

**CALL FOR EXPRESSIONS OF INTEREST:  
CANADIAN POLAR ICE CORE COLLECTION AVAILABLE TO RESEARCHERS.**

Ottawa, Sept. 6, 2011.

Owing to strategic budget compressions within Natural Resources Canada, the Ice Core Research Laboratory at the Geological Survey of Canada (GSC; Ottawa) will undergo a radical downsizing in the coming year (2011-12). In anticipation of this, we (GSC glaciologists) have been tasked to seek expressions of interest from members of the research community who may wish to acquire some of the assets of the laboratory's ice-core collection.

The collection consists in more than 1000 meters of glacier ice cores which have been obtained by GSC glaciologists over the course of decades of research on climatic change and air pollution in Arctic and subarctic Canada. The total value of the collection is estimated at several Million C\$ (replacement cost). The scientific findings from the study of these ice cores have been disseminated in dozens upon dozens of specialized journal articles, reports, book chapters, over the years. Many of the key datasets are available online through the NOAA Paleoclimate data portal (<http://www.ncdc.noaa.gov/paleo/data.html>). Published references pertaining to specific ice-core records can be obtained by contacting the GSC glaciology research group (see below).

The core holding facility at GSC is now scheduled for shutdown, and there are at present no plans to rebuild a similar facility. Before we proceed with destroying the collection, we wish to ensure that the core holdings be made available to researchers with an interest in using them for climate and atmospheric studies.

The ice cores were collected from large ice caps and icefields of the Canadian Arctic archipelago and the Yukon Territory. Most of the cores had an original diameter of 8.5 cm (~3 1/4 "). The longest core retrieved in the collection was >330 m deep. Many of the cores contain a record of past climatic and atmospheric change that spans the entire Holocene epoch (the past 12,000 years) and some contain ice from the last major glaciation which may be as old or older than 80,000 years. As is typical in glacier cores, the temporal resolution of the cores decreases with depth, from annual or sub-decadal near the surface to millennial (at the bottom).

The majority of the cores are "archives", i.e. they are half-diameter cores that remained after sampling for specific investigations. The cores are typically in ~0.8 to 1 m-long segments, bagged in high-density polyethylene, and stored in insulated boxes (approx. 10 m of core in a box). The quality (integrity) of the cores varies from excellent (few or no breaks) to fair (several breaks per segment). All the cores have been maintained in cold storage at -20 C or below since they were collected.

Attached is a "master list" of the core holdings in the collection. More detailed information is available on demand. We invite researchers interested in acquiring some of the core holdings to contact the GSC glaciology group (see below) as soon as possible. Although no firm timeline has been set for the ice-core laboratory final shutdown as yet, we expect this to be a matter of a year at most. **We therefore request that investigators interested in acquiring some of the GSC ice-core collection's holdings contact us at the latest by November 30, 2011.**

**Contact information:**

Address all requests to:

Christian Zdanowicz (czdanowi@nrcan.gc.ca)

Phone: 613-947-5169

Fax: 613-996-5448

## GEOLOGICAL SURVEY OF CANADA ICE-CORE COLLECTION MASTER LIST

CORING SITE	YEAR DRILLED	BOREHOLE / CORE NUMBER	DEPTH REACHED	ESTIMATED AGE AT BOTTOM	THIS CORE WAS ANALYZED FOR <sup>(1)</sup>	AVAILABLE MATERIAL <sup>(2)</sup>
<b>AGASSIZ ICE CAP</b> <i>Ellesmere Island</i> <i>N 80.7; W 73.1</i>	1977	77.1	338 m	PRE-HOLOCENE	$\delta^{18}\text{O}$	ODD CORES
	1979	79.1	139 m	PRE-HOLOCENE	$\delta^{18}\text{O}$	ODD CORES
	1984	84.1	127 m	PRE-HOLOCENE	$\delta^{18}\text{O}$	ODD CORES
	1987	87.1	127 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ODD CORES
	1993	93.1	123 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ODD CORES
	1993	93.2	123 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ODD CORES
	1994	94.1	60 m	~310 YR B.P.	UNUSED	COMPLETE CORE
<b>PRINCE OF WALES ICEFIELD</b> <i>Ellesmere Island</i> <i>N 78.4; W 80.4</i>	2005	2005.1	40 m	~110 YR B.P.	UNUSED	COMPLETE CORE
	2005	2005.2	176 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM	ARCHIVE (1/4)
<b>DEVON ICE CAP</b> <i>Devon Island</i> <i>N 75.4; W 82.5</i>	1972	72.1	300 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / MF	ODD CORES
	1973	73.1	300 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / MF	ODD CORES
	1998	98.3	300 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ARCHIVE (1/4)
	1999	99.1	170 m	PRE-HOLOCENE	$\delta^{18}\text{O}$	ARCHIVE (1/2 - 1/4)
<b>PENNY ICE CAP</b> <i>Baffin Island</i> <i>N 67.3; W 65.77</i>	1995	95.4	334 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM / PART	ARCHIVE (1/4)
	1996	96.2	178 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ARCHIVE (1/4)
<b>MOUNT LOGAN</b> <i>Yukon</i> <i>N 60.6; W 140.5</i>	2001-02	PRC	186 m	PRE-HOLOCENE	$\delta^{18}\text{O}$ / CHEM / ECM	ARCHIVE (1/4)

<sup>(1)</sup>  $\delta^{18}\text{O}$  = Stable isotopes of oxygen; CHEM = Chemical species; PART = Microparticles; ECM = Electrical conductivity; MF = Melt features)

<sup>(2)</sup> "ODD CORES" = only selected core sections remain (typically the oldest ice); "ARCHIVE" means either 1/2 diameter or 1/4 diameter core.