

Chapter 1 : About Habitats: Polar Regions by Cathryn Sill

The polar regions are the coldest places on Earth and differ the most from every other habitat on the planet. During the summer months, the days receive 24 hours of pure sunshine, but during the winter, the sun is barely seen at all.

Which is the best Polar Region to travel to? The Arctic or Antarctica? I was fortunate enough to take my first Antarctic cruise in For me the continent was everything I was hoping it would be – otherworldly, on an unfathomable scale and teeming with intriguing wildlife. In simple terms, the two areas seem like very obvious twins: They roughly share the same latitudes, zenith in a pole, are white, icy wonderlands with their own respective polar circles and reasonably void of human activity – carbon copies right? And I guess in a broad brush sense the above is true. Antarctica, like we all know, is a continent. Antarctic Mountains, photo credit: And the feeling of exploration is therefore different: In the Arctic there are no such certainties. The limit of the sea ice is forever moving and as such your proximity to it is generally unknown. This leads to an element of intrigue, especially when the ship is on a northerly heading. I found myself on the top deck of the ship often in these times: The Arctic and Antarctic Circles are the latitudes from which point there can be 24 hours of sunlight, for at least one day of the year. So in the respective hemisphere summers the further you go past the circle the more sunlight you get. It just moves in a small circle high in the sky and this in itself is an experience worth going to the Arctic for. Wildlife So the geography of the two areas is clearly different, but what else is there? Well the wildlife is another considerable differentiator. We had to break it to her delicately that Polar Bears only existed in the Arctic, cancelled her Antarctica cruise and rebooked her to the Arctic! Polar bear in the Arctic, photo credit: Although the South Sandwich Islands, very close to Antarctica, have the record for the largest Penguin colonies on the planet. Walrus in the Arctic region, photo credit: Leopard Seal, photo credit: A powerful, agile and very clever predator. And so the list goes on – the wildlife viewing is really one of the most exciting parts of a Polar trip, and both regions have very different things to offer. Penguin colony in South Georgia, photo credit: Corin One thing that both regions share is an abundance of wildlife. There were so many birds that when you cruise under the cliffs in the zodiac, the sun actually dimmed, such with the concentration of birdlife flying overhead. Commercial History As mentioned earlier, the Arctic is surrounded by large and populous continents. One thing that both poles had in vast numbers was whales! And not so long ago whales were a major source of raw materials – blubber, which converted into oil and fuelled the street lamps of London and lubricated the machinery of the industrial revolution. Whale bones and Baleen were used for corset stays through to fishing rods, and many other applications where nowadays plastic or steel would be used. Whale in Antarctica, photo credit: And as whale stocks in accessible areas of Europe became rarer and rarer, whalers had to search further afield. As early as the 17th century this took them into the Arctic where some of the first whaling stations were established in places like the Norwegian islands of Spitzbergen. Whale blubber would be rendered down in rudimentary makeshift local processing plants and then transported back to civilization in Europe. Similar whaling started shortly after in North America. Eventually whale stocks in the Arctic became depleted but fortunately for the whalers, they were becoming aware of untapped multitudes of whales in the Southern Atlantic Ocean, amongst other Southern Hemisphere locations. As a result larger whaling stations sprung up in sub-Antarctica islands such as South Georgia and the South Shetlands Islands. Unlike the early stations in the Arctic, these Antarctic whaling hubs were large scale, ruthlessly efficient slaughter houses. The whaling finally ended in the early s, not because of public concerns of the environmental damage but because there were so few whales left that whaling was becoming economically unviable. This history is important because almost paradoxically the best preserved whaling stations are actually in the remote corners of the Southern Ocean and not in the Arctic which you may expect would have more history due to the proximity of humanity in Europe, Canada and the United States. Because so many of the whaling stations in the Arctic were created so long ago relative to those in the Antarctic little of them remains. And even if they were preserved, their scale is nothing compared to what happened in Antarctica. Whaling Station on Deception Island, photo credit: Obviously removing the buildings and materials from the stations is problematic given their remote location and as such they are now

snapshots in time – for example the church at Grytviken station on South Georgia where Ernest Shackleton was buried still has a small library with messages and the names of men from the heroic age of Antarctica exploration. Scientific History of the Polar Regions For well over years the Polar Regions have had a frontier feel to them and in this feeling has no better example than its scientific history. Even today there are hundreds of research stations in both the Arctic and Antarctic – studying all number of things from global warming, through to undertaking arthritis research and everything in between. In fact polar exploration and science have almost always been intrinsically linked, many of the early Antarctica expeditions undertaken by the likes of Scott, Shackleton and Mawson were funded in part by learned institutions such as the Royal Geographical Society. Once their bodies were found the rocks were collected and these samples revealed secrets which eventually shaped the way we look at glaciers. And in remote locations like the Arctic and Antarctica they certainly have to be creative in terms of finding things to entertain themselves! Homemade musical instruments and makeshift eclectic bars are the normal. Exploration History of the Polar Regions In a similar vein to the commercial history, the Arctic was obviously explored first, again given its proximity to Europe and North America. There is some evidence that even the Ancient Greeks explored into the Arctic, well before Christ. Things really heated up in the 15th century though, again for commercial reasons. But it was harder than it sounds – no one managed to navigate the North West passage until the 19th century and until recently the North East passage was considered impossible. Only with recent climate change has a short window allowed the possibility of passage for smaller vessels through the North West passage. The ship was lost and only found very recently – in ! But what was found some ten years after the ship disappeared was tombstones of some of the men from the expedition and other relics. These tombstones still exist and can be visited on the right expedition trip. And from a tourism point of view there is very little to see from this period. The only exception I know of is that you can visit the location where Amundsen set up on his airship in Spitsbergen to make the North Pole. The mast which the airship was tendered to is still there and can be visited. The race to the South Pole is a completely different story. Not only was there a clear and undisputed winner but the expeditions themselves were so grand that they captured the imaginations of Europeans and made them the astronauts of their time. They also left behind a lot of mementos, which can be visited by would be polar travellers albeit at a price tag. Many books have been written about the heroic age of Antarctica Exploration and subject matter is so broad that an individual would need to read for years to get themselves across all the literature on the subject. Roald Amundsen was arguably the most successful even though he spent the least amount of time in Antarctica. Not only was he the first man to reach the South Pole but he also did it on his first attempt, and put weight on over the course of his journey! Douglas Mawson was also very successful, but was very much a scientist first and explorer second. He shunned the spotlight on the race to the pole and instead dedicated himself to exploring Antarctica from a scientific perspective. His scientific contributions were significant but his leadership was forged on his expedition to the South Magnetic Pole. This gave them access to large, educated audiences and they were regularly on speaking circuits talking about their adventures and inevitably convincing people to help fund their next one! And this fame that was generated by both men was and continues to be a sense of fascination to some, not least Roald Amundsen. The two Englishmen constantly sold out to large audiences whereas Amundsen struggled to get much of an audience at all, even after he eventually comfortably won the race to the South Pole. Why this happened is still debated – perhaps the struggles of failure make for a better story or maybe the English fascination with Scott and Shackleton was linked to British Empire patriotism. On the other hand maybe it was just that individuals like Shackleton were much better public speakers. Essentially over successive expeditions to try to reach the South Pole Scott and Shackleton both lead failed expeditions. Amundsen beat Scott to the pole, mostly due to the superior knowledge of the Polar Regions and his use of dog sleds. So what does this mean from a tourism point of view? Clearly this region has some of the most interesting polar history but it is also possibly the most inaccessible polar area there is. Shackleton undertook more expeditions in an attempt to be the first man to cross Antarctica from one side to the other. For these expeditions he wanted to start from West Antarctica the side near Argentina and used the British whaling station of Grytviken in South Georgia as his staging point for the expeditions. Not only did Shackleton not complete his trek across Antarctica – he

essentially never even managed to start it. Leaving South Georgia for the Weddell Sea the ship slowly got stuck in icebergs and never even made landfall. The men had to spend the winter frozen in the Antarctic Sea Ice and then at the end of winter the ice broke up, only to also break up the ship. Shutterstock In an amazing story of survival the entire crew managed to make their way to Elephant Island in row boats from where Shackleton and a small group of men managed to make a makeshift sail on a rowboat and sail back to South Georgia. Unfortunately their row boat hit a storm on approach to South Georgia and the row boat was smashed against the far side of the island from the whaling station. From there Shackleton and his men mountain climbed over the island, eventually arriving at the whaling station just as they ran out of food. The whaling station sent a ship to pick up the rest of the men on Elephant Island and all were saved. In a twist of fate, on a subsequent expedition Shackleton again stopped at South Georgia and whilst there he suffered a heart attack. As a result he was buried in the local graveyard, where his grave and tombstone still sit to this day. Shutterstock And this is where a more accessible form of polar history comes into play. Not only is South Georgia cheaper to travel from Argentina compared to the Ross Sea and Commonwealth Bay but it can also be done in less time. The dramatic scenery and massive array of wildlife on South Georgia also makes it a fantastic travel choice. I love the excitement of trying to find the sea ice in the Arctic and I was much more impressed with its wildlife than I expected to be maybe even slightly more than Antarctica. As you can get inside the Arctic Circle a lot easier than the Antarctic Circle you do get the amazing experience of having the sun fully out all day and night: If on top of all of that “ if you go at the right time of year you also get a chance of seeing the northern lights while on an Arctic Cruise.

Chapter 2 : Can I see Polar Bears in Greenland? - Natural World Safaris

Polar regions of Earth has been listed as a level-5 vital article in Geography, Physical. If you can improve it, please blog.quintoapp.com article has been rated as Start-Class.: This page was proposed for deletion by an editor in the past.

Twin Deluxe Superior All these cabins are also available to book privately so you and any travel companions have the whole cabin to yourself. To request more information regarding cabin upgrades and pricing you can either contact us or add your request to the Notes section during your online booking. Antarctic Peninsula tour notes The detailed Tour Notes below have been written to give you some more detailed information about how the tour runs, what to expect, and how to prepare for your holiday. We recommend downloading an up to date copy of these shortly before you travel in case of any changes. Expand all Close All 1. You may make a deposit or full payment online, or just hold a reservation if you prefer full payments are due 8 weeks before departure. We will then contact you with more details about how to complete your booking. Full details will be provided in your booking confirmation email. Please contact us if you would like any more information or have any questions before making a booking. If you book a flight departing from the UK from us with your tour, or if you live in the UK and your tour includes domestic flights, then your entire package is ATOL protected by the Civil Aviation Authority. Our ATOL number is Additional financial failure insurance is also provided through Affirma to protect all customers not otherwise covered by ATOL. Please see our website or booking conditions for more information. Responsible Tourism It is impossible not to have an impact on the local environment, cultures and eco-systems when you travel. However, it is very possible to try and ensure that these impacts are as limited, or positive as possible. We are committed to ensuring that we try to leave our host countries in a better state than we found them and encourage and assist our travellers to help us with this. The following are a few simple tips that require very little effort on your part but which will help ensure that any effect you have on the locations you visit is positive rather than negative. Things in different countries will almost certainly be different. Take the trouble to learn a few words or phrases of the local language. Most locals are patient and accommodating and appreciate you making the effort to communicate in their language. Be careful not to waste valuable resources. Use local resources sparingly. Many countries have far less efficient waste disposal systems than ours. Remove packaging from newly acquired items before leaving home. Many of the countries we visit have a tough challenge dealing with rubbish and waste. Please consider taking home as much plastic waste as you can e. Choose environmentally friendly products: By using environmentally friendly bio degradable sun creams, shampoos and detergents you can help reduce pollution. Respect local customs and traditions: As you are a guest in these countries, you should also comply with the local customs. If you are friendly and well mannered, the locals will reciprocate and it will only enhance your experience. No refund will be given for any unused services. We post updates on relevant travel news in our destination countries, special offers and discounts and other interesting travel related news and information. Personal medical insurance does not normally provide sufficient cover and is generally not suitable for travel on our tours. You will not be able to join your tour if you have not provided us with details of your insurance or if you arrive without cover in place no refunds will be due in this event. You may arrange your own insurance, or you can take advantage of a comprehensive policy that we can arrange for you through Endsleigh Insurance which has been designed to be suitable for our tours. When completing the form you should enter your travel dates including any extra days involved in overnight flights or connecting travel between your home and the tour. Note - to comply with insurance sales regulations, our travel insurance policies are only available to customers booking directly with us. If you have booked through a travel agent you will need to arrange your own insurance. If you plan to arrange a hot air balloon flight locally, or do some scuba diving during your tour, you should check the small print in your policy to make sure these are covered these are covered in our policy. Please also check the maximum altitude that you will be reaching and that full cover including emergency evacuation is provided up to this altitude. If you are taking expensive camera gear or other electronic equipment with you then please check the coverage and the fine print of your policy to ensure that you have sufficient cover. We must have your travel insurance details policy number and type of

insurance before you depart or you may not be allowed to join the tour. You should take a paper copy of your insurance policy with you as you may be asked to show this at the start of the tour. Before you travel It is important when considering and preparing to travel anywhere in the world that you have a good understanding of the country you are visiting, its laws and customs, and the possible risks and situations that may occur. This includes specific risks related to your itinerary eg. General details and links to more information about health risks, visa requirements, money, and travel insurance are given in these tour notes. We recommend that you re-read all these before your departure as well as the small print of your travel insurance policy so you know exactly what is covered and what is not. You should take copies of your important travel documents with you and ideally also store them online securely as a backup. Make sure that you have given us your emergency contact details and told that person where and when you are travelling. Ensure you take enough money with you and that you have access to emergency funds. Finally, you should read through and stay updated with the current official government travel advice for your destination. Prices for sharing triple porthole, twin porthole and twin window cabins, or a completely private cabin are also available on request.

Chapter 3 : best Polar regions images on Pinterest in | School, Baby books and Elk

POLAR REGIONS ANTARCTICA. Antarctica, the coldest and second-smallest continent (after Australia), is centered on the South Pole and is situated almost entirely within the Antarctic Circle at 66 1/2 Å° S.

Comments By Lauren Harper Do you ever catch yourself captivated by photos of the frozen tundra, blankets of fresh powder snow, or icebergs found in the polar regions? What Is Polar Ice? Polar ice develops in the highest latitude points or the poles on the planet. It can come in many sizes and shapes, and can form in various ways. Polar ice helps to keep the polar regions cool, and aids in regulating the global climate. Due to its white color, ice and glaciers have an albedo or reflectivity of 0. Polar ice development depends on the climate cycle or climate oscillation. This is when the planet alternates between warm and cool periods that can last thousands of years. Types of Polar Ice
Glaciers
Glaciers form over land in the poles and on mountaintops. They are large ice masses created by snowfall that has transformed into ice and compressed over the course of many years. Glaciers are known for their ability to move, acting as a slow-moving river. Ice sheets, ice streams, and ice shelves are a few types of glaciers. Stuart Rankin Via Flicker Ice sheets are large masses of glacial ice, also known as continental glaciers, that cover at least 20, square miles of land. Ice sheets form from partially melted snow that has accumulated over thousands of years. Each layer of snow slowly builds a thick and dense ice mass. Two major ice sheets exist today, in Greenland and Antarctica. Ice Streams Ice streams are channels of fast-flowing ice sheets and sediment surrounded by slower moving ice. They typically form on sloped valleys that that empty the ice into the sea. Ice Shelves Ice shelves are permanent floating ice sheets that extend from icy land masses. They form from ice sheets that slowly flow to the sea after breaking off from glaciers or being carved by ice streams. They are characteristically flat and featureless. Without them, it is likely that sea levels would rise more quickly. Icebergs Icebergs are floating pieces that have broken off from larger ice shelves. They can be big enough to sink the Titanic or land a helicopter on, or small enough to fit into a glass. They can also come in many colors, depending on the compression of ice crystals and the presence of dirt, rock, and algae. Icebergs can help scientists answer questions about how polar ice influences ocean currents, and how climate affects polar ice. They also provide freshwater and nutrients to the ocean as they melt, helping to sustain plankton, fish and other aquatic life in these regions. Sea ice is created by sea water freezing. Unlike the slush familiar to many of us in the northeast US, frazil ice forms in super-cooled turbulent rivers, oceans, or lakes. Frazil ice is the first formation stage of sea ice. Sea Ice Sea ice is the free-floating ice that surrounds the polar regions. Unlike icebergs, which break off from land-based ice, sea ice is created by sea water freezing. Because sea ice is less dense than sea water, it floats on the surface. Since the temperatures in these regions are less than ideal for you and me, only a few wildlife species live there. Because of its geographic isolation, Antarctica is home mostly to penguins, seals, whales, and small invertebrates. Biodiversity is more abundant in the Arctic because of its continental connections. Mark Dumont Via Flickr In the Arctic there are polar bears, foxes, puffins, owls, reindeer, narwhal, walrus, seals and more, including many seasonal visitors. Biodiversity is higher in the Arctic because it is connected to the North American, European and Asian continents. Both ecosystems are able to support these species because polar ice provides nutrients and food for algae, krill, and other invertebrates that form the base of the food chain. In the fall and winter, polar ice grows intensely, reaching its full extent in March. Then it partially melts during the spring and summer, reaching its minimum volume in September. Over the past decade, scientists have seen a dramatic decrease in the volume of ice that develops in the polar regions, particularly in the Arctic. Climate change is the most significant culprit behind this ice loss. Shrinking glaciers will reduce the ice that terrestrial animals depend upon for foraging. It will also decrease the amount of nutrients deposited in polar regions. This would shrink fish and other aquatic populations, and affect both polar and ocean biodiversity. Without ice sheets being replaced in polar regions, Arctic permafrost will continue to melt , releasing previously captured greenhouse gases, including carbon dioxide and methane, back into the atmosphere. And the effects of melting ice will extend far beyond the poles. As global temperatures climb, melting polar ice will continue to force sea levels to rise around the world. This will cause flooding and

erosion in coastal cities where many people reside. Ocean warming and the influx of less salty water from melting ice could result in the stagnation of ocean circulation patterns , such as the Gulf Stream. The resulting changes in climate patterns could influence temperatures and rainfall around the world, making drought and wildfires more common in some places. Global Action Plans The problems that come with rising global temperatures and melting polar ice are not going to resolve themselves. Reducing greenhouse gas emissions and limiting fossil fuel extraction and development are the best ways to slow climate change. These issues are being addressed through global government participation in environmental protection such as the Paris Climate Agreement, the Antarctic Treaty , and the Arctic Council. With the support of hundreds of world leaders and climate scientists, these international pacts are just the start of global action plans to protect these unique, climate-sensitive regions of the planet. Lauren Harper is an intern in the Earth Institute communications department.

Chapter 4 : Survival Tips For Polar Regions | Prepper's Will

A short film about travelling in the Polar Region of the Arctic and Antarctic with Wild Frontiers.

Antarctica is bounded by the Southern Ocean. All of these islands are located within the Antarctic Convergence, which encircles Antarctica at approximately 1,000 km (620 mi) from the coast and divides the cold Antarctic waters from the warmer waters of the four oceans, in a zone of perpetual turbulence. The Southern Ocean, which totally encircles Antarctica, was delimited in as a result of a decision of the International Hydrographic Organization. Some million years ago, Antarctica was joined to South America, Africa, India, and Australia in a large single continent, Gondwanaland; subsequent geological changes caused the breakup into separate continental masses. Recent geological studies and fossil finds indicate that Antarctica once had a tropical environment, but that its present ice sheet is at least 20 million years old. The Transantarctic Mountains divide the continent into two parts: The South Pole lies at an altitude of about 3,000 m (9,800 ft). The Antarctic ice sheet averages 2,000 m (6,500 ft) in depth and is 4,000 m (13,000 ft) deep at its thickest point. Glaciers form ice shelves along nearly half the coastline. The larger ice shelves—the Amery in the east, Ross in the south, and Ronne in the northwest—move seaward at speeds of from 1 to 2 m (3 to 4 ft) per year. Sea ice up to 3 m (10 ft) thick forms a belt about 1,000 km (620 mi) wide that encircles the continent in winter. Ice-free areas are located generally along the coast and include the dry valleys in southern Victoria Land and the Bungee Oasis in Wilkes Land. Largely ice-free areas where much scientific activity takes place are on the coast of the Antarctic Peninsula, and on Ross Island in McMurdo Sound. An increased amount of calving of the Antarctic ice shelves became an issue of international concern beginning in 1986. In March 1986, the largest iceberg ever recorded split off from the Ross Ice Shelf. Known as B-15, the iceberg was approximately the size of Connecticut—it weighed about 2 billion tons and measured some 4,000 sq mi (11,000 sq km) before breaking up into five smaller sections. In March 1992, the Larson B ice shelf collapsed, causing billion tons of ice to float into the South Atlantic Ocean. Although Antarctica produces icebergs as part of a natural process, many scientists hold that global warming is one factor responsible for the increase in calving. Since the 1980s, ocean temperatures have increased by an average of half a degree Fahrenheit near the surface, and a tenth of a degree at deep levels. The Antarctic waters are warming more than four times faster than those in the rest of the world, with temperatures rising some 2°C. East Antarctica has the coldest climate; the Antarctic Peninsula in the west has the mildest, with summer temperatures generally remaining above freezing. The interior is a vast desert, with annual precipitation averaging below 3 cm (1 in). The coastland is considerably more humid, with annual precipitation of about 25 cm (10 in) along the coasts of East Antarctica and the Antarctic Peninsula. Because of its polar location, Antarctica has six months of continuous daylight from mid-September to mid-March, with the maximum 24 hours of light received at the summer solstice on 22 December; and six months of continuous darkness from mid-March to mid-September, with the winter solstice occurring on 22 June. In summer, the continent receives more solar radiation than even the Equator over a 24-hour period. Although Antarctica has no native humans or large terrestrial mammals, it does have a varied marine life ranging from microscopic plankton to the largest whales and including about 200 species of fish. Land life includes bacteria, lichens, mosses, two kinds of flowering plants in the ice-free areas, penguins, and some flying birds. Six types of seal—the crabeater, Weddell, elephant, leopard, fur, and Ross—thrive in Antarctica and together number about 1 million. The once-numerous fur seals were reduced by uncontrolled slaughter about 1 million were killed on South Georgia alone in 1922 to near extinction by 1933. This ended the Antarctic fur-sealing industry; since then, the number of fur seals has gradually increased, to more than 1 million, mostly on South Georgia. In 1959, the 12 nations active in the Antarctic signed the Convention for the Conservation of Antarctic Seals, which prohibits the killing of fur, elephant, and Ross seals, and sets annual quotas for the harvest of crabeater, leopard, and Weddell seals. The treaty entered into force in 1961, and as of 1992 had been ratified by 16 nations. In 1980, the Convention on the Conservation of Antarctic Marine Living Resources entered into force, assuring the protection of ecosystems found in the Antarctic waters; as of 1992, 31 countries and the European Union EU were parties to the treaty. Exploitation by humans threatens the survival of the Antarctic whales—the sperm, blue, humpback, fin, minke, and

which decreased in number from more than 1, at the beginning of the 20th century to fewer than , by the mids. Since , the International Whaling Commission IWC has set quotas by species on the taking of whales, and the survival of all species of Antarctic whales seemed assured by the early s. In , the IWC approved a moratorium on the commercial killing of all whales that began in . However, Japanese fishermen caught 3, whales in and 2, in . Japan promised to end commercial whaling in but announced plans to harvest minke nonendangered whales in Antarctic waters for "research" purposes during the winter of '88; these plans were criticized by the IWC. In , the IWC voted to uphold the ban on commercial whaling, despite a proposal from Japan to allow for an allocation of 50 minke whales. As of June there were 66 members of the IWC. In August , Iceland conducted a whale hunt for 38 minke whales for what it deemed to be research purposes. Whale meat not used for research was to be sold commercially in Iceland. It was the first whale hunt since Iceland ceased whaling operations in . Iceland is a member of the IWC.

Exploration The ancient Greeks reasoned that there must be an "Antarctic" opposite the Arctic to balance the large land mass in the Northern Hemisphere, but it was not until the 19th century that definite proof was found that the continent existed. James Cook had crossed the Antarctic Circle and circumnavigated the continent without sighting land . In , however, two other British mariners, William Smith and James Bransfield, discovered and mapped the Antarctic Peninsula, which was also explored by the American sea captain Nathaniel Palmer and the Englishman James Weddell, who discovered the sea that bears his name. On 7 February , US Capt. John Davis made the first known landing on the continent at Hughes Bay, in the northwest. Palmer and Benjamin Pendleton led a pioneering expedition in '30 that included James Eights, the first American scientist to visit Antarctica. In , a French expedition under J. A year later, Lt. Charles Wilkes of the US Navy sailed along the coast of eastern Antarctica for about 2, km 1, mi , thereby definitely establishing that Antarctica was a continent, not a cluster of islands. During his '43 Antarctic voyage, British Capt. Ross discovered Victoria Land and the sea and the ice shelf that were later named in his honor. With the decline of the fur seal industry, Antarctic exploration was neglected for about 50 years, until Norwegian and Scottish whalers began operating in the area. A Norwegian whaling captain, Carl Anton Larsen, explored the east coast of the Antarctic Peninsula in and found the first fossils. Thus began a period of intensive exploration during which 9 countries sent 16 expeditions to Antarctica. It was there that a British expedition, led by a Norwegian, Carsten Egeberg Borchgrevink, established a base in ; Borchgrevink became the first explorer to probe inland by sledge. Swedish, Scottish, Belgian, and French expeditions also arrived, and four British expeditions set up bases on Ross Island. This feat encouraged five national expeditions to compete for the goal in , and the competition narrowed to a "race to the pole" between Capt. Scott and Roald Amundsen of Norway. Amundsen and four companions, with sledges and 52 dogs, left their base on the Ross Ice Shelf on 20 October, scaled 3,m 10,ft glaciers in the Queen Maud Mountains, ascended to the icy plateau, and located the South Pole by celestial observation on 14 December. They returned to their base by late January . Disheartened, they met with mishaps on the return journey and, weakened by food shortages and exhausted from man-hauling their sledges, they all perished on the ice in late March. Another expedition that ended badly was led in '15 by Shackleton, who lost his ship Endurance in heavy pack ice in the Weddell Sea and, with five companions, made a perilous 1,km 1,mi journey in an open whale boat to South Georgia Island, where he got help to rescue his stranded men. Shackleton died at South Georgia in , while preparing another expedition. Technological advances were applied to Antarctic exploration after World War I. The following year, US Navy Adm. Richard Evelyn Byrd flew over the South Pole, with his Norwegian-American pilot Bernt Balchen; Byrd established the Little America base on the Ross Ice Shelf, and was the first explorer to coordinate airplanes, radios, aerial cameras, and other technological aids for the purpose of exploration. American, British, German, and Norwegian scientific expeditions did considerable aerial mapping of the continent throughout the s; research in oceanography and marine biology by a British expedition resulted in the discovery of the Antarctic Convergence. The US expedition of '41, headed by Byrd, established two continuing bases in the Antarctic, but the program ended with the outbreak of World War II. Scientific Research After the war, the United States took the lead in conducting scientific research in Antarctica. A major joint international expedition '52 , mounted by the United Kingdom , Norway, and Sweden , initiated the use of geophysical methods on a large

scale to determine the thickness of ice caps. The former USSR also mounted expeditions, in 1947 and 1956. More than 50 Antarctic stations were established by 12 countries: The United States built a supply base and airfield on Ross Island, a station at the South Pole that was provisioned by air, and four other stations. The South Pole was the terminus of three pole-to-pole observation chains along three meridians, and the US station at Little America analyzed meteorological reports from all over the world. Valuable information was gleaned from meteorological and seismic observations, studies of the upper atmosphere, magnetic measurements, and ice-sheet core drillings. The first surface transantarctic crossing, between the Weddell and Ross seas, was accomplished by the Commonwealth Transantarctic Expedition. After the IGY, very little of the continent remained to be explored. Old stations were either closed or replaced with new buildings, and new stations were opened. The United States constructed a year-round scientific village at McMurdo Sound, heated and lighted by a small atomic power plant that also used waste heat to distill seawater; the atomic reactor was replaced by diesel-powered units. Air transport to other bases is by ski-equipped aircraft. The United States has a fleet of transport airplanes which can carry large loads virtually anywhere in Antarctica. Transport between stations in the interior is provided mainly by tractor-trains and ski-equipped light aircraft. Most nations operating in Antarctica rely on shipping for long-distance transportation and employ icebreakers to clear channels of pack ice. When conditions are favorable, ships offload cargo directly onto land or the ice shelf; when harbors are blocked by ice, tractors and helicopters carry passengers and cargo to shore. Territorial Claims and International Cooperation Seven nations have made separate territorial claims in Antarctica. The United Kingdom, the first nation to claim a "slice" of the continent in 1908, was followed by New Zealand, France, Australia, Norway, Chile, and Argentina. The claims of Argentina and Chile overlap with each other and with that of the United Kingdom. Since international law requires "effective occupation" as the basis for ownership, and since no nation has met the criteria by sustaining such permanent occupation in Antarctica, these territorial claims have not been recognized by other countries, by the UN, or by any other international body. In order to clarify the issue of territorial claims and to form a legal framework for the activities of nations in Antarctica, the 12 countries that had participated in the IGY signed the Antarctic Treaty on 1 December 1959. All 12 had ratified the treaty by 23 June 1961, when it duly entered into force. Other nations that conduct Antarctic research are entitled to consultative membership; as of 1996, 27 nations had consultative status. As of January 2002, there were 45 nations party to the treaty: The Antarctic Treaty provides that "Antarctica shall be used for peaceful purposes only," and prohibits military bases, weapons testing including nuclear explosions, and disposal of radioactive wastes. It seeks to foster freedom of scientific investigation and cooperation between nations, with the free exchange of scientific programs, observations, results, and personnel guaranteed. The treaty neither recognizes nor nullifies any preexisting territorial claims, but it does forbid any new claim or enlargement of any existing claim.

Chapter 5 : Polar regions of Earth | Revolvvy

Your class can review what they've learnt about the Polar Regions and consider what more they might like to learn with this handy write up activity sheet.

Even in summer months, temperatures are near freezing and winds reach up to miles an hour, so you can imagine the cold is the biggest killer here. What would one have to do in order to survive in these unwelcoming places? Bet your money on multiple layers of breathable fleeces and keep them dry. In these places any water will instantly freeze and so goes for your exposed flesh. Covering up is essential as your nose hairs and eyelashes can start icing in minutes. This is why we look paler when we are cold and our fingers and toes become numb. This will cause a boost in heat production, but it will use a lot of your energy and you will have to compensate by eating and drinking a lot more than usual. The water ratio recommended in an extreme cold environment is eight liters per day and the food ration should provide you with calories intake more than 3 times the daily recommended allowance. Polar explorers are known to use butter or seal fat over their food rations in order to increase the calories of their meals. The basic gear for being able to travel in these regions must include: A hat with ear flaps that should cover your head and neck, which are vital areas. One with a strap to secure it would be ideal, as you will not have problems during high winds. Goggles with a photochromic lens to help ward off the glare from ice and make sure you see the dangers which lie hidden in the ice cracks and holes. A balaclava ski mask is a must as it will help cover up as much skin from your face as possible and keep the heat in. A woolen one should do wonders. A thermal shirt as your base layer, it should be a thin insulating top that wicks any sweat away from your body. A pair of waterproof and windproof trousers made from a breathable material in order to avoid getting your legs sweaty and lose vital fluid. A pair of boots with a firm grip and a fleece coating that will keep your feet warm. A well-built jacket that needs to be both wind and waterproof to keep you warm and dry. There are jackets available with GPS trackers and sensors that will help rescue teams locate you, in case of need. Once you have a proper gear you will be able to travel around without the fear of becoming an ice block. And usually it is safe to walk on white ice, but grey ice is only four to six inches thick and prone to cracking and black ice is a sure no as it will have only just formed. If the night comes you will have to build an igloo for protection and the first thing to do is to find the right spot to start building it. The first trick to making your igloo is to build it on the side of a slope as it will mean less building for you. Dig a trench in the snow around 2 feet deep. Get in and slice out blocks of packed ice from either side of the trench to ensure they are nice and uniform. Dig another trench into the side of the hill about 1. This will be your sleeping chamber so make sure you will fit in it. Over the entrance trench stack the ice blocks in a semicircle. Make the entrance tunnel as small as possible to minimize the heat loss and to prevent animals from getting in. Rub water or snow over the blocks to fuse them together and you will be done with the construction of your night shelter. Another problem you will have to deal with is procuring food and this means only one thing: You will have to make a hole with a 1. Set up your chair three feet away from the hole and hold your rod over the top of it, with the line dangling in the water. The rod should be only three feet long and made of a sturdy material. Drop the baited line seven feet down and wait for a bite. And the last but not least, you have to pay attention to predators, your biggest problem being the polar bears, which are known to be masters of disguise and have a short temper when being hungry. If you end up in the polar regions keep in mind all the above and make good use of this knowledge. Stay Safe out there! Other Survival and Preparedness solutions you may like:

Chapter 6 : Wow start for Polar Regions topic | TES Community

*About Habitats: Polar Regions [Cathryn Sill, John Sill] on blog.quintoapp.com *FREE* shipping on qualifying offers. The latest book in this acclaimed series explores the major attributes of the Arctic and Antarctic biomes and showcases the striking beauty and remarkable diversity of these regions.*

Polar Regions Location Polar Regions The polar regions are the coldest places on Earth and differ the most from every other habitat on the planet. During the summer months, the days receive 24 hours of pure sunshine, but during the winter, the sun is barely seen at all. There are two main polar regions in the world, which are the Arctic and the Antarctic. The Antarctic is found at the South Pole, and although the animals are very different here, the polar regions are fairly similar places to live. The Arctic is made up of ice floating on the ocean and the Antarctic is a rocky continent covered in ice. There is very little rainfall in the polar regions, mainly because it is so cold, that there is very little water in the air. The main difference between the North and the South Pole is that the Arctic is connected to Europe and Canada, meaning that there are more species of both animals and plants than in the Antarctic which is completely isolated from the rest of the world. The warmer spring and summer months in the Arctic Circle encourages the growth of plants and grasses, which draws herbivorous grazing animals further north. Lemmings and Arctic hares can also be found in the tundra, often closely followed by foxes or large Arctic owls. Wolves are the top predators of the Arctic tundra, and polar bears dominate the frozen waters deeper in. Seals, killer whales, sea lions, walrus and narwhals can all be commonly spotted feeding on the fish in the Arctic Circle. The animals in Antarctica live on a very carnivorous diet. There are no plants growing on the frozen Antarctic surface so animals must eat other animals in order to survive. Numerous species of fish, crustacean and mollusc inhabit the waters beneath the ice which means that there is plenty of food for carnivorous birds and mammals to eat. Penguins are the most common animal found in Antarctica as there are many species spread across the continent and even further north, that hunt the fish. Larger predators such as leopard seals and killer whales inhabit the water around the frozen islands and huge whales flock to the Antarctic in order to eat the food in the nutrient-rich waters. Climate change and global warming have had the biggest impact on the polar regions, as the increasing temperature causes more and more ice to melt. In 1959, the Antarctic Treaty was signed which prevents Antarctica from being commercially exploited. Sadly, protecting the Arctic is a very different case as mining for oil and minerals, fishing and hunting takes place in many areas. Please enter a nickname which you can use to identify your comment, but which others can not use to identify you.

Chapter 7 : Talk:Polar regions of Earth - Wikipedia

*The Polar Regions: An Environmental History [Adrian Howkins] on blog.quintoapp.com *FREE* shipping on qualifying offers. The environmental histories of the Arctic and Antarctica are characterised by contrast and contradiction.*

Planet earth and the universe Module 49 The seasons in the polar regions Activity: Talking about the seasons in the polar regions [lo 1. The northern polar region is also known as the Arctic and the southern polar region is called Antarctica. These are some of the coldest parts of the whole world and many parts are covered in ice throughout the year. Different kinds of ice: Ice formed on land is called sheet ice. Floating ice formed on the surface of the sea is called pack ice. As the earth orbits the sun, the weather changes according to seasonal patterns. During the warm summer months more solar energy reaches the earth than in the cold winter months. The nearer you live to the Polar Regions, the more noticeable the changes are. Many animals and plants are affected quite drastically by the seasons and adapt their lives to the seasonal changes. Autumn During autumn many animals prepare for winter when it will be very difficult for many of them to find food. They collect food and store it in safe places. Some birds migrate to warmer parts of the world. Some trees lose their leaves in autumn. Winter The fur of most animals becomes thicker to enable them to cope better with the winter cold. They only need a few things to survive the winter: Just before the worst cold of winter, some animals eat lots of food and then sleep to conserve energy. We talk about them hibernating. You can help birds in your garden to survive by putting out food for them. Trees that lose their leaves protect the new leaves for the coming year within their buds. Spring Buds and blossoms appear everywhere when it is time for new leaves and flowers. Animals once again become active and prepare their shelters for their young. Animals that have hibernated wake up. The warmth of the spring and spring rains allow the grasses to grow for the animals to eat. Birds that migrated return and prepare nests to lay their eggs. By the time that the eggs hatch in late spring there will be sufficient insects for them to eat. Summer Plants grow quickly because there is sufficient sunlight. Animals shelter in the shade when it becomes too hot. Many animals now give birth to young that need care. Animals look for water to help keep cool. Organise an exhibition around each season in your class. Bring things to school that relate to specific seasons. Assessment Standard We know this when the learner 1. Memorandum Mr Brain Cell: Why is it so cold at the poles? Answer When the sun shines on the equator, all the rays are close together and therefore it is hot there. Since the earth is ball-shaped, the rays are spread over larger areas closer to the north and south poles. The rays are weaker, and therefore it is cold at the poles. How is an iceberg formed? Make one for yourself so you can see the large section of ice that stays submerged, and the section that is above water. What danger does this hold for ships? Which ship sank as a result of hitting an ice-berg in ? Fill a plastic bag with water and freeze it. Remove the ice from the bag and put it in a bowl of water. See how large the part is that stays under water! Large pieces of ice break from icecaps and glaciers and float on the sea. As they drift to warmer seas, they start to melt and break up. However, some icebergs can take up to three years to melt.

Chapter 8 : Polar regions | Environment | The Guardian

The polar regions of our planet may appear too remote for humans to have too much of an impact on them, but even activities thousands of miles away can negatively affect these areas. Climate Change Climate change is already altering Arctic habitats.

Chapter 9 : Antarctic Peninsula | Antarctica expedition cruise | Antarctic tour | Encounters Travel

From the changing shape of the warming northern polar region to the southern end of the globe in Antarctica, this atlas offers extraordinary new cartographic coverage of the entire globe.