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Between global collaboration and national competition: Unraveling the many faces of Arctic science diplomacy

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Appendix A: Search terms used in the lexical searches of Arctic strategies

This table contains the search terms employed in the searches within the researched Arctic Strategies (see Table 2 in the manuscript for the complete list of investigated countries). The search terms are divided into three categories: countries, groups of countries, and organizations, fora and other actors and entities. Individual terms are separated by semicolon and listed alphabetically. Searches were also conducted by using the word stems.

Argentina; Australia; Canada; Chile; China; Denmark; Finland; France; Germany; Iceland; India; Italy; Japan; Netherlands; New Zealand; Norway; Poland; Portugal; Russia; Singapore; South; Africa; South Korea; Spain; Sweden; Switzerland; Taiwan; United Kingdom; Ukraine; United States (of America).

Arctic 5; Arctic States; Littoral states; near-arctic State.

Arctic Council; Arctic Coast Guard Forum; Arctic Economic Council; Arctic Security Forces Roundtable; Arctic Hydrographic Commission; Barents Euro-Arctic Council; Commission on the Limits of the Continental Shelf; European Polar Board; European Space Agency; European Union; Intergovernmental Panel on Climate Change; International Arctic Science Committee; International Maritime Organization; International Tribunal for the Law of the Seas; Nordic Council of Ministers; North Atlantic Treaty Organization; North East Atlantic Fisheries Commission; Sami Parliaments; University of the Arctic/UArctic; World Meteorological Organization; World Trade Organization.

Search terms on aspects of collaboration and competition. Individual terms are separated by semicolon and listed alphabetically. Searches were also conducted by using the word stems, singular- and plural forms, gerunds, and British and American English spellings.

competition; aggression; alliance; allies; bilateral; breach; challenge; collaborate; collaboration; competitiveness; conflicts; cooperate; cooperation; crisis; defense; dialogue; diplomacy; disputes; economic; environment; geoeconomics; joint; militarization; multilateral; partnership; risk; science; scientific; security; stability; tensions; threat.

Appendix B: Some examples of coded segments

Coded Segment	Codings
<i>Examples Cluster I</i>	
"NWO also strives for similar alignment of Dutch polar research with international polar research agendas of the European Polar Board (EPB), the Scientific Committee on Antarctic Research (SCAR), the Arctic Council (AC) and the International Arctic Science Committee (IASC)." (Dutch Strategy 2014, p. 7)	Entities: Netherlands Sphere: Science Mode: Collaborative
"It actively promotes international cooperation on Arctic research, pushes for an open and inclusive international monitoring network of the Arctic environment, supports pragmatic cooperation through platforms such as the International Arctic Science Committee, encourages Chinese scientists to carry out international academic exchanges and cooperation on the Arctic, and encourages Chinese higher learning and research institutions to join the network of the University of the Arctic." (Chinese Strategy 2018, p. 5)	Entities: China Sphere: Science, Environment Mode: Collaborative
"High-level agreements, with Arctic States such as those previously mentioned (Norway and Canada) and the one between NERC and the US National Science Foundation, provide strong frameworks for collaborative research. We will explore options for agreeing other such arrangements with Arctic States once the Agreement on Enhancing Scientific Cooperation is implemented." (British Strategy 2013, p. 11)	Entities: UK Sphere: Science Mode: Collaborative
<i>Examples Cluster II</i>	
"Norway and Finland have established a partnership to strengthen economic and scientific cooperation in the Arctic. Key areas include promoting student exchanges, research cooperation, dialogue on transport and logistics, closer regional cooperation and flows of labour and services." (Norwegian Strategy 2014, p. 19)	Entities: Norway, Finland Sphere: Economy, Science Mode: Collaborative
"Both the Norwegian Government and regional Norwegian stakeholders agree with the other Nordic countries, Russia and the EU on the need to view regional policy programmes and cooperation arenas in the Arctic as parts of a coherent whole. Norway is working to promote the establishment of a regional hub located in Tromsø to coordinate the work of different programmes and networks and to promote knowledge-building and better use of existing knowledge across the region." (Norwegian Strategy 2014, p. 19)	Entities: Norway, Russia, EU Sphere: Science Mode: Collaborative
"In Tiksi, Siberia, research projects are carried out in collaboration with Russia and the United States." (Finnish Strategy 2013, p. 24)	Entities: Finland, Russia Sphere: Science Mode: Collaborative

Examples Cluster III

<p>"It is important to increase the media visibility of the Council's efforts. Moreover, its recommendations and regional climate change assessments should be utilised more efficiently both in regional decision making and in the preparations for the challenges posed by climate change." (Finnish Strategy 2013, p. 44)</p>	<p>Entities: Arctic Council Sphere: Science Mode: Collaborative</p>
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<p>"The second tenet of the UK's policy towards the Arctic is therefore to promote greater understanding of the Arctic through international scientific collaboration and to promote policy development on the basis of sound science." (British Strategy 2018, p. 17)</p>	<p>Entities: UK Sphere: Science Mode: Collaborative</p>
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Examples Cluster IV

<p>"Canada is in the process of conducting scientific studies to determine the full extent of our continental shelf as defined under UNCLOS. This research will ensure Canada secures recognition for the maximum extent of its continental shelf in both the Arctic and Atlantic oceans when we present our submission to the United Nations Commission on the Limits of the Continental Shelf by the end of 2013." (Canadian Strategy 2009, p. 11)</p>	<p>Entities: Canada Sphere: Science, Economy Mode: Competitive</p>
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<p>"In the sphere of social and economic development it is necessary: to carry out geologic-geophysical, hydrographic and cartographical works for preparation of materials in view of substantiation of the external border of the Arctic zone of the Russian Federation; to provide an essential increase of balance mineral resources of the Arctic sea deposits, including by realization of the governmental program of investigation and exploitation of the continental shelf of the Russian Federation, and also the beginning of works on development of oil and gas deposits in the Arctic zone of the Russian Federation;" (Russian Strategy 2009, p. 3)</p>	<p>Entities: Russia Sphere: Science, Economy Mode: Competitive</p>
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Examples Cluster V

<p>"Cooperation and exchange of experiences with Arctic States can and must also offer development opportunities for Italy in some fields, such as sustainable urban environment, which is one of the priorities of the Italian Ministry of Environment. In this framework, a major role is to be played by scientific and technological research, in which Italy excels. Italian experts collaborate with Arctic Council Working Groups (...)" (Italian Strategy 2015, p. 7)</p>	<p>Entities: Italy Sphere: Science, Economy Mode: collaborative</p>
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<p>"Consider Spain's geopolitical interest in having an Arctic presence and in maintaining its status as observer country in the Arctic Council. To maintain this status, the necessary measures must be taken to facilitate and promote the involvement of Spanish researchers in the Council's different working groups;" (Spanish Strategy 2016, p. 14-15)</p>	<p>Entities: Spain Sphere: Science Mode: Competitive</p>
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Notes: Examples are meant to illustrate the coding strategy and process in addition to the quotations in the manuscript. Some text segments were also coded more than once, e.g., if both collaborative and competitive aspects were mentioned or if several actors were mentioned simultaneously.