

Appendix 3

Geography of research collaboration of the regions of the Northwestern Russia, 2018–2022

Regions	Country / territory								
	Unfriendly with			Friendly with			Neutral with		
	total	most	least	total	most	least	total	most	least
		number of publications			number of publications			number of publications	
<i>Group 1</i>									
Saint Petersburg	50	Germany (6370)	Anguilla, Bermuda, Federated States of Micronesia (2 each)	48	China (3701)	Fiji (2)	61	Mexico (1242)	Burundi, Guinea-Bissau (2 each)
Leningrad Oblast	41	Germany (1884)	Iceland, Luxembourg (2 each)	29	China (1583)	Jordan, Oman (2 each)	21	Colombia (1086)	Kyrgyzstan, Tajikistan, Cameroon (1 each)
<i>Group 2</i>									
Arhangelsk Oblast	43	France (129)	Liechtenstein, Luxembourg (2 each)	36	China (32)	13 countries (1 each)	33	Kazakhstan (76)	14 countries (1 each)
Kaliningrad Oblast	46	Germany (199)	Malta, North Macedonia, Montenegro (1 each)	34	Belarus (73)	4 countries (1 each)	36	UAE (26)	8 countries (1 each)
Murmansk Oblast	40	Norway (126)	Singapore, Albania, Montenegro (1 each)	26	Belarus (22)	6 countries (1 each)	22	Greenland (15)	13 countries (1 each)
Republic of Karelia	40	Germany (90), Finland (89)	Cyprus, Iceland, Malta (1 each)	28	China (63)	10 countries (1 each)	19	Chile, Kazakhstan, Uzbekistan (10 each)	6 countries (1 each)

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Komi Republic	42	CIHA (81)	4 countries (1 each)	27	China (40)	11 countries (1 each)	18	Uzbekistan, Colombia (6 each)	8 countries (1 each)
Vologda Oblast	32	Ukraine (47)	8 countries (1 each)	17	China (25)	8 countries (1 each)	10	Iran (9)	Ecuador (1)
Novgorod Oblast	32	USA (158)	4 countries (1 each)	10	Belarus (26)	4 countries (1 each)	8	Mexico (6)	Uzbekistan, French Polynesia, Chile (1 each)
Pskov Oblast	22	Estonia (14)	6 countries (1 each)	4	Belarus (5)	3 countries (1 each)	4	Tajikistan, Kyrgyzstan (2 each)	Iran, Uzbekistan (1 each)
Nenets Auton. Okrug	18	Canada, Norway (7 each)	9 countries (1 each)	1	China (1)	-	2	Greenland, Qatar (1 each)	-