



UNIVERSITY OF
CALGARY



Arctic Institute of North America

Advancing Knowledge for a Changing North



Deposit Photos

Annual Report 2016 and 2017

ARCTIC INSTITUTE OF NORTH AMERICA ANNUAL REPORT, 2016 AND 2017
Advancing Knowledge for a Changing North

The Arctic Institute of North America was created by an Act of Parliament in 1945 as a nonprofit tax-exempt research and educational organization. Originally based at McGill University in Montreal, the institute moved to the University of Calgary in 1976. In 1979 the Institute became part of the University of Calgary as a university research institute.

MANDATE

Our mandate is to advance the study of the North American and circumpolar Arctic through the natural and social sciences, the arts and humanities and to acquire, preserve and disseminate information on physical, environmental and social conditions in the North.

Board of Directors

Chair:.....Henry Sykes, Calgary, Alberta

Vice-Chair:.....John Miller, Calgary, Alberta

Directors at Large:...George Lidgett, Calgary, Alberta

.....Brian Moorman, Calgary, Alberta

.....Susan J. Kutz, Calgary, Alberta

.....Shawn Marshall, Calgary, Alberta

.....Carolyn Relf, Whitehorse, Yukon

.....Chris Shapardanov, Ottawa, Ontario

Ex officio: Carl Benson, Fairbanks, Alaska; Mark A. Johnson, Fairbanks, Alaska

Ex officio: Edward McCauley, VP Research, Calgary, Alberta

Staff

Executive Director:Maribeth Murray

Institute Manager:.....Mary Li (until November 2017)

Administrative Assistant:Melanie Paulson

Arctic Journal Editor:Karen McCullough

Data and Information Services Manager:.....Shannon Christoffersen

ASTIS Information Analysts:Lynda Howard (retired Dec. 2017); Lynne Howard (retired Dec. 2017)

.....Vinay Rajdev

ASTIS Volunteers:Robert van Everdingen, Ross Goodwin

University of Calgary Librarian, AINA Collection:.Claudette Cloutier

Kluane Lake Research Station (KLRS) Managers:.Sian Williams, Lance Goodwin (until March 31,2017)

KLRS Science Coordinator:.....Michael Schmidt

Post-Doctoral Fellows:.....Patricia Wells, Ravi Sankar, Henry Penn, Mike Moloney, Matt Ayre

Graduate Student:.....Kent Spiers

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OUTREACH 2016 and 2017

Over the years there has been an effort to increase the visibility of the Arctic Institute of North America through various community outreach activities.

AINA Speaker Series



Dr. Peter Dawson

Each month of the regular university semester, the Arctic Institute hosts a talk from leading edge researchers and students who work and study in the North. The talks are held once per month and are followed by a reception in the AINA offices at the University of Calgary.

In 2016 the speaker series presented talks by Dr. Shari Gearheard, National Snow and Ice Data Center; Sandie Black, Calgary Zoo; Peter Dawson, University of Calgary; Chris Southcott, Lakehead University, Tris Irvine-Fynn, Aberystwyth University; NSTP Student Symposium: Amy Noel, Mary Cecilia Porter, Sarah St. Germain, Ellie Bash, James Campbell, Scott Dumonceaux, Kent Spiers, Samira Samimi, Julie Thomas and Anirudh Bhargava and Dagomar Degroot, Georgetown University.

In 2017 we were pleased to welcome the following speakers. Ross Coen, University of Washington, Koehi Tanaka, University of Calgary, Chad Farrell, University of Alaska Anchorage; Matthew Ayre, AINA, University of Calgary; Ravi Sankar AINA, University of Calgary; Hajo Eicken, University of Alaska Fairbanks, NSTP Student Symposium: Tessa Baker, Patrick Duke, Samantha Jones, Colin Padget, Samira Samimi, Kent Spiers, Sarah St. Germain, Teresa Tufts, and Susan Kaplan, Bowdoin College.

All talks are recorded with permission of the speaker and are posted on the AINA website:

<https://arctic.ucalgary.ca/arctic-speaker-series> or on our YouTube Channel:

<https://www.youtube.com/channel/UCyuJW-4DDAcVhaigrfU-CMA>



In January 2016, AINA contributed to a Telus Spark Adults Only Night, under the theme “Off the Grid,” which drew approximately 800 visitors. For the event we created four interactive exhibits and organized a presentation on food security by Vinay Rajdev, who is an information analyst with AINA’s Arctic Science and Technology Information System. The exhibits included an artifact table, several virtual experiences, an igloo-building station, and a kayak hunting game. The artifact table presented several tools and artifacts from AINA’s collection, as well as a polar bear pelt and a muskox skull. Visitors were invited to handle the artifacts under the supervision of AINA staff. The virtual experiences exhibit featured virtual Arctic worlds created by Dr. Peter Dawson and his graduate students at the University of Calgary, including Fort Conger, a Thule whalebone house, a semi-subterranean sod house, and the archaeological site of Arvia’juaq. Visitors could interact with the virtual worlds on AINA computers and also have an immersive virtual reality experience of the Arvia’juaq site through Google Cardboard viewers. The igloo-building station taught visitors the principles of constructing an igloo while they helped AINA staff assemble an igloo six feet in diameter from 4 L milk jugs. The shape of the jugs themselves mimics the angled cut of ice blocks necessary for igloo construction and enabled an accurate discussion of the traditional knowledge for building an igloo. The kayak hunting game replicated an old game played by children to hone their hunting skills, as described by Billy Ukutak of the Hunter and Trappers Association of Arviat. Visitors were shown a video of Billy describing the game and then invited to sit on the floor in a kayak outline and throw spears at a target. Most visitors were amazed at how difficult it was to hunt from a seated position.

Arctic in the Classroom

Mike Moloney and on occasion Jon Dudley (Research Associate) are going into Grade 2 classes, in the Rocky View district and Calgary Board of Education (CBE), presenting materials and information from the Arctic. This features as part of their community learning unit where they learn about their local community as well as an Arctic and Atlantic Canada community. We discuss general information about life in the Arctic and how it differs from living in southern Canada. The students then have the opportunity to pass around several artifacts from the Arctic in small groups, including musk ox horn hammers, bone snow goggles, a stone ulu, and a bone bow. The students sketch the artifacts and discuss in groups what the items might be used for and what materials they are made of. The artifacts are passed from group to group so each student has the opportunity to handle all of the artifacts. We then gather back into a group and discuss the material and use of each artifact. This in turn allows for a discussion of topics like snow blindness, living on the land, and techniques for staying warm and hunting.

Beakerhead

In 2016 AINA and Beakerhead partnered with the ATCO Blue Flame Kitchen to present Cooking in the Arctic. Travel to Iqaluit from the warmth of the dining table among newfound friends. It was a culinary adventure to Canada's northernmost territory: Nunavut. Traditional and contemporary culinary culture and the environment in the North was explored while creating (and eating!) a remarkable meal of venison stew and cloudberry bannock. It was an enjoyable evening.



PoLAR Voices is a podcast program that is part of the Polar Learning and Responding Climate Change Education Partnership led by Columbia University and funded through the National Science Foundation. The final episodes were uploaded to iTunes in early 2016.

AINA Booths

- June 2016- CONGRESS, University of Calgary, Calgary, AB
- October 2016 - University of Calgary Open House, Calgary, Alberta
- October 2016 – Arctic Circle Meeting, Reykjavik, Iceland
- December 2016 - ArcticNet Annual Meeting, Winnipeg, MB
- March 2017- Earth Science for Society (ESfS), Calgary, Alberta
- October 2017 – University of Calgary Open House, Calgary, Alberta
- December 2017 - ArcticNet Annual Meeting, Quebec, QC

KLRS Open House August 8, 2016

The Kluane Lake Research Station, located on the south shore of Kluane Lake in Yukon Territory held an Open House on August 6, 2016. There were approximately 85 attendees. Speakers included Larry Bagnel, Member of Parliament for Yukon; Aynslie Ogden, Yukon Government Science Advisor; Norma Kassi, Co-founder of Arctic Institute of Community Based Research and Maribeth Murray, Executive Director of AINA.

KLRS Open House June 17, 2017

We welcomed the AINA Board of Directors and the KLRS Research and Education Advisory Committee to KLRS. There were various meetings and research presentations which provided the opportunity for Yukoners to engage with members of the Board and the Advisory Committee and with KLRS staff.

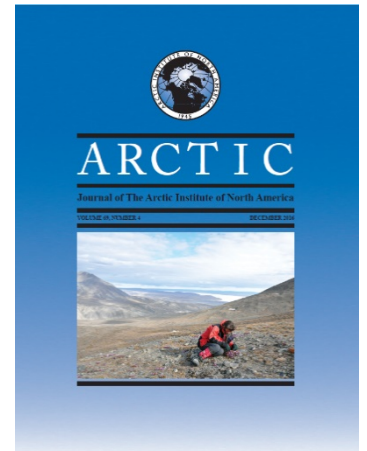
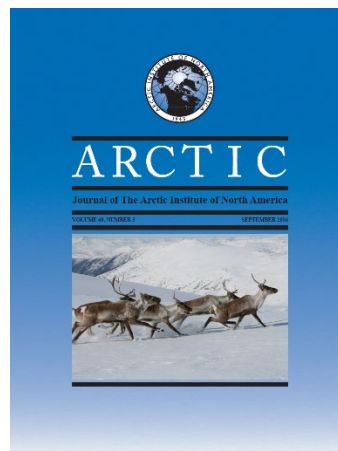
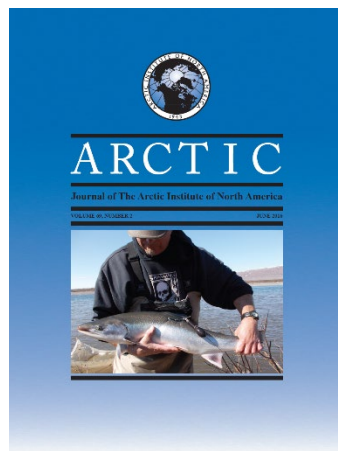
THE INTERNATIONAL STUDY OF ARCTIC CHANGE (ISAC)



The International Study of Arctic Change (ISAC; <http://www.arcticchange.org/>) is an international Arctic environmental change program that includes three core components as the framework to guide research: observing, understanding, and responding to change. The ISAC International Program Office is now based at the Arctic Institute of North America. Since July 2016, Ravi Sankar is serving as the ISAC Associate Director, working in collaboration with ISAC Executive Director (and AINA Executive Director) Maribeth Murray.

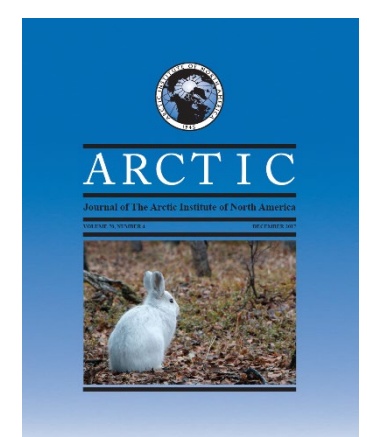
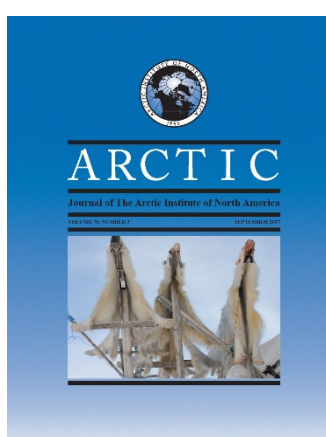
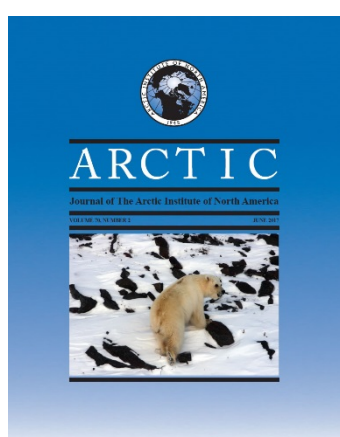
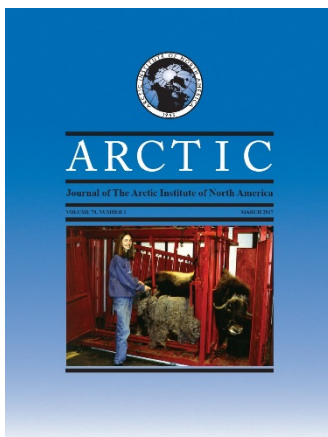
The Arctic Observing Summit (AOS) is a pillar activity organized by ISAC. AOS serves as an international forum and workspace to guide, develop, and implement a comprehensive and sustained Arctic observing systems network. ISAC and AOS tasks include bringing the Arctic science community together with stakeholders, conducting research and synthesis activities, creating capacity-building and cooperation opportunities, and facilitating the implementation of research knowledge for solutions-based applications.

ARCTIC JOURNAL IN 2016 and 2017



Volume 69 of *Arctic* closed out 2016 with a total of 68 submissions which surpassed the total number of submissions (59) received by the end of 2015. Of these submissions, 27 (39%) have been published, 9 (13%) are in press, 10 (15%) are being revised, 3(4%) are in review, and 19 (28%) have been rejected to date. The total page count was 459.

The year 2017 ended with a total of 60 submissions to *Arctic*. Of these, 22 (36%) are already published or accepted for publication, 1 (2%) has been revised and is out for further review, 17 (28%) have been returned to authors for revision, and 20 (33%) have been rejected. Social science papers accounted for 47% of the submissions in 2017, whereas biological papers accounted for 35%, and physical science papers, 28%. It is difficult to pigeonhole the traditional knowledge submissions, which relate to both the social and biological sciences. Total page count for Volume 70 was 445.



DATA AND INFORMATION SERVICES

Arctic Science and Technology Information System (ASTIS)

The Arctic Science and Technology Information System (ASTIS) is Canada's national northern publications and research projects database. ASTIS contains 83,000 records describing publications and research projects about northern Canada and the circumpolar Arctic. (65,000 publication and 18,000 research project).

The database covers all subjects including the earth sciences, the biological and health sciences, engineering and technology, the social sciences, traditional knowledge, history, and literature. ASTIS has been in operation since 1978 and is funded through contract work and donations. ASTIS averages approximately 15,000 searches per month that explore approximately 40,000 records. Usage tends to be highest in March-April and September-October.

The ASTIS database is available from a free bilingual website at www.aina.ucalgary.ca/astis, and is searchable from Simple and Advanced Search pages or by clicking on hyperlinks in database records. ASTIS records contain abstracts and detailed subject and geographic indexing terms from the ASTIS thesauri. The publications cited in the database include both peer-reviewed and grey literature. More than 24,500 records contain links to PDF files of publications that are available online. Many ASTIS records also contain ORCID identifiers (<http://orcid.org/>), enabling ASTIS to connect an author's research and make it accessible across different databases.

The ASTIS database contains 17,600 records describing research projects conducted in Canada's three northern territories since 1974. These records are based on information provided by organizations that license all territorial research: the Aurora Research Institute, the Central and Arctic Region of Fisheries and Oceans Canada, the Northwest Territories Department of Environment and Natural Resources, the Nunavut Department of Culture, Language, Elders and Youth, the Nunavut Department of Environment, the Nunavut Research Institute, the Prince of Wales Northern Heritage Centre, and the Yukon Heritage Resources Unit.

ASTIS specializes in the preparation of bibliographic databases about northern Canada and can easily make those databases available from customized websites for clients. The ASTIS Subset Databases listed on the Institute's website (<http://arctic.ucalgary.ca/databases>) provides access to 16 such databases.



ASTIS also continues to work on the ArcticNet Publications Database funded by the ArcticNet Network of Centres of Excellence Canada, and the Hydrocarbon Impacts database funded by the AANDC's Northern Oil and Gas Branch. ASTIS also worked with Makivik Corporation on the Nunavik Bibliography, and with the Yukon Heritage Resources Unit to index Yukon research projects.



ASTIS continues to work on several internal Arctic Institute projects, including the Kluane Lake Research Station Bibliography; the *Arctic Contents* and *Arctic Search* pages of the Institute website; and maintenance of the Institute's publications server, which makes 4600 publications available on the Web as PDF files.

All of these projects are moving ASTIS closer to its goals of providing comprehensive coverage of northern Canadian publications and research projects and of connecting and collaborating with other organizations collecting information and data in the circumpolar Arctic.

ArcticConnect



In 2014, the Arctic Institute of North America and the University of Calgary's Department of Geomatics Engineering in the Schulich School of Engineering received funding from CANARIE to launch ArcticConnect, a network-enabled platform for realizing geospatial referencing of information about the Arctic system derived from research, education, and private sector activities in the Arctic and Subarctic (www.arcticconnect.org).

Launching to the public in mid-2015, ArcticConnect is an innovative platform for Arctic research and information sharing. ArcticConnect captures biological, ecological, technological, and social data at multiple scales generated from a host of sensors, from human observers, from field experiments and research stations, from satellites and from publications, reports, photographs and even artwork. It enables networking and interoperability of disparate datasets, and makes information available across multiple applications and devices. ArcticConnect also enables display of heterogeneous data and information within a coherent geospatial platform consisting of four major components:

Arctic Web Map (AWM) is a web-based mapping tool based on accurate polar projections. This Arctic-specific web mapping tool will offer researchers scientifically accurate map projections for visualization and analysis, a function that is critical for Arctic system research but missing in existing web mapping platforms; it also provides a visually appealing tool for education and outreach to a wider audience.

https://webmap.arcticconnect.ca/#ac_3573/2/90.0/0.0

Arctic Sensor Web (ASW) enables research stations around the pan-Arctic to connect their sensors, including those that provide near real-time data, to a cloud service for visualization, information sharing, and collaborative analysis. <https://sensorweb.arcticconnect.ca/>

Arctic Scholar (AS) is a demonstration site that shows how ArcticConnect can enable researchers, educators, interested private sector entities, government agencies, and the general public to access and share

Arctic data and information contained in assorted formats including publications, grey literature, research licenses, photo archives, field notes, and project metadata from Arctic field stations.

https://records.arcticconnect.ca/#ac_3573/4/90.00/0.00

Arctic BioMap (ABM) enables members of the scientific community and northern residents to contribute observations on Arctic wildlife for the purpose of biodiversity & wildlife health monitoring, assessment, research, management and education.

This approach to data display, management and sharing will link efforts among northern communities, researchers, the private sector, and government agencies to advance the science and education needed for decision making in the rapidly changing Arctic.

The AINA Collection

The Arctic Institute of North America is home to a large and unique collection that includes:

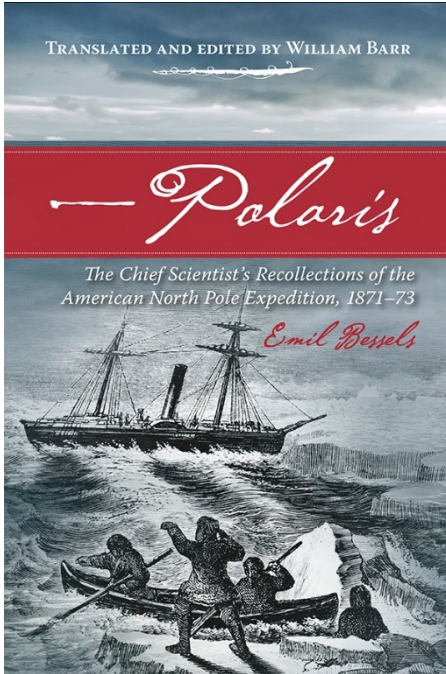
- Books, publications, maps, and audio files: Primarily held at and under the stewardship of the University of Calgary Libraries, the AINA collection contained 60,000 items when it moved to the University of Calgary from the Institute's original home at McGill in 1976 and it continues to grow. A number of the collection items, including a letter from Lady Franklin, are rare or unique, and housed in the university's special collections.
- Oil, gas, and engineering reports: The Institute holds one of the largest collections available of petroleum industry documents from the Arctic. Although it is indexed and abstracted in ASTIS, a large proportion of this collection is currently in storage and unavailable until funding allows for it to be catalogued.
- Photographs: Over 4,000 photographs dating from the late 1800s through the 1900s are housed at the Arctic Institute. They are also available for personal information purposes online at <http://contentdm.ucalgary.ca/digital/collection/aina/search>
- Art and artefacts: The Institute holds an extensive art and artefact collection that ranges from paintings and sculptures to furs and indigenous clothing.

Many of these items are rare, uncatalogued, and provide invaluable information about the Canadian and circumpolar Arctic. The Arctic Institute is currently seeking funding to make these items more accessible by developing a complete catalogue of all materials and getting the rarest items digitized for preservation and public use.



Snowy owl, J. Thomson 1953

NORTHERN LIGHTS SERIES



Translated from the German in its entirety for the first time and containing considerable detail that does not appear elsewhere, this is Emil Bessels' fascinating first-hand account of the doomed American North Pole Expedition of 1871 complete with context and commentary from Arctic Expert William Barr.

Emil Bessels was chief scientist and medical officer on George Francis Hall's ill-fated American North Pole Expedition of 1871-73 on board the ship *Polaris*. Bessels' book, translated from the German in its entirety for the first time, is one of only two first-hand accounts of the voyage, and it is the only first-hand account of the experiences of the group which stayed with the ship after it ran afoul of arctic ice, leaving some of its crew stranded on an ice floe.

William Barr is a research fellow at the Arctic Institute of North America. A glacial geomorphologist by training, his major research focus is the history of exploration in the Arctic. He is a recipient of a lifetime achievement award from the Canadian Historical Association for his contributions to the historiography of the Canadian North.

More information about the Northern Lights Series books can be found on the UC Press website:
<https://press.ucalgary.ca/series/northern-lights/>

AINA LIBRARY

Libraries and Cultural Resources at the University of Calgary continues to provide stewardship for the Arctic Institute of North America collection, which attracts students, researchers, and an interested public from across campus and from around the world.

After a number of years, priority has been given to cataloging materials housed in the Pipeline Room. These materials were donated to AINA by petroleum companies in the 1980s after northern petroleum exploration was no longer considered viable. A project cataloguer is reviewing the materials to ensure that unique content is added to the library collection. Over the past year 1293 items have been added.

In Archives and Special Collections, work has been underway to ensure that the rare books portion of the AINA Collection is added to the library catalogue according to Library of Congress classification. This project is half complete, and will ensure greater discoverability of AINA rare books.

For information on how to access these collections, please consult the online research guide developed to support the use of the Arctic Institute of North America's collection and other polar-related materials: <http://libguides.ucalgary.ca/content.php?pid=561210&sid=4626202>.

Claudette Cloutier, the Liaison Librarian for Northern Studies, provides research assistance to students, faculty, staff, and visiting researchers looking for northern and polar-related information. Please contact her at ccloutie@ucalgary.ca for research assistance.

SCHOLARSHIP WINNERS

Jennifer Robinson Memorial Scholarship

Recipients:

2016 – Zoe Panchen, Department of Biology, Carleton University.

2017 – Michael Peers, Department of Biological Sciences, University of Alberta.

The members of the Jennifer Robinson Scholarship Committee for 2016 and 2017 were Ryan Danby, John Krebs, Geoff Scudder, and Mary Vetter.

Lorraine Allison Memorial Scholarship

Recipients:

2016 – Yasmine Majchrzak, Department of Biological Sciences, University of Alberta.

2017 – Ellorie McKnight, Department of Biological Sciences, University of Alberta.

The Lorraine Allison Scholarship Committee members for 2016 and 2017 were Bill Elton, Dee McRae, Heather Myers, Everett Peterson, and Janet Wright.

Jim Bourque Scholarship

Recipients:

2016 – Monique Chapman

2017 – Monique Chapman

The members of the Jim Bourque Scholarship Committee for 2016 and 2017 were Chris Branch, Valerie Janz, and Joel Holden.

Budget Rent a Car Scholarship

We did not receive any applications in 2016 or 2017, so the scholarship was not awarded in those years.

The members of the Budget Rent a Car Scholarship Committee for 2016 and 2017 were S. Craig Gerlach, Brian Moorman, Sabrina Peric and Jeff Gilmour.

Grant-in-Aid Scholarships

2016: Twenty-three applications were received, eleven from Canada and twelve from the United States. Nine recipients, four from Canada and five from the United States were funded.

Eleanor Bash, University of Calgary; Chris Cannon, University of Alaska - Fairbanks; John Christian, Pennsylvania State University; Michelle Duennes, University of California - Riverside; Margaret Oliver, University of Alaska - Fairbanks; Sarah Shakil, University of Alberta; Molly Tedesche, University of Alaska - Fairbanks; Nelson Zabel, University of Waterloo; Scott Zolkos, University of Alberta.

2017: Sixteen applications received. Eight recipients funded, five from the United States and three from Canada.

Kelsey Nyland, Michigan State University; Jason Miszaniec, University of California – Davis; Andrew Barnas, University of North Dakota; Adam Eichenwald, Yale University; Joanna Wells, University of Alaska; Emile Brisson-Curadeau, McGill University; Becky Segal, University of Victoria; Scott Zolkos, University of Alberta.

RESEARCH ASSOCIATES

Arctic research involves areas of expertise not encompassed by any one discipline or department. This fact is reflected in the Institute's research associates—a diverse group of individuals whose work is advancing the study of the North and the mission of the Arctic Institute. Their interests cover a wide range of disciplines in the natural, physical, and social sciences, as well as the humanities and fine arts.

- Don Albright, Biology
- Thomas D. Andrews, Archaeology and Museology
- Charles Arnold, Archaeology and Museology
- William Barr, Geography and History
- Margaret Bertulli, Archaeology
- Ellen Bielawski, Anthropology
- Lloyd Binder, Economic Development
- Jean Blodgett, Art
- Alexander Braun, Geodesy
- Dave Button, Education
- Garry Clarke, Glaciology
- Helen Corbett, Film and Journalism
- Peter Dawson, Archaeology
- Ken de la Barre, Human Geography
- Mark Dickerson, Political Science
- Jon Dudley, Earth Science Outreach, Geology, Canadian Arctic Culture
- Jeff Gilmour, Law
- Gunhild Hoogensen Gjørsv, Political Science
- John Graham, Social Work
- Norman Hallendy, Ethnohistory
- Alexander Hill, History
- Gerald Holdsworth, Glaciology
- Robert Huebert, Political Science
- Martha Johnson, Anthropology
- Peter Johnson, Geography
- Kenneth Jones, Geology, Geography, Archaeology, History
- Karim-Aly Kassam, Arctic Social Science
- Barbara Kingscote, Veterinary Medicine
- Heidi Klein, Environmental Planning
- Susan Kutz, Veterinary Medicine
 - P. Whitney Lackenbauer, History
 - Line Laplante, Spirituality and the Environment
 - Nic Larter, Zoology
 - Allice Legat, Anthropology
 - David Lertzman, Aboriginal Studies
 - Robert MacDonald, History
- Sean Maher, Anthropology
- Constance Martin, Art History
- Arthur Mason, History, Politics and Culture
- Robert McPherson, Geology and History
- Frank Miller, Wildlife Biology
- Magdalena Muir, Law, Environment and Resource Management
- Dave Norton, Ecology
- Marc Poulin, Medicine and Kinesiology
- Martin Raillard, Arctic Ecology
- William Semple, Northern Housing
- Alan Smart, Anthropology
- Jane Sproull Thomson, Inuit Art and Culture, Heritage Planning
- Mary Stapleton, History and Planning
- Emma J. Stewart, Geography
- Wayne Strong, Forest Ecology
- Susanne Swibold, Film and Journalism
- Darielle Talarico, Ecotourism
- Callum Thomson, Archaeology and Expedition Cruise Tourism
- Robert van Everdingen, Hydroecology
- Wanda Wuttunee, Native Studies, Law and Management
- John James Yackel, Geography
- Jose Zorrilla, Interdisciplinary

Financial Report for the Fiscal Year Ended March 31, 2017 (Condensed)

The Institute's financial year ends on March 31, and the figures here reflect the latest complete year and comparatives. The information presented in this document is an extract from the financial statements. This summary financial information cannot be expected to provide as comprehensive an understanding of the performance of the Institute as the full financial statements. Financial statements can be obtained by contacting the Institute. The Institute is a wholly owned subsidiary of the University of Calgary. The results of operations and the financial position of the Institute are included in the consolidated financial statements of the University. Funding for general and administrative expenses is received from the Province of Alberta, Department of Advanced Education, through the University. The University has also provided substantial in-kind support.

The Notes and Schedules accompanying these financial statements form part of the statements. To see the Notes and Schedules, please contact the Administrative Coordinator at arctic@ucalgary.ca, 403-220-7515.

	2017	2016
ASSETS		
Cash	\$ 134,051	\$ 104,638
Due from the University of Calgary	(771,309)	(362,698)
Portfolio investments (Note 3)	1,429,759	1,357,346
Accounts receivable	200,385	195,451
Inventory and prepaid expenses	21,692	18,315
Tangible capital assets (Note 5)	2,330,211	2,384,786
	\$ 3,344,789	\$ 3,697,838
LIABILITIES		
Accounts payable and accrued liabilities	\$ 74,818	\$ 59,686
Deferred revenue (Note 6)	2,519,746	2,530,566
	\$ 2,594,564	\$ 2,590,252
NET ASSETS		
Endowments (Note 7)	\$ 642,204	\$ 585,065
Accumulated operating (deficit) surplus (Note 8)	(20,154)	443,590
Accumulated re-measurement gains	128,175	78,931
	\$ 750,225	\$ 1,107,586
	\$ 3,344,789	\$ 3,697,838

STATEMENT OF OPERATIONS, YEAR ENDED March 31, 2017

	2017	2016
REVENUE		
University of Calgary and government grants	\$ 444,387	\$ 382,173
Sales of services and products	480,644	466,660
Donations and other grants	27,931	339,980
Investment income (Note 9)	97,708	92,144
	\$ 1,050,670	\$ 1,280,957
EXPENSE		
Research (Note 11)	\$ 1,514,414	\$ 1,487,395
	\$ 1,514,414	\$ 1,487,395
Deficiency of revenue over Expense	\$ (463,744)	\$ (206,438)
Change in accumulated deficit	\$ (463,744)	\$ (206,438)
Accumulated operating surplus, beginning of year	443,590	650,028
Accumulated operating (deficit) surplus, end of year	\$ (20,154)	\$ 443,590

STATEMENT OF CASH FLOW FOR THE YEAR ENDED March 31, 2017

	2017	2016
Operating Transactions		
Deficiency of revenue over expense	\$ (463,744)	\$ (206,438)
Add (deduct) non-cash items:		
Amortization of tangible capital assets	88,339	79,638
Expended capital recognized as revenue	(76,813)	(70,171)
Change in non-cash items	\$ (452,218)	\$ 9,467
Increase in accounts receivable	(4,934)	(47,707)
(Increase)/decrease in inventory and prepaid expenses	(3,377)	12,236
Decrease/(increase) in accounts payable and accrued liabilities	15,133	(66,000)
Increase/(decrease) in deferred revenue, less expended capital recognized as revenue	65,993	(134,482)
Cash provided by (applied to) operating transactions	\$ (379,403)	\$ (432,925)

Capital transactions		
Acquisition of tangible capital assets	\$ (33,764)	\$ (52,054)
Cash (applied to) provided by capital transactions	\$ (33,764)	\$ (52,054)
Investing transactions		
Sale/(purchase of) portfolio investments	\$ 6,614	\$ (108,306)
Endowment investment income	26,455	9,459
Cash provided by (applied to) investing transactions	\$ 33,069	\$ (98,847)
Financing transactions		
Endowment contributions	\$ 900	\$ -
Cash provided by financing transactions	\$ 900	\$ -
	\$	\$
Decrease in cash	(379,198)	(583,826)
Cash and due from the University of Calgary, beginning of year	(258,060)	325,766
	\$ (637,258)	\$ (258,060)
Cash comprises of:		
Cash	134,051	104,638
Due from the University of Calgary	(771,309)	(362,698)
	\$ (637,258)	\$ (258,060)



Photo Credit: SERG_ICELAND, Deposit Photos

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