

# INDEX<sup>1</sup>

## A

- Agriculture, 33, 34  
Akasofu, Syun-Ichi, **66(n3)**  
Alaska, 48, 66(n1), 86  
Aleutian Islands, 2, 66(n1)  
Antarctic/Antarctica, 23, 24, 28, 39, 64, 66, 69, 71, 74, 107, 108, 110, 117, 118, 120, 124t, 125  
  first Chinese station (1985), 20  
  first Japanese expedition (1956), 48  
Antarctica: Dome A, 21  
Antarctic Treaty (System), 4, 60, 109, 114  
  fiftieth anniversary (2009), 50  
  joined by PRC (1983), 20  
  joined by ROK (1986), 73  
*Araon* (research vessel), 74, 78–9, 79–80  
Arctic, 113  
  Asia and ‘changing ~’, **6–8**  
  background, **1–3**  
  China and ~, **38–9**  
  strategic importance (2000s), **50–1**  
  ‘zone of peace’, 2  
Arctic Challenge for Sustainability (ArCS, Japan, 2015–), **51**, 56, 124t  
Arctic Circle, ix, 76  
Arctic Circle Assembly (2013–), 5, 103(n7)  
  third (Reykjavik, 2015), 31, 34, 51  
Arctic Circle Forum (Singapore, 2015), 103(n7), 106  
Arctic Circle global forum (2013–), 27  
Arctic Council (AC, 1996–), x, **4–5**, 13(n3), 14, 22, 40(n9), 76, 115, 124t  
  ‘member states’, **4**, 13(n4)  
  ‘observers’, xi, 4, 6, 8, 12, 21, 23, 25–8, 34, 50–1, 52, 60, 66(n4), 73–5, 79, 81, 83, 84, 86, 93, 94, 96, 102, 105, 107, 109–10

<sup>1</sup> bold=extended discussion; f=figure; n=endnote or footnote; t=table

- ‘observers’ (‘ad hoc’ versus ‘permanent’), 13(n8), 23, 25, 39(n5)
- ‘permanent participants’, 4, 13(n5), 98
- Arctic Council: Working Group Meetings, 56
- ‘Arctic Eight’, 13(n4)
- Arctic Environmental Protection Strategy (AEPS, 1991), 4
- Arctic Envoy (Singapore), 94, 98, 102
- ‘Arctic Five’, 13(n4), 27
- Arctic Frontiers Conference, 76
- Arctic governance, x, 4–6, 93, 94, 114, 115
- Arctic policy: by country
- China, x, 19–45, 113, 116–17, 122, 123t, 123–4t, 125
  - India, x, 107–11, 113, 121–2, 123–4t
  - Japan, ix, x, 47–71, 113, 118–19, 122, 123–4t
  - Korea, x, 73–92, 113, 119–21, 122, 123–4t
  - Singapore, x, 93–106, 113, 121, 123–4t
- Arctic policy: general
- case study findings, 116–22
  - conclusions, 113–26
  - conclusions (implications for policy), 124–5
  - source material, 12
  - theoretical framework, 9–13
  - theoretical framework (insights), 122–4
- Arctic Region, 3, 114, 115
- Arctic Task Force (Japan, 2009–), 50, 56
- Asia
- and ‘changing Arctic’, 6–8
  - ‘in changing Arctic’, 114–16
- Asia Infrastructure Investment Bank, 125
- Asian financial crisis (1997–8), 83
- Asia-Pacific Economic Cooperation, 28
- Association of Southeast Asian Nations, 96, 99
- ASEAN Way, 96
- Atlantic Ocean, 96
- Australia, 24, 60, 64, 69
- B**
- balance of power, 95, 96, 98, 121
- Bandung Conference (1955), 109
- Barents Sea, 39(n4), 101
- Basic Energy Plan (ROK, 2008–30), 79, 80
- Basic Plan on Ocean Policy (Japan, 2013), 51, 55, 57
- Beaufort Sea, 80
- Bering Sea, 74, 83, 89, 120
- Bering Strait, 3, 48, 114
- BP, 59
- Breum, M., 7, 14, 40(n12), 40
- Britain. *See* United Kingdom
- British Columbia, 74, 86
- bureaucratic interests, 12, 114
- China, 34–7
  - Japan, 55–7
  - Korea, 81–3
- Busan, 83, 103(n4)
- Busan Port, 85
- business community, 57, 63, 64, 98.
- See also* group interests
- C**
- Cabinet Office (Japan), 49
- Canada, 4, 6, 7, 13(n5), 15, 36, 39(n5), 74, 83

- Central National Security Commission (CNSC, PRC), 29, 30f
- Centre for Arctic Research (NIPR, Japan, 1990–), 48, 56
- Centre for Offshore Research and Engineering (CORE, Singapore, 2004–), 102
- chaebol*, 73, 83–6, 121
- Chaturvedi, S., 108, 110
- Chen, G., 7, 14, 26, 40, 123, 126
- Chevron, 59
- China Development Bank (CDB, 1994–), 20, 22, 28, 29f, 31–2, 33
- China (PRC), ix, 4, 6, 7–8, 10, 12, 13(n9), 13–16, 52, 59, 61, 73–5, 81, 96, 99, 100, 102, 109, 119
- AC observer status (2013–), 23, 115
- and Arctic, 38–9
- Arctic engagement (dualism), 117
- Arctic policy, x, 19–45, 113, 116–17, 122, 123t, 123–4t, 125
- Arctic policy (burgeoning), 20
- bureaucratic interests, 34–7
- ‘core interests’, 35, 40
- domestic environment, 28–33
- economic reform process (1992–), 20
- entrance into Arctic, 21
- external environment, 25–8
- five-year plan (eleventh, 2006–10), 37
- five-year plan (twelfth, 2011–15), 22
- foreign policy and long-term strategy *re* Arctic, 34–7
- ‘Go Out’ policy (2011–), 22
- governmental entities related to Arctic, 28, 29f
- grand strategy, 116
- group interests, 37–8
- ‘low level of transparency’, 117
- maritime strategy, 116
- ministries (listed), 30
- national interests, 33–4
- national security law (2015), 24, 117, 125
- near-Arctic state, 21–5, 33
- omnidirectional diplomacy, 21
- permanent observer status at AC (2013–), 23, 25, 26, 34, 36, 38, 39(n5), 115
- polar expeditions, 20–1, 24–5, 28, 30, 39(n1–2)
- sixth Arctic expedition (July 2015), 24
- special relationship with Iceland, 27, 117
- world power, 21–5, 39(n3)
- world’s largest surplus of capital, 22, 32, 117
- China: Ministry of Foreign Affairs (MFA), 28, 29f, 30–1, 43
- China: Ministry of Land and Resources, 28, 29f, 37
- China: Ministry of Transport: North Sea Maritime Security Centre, 24–5
- China National Petroleum Corporation (CNPC), 22–3, 27, 34, 39(n4)
- China-Nordic Arctic Research Centre (CNARC, 2013–), 23, 30, 36, 39–40(n6), 41
- China [PRC]: Department of Treaty and Law, 30
- China, Republic of [inter-war era], 20, 124t. *See also* Taiwan
- China’s Peaceful Development* (White Paper, 2011), 35
- China: State Council, 29f, 30

- China: State Oceanic Administration (SOA), 29f, 30
- Chinese Advisory Committee for Polar Research (CACPR), 28, 29f, 30
- Chinese Arctic and Antarctic Administration (CAA), 28, 29f, 30
- Chinese Communist Party, 23, 29f, 30–1
- Chinese Communist Party: Central Leading Group on Foreign Affairs, 31
- Chinese National Antarctic Research Expeditions (1984–), 20
- ‘CHINARE 30’ (nd), 24
- ‘CHINARE 31’ (2014), 24
- Chinese National Bank, 33
- Chukchi Sea, 74
- Circumpolar Business Forum, 76
- climate change/global warming, 1, 2, 5, 9, 12, 25, 30, 33, 39(n6), 50–2, 57, 60, 76, 80, 94, 105, 108, 114, 116, 120, 121
- Japanese policy, 61–4
- Korean policy, 86–9
- coal, 5, 80, 115
- Coates, K., 6–7, 14
- Cold War, x, 2, 109
- end, 20, 48–9, 114, 116–17
- post-Cold War, 21, 26
- colonialism, 32, 109, 122
- commercial diplomacy, 10–11, 11t, 38, 39, 60, 64, 65, 86, 102, 122, 123t
- Conference of Parliamentarians of Arctic Region
- tenth (2012), 94
- Conference of Parties (COP, 1995–), 62
- COP3 (Kyoto, 1997), 62
- COP15 (Copenhagen, 2009), 63
- ConocoPhillips, 101
- construction, 56, 62
- Convention on Conservation of Antarctic Marine Living Resources, 28
- COSCO, 23, 24–5, 34, 117
- Council for Science and Technology Policy (Japan), 49
- ‘creative economy’ (Park), 79, 82, 120
- Crimea Crisis (2014), 78, 85
- D**
- Daewoo Shipbuilding and Marine Engineering (DSME), 84
- Dalian, 103(n4)
- Dalian Maritime University Polar Research Centre, 35
- Dasan* Station, 76, 124t
- Davos (annual business meeting), 5
- Deng Xiaoping, 20
- Denmark, ix, xi, 4, 5, 13(n5), 32, 36, 40(n9), 42, 83
- developed economies, 80, 88
- developing countries, 63, 88
- development aid, 10–11
- developmentalism, 9–10, 96
- developmental state, 17, 93, 121
- key ingredients (Stubbs), 9, 16
- Singapore, 97, 100, 101, 105
- state-industry-academia cooperation, 101–2
- domestic environment, 113–14, 116, 125
- China, 28–33
- Japan, 52–61, 119
- Korea, 78–86, 119, 120
- Singapore, 96–7
- Drifte, R., 57, 68

**E**

East Asia, ix, 14, 25, 100  
 East-West Center (Hawaii), 84  
 ecology, 80, 108  
 economic development, 8, 22, 36, 98, 116  
 economic diplomacy, x, **12–13**, 14, 15, 47, 70, 102, 113, **116**, 122, **123t**  
   five strands, **12**  
   tools and expressions, **11t**  
 economic growth, 9, 62, 63, 80, 97, 117, 120, 121  
 Economic Partnership Agreements (EPAs), 122, 123t  
 economic security, 10, 39, 86, 93, 116, 122  
 Encana, 74, 86, 89  
 energy, 26, 54, 78–80, 99, 119, 121  
 energy security, **22–3**, 34, 55, 85  
 environment (natural), x, 54, 57, 61–3, 66, 73, 80, 88, 121  
 environmental aid, 91  
 environmental diplomacy, 64, 119  
 environmental protection, 5, 114, 118, 120  
 ethnicity, 95, 124  
 European Free Trade Association, **99**  
   EFTA-Singapore FTA (ESFTA), 99  
 European Union, 6, 21, 26, 83  
 external environment, 113, 116, 125  
   China, **25–8**  
   Japan, **52**  
   Korea, **77–8**  
   Singapore, **95–6**  
 ExxonMobil, 59

**F**

financial diplomacy, 11t, 38, 123t, 123  
 Finland, 4, 5, 83, 124t

First Policy Forum for Arctic Strategy (ROK, 2012), 74–5  
 fisheries and fishing, 12, 22, 34, 76–8, 82  
 Five-Year Plan for Green Growth (ROK), 87  
 Floating Production Storage and Offloading units, 101  
 foreign direct investment (FDI), 36, 83, 117  
 foreign policy, x, **10–13**, 113, 114, 119, 125  
 Framework Act  
   on Low Carbon Green Growth (ROK), 87–8  
 France, 4  
 free-trade agreements (FTAs), 60, 83, 86, 99, 102, 122, 123t  
   Iceland-PRC (negotiations, 2007–13), 21, 23, 27, 38  
 Fridtjof Nansen Institute, 8, 23, 48, 58

**G**

Gao Feng, 30, 33, 34  
 Gazprom, 23, 43, 78, 85, 91  
 General Nice (Development), 24, 33  
 Geological Survey of Japan, 74  
 geopolitics, 25, 108, 121  
 Gerschenkron, A., 11, 16  
 global economic crisis (2008–), 22, 38, 80, 81, 87, 88, 117, 120  
 global economy, 97, 99  
 global governance, 81, 95, 100, 120  
 Global Green Growth Institute, 81  
 Global Korea marketing initiative (2009–), 81  
 global warming, 2, 92  
 Goh Chok Tong, 98  
 Gorbachev, M., 2, 4

Great East Japan Earthquake (2011), 55, 63  
 Green Growth (ROK, 2008–), 73, **88**, 91, 120  
   domestic purpose, **80–1**  
   external purpose, **81**  
   ‘Low Carbon, Green Growth’ (ROK, 2008–), 81, 87  
 greenhouse gases (GHGs), 62, 63, 87  
 Greenland, ix–x, 3, 4, 7, 14, **24**, **32–3**, 36, 38, 40(n12), 40, 42, 43, 59, 75, 76, 86, 124t  
   mineral resources, 37  
   national parliamentary election (2013), 32–3  
 Green Network of Excellence (GRENE), 50, 124t  
   GRENE: Arctic Climate Change Project (2010–14), 50, 51, 56  
 Green New Deal (ROK), 80–1  
 Grímsson, Ó.R., 5, 27  
 group interests, 12, 114  
   China, **37–8**  
   Japan, **57–61**  
   Korea (ROK), **83–6**  
   Singapore, **98–102**  
 Gwangyang, 85

## H

Hammond, A., 32–3  
 Hanjin Shipping, 84  
 Hara, K. 6–7, 14  
 Heininen, L., xi, 93n  
 Hellström, J., 36, 39(n5), 41  
 Himadri (Indian research station), **108**, 124t  
 Himalayas. *See* ‘third pole’  
 Hokkaido, 54  
 Hokkaido Prefectural Government, **58–9**, 67(n12), 118–19  
 Hokkaido University, 51

Hong Kong, 24, 30, 33  
 HorinouchiHidechisa, **54–5**, 68  
 Horn River, 86  
 Hu Jintao, 21, 35  
 HwangSe-hyun or Hwang Sehee, **82–4**, 89  
 Hyundai, 83  
 Hyundai Glovis (company), 84  
*Hyundai Glovis* (liner), 76, 91  
 Hyundai Heavy, 84  
 Hyundai Merchant Marine, 84

## I

ice, 2, **3**, 15, 25, **50–1**, 110, 114  
 icebreakers, 22, 53f, **54**, 58, 74, 76, 78–9, 79–80, 84, 89, 90, 101, 108, 117, 124t  
 Iceland, 4, 5, 31, 33, 36, 41, 99, 102, 123, 124t  
   Chinese tourism, 37  
   currency swap agreement with PRC (2010), 22, 38, 123t  
   ‘eco-golf course’, 32, 38  
   special relationship with PRC, 27  
   state visit by Jiang Zemin (2002), 21, 117  
   trade imbalance with PRC, 27  
 Icelandic Centre for Research, 23  
 IdemitsuPetroleumNorge (IPN), 59  
 Incheon, 103(n4)  
 India, 4, 6, 8, 10, 99, 102  
   Arctic policy, **107–11**  
   foreign policy, **108–9**, 110, 111  
 India: Ministry of Earth Sciences, 108  
 India: Ministry of External Affairs, 108–10  
 India: PMO, 109  
 indigenous peoples, 4, 5, 51, 76, 98  
 Indonesia, 95, 96  
 inducements, 11t, 123t

- industrialization, 88, 125  
 ‘catch-up industrialization’,  
 9–10, 16
- infrastructure, 103(n7), 125
- Institute of Cetacean Research (ICR),  
 64–5, 71
- Intergovernmental Panel on Climate  
 Change Fourth Assessment  
 Report (2007), 2–3
- International Arctic Science  
 Committee (IASC, 1990–), 5,  
 13(n2), 124t  
 joined by China (1996), 20, 38  
 joined by Japan (1992), 56, 118  
 Korean membership (2002–),  
 74, 120
- International Arctic Science Council  
 Indian accession (2012), 108
- International Code for Ships  
 Operating in Polar Waters.  
*See* Polar Code
- International Convention for  
 Regulation of Whaling (no date),  
 64, 69
- International Court of Justice (ICJ),  
 64–6, 67(n14), 69
- international law, 30, 54
- International Maritime Organization  
 (1948–), 5, 94, 98, 102, 104,  
 115, 121, 124t  
 IMO Council: Singapore (eleventh  
 consecutive term, 2013–), 95
- International Monetary Fund, 28
- International Northern Sea Route  
 Programme (INSROP, 1993–),  
 48, 58, 70
- international relations, 1, 11, 116
- International Symposium on Arctic  
 Research first (ISAR-1, Japan,  
 2008), 66(n4)
- International Whaling  
 Commission, 64
- Ireland, 4
- iron, 80, 85
- ‘iron triangle’ (Japan), 57, 61, 119
- Isua Iron Mine (Greenland), 24, 33
- Italy, 4, 6
- J**
- jack-up rigs, 101, 103(n5), 104, 105
- Jakobson, L., 6–8, 15, 37, 42
- Japan, 2, 4, 6–8, 10, 12, 15, 21, 24,  
 40(n9), 73–5, 77–8, 79, 81, 84,  
 91, 99, 100, 102, 121  
 American Occupation, 56  
 Arctic policy, ix, x, 47–71, 113,  
 118–19, 122, 123–4t  
 climate change policy, 61–4  
 ‘construction state’, 56, 62  
 end of Cold War and shipping  
 routes (1950s–90s), 48–9  
 external environment, 52  
 melting ice and strategic importance  
 of Arctic  
 (2000s), 50–1  
 national polar research centre, 118  
 nuclear accident (2011), 55, 63  
 observer status at AC, 50–1, 52, 56,  
 60, 61, 66(n4), 115  
 organigram of Arctic policy  
 bodies, 53f  
 whaling policy, 64–6
- Japan Aerospace Exploration  
 Agency, 59
- Japan Agency for Marine Earth  
 Science and Technology  
 (JAMSTEC), 51, 53f, 67(n7)
- Japan Antarctic Research Expedition  
 (JARE), 54, 67(n11)
- Japan: Arctic Policy (2015), 51, 118
- Japan: Cabinet Office  
 Global Warming Prevention  
 Headquarters, 62

- Japan: Cabinet Office (*cont.*)  
 Headquarters for Ocean Policy, 53f, 54, 57
- Japan Coast Guard, 54
- Japan Consortium for Arctic Environmental Research (2011–), 50
- Japan: domestic environment, **52–61**, 119  
 actors, **52–4**  
 bureaucratic interests, **55–7**  
 group interests, **57–61**  
 national interests, **54–5**  
 organigram, 53f
- Japan: Liaison Committee among Ministries (2013–), 55, 56
- Japan: Ministry of Agriculture, Forestry and Fisheries, 65
- Japan: Ministry of Defence, 53f, 57
- Japan: Ministry of Education, Culture, Sports, Science and Technology (MEXT), 49, 53f, 54, **56**, 58, 67 (n5–6, n9)  
 MEXT Arctic Research Examination Working Group, 67(n5)
- Japan: Ministry of Foreign Affairs (MoFA), 50, 53f, 54, **56**, 65, 69–70
- Japan: Ministry of Land, Infrastructure, Transport and Tourism (MLIT), 50, 53f, 54, 55, **56–7**, 58, 59, 70, 118–19
- Japan: MITI, 15
- Japan Northern Sea Route Programme (JANSROP), **48–9**, 58, 70
- Japan Oil, Gas and Metals National Corporation (JOGMEC), 53f, 59, 69, 119
- Japan-Russia Forum (2015), 55
- Japane Fisheries Agency, 47, 65
- JAPRA I (1987–2004), 64
- JAPRA II (2004–), 64, 69
- Jiang Zemin, 21, 27, 117
- Johnson, C., 9, 15, 17
- K**
- Kagawa-Fox, M., 63, 69
- Kaiho* (fishing vessel), **47–8**
- Kangerlussuaq Airport (Greenland), ix
- KANUMAS project in Greenland (1989–), 59
- Kara Gate, 3, 114
- Keidanren, 63, 64
- Kemal Siddique, 94
- Keppel Corporation, 102, 103(n6), 104, 106
- Keppel Offshore and Marine, 101
- Kim Dae-jung, 83
- King Sejong Research Station, 74
- Kiruna meeting (2013), 6, 23, 27, 30, 33, 94, 107, 115
- Kiwigana mining field, 74
- Knarr oilfield (2008–), 59
- Korea (DPRK/North Korea), 77, 78
- Korea (ROK/South Korea), 4, 6–10, 12, 52, 59, 99, 100, 102  
 Arctic policy, **73–92**  
 climate change policy, **86–9**  
 energy imports, **79–80**  
 external environment, **77–8**, 120  
 ‘global leadership’, 88  
 relations with USSR/RF, **77–8**, 85
- Korea Gas Corporation (KOGAS), 74, 78, **85–6**, 91
- Korea Institute of Maritime Strategy, 89(n1)
- Korea Institute of Ocean Science and Technology (KIOST), 74, 76, 78
- Korea Maritime Institute (KMI, 1984–), 76, 78, 84



- Korea Meteorological Administration (KMA), 76, 78
- Korea: Ministry of Agriculture, Food, and Rural Affairs, 82
- Korea: Ministry of Environment (ME/MOE), 76, 78
- Korea: Ministry of Foreign Affairs (MFA), 78, 83
- Korea: Ministry of Land, Infrastructure and Transport (MOLIT), 75, 76, 78
- Korea: Ministry of Land, Transport, and Maritime Affairs, 82
- Korea: Ministry of Oceans and Fisheries (MOF, 1996–2008, 2013–), 75, 76, 78, **81–2**, 83, 91
- Korea: Ministry of Public Safety and Security (2014–), 82, 83
- Korea: Ministry of Science, ICT, and Future Planning (MSIP), 76, 78
- Korea: Ministry of Trade, Industry, and Energy (MOTIE), 76, 78
- Korea: ‘MOFA’, 76, 79
- Korean War (1950–3), 77
- Korea Ocean Research and Development Institute (KORDI, 1987), 73–4
- KORDI Polar Research Centre, 74
- Korea Polar Research Institute (KOPRI, 2004–), 74, 78, 79, 90, 120
- Korea: President’s Office, 120
- Korea: Prime Minister’s Office (Interagency Committee to Combat Climate Change), 87
- Korea [ROK]: domestic environment, **78–86**, 119, 120
- actors, **78–9**
- bureaucratic interests, **81–3**
- group interests, **83–6**
- national interests, **79–81**
- L**
- Lasserre, F., 7, 13(n9), 13, 15
- Law Concerning Measures to Cope with Global Warming (Japan, 1998), 62
- Law of Sea, 27, 30, 54
- Lee Myung-bak, 75, 78, 80, 82, 87, 120
- visitstoGreenlandandNorway (2012), 75
- Lee Syong-Hong, 37, 42
- liquefied natural gas (LNG), 23, 27, 34, 44, **55**, 84. *See also* natural gas
- literature review, **6–8**
- Liu Xiaobo, 22
- Li Zhenfu, 35–6, 42
- Loan for Oil, 32
- Lomonosov ridge, 3
- London Mining, 24, 33, 43
- LUKOIL, 101
- Lunde, L., 8
- M**
- Macao, 30
- Machiavellian approach, 8, 12, 116
- Main, S.J., 7, 15
- Malacca Straits, **99**, 100
- Malaysia, 95, 96
- Maritime and Port Authority of Singapore (MPA), **100**, 102, 105
- maritime safety, 73, **82**, 89
- Maritime Silk Road, 125
- Medvedev, D., 78
- methane hydrates, 79, 80
- Middle East, 79, 99, 100

- middle-power diplomacy, 81, 86, 120
- minerals, 1, 35, 37, 116
- Mirai* (research vessel) 67(n7)
- Morikawa, J., 65, 70
- multilateralism, 52, 119, 122, 123t
- Murmansk Initiative (1987), 2, 4, 13(n1), 48
- MV *Sewol*, 82, 83, 89, 120
- MV *Yong Sheng*, 23
- N**
- National Centre for Antarctic and Ocean Research (NCAOR, India, 1981–), 108, 109, 111
- National Commission on Sustainable Development (ROK), 87
- National Development and Reform Commission (PRC), 32
- National Institute for Defence Studies (NIDS, Japan), 50, 53f, 57, 67(n10)
- National Institute for Polar Research (NIPR, Japan), xiii, 48, 50, 51, 53f, 54
- national interests, 10, 12, 34–5, 36, 114, 116
- China, 33–4
- Japan, 54–5
- Korea, 79–81
- Singapore, 97
- national polar institutes, 124t
- national security, 1, 5, 8, 24, 35, 50, 51, 57, 61, 93, 97, 100, 104, 116, 117
- National Security Council
- China, 31
- India, 109
- Japan, 60, 118
- national security law (PRC, 2015), 31, 35
- National Social Science Fund (PRC), 35
- national sovereignty, 35, 36, 52, 121
- National Strategy for Green Growth (ROK, 2009–), 80–1, 87
- National University of Singapore, 102
- natural gas, 26, 31, 34, 55, 80, 84, 100, 102, 117
- pipeline (RF-NK-SK), 78
- pipeline (RF-PRC), 23. *See also* LNG
- natural resources, 5, 6, 38, 51, 54, 60, 65, 77, 79, 97, 98, 114, 115, 119, 121, 122, 123t, 123. *See also* resource development
- Nazi Germany, 48
- ‘near-Arctic state’, 22
- Nehru, J., 109
- nickel, 3, 37
- Nikkei, 66, 71
- Nippon Foundation, 48
- Nobel Peace Prize, 22
- Non-Aligned Movement, 109
- non-Arctic observers
- China, 23, 25, 26, 34, 36, 38, 39(n5), 115
- India, 107, 109–10, 115, 122
- Japan, 47, 50–1, 52, 56, 60, 61, 66(n4), 115
- Korea, 73–5, 79, 81, 83, 84, 86, 115, 119
- Singapore, 93, 94, 96, 102, 105
- non-governmental organizations, 4, 5
- Nordic Council, 5
- Nordic Council of Ministers, xi
- North Atlantic Treaty Organization, 5
- Northeast Asia, 9, 77, 103(n4), 125, 126
- Northeast Atlantic Fisheries Commission, 77
- Northeast Passage, 3, 114

- Northern Sea Route (NSR), 2, 3, 23–5, 28, 38, 40(n7), 47, **48–9**, 50, 51, 54, 55, 57, **58–9**, **60**, 61, 69–71, 74–6, 79, **80**, 84–6, 89, 91, 97, 114, 117, **118–19**, 122, 123t, 125  
 implications for Singapore, **99–100**.  
*See also* shipping routes
- North Pole, 1, 3, 21, 25
- Norway, **4–5**, 13(n5), 22, 36, 37, 75, 99, 102, 114
- Norwegian Continental Shelf, 59
- Norwegian Polar Institute, 23
- Novatek, 23, 24, 26–7
- nuclear power, 55, 62, 63
- Nunaoil, 59
- Nuuk, ix, 33
- Ny-Ålesund **xii**, **xiii**, 5, 21, 48, 118
- O**
- Ocean Policy Research Institute (OPRI, Japan), 48, 54, **58**, 61, 70, 75, 91, 118
- Office of Government Policy Coordination (ROK), 84
- official development assistance (ODA), **63**
- offshore and marine engineering (OME), 97, **100–2**, 121
- oil, **22–3**, 26, 31, 34, 35, 55, 59, 79, 80, 85, 100, 102, 106, 114, 117
- Okano-Heijmans, M., **10**, 11n, 15, 70
- Okita, Saburo, 61
- omnidirectional diplomacy, **21**
- One Belt, One Road (OBOR) initiative, 125, 126
- Organization for Economic Cooperation and Development, 86
- OECD Ministerial Council Meeting (2009), 88
- Oryong* (fishing vessel), **82–3**, 120
- outer space, 24, 31, 35, 77
- Overview of East Asia Strategy* (NIDS, 2011), 50
- P**
- Pan-Government Arctic Policy Master Plan (ROK, 2013), **75–6**, 81, 82, 86
- Park Geun-hye, 75, 79, 81, 82, 85, 89, 120
- Pearl Harbour, 66(n1)
- Peng, J., 7–8, 15
- People's Action Party (PAP), 97, 100
- People's Liberation Army, 29f, 35
- Polar Code, 95, 121  
 adopted (2014), 5  
 entry into force (2017), 13(n6)
- Polar Research Institute of China (PRIC, Shanghai, 1989–), 20, 23, 28, 29f, **30**, 34, 39(n1), 43
- political diplomacy, 38
- political tools, 122, 123t
- politics, 113, 122
- port management, 94, 97, 98
- Port of Singapore Authority (PSA), 100  
 PSA International, 100, 103 (n3–4)
- ports, 84, **85**, 102, 103(n4), 106, 119, 121
- ports and infrastructure industry, 54, 78
- Promotion Strategy of Earth Observation (Japan), 49
- public opinion, 65, 66
- Putin, V., 77  
 state visit to PRC (2013), 23  
 visit to PRC (2015), 24, 26

**R**

Rajan, S., 108, 111  
 Rajaratnam, S., 95, 103  
 rare-earth minerals, 3, 37  
 Rason city (North Korea), 24  
 research and development, 49, 51, 61, 100, 102  
 resource development, 32, 86, 123t, 126. *See also* natural resources  
 Reykjavik, 31, 105  
 'rising Asia', 7, 115  
 Roh Moo-hyun, 87  
 Roh Tae-woo, 78  
 Rosneft, 22, 39(n4), 55, 69  
 Rotterdam, 23, 74  
 Rovaniemi, 13(n1)  
 Russian Far East, 77, 85  
 Russian Federation (RF), 3, 4, 13 (n5), 15, 21, 23–4, 25–7, 36, 38, 39(n5), 52, 55, 57, 59, 61, 74, 84, 96, 99, 117, 123, 125  
 fisheries deal with ROK, 83  
 relations with ROK, 77–8  
 state visit by Xi Jinping (2013), 22.  
*See also* USSR

**S**

Saenuri Party (ROK), 85  
 Sakhalin Project, 55  
 Samsung, 83  
 Samsung Heavy Industries, 84–5  
*Sankei Shimbun*, 52, 71  
 Scandinavia-Japan Sasakawa Foundation, xi  
 science and technology, 12–13, 36, 47, 51, 64, 79  
 Science and Technology Basic Law (Japan, 1995), 49, 118  
 science diplomacy, 64, 119  
 scientific research, 49, 66(n3), 75, 76, 84, 86, 108, 117, 118, 124t

Sea Shepherd, 64, 70  
 Self Defence Force (Japan), 53f, 54  
 Sembcorp Marine, 101, 103(n6), 106  
 Senior Arctic Officials (SAOs) report (2011), 94  
 Shanghai, 21, 23, 24, 103(n1)  
 Shanghai Institute for International Studies (SIIS), 27–8, 36  
 Shell, 59  
 shipbuilding, 22, 76, 77, 84–5  
 'vessel construction', 94  
 Ship & Ocean Foundation (Japan), 48, 58  
 shipping, 5, 25, 31, 39(n6), 40–2, 54, 55, 58, 61, 74, 78, 95, 102, 103(n1, n7), 104, 114, 115, 119, 121  
 shipping and port sector (Singapore), 97, 99–100  
 shipping routes, 3, 34, 35, 38, 48–9, 51, 57, 80, 96–7, 118  
 'sea routes' 1, 8, 76, 93, 116.  
*See also* NSR  
 Shiraiishi, Kazuko, 51  
*Shirase* (Japanese icebreaker), 53f, 54, 67(n11)  
 Silk Road Fund (SRF), 24, 26  
 Singapore, 4, 6, 8–10, 12, 60, 89  
 Arctic policy, 93–106  
 background data, 94  
 balance of power, 95, 96  
 'core interest', 121  
 domestic environment, 96–7  
 external environment, 93, 95–6  
 foreign policy, 95, 102, 104  
 founding fathers (1965), 95  
 GDP, 101  
 'Global City', 96  
 globalization paradigm, 95, 96–7  
 'global maritime knowledge hub' (ambition), 101

- group interests, **98–102**  
 hub port status, 95, **96–7**, 99,  
 103, 104  
 national interests, **97**  
 need for survival, **95–6**  
 non-resident ambassadors, 98  
 offshore and marine engineering,  
**100–2**  
 self-government (1959) and  
 independence (1965), 103(n2)  
 shipping and port sector, **99–100**  
 Singapore: Ministry of Finance,  
 103(n3)  
 ‘MOF’, 97  
 Singapore: Ministry of Foreign  
 Affairs, 94, **98–9**, 105  
 MFA Technical Cooperation  
 Directorate, 98  
 Singapore’s Maritime Cluster (SMC),  
**101**  
 Siumut Party (Greenland), 32–3  
 SK Energy, 85  
 small states, 95, 121  
 South China Sea, 39(n3), 40(n8)  
*Soya* (Japanese icebreaker), 53f, 54  
 Soya Strait, 59  
 Spain, 4  
 Spitsbergen Treaty (1920/1925),  
 4–5, 20, 54, 107, 114–15, 124t.  
*See also* Svalbard  
 state-*chaebol* relationship, 83  
 state-led development, 113, 116, 122  
 State Oceanic Administrations  
 (SAOs) 13(n5)  
 state-owned enterprises (SOEs), **37**  
 Statoil, 59  
 Storey, I., 100, 106  
 Strait of Hormuz, 99  
 Suehiro, A., 9, 16  
 Suez Canal, 3  
 sustainable development, 75, 76, 88, 120  
 Svalbard Treaty. *See* Spitsbergen Treaty  
 Sweden, 4, 5, 22, 36, 83, 94  
 Swedish Polar Research Secretariat, 23  
 Switzerland, 99
- T**  
 Taipei, 28  
 Taishan station (2014–), 23  
 Taiwan (Republic of China), 9, 20,  
 28, 30, 40(n9), 89  
 Taketomi, Captain Eiichi, 47–8, 51  
 Tasmania, 24, 41  
 technology, 63, 84  
 Temasek Holdings, 103(n3, n6),  
 104, 106  
*Tesbio* (Japanese icebreaker), 53f, 54  
 ‘third pole’ (Himalayas), 107, 110  
 Tianjin, 24, 103(n4)  
 Tianjin Maritime Geomatics Centre,  
 24–5  
 Tokyo, 59  
 Tokyo Gas, 55  
 Tomakomai, **59**  
 Tonami, A., ix–xiii, 8, 11n, 16,  
 29n, 53n, 71, 80, 81, 91,  
 93n, 119, 123n, 124n, 126  
 Total, 23, 27, 44  
 tourism, 22, **37**  
 track I and track II diplomacy, 27  
 trade, 22, 39  
 trade and investment (promotion),  
 10, 38, 60, 64, 86, 102,  
 122, 123t  
 trade diplomacy, 11t, 38, 60,  
 122, 123t  
 Trans-Pacific Partnership (TPP), 60  
 Trans-Siberian Railway, 78  
 Treadwell, M., 66(n4)  
 Tsugaru Strait, **59**
- U**  
 Ukraine, 20, 26, 85  
 Ulsan, 74

Ulsan Port (1962–), 85  
 Ulsan Port Authority, 85, 92  
 Umiak gasfield, 86  
 Union of Soviet Socialist Republics (USSR), 2, 3, 20, 77  
   German invasion (1941), 48.  
   *See also* Russian Federation  
 United Kingdom, 2, 4  
 United Nations, 5, 20, 34, 95, 121  
 United Nations (*cont.*)  
   UN Agreement relating to Conservation of Fish Stocks (no date), 5  
   UN Convention on Law of Sea (UNCLOS, 1982), 5, 20, 26, 54, 61, 67(n14), 81, 95, 98, 102, 115, 121, 124t  
   UN Framework Convention on Climate Change (UNFCCC, 1994–), 62, 86–7, 91  
   UN General Assembly, 109  
   UN Green Climate Fund, 81  
 United States of America, 2, 4, 13(n5), 20, 21, 26, 36, 39(n5), 52, 60, 61, 66(n3), 96  
 US Arctic Research Commission, 66(n4)  
 US Coast Guard, 83  
 US Geological Survey (USGS), 3, 16, 114  
 US-Japan Defence Policy Dialogue, 57  
 US-Singapore FTA (USSFTA), 99, 102  
 University of Alaska Fairbanks, 66(n3)  
 University of Arctic, 76

## V

Venice, 93, 96, 104, 121  
 vertical fragmentation, 56, 61, 67(n8)  
 Vietnam, 10

## W

Wang Jun, 125, 126  
 Wang Yi, 31, 125  
 Watters, S., xi, 8, 16, 54, 71, 93n, 119, 126  
 Wen Jiabao, 22, 35, 43  
 whaling, 64–6, 67(n14), 69–71, 119  
 Woo-Cumings M., 11, 18  
 Woolcock, S., 10, 14  
 World Bank, 28  
 World Commission on Environment and Development (1983), 61–2  
 World Economic Forum, 5, 17  
 World Trade Organization, 28  
 World War II, 2, 24  
   post-war era (1945–), 56, 77

## X

Xi Jinping, 24, 31, 35, 42  
   state visit to RF (2013), 22, 26  
*Xue Long* (research vessel), 20, 24, 29f, 30, 39(n1), 74

## Y

Yamal Project, 23, 24, 26, 44, 84, 86  
 Yang Jian(g), xi, 27–8, 36  
 Yeo, G., 96  
 YeonYoung-Jin, 74–5  
*yinjin lai* strategy, 36  
 Yokohama, 59  
 Yoon Sukjoon, 89(n1)  
 Yun Jinsuk, 75  
 Yun Sun-Jin, 88, 92

## Z

Zarubino (port, RF), 24, 41  
 Zhang Ming, 31  
*zou chuqu* strategy, 36