

# Visions of the Arctic Future

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# Overview

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## Purpose

- Use new evidence base with story-based futures to write about the Future Arctic.
- Computational text analysis can cast a very wide net.
- Reveal *under-discussed* futures for the Arctic.

## Approach

- New evidence base: LDA
- Develop new method to connect this to storytelling



## Creating an 'Arctic Future' news corpus

- Circumpolar news sources
- Google search-based effort
- English-language only
- N = 2,058 articles

NUNATSIAQ NEWS



ARCTICTODAY

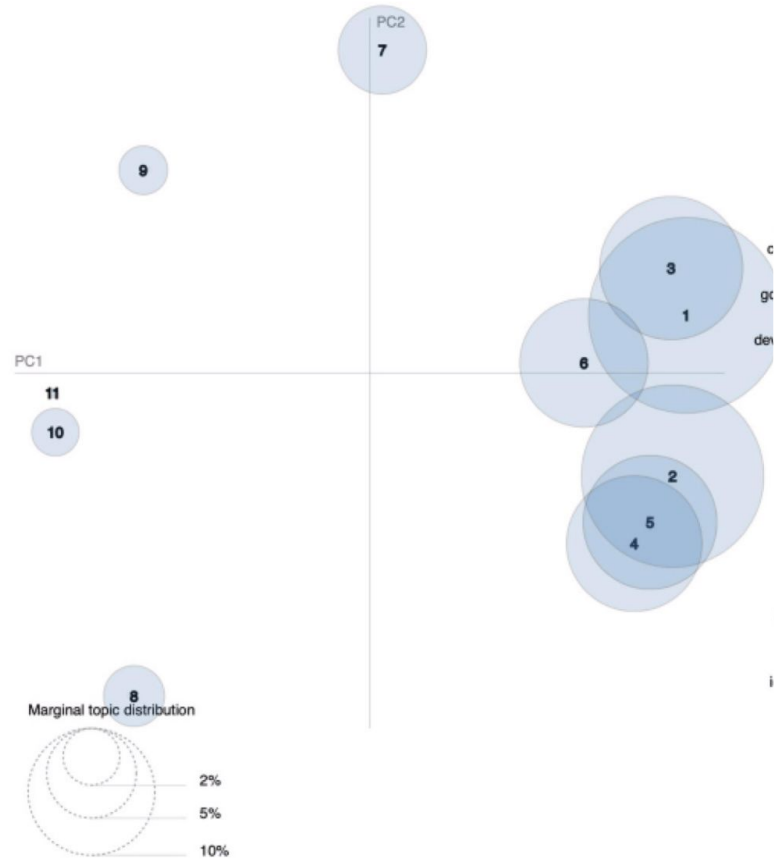
The Arctic Sounder



*The* **Barents** Observer

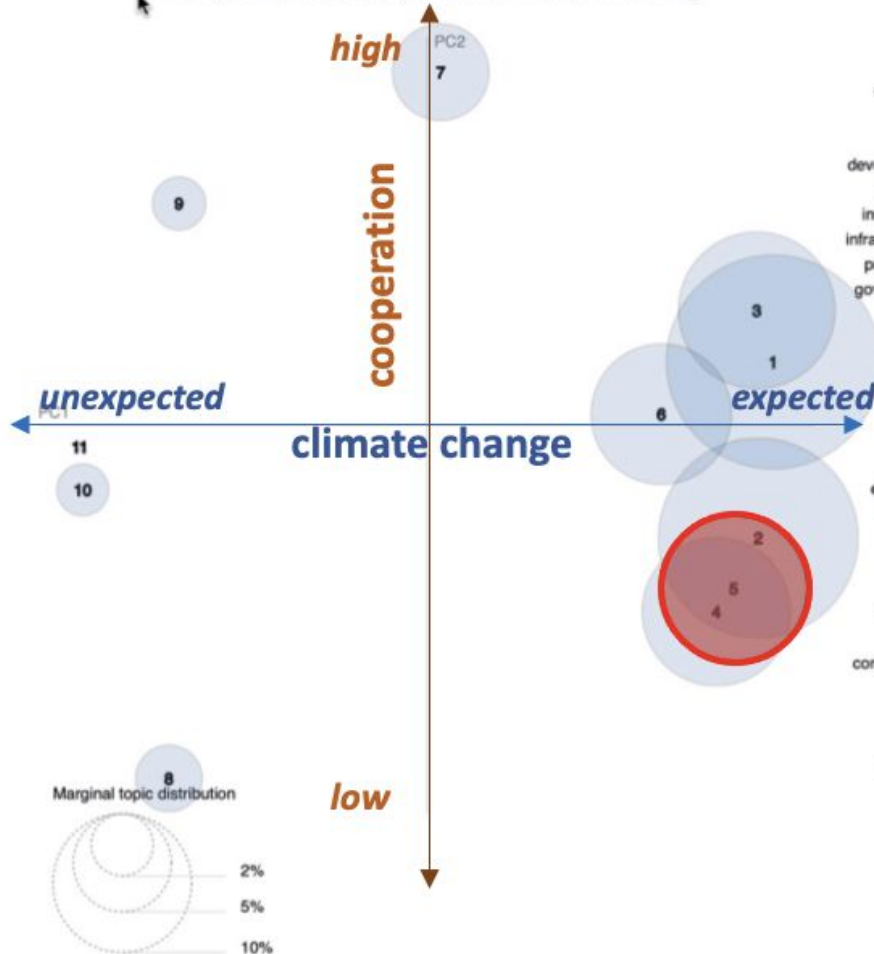
The  **Moscow Times**  
INDEPENDENT NEWS FROM RUSSIA

Intertopic Distance Map (via multidimensional scaling)

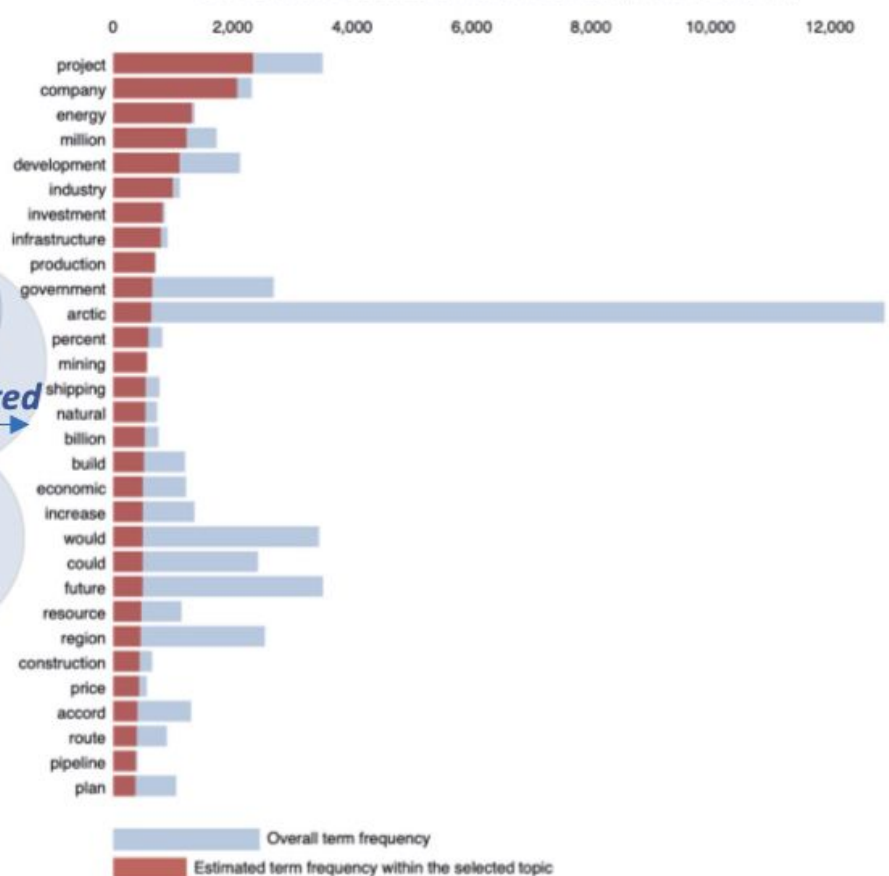




Intertopic Distance Map (via multidimensional scaling)



Top-30 Most Relevant Terms for Topic 5 (11.1% of tokens)

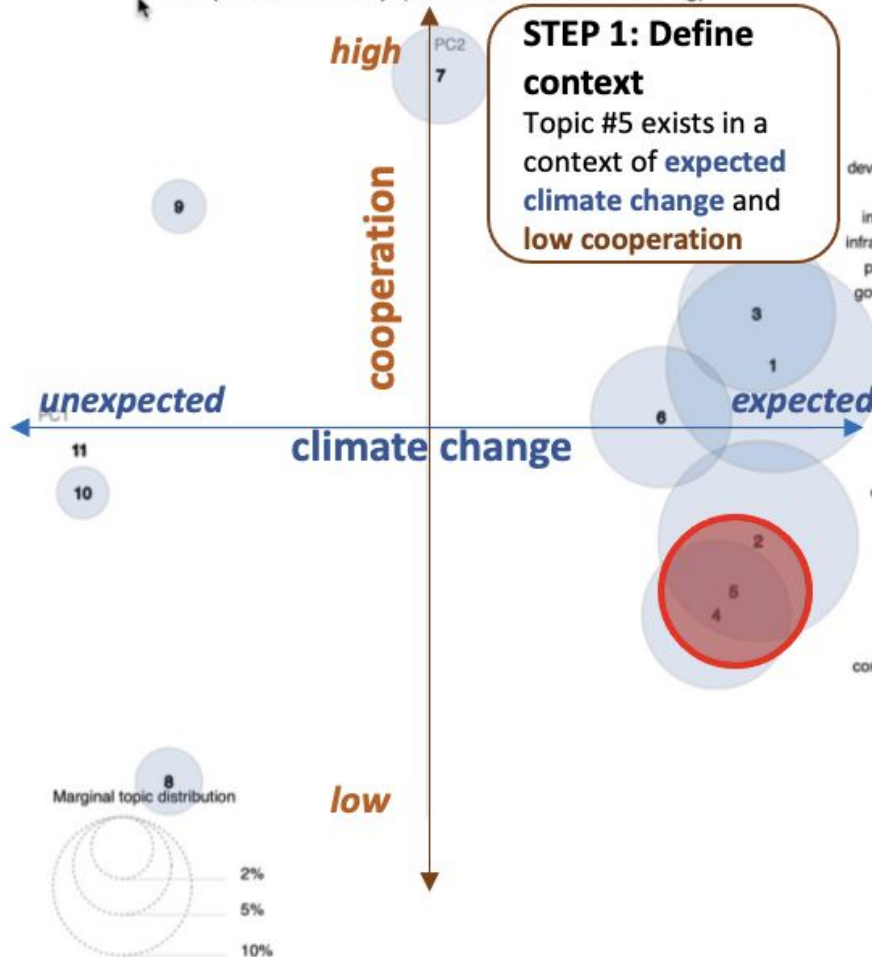


1. saliency(term w) = frequency(w) \* [sum\_t p(t | w) \* log(p(t | w)/p(t))]; see Chuang et. al (2012)

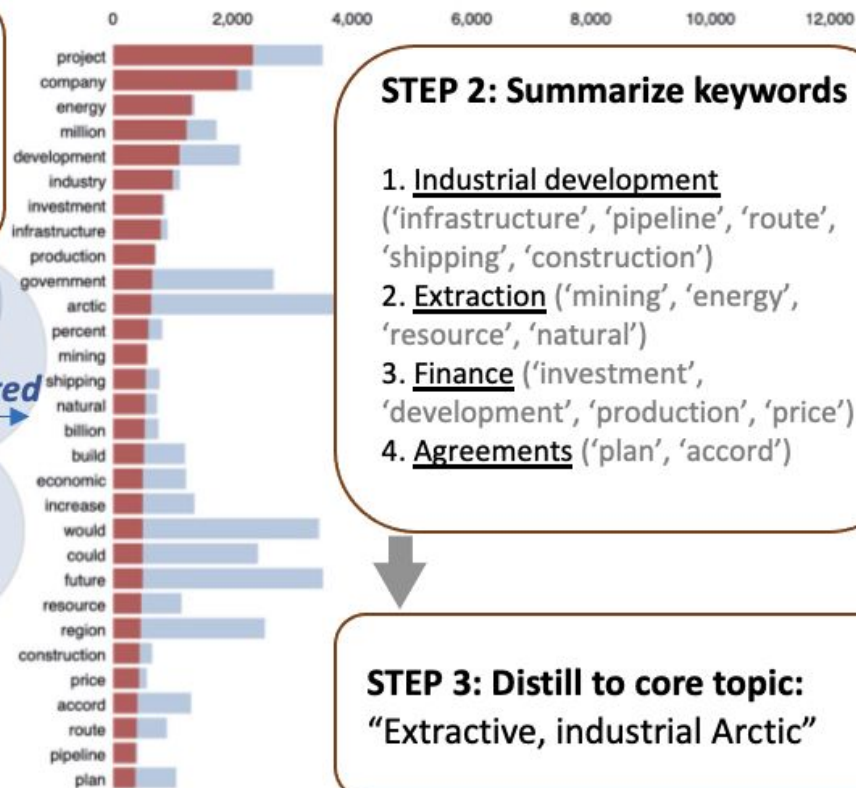
2. relevance(term w | topic t) = λ \* p(w | t) + (1 - λ) \* p(w | t)/p(w); see Sievert & Shirley (2014)



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Top-30 Most Relevant Terms for Topic 5 (11.1% of tokens)



Overall term frequency

Estimated term frequency within the selected topic

1.  $sallency(\text{term } w) = \text{frequency}(w) * [\sum_t p(t | w) * \log(p(t | w)/p(t))]$  for topics  $t$ ; see Chuang et. al (2012)

2.  $relevance(\text{term } w | \text{topic } t) = \lambda * p(w | t) + (1 - \lambda) * p(w | t)/p(w)$ ; see Sievert & Shirley (2014)







# ̄ A Migrant Contract - Excerpts

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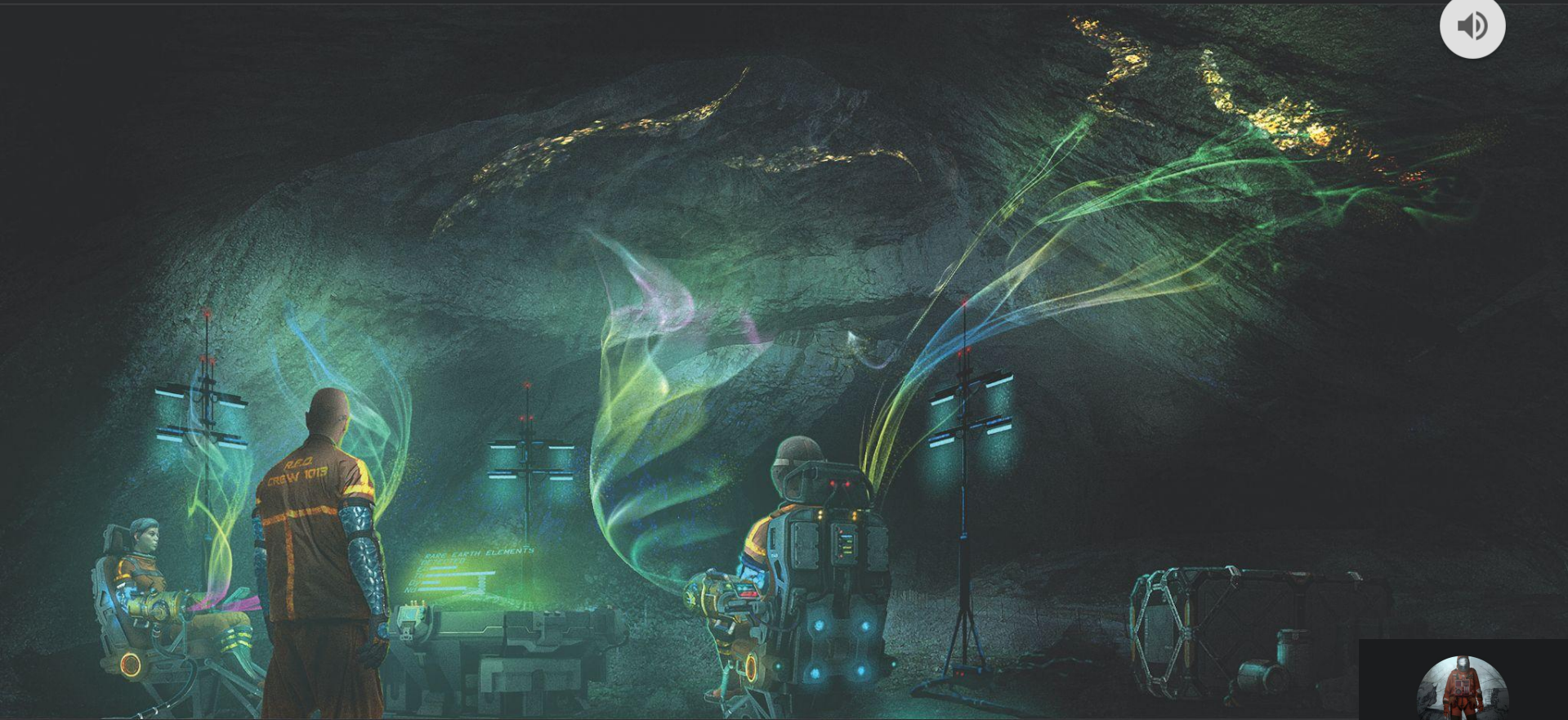
## ̄ A Migrant Contract - Excerpts

*“They each took a seat, facing away from one another, and carefully placed their arms in the armrests. Misha began the activation sequence, and she could feel a part of her mind go elsewhere. She closed her own eyes, and heard the gentle, metallic snik as the swarms enclosed in her sleeves woke up and began seeking promising signatures in the rock. She remembered the explanation from her trainer that the swarm intelligence wasn't actually inside her head, it was just leveraging the raw power of the human brain to perform complex computations. But it still felt like the swarm was in her mind.”*



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**Fabio Comin**

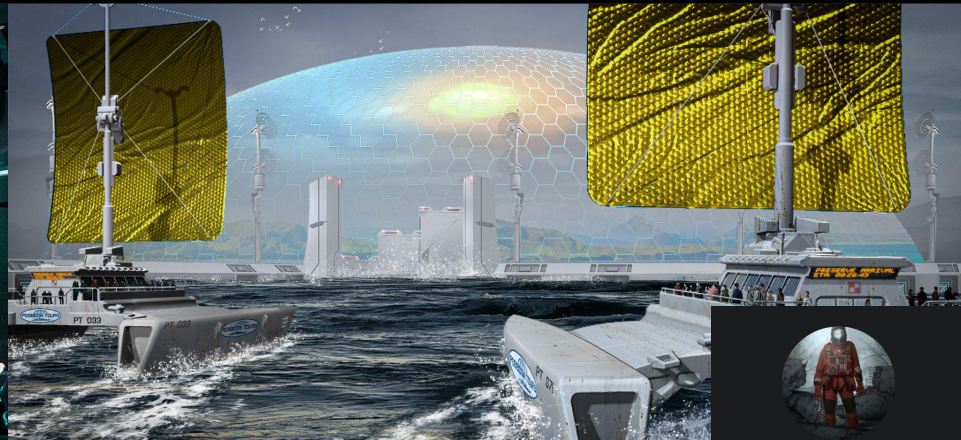
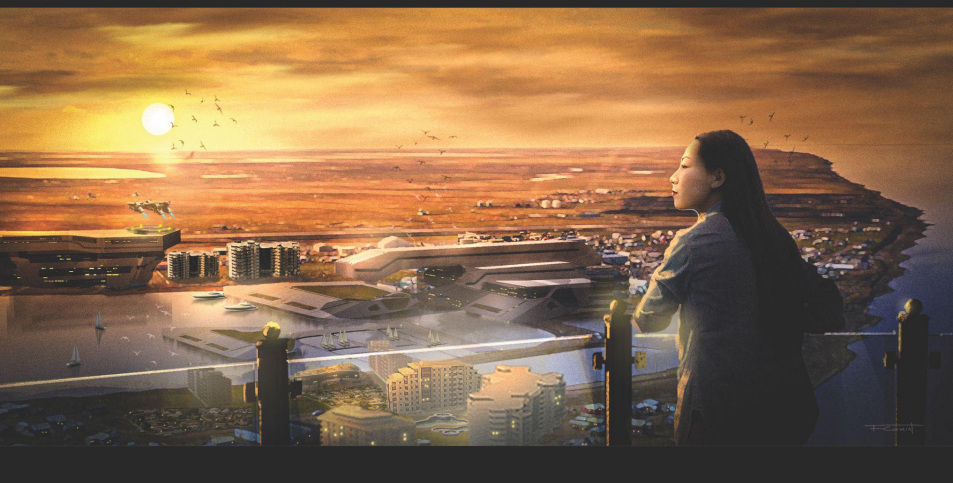
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# Thanks



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