Title: Dataset associated with "Visions of the Arctic Future: Blending Computational Text Analysis And Structured Futuring to Create Story-based Scenarios"

Abstract: The future of Arctic social systems and natural environments is highly uncertain. Climate change will lead to unprecedented phenomena in the pan-Arctic region, such as regular shipping traffic through the Arctic Ocean, urban growth, military activity, expanding agricultural frontiers, and transformed indigenous societies. While intergovernmental to local organizations have produced numerous synthesis-based visions of the future, a challenge in any scenario exercise is capturing the possibility space of change. In this work, we employ a computational text analysis to objectively generate unique thematic input for novel, story-based visions of the Arctic. Specifically, we develop a corpus of more than 2,000 articles in publicly accessible, English-language Arctic newspapers that discuss the future in the Arctic. We then perform a latent Dirichlet allocation, resulting in ten distinct topics and sets of associated keywords. From these topics and keywords, we design ten story-based scenarios employing the Mānoa mashup, science fiction prototyping, and other methods. Our results demonstrate that computational text analysis can feed directly into a creative futuring process, whereby the output stories can be traced clearly back to the objectively identified topics and keywords. We discuss our findings in the context of the broader field of Arctic scenarios, and show that the results of this computational text analysis produce complementary stories to the existing scenario literature. We conclude that story-based scenarios can provide vital texture toward understanding the myriad possible Arctic futures.

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Format of data files – .csv

File Information

REVISED_SUPPLEMENTAL_Table S1_ Visions of the Arctic Future_ Metadata for Arctic news corpus_MS.csv – contains metadata for the articles appearing in the literature corpus, corresponding to the table in the manuscript entitled: 'Table S1: Visions of the Arctic Future - Metadata for Arctic news corpus.'

Variable information -
File Name – Filename used for internal analysis
Author – Name of the article author
Date Published – The date (DD-MMM-YY) of article publication
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Hyperlink – The link to the publication website where the article was originally downloaded.

Method(s) –
***Please note that the following text is taken from the Methods section of the publication. See citation above.
        "We collected news articles from multiple Arctic regional news sources. These articles were available in publicly accessible, English-language Arctic newspapers, specifically: The Arctic Sounder, Arctic Today, The Barents Observer, CBC North, The Moscow Times, Nunatsiaq News, and Radio Canada International. These sources were selected based on a set of preliminary conversations with scientific experts and public officials from throughout the Arctic, who recommended a broad set of

publicly available news sources. We use the Google Search engine as a method of discovery, and a temporal window of search of 2010-2020. These dates do not correspond to any specific event, but rather capture a recent, contemporary set of published perspectives on the future Arctic.

For most sources, we simply used the search term 'future' as a filter of the articles, given the publication itself was an 'arctic' publication. For Radio Canada International and The Moscow Times, we used both 'arctic' and 'future' as a filter. While the language of the sources was restricted to English-language texts, there are news resources coming from the entire pan-Arctic region, including Russia, Finland, Sweden, Norway, Iceland, Canada, Greenland, and Alaska. The purpose for this broad collection is to ensure that the information from the regional (i.e. spatially extensive, less granular, more general) and the local (i.e. spatially specific, more detailed, deeper knowledge), spans the possibility space of a large fraction of the Arctic discourse about the future, available in English-language newspapers. While additional words could have been used, such as 'projection', 'forecast', or 'scenario', we were intentional about using a simple, straightforward — and hopefully repeatable — procedure."