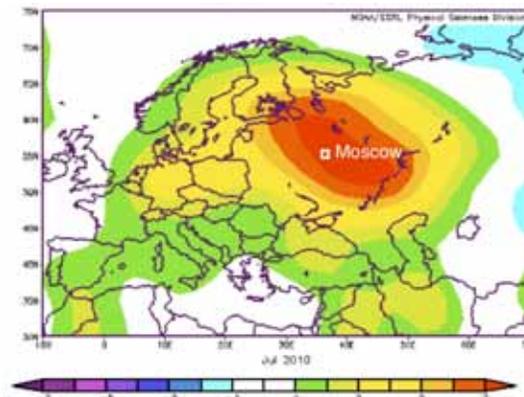




FALL 2010

From the Director

Maximum temperature records were set in eighteen nations worldwide in the first ten months of 2010, more than in any previous single year in recorded history. Over the summer, extreme rainfall events hammered Pakistan, southern and northeastern China, the eastern seaboard of the United States, and even coastal British Columbia. Weather forecasts in Moscow in early August included a new keyword: “дым” (smoke), as wide swaths of the boreal forest in western Russia burned and air quality diminished while the region baked under a record heat wave (see below). And in a rare conjunction, the Northwest and Northeast passages in the Arctic Ocean were ice-free simultaneously in early September.



Temperature anomaly map for July 2010 for western Eurasia. The colours give the departure from the July average surface temperature in °C compared to the July average over the 1968-1996 interval. Western Russia sweltered under 62 straight days of above-average temperatures between June and August. Generated using the mapping tool at <http://www.esrl.noaa.gov/>.

While many of these reflect short-term weather events rather than climatic trends, a common thread links them: all are consistent with projected impacts of global warming. That observation is supported by a growing number of highly sophisticated attribution studies being carried out at the world's leading climate modeling centres, including Environment Canada's Canadian Centre for Climate Modeling and Analysis on the UVic campus.

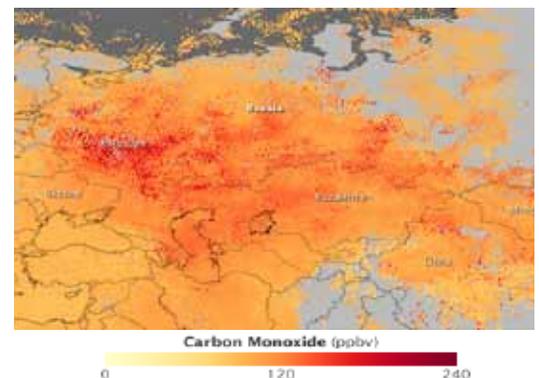
Perversely, if there is any good news in this spate of disasters, it is that some global leaders are awakening to the reality that global warming is

real, that it is happening quickly, and that taking action to slow the rate of change is a must.

Time Magazine reported that, just a few months before the Copenhagen climate summit in December 2009, Russian President Dmitri Medvedev announced that Russia would be spewing 30% more planet-warming gases into the atmosphere by 2020. “We will not cut our development potential,” he said.

But by the beginning of August this year, following over six weeks of unprecedented heat in Moscow, Mr. Medvedev's tune had changed: “What's happening with the planet's climate right now,” he said, “needs to be a wake-up call to all of us, meaning all heads of state, all heads of social organizations, in order to take a more energetic approach to countering the global changes to the climate” (see <http://www.time.com/time/world/article/0,8599,2008081,00.html>).

Countering and slowing climate change remains a challenge that global society has not yet actively embraced. Acting on it will require two things: acceptance of the scale of the problem and establishment of appropriate policies. Mr. Medvedev's epiphany marks at least one major leader's response to the first requirement; whether or not policies will follow remains an open question. But what form should appropriate policies take? Russia would do well to follow British Columbia's example.



Ground level carbon monoxide (CO) concentration in air over western and central Russia, August 1-8, 2010. CO is a byproduct of incomplete combustion of biomass. High concentrations (red) over land mark general areas where forest and peat fires were present in mid-summer. Retrieved from <http://www.ncdc.noaa.gov/sotc/>.

The imposition of a progressively accelerating but revenue-neutral carbon tax in this province in 2008 was a visionary step that captured international attention, and indications are that it is now driving capital investments in universities and elsewhere that will lead directly to improved energy efficiencies. Other jurisdictions may follow BC's lead. China is now considering establishing a similar type of revenue-neutral tax, which some authorities hope could be in place as early as 2012. And Chris Huhne, UK Minister of Energy in David Cameron's coalition government, announced recently his support for an increase in duties on carbon to be used to reduce taxes elsewhere.

However, assignment of an appropriate price to carbon emissions remains only one of many possible levers that can help curb greenhouse-gas emissions. There are a host of others: specific regulations, like building codes; incentives, along the lines of BC Hydro's Power Smart programs or improved transit systems; establishment of social norms such as recycling programs within neighbourhoods; and development and application of new renewable energy technologies, for example.

All of these are being explored, often from multiple perspectives, through research projects that are now being, or soon will be, supported by PICS. The full slate of questions that is driving this research agenda is now available online as the **PICS Strategic Research Plan** (<http://www.pics.uvic.ca/research.php>). That plan summarizes an in-depth canvassing of the research community in British Columbia that we conducted through five expert workshops over the past year, each of which was focused on a specific theme. The document captures what we are doing, or intend to do, in the coming years, and I invite you to read it. We are keenly aware of the urgency of the task at hand, urgency that – despite decades of warnings from the scientific community – is just now being shared by the President of Russia.

UNBC and Harvard share top environmental award

PICS wishes to congratulate one of its partner universities - the University of Northern British Columbia - (UNBC) for winning a prestigious campus sustainability award, and for sharing that first place prize with Harvard University.

UNBC's innovative bioenergy project received the top award from the Association for the Advancement of Sustainability in Higher Education (AASHE) at its annual conference held in Denver Colorado, in October 2010. The project, which consists of a wood pellet system at the University's I. K. Barber Enhanced Forestry Laboratory and a biomass gasification system currently under construction, was recognized for the way it integrates teaching and research

with campus operations, while also serving as a model for communities and other campuses.

PICS campus coordinator at UNBC, Kyle Aben, says the university's

decision to take advantage of its northern location by utilising the forestry biomass surrounding it shows the value in using local and renewable natural resources for energy needs. Both systems integrate with existing campus operations to heat buildings and provide hot water, while producing ultra low emissions and slashing UNBC's fossil fuel consumption by up to 85 per cent.



Aerial view UNBC's Prince George campus with bioenergy projects (L to R rear) – gasification plant and wood pellet plant. Photo courtesy of UNBC Communications.

Dai Qing on China's Three Gorges Dam

This fall PICS, in collaboration with the Centre for Asia-Pacific Initiatives, had the privilege of hosting the leading Chinese environmental activist and author Dai Qing for a series of public and student speaking engagements in Victoria and Vancouver. More than 500 people either turned up in person or tuned in online to hear about her ongoing battle to safeguard both the environment and human rights in her native land.

Dai Qing first shot to worldwide attention as an investigative journalist exposing the huge ecological, environmental and social costs of the world's largest hydroelectric project – China's Three Gorges Dam. Her book criticising the project, *Yangtze! Yangtze!*, earned her ten months in a maximum-security

prison after the 1989 Tiananmen Square protests. She has since published many other books, articles and journals. Prior to her call to activism, she worked as a missile technician and intelligence agent.

During her time with PICS Dai Qing gave two public lectures – one



Dai Qing speaks on the *Unfolding Tragedy of China's Three Gorges Dam* at UVic public lecture on November 8, 2010.

at UVic on November 8th, 2010, and the other in downtown Vancouver on November 9th – focusing primarily on the Three Gorges Dam but also touching on the crisis of Beijing's dwindling water supplies. Both lectures are available on the PICS website at www.pics.uvic.ca/events.php.

Students also had the opportunity to speak first-hand with Ms. Dai at three separate dialogue sessions held at UVic, SFU and UBC. Many were keen to know her opinion of the role young Chinese should play as China's economy continues to grow but at a social and environmental cost. Ms. Dai's message clearly exposed the corruption and greed driving much of China's development but she also called on the West to take responsibility for its own consumer-driven values and way of life.

Outreach to northern and interior BC

PICS has kicked off its lecture tour of northern and interior communities with free public events being held in Dawson Creek and Kamloops, with more in the pipeline. PICS is committed to taking knowledge of climate science, sustainability and carbon economics to these communities in an effort improve both public understanding of the issue and in recognition that taking action on climate change presents new – and potentially valuable – economic opportunities for many communities throughout the province.

The first lecture took place in late March 2010, in Dawson Creek, home to BC's first operational wind farm at nearby Bear Mountain. PICS Executive Director, Tom Pedersen, and SFU economics Professor Nancy Olewiler respectively discussed climate science and the rationale for BC's carbon tax with local leaders and the public.

Building on this successful approach, Tom and Nancy's second lecture tour stop was held in Kamloops on October 7, 2010.

Joined by BC's Minister of State for Climate Action John Yap and hosted by Kamloops MLA Terry Lake, the public event held on the Thompson River University campus attracted nearly 90 attendees, excellent audience participation and strong local media coverage.



The PICS BC lecture series reaches Kamloops – the panel (from L-R): Kamloops MLA Terry Lake, PICS Exec Dir Tom Pedersen, SFU economics Professor Nancy Olewiler, and BC's Minister of State for Climate Action John Yap.

Additional lectures took place in Whistler in October and Vernon in November, with plans to visit Terrace, Smithers and the Yukon over the coming months.

Greenest City Conversations Project

The PICS funded Greenest City Conversations project (GCCP) has been awarded matching funds (\$200,000 over two years) from the Graphics Animation and New Media (GRAND) National Centre of Excellence (NCE). The GCCP is an innovative, interdisciplinary and wide scale research project aimed at developing and evaluating multiple "channels" for public engagement on sustainability policies. The project is led by principal investigator Dr. John Robinson and Dr. Stephen Sheppard at UBC in collaboration with SFU Faculty Dr. Alissa Antle and Dr. Lyn Bartram. GCCP was endorsed by the PICS Social Mobilization Committee and awarded funding from the PICS Program Committee. GCCP is being carried out in partnership with Mobile Muse, the City of Vancouver and BC Hydro.

PICS SFU-UBC Public Lecture Series

This fall has seen the launch of the PICS joint SFU and UBC Public Lecture Series held in downtown Vancouver, where professors from both universities shared their knowledge with the general public on climate change issues. Organised by SFU and UBC PICS Campus Coordinators Nastenka Calle and Sara Muir Owen, these lectures cover issues of climate change impacts, mitigation and adaptation by tapping into the expert knowledge base at PICS partner universities. This series aims to help to inform BC residents of the new initiatives and innovative research related to climate change happening within the province.

The series' first public lecture on September 29, 2010 comprised presentations from Dr. Nancy Olewiler, SFU and Dr. John Robinson, UBC on "Smart Energy Systems at the Urban Scale: Sustainable Solutions to Reduce GHGs and Promote Liveable Regions." Their talks shed light on how smart or integrated energy systems offer sustainable solutions at the urban scale to reduce GHGs and promote a more livable region. The event attracted 60 participants either watching in person or online.

On October 27, 2010, Dr. Hadi Dowlatabadi, UBC and Dr. John Clague, SFU presented on "Threatening Seas: Sea-Level Rise, Coastal Flooding and Erosion" for the second lecture of the

series. The lecture provided compelling insight into our changing shoreline environments and attracted 125 people.

Next January 27, 2011 will be the third PICS-SFU-UBC public lecture with Drs. Alex Clapp, SFU and Simon Donner, UBC. Dr. Clapp will focus his presentation on "The IPCC, the Climate Research Unit and "Climategate". Dr. Donner will focus on public perception of climate change and the implications for policy.

Profile: PICS Co-op student Brendan Guy

PICS is now accepting job proposals for the next round of its highly popular student internship program that started in January 2010.



Brendan Guy, a student from the Fall 2010 intake of the popular PICS Co-op program.

Under the scheme, students work within the PICS universities, the provincial or municipal governments or BC NGOs in areas that PICS has identified as critical to its research strategy: namely, the low carbon emissions economy, carbon management in BC forests, resilient ecosystems, sustainable communities and social mobilization. These internships, paid for by PICS and up to eight months in duration, provide students with opportunities to enhance their knowledge and expertise in the area of climate change, and to improve the integration of knowledge into practice.

An example of the program in action is Co-op student Brendan Guy, a recent UBC Bachelor of Science graduate in Natural Resources

Conservation. Brendan was hired this fall by Dr. Eric Higgs, Professor in the School of Environmental Studies at UVic, to assist Rod Davis, a PICS doctoral fellow, with his research on Conservation strategies for wildlife ecosystem resilience.

Brendan's work involves predicting potential habitat changes in the Kootenay region. Gathering data from a variety of sources, including government records and climate data from the Pacific Climate Impacts Consortium, Brendan is inputting the collected information into various models to create wildlife case studies on grizzly bear, wolverine and mountain caribou populations. These studies will then be analyzed by wildlife experts within the context of predicted changes in climate for the western Kootenay region, enabling management to plan for mitigating the effects of climate change on wildlife ecosystems in the area. Brendan plans to use the knowledge gained through this position to continue with his academic studies by enrolling in a Master's program.

Other campus news...

PICS is continuing to raise its profile on its partner campuses. This fall PICS Executive Director Tom Pedersen gave a presentation during UBC's inaugural University Sustainability Initiative's "Campus as a Living Lab" Symposium, held on September 27, 2010. Tom gave an overview of PICS' current and planned interdisciplinary work on climate related initiatives. The symposium involved about 200 UBC students, faculty, staff and other community stakeholders

PICS participated in SFU's SustainABILITY Festival on September 29, 2010 with the enthusiastic collaboration of the PICS-SFU fellows. Information about PICS mission, research themes, fellowships, publications and other information was shared with the people who visited the booth.

PICS-SFU was also present at the Wellness and Health Festival on SFU's Burnaby Campus on October 27.

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