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**CLIMATE CHANGE
AND SECURITY
PROJECT**

**WORKSHOP on
THE CLIMATE CHANGE-SECURITY NEXUS**

**IMPLICATIONS FOR CANADIAN
DEFENCE POLICY 2010-2030**

WORKSHOP REPORT

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**THE CLIMATE CHANGE-SECURITY NEXUS: IMPLICATIONS FOR CANADIAN DEFENCE
POLICY AND OPERATIONS 2010-2030**

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BACKGROUND

The potential security implications of climate change have received far less attention in Canada than in many other countries. A January 28-29, 2010 workshop in Ottawa organized by the [Climate Change and Security Project Team](#) at the University of British Columbia was designed to address this national problem by:

- providing a forum where officials from a dozen federal government departments and agencies could learn about and discuss the possible security-related impacts of climate change in and on Canada over the next 20 years,
- exposing participants to some of the world's leading researchers on climate change – from both the science and security perspectives,
- examining the experiences of other countries in addressing this issue, and
- including representatives from Canadian and American universities, think tanks and non-governmental organizations, as well as from foreign diplomatic missions.

The workshop was not a forum for debating science, but rather for identifying policy and planning needs in light of the accepted science about the changing climate. The workshop's specific goal was to examine the implications of a changing climate on Canadian defence policy and operations over the next two decades (2010-2030). To that end, the event included several speakers with military backgrounds and/or expertise, as well as a session dedicated to this topic. Recognizing that climate change is a complex issue requiring integrated – not siloed – responses, the workshop also included sessions on the latest scientific projections and their implications for global, regional and national-level security.

Click here to access the [Workshop Backgrounder](#), the [Workshop Program](#), and all [Speaker Presentations](#).

Four central themes emerged from the workshop presentations and discussions, which in turn informed **five associated sets of policy recommendations**.

¹ The UBC Climate Change and Security Project Team received financial support for the workshop from the Security and Defence Forum program at the Department of National Defence and the High Commission of the United Kingdom in Ottawa, as well as administrative support from the Canada School of Public Service.

CENTRAL THEMES

1. *Climate science clearly reveals security issues for Canada between now and 2030.*

Presentations by leading Canadian and American scientists confirmed that the changing climate is already generating *serious security concerns* for Canada. They pointed to global warming trends, precipitation pattern changes, sea level rise and extreme weather, and warned that Canada and Canadians need to adapt – to adjust their decisions, activities and thinking – in order to moderate future security risks and harm. Key messages included:

- Security-related impacts will occur between now and at least 2030, *even if greenhouse gas emissions are shut off completely.*
- While the broad characteristics, general causes and effects, and trends of climate change are well established, much remains unknown or uncertain about specifics.
- In particular, scientific analysis of regional and local impacts is weak.
- Scientific uncertainties do not justify inaction; indeed they point to the need for further research.

Participants considered the *degrees of confidence* in the science of climate change, along with the *uncertainties* associated with impacts, including the magnitude and pace of change, multiple order effects, and challenges involved in mitigating and preparing for non-linear change in dynamic systems. Areas of consensus included the following:

- The dialogue about the security implications of climate change needs to be *rooted in science.*
- Scientific literacy among security and defence officials is low; scientists must make climate change data *more accessible.*
- *More information is needed* on many security-related issues – for example, on the links between physical science and human dynamics, regional impacts, irreversible abrupt changes, and tipping points.
- Climate change is *complex* and potentially *non-linear*, making it *difficult to predict* with precision: the extent of climate uncertainty is an indication of the *degree of risk* associated with it.
- Climate change will *trigger or accelerate other changes*, for example, population movements.
- Many recent studies confirm that the Intergovernmental Panel on Climate Change *underestimated* many aspects of climate change in its 2007 Fourth Assessment Report.
- Analysis of the implications of climate change in the 2010-2030 timeframe must also take into account *concurrent changes* in the economic, environmental, social and geopolitical arenas.

Many commented on Canada's comparative scientific advantage, in that Natural Resources Canada has published comprehensive, region-by-region assessments of how a changing climate is likely to affect Canada. (See ["From Impacts to Adaptation"](#))

Click here for presentations by [Dr. Donald S. Lemmen](#) of Natural Resources Canada and [Dr. Jay Gulledge](#) of the Pew Center for Global Climate Change.

2. Canada must begin to address climate-induced security threats, vulnerabilities and risks now.

- The *Canadian Arctic* deserves specific security attention, not only because the impacts of climate change are most visible there, but also because of the uncertain intentions and growing presence of other nations in the region.
- But -- climate change is not an issue for northern Canada alone. *All regions of Canada are vulnerable.*
- Current and anticipated effects of climate change are leading to an *uncertain* and *potentially unstable* international security environment.
- The convergence and synergistic effects of growing populations, changing demography, urban expansion, and climate change pressures may generate shocks or *game changers*—impacts that significantly and irreversibly change the social and political environments.
- Policy makers need better *mapping of potential security risks*, including social indicators of vulnerability and lack of resilience.
- Climate change is *fighting for attention* at a time when Canada's security and defence agenda is already crowded.
- *Adaptation* is happening in some Canadian communities and businesses, but these efforts are unevenly distributed across the country.
- *Among the most stressed Canadian public sector organizations* would be those responsible for public safety, public health, emergency management, critical infrastructure protection and disaster response.

Contrasting views emerged on whether climate change should be considered as a *threat or threat multiplier*, and on the extent to which climate change could exacerbate existing dire situations. The discussion focused specifically on possible links between climate change and *terrorism, population displacement, forced migration, state instability and conflict.*

- Some participants expressed doubt about the plausibility of the connection between climate change and terrorism, with one participant cautioning against extrapolating global threats from local grievances.

Participants debated whether climate change would be able to overwhelm Canada's overall adaptive capacities, with the majority believing this to be the likely scenario.

- One participant proposed “no-regrets” policies that would both reduce vulnerability to current challenges and increase resilience to possible future climate impacts.

Some participants argued that Canada could not consider the security implications of climate change without first putting a national plan for mitigating greenhouse emissions in place. Others agreed that Canada should contribute to preventing the worst effects internationally but, at the same time, should do more to understand Canada's specific security vulnerabilities and to develop holistic adaptation strategies to reduce or keep them manageable.

Click here for presentations by [Dr. Rob Huebert](#) of the University of Calgary, [Dr. Joshua Busby](#) of the University of Texas (Austin) and [Dr. Richard Matthew](#) of the University of California (Irvine).

3. Figuring out the “Who” and “How” is critical to moving forward on the climate change-security issue

Climate change is a slow-moving threat, with many Canadians unable to imagine the dramatic set of security-related changes that lie ahead. Participants agreed that actions must be taken to raise public awareness of the security implications of climate change, but they could not agree on how to position the issue or who should lead the effort.

Prerequisites for moving ahead include:

- *horizontal, anti-silo approaches* among government departments and agencies enhanced by providing internal incentives for collaboration,
- openness on the part of government security organizations to *outside expertise*, including from scientists and others in the academic community,
- robust *information-sharing networks* between scientists and security policy makers, and
- genuine *collaboration* between the federal government and its provincial/territorial, municipal and private sector partners.

Options for *framing the climate change-security issue* include handling it as:

- a non-traditional security issue,
- a human security issue,
- a development and economic issue, or
- an issue of civilization change.

Some argued that *securitization of climate change* might be counter-productive in Canada, where security issues continue to receive less serious attention and priority than in many other nations. Others suggested that it might be possible to mobilize Canadians around the notion of building *resiliency* – at the national, regional and community levels

- Visible *political leadership* is critical to increasing Canadian awareness of the security implications of climate change.
- Elected officials in the United States, the United Kingdom and the European Union, as well as the leaders of multilateral organizations such as NATO, have been influential in drawing attention to the climate change-security nexus in those jurisdictions

The *youth factor* emerged in the discussion, particularly growing dissatisfaction among young Canadians with the government's handling of the climate change file. Some suggested that students could be mobilized to draw attention to the security implications of climate change and to press for aggressive Canadian actions to reduce emissions.

Click here for presentations by [Frances Wood](#) of the UK Foreign and Commonwealth Office and [Margaret Purdy](#) of the University of British Columbia.

4. The Canadian Forces must start now to prepare for future climate change-related endeavours.

Climate change will shape how states form military alliances, why states deploy their military forces, and the environments to which military personnel and equipment will be deployed.

- The roles of foreign, defence and international development ministries must be clearly defined in order to prevent *jurisdictional confusion or competition*.
- Military forces may be *overwhelmed by expectations* that they will help developing countries adapt to a changing climate, carry out long-term development projects, *and* provide short-term crisis response.
- Decisions about the role of the military -- as a defence force, a resilience-builder or a humanitarian crisis responder -- would affect the *size, shape, and structure* of the future Canadian Forces.

Climate change will impact all major activities of the Canadian Forces – including deployments, procurement, training, equipment, and energy consumption.

- Canada has military *capabilities and experience* (for example in humanitarian and stabilization missions) that will be *in greater demand* (at home and abroad) as climate change-related security scenarios unfold in the coming decades.
- Climate change must be *integrated* into all policy and planning frameworks within the Department of National Defence and Canadian Forces.

Participants learned that the Canadian Forces is analysing the potential long-term impacts of environmental and resource trends, including climate change. (See [“The Future Security Environment: 2008-2030”](#))

Click here for presentations by [Vice Admiral \(Retired\) Lee Gunn](#) of the American Security Project, [Dr. Kent Hughes Butts](#) of the US Army War College, and [Major General Stuart Beare](#) of the Canadian Forces.

POLICY RECOMMENDATIONS FOR CANADA

1. *Close the gap between Canadian scientific and security communities*

- Establish a permanent forum where scientists, policy makers and military planners can develop a shared understanding of the security implications of climate change.
- Enhance the security community’s understanding of climate change and its impacts.
- Enhance the climate science community’s understanding of the roles and requirements of Canadian government security organizations.
- Make climate science more accessible to security policy makers and ensure that security institutions – nor just individual employees – understand the science underlying the security implications of climate change.
- Help security policy makers frame questions for climate scientists, and ensure that government climate scientists provide security officials with data, tools and information to assist them in assessing the security implications of climate change.

2. *Change the tone and content of the dialogue in Canada*

- Acknowledge the politicized nature of the climate change issue: work to diffuse the political tension around the security implications of climate change.
- Mainstream and embed the issue in policy planning, risk management frameworks and decision making.
- Elevate its visibility and increase its legitimacy as a serious security issue for Canada.
- Ensure wide distribution within government and the Canadian public of Canada-specific scientific and other research on climate change and its potential security implications.

3. *Aim for the widest possible Canadian collaboration*

- Put a premium on mechanisms for collaboration and knowledge transfer about the security implications of climate change -- within and beyond government.

- Consider new ways of leading this effort and ensuring horizontal cooperation and accountability.
- Exploit the expertise of partners outside of government to increase the capacity of the public service.

4. *Take the long view*

- Accept that the security implications of climate change for Canada require a *long-term, strategic approach*, but realize that planning and preparation needs to begin now.
- Assess the potential implications for critical Canadian security interests using by a range of domestic and international crisis scenarios and risk management methodologies.
- Identify and reduce barriers to adaptation and build national resilience before the worst effects of climate change appear.

5. *With respect to the Canadian Forces...*

While Canadian governmental agencies at all levels will necessarily be involved in responding to climate change effects and events, the Canadian Forces (CF) will be called upon to play essential roles, both at home and abroad. As a result, the CF must:

- Conduct a comprehensive assessment of potential impacts of climate change on defence planning, procurement, deployments and operations to 2030.
- Ensure that adequate attention is paid to potential impacts and the associated response requirements for events occurring both at home and abroad.
- Create a comprehensive Climate Change Strategy that addresses the carbon footprint of CF operations and facilities, as well as the ways in which the CF may need to adapt its training, equipment, facilities, and operating strategies.

For further information, please refer to the Climate Change and Security Project website:
<http://www.liqi.ubc.ca/climatechangeandsecurity.htm>

Workshop Backgrounder, Program, and Presentations are available at:
<http://www.liqi.ubc.ca/?p2=/modules/liu/researches/research.jsp&id=56>