

The WWF Arctic Tent:

Nytorv December 5th-17th 2009

The WWF Arctic Tent is an opportunity for the people of Copenhagen and delegates to the COP to get a taste of the Arctic, a region of the world that is being affected faster and more severely by climate change than almost anywhere else on earth. The message from the Arctic is that it is urgent for a new climate deal to be hammered out in Copenhagen, a deal which will save the Arctic from the turmoil of total ecosystemic change. This theme will be taken up in different ways on different days including by scientists, youth, Indigenous peoples, political leaders, artists, and adventurers.



The full programme is attached, and you can also access video, photos, and more at our website, www.panda.org/arctic



for a living planet

Day	Event
Saturday, December 5th	Opening
13:45-16:00	Bear in the square: Ice bear with bronze skeleton made by renowned sculptor Mark Coreth. He is internationally known as a master sculptor of animals in motion. He has always drawn his inspiration from direct encounters with life in the wild, a passion that has taken him from the mountains of Ladakh, to Rajasthan, the African plains, the Falklands and now the Arctic. Since 1986 he has regularly held exhibitions at the Sladmore Contemporary Gallery in London. His most recent exhibition, 'Serengeti', was held at the Sladmore in November 2008. Mark's specially commissioned work includes a flying albatross for the Falklands Memorial Chapel, a large figure for the opening of the Globe Theatre, and the monumental Millennium sculpture, 'The Waterhole', outside the Natural History Museum in London, which incorporates over fifty animals. He has also exhibited in Paris, New York and Sydney. @13:45 - 14:00 – sculptors (and guests) put finishing touches to Ice Bear sculpture in front of Arctic Tent. Media photo opportunity. While this is occurring, sculptor Mark Coreth will explain the rationale for the project. @14:05 – Guests, media, and spectators make their way inside the tent. @14:10 – WWF Arctic representative, Clive Tesar makes opening remarks about purpose of tent @14:15 - WWF senior climate spokesperson, Kim Carstensen, lays out WWF expectations of the negotiations @14:25 – United Nations Environment Programme (UNEP) representative, John Christensen, presents UNEP expectations for the COP. @14:35 – European Environmental Agency Executive Director, Prof. Jacqueline McGlade, speaks of urgency of climate signals, drawing on Arctic and European examples. @14:45 – Ambassador of Norway Jørg Willy Bronebakk

	introduces the context and later release at the COP of the report “Melting Snow and Ice: A call for action”. @14:55 – WWF Arctic representative, Dr. Martin Sommerkorn, introduces “Arctic in your Backyard” movie (short version), concluding remarks. @15:10 – media availability of speakers
Sunday December 6th	Science Day
12:00	Introduction
12:05-12:35	Peter Wadhams - Status of arctic sea ice Peter Wadhams is a professor at Cambridge University, and leads the Polar Ocean Physics group studying the effects of global warming on sea ice, icebergs and the polar oceans. This involves work in the Arctic and Antarctic from nuclear submarines, autonomous underwater vehicles (AUVs), icebreakers, aircraft and drifting ice camps. He has led over 40 polar field expeditions. He recently led the analysis of the results of the field observations of the Catlin Arctic Survey. What is happening to the arctic sea ice? The spectacular retreat of the Arctic sea ice in September 2007 is part of a larger and longer-reaching change in the nature and area of the Arctic sea ice cover, which is transforming it from a year-round cap on the northern end of our planet to a seasonal cover which will disappear each summer to reveal a huge navigable ocean. The annually-averaged area of the ice cover has been decreasing since at least 1950, while the thickness has decreased by 45% since the 1960s-70s, when frequent transects by submarines equipped with upward echo sounders began. Until recently the thinning outstripped the shrinkage, making the Arctic Ocean an increasingly fragile ice-covered ocean, but it was in 2007 that the thickness of first-year ice was reduced to the point that large areas simply broke up and melted in the summer. This was a tipping point: the ocean thus revealed not only reflects less radiation back into space (an ice-albedo feedback) but also warms up, making the subsequent freeze-up slower and the next year's ice thinner, and also stimulating the melt of offshore permafrost which releases methane, further accelerating global warming. Although in any given year there may be a small recovery of the ice cover, the trends both in area and thickness are downward, leading to an expected disappearance of the summer ice cover in 20-30 years.
12:35-12:50	Emily Frazer - Arctic snow cover dynamics (research project) Emily Frazer graduated from the University of Oxford in 2008 with an

	BA Hons and MA Oxon in Geography, and is currently an MSc student with the Environmental Systems Science Centre at the University of Reading, studying Applied Meteorology. Uncertainties in snowpack models and their impacts on global climate models Successful global climate projections rely upon the detailed understanding of physical components of the climate system. There are currently large uncertainties in our understanding of the fluxes of energy to and from the cryosphere and this translates to large uncertainties in model projections of future climate. Modeling of the snowpack is hindered by coarse assumptions, such as of snow grain size and density. Fieldwork has been undertaken and will take place again next season to collect new datasets in order to work towards the improvement of high resolution modeling of snowpack properties, important for forecasting melt rates, and global climate feedbacks.
12:50-13:20	James Overland - Arctic change: faster than expected James Overland works for the US National Oceanic and Atmospheric Administration, the organization that puts out the influential annual 'Arctic report card'. "While the emerging impact of greenhouse gasses is an important factor in the changing Arctic, what was not fully recognized until now was that a combination of anthropogenic warming and an unusual warming period due to natural variability, working together, was enough to shift the Arctic climate system through the major loss of sea ice extent in summer 2007-2009 and the loss of much multi-year sea ice since 2005. Multi-year sea ice in the past provided most of the memory and added stability to Arctic climate. The IPCC models which are best at resolving sea ice physics suggested a nearly sea ice free summer Arctic in the second half of this century. However, using the losses of sea ice in 2007-2009 as a starting point moves the time of Arctic sea ice loss to near 2035. But the recently determined importance of ocean heat storage, the physics of which was not fully included in the IPCC projections, supports an even earlier timing for a sea ice free summer Arctic. These changes are not confined to the Arctic, but influence mid-latitudes through atmospheric teleconnections- wave like propagation of climate shifts."
13:20-13:35	Anne Chapuis - Exploring the dynamics of iceberg calving in Svalbard (research project) Anne Chapuis Dept. of Mathematical Sciences and Technology, University of Life Sciences, Ås, Norway Exploring the dynamics of iceberg calving in Svalbard, or how do the Arctic icemakers work.

	The future response of glaciers and ice sheets to climate change is poorly understood. However, their contribution to sea level rise is very important. The goal of my research project is to better understand the role of ice dynamics in the response of glaciers and ice sheets to climate change. Ice dynamics are currently poorly understood and implemented in numerical models, which is one of the main limitations to predict the future of glaciers and ice sheets changes. My project focuses on iceberg calving, which had a large role in the disintegration of the past ice sheets and triggers current retreat and acceleration of tidewaters and outlet glaciers. In order to improve quantitative measurements and predictions of iceberg calving activity I first collected calving event data at Kronebreen, Svalbard, and then tested the influence that different possible controls such as the local environment parameters have on the calving activity. This project is very relevant in the effort made to improve the understanding of the future behaviour of glaciers and ice sheets and thus the future increase of sea level rise. We started the first period of continuous observations of calving events during one week in August 2008 and continued with two weeks in August 2009. We collected the timing, size, style and location of more than 6000 calving events. My first results suggest that calving glaciers are very sensitive to changes in their close environment such as air temperature and sun radiation and that their response to external perturbations is complex, unpredictable and non linear.
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13:35-14:05	Dorthe Dahl-Jensen - Greenland Ice Sheet and sea-level rise Dorthe Dahl-Jensen, professor at the Nils Bohr Insititute, is known for her years of studying the Greenland Ice Sheet. She is the leader of the Greenlandic ice core drilling. The NEEM project (North Greenlandic Eemian Ice Drilling), located in the middle of the ice sheet in Northwest Greenland, will bore through the almost 3 kilometer thick ice cap. Analysis of the contents of the ice cores, including air and dust, will map the climate almost 130.000 years back in time.
14:20-14:50	Lars-Otto Reiersen - AMAP: science for the Arctic (incl. SWIPA movie) AMAP The Arctic Council's Arctic Monitoring and Assessment Programme AMAP Executive Secretary Lars-Otto Reiersen and the Chair of the SWIPA Project (Snow, Water, Ice and Permafrost in the Arctic), Morten Skovgaard Olsen will present this work. They will integrate into the presentation the showing of the SWIPA film. The SWIPA project was established by the Arctic Council in April 2008 as a follow-up to the 2004 Arctic Climate Impact Assessment (ACIA). Its goal is to assess current scientific information on changes in the frozen parts of the Arctic, including the impacts of climate change on the ice, snow, and permafrost characteristics of the Arctic, which have potentially far reaching implications for both the Arctic and the Earth as a whole
14:50-15:20	Martin Sommerkorn - Greenhouse gases from a warming Arctic – an unwelcome contribution to emission budgets Martin Sommerkorn is an ecosystem ecologist researching carbon cycling in the circumpolar arctic tundra, an important feedback mechanism to global climate change. He was based in Germany, Sweden, the USA, and for the last six years he headed a research group in Scotland, where he also lectured on arctic climate change, ecosystem ecology, and ecosystem resilience. In his current position as Senior Climate Change Advisor of WWF's International Arctic Programme Martin focuses on communicating both the impacts and the global relevance of arctic climate change to the public and to policy-makers. The Arctic contains the largest deposits of organic carbon of any region on Earth. Arctic ecosystems play an important role in the global carbon cycle, making large contributions to fluxes of the greenhouse

	gases carbon dioxide and methane. Climate warming alters arctic carbon fluxes, and in the future, carbon emissions from both arctic lands and from the Arctic Ocean are projected to outpace uptake, further adding to global warming – an amplifying, or “positive”, feedback. Additionally, recent insight into the stability of the vast amount of frozen methane hydrates in the sea-floor of shallow arctic seas raise concerns about continued arctic warming causing releases of methane to the atmosphere, increasing warming even further. Limiting global warming to what scientists believe are safe levels, avoiding major positive climate feedback loops, is already under severe pressure given current emission reduction proposals made by the negotiating nations. The very real risk of triggering arctic carbon feedbacks and through it increasing atmospheric greenhouse gas concentrations beyond currently negotiated emission budgets has to be taken into consideration by the CoP15 negotiations if they are to answer to their statutory task, the avoidance of dangerous climate change.
15:20-15:50	Bob Corell - Climate Change: Arctic Realities and Global Challenges Bob Corell was lead author on the Arctic Climate Impact Assessment, considered the world’s best regional assessment of the impacts of climate change. His presentation shows the earth's climate system is indeed changing. With the global temperature now rising at a rate unprecedented in the experience of modern human society. The strength of the trends and the patterns of change that have emerged in recent decades indicate that human influences, resulting primarily from increased emissions of carbon dioxide and other greenhouse gases, have now become the dominant factor. Changes in the climate are being experienced intensely, particularly in the Arctic. Where the average temperature has risen at almost twice the rate as the rest of the world in the past few decades, the Arctic region, more than any other region in the world, provides a bellwether, a “canary-in-the-mine” for the world at-large. The widespread melting of glaciers and sea ice along with rising permafrost temperatures present additional evidence of strong Arctic warming. These changes in the Arctic provide an early indication of the environmental and societal significance of global warming. An acceleration of these climatic trends is projected to occur during this century. Undoubtedly, climatic processes unique to the Arctic will reach far beyond the region, having significant effects on global and regional climate, sea level, biodiversity, national security, human

	migration, health, and other aspects of human social and economic systems. These scientific findings, all of which have been documented by the IPCC and more recent peer-reviewed scientific publications, unequivocally conclude that: • Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level. • There is now higher confidence in projected patterns of warming and other regional-scale features, including changes in wind patterns, precipitation and some aspects of extremes and of ice. • Anthropogenic warming and sea level rise will continue for centuries due to the time scales associated with climate processes and feedbacks, even if greenhouse gas concentrations were to be stabilized. The projected “Current Proposals” by the 192 UNFCCC nations as of the end of October fall short of the goals essential to maintain a sustainable and viable planet, with expected annual global surface temperatures to be in excess of 3.5 degrees Celsius (or approaching 7 degrees Fahrenheit). Unless action is taken during these COP 15 negotiations to reduce concentrations of CO₂ and related greenhouse gases in the atmosphere, the projections will be realized and the consequences will take humankind to conditions it has never experienced in modern society.
15:50-16:20	Waleed Abdalati, <i>Earth Science and Observation Center, University of Colorado</i> - Changing Arctic Ice: Perspectives from Space Until recently, Dr. Waleed Abdalati was the Head of NASA's Cryospheric Sciences Branch, at NASA's Goddard Space Flight Center. He conducted research on high-latitude glaciers and ice sheets using satellite and airborne instruments. He has led or participated in eight field expeditions to remote regions of the Greenland ice sheet and ice caps in the Canadian Arctic. He has been Manager of NASA's Cryospheric Sciences Program, overseeing NASA-funded research efforts on glaciers, ice sheets, sea ice, and polar climate. For the last four years, he has served as Program Scientist for NASA's Ice Cloud and land Elevation Satellite (ICESat), which has as its primary objective to increase our understanding of changes in the Earth's ice cover. From disappearing sea ice to the rapid acceleration of Greenland's outlet glaciers, Arctic ice cover is changing in remarkable ways.

	Because ice plays a critical role in shaping our planet's environment, understanding changes like these is crucial. Scientists' ability to investigate the dramatic behaviour of the Earth's vast and remote frozen regions has been greatly enhanced in recent years by the development of sophisticated satellite observation capabilities. The space-based view provides both perspective and context that enable new insights into how and why ice is changing and what these changes may mean for life on Earth.
16:20-17:00	All experts - Panel discussion, audience Q&A, concluding remarks
Monday December 7th	Youth Day
16:00	Presentation by Arctic members of Canadian Youth Delegation.
17:00	Cape Farewell - The British Council's Cape Farewell Youth Expedition is the brainchild of British artist David Buckland. It is an inspirational international project that addresses climate change through the interaction of art and science. In 2008, 28 young voyagers from Canada and six other countries sailed from Iceland, via Greenland, to Baffin Island. As ambassadors of their schools and communities, they observed and interpreted the effects of climate change in the Arctic. What they saw and experienced inspired them, their fellow students and communities to seek social and technical solutions to this huge global problem. International climate champions from Canada and Germany will talk about their experiences. □At the heart of this voyage is artist David Buckland's idea that artists are better equipped than scientists to convey the message of climate change, especially to young people – who have ample reason to be concerned about their future on our vulnerable planet, □ says acclaimed Canadian author Margaret Atwood.
17:30	Will Steger Foundation - Believing that the Midwest of the United States is a key player in driving national climate policy, public opinion, and the renewable energy revolution, Will Steger Foundation is committed to engaging young emerging leaders across the Midwest in the international climate negotiations. Will Steger Foundation has selected 12 dynamic youth leaders representing diverse communities from each of the following Midwest states: North Dakota, South Dakota, Iowa, Minnesota, Wisconsin, Michigan and Illinois. Young people across the globe will bear the brunt of global warming consequences throughout our lifetime. Without key policy measures to encourage clean energy solutions, youth will inherit a more turbulent and expensive future as a result of unchecked global warming. Here in the Midwest we risk losing many of our manufacturing and agricultural jobs. On the global scale, we risk facing more frequent conflicts caused by resource competition. We need policy decisions that will grow our economy in ways that create new long-term employment opportunities, support the transition to a clean energy

	economy, and secure a safe and healthy future.
18:00	Artcirq - Artcirq is an artistic youth collective that utilizes a unique creative process which integrates theatre, performance, music, video and circus arts with traditional and modern Inuit performance styles. Based in Igloolik, Nunavut, a remote Inuit community in the Baffin islands, Artcirq is a unique and distinctively Inuit circus and multi-media production group that aims to give its members the space, the skills and the opportunities to express themselves and celebrate their heritage. Members share their Inuit culture with the world through local and international performances, workshops, music and video productions. Artcirq uplifts its members and the community as it creates role models and connects Inuit youth to their traditions and to themselves. Breaking through barriers and conventions, they discover their potential and live their dreams. About "Oatiaroi" (Wait) Oatiaroi is the story of a hunter surviving in a changing world. Well capturing Arctic life, caught between modernity and tradition, Artcirq's creation reveals the Inuit perspective on global warming. Inspired by the Inuit hunter spirit, Oatiaroi creatively weaves a tapestry of performances featuring acrobatics, hand to hand, juggling, clowning, human pyramids and traditional Inuit games.
18:45	Voyage for the Future Alumni. Youth who were on WWF-sponsored Arctic expedition in 2008 reflect on their experiences of Arctic change, and the changes they are making as a result.
19:15	University of Alaska Fairbanks students will make a presentation on the effects of climate change in their communities. The UAF students come from both arctic and sub arctic regions of the state in areas we call, the "ground zero" of climate change. For more information on our program go to: www.uaf.edu/danrd
Tuesday December 8th	Indigenous Peoples' Day
16:15	Artcirq: Inuit youth circus group from Igloolik, Canada
16:45	Patricia Cochran, Inupiaq from Alaska, Chair of the Indigenous Peoples' Global Summit on Climate Change and Former Chair of the Inuit Circumpolar Council, will present the film and report from the first indigenous global summit on climate change held in Anchorage, Alaska in April 2009. "The clear voice of Indigenous Peoples needs to be heard by the rest of the world community and their insights honored in critically important climate change discussions now underway. When it comes to implementing mitigation and adaptation strategies, the world would gain greatly from proven ancient approaches built on profound respect for the Earth."
17:25	Presentation by the Saami Council and the World Association of Reindeer Herders on the impacts of climate change on traditional cultures and economies.

18:00	Many Strong Voices – a collaborative programme with the goal of promoting the well-being, security and sustainability of coastal communities in the Arctic and Small Island Developing States (SIDS) in the face of climate change, by bringing these regions together to take action on mitigation and adaptation. The MSV programme is made up of a consortium of partners represented by nearly 20 Arctic and Small Island Developing States nations.
18:30	Sheila Watt Cloutier Sheila Watt-Cloutier is a former Chair of the Inuit Circumpolar Council (ICC), the Inuit organization that represents internationally the 155,000 Inuit of Canada, Greenland, Alaska, and Chukotka in the Far East of the Federation of Russia. Ms. Watt-Cloutier was instrumental as a spokesperson for a coalition of northern Indigenous Peoples in the global negotiations that led to the 2001 Stockholm Convention banning the generation and use of persistent organic pollutants (POPs) that contaminate the arctic food web. Ms. Watt-Cloutier received the inaugural Global Environment Award from the World Association of Non-Governmental Organizations in recognition for her POPs work. She is the recipient of the 2004 Aboriginal Achievement Award for Environment. In 2005, she was honoured with the United Nations Champion of the Earth Award and the Sophie prize in Norway. She was nominated for a Nobel prize for her work on climate change, and has received many other honours connected to that work.
19:00	Two ways of knowing James Kuptana, Inuit Circumpolar Council (Canada) will present a look at how traditional indigenous knowledge can combine with science in making decisions about coping with impacts of climate change.
19:15	By the Frozen River New film by Greenlander Isak Kleist . This film describes the consequences of global warming seen through the large glaciers and their central role for life in Disko bay in Greenland, both social and ecological. Introduction by the film-maker.
Wednesday December 9th	Arts and Culture day
14:30	“Rundt om Grønland” a photographic show from John Andersen based on his book of the same name. The presentation tells of his experience and observation of climate change, through 30 years in Thule district, the most northern place on earth. This is followed by “The Spirit of Ice” music composed by Thulla

	Wamberg. The Music was inspired by the sounds of melting ice, as captured by Thulla in a kayak off the coast of Greenland.
15:30	Steven Kazlowski – the Last Polar Bear. In a presentation based on his book <i>The Last Polar Bear</i> , wildlife photographer Steven Kazlowski exposes the new hardships faced by polar bears in northern Alaska and warns of a grim future, as their sea-ice habitat literally melts away.
16:15	Staffan Widstrand - “In the Arctic Wind - a Circumpolar Odyssey” by world-renowned photographer Staffan Widstrand from Sweden. With images from the Russian Arctic, Alaska, Canada, Greenland, Svalbard and northern Norway. Staffan has travelled most parts of the Arctic over the last 20 years, he is a founding Fellow of the International League of Conservation Photographers (ILCP) and also the CEO of the epic initiative “Wild Wonders of Europe” - the world’s largest ever nature photography-based communication project.
17:00	Youth throat singers from Canada. Janice Gray and Emily Karpik will demonstrate the Inuit art of throat singing.
17:20	Portraits of Resilience - this photography project illustrates the ethical dimension of the climate change discussion through the words and photographs of high school students in four Arctic communities: Shishmaref, Alaska; Umannaq, Kalaallit Nunaat/Greenland; Ungårgga/Nesseby, Norway; and Pangnirtung, Nunavut, Canada. The goal is to give these young people a voice in Copenhagen in 2009 – and to put a youthful, human face on climate change in the Arctic. <i>Portraits of Resilience</i> is led by two photographers, Christine Germano and Lawrence Hislop, who have extensive experience documenting human/environment interactions. Through this project, the students have written essays, learned to take photographs, and worked hard to show their communities to the outside world.
17:45	Vanishing World – Mireille de la Lez is a Swedish nature photographer specialized in photography and film in the polar region. With more than seven years of experience from intensive field-work in the High Arctic she has assembled a unique expertise of working under the most extreme conditions. Her goal with photography is not only to evoke feelings and entertain, but also to visualize difficult and complex questions, and make them easier to understand. Isolated on the Arctic tundra, often hundreds of miles from the nearest Human, the expeditions usually last several months. She believes living with the wildlife and getting to know them and their behaviours is a requirement for truly great images. Mireille de la Lez’s show <i>Vanishing World</i> is a story about a world of ice and extreme conditions; a frozen world where global warming leads to fast and dramatic consequences. In a setting of rugged mountains and mighty glaciers, you will follow the polar bear mother

	as she takes her newborns out on the ice for their first hunt, you will experience the polar night - a season when the moon, the stars and the colourful auroras are the only sources of light. You will visit the endless pack-ice of the Arctic ocean and witness its impressive wildlife struggling for survival in the most extreme environment on earth. You will be heading for a place where man steps back and nature takes over. Mireille will give you an unprecedented visual record of the Arctic, rendering a living image of its nature, wildlife and environment. Her story is a celebration of life in the harshest and most unforgiving world imaginable and yet the most fragile and beautiful.
18:45	Arteirq: Inuit youth circus group from Igloolik, Canada
19:30	CoolEmotion – Cool(E)motion aims to re-engage the public on the topic of climate Change. Ap Verheggen the internationally acclaimed Dutch sculptor and filmmaker has embarked on an unprecedented art project cool(E)motion . The Cool(E)motion team, will travel into the arctic region around the North Pole and place locally inspired sculptures on moving glaciers, floating icebergs and drifting ice. GPS tracking devices will be installed so the whole world can observe in real time the effects the natural elements will have on these majestic sculptures. Greenlander Ole Jorgen Hammeken will also take part in the presentation.
Thursday December 10th	<i>Not open to the public</i>
Friday December 11th	2 Poles Day
11:00-12:30	Special presentation: WWF France and Arjowiggins – Climate, paper, and deforestation. This presentation will be in French. En Francais.
16:00	The other end of the Earth: change in the Antarctic – Presentation by Dr. Colin Summerhayes A massive 3 year study by an international team of 100 scientists, published as a book on November 30th in time for the Copenhagen climate conference, shows that Antarctica is responding to global warming in ways quite different from the Arctic. In contrast to the Arctic Ocean, the sea ice around Antarctica has grown by 10%. The difference is caused by the ozone hole over Antarctica, which shields the continent from the effects of 'global warming'. In spite of that shielding, the ocean around Antarctica is beginning to warm. Warm ocean waters are eroding the ice shelves that hold back glaciers in West Antarctica. As a result they are speeding up and thinning, like those in parts of Greenland, and may contribute several tens of centimeters to our rising seas by 2100. Warming associated with the

	Antarctic Peninsula is causing ice shelves there to collapse for the first time in 10,000 years, and has shrunk the area of sea ice locally. Where the sea ice has shrunk there are declines in krill (the seafood for whales) and in colonies of Adelie Penguins (though they continue to thrive in cold East Antarctica). Dr Colin Summerhayes, an internationally known oceanographer who has co-edited the book on "Antarctic Climate Change and the Environment", will use slides to illustrate the changes taking place. Colin is a former Director of the UK's Institute for Oceanographic Sciences, recently worked for UNESCO, and now directs Antarctic activities for the International Council for Science. He is based at Scott Polar Research Institute in the UK.
16:30	Spot Image, Louis Francois Guerre – Louis-François Guerre works at the company Spot Image for the Planet Action initiative to provide Earth Observation satellite images, in particular from the SPOT satellites, to projects engaged actively in the fight against Climate Change. Planet Action works now with more than 200 NGOs or research organisations on climate change impacts, mitigation or adaptation activities. Earth Observation images taken from satellites are a very valuable source of information and allow regular observations of remote areas such as glaciers in the Arctic or Antarctic regions. Very amazing images of glaciers taken from satellites including evidence of dramatic changes observed will be presented during an half -hour presentation.
17:00	The Extreme Ice Survey- This is the most wide-ranging glacier study ever conducted using ground-based, real-time photography. EIS uses time-lapse photography, conventional photography, and video to document the rapid changes now occurring on the Earth's glacial ice. The EIS team has installed 27 time-lapse cameras at 15 sites in Greenland, Iceland, Alaska, and the Rocky Mountains. EIS supplements this ongoing record with annual repeat photography in Iceland, the Alps, and Bolivia.
17:45	Arctic and Antarctic governance - David Monsma, Executive Director, Energy and Environmental Program, Aspen Institute, and Dr. Robert Corell, Vice President of Programs, H. John Heinz Center for Science, Economics and the Environment, will discuss the results of the December 3rd Workshop on "Arctic Governance: Drawing Lessons from the Antarctic" convened as part of the 50th Anniversary of the Antarctic Treaty Summit held at the Smithsonian in Washington DC. The results from this workshop include: (1) general insights from the Antarctic Treaty and its relevance to current Arctic governance; (2) the relevance of the Antarctic experience with regulatory measures of resources and human development in addressing Arctic issues; and, (3) what can be learned from the Antarctic experience in order to learn how to strengthen the science and policy interaction in the Arctic. Discussion will also include how the Aspen Institute's Dialogue and Commission on the Arctic Climate Change and the international study entitled The Arctic Governance Project are

	addressing the challenges facing the Arctic.
18:15	Steven Kazlowski – last polar bear. In a presentation based on his book <i>The Last Polar Bear</i> , wildlife photographer Steven Kazlowski exposes the new hardships faced by polar bears in northern Alaska and warns of a grim future, as their sea-ice habitat literally melts away.
19:00	“Imiqutailaq – Path of the Arctic Tern” – Introduced by Students on Ice participant Jesse Tungilik, this movie from the organization is about a life-altering journey from one end of the Earth to the other, by two Inuit teens (Terry Noah and Jason Qaapiq) from Grise Fiord, Nunavut, Canada’s northernmost Arctic community, to the bottom of the world, Antarctica. The journey was the dream of the late Dr. Fritz Koerner (1932-2008), the irreverent and legendary glaciologist whom the people of Grise Fiord named Imiqutailaq (Arctic Tern), after the little seabird that flies from the Arctic to the Antarctic and back each year. The documentary touches on Fritz’s 50 years traveling Pole to Pole studying the ice, and how he wanted these Inuit youth to better understand the impacts of climate change, and inspire everyone to do something about protecting the Poles and the Planet.
Saturday December 12th	Adventurers Day
13:00 & 16:00	Will Steger - “Eyewitness to Global Warming” is Will Steger’s vivid account of the changes that he’s witnessed firsthand, caused by global warming pollutants, in Arctic regions over four decades of polar exploration. Steger shares stunning photographs from his expeditions along with compelling data, satellite imagery, and multimedia videos to document the deterioration in the polar ice caps. While the issue is critical, and the presentation is dramatic, Steger’s message is one of hope and empowerment. An understanding of our role in the causes and effects of global warming make this personal. But as Steger explains, solutions are readily available and by making economically and environmentally smart choices people can make a difference.
13:45 & 16:45	Pen Hadow, leader of Catlin Arctic Survey, one of Time Magazine’s ‘heroes of the environment’. Pen Hadow shot to international fame in 2003 when he made history by completing the first solo journey, without re-supply, from Canada to the North Geographic Pole – a feat thought comparable to climbing Everest solo without oxygen. He remains the only person to have achieved this feat. In summer 2009 Pen returned from leading the high-profile and gruelling Catlin Arctic Survey. Five years in the making, this was a three-month pioneering scientific expedition to help determine the future of the Arctic Ocean’s sea ice. The £3million expedition, whose patron is The Prince of Wales, has supplied the raw survey data to world-class scientific organisations for analysis including the

	University of Cambridge, UCL, and the Canadian Ice Service.
14:30	Stéphane Lévin – Throughout his many expeditions and programmes, M. Lévin is an explorer who has often put himself on the line for the purposes of medical research, experiments, trials of space technologies in extreme conditions and campaigns to gather scientific measurements. In 2001, Stéphane crossed the polar ice to the magnetic North Pole. Then in the winter of 2002-03, he embarked on an Arctic expedition called "Alone in the Polar Night" – a 121-day solo, unsupported scientific campaign to support preparations for future long-duration human spaceflight missions. The expedition included 106 days without sunlight and 70 days in total darkness. Stéphane has provided input for two medical theses on human adaptation in extreme conditions. He has also produced photo reports on human spaceflight simulations for international space agencies. Stéphane is a firsthand observer of climate change and its impact on our planet. As a photographer in extreme conditions, his missions for various space agencies (Infoterra, Spot Image, etc.) have focused in particular on the Inuit people and polar bears in the Arctic as well as desertification and deforestation in locations around the world. To raise awareness among today's young people, tomorrow's decision-makers, Stéphane led a successful three-year programme focused on the causes of global warming called "Science Travellers". The programme comprised a unique series of three scientific expeditions with groups of high school pupils in the Arctic (2006), the Sahara Desert (2007) and the Amazonian rainforest (2008). As an Ambassador for Planet Action, Stéphane puts his international reputation and practical experience in the field to good use as he meets people involved in the fight against climate change and produces films to show how space technologies are helping us to observe, understand and protect our planet. Stéphane's books and films have won awards at numerous international festivals. Stéphane Lévin is a member of the Société des Explorateurs Français (SEF), the French explorers' society.
17:30	Cameron Dueck, leader of the 2009 yacht voyage through the Northwest Passage. With only four crew and the ticking clock of Arctic sea ice setting the pace, the Silent Sound sailed 8,100 nautical miles, or 15,000 kilometres over the top of North America. From Victoria the expedition went north across the Gulf of Alaska and Bering Sea before entering the Arctic and turning east. Through July, August and September the boat slowly wound her way between the ice floes to visit communities such as Tuktoyaktuk, Sachs Harbour, Cambridge Bay and Pond Inlet in the Canadian Arctic. In each port they listened to the stories of people's lives and how they are being changed by the Arctic's shifting climate, politics and economic fortunes.

15:15 & 18:15	Northeast passage trip - Ola Skinnarmo The Northeast passage is the Russian equivalent of the Northwest passage – 6,000 nautical miles across the top of Russia. The crew of Explorer of Sweden managed this feat this past summer, with 3 different WWF representatives aboard at different times. They saw the hard lives endured by people in the Russian coastal communities, and stampedes of walrus herds forced ashore by the lack of sea ice.
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