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Evaluating the inclusion of Inuvialuktun place names in online maps

Feature Article

Sarah Simpkin
Associate University Librarian (Academic Services),
Carleton University

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Abstract

Place names, also known as toponyms, are a fundamental part of our cultural and geographical environment. Like many Indigenous groups, Inuvialuit in what is now northwestern Canada use place names to describe the landscape, guide and warn travellers, and convey important cultural information (Hart 2011, 9). Many efforts are underway to document, restore and promote the use of Indigenous toponyms in Canada, including their submission to provincial and territorial naming authorities (Inuit Heritage Trust 2016). A related means of raising the profile of Inuvialuit place names is their inclusion on maps that are readily accessible to the public. In their ten calls to action for natural science researchers working in Canada, Wong et al. (2020) underscore the need for Indigenous place names to be incorporated, with permission, in maps and text associated with scientific research to recognize the stories and Indigenous Knowledge behind the names (777). This paper is a step in addressing this call to action by presenting the results of an analysis of Inuvialuktun-language place names in the Tuktoyaktuk area. The analysis examines how readily the names are identified in official, and popular non-official sources and discusses implications for promoting Indigenous Knowledge more broadly.

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Introduction

Place names, also known as toponyms, are a fundamental part of our cultural and geographical environment. Like many Indigenous groups, Inuvialuit in what is now northwestern Canada use place names to describe the landscape, guide and warn travellers, and convey important cultural information (Hart 2011, 9). Many efforts are underway to document, restore and promote the use of Indigenous toponyms in Canada, including their submission to provincial and territorial naming authorities (Inuit Heritage Trust 2016). A related means of raising the profile of Inuvialuit place names is their inclusion on maps that are readily accessible to the public. In their ten Calls to action for natural science researchers working in Canada, Wong et al. (2020) underscore the need for Indigenous place names to be incorporated, with permission, in maps and text associated with scientific research to recognize the stories and Indigenous Knowledge behind the names (777). This paper is a step in addressing this call to action by presenting the results of an analysis of Inuvialuktun-language place names in the Tuktoyaktuk area. The analysis examines how readily the names are identified in official, and popular non-official, sources and discusses implications for promoting Indigenous Knowledge more broadly.

Importance of Inuit place names

Inuit place names are richly descriptive – they convey information about land and sea features, past events, potential hazards and wayfinding information for travellers. In this way, they transform a vast landscape into a place that is layered with cultural meaning and familiarity. As Collignon argues, "until it is given a name, a particular place is only a memory in someone's mind. Once it is named, the memory can be shared with other people: the place becomes part of human legacy." (2006, 101). While it is unnecessary to know place names to travel skillfully on the land, toponyms nonetheless enhance the traveller's experience and offer a connection to previous inhabitants and travellers. As Hart (2011) writes:

> [Place] names help people learn about and remember these places, so that what once looked like a line of empty lakes becomes a series of known landmarks along a traditional trail that is full of meaning. These names tell the kind of fish found in one lake, or describe how hard it is to get up or down a certain hill, or identify a campsite where a dispute between two groups of people is still remembered. (9)

In this way, Inuit place names serve as an important reminder of their relationships with the land, both past and present.

Renaming as an act of decolonization

Beyond adding a distinctive layer of human meaning to the landscape, place names also reinforce narratives of history. Maps of Arctic Canada are dotted with places that were named by settlers after explorers and foreign rulers: Davis, Baffin, Hudson, Melville, Victoria, Prince of Wales, and so forth, whereas evidence of centuries of human habitation on the land is largely absent from these maps. As Peplinski observes, "[despite] the remarkable ability of Inuit to accurately render coastlines, islands, and fiords from memory to map for explorers, their toponyms never made their way onto maps in any significant numbers; our official maps contain primarily English place names indicative of a European influence." (2009, 43). Speaking about the power of toponyms and maps to reinforce or reject colonial practices, Lapierre (2009) writes that "[to] name is to appropriate, to take control of the landscape, to possess it, and inhabit it through language, the means by which geographical names come to life in a speech community, and eventually become part of identity and culture." (25). Mapmaking is a social construction of the world, and colonial mapping and naming practices endorse dominant views by subtly reinforcing the location and perceived character of nation-states, supporting certain ideas and suppressing others (Monmonier 2015, 1001).

In recent years, individual and institutional efforts have raised awareness about Canada's role in colonization and the impact of colonial policies and programs, such as the residential school system, on Indigenous peoples in Canada. This awareness-raising coincides with efforts by Indigenous nations to achieve self-government through the land claims process. Toponyms are a way of asserting cultural and territorial rights, and the official recognition of traditional place names is a component of many modern land claim agreements. Following the signing of the James Bay and Northern Quebec Agreement in 1975, Inuit elders working through the Avataq Cultural Institute began planning a strategy to document locally-used place names in northern Québec to enhance cultural and environmental knowledge and perception (Müller-Wille 2001). This place naming project resulted in a gazetteer of Inuit toponyms, published in 1987, and was supplemented by a series of maps in the 1990s. It also led to the establishment of Nunavik *(great land)* as a cultural region that emerged from the combined toponymic knowledge, linguistic similarities and kinship ties of Indigenous people across the region (Müller-Wille 2001). Similarly, the Inuit Heritage Trust (IHT) in Nunavut *(our land)* was created by the Nunavut Land Claims Agreement of 1993. This organization has two main goals concerning toponyms: distributing traditional place-names knowledge on topographic, thematic maps to communities; and ensuring the traditional names are made official through a process involving the Government of Nunavut's Geographic Names Policy (Inuit Heritage Trust 2016). Since 2001, the IHT has recorded over 10,000 names. Several thousand traditional names have been made official, with thousands more approved by the IHT and waiting to be reviewed by the Government of Nunavut's Toponymist (L. Peplinski, personal communication, December 15, 2020).

The place naming work being undertaken in Nunavik, Nunavut and elsewhere in the Canadian Arctic follows the principles of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). In particular, the UNDRIP enshrines the right of Indigenous

peoples to “revitalize, use, develop and transmit to future generations their histories, languages, oral traditions, philosophies, writing systems and literatures, and to designate and retain their own names for communities, places and persons” (United Nations 2008). While Canada officially adopted the declaration in 2016, legislation to align Canadian law with the 46 articles of the UNDRIP only came into force in 2021, and it remains to be seen how it will be implemented nationwide.

Place name recognition process in Canada

Canada’s national authority for place naming is the Geographical Names Board of Canada (GNBC). Established in 1897 as the Geographic Board of Canada, the GNBC’s original mandate was to standardize the spelling and application of place names across the country. Today, provincial and territorial entities now have jurisdiction over their own place names, and the national organization now serves as a coordinating body – developing standard policies, promoting official names and coordinating with other national naming authorities (GNBC 2020). The GNBC also maintains a database of authoritative geographic names provided by the federal, provincial, and territorial naming authorities. These naming authorities share a common mandate to work with Indigenous communities to identify and record traditional Indigenous geographic names, although policies, procedures and approaches vary by jurisdiction (Ross 2017). Since the GNBC’s database was first created in the mid-1970s, technical adjustments have been developed to better incorporate Indigenous place names, including allowing multiple official names for a given place and the use of the UTF-8 character system to expand the available range of diacritics (Ross 2017). Work is still needed to accommodate features that are made up of more than one distinct feature type (common in Indigenous place names) and to revise classification systems to better fit Indigenous geographic knowledge (Ross 2017).

Individuals and organizations propose geographical names to the relevant provincial or territorial authority by supplying the proposed name, spelling, meaning, reason for the change, and supporting information as required. In the Northwest Territories, the NWT Cultural Places Program is part of the Department of Education, Culture and Employment and is managed out of the Prince of Wales Northern Heritage Centre. When proposals are submitted for community name changes, additional steps are required to ensure community members and local and Indigenous governments support the proposal. One example of a successful community renaming is the Northwest Territories hamlet of Ulukhaktok (*there are many good rocks to make ulus*), whose official name was changed from Holman in 2006 after the community approved the change by referendum the previous year. The name was documented during the Copper Inuit Place Name Survey of 1991/1992 and referenced the slate and copper found in a large bluff nearby (Collignon 2006, 9).

The control, ownership of, and access to Indigenous Knowledge related to toponyms must be respected in place naming work. While many Inuit welcome renaming initiatives and support sharing toponyms outside of their culture, they remain vigilant, knowing place names may divulge sensitive cultural information, such as the locations of archaeological sites (Peplinski 2009, 46).

For this reason, it the author's position that name submissions and information sharing should occur only by and with the consent of knowledge holders in the communities where naming projects are taking place.

Challenges

Documenting, verifying and submitting Inuit place names for review by the appropriate territorial or provincial naming authority is not a straightforward process. One challenge for naming projects in the western Arctic is the low number of Inuvialuktun speakers who can advise on names, spellings, and meanings. While 83.5% of Inuit across Inuit Nunangat report speaking an Inuit language well enough to conduct a conversation, just 22% of Inuit in the Inuvialuit region reported being able to do so (O'Donnell & Anderson 2017). Spelling variations, regional differences, words that have fallen out of modern use, and words with alternate meanings may also create ambiguity and pose challenges when carrying out place naming work (Hart 2011, 4). Place names must also be understood in their unique context. For example, the Siglitun toponym Imaryuk translates to *something negative about the water*, but more precisely refers to *water that is not good for drinking* when referring to the Husky Lakes (Hart 2011, 4).

Another challenge of conducting Indigenous toponym work in Canada is the application of generics to place names in certain jurisdictions. In this context, a generic is a word used to classify the feature, for example: Island, Lake, Mountain, etc. Many Inuit toponyms include a feature description in their names; for example, Kuukallak (*the little river*), located in northwestern Quebec, includes "kuuk", which means river. In some provinces and territories, place names must be accompanied by the associated generic or category label for a specific geographical feature. For example, the Commission Toponymique du Québec applies a French-language generic to place names in the province, resulting in the official name of Rivière Kuukallak, or *the little river river.* As Peplinski (2014, 371) argues*,* while the practice of adding French generics arguably makes toponyms more accessible to the majority of Quebeckers, most people living in that region are Inuktut speakers, and the added generic effectively changes the meaning of the name. However, this practice is not universal, and jurisdictions such as Nunavut do not apply generics to Inuktut names.

A final challenge concerns the accessibility of the various formats in which place names are made available to community members. While digital products such as online maps can disseminate geographic information to a wide audience, Inuvialuit Cultural Resource Centre staff have cautioned that they are not a substitute for paper maps and experience on the land (O'Rourke 2018, 166). Community members may prefer paper maps or rely on them due to a lack of internet access or sufficient bandwidth. For these reasons, some Inuit cultural organizations have produced their own paper map series. For example, the Inuit Heritage Centre has published the Nunavut Map Series to represent the place names they have collected in both Inuktut syllabics and Roman orthography (Peplinski 2009), and sixty sheets have been produced (Inuit Heritage Trust 2016).

Similarly, the Avataq Cultural Institute has produced the Inuit Place-Names Map Series of Nunavik, a collection of 640 map sheets containing Inuit place names in both writing systems (Avataq Cultural Institute 2020). Both organizations offer digital and paper copies of their map series. While these map series often incorporate official government datasets, they also share Inuit place names before the toponyms have made their way through the official territorial or provincial naming board, a process that can take several years.

Research questions

Initiatives to document place names, meanings, and stories enable Indigenous groups to preserve and amplify important cultural and environmental knowledge. Following the premise that place names that are made official, or shared in readily-available online maps, are more likely to be learned and used, the author posed the following research questions to be addressed in a review of 313 Inuvialuktun place names:

(1) To what extent are Inuvialuktun place names recognized by the Geographical Names Board of Canada?

(2) Are Inuvialuktun place names present in popular online mapping platforms such as Google Maps and OpenStreetMap?

The second question references Google Maps and OpenStreetMap (OSM), two widely used geospatial data sources used in online mapping. These datasets are routinely used as “base maps”, providing the backdrop of basic geographic features upon which other information can be visualized. Both Google Maps and OSM use multiple sources, including government data, for their base data. Whereas Google Maps is a commercial product, OSM is an open-source platform maintained by a community of volunteers. Although both platforms are continually updated, OSM shares information about the edits, editors and data sources that are incorporated into the map, and Google does not. Given these differences, and OSM’s option to crowdsource naming, a comparative assessment of the inclusion of a sample of Inuvialuktun names was conducted and is reported here.

Methodological approach

A key resource for Inuvialuktun place names in the Tuktoyaktuk area is the book *Nuna Aliannaittuq / Beautiful Land* written by Elisa J. Hart and co-published by the Inuvialuit Cultural Resource Centre (ICRC) and the Prince of Wales Northern Heritage Centre (PWNHC) in 2011. Written for Inuvialuit to share the traditional knowledge of elders in Tuktoyaktuk, this work builds on previous research conducted by the PWNHC (Tuktoyaktuk Traditional Knowledge Project), the ICRC (Tuktoyaktuk Place Names Project) and the work of Father Robert LeMeur, a French-born missionary who arrived in Tuktoyaktuk in 1946. This text and accompanying maps formed the authority for this analysis of Inuvialuktun place names. First, the 313 names and meanings as they appeared in the book were copied into a spreadsheet. This spreadsheet was then used to

track which locations listed in Nuna Aliannaittuq were visible on which maps and also provided space to note alternative spellings found on the maps.

The NWT Place Names Database, hosted by the PWNHC, is a searchable listing of all NWT geographic names recognized by the GNBC with 4,763 entries representing human settlements as well as land and water features, historical notes and geographic coordinates as of December 2020. To visualize these locations on a map, the dataset of official names, meanings, and coordinates was downloaded. Coordinates were converted from a degree-minute-second format to decimal degrees using an Excel formula as required by most GIS software, then loaded in QGIS 3.10 to visualize each official place name on a map (Figure 1). Similar map layers are also available from Natural Resources Canada and include the same official names. These steps allowed for location validation of each official place name.

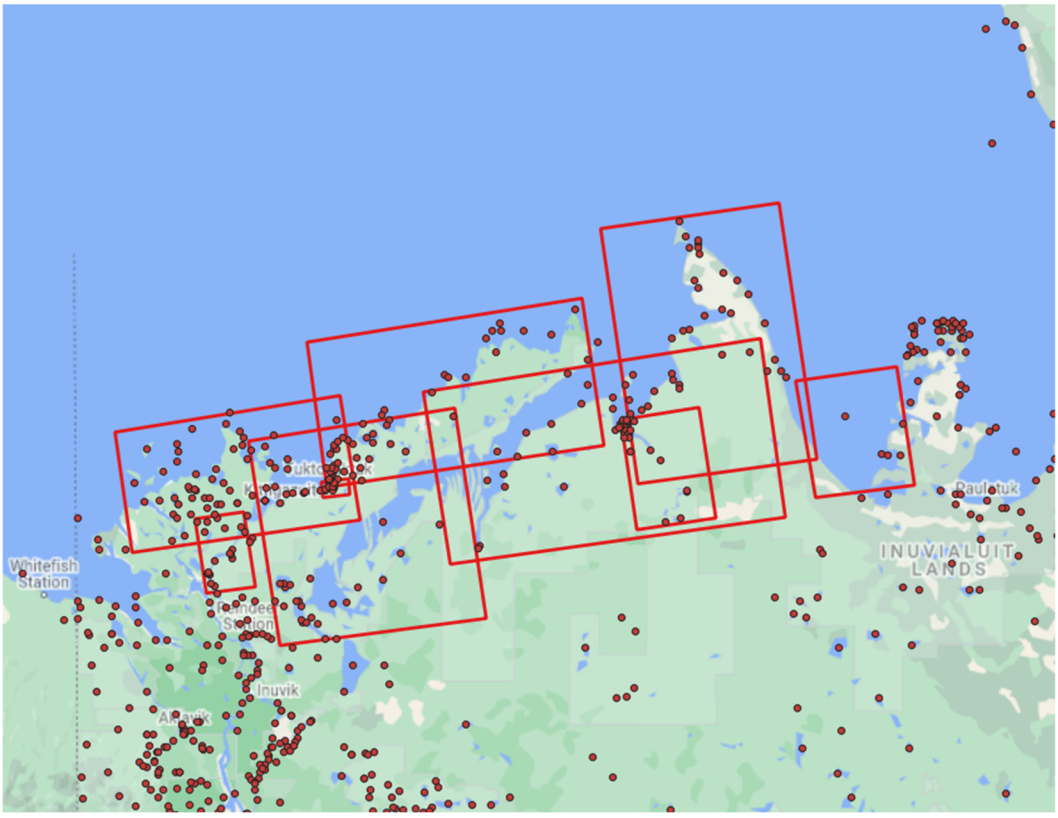

Figure 1: Nuna Aliannaittuq map boundaries (red rectangles) and official place names (red dots) listed in the NWT Place Names Database.

QGIS was then used to visualize the location of each feature mapped in Nuna Aliannaittuq. To do this, the eight maps included in Nuna Aliannaittuq were photographed and cropped, then aligned with a base map using the Georeferencer plug-in (Figure 2). Base maps from Google Maps and OSM were loaded as layers that could be toggled on and off. In this way, the author was able to locate a feature listed in Nuna Aliannaittuq and verify whether it was also visible on Google Maps, OSM, or on the list of official NWT place names.

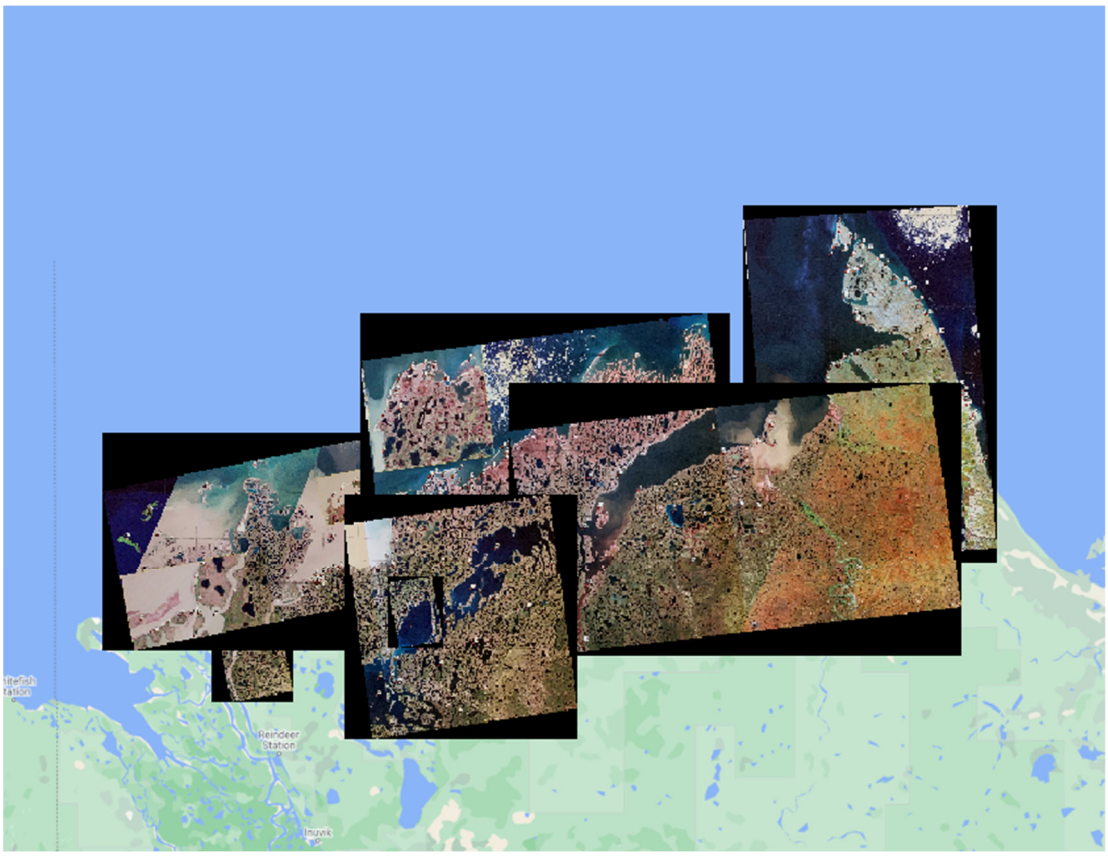

Figure 2: Georeferenced maps from Nuna Aliannaittuq showing study area.

Note: Numbers on these maps correspond to place names documented in the book. By toggling this layer on and off, it was possible to see which place names were visible on other maps.

Each feature was then verified against the Nuna Aliannaittuq names, while making note of whether it appeared on the official names list, Google Maps, or OSM. To scope the project to Inuvialuktun place names, English or European language place names were excluded even when these were named by Inuit. Spelling variations were also noted.

Results and discussion

Of the 313 place names identified in Nuna Aliannaittuq, only Tuktoyaktuk and Kittigazuit appeared in Google Maps. Five names appeared in OpenStreetMap (Ibyuk, Kilutqusiaq, Kittigazuit, Tuktoyaktuk, and Tununuk), and 19 appeared in the official NWT names list (Table 1). When the Nuna Aliannaittuq names did appear in the other sources, they were rarely spelled in the same way. With the exception of communities, official names appeared with their associated generics, as was noted above in Québec. For example, geographical category names were added to features such as Aklisuktuk Pingo *(Where something is becoming bigger or growing)* and Ikpisugyuk Point (*High land or bluffs*) on the official NWT place name list.

Place Name	Google Maps	OSM	Official NWT Name	Meaning	Map Spelling
Aglisuqtuq			Y	Where something is becoming bigger or growing	Aklisuktuk Pingo
Ibyuk		Y	Y	Originally meant moss or thick, but came to refer to the two pingos	Ibyuk Peninsula / Ibyuk Pingo
Ikpisugyuk			Y	High land or bluffs	Ikpisugyuk Point
Kangianiq			Y	Something like the farthest in that you can go	Canyanek Inlet
Kilutqusiaq		Y		Going in behind or the farthest in	Kilutqusiaq Pingo
Kitigaaryuit	Y	Y	Y	Many banks of that shape (kitigaat)	Kittigazuit
Kuugaaluk			Y	Old river	Kugaluk River
Min'nguq			Y	Beetle	Mingnuk Point
Naparutalik			Y	Something standing upright	Naparotalik Spit
Niaquq			Y	Head	Niarkrok Harbour
Niutungiaq			Y	Something about a big leg (possibly referring to a caribou leg)	Niutungiak Peninsula
Pikiuliq			Y	Place to find eggs	Pikiolik Lake
Qayauvik			Y	Place where someone drowned when a kayak capsized	Qajauvik Lake
Qugyugtuuryuaq			Y	Lots of swans	Kukjukturijak Lake
Qugyuktuuq			Y	Place where one finds swans	Kukjuktuk Bay
Sarvalunat			Y	Strong current or eddy	Sakvalunat Point
Tapqaq			Y	Sandspit	Topkak Point
Tasiryuk			Y	Elders say darned lake	Tassiriuk Lake
Tuktuuyaqtuuq	Y	Y	Y	A place where there is something like caribou	Tuktoyaktuk
Tununik		Y	Y	Behind you or at your back	Tununuk
TOTAL	**2**	**5**	**19**		

Table 1: Summary of place names identified in Nuna Aliannaittuq that are found in at least one of Google Maps, OpenStreetMap, or the official list of NWT place names.

Because the approximate geographic locations for each feature were available, it was possible to make a “best guess” about whether the place names listed in Nuna Aliannaittuq corresponded to names displayed in the other sources with alternative spellings. Ideally, these matches should be confirmed by an Inuvialuktun speaker with knowledge of the region's language and geography.

Google Maps and OSM are also missing a substantial number of NWT’s official names, though quantifying this data gap was out of scope for this project. It is not readily apparent whether these names are excluded due to gaps in the data sources used to construct the base maps, stylistic choices made to forgo feature labels or other reasons. Google Maps draws on several data sources to build its database – satellite imagery, geospatial data in the public domain, GPS data from users, data purchased from government agencies, commercial sources, and user-contributed information about businesses and other landmarks. While some data sources are credited (e.g. satellite imagery providers), this is not the practice for all features, and end-users cannot identify the provenance of most features. In contrast, it is possible to see when and by whom features have been added to the OSM database. Many place names in OSM originate from the National Geospatial-Intelligence Agency’s GEOnet Names Server, a US-based repository of geographic names sanctioned by the United States Board on Geographic Names, and OSM volunteers have noted quality-control issues with the data, including inaccurate entries and coordinates (OSM 2020). OSM volunteers may wish to explore whether uploading the official place names for jurisdictions such as NWT is a viable option for enhancing the OSM database.

Place naming projects can majorly impact the geographic information available to mapmakers. Large submissions to naming authorities, such as the Copper Inuit Names Study, resulted in 303 Inuinnaqtun names being added to western Victoria Island in 2006 (Collignon 2006). While the inclusion of toponyms in government sources does not guarantee their widespread use, their official recognition ensures that they are made available to cartographers through Government of Canada data products and paves the way for their inclusion in platforms such as Google Maps and OSM for widespread access. Therefore, it is vital that Indigenous cultural organizations continue their work to research and submit place names for official recognition.

Conclusion

Inuit place names are highly descriptive and offer important cultural and geographic information. These names have been largely absent from official maps for much of Canada's history, limiting opportunities for Indigenous Knowledge to be transmitted and shared. In recent decades, Inuit organizations have been involved in efforts to document, restore and promote the use of Indigenous toponyms in Canada, including their submission to provincial and territorial naming authorities. While there is no guarantee that the process of making names official will result in their inclusion in databases such as Google Maps and OpenStreetMap, over time, the names will become authoritative sources for mapmakers. As demonstrated in this case study, Inuvialuktun names are under-represented in both official and non-official sources. While only 19

Inuvialuktun names from the Tuktoyaktuk region are currently included in the NWT's official place names database, place naming efforts in other parts of Northern Canada, including Nunavut and Nunavik, have resulted in the approval of thousands of Inuit place names, increasing their visibility and likelihood of being learned. Historically, these place names were passed along orally. Today, heritage organizations, knowledge holders, geographers and mapmakers also inscribe that knowledge materially, in paper and digital formats, to ensure knowledge transmission and preservation. Indigenous language place names are critical anchors in these knowledge systems.

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