

InfoNorth

Data Survey of InfoNorth Content in the Journal *Arctic*

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IN 1942, CANADIAN AND AMERICAN governments agreed on the necessity to increase Canada's administrative, scientific, and technical competence in the Arctic to match that of other Arctic nations, which in 1945, resulted in an act of parliament that created the Arctic Institute of North America (AINA) (Parkin, 1966). In 1984, AINA began publishing *Arctic*, a multidisciplinary, quarterly journal with a mandate to spread awareness and communicate information about the Arctic and the activities of the institute more widely (MacDonald, 2005). In 1987, AINA produced a document which outlined a new mission to recognize the significance of the information industry and to provide Northerners with accurate information. From this, a distinct newsletter, *Information North*, was published. In 1997, the newsletter was brought into *Arctic* as a separate non-peer reviewed essay section called InfoNorth (MacDonald, 2005).

This essay presents the results of a data survey of InfoNorth to characterize the contents of the section and evaluate opportunities for building greater diversity in authorship and content. At present, essays in InfoNorth are usually received as unsolicited submissions and published at the discretion of the editor. This journal section does not include analytical research results that would require review; for example, the essays are descriptive pieces, including short observations, personal experiences, interviews, and histories of notable people.

The essay section is published in each issue of the journal and includes four to five essays per year. The December issue is devoted to project descriptions by students who have been recipients of two AINA sponsored scholarships: the Jennifer Robinson Memorial Scholarship and the Lorraine Allison Memorial Scholarship. These essays are excluded from the survey since they are a requirement of their scholarship acceptance and limited to Canadian students. The survey will focus on author identity and topics covered. Author geographic location or the location of the institute with which they belong are provided as well as gender and whether the author(s) is Indigenous. The essay topics are described from general to specific and there are essays that cover multiple topics. The results show that essays are most frequently written by North American authors, more males than females, and relatively few Indigenous authors are represented. The outcome of the survey demonstrates gaps that could be filled by

deliberately soliciting more contributions, particularly from Indigenous and international scholars working in the North.

METHODS

A total of 83 essays spanning InfoNorth's initial appearance in 1997 to 2022 are included in the survey. To analyze the data, I conducted a qualitative content analysis to describe the essays. The analysis focused on topics, author location/affiliation, gender, and Indigeneity. Topics were initially divided into broad categories of history, literature, art, anthropology, sociology, life science, and physical science, with the understanding that the essays could link to one or more of these categories. I broke the categories down further into topics and provided some examples within topics. Most essays include multiple topics resulting in overlap among them.

I assembled the quantitative data into a Microsoft Excel spreadsheet to organize, format, and quantify information, including frequency tables outlining the numbers and relative proportions of categories, topics, authors' institutional affiliation/location, gender, and Indigenous identity. When there were multiple authors on an essay, all were included in the data collection. Gender, location of institutions, and Indigenous identity are based on google searches of each individual author and not only from the information provided in the essays. Thus, there may be a few omissions and limitations if information was unavailable. Interviews with the authors would have been ideal, however, it was not possible within the scope of the research. To my knowledge, the authors represented in the research identify either as she/her or he/him, and none of the authors identify as non-binary (they/them). Thus, if the authors have not actively identified as non-binary or other, they have been categorized as male or female based on their name. In order to confirm author identity, my Google search took into account an author's institutional affiliations/location provided in the essays.

RESULTS

Table 1 presents the broad categories broken down into topics, the number of essays covering each topic, and the

TABLE 1. The number and percentages of essay categories and topics out of 83 total essays.

Categories	Topics	Topics elaborated (examples)	Number of essays	Percentage of essays
History	Expedition/past events	Shipwrecks, European movement, discoveries, patrols, stations	18	22%
Literature	Literature	Poetry, art description	4	5%
Art	Photography/printmaking/painting	Expression, artists, presentation, spiritual fulfillment, weaving	5	6%
Anthropology	Human practices	Inclusive education practices, effects of researcher practices, carbon production	2	2%
	Archaeology	Item collections, cultural meaning, bone analysis, site discoveries	7	8%
	Tourism	Cruise ship industry in changing climate, local community sustainability	4	5%
	Culture and environment	Protection of culture, anti-sealing movement, consequences of caribou population change	3	4%
Sociology	Modern society/infrastructure	Podcast (information industry), communication, education, economic possibilities	12	14%
	Politics	Fishing in international waters, political decision making, prioritizing Arctic research	12	14%
	International cooperation	International biological, social, cultural and systems in Arctic research; Indigenous collaboration in international goals	12	14%
	Traditional knowledge/Indigenous content	Recognition of traditional knowledge, ice research, spiritual, cultural, and historical meaning	15	18%
Life science	Botany	Vegetation, herbivore interactions and their influence on population dynamics, treeline research	4	5%
	Zoology	Salmon population, satellite tracking of marine animals, caribou movements, muskoxen cultural role, polar bear feeding behavior	8	10%
Physical Science	Meteorology	History of weather stations and their results	2	2%
	Glaciology	Temperature measurements, ice motion	4	5%
	Oceanography/limnology	Observations and measurements of streams, precipitation, and lake water; carbon cycle; the increase of monomethyl mercury in lakes; ocean	5	6%
	Engineering	Seismic testing, geomatics for Indigenous site preservation, satellite data in sea mammal research	3	4%
	Climate change	Plant growth, human impact, ecological risks, glacier change, carbon dioxide emissions	24	29%

frequencies (reported as percentages) of each topic in the survey sample. The percentages are rounded to the nearest integer. Examples of these topics are elaborated upon in the table. With 18 topics represented, it is clear that there is great variety in the essays.

The most frequent topics identified in the survey are climate change (29%); expeditions/past events (22%); traditional knowledge/Indigenous content (18%); international cooperation (14%); politics (14%); modern society/infrastructure (14%); and zoology (10%). Topics making up less than 5% are culture and environment (4%), literature (4%), tourism (4%), botany (4%), glaciology (4%),

human practices (2%), engineering (3%), and meteorology (2%).

Affiliation

Table 2 shows the number and percentage of authors by nation represented in the essays. The location of authors may be represented by a home country (address) or country of their institutional affiliation. The essays are most frequently written by Canadian authors, numbering 142 people (55%), and the United States authors follows with 66 people (25%). Most of the twelve remaining countries

TABLE 2. The number of authors by affiliation nation and gender, and percentages of all authors affiliated with each nation represented in the essays. Values rounded to the nearest percent except for values less than 0.5%.

Affiliation	Male	Female	Total	Percent of authors from each affiliation/location
Canada	74	68	142	55%
United States	54	12	66	25%
Denmark	9	5	14	5%
Greenland	4	2	6	2%
Germany	4	2	6	2%
Finland	5	1	6	2%
Norway	2	4	6	2%
Russia	2	2	4	2%
Switzerland	3	1	4	2%
England	1	1	2	1%
Austria	1	0	1	0.4%
Sweden	1	0	1	0.4%
Netherlands	1	0	1	0.4%
New Zealand	0	1	1	0.4%
Total	161	99	260	100%

outside Canada and the United States are northern. Ten (90%) of the twelve are European nations, the exceptions are one essay each from Russia and another from New Zealand. Denmark and Greenland account for 20 of the 47 European author affiliations, the remaining are from Germany, Finland, Norway, Switzerland, England, Austria, Sweden, and Netherlands.

Gender and Indigeneity

Figure 1 shows the representation by gender from 1997 to 2022. The InfoNorth essay section has a total of 260 authors, of whom 38% are female and 62% authors are

male, showing greater representation by the latter. Of the total number of authors, 24 (9%) are Indigenous.

Topics

The most frequent topics in the InfoNorth section fall within the history, sociology, and physical science categories. Table 3 shows the percentages of female and male authors within each topic to determine if there is any relationship between author gender and the types of topics covered. Male authors have been more likely to write about 12 of the 18 topics including human practices; meteorology; glaciology; and expedition/past events. In comparison, female authors were more likely to write about topics including, photography/printmaking/painting; tourism; culture and environment; and oceanography/limnology (Table 3).

Traditional Knowledge/Indigenous Content

An essay is considered a traditional knowledge/Indigenous content topic when it addresses Indigenous-based content and is written by an Indigenous author or includes any of the following: discussions of traditional ways of understanding the physical world, contributions to Western science, Indigenous historical, cultural, and spiritual life, details of issues Indigenous people face, an intention to contribute to an Indigenous community, and is written by a non-Indigenous author in collaboration with an Indigenous author(s). There are a broad range of topics that fall under traditional knowledge/Indigenous content. For example, one essay details how traditional knowledge has been included to describe salmon carcasses in British Columbia’s watersheds. Another includes oral history interviews with Elders conducted from a Gwich’in settlement to learn about traditional Gwich’in summer clothing, in this case highlighting how these clothing items represent a bygone era and have great historical, cultural,

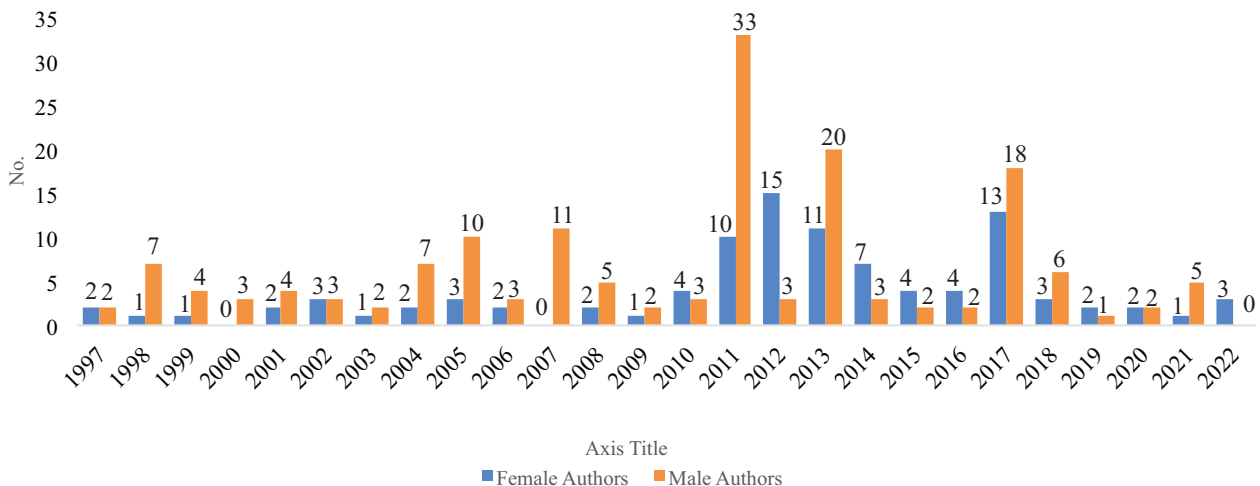


FIG. 1. Author gender representation from 1997 to 2022.

TABLE 3. Percentages of male and female authors associated with each topic.

Topics	Total authors on a topic	Number of female authors	Number of male authors	Percent female authors	Percent male authors
Expedition/past events	56	9	47	16%	84%
Literature	4	3	1	75%	25%
Photography/printmaking/painting	4	4	0	100%	0%
Human practices	3	0	3	0%	100%
Archaeology	21	6	15	29%	71%
Tourism	6	6	0	100%	0%
Culture and environment	3	3	0	100%	0%
Modern society/infrastructure	55	22	33	40%	60%
Politics	31	13	18	42%	58%
International cooperation	69	27	42	39%	61%
Traditional knowledge/Indigenous content	53	23	30	43%	57%
Botany	24	6	18	25%	75%
Zoology	41	15	26	37%	63%
Meteorology	2	0	2	0%	100%
Glaciology	11	1	10	9%	91%
Oceanography/limnology	5	4	1	80%	20%
Engineering	6	1	5	17%	83%
Climate change	94	48	46	51%	49%

and sometimes spiritual meanings. Fifteen out of 83 essays fall under the topic of traditional knowledge/Indigenous content (Table 1). The range of topics within traditional knowledge/Indigenous content is presented in Table 4.

The traditional knowledge/Indigenous content topic is most frequently present in physical science essays, including climate change (20%) glaciology (13%), zoology (13%), and expedition/past events (13%). Less well represented are the topics literature (7%), photography/printmaking/painting (7%), archaeology (7%), politics (7%), modern society/infrastructure (7%), and oceanography/limnology (7%). The remaining topics of literature; photography/printmaking/painting; archaeology; politics; oceanography/limnology; and modern society/infrastructure each make up 1% of the topics under traditional knowledge/Indigenous content.

DISCUSSION AND CONCLUSION

The most frequent categories in the InfoNorth section are history, physical science, and sociology. The most frequent topics identified in the survey are expedition/past events, climate change, and traditional knowledge/Indigenous content. The least frequent topics are human practices, and meteorology.

The survey demonstrates that the content in InfoNorth has been contributed almost exclusively by authors from North America, while European and other authors are less frequently represented. The representation of male to female authors shows higher male representation, and few Indigenous writers have contributed to the section. Male authors have been more likely to write about topics within the category of physical science, whereas female authors

TABLE 4. Percentage of the 15 essays within the topic of traditional knowledge.

Topics	No. of essays	Percent
Expedition/past events	2	13%
Literature	1	7%
Photography/printmaking/painting	1	7%
Archaeology	1	7%
Politics	1	7%
Modern society/infrastructure	1	7%
Zoology	2	13%
Glaciology	2	13%
Oceanography/limnology	1	7%
Climate change	3	20%

have been more likely to write about topics within art and literature. Traditional knowledge/Indigenous content topics are most often present in physical science essays.

This content survey of InfoNorth identified topics and contributors that are relatively underrepresented. The journal now has an opportunity to build greater knowledge diversity by deliberately soliciting contributions from underrepresented authors, communities, and countries. A program to increase diversity and new knowledge content would benefit all those concerned with northern and Arctic regions. For example, encouraging interviews with Northerners on topics of importance to communities, presenting broader integrative perspectives, and emphasizing collaboration in the mobilization of knowledge could be achieved by diversifying the authorship.

Attracting and soliciting more local and Indigenous authors from northern and Arctic communities could both

address current gaps in the journal's author representation and result in the journal reaching a wider audience, including people living in the North.

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