.

Trust is better than mistrust

When man first explored Antarctica the birds were amazingly tame. But they learned to fear and run away. Move very slowly among the birds and seals. Allow them to realise you are not a threat. Trust is better than mistrust.

Scientists are not beyond reproach

Scientists can unknowingly interfere with or damage other scientists' research. Especially susceptible are long-term bird-banding and population studies in areas where stations are close to each other. Scientists are not beyond reproach. Tell them if you are concerned.

Watch for signs of disturbance

People must not violate the birds' individual space. Stay at least the prescribed distances from rookeries. Watch for signs of disturbance. Penguins start moving their flippers back and forth when nervous. Back off if you see this behaviour. If you approach a tern or gull nesting area, the birds may leave their nests and fly around crying their alarm. Back off until they settle again. If you don't, you may crush their cryptically coloured eggs or be responsible for the chilling and destruction of the embryos in their thin-shelled eggs.

Did you know ?

- The name **penguin** is from two old Welsh names meaning “white head”. Seafarers in past centuries evidently were thinking of the flightless (now extinct) great auk of the North Atlantic, which had white on its head. Penguins and great auks resemble one another, but otherwise are unrelated.
- **Emperor penguins** have no nests. While standing on sea ice they incubate one egg on their webbed feet, holding it against their brood patch. The male emperor fasts for up to 3 months during the coldest part of the winter and takes entire responsibility for the 65-day incubation period.
- The **Adélie penguin** is the most abundant and studied of Antarctica’s penguins. The male, too, has a long fasting period of up to 7 weeks when he loses as much as 40 percent of his body weight. The fast starts on his return to the rookery after winter in the pack ice, continuing through part of the incubation period, which he shares with his mate. The female lays two eggs, which take about 35 days to hatch.
- Flipper bands are the only safe way to band penguins, but they have to be put on by an expert aware that the flipper will double its width during the moult. Over 45,000 Adélies were flipper banded in a long-term study by Johns Hopkins University biologists. Look for them on the left flipper.
- As far back as 1948 it was discovered that Adélie parents recognised their chicks in crèches of 200 or more similar-looking, down covered youngsters. They feed their own chick(s), no others. Recognition is mostly by sound. This recognition between parents and their young is now recognised in many colonial seabirds.
- The six species of **albatross** and 23 species of **petrels**, like the emperor penguin, lay only one egg. **Southern black-backed gulls, imperial shags, and sheathbills** have large clutches. They often lay three, occasionally four eggs.
- We think of migration as north/south oriented. Birds avoid the cold winter, returning to cooler regions for breeding. The **Wilson’s storm petrel** (one of the most abundant birds on earth but breeding only in Antarctica) does this. It migrates to the Northern Hemisphere where it can be seen in great numbers in August in the North Atlantic.
- The **Arctic tern** does the opposite, fleeing the arctic winter to continue its 24-hour daylight summer routine in the Antarctic pack ice. This seabird

is reputed to fly a round trip of 22,000 miles a year and enjoy an average of 22 hours daylight throughout its life.

- However, the **giant petrel** and the **wandering albatross** circumnavigate the southern ocean. The giant petrel in particular soars in the west wind zone. Banding research has shown that the young do not return to their natal breeding places until at least 6 years old.
- The wingspan of an adult **wandering albatross** is 11 feet.
- **Snow petrels** and **Antarctic petrels** nest on nunataks (isolated peaks that protrude through glacial ice) as far as 200 miles inland. These far-inland nesting petrels thus fly enormous distances to the sea to get food for their young.
- The **sheathbill** is the only Antarctic bird without webbed feet.
- **South polar skuas** are the only birds recorded at the South Pole. These spectacular migrants, have been recorded in Greenland, British Columbia, and Japan.
- Only a few species reside year-round in the high latitudes close to Antarctica; they include some gulls, terns, penguins, cormorants, and petrels. Most move to sub Antarctic seas in winter. A few flying birds travel to the Northern Hemisphere.
- **Southern kelp gulls** retain their primitive mollusc-feeding behaviour and other life styles only in Antarctica, where pristine conditions prevail. In Southern Hemisphere areas of modern agriculture and industrialisation, their lives are dramatically different as they have largely become dependent on human refuse for food. Sadly, even in Antarctica they learn quickly to rely for food on open dumps and hand feeding.
- Antarctica limpets are one of few large molluscs among a sparse of invertebrate animal assemblage able to overcome the scouring action of moving ice in the shore zone, where kelp gulls depend on them year-round. Distributions of kelp gulls and limpets are closely linked.
- Antarctic grass, one of the only two species of flowering plants, grows in the Antarctic Peninsula area. **Skuas** and especially **gulls** use it for nests. **Penguins** nesting close by make their nests of small stones. The Antarctic convergence is the oceanic area where cold waters flowing northward meet and under run warmer, southward flowing water.

12. GUIDANCE FOR VISITORS TO ANTARCTICA

Activities in the Antarctic are governed by the Antarctic Treaty of 1959 and associated agreements, referred to collectively as the Antarctic Treaty System.

The Treaty established Antarctica as a zone of peace and science.

In 1991, the Antarctic Treaty Consultative Parties adopted the Protocol on Environmental Protection to the Antarctic Treaty, which designates the Antarctic as a natural reserve. The Protocol sets out environmental principles, procedures and obligations for the comprehensive protection of the Antarctic environment, and its dependent and associated ecosystems. The Consultative Parties have agreed that, pending its entry into force, as far as possible and in accordance with their legal system, the provisions of the Protocol should be applied as appropriate.

The Environmental Protocol applies to tourism and non-governmental activities, as well as governmental activities in the Antarctic Treaty Area. It is intended to ensure that these activities, do not have adverse impacts on the Antarctic environment, or on its scientific and aesthetic values.

This Guidance for Visitors to the Antarctic is intended to ensure that all visitors are aware of, and are therefore able to comply with, the Treaty and the Protocol. Visitors are, of course, bound by national laws and regulations applicable to activities in the Antarctic.

Further, the Antarctic Conservation Act of 1978 (U.S. Public Law 95-541) was adopted by the United States Congress to protect and preserve the ecosystem, flora and fauna of the continent, and to implement the Agreed Measures for the Conservation of Antarctic Fauna and Flora. The Act sets forth regulations, which are legally binding, for U.S. citizens and residents visiting Antarctica.

Briefly, the Act provides the following:

In Antarctica the Act makes it unlawful, unless authorised by regulation or permit issued under this Act, to take native animals or birds, to collect any special native plant, to introduce species, to enter certain special areas (SPA's), or to discharge or dispose of any pollutants. To "take" means to remove, harass, molest, harm, pursue, hunt, shoot, wound, kill, trap, capture, restrain, or tag any native mammal or native bird, or to attempt to engage to engage in such conduct.

Under the Act, violations are subject to civil penalties, including a fine of up to US\$ 10,000 and one year imprisonment for each violation. The complete text of the Antarctic Conservation Act of 1978 can be found in the ship's library. Our ship's staff will make certain that the Antarctic Conservation Act and the above guidelines are adhered to.

By encouraging your fellow expeditionary to follow your environmentally conscious efforts you will help us to ensure that Antarctica will remain pristine for the enjoyment of future generations.

Thank you in advance for your co-operation.



Protect Antarctic Wildlife

Taking or harmful interference with Antarctic wildlife is prohibited except in accordance with a permit issued by a national authority.

- Do not use aircraft, vessels, small boats, or other means of transport in ways that disturb wildlife, either at sea or on land.
- Do not feed, touch, or handle birds or seals, or approach or photograph them in ways that cause them to alter their behaviour. Special care is needed when animals are breeding or moulting.
- Do not damage plants, for example by walking, driving, or landing on extensive moss beds or lichen-covered scree slopes.
- Do not use guns or explosives. Keep noise to the minimum to avoid frightening wildlife.
- Do not bring non-native plants or animals into the Antarctic such as live poultry, pet dogs and cats or houseplants.

Respect Protected Areas

A variety of areas in the Antarctic have been afforded special protection because of their particular ecological, scientific, historic or other values. Entry into certain areas may be prohibited except in accordance with a permit issued by an appropriate national authority. Activities in and near designated Historic Sites and Monuments and certain other areas may be subject to special restrictions.

- Know the locations or areas that have been afforded special protection and any restrictions regarding entry and activities that can be carried out in and near them.
- Observe applicable restrictions.
- Do not damage, remove, or destroy Historic Sites or Monuments or any artefacts associated with them.

Respect Scientific Research

Do not interfere with scientific research, facilities or equipment.

- Obtain permission before visiting Antarctic science and support facilities; reconfirm arrangements 24-72 hours before arrival; and comply with the rules regarding such visits.
- Do not interfere with, or remove, scientific equipment or marker posts, and do not disturb experimental study sites, field camps or supplies.

Be Safe

Be prepared for severe and changeable weather and ensure that your equipment and clothing meet Antarctic standards. Remember that the Antarctic environment is inhospitable, unpredictable, and potentially dangerous.

- Know your capabilities, the dangers posed by the Antarctic environment, and act accordingly. Plan activities with safety in mind at all times.
- Keep a safe distance from all wildlife, both on land and at sea.
- Take note of, and act on, the advice and instructions from your leaders; do not stray from your group.
- Do not walk onto glaciers or large snowfields without the proper equipment and experience; there is a real danger of falling into hidden crevasses.
- Do not expect a rescue service. Self-sufficiency is increased and risks reduced by sound planning, quality equipment, and trained personnel.
- Do not enter emergency refuges (except in emergencies). If you use equipment or food from a refuge, inform the nearest research station or national authority once the emergency is over.
- Respect any smoking restrictions, particularly around buildings, and take great care to safeguard against the danger of fire. This is a real hazard in the dry environment of Antarctica.

Keep Antarctica Pristine

Antarctica remains relatively pristine, the largest wilderness area on Earth. It has not yet been subjected to large scale human perturbations. Please keep it that way.

- Do not dispose of litter or garbage on land. Open burning is prohibited.
- Do not disturb or pollute lakes or streams. Any materials discarded at sea must be disposed of properly.
- Do not paint or engrave names or graffiti on rocks or buildings.
- Do not collect or take away biological or geological specimens or man-made artefacts as a souvenir, including rocks, bones, eggs, fossils, and parts or contents of buildings.
- Do not deface or vandalise buildings, whether occupied, abandoned, or unoccupied, or emergency refuges.

13. LITERATURE

What to read ?

The list of literature on Polar Regions is far too large to include in this manual.

We recommend the following websites for books in English, German, French, Scandinavian and Dutch.

<http://www.longitudebooks.com>

<http://www.xs4all.nl/~mobydick/polar.html>

<http://www.arctic-travel.com>

Any further suggestions for interesting websites ? Please let us know.

WE WISH YOU A WONDERFUL VOYAGE !

