

# 5 References

- Aagaard, K. and Carmack, E.C. 1989. The role of sea ice and other fresh water in the Arctic circulation. *Journal of Geophysical Research*, **94** (C10), 14485-14498.
- Aarseth, I. and Fossen, H. 2004. A Holocene lacustrine rock platform around Lake Storavatnet, Osterøy, western Norway. *Boreas*, **3**, 3-22.
- Aberley, D. 1993. *Boundaries of Home: Mapping for Local Empowerment*. New Society Publishers, Gabriola Island, BC.
- ACIA. 2005. *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge, 1042 p.
- Adger, W.N., Arnell, N.W. and Tompkins, E.L. 2005. Successful adaptation to climate change across scales. *Global Environmental Change*, **15**, 77-86.
- Adger, W.N., Agrawala, S., Mirza, M., Conde, C., O'Brien, K., Pulhin, J., Pulwarty, R., Smit, B., Takahashi, K. 2007. Assessment of adaptation practices, options, constraints and capacity. In: *Climate Change 2007: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J., Hanson, C.E., editors). Cambridge University Press, Cambridge, UK, 133-171.
- Agrawal, A. 2008. *The Role of Local Institutions in Adaptation to Climate Change*. Prepared for the Social Dimensions of Climate Change, Social Development Department, Washington, DC. School of Natural Resources and Environment, University of Michigan. International Forestry Resources and Institutions Program, IFRI Working Paper W081-3.
- Aguirre, A., Tweedie, C.E., Brown, J. and Gaylord, A. 2008. Erosion of the Barrow Environmental Observatory coastline 2003-2007, northern Alaska. *Proceedings Ninth International Conference on Permafrost*, Fairbanks, Alaska, 7-12.
- AHDR. 2004. *Arctic Human Development Report*. Stefansson Arctic Institute, Akureyri, 242 p. (<http://www.svs.is/AHDR/>).
- Aitken, A.E., Risk, M.J. and Howard, J.D. 1988. Animal-sediment relationships on a subarctic intertidal flat, Pangnirtung Fiord, Baffin Island, Canada. *Journal of Sedimentary Petrology*, **58**, 969-978.
- Alessa, L., Kliskey, A., Busey, R., Hinzman, L. and White, D. 2008. Freshwater vulnerabilities and resilience on the Seward Peninsula: integrating multiple dimensions of landscape change. *Global Environmental Change-Human and Policy Dimensions*, **18**, 256-270.
- Allard, M. and Tremblay, G. 1983. Les processus d'érosion littorale périglaciaire de la région de Poste-de-la-Baleine et des îles Manitounuk sur la côte est de la mer d'Hudson, Canada. (Periglacial shore erosion processes in the region of Poste-de-la-Baleine and the Manitounuk Islands on the coast of Hudson Bay, Canada.) *Zeitschrift für Geomorphologie*, Supplementband **47**, 27-60.
- Allard, M., Fortier, R., Gagnon, O., Michaud, Y. 2004. *Problématique du développement du village de Salluit, Nunavik. Rapport final. Une communauté en croissance sur un terrain sensible au changement climatique*. Ministère de la Sécurité publique du Québec.
- Allard, M., Doyon-Robitaille, J., l'Hérault, E., Oldenborger, G., LeBlanc, A.-M., Sladen, W. and Mate, D. 2010. Surficial geology mapping and permafrost characterization in Iqaluit, Nunavut. Abstract and Poster, *Programme ArcticNet Annual Scientific Meeting 2010*, Ottawa, 90 ([http://www.arcticnetmeetings.ca/asm2010/docs/programme\\_full\\_web.pdf](http://www.arcticnetmeetings.ca/asm2010/docs/programme_full_web.pdf)).
- Allen, J.R.L. 1990. Salt-marsh growth and stratification: a numerical model with special reference to the Severn Estuary, southwest Britain. *Marine Geology*, **95**, 77-96.
- Alley, R.B., Clark, P.U., Huybrechts, P. and Joughin, I. 2005. Ice-sheet and sea-level changes. *Science*, **310**, 456-460.
- Alley, R.B., Fahnestock, M. and Joughin, I. 2008. Understanding glacier flow in changing times. *Science*, **322**, 1061-1062.
- Alunik, I., Kolausok, E.D. and Morrison, D. 2003. *Across Time and Tundra: The Inuvialuit of the*

- Western Arctic*. Canadian Museum of Civilization/Raincoast Books, 230 p.
- AMAP (Arctic Monitoring and Assessment Programme). 1997. *Arctic Pollution Issues: a State of the Arctic Environment Report*. AMAP, Oslo, 118 p.
- AMAP (Arctic Monitoring and Assessment Programme). 2002. *Arctic Pollution 2002: Persistent Organic Pollutants, Heavy Metals, Radioactivity, Human Health, Changing Pathways*. AMAP, Oslo, 112 p.
- AMAP (Arctic Monitoring and Assessment Programme). 2007. *Arctic Oil and Gas 2007*. AMAP, Oslo, 40 p.
- AMAP (Arctic Monitoring and Assessment Programme). 2009a. *Human Health Assessment: Human Health in the Arctic*. AMAP, Oslo, 256 p.
- AMAP (Arctic Monitoring and Assessment Programme). 2009b. *Update on Selected Climate Issues of Concern: Observations, Short-Lived Climate Forcers, Arctic Carbon Cycle, and Predictive Capability*. AMAP, Oslo, v+15 p.
- Ambrose, W.G. and Leinaas, H.P. 1988. Intertidal soft-bottom communities on the west coast of Spitsbergen. *Polar Biology*, **8**, 393-395.
- Anderies, J.M., Janssen, M.A. and Ostrom, E. 2004. A framework to analyze the robustness of social-ecological systems from an institutional perspective. *Ecology and Society*, **9** (1), 18 (<http://www.ecologyandsociety.org/vol9/iss1/art18>).
- Andersen, T. and Poppel, B. 2002. Living conditions in the Arctic. In: *Assessing Quality of Life and Living Conditions to Guide National Policy: The State of the Art* (Hagerty, M.R., Vogel, J. and Møller, V., editors). Social Indicators Research Series, **11**, Kluwer Academic Publishers, 191-216.
- Andersen, T., Kruse, J. and Poppel, B. 2002. Survey of living conditions in the Arctic: Inuit, Saami, and the indigenous peoples of Chukotka (SLiCA). *Arctic*, **55** (3), 310-317.
- Anderson, R.S., Wobus, C.W., Overeem, I., Clow, G.D., Urban, F.E. and Stanton, T.P. 2009. Rapid coastal erosion on the Beaufort Sea coast: a triple whammy induced by climate change. *Eos, Transactions American Geophysical Union*, **90** (52), Fall Meeting Supplement, Abstract U34B-01.
- André, M.-F. 1997. Holocene rockwall retreat in Svalbard: a triple-rate evolution. *Earth Surface Processes and Landforms*, **22**, 423-440.
- Andreeva, E.E., Mikhaylichenko, Y.G. and Vylegjanin, A.N. 2003. Towards a coastal area management act for the Russian Federation. *Journal of Coastal Conservation*, **9**, 19-24.
- Andreeva, E.N. 1998. The Russian Arctic coastal zone management problems - past lessons and new realities. *Ocean and Coastal Management*, **41**, 237-256.
- Anisimov, O.A., Vaughan, D.G., Callaghan, T.V., Furgal, C., Marchant, H., Prowse, T.D., Vilhjálmsson, H. and Walsh, J.E. 2007. Polar regions (Arctic and Antarctic). In *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Parry, M.L., Canziani, O.F., Palutikof, J.P., van der Linden, P.J., Hanson, C.E., editors). Cambridge University Press, Cambridge, UK, 653-685.
- Anonymous. 2006. Report No. 8 to the Storting 2005-2006: Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands. Norwegian Ministry of the Environment. [http://www.regjeringen.no/Upload/MD/Vedlegg/Svalbard%20og%20polaromraadene/Forvaltningsplan%20Barentshavet/PDF0080506\\_engelsk-TS.pdf](http://www.regjeringen.no/Upload/MD/Vedlegg/Svalbard%20og%20polaromraadene/Forvaltningsplan%20Barentshavet/PDF0080506_engelsk-TS.pdf).
- Anonymous. 2008. Report No. 37 (2008-2009) to the Storting. Integrated Management of the Marine Environment of the Norwegian Sea. Norwegian Ministry of the Environment. [http://www.regjeringen.no/pages/2243615/PDFS/STM200820090037000EN\\_PDFS.pdf](http://www.regjeringen.no/pages/2243615/PDFS/STM200820090037000EN_PDFS.pdf)
- Arctic Council. 2006a. *Salekhard Declaration*. Arctic Council, Norwegian Chairmanship, Tromsø, Norway, 18 p.
- Arctic Council. 2006b. *Norwegian Chairmanship Programme*. Arctic Council, Tromsø, Norway, 10 p.
- Arctic Council. 2009. *Senior Arctic Officials (SAO) Report to Ministers, Tromsø, Norway, April 2009*, unpublished report, 65 p.
- Aré, F.E. 1988. Thermal abrasion of sea coasts (parts I and II). *Polar Geography and Geology*, **12**, 1-86 and 87-157.
- Aré, F. and Reimnitz, E. 2000. An overview of the Lena River delta setting: geology, tectonics, geomorphology, and hydrology. *Journal of Coastal Research*, **16**, 1083-1093.
- Aré, F. E., Grigoriev, M. N., Hubberten, H.-W. and Rachold, V. 2005. Using thermoterrace dimen-

- sions to calculate the coastal erosion rate. *Geo-Marine Letters*, **25** (2-3), 121-126.
- Aré, F., Reimnitz, E., Grigoriev, M. N., Hubberten, H.-W. and Rachold, V. 2008. The influence of cryogenic processes on the erosional Arctic shoreface. *Journal of Coastal Research*, **24**(1), 110-121, doi:10.2112/05-0573.
- Armitage, D. 2005. Adaptive capacity and community-based natural resource management. *Environmental Management*, **35**, 703-715.
- Armitage, D. and Plummer, R. (editors) 2010. *Adaptive Capacity and Environmental Governance*. Springer, Heidelberg, 300 p.
- Armitage, D.R., Plummer, R., Berkes, F., Arthur, R.I., Charles, A.T., Davidson-Hunt, I.J., Diduck, A.P., Doubleday, N.C., Johnson, D.S., Marschke, M., McConney, P., Pinkerton, E.W. and Woltenberg, E.K. 2009. Adaptive co-management for social-ecological complexity. *Frontiers in Ecology and the Environment*, **7**, 95-102.
- Arndt, D.S., Baringer, M.O. and Johnson, M.R. (editors). 2010. *State of the Climate in 2009*. Bulletin of the American Meteorological Society, **91** (7), Special Supplement, S1-S222.
- Arp, C.D., Jones, B.M., Schmutz, J.A., Urban, F.E. and Jorgenson, M.T. 2010. Two mechanisms of aquatic and terrestrial habitat change along an Alaskan Arctic coastline. *Polar Biology*, **33** (12), 1629-1640
- Aslaksen, I., Dallmann, W., Holen, D.L., Høydahl, E., Kruse, J., Poppel, B., Stapleton, M. and Turi, E.I. 2009. Interdependence of subsistence and market economies in the Arctic. Chapter 6 In: *The Economy of the North 2008* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 75-98.
- Atkinson, D.E. 2000. Modelling July mean temperatures on the Fosheim Peninsula, Ellesmere Island. In: *Environmental Response to Climate Change in the Canadian High Arctic* (Garneau, M. and Alt, B.T., editors). Geological Survey of Canada, Ottawa, Bulletin 529, 99-111. Atkinson, D. E. 2005. Observed storminess patterns and trends in the circum-Arctic coastal regime, *Geo-Marine Letters*, **25**, 98-109.
- Atkinson, D.E. and Hinzman, L. 2008. Impact of the August 2000 storm on the soil thermal regime, Alaska North Slope. *Proceedings 9th International Conference on Permafrost*, Fairbanks, Alaska, 65-70.
- Atkinson, D.E., Brown, R., Alt, B., Agnew, T., Bourgeois, J., Burgess, M., Duguay, C., Henry, G., Jeffers, S., Koerner, K., Lewkowicz, A.G., McCourt, S., Melling, H., Sharp, M., Smith, S., Walker, A., Wilson, K., Wolfe, S., Woo, M-k. and Young, K.L. 2006. Canadian cryospheric response to an anomalous warm summer: a synthesis of the Climate Change Action Fund Project "The State of the Arctic Cryosphere during the Extreme Warm Summer of 1998". *Atmosphere-Ocean*, **44**, 347-375.
- Auld, H., MacIver, D., Klaassen, J., Comer, N. And Tugwood, B. 2006. Planning for atmospheric hazards and disaster management under changing climate conditions. In: *The Americas: Building the Adaptive Capacity to Global Environmental Change*. Environment Canada, Toronto, 237-254.
- Baker, A.J., Gonzalez, P.M., Piersma, T., Niles, L.J., Nascimento, I.L.S., Atkinson, P.W., Clark, N.A., Minton, C.D.T., Peck, M. and Aarts, G. 2004. Rapid population decline in red knots: fitness consequences of decreased refuelling rates and late arrival in Delaware Bay. *Proceedings of the Royal Society B*, **271**, 875-882.
- Baker, B. 2010a. The Beaufort Sea: comparing Inuvialuit and Inupiat participation in marine management decisions. Arctic Frontiers Conference, Tromsø, 24-29 January 2010. Abstract in: *2010 Abstracts, Arctic Frontiers: Living in the Far North*, 86 (<http://www.arcticfrontiers.com>; accessed 2011-02-16).
- Baker, B. 2010b. Filling an Arctic gap: legal and regulatory possibilities for Canadian-U.S. cooperation in the Beaufort Sea. *Vermont Law Review*, **34**, 57-120.
- Bakken, V., Boertmann, D., Mosbech, A., Olsen, B., Petersen, A, Strøm, H. and Goodwin, H. 2006. Nordic seabird colony databases. *TerraNord 2006*, **512**, 96 p.
- Barber, D.G., Lukovich, J.V., Keogak, J., Baryluk, S., Fortier, L. and Henry, G.H.R. 2008. The changing climate of the Arctic. *Arctic*, **61** (Supplement 1), 7-26.
- Barber, D.G., Galley, R., Asplin, M.G., De Abreu, R., Warner, K.-A., Pućko, M., Gupta, M., Prinsenberg, S. and Julien, S. 2009. Perennial pack ice in the southern Beaufort Sea was not as it appeared in the summer of 2009. *Geophysical Research Letters*, **36**, L24501, doi:10.1029/2009GL041434.
- Barnhart, K.R., Anderson, R.S., Overeem, I., Wobus, C.W., Clow, G.D., Urban, F.E. and Stanton, T.P.

2010. Modeling the rate and style of Arctic coastal retreat along the Beaufort Sea, Alaska. Abstract EP54B-06, presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco.
- Barry, R.G., Serreze, M.C., Maslanik, J.A. and Preller, R.H. 1993. The Arctic sea ice – climate system: observations and modeling. *Reviews of Geophysics*, **31** (4), 397-422.
- Bean, D. and Henry, G.H.R. 2001. *Climate Change Impacts on Tundra Ecosystems: The CANTTEX Network of Ecological Monitoring Sites in the Canadian Arctic*, [http://www.emannorth.ca/reports/EN\\_canttexRev02.pdf](http://www.emannorth.ca/reports/EN_canttexRev02.pdf).
- Bédard, J., Nadeau, A., Giroux, J.-F. and Savard, J.-P. 2008. *Eiderdown: Characteristics and Harvesting Procedures*. Société Duvetnor Ltée and Canadian Wildlife Service, Environment Canada, Québec Region, Québec.
- Benning, J. and Yang, D. 2005. Adjustment of daily precipitation data at Barrow and Nome Alaska for 1995-2001. *Arctic, Antarctic, and Alpine Research*, **37**, 276-283.
- Berkes, F. 1999. *Sacred Ecology: Traditional Ecological Knowledge and Resource Management*. Taylor and Francis, Philadelphia, 217 p.
- Berkes, F. 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. *Journal of Environmental Management*, **90**, 1692-1702.
- Berkes, F. and Jolly, D., 2002. Adapting to climate change: social-ecological resilience in a Canadian Western Arctic community. *Conservation Ecology*, **5** (2), 18, online: <http://www.consecol.org/vol5/iss2/art18/>.
- Berkes, F. and Folke, C. (editors). 1998. *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge University Press, Cambridge.
- Berkes, F., Colding, J. and Folke, C. (editors). 2003. *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change*. Cambridge University Press, Cambridge, 393 p.
- Berkes, F., Berkes, M. K. and Fast, H. 2007. Collaborative integrated management in Canada's north: the role of local and traditional knowledge and community-based monitoring. *Coastal Management*, **35**, 143-162.
- Berman, M., Nicholson, C., Kofinas, G., Tetlich, J. and Martin, S. 2004. Adaptation and sustainability in a small Arctic community: results of an agent-based simulation model. *Arctic*, **57** (4), 401-414.
- Berthling, I. and Etzelmüller, B. 2007. Holocene rockwall retreat and the estimation of rock glacier age, Prins Karls Forland, Svalbard. *Geografiska Annaler*, **89A**, 83-93.
- Bick, A. and Arlt, G. 2005. Intertidal and subtidal soft-bottom macro- and meiofauna of the Kongsfjord (Spitsbergen). *Polar Biology*, **28**, 550-557.
- Bielawski, E. 1992. Canadian Arctic Resources Committee. *Northern Perspectives*, **20** (1), <http://www.carc.org/pubs/v20no1> Inuit indigenous knowledge and science in the Arctic. /index.html (accessed 2011-02-19).
- Bielawski, E. 1995. Inuit indigenous knowledge and science in the Arctic. In: *Human Ecology and Climate Change: People and Resources in the Far North* (Peterson, D.L. and Johnson, D.R., editors). Taylor & Francis, Washington, DC, 219-227.
- Bird, S.M., Wiles, J.L., Okalik, L., Kilabuk, J. and Egeland, G.M. 2008. Living with diabetes on Baffin Island: Inuit storytellers share their experiences. *Canadian Journal of Public Health*, **99** (1), 17-21.
- Bird, S.M., Wiles, J.L., Okalik, L., Kilabuk, J. and Egeland, G.M. 2009. Methodological consideration of story telling in qualitative research involving indigenous peoples. *Global Health Promotion*, **16** (4), 16-26.
- Bjerregaard, P., Young, T.K., Dewailly, E. and Ebbesson, S.O.E. 2004. Indigenous health in the Arctic: an Etzelmüller overview of the circumpolar Inuit population. *Scandinavian Journal of Public Health*, **32** (5), 390-395.
- Bluhm, B.A. and Gradinger, R. 2008. Regional variability in food availability for Arctic marine mammals. In: *Arctic Marine Mammals and Climate Change. Ecological Applications*, **18**, Supplement, S77-S96.
- Bowen, R.E. and Riley, C. 2003. Socio-economic indicators and integrated coastal management. *Ocean and Coastal Management*, **46**, 299-312.
- Bowen, R.G., Dallimore, S.R., Côté, M.M., Wright, J.F. and Lorenson, T.D. 2008. Geomorphology and gas release from pockmark features in the Mackenzie Delta, Northwest Territories, Canada. *Proceedings, 9th International Conference on Permafrost* (Kane, D.L. and Hinkel, K.M., editors). University of Alaska, Fairbanks, Alaska, **1**, 171-176.

- Box, J.E., Cappelen, J., Decker, D., Fettweis, X., Mote, T., Tedesco, M. and van de Wal, R.S.W. 2010. Greenland. In: *Arctic Report Card: Update for 2010*, 55-64; <http://www.arctic.noaa.gov/reportcard>.
- Boyd, H. and Madsen, J. 1997. Impacts of global change on Arctic-breeding bird populations and migration. In: *Global Change and Arctic Terrestrial Eco-Systems* (Oechel, W.C., Callaghan, T., Gilmanov, T., Holten, J.I., Maxwell, D., Molau, U. and Sveinbjornsson, S., editors). Springer, Berlin, 201-217.
- Braun, C., Hardy, D.R., Bradley, R.S. and Sahanatien, V. 2004. Surface mass balance of the Ward Hunt Ice Rise and Ward Hunt Ice Shelf, Ellesmere Island, Nunavut, Canada. *Journal of Geophysical Research*, **109**, D22110, doi:10.1029/2004JD004560.
- Braune, B.M., Donaldson, G.M. and Hobson, K.A. 2001. Contaminant residues in seabird eggs from the Canadian Arctic. Part I. Temporal trends 1975-1998. *Environmental Pollution*, **114**, 39-54.
- Briere, E. 2010. New tool to help northern communities better manage drinking water. *Natural Elements*, 53 (<http://www.nrcan-rncan.gc.ca/com/elements/issues/53/wateau-eng.php>).
- Briner, J.P., Overeem, I., Miller, G. and Finkel, R. 2006. The deglaciation of Clyde Inlet, northeastern Baffin Island, Arctic Canada. *Journal of Quaternary Science*, **22** (3), 223-232.
- Bronen, R. 2009. Forced migration of Alaskan indigenous communities due to climate change: creating a human rights response. In: *Linking Environmental Change, Migration and Social Vulnerability* (Oliver-Smith, A. and Shen, X, editors). United Nations University (Institute of Environment and Human Security) and Munich Re, UNU-EHS Publication No. 12, 68-73.
- Brown, J. and Solomon, S. (editors). 2000. *Arctic Coastal Dynamics: Report of an International Workshop*, Woods Hole, MA, 2-4 November 1999. Geological Survey of Canada, Open File 3929, 28 p. plus appendices, doi:10.4095/211.
- Brown, J., Ferrians, O.J., Jr., Heginbottom, J.A. and Melnikov, E.S. 1997. *Circum-Arctic Map of Permafrost and Ground-Ice Conditions*. US Geological Survey, Reston, VA. Circum-Pacific Map CP-45, 1:10 000 000.
- Brown, J., Jorgenson, M.T., Smith, O.P. and Lee, W. 2003. Long-term rates of erosion and carbon input, Elson Lagoon, Barrow, Alaska. *Proceedings 8th International Conference on Permafrost* (Phillips, M., Springman, S.M. and Arenson, L.U., editors). Balkema, Rotterdam, 101-106.
- Brown, R. D. and Alt, B. T. 2001. The state of the Arctic cryosphere during the extreme warm summer of 1998: documenting cryospheric variability in the Canadian Arctic. In: *The State of the Arctic Cryosphere During the Extreme Warm Summer of 1998: Documenting Cryospheric Variability in the Canadian Arctic* (Brown, R.D. and Alt, B.T., editors). Canadian Climate Action Fund, Final Report, Ottawa.
- Brunner, R.D., Lynch, A.H., Pardikes, J., Cassano, E.N., Lestak, L. and Vogel, J. 2004. An Arctic disaster and its policy implications. *Arctic*, **57**, 336-346.
- Burgess, D.O., Sharp, M.J., Mair, D.W.F., Dowdeswell, J.A. and Benham, T.J. 2005. Flow dynamics and iceberg calving rates of Devon Ice Cap, Nunavut, Canada. *Journal of Glaciology*, **51**, 219-230.
- Burn, C.R. and Kokelj, S.V. 2009. The environment and permafrost of the Mackenzie Delta area. *Permafrost and Periglacial Processes*, **20**, 83-105.
- Burns, J.J. 1981. Bearded seal – *Erignathus barbatus*. In: *Seals* (Ridgway, S.H. and Harrison, R.J., editors). Academic Press, London, 145-170.
- CAFF (Conservation of Arctic Flora and Fauna). 2009. C-Bird Group Members, <http://web.arctic-portal.org/en/caff/cbird>.
- CAFF (Conservation of Arctic Flora and Fauna). 2010. *The Arctic Biodiversity Assessment. Arctic Biodiversity Trends – 2010, Selected Indicators of Change*. Arctic Council, 218 p.
- Callaghan, T.V., Björn, L.O., Chapin III, F.S., Chernov, Y., Christensen, T.R., Huntley, B., Ims, R., Johansson, M., Jolly Riedlinger, D., Jonasson, S., Matveyeva, N., Oechel, W., Panikov, N. and Shaver, G. 2005. Arctic tundra and polar desert ecosystems. In: *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge UK, 243-352.
- Canada NRTEE (National Round Table on the Environment and the Economy). 2009. *True North: Adapting Infrastructure to Climate Change in Northern Canada*. NRTEE, Ottawa, 146 p. (<http://www.nrtee-trnee.com/eng/publications/true-north/true-north-eng.pdf>).
- Canadian Council of Professional Engineers. 2008. *Adapting to Climate Change: Canada's First National Engineering Vulnerability Assessment of Public Infrastructure*. Canadian Council of Professional Engineers, Ottawa.
- Carmack, E. and Macdonald, R. 2002. Oceanography of the Canadian shelf of the Beaufort Sea: a

- setting for marine life. *Arctic*, **55**, Supplement 1, 29-45.
- Carmack, E. and Macdonald, R. 2008. Water and ice-related phenomena in the coastal region of the Beaufort Sea: some parallels between native experience and western science. *Arctic*, **61**, 265-280.
- Carmack, E.C., Macdonald, R.W. and Jasper, S. 2004. Phytoplankton productivity on the Canadian Shelf of the Beaufort Sea. *Marine Ecology Progress*, **277**, 37-50.
- Carpenter, S.R., Folke, C., Scheffer, M. and Westley, F. 2009. Resilience: accounting for the non-computable. *Ecology and Society*, **14** (1), 13 (<http://www.ecologyandsociety.org/vol14/iss1/art13>).
- Carroll, R. 2009. Alaska coast eroding fast. *National Geographic News*, Washington, DC, USA, text and video (<http://news.nationalgeographic.com/news/2009/09/090925-alaska-coast-erosion-video.html>; accessed 2011-02-12).
- Catto, N.R., Parewick, K. 2008. Hazard and vulnerability assessment and adaptive planning: mutual and multi-lateral community-researcher communication, Arctic and Atlantic Canada. In: Communicating Geoscience (Liverman, D., editor). *Proceedings of the Geological Society of London*, **305**, 123-140.
- CAVM Team. 2003. *Circumpolar Arctic Vegetation Map* (scale 1: 7 500 000). Conservation of Arctic Flora and Fauna (CAFF), Map 1. US Fish and Wildlife Service, Anchorage, USA (<http://www.geobotany.uaf.edu>; <http://www.caff.is>).
- Chabot, D. and Dutil, J.-D. 1999. Reduced growth of Atlantic cod in nonlethal hypoxic conditions. *Journal of Fisheries Biology*, **55**, 472-491.
- Chapin III, F.S. 2006. Building resilience and adaptation to manage Arctic change. *Ambio*, **35**, 198-202.
- Chapin III, F.S., Peterson, G., Berkes, F., Callaghan, T.V., Angelstam, P., Apps, M., Beler, C., Bergson, A.S., Crepin, K., Danell, T., Elmqvist, T., Folke, C., Forbes, B., Fresco, N., Juday, G., Niemela, J., Shvidenko, A. and Whiteman, G. 2004. Resilience and vulnerability of northern regions to social and environmental change. *Ambio*, **33**, 344-349.
- Chaulk, K.G., Robertson, G.J., Collins, B.T., Montevecchi, W.A. and Turner, B.C. 2005. Evidence of recent population increases in common eiders breeding in Labrador. *Journal of Wildlife Management*, **69**, 805-809.
- Chaulk, K., Robertson, G.J. and Montevecchi, W.A. 2007. Landscape features and sea ice influence nesting common eider abundance and dispersion. *Canadian Journal of Zoology*, **85**, 301-309.
- Chernouss, S., Vinogradov, A. and Vlassova, E. 2001. Geophysical hazard for human health in the circumpolar auroral belt. *Natural Hazards*, **23**, 121-135.
- Chernova, N.V. 2003. Fish diversity in the Arctic marine coastal zone. *Arctic Coastal Dynamics, Report of the 4th International Workshop* (Rachold, V. and Cherkashov, G., editors). *Berichte zur Polar- und Meeresforschung*, **482**, 171-173.
- Cherry, N. 2002. Schumann resonances, a plausible biophysical mechanism for the human health effects of solar/geomagnetic activity. *Natural Hazards*, **25**, 279-331.
- Chester, D. 1993. *Volcanoes and Society*. Edward Arnold, London, 351 p.
- Cheung, W.W.L., Lam, V.W.Y., Sarmiento, J.L., Kearney, K., Watson, R. and Pauly, D. 2009. Projecting global marine biodiversity impacts under climate change scenarios. *Fish and Fisheries*, **10**, 235-251.
- Cheung, W.W.L., Lam, V.W.Y., Sarmiento, J.L., Kearney, K., Watson, R., Zeller, D. and Pauly, D. 2010. Large-scale redistribution of maximum fisheries catch potential in the global ocean under climate change. *Global Change Biology*, **16**, 24-35.
- Christensen, J.H., Hewitson, B., Busuioac, A., Chen, A., Gao, X., Held, I., Jones, R., Kcolli, R.K., Kwon, W.-T., Laprise, R., Magaña Rueda, V., Mearns, L., Menéndez, C.G., Räisänen, J., Rinke, A., Sarr, A. and Whetton, P. 2007. Regional climate projections. In: *Climate Change 2007: The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M. and Miller, H.L., editors). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, *nnn-nnn*.
- Christian, R.R., Baird, D., Bowen, R.E., Clark, D.M., de Mora, S., DiGiacomo, P.M., Jiménez, J., Kineman, J., Mazzilli, S., Servin G., Talaue-McManus, L., Viaroli, P. and Yap, H. 2005. *Coastal GTOS Strategic Design and Phase 1 Implementation Plan*. GTOS Report No. 36, Environment and Natural Resources Service Series, No. 9 FAO, Rome, 104 p.

- Clarke, A. and Harris, C.M. 2003. Polar marine ecosystems: major threats and future change. *Environmental Conservation*, **30** (1), 1-25.
- Cochrane, S.K.G., Denisenko, S.G., Renaud, P.E., Emblow, C.S., Ambrose, W.G. and Ellingsen, I.H. 2009. Benthic macrofauna and productivity regimes in the Barents Sea: ecological implications in a changing Arctic. *Journal of Sea Research*, **61**, 222-233.
- Cogan, C.B. 2003. Quantitative biodiversity analysis: a critical step for coastal planning. *Arctic Coastal Dynamics, Report of the 4th International Workshop* (Rachold, V. and Cherkashov, G., editors). *Berichte zur Polar- und Meeresforschung*, **482**, 175.
- Cohen, S. 1997. *Mackenzie Basin Impact Study*. Downsview, Ontario, Atmospheric Environment Services, Environment Canada.
- Cohen, S. and Entekhabi, D. 2001. The influence of snow cover on Northern Hemisphere climate variability. *Atmosphere-Ocean*, **39**, 35-53.
- Collett, T.S. and Dallimore, S.R. 2000. Permafrost-associated gas hydrate. In: *Natural Gas Hydrate in Oceanic and Permafrost Environments* (Max, M.D., editor). Kluwer Academic Publishers, Dordrecht, 43-60.
- Comiso, J.C., Parkinson, C.L., Gersten, R. and Stock, L. 2008. Accelerated decline in the Arctic sea ice cover. *Geophysical Research Letters*, **35**, L01703, doi:10.1029/2007GL031972.
- Cooper, L.W., McClelland, J.W., Holmes, R.M., Raymond, P.A., Gibson, J.J., Guay, C.K. and Peterson, B.J. 2008. Flow-weighted values of runoff tracers ( $\delta^{18}\text{O}$ , DOC, Ba, alkalinity) from the six largest Arctic rivers. *Geophysical Research Letters*, **35**, L18606. doi:10.1029/2008GL035007.
- Copland, L., Mueller, D.R. and Weir, L. 2007. Rapid loss of the Ayles Ice Shelf, Ellesmere Island, Canada. *Geophysical Research Letters*, **34**, L21501, doi:10.1029/2007GL031809.
- Copland, L., Wohlleben, T., Mueller, D., Pope, S.G. and Mortimer, C.A. 2010. Ice shelf losses in the Canadian High Arctic, 2005-2010. Abstract **C23C-0649** presented at 2010 Fall Meeting, American Geophysical Union, San Francisco, CA, 13-17 Dec 2010.
- Corell, R., Hovelsrud, G.K., MacCracken, M., Ole-Henrik, M., Rapley, C. and Rogne, O. 2005. *Grand Research Challenges for the Arctic Region: a Synthesis of Critical Research Needs for the Decade Ahead*. Unpublished draft paper by an ad-hoc group to identify high-priority research issues for the Arctic Region for the decade ahead, ICARP-II, version 3.0 ([http://web.arcticportal.org/extras/portal/iasec/icarp/Grand\\_Challenges.pdf](http://web.arcticportal.org/extras/portal/iasec/icarp/Grand_Challenges.pdf)).
- Costanza, R., d'Arge, R., de Groot, R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P. and van den Belt, M. 1997. The value of the world's ecosystem services and natural capital. *Nature*, **387**, 253-260.
- Couture, N.J. 2010. *Fluxes of Soil Organic Carbon from Eroding Permafrost Coasts, Canadian Beaufort Sea*. PhD thesis, McGill University, Montréal, Québec, 155 p.
- Couture, N. and Overduin, P.P. 2008. Monitoring Arctic coastal dynamics. *Ice and Climate News*, **11**, 6-8.
- Couture, N., Forbes, D.L. and Lantuit, H. 2008. Report of SAON Coastal Breakout Group. *Proceedings 2nd SAON Workshop*, Edmonton, Alberta, 10 p. ([www.arcticobserving.org/images/stories/edmonton\\_report/coastal\\_report.pdf](http://www.arcticobserving.org/images/stories/edmonton_report/coastal_report.pdf)).
- Crary, A.P. 1960. Arctic ice islands and ice shelf studies, Part II. *Arctic*, **13**, 32-50.
- Crate, S. 2008. Gone with the Bull of Winter: grappling with the implications of and anthropology's role(s) in global climate change. *Current Anthropology*, **49**, 569-595.
- Crumpp, J. 2008. Many strong voices: climate change and equity in the Arctic. *Indigenous Affairs*, **1-2**, 24-33.
- CSWG (Circumpolar Seabird Working Group). 1997. *Circumpolar Eider Conservation Strategy and Action Plan*. Conservation of Arctic Flora and Fauna, CAFF International Secretariat, Akureyri, Iceland, 16 p. (<http://web.arcticportal.org/uploads/iz/Qg/izQgcVPXZPOW4GSXYEXR3w/Circumpolar-Eider-Conservation-strategy-and-Action-Plan.pdf>)
- Dahl-Jensen, D., Bamber, J., Boggild, C.E., Buch, E., Christensen, J.H., Dethloff, K., Fahnestock, M., Marshall, S., Rosing, M., Steffen, K., Thomas, R., Truffer, M., van den Broeke, M. and van der Veen, C.J. 2009. *The Greenland Ice Sheet in a Changing Climate: Snow, Water, Ice and Permafrost in the Arctic* (SWIPA). Arctic Monitoring and Assessment Programme (AMAP), Oslo, 115 p.
- Dallimore, S.R. and Collett, T.S. 1995. Intrapermafrost gas hydrates from a deep core hole in the Mackenzie Delta, Northwest Territories, Canada. *Geology*, **23** (6), 527-530.
- Dallimore, S.R., Wolfe, S.A. and Solomon, S.M. 1996. Influence of ground ice and permafrost on coastal evolution, Richards Island, Beaufort Sea coast, N.W.T. *Canadian Journal of Earth Sci-*

- ences, **33**, 664-675.
- Dawe, E.G., Hendrickson, L.C., Colbourne, E.B., Drinkwater, K.F. and Showell, M.A. 2007. Ocean climate effects on the relative abundance of short-finned (*Illex illecebrosus*) and long-finned (*Loligo ealeii*) squid in the northwest Atlantic Ocean. *Fisheries Oceanography*, **16**, 303-316.
- Derocher, A.E., Lunn, N.J. and Stirling, I. 2004. Polar bears in a warming climate. *Integrative and Comparative Biology*, **44**, 163-176.
- Déry, S.J. and Wood, E.F. 2005. Decreasing river discharge in northern Canada. *Geophysical Research Letters*, **32**, L10401, doi:10.1029/2005GL022845.
- Déry, S.J., Stieglitz, M., McKenna, E.C. and Wood, E.F. 2005. Characteristics and trends of river discharge into Hudson, James, and Ungava Bays, 1964-2000. *Journal of Climate*, **18**, 2540-2557.
- DeSantis, R. 2008. *Vulnerability and Adaptation to Climate Change in Hopedale, Labrador*. MA Thesis, Department of Geography, University of Guelph, Guelph, Ontario, Canada.
- DesJarlais, C., Bourque, A., Décoste, R., Demers, C., Deschamps, P. and Lam, K. 2004. *Adapting to Climate Change*. Consortium Ouranos, Montréal, Québec, Canada.
- Dethleff, D. 2005. Entrainment and export of Laptev Sea ice sediments, Siberian Arctic. *Journal of Geophysical Research*, **110**, C07009, doi:07010.01029/02004JC002740.
- Dittmar, T. and Kattner, G. 2003. The biogeochemistry of the river and shelf ecosystem of the Arctic Ocean: a review. *Marine Chemistry*, **83**, 103-120.
- Domingues, C.M., Church, J.A., White, N.J., Gleckler, P.J., Wijffels, S.E., Barker, P.M. and Dunn, J.R. 2008. Improved estimates of upper-ocean warming and multi-decadal sea-level rise. *Nature*, **453**, 1090-1093.
- Doniol-Valcroze, T., Berteaux, D., Larouche, P. and Sears, R. 2007. Influence of thermal fronts on the habitat selection of four rorqual whale species in the Gulf of St. Lawrence. *Marine Ecological Progress, Series* **335**, 207-213.
- Dowdeswell, J.A., Gorman, M.R., Glaszovsky, A.F., and Macheret, Y.Y. 1994. Evidence for floating ice shelves in Franz Josef Land, Russian High Arctic. *Arctic and Alpine Research*, **26**, 86-92.
- Dragoo, D. E., Byrd, G.V. and Irons, D.B. 2010. *Breeding Status, Population Trends and Diets of Seabirds in Alaska, 2007*. U.S. Fish and Wildlife Service, Homer, Alaska. Report AMNWR 2010/08.
- Drinkwater, K.F. 2005. The response of Atlantic cod (*Gadus morhua*) to future climate change. *ICES Journal of Marine Science*, **62**, 1327-1337.
- Duerden, F. 2004. Translating climate change impacts at the community level. *Arctic*, **57**, 204-212.
- Duhaime, G. and Caron, A. 2009. Economic and social conditions of Arctic regions. Chapter 2 in: *The Economy of the North 2008* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 11-23.
- Duhaime, G., Lemelin, A., Didyk, V., Goldsmith, O., Winther, G., Caron, A., Bernard, N. and Goodmaire, A. 2004. Economic systems. In: *The Arctic Human Development Report*. Stefansson Arctic Institute, Akureyri, Iceland, 69-84.
- Dunton, K.H., Weingartner, T. and Carmack, E.C. 2006. The nearshore western Beaufort Sea ecosystem: circulation and importance of terrestrial carbon in Arctic coastal food webs. *Progress in Oceanography*, **71**, 362-378.
- Dupré, W.R. and Thompson, R. 1979. The Yukon Delta: a model for deltaic sedimentation in an ice-dominated environment. *Proceedings 11th Offshore Technology Conference*, Houston, 657-664.
- Durant, J.M., Anker-Nilssen, T. and Stenseth, N.C. 2003. Trophic interactions under climate fluctuations: the Atlantic puffin as an example. *Proceedings of the Royal Society B*, **270**, 1461-1466.
- Ednie, M. and Smith, S.L. 2011. *Establishment of Community-Based Permafrost Monitoring Sites and Initial Ground Thermal Data, Baffin Region, Nunavut*. Geological Survey of Canada, Open File 6727, 7 p.
- EEA. 1999. *Information for Improving Europe's Environment*. European Environment Agency, Copenhagen.
- Eicken, H. 2003. The role of Arctic sea ice in transporting and cycling terrigenous organic matter. In: *The Organic Carbon Cycle in the Arctic Ocean* (Stein, R. and Macdonald, R., editors). Springer, New York, 45-53.
- Eicken, H., Kolatschek, J., Freitag, J., Lindemann, F., Kassens, H., and Dmitrenko, I. 2000. Identifying a major source area and constraints on entrainment for basin-scale sediment transport by Arctic sea ice. *Geophysical Research Letters*, **27**, 1919-1922.



- Eicken, H., Gradinger, R., Graves, A., Mahoney, A., Rigor, I., and Melling, H. 2005. Sediment transport by sea ice in the Chukchi and Beaufort Seas: increasing importance due to changing ice conditions? *Deep-Sea Research II*, **52**, 3281-3302.
- Eicken, H., Krupnik, I., Weyapuk Jr., W., and Druckenmiller, M.L. 2009. Ice seasons at Wales, 2006-2007. In: *Kingikmi Sigum Qanuq Ilitaavut - Wales Iñupiaq Sea-Ice Dictionary* (Krupnik, I., Anungazuk, H. and Druckenmiller, M., editors). Arctic Studies Center, Smithsonian Institution, Washington, D.C.
- Eid, B.M. and Cardone, V.J. 1992. *Beaufort Sea Extreme Waves Study*. Environmental Studies Research Funds, Calgary, Alberta. Report Series No. 114, 143 p.
- Eide, A. 2007. Economic impacts of global warming – the case of the Barents Sea fisheries. *Natural Resource Modeling*, **20**(2), 199–221.
- Eide, A. 2008. An integrated study of economic effects of and vulnerabilities to global warming on the Barents Sea cod fisheries. *Climatic Change*, **87**, 251–262, doi:10.1007/s10584-007-9338-0
- Eisenman, I. and Wettlaufer, J.S. 2009. Nonlinear threshold behavior during the loss of Arctic sea ice. *Proceedings of the National Academy of Sciences (USA)*, **106**, 28–32.
- Emmerton, C.A., Lesack, L.F.W., and Vincent, W.F. 2008a. Nutrient and organic matter patterns across the Mackenzie River, estuary, and shelf during the seasonal recession of sea-ice. *Journal of Marine Systems*, **74**, 741-755.
- Emmerton, C.A., Lesack, L.F.W., and Vincent, W.F. 2008b. Mackenzie River nutrient delivery to the Arctic Ocean and effects of the Mackenzie Delta during open water conditions. *Global Biogeochemical Cycles*, **22**, GB1024, doi:10.1029/2006GB002856.
- England, J.H., Lakeman, T.R., Lemmen, D.S., Bednarski, J., Stewart, T.G. and Evans, D.J.A., 2008. A millennial-scale record of Arctic Ocean sea ice variability and the vulnerability of the Ellesmere Island ice shelves. *Geophysical Research Letters*, **35**, L19502, doi:10.1029/2008GL034470.
- Etkin, D., Haque, E., Bellisario, L. and Burton, I. 2004. *An Assessment of Natural Hazards and Disasters in Canada: A Report for Decision-Makers and Practitioners*. Public Safety and Emergency Preparedness Canada and Environment Canada, Ottawa, Canada.
- Evans, D.J.A., and England, J. 1992. Geomorphological evidence of Holocene climatic change from northwest Ellesmere Island, Canadian High Arctic. *The Holocene*, **2**, 148-158.
- Fautin, D., Dalton, P., Incze, L.S., Leong, J.C., Pautzke, C., Rosenberg, A., Sandifer, P., Sedberry, G., Tunnell Jr., J.W., Abbott, I., Brainard, R.E., Brodeur, M., Eldredge, L.G., Feldman, M., Moretzsohn, F., Vroom, P.S., Wainstein, M. and Wolff, N. 2010. An overview of marine biodiversity in United States waters. *PLoS One*, **5** (8), e11914, doi:10.1371/journal.pone.0011914.
- Finlay, J., Neff, J., Zimov, S., Davydova, A., and Davydov, S. 2006. Snowmelt dominance of dissolved organic carbon in high-latitude watersheds: implications for characterization and flux of river DOC. *Geophysical Research Letters*, **33**, L10401, doi:10.1029/2006GL025754.
- Flöser, G., Kremer, H. and Rachold, V. (editors). 2007. *Arctic Coastal Zones at Risk: Workshop Proceedings*, Tromsø, Norway. LOICZ and IASC, Geesthacht and Stockholm, 78 p. (<http://coast.gkss.de/events/arctic07/docs/proceedings.pdf>).
- Folke, C. 2007. Resilience: the emergence of a perspective for social-ecological systems analyses. *Global Environmental Change*, **16**, 253-267.
- Folke, C., Hahn, T., Olsson, P., Norberg, J. 2005. Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources*, **30**, 441-473.
- Forbes, D.L. 1997. *Coastal Erosion and Nearshore Profile Variability in the Southern Beaufort Sea, Ivvavik National Park, Yukon Territory*. Geological Survey of Canada, Open File **3531**, 28 p.
- Forbes, D.L. and Hansom, J.D. (in press). Polar coasts. In: *Treatise on Estuarine and Coastal Science*, vol. 3. Elsevier.
- Forbes, D.L. and Taylor, R.B. 1994. Ice in the shore zone and the geomorphology of cold coasts. *Progress in Physical Geography*, **18**, 59–89.
- Forbes, D.L., Solomon, S.M. and Hamilton, T.S. 1994. Morphology and sedimentary processes of microtidal embayments, Beaufort Sea coast, western Arctic Canada. *Proceedings of the Hornafjörður International Coastal Symposium* (Viggósson, G., editor). Icelandic Harbour Authority, Reykjavik, 363-372.
- Forbes, D.L., Parkes, G.S., Manson, G.K. and Ketch, L.A. 2004. Storms and shoreline retreat in the southern Gulf of St. Lawrence. *Marine Geology*, **210**, 169-204.
- Forbes, D.L., Craymer, M., Henton, J., Herron, T., Kokelj, S., Lapelle, E., Manson, G.K., Marsh, P., Mazzotti, S., Piraszewski, M., Solomon, S.M. and Whalen, D. 2007a. Combining geological,

- geodetic, and tide-gauge data to estimate coastal subsidence and flooding hazards in the Mackenzie Delta, western Arctic Canada. *Eos, Transactions American Geophysical Union*, **88** (52), Fall Meeting Supplement, Abstract G51A-0136.
- Forbes, D.L., Mate, D., Bourgeois, J., Bell, T., Budkewitsch, P., Chen, W., Gearheard, S., Illauq, N., Irvine, M. and Smith, I.R. 2007b. Integrated mapping and environmental change detection for adaptation planning in an Arctic coastal community, Clyde River, Nunavut, Canada. In: *Arctic Coastal Zones at Risk: Workshop Proceedings*, Tromsø, Norway (Fløser, G., Kremer, H. and Rachold, V., editors). LOICZ and IASC, Geesthacht and Stockholm, 42-47.
- Forbes, D.L., Manson, G.K., Mate, D. and Qammaniq, A. 2008. Cryospheric change and coastal stability: combining traditional knowledge and scientific data for climate change adaptation. *Ice and Climate News*, **11**, 17-18.
- Forbes, D.L., Craymer, M.R., James, T.S., Solomon, S.M., Marsh, P., Manson, G.K., Whalen, D. and Hopkinson, C. 2010. Sea-level rise, subsidence and potential inundation on the outer Mackenzie Delta. *Program of IPY Oslo Science Conference, Polar Science - Global Impact*, Oslo, 8-12 June 2010 (<http://ipy-osc.no/abstract/383055>; accessed 2010-11-21).
- Ford, J. D. 2006a. Sensitivity of hunters to hazards associated with climate change: Iglulingmiut perspectives. In: *Climate Change: Linking Traditional and Scientific Knowledge* (Oakes, J. and Riewe, R., editors). Winnipeg, Manitoba, Aboriginal Issues Press, *nnn-nnn*.
- Ford, J.D. 2006b. *Vulnerability to Climate Change in Arctic Canada*. PhD dissertation, Department of Geography, University of Guelph, Guelph, Canada, [n] p.
- Ford, J.D. 2008a. Climate, society, and natural hazards: changing hazard exposure in two Nunavut communities. *Northern Review*, **28**, 51-71.
- Ford, J. 2008b. Emerging trends in climate change policy: the role of adaptation. *International Public Policy Review*, **3** (2), 5-16.
- Ford, J.D. 2009. Vulnerability of Inuit food systems to food insecurity as a consequence of climate change: a case study from Igloodik, Nunavut. *Regional Environmental Change*, **9**, 83-100.
- Ford, J.D. and Smit, B. 2004. A framework for assessing the vulnerability of communities in the Canadian Arctic to risks associated with climate change. *Arctic*, **57**, 389-400.
- Ford, J.D., Pearce, T., Gilligan, J., Smit, B. and Oakes, J. 2008a. Climate change and hazards associated with ice use in Northern Canada. *Arctic, Antarctic and Alpine Research*, **40**, 647-659.
- Ford, J.D., Smit, B., Wandel, J., Allurut, M., Shappa, K., Qrunnut, K. and Ittusujurat, H. 2008b. Climate change in the Arctic: current and future vulnerability in two Inuit communities in Canada. *The Geographical Journal*, **174**, 45-62.
- Ford, J., Laidler, G., Gough, W., J., M., Qrunnut, K. and Irngaut, C. 2009. Sea ice, climate change, and community vulnerability in northern Foxe Basin. *Climate Research*, **38**, 137-154.
- Ford, J.D., Pearce, T., Duerden, F., Furgal, C. and Smit, B. 2010. Climate change policy responses for Canada's Inuit population: the importance of and opportunities for adaptation. *Global Environmental Change*, **20** (1), 177-191.
- Fox, S. 2004. *When the Weather is Uggianaqtuq: Linking Inuit and Scientific Observations of Recent Environmental Changes in Nunavut, Canada*. University of Colorado, Boulder, USA, CD-ROM.
- Friedlaender, A.S., Johnston, D.W. and Halpin, P.N. 2010. Effects of the North Atlantic Oscillation on sea ice breeding habitats of harp seals (*Pagophilus groenlandicus*) across the North Atlantic. *Progress in Oceanography*, **86** (1-2), 261-266
- Frolov, I.E. (editor). 2008. Review of Hydrometeorological Processes in the Arctic Ocean in 2007 [in Russian]. Rotaprint MSC RF, Arctic and Antarctic Research Institute, St. Petersburg.
- Furgal, C. and Seguin, J. 2006. Climate change, health, and vulnerability in Canadian Northern Aboriginal communities. *Environmental Health Perspectives*, **114**, 1964-1970.
- Furgal, C., Buell, M., Chan, L., Edge, V., Martin, D. and Ogdenn, N. 2008a. Health impacts of climate change in Canada's North. In: *Human Health in a Changing Climate: a Canadian Assessment of Vulnerabilities and Adaptive Capacity* (Seguin, J., editor). Health Canada, Ottawa, p. 303-366.
- Furgal, C., Prowse, T.D. et al. 2008b. Northern Canada. In: *From Impacts to Adaptation: Canada in a Changing Climate 2007* (Lemmen, D.S., Warren, F.J., Lacroix, J. and Bush, E., editors). Government of Canada, Ottawa, 57-118.
- Füssel, H.-M. 2009. An updated assessment of the risks from climate change based on research published since the IPCC Fourth Assessment Report. *Climatic Change*, **97**, 469-482.
- Galand, P., Lovejoy, C. and Vincent, W.F. 2006. Remarkably diverse and contrasting archaeal com-

- munities in a large Arctic river and the coastal Arctic Ocean. *Aquatic and Microbial Ecology*, **44**, 115–126, doi:10.3354/ame044115.
- Gaston, A.J. 2008. Razorbills (Alcatorda) follow subarctic prey in the Canadian Arctic: colonization results from climate change? *The Auk*, **125**, 939-942.
- Gaston, A.J., Hipfner, J.M. and Campbell, D. 2002. Heat and mosquitoes cause breeding failures and adult mortality in an Arctic-nesting seabird. *Ibis*, **144**, 185.
- Gaston, A.J., Gilchrist, H.G. and Hipfner, J.M. 2005. Climate change, ice conditions and reproduction in an Arctic nesting marine bird: Brunnich's guillemot (*Uria lomvia* L.). *Journal of Animal Ecology*, **74**, 832-841.
- Gearhead, S. and Shirley, J. 2007. Challenges in community-research relationships: learning from natural science in Nunavut. *Arctic*, **60**, 62-74.
- Gearheard, S., Matumeak, W., Angutikjuaq, I., Maslanik, J.A., Huntington, H.J.L., Matumeak, D.G.T. and Barry, R.G. 2006. "It's not that simple": comparison of sea ice environments, observed changes, and adaptations in Barrow Alaska, USA, and Clyde River, Nunavut, Canada. *Ambio*, **35**, 203-211.
- Gearheard, S., Pocernich, M., Steward, R., Sanguya, J. and Huntington, H. 2010. Linking Inuit knowledge and meteorological station observations to understand changing wind patterns at Clyde River, Nunavut. *Climatic Change*, **100** (2), 267-294.
- George, J.C., Huntington, H.P., Brewster, K., Eicken, H., Norton, D.W., and Glenn, R. 2004. Observations on shorefast ice dynamics in Arctic Alaska and the responses of the Iñupiat hunting community. *Arctic*, **57**, 363-374.
- Gill, R.E., Jr. and Handel, C.M. 1990. The importance of subarctic intertidal habitats to shorebirds: a study of the central Yukon-Kuskokwim Delta, Alaska. *Condor*, **92**, 709-725.
- Gill, R.E., Jr. and Senner, S.E. 1996. Alaska and its importance to Western Hemisphere shorebirds. *International Wader Studies*, **8**, 8-14.
- Gill, M. and Zöckler, C. 2008. *A Strategy for Developing Indices and Indicators to Track Status and Trends in Arctic Biodiversity*. Supporting Publication to the Circumpolar Biodiversity Monitoring Program Framework Document. Conservation of Arctic Flora and Fauna (CAFF), CBMP Report 12, 12 p.
- Gilliland, S., Gilchrist, H.G., Rockwell, R., Robertson, G.J., Savard, J.-P., Merkel, F.R. and Mosbech, A. 2009. Evaluating the sustainability of harvest among Northern Common Eiders in Greenland and Canada. *Wildlife Biology*, **15**, 24-36.
- Gionet, L. 2008. *Inuit in Canada: Selected Findings of the 2006 Census*. Statistics Canada, on-line: <http://www.statcan.gc.ca/pub/11-008-x/2008002/article/10712-eng.htm#a3>; accessed 2011-02-19. Adapted from *Aboriginal Peoples in Canada in 2006: Inuit, Métis and First Nations, 2006 Census*. Statistics Canada, Ottawa, 53 p. (PDF online at <http://www12.statcan.ca/english/census06/analysis/aboriginal/index.cfm>)
- Glomsrød, S. and Aslaksen, I. (editors). 2006. *The Economy of the North*. Statistics Norway, Oslo.
- Glomsrød, S. and Aslaksen, I. (editors). 2009. *The Economy of the North 2008*. Statistics Norway, Oslo.
- Glomsrød, S., Mäenpää, I., Lindholt, L., McDonald, H. and Goldsmith, S. 2009. Arctic economies within the Arctic nations. Chapter 4 in: *The Economy of the North 2008* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 37-67.
- Gordeev, V.V. 2006. Fluvial sediment flux to the Arctic Ocean. *Geomorphology*, **80**, 94-104.
- Grebmeier, J.M., Overland, J.E., Moore, S.E., Farley, E.V., Carmack, E.C., Cooper, L.W., Frey, K.E., Helle, J.H., McLaughlin, F.A. and McNutt, S.L. 2006. A major ecosystem shift in the northern Bering Sea. *Science*, **311**, 1461-1464.
- Grinsted, A., Moore, J.C. and Jevrejeva, S. 2009. Reconstructing sea level from paleo and projected temperatures 200 to 2100 AD. *Climate Dynamics*, **34**, 461-472.
- Groisman, P.Ya., Peck, E.L. and Quayle, R.G. 1998. Intercomparison of recording and standard non-recording U.S. gauges. *Journal of Atmospheric and Oceanic Technology*, **16**, 602-609.
- Grønnow, B. and Jensen, J.F. 2003. The northernmost ruins of the globe. *Meddelelser om Grønland (Man & Society)*, **29**, nnn-*nnn*.
- Gunderson, L.H. and Holling, C. 2002. *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press, Washington, DC.
- Hacquebord, L. 1999. The hunting of the Greenland right whale in Svalbard, its interaction with climate, and its impact on the marine ecosystem. *Polar Research*, **18**, 375-382.

- Hacquebord, L. 2007. Indigenous cultures under pressure in the Arctic coastal zone. Keynote address, Workshop on Arctic Coastal Zones at Risk, Tromsø, Norway, 1 October 2007.
- Hacquebord, L. 2009a. Resource exploitation and navigation in a changing Arctic. *Zeitschrift für ausländisches öffentliches Recht und Völkerrecht (Heidelberg Journal of International Law)*, **69** (3), 655-668.
- Hacquebord, L. 2009b. Back to the future: the past, present and future of resource development in a changing Arctic. *Journal of Northern Studies*, **2**, 9-23.
- Hacquebord, L. and Avango, D. 2009. Settlements in an Arctic resource frontier region. *Arctic Anthropology*, **46**, 25-39.
- Hall, C.M. 2010. Tourism and environmental change in polar regions: impacts, climate change and biological invasion. In: *Tourism and Change in Polar Regions: Climate, Environments and Experiences* (Hall, C.M. and Saarinen, J., editors). Routledge, London, 42-70.
- Hall, C.M. and Saarinen, J. 2010a. Polar tourism: definitions and dimensions. *Scandinavian Journal of Hospitality and Tourism*, **10** (4), doi:10.1080/15022250.2010.521686.
- Hall, C.M. and Saarinen, J. 2010b. Tourism and change in the polar regions: introduction – definitions, locations, places, and dimensions. In: *Tourism and Change in Polar Regions: Climate, Environments and Experiences* (Hall, C.M. and Saarinen, J., editors). Routledge, London, 1-41.
- Hall, C.M., James, M. and Wilson, S. 2010. Biodiversity, biosecurity, and cruising in the Arctic and sub-Arctic. *Journal of Heritage Tourism*, **5** (4), doi:10.1080/1743873X.2010.517845.
- Halpern, B., Walbridge, S., Selkoe, K.A., Kappel, C.V., et al. 2008 A global map of human impact on marine ecosystems. *Science*, **319**, 948-952
- Hamel, J.-F. and Mercier, A. 2005. Arctic coastal ecology. In: *Encyclopedia of Coastal Science* (Schwartz, M.L., editor). Springer, Dordrecht, 45-49.
- Hamilton, L.C. and Mitiguy, A.M. 2009. Visualizing population dynamics of Alaska's Arctic communities. *Arctic*, **62** (4), 393-398.
- Hamilton, L.C., Brown, B.C. and Rasmussen, R.O. 2003. Greenland's cod-to-shrimp transition: local dimensions of climatic change. *Arctic*, **56**, 271-282.
- Hansell, R.I.C., Scott, P.A., Staniforth, R. and Svoboda, J. 1983. Permafrost development in the intertidal zone at Churchill, Manitoba: a possible mechanism for accelerated beach uplift. *Arctic*, **36**, 198-203.
- Haque, C.E. 2005. *Mitigation of Natural Hazards and Disasters*. Springer, Dordrecht, 239 p.
- Harper, J.R. 1990. Morphology of the Canadian Beaufort Sea coast. *Marine Geology*, **91**, 75-91.
- Hatcher, S.V., Forbes, D.L. and Manson, G.K. 2010. Coastal hazard mapping in an expanding Iqaluit. Abstract and Poster, *Programme ArcticNet Annual Scientific Meeting 2010*, Ottawa, 126-127 ([http://www.arcticnetmeetings.ca/asm2010/docs/programme\\_full\\_web.pdf](http://www.arcticnetmeetings.ca/asm2010/docs/programme_full_web.pdf)).
- Hattersley-Smith, G., Fuzesy, A. and Evans, S. 1969. *Glacier Depths in Northern Ellesmere Island: Airborne Radio Echo Sounding in 1966*. Defence Research Establishment, Ottawa, 23 p.
- Hayward, P. 2005. Culturally engaged research & facilitation: active development projects with small island cultures. Refereed papers, *1st International Small Island Cultures Conference*, Kagoshima University, Centre for the Pacific Islands, 7-10 February 2005 (<http://www.sicri-network.org/ISIC1/i.%20ISIC1P%20Hayward.pdf>; accessed 2011-02-20)
- Hearon, G.D., Dickins, D., Ambrosius, K. and Morris, K. 2009. *Mapping Sea Ice Overflood Using Remote Sensing: Smith Bay to Camden Bay*. Report to Alaska OCS Region, Minerals Management Service, US Department of Interior. DF Dickens Associates, Coastal Frontiers Corporation, Aerometric, and Geophysical Institute, University of Alaska, xii+110 pp.
- Heen, K. and Flaaten, O. 2007. Spatial employment impacts of fisheries management. *Fisheries Research*, **85**, 74-83.
- Héquette, A. and Barnes, P.W. 1990. Coastal retreat and shoreface profile variations in the Canadian Beaufort Sea. *Marine Geology*, **91**, 113-132.
- Héquette, A. and Hill, P.R. 1995. Response of the seabed to storm-generated combined flows on a sandy Arctic shoreface, Canadian Beaufort Sea. *Journal of Sedimentary Research*, **65**, 461-471.
- Héquette, A., DesRosiers, M., Hill, P.R. and Forbes, D.L. 2001. The influence of coastal morphology on shoreface sediment transport under storm-combined flows, Canadian Beaufort Sea. *Journal of Coastal Research*, **17** (3), 507-516.
- Higgins, A.K. 1989. North Greenland ice islands. *Polar Record*, **25**, 207-212.
- Hild, C.M. 1995. The next step in assessing Arctic human health. *Science of the Total Environment*,

160-161, 559-569

- Hill, P.R. and Solomon, S.M. 1999. Geomorphic and sedimentary evolution of a transgressive thermokarst coast, Mackenzie Delta region, Canadian Beaufort Sea. *Journal of Coastal Research*, **15**, 1011-1029.
- Hill, P.R., Barnes, P.W., Héquette, A., Ruz, M.-H., 1995. Arctic coastal plain shorelines. In: *Coastal Evolution: Late Quaternary Shoreline Morphodynamics* (Carter, R.W.G. and Woodroffe, C.D., editors). Cambridge University Press, Cambridge, 341-372.
- Hill, P.R., Lewis, C.P., Desmarais, S., Kauppymuthoo, V. and Rais, H. 2001. The Mackenzie Delta: sedimentary processes and facies of a high-latitude, fine-grained delta. *Sedimentology*, **48**, 1047-1078.
- Hinzman, L.D., Bettez, N.D., Bolton, W.R., Chapin, F.S., Dyrurgerov, M.B., Fastie, C.L., Griffith, B., Hollister, R.D., Hope, A., Huntington, H.P., Jensen, A.M., Hia, G.J., Jorgenson, T., Kane, D.L., Klein, D.R., Kofinas, G., Lynch, A.H., Lloyd, A.H., McGuire, A.D., Nelson, F.E., Oechel, W.C., Osterkamp, T.E., Racine, C.H., Romanovsky, V.E., Stone, R.S., Stow, D.A., Sturm, M., Tweedie, C.E., Vourlitis, G.L., Walker, M.D., Walker, D.A., Webber, P.J., Welker, J.M., Winker, K.S., and Yoshikawa, K. 2005. Evidence and implications of recent climate change in Northern Alaska and other Arctic regions. *Climatic Change*, **72** (3), 251-298.
- Hirose, T., Kapfer, M., Bennett, J., Cott, P., Manson, G. and Solomon, S. 2008. Bottomfast ice mapping and the measurement of ice thickness on tundra lakes using C-Band synthetic aperture radar remote sensing. *Journal of the American Water Resources Association*, **44** (2), 285-292.
- Hoel, A.H. (editor). 2009. *Best Practices In: Ecosystem-Based Oceans Management in the Arctic*. Norsk Polar Institute, Tromsø, Norway.
- Holling, C.S. 1986. The resilience of terrestrial ecosystems: local surprise and global change. In: *Sustainable Development of the Biosphere* (Clark, W.C. and Munn, R.E., editors). Cambridge University Press, 292-317.
- Holmes, R.M., Peterson, B.J., Gordeev, V.V., Zhulidov, A.V., Meybeck, M., Lammers, R.B., and Vörösmarty, C.J. 2000. Flux of nutrients from Russian rivers to the Arctic Ocean: Can we establish a baseline against which to judge future changes? *Water Resources Research*, **36**, 2309-2320.
- Holmes, R.M., Peterson, B.J., Zhulidov, A.V., Gordeev, V.V., Makkaveev, P.N., Stunzas, P.A., Kosmenko, L.S., Kohler, G.H., and Shiklomanov, A.I. 2001. Nutrient chemistry of the Ob and Yenisey rivers, Siberia: results from June 2000 expedition and evaluation of long-term data sets. *Marine Chemistry*, **75**, 219-227.
- Holmes, R.M., McClelland, J.W., Raymond, P.A., Frazer, B.B., Peterson, B.J., and Stieglitz, M. 2008. Lability of DOC transported by Alaskan rivers to the Arctic Ocean. *Geophysical Research Letters*, **35**, L03402, doi:10.1029/2007GL032837.
- Hommers, S., Vinke-de Kruijf, J., Otter, H.S. and Bouma, G. 2009. Knowledge and perceptions in participatory policy processes: lessons from the Delta-region in the Netherlands. *Water Resources Management*, **23**, 1641-1663.
- Hoque, Md.A. and Pollard, W.H. 2008. Thermal and mechanical erosion along ice-rich Arctic coasts. *Proceedings 9th International Conference on Permafrost*, Fairbanks, Alaska, 741-746.
- Hoque, Md.A. and Pollard, W.H. 2009. Arctic coastal retreat through block failure. *Canadian Geotechnical Journal*, **46** (10), 1103-1115.
- Horton, R., Herweijer, C., Rozenzweig, C., Liu, J., Gornitz, V. and Ruane, A.C. 2008. Sea level rise projections for current generation CGCMs based on the semi-empirical method. *Geophysical Research Letters*, **35**, L02715, doi:10.1029/GL032486.
- Hovelsrud, G.K., McKenna, M. and Huntington, H.P. 2008. Marine mammal harvests and other interactions with humans. *Ecological Applications*, **18** (Supplement), S135-S147.
- Hovelsrud, G.K. and Smit, B. (editors). 2010. *Community Adaptation and Vulnerability in Arctic Regions*. Springer, Dordrecht, 353 p.
- Hudak, D.R. and Young, J.M.C. 2002. Storm climatology of the southern Beaufort Sea. *Atmosphere-Ocean*, **40**, 145-158.
- Hulme, M. 1992. A 1951-80 global land precipitation climatology for the evaluation of General Circulation Models. *Climate Dynamics*, **7**, 57-72.
- Huntington, H.P. 1992. *Wildlife Management and Subsistence Hunting in Alaska*. University of Washington Press, Seattle, 177 p.
- Huntington, H.P. and Pungowiyi, C. 2009. Indigenous perspectives. In: *Best Practices in Ecosystem-*

- Based Oceans Management in the Arctic* (Hoel, A.H., editor). Norsk Polarinstitut, Tromsø, Rapportserie 129, p. 11-17.
- Huntington, H., Fox, S., Berkes, F., Krupnik, I., et al. 2005. The changing Arctic: indigenous perspectives. In: *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge, UK, 61-98.
- Huntington, H., Hamilton, L., Nicholson, C., Brunner, R., Lynch, A., Ogilvie, A.E.J. and Voinov, A. 2007a. Toward understanding the human dimensions of the rapidly changing arctic system: insights and approaches from five HARC projects. *Regional Environmental Change*, **7**, 173-186.
- Huntington, H.P., Boyle, M., Flowers, G.E., Weatherly, J.W., Hamilton, L.C., Hinzman, L., Gerlach, C., Zulueta, R., Nicolson, C. and Overpeck, J. 2007b. The influence of human activity in the Arctic on climate and climate impacts. *Climatic Change*, **82** (1-2), 77-92.
- Huntington H., Gearheard, S., McNeave, C., and Parsons, M. 2008. Exchange for local observations and knowledge in the Arctic: data management support for community-based Arctic observing network. In: *Arctic Change 2008, Conference Programme and Abstracts*. ArcticNet, Quebec, 95-96 (<http://www.arctichealth.org/ahhi/pdf/arctic-change.pdf>; accessed 2011-02-19).
- Huntington, H.P., Kruse, S.A. and Scholz, A.J. 2009a. Demographic and environmental conditions are uncoupled in the social-ecological system of the Pribilof Islands. *Polar Research*, **28**, 119-128.
- Huntington, H.P., Gearheard, S., Druckenmiller, M. and Mahoney, A. 2009b. Community-based observation programs and indigenous and local sea ice knowledge. In: *Field Techniques for Sea Ice Research* (Eicken, H., Gradinger, R., Salganek, M., Shirasawa, K., Perovich, D. and Leppäranta, M., editors). University of Alaska Press, Fairbanks, 345-364.
- Huntington, H.P., Gearheard, S. and Kielsen Holm, L. 2010. The power of multiple perspectives: behind the scenes of the Siku-Inuit-Hila Project. In: *SIKU: Knowing Our Ice: Documenting Inuit Sea-Ice Knowledge and Use* (Krupnik, I., Aporta, C., Gearheard, S., Laidler, G. and Kielsen Holm, L., editors). Springer, 257-274.
- Hyndman, D., Hyndman, D. and Catto, N.R. 2008. *Natural Hazards and Disasters*. Nelson, Toronto, [n] p.
- IASC. 2000. *LOIRA: Land-Ocean Interactions in the Russian Arctic. Implementation Plan*. International Arctic Science Committee, Oslo, Norway, 43 pp.
- ICES (International Council for the Exploration of the Sea). 2008. *Report of the ICES Advisory Committee 2008*. ICES Advice, Book 1, 345 p.
- ICARP-II. 2007. *Arctic Research: a Global Responsibility - An Overview of the Second International Conference on Arctic Research Planning*. ICARP II Steering Group, ICARP II Secretariat, Danish Polar Centre, Copenhagen, Denmark. (Summary and Science Plans now available at [http://aosb.arcticportal.org/icarp\\_ii/index.html](http://aosb.arcticportal.org/icarp_ii/index.html); accessed 2011-03-31).
- IPCC. 2001. *Climate Change 2001 - The Scientific Basis. Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, 994 pp.
- IPCC. 2007a. *Climate Change 2007 - The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Solomon, S., Qin, D., Manning, M., Chen, Z., Marquis, M., Averyt, K.B., Tignor, M. and Miller, H.L., editors). Cambridge University Press, Cambridge, UK and New York, NY, USA, 996 pp.
- IPCC. 2007b. *Climate Change 2007 - Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press, Cambridge, UK and New York, NY, USA, [n] p.
- Irons, D.B., Anker-Nilssen, T., Gaston, A.J., Byrd, G.V., Falk, K., Gilchrist, G., Hario, M., Hjærnquist, M., Krasnov, Y.V., Mosbech, A., Olsen, B., Petersen, A., Reid, J., Robertson, G., Strom, H. and Wohl, K.D. 2008. Fluctuations in circumpolar seabird populations linked to climate oscillations. *Global Change Biology*, **14**, 1455-1463.
- Irvine, M.L., Smith, I.R., Bell, T. and Forbes, D.L. 2009. Building on unstable ground: identifying physical landscape constraints on infrastructure sustainability and planning in Nunavut communities. Abstract and Poster, *Programme ArcticNet Annual Scientific Meeting 2009*, Victoria, BC, 104 ([http://www.arcticnetmeetings.ca/docs/asm2009\\_programme\\_long.pdf](http://www.arcticnetmeetings.ca/docs/asm2009_programme_long.pdf)).
- Isaksen, K. and Gavrilov, M.V. 1996. The Little Auk. In: *Status of Marine Birds Breeding in the Barents Sea Region* (Anker-Nilssen, T., Bakken, V., Bianki, V., Golovkin, A., Tatarionkova, I. And Ström, H, editors). Norsk Polarinstitut Skrifter, Tromsø.
- Jacobs, J.D., Hermanutz, L., Bell, T. and Simms, A. 2006. *Sensitivity to Climate Variability and Change of Tundra and Boreal Ecosystems in Protected Areas in Newfoundland and Labrador*.

- Natural Resources Canada, Climate Change Impacts and Adaptations Directorate, Ottawa. Report A756.
- James, T. S., Simon, K.M., Forbes, D.L., Dyke, A.S., Mate, D.J. 2011. *Sea-Level Projections for Five Pilot Communities of the Nunavut Climate Change Partnership*. Geological Survey of Canada, Open File 6715, 27 p.
- Janssen, M.A., Kohler, T.A. and Scheffer, M. 2003. Sunk-cost effects and vulnerability to collapse in ancient societies. *Current Anthropology*, **44**, 722–728.
- Johannessen, O.M., Bengtsson, L., Miles, M.W., Kuzmina, S.I., Semenov, V.A., Alekseev, G.V., Nagurnyi, A.P., Zakharov, V.F., Bobylev, L.P., Pettersson, L.H., Hasselmann, K. and Cattle, H.P. 2004. Arctic climate change: observed and modelled temperature and sea ice variability. *Tellus*, **56A**, 328-341.
- Johannessen, O.M., Babiker, M. and Miles, M.W. 2011. Petermann Glacier, North Greenland: massive calving in 2010 and the past half century. *The Cryosphere Discussions*, **5**, 169-181; www.the-cryosphere-discuss.net/5/169/2011/.
- Johnson, K., Solomon, S., Berry, D., and Graham, P. 2003. Erosion progression and adaptation strategy in a northern coastal community. *Proceedings of the 8th International Conference on Permafrost*, Zurich. International Permafrost Association, <http://www.members.shaw.ca/ken.planner/planning+%20erosion.pdf> (accessed February 2009).
- Jolly, D., Berkes, F., Castleden, J., Nichols, T., and the community of Sachs Harbour. 2002. We can't predict the weather like we used to: Inuvialuit observations of climate change, Sachs Harbour, Western Canadian Arctic. In: *The Earth is Faster Now: Indigenous Observations of Arctic Environmental Change* (Krupnik, I. and D. Jolly, D., editors). Arctic Research Consortium of the United States, Fairbanks, 92-125.
- Jones, B.M., Arp, C.D., Beck, R.A., Grosse, G., Webster, J. and Urban, F.E. 2009a. Erosional history of Cape Halkett and contemporary monitoring of bluff retreat, Beaufort Sea coast, Alaska. *Polar Geography*, **32**, 129-142.
- Jones, B.M., Arp, C.D., Jorgenson, M.T., Hinkel, K.M., Schmutz, J.A., and Flint, P.L. 2009b. Increase in the rate and uniformity of coastline erosion in Arctic Alaska. *Geophysical Research Letters*, **36**, L03503, doi:10.1029/2008GL036205.
- Jones, B.M., Hinkel, K.M., Arp, C.D., and Eisner, W.R. 2008. Modern erosion rates and loss of coastal features and sites, Beaufort Sea coast, Alaska. *Arctic*, **61** (4), 361-372.
- Jordan, J.W., Manley, W.F., Sanzone, D.M., and Mason, O.K. 2008. Field-based measurement of coastal erosion in the southeast Chukchi Sea, Alaska. *Arctic Coastal Dynamics - Report of the 6th International Workshop*, Arctic Centre, University of Groningen (Netherlands). *Berichte zur Polar- und Meeresforschung*, 576, 55.
- Jorgenson, M.T. and Brown, J. 2005. Classification of the Alaskan Beaufort Sea coast and estimation of carbon and sediment inputs from coastal erosion. *Geo-Marine Letters*, **25**, 69-80.
- Jorgenson, M.T. and Shur, Y. 2007. Evolution of lakes and basins in northwest Alaska and discussion of the thaw-lake cycle. *Journal of Geophysical Research*, **112**, F02S17, doi:10.1029/2006JF000531.
- Kane, D.L., Hinzman, L.D., McNamara, J.P., Zhang, Z., and Benson, C.S. 2000. An overview of a nested watershed study in Arctic Alaska. *Nordic Hydrology*, **4-5**, 245-266.
- Kannen, A. and Burkhard, B. 2009. Integrated assessment of coastal and marine changes using the example of offshore wind farms: the *Coastal Futures* approach. *GaiA- Ecological Perspectives for Science and Society*, **18**, 229-238.
- Kearney, J., Berkes, F., Charles, A., Pinkerton, E and Wiber, M. 2007. The role of participatory governance and community-based management in integrated coastal and ocean management in Canada. *Coastal Management*, **35** (1), 79-104.
- Kelly, P. and Adger, W. 2000. Theory and practice in assessing vulnerability to climate change and facilitating adaptation. *Climatic Change*, **47**, 325-352.
- Kelman, I. and van Dam, K. 2008. *Vulnerability and Adaptation to Climate Change in the Arctic (VACCA): An Analysis of the Scoping Study Data*. Report prepared for the Sustainable Development Working Group of the Arctic Council.
- Keskitalo, E.C. 2008a. *Climate Change and Globalization in the Arctic: An Integrated Approach to Vulnerability Assessment*. Earthscan.
- Keskitalo, E.C. 2008b. Vulnerability and adaptive capacity in forestry in northern Europe: a Swedish case study. *Climatic Change*, **87**, 219-234.

- Kobayashi, N., Vidrine, J.C., Nairn, R.B. and Solomon, S.M. 1999. Erosion of frozen cliffs due to storm surge on Beaufort Sea coast. *Journal of Coastal Research*, **15**, 332-344.
- Koç, N., Njåstad, B., Armstrong, R., Corell, R.W., Jensen, D.D., Leslie, K.R., Rivera, A., Tandong, Y. and Winther, J.-G. (editors). 2009. *Melting Snow and Ice: a Call for Action*. Centre for Ice, Climate and Ecosystems, Norwegian Polar Institute, Tromsø, 92 p.
- Kofinas, G. 2005. A research plan for the study of rapid change, resilience and vulnerability in social-ecological systems of the Arctic. *The Common Property Resource Digest*, **73**, 1-10.
- Kooiman, J. 1999. Socio-political governance: overview, reflections and design. *Public Management*, **1**(1), 67-92
- Kooiman, J. 2003. *Governing as Governance*. SAGE Publications, London, 249 p.
- Kovacs, A. and Sodhi, D.S. 1981. Ice pile-up and ride-up on Arctic and subArctic beaches. *Coastal Engineering*, **5**, 247-273.
- Kraemer, L.D., Berner, J.E. and Furgal, C.M. 2005. The potential impact of climate on human exposure to contaminants in the Arctic. *International Journal of Circumpolar Health*, **63**, 498-508.
- Kremer, H.H., le Tissier, M.D.A., Burbridge, P.R., Talaue-McManus, L., Rabalais, N.N., Parslow, J., Crossland, C.J., and Young, W. 2005. *Land-Ocean Interactions in the Coastal Zone: Science Plan and Implementation Strategy*. International Geosphere-Biosphere Programme, Report 51/ International Human Dimensions Programme on Global Environmental Change, Report 18, IGBP Secretariat, Stockholm, 60 p.
- Kruckenber, H., Kondratyev, A., Mooij, J.H., Zöckler, C. and Zaynagutdinova, E. 2008. *White fronted Goose Flyway Population Status: Interim Report of a Preliminary Study in 2006*. *Ange wandte Feldbiologie*, **2**, 77 p.
- Krümmel, E.M. 2009. Circumpolar voices: the Circumpolar Inuit Health Summit: a summary. *International Journal of Circumpolar Health*, **68** (5), 509-518.
- Krupnik, I. and Jolly, D. 2002. *The Earth is Faster Now: Indigenous Observations of Climate Change*. Arctic Research Consortium of the United States, Fairbanks, Alaska, nnn pp.
- Krupnik, I., Allison, I., Bell, R., Cutler, P., Hik, D., López-Martinez, J., Rachold, V., Sarukhanian, E. and Summerhayes, C. (editors). 2011. *Understanding Earth's Polar Challenges: International Polar Year 2007-2008*. University of the Arctic, Rovaniemi, Finland; CCI Press, Edmonton, Alberta, Canada; ICSU/WMO Joint Committee for the International Polar Year 2007-2008, xxiv+695 p.
- Kruse, J., Poppel, B., Abryutina, L., Duhaime, G., Martin, S., Poppel, M., Kruse, M., Ward, E., Cochran, P. and Hanna, V. 2008. Survey of living conditions in the Arctic (SliCA). In: *Barometers of Quality of Life Around the Globe* (Møller, V., Huschka, D. and Michalos, A.C., editors). Springer Social Indicators Research Series. Springer Verlag, 107-134.
- Kvenvolden, K.A. and Lorenson, T.D. 2001. The global occurrence of natural gas hydrates. In: *Natural Gas Hydrates: Occurrence, Distribution, and Detection* (Paull, C.K. and Dillon, W.P., editors). American Geophysical Union, Geophysical Monograph 124, 3-18.
- Kwok, R., Cunningham, G.F., Wensnahan, M., Rigor, I., Zwally, H.J. and Yi, D. 2009. Thinning and volume loss of the Arctic Ocean sea ice cover: 2003-2008. *Journal of Geophysical Research*, **114**, C07005, doi:10.1029/2009JC005312.
- Laidler, G. 2006. Inuit and scientific perspectives on the relationship between sea ice and climatic change: the ideal complement? *Climatic Change*, **78**, 407-444.
- Laidler, G.J. and Elee, P. 2008. Human geographies of sea ice: freeze/thaw processes around Cape Dorset, Nunavut, Canada. *Polar Record*, **44**, 51-76.
- Laidler, G. and Ikummaq, T. 2008. Human geographies of sea ice: freeze/thaw processes around Igloodik, Nunavut, Canada. *Polar Record*, **44**, 127-153.
- Laidler, G.J., Dialla, A. and Joamie, E. 2008. Human geographies of sea ice: freeze/thaw processes around Pangnirtung, Nunavut, Canada. *Polar Record*, **44**, 335-361.
- Laidler, G.J., Ford, J.D., Gough, W.A., Ikummaq, T., Gagnon, A., Kowal, S., Qrunnnut, K. and Irngaut, C. 2009. Travelling and hunting in a changing Arctic: assessing Inuit vulnerability to sea ice change in Igloodik, Nunavut. *Climatic Change*, **94**, 363-397.
- Laidre, K.L., Stirling, I., Lowry, L.F., Wiig, Ø., Heide-Jørgensen, M.P. and Ferguson, S.H. 2008. Quantifying the sensitivity of Arctic marine mammals to climate-induced habitat change. *Ecological Applications*, **18** (Supplement: Arctic Marine Mammals), S97-S125.
- Lange, M. 2008. Assessing climate change impacts in the European north. *Climatic Change*, **87**, 7-34.



- Langmead, O. and McQuatters-Golop, A. (editors). 2007. *European Lifestyles and Marine Ecosystems: Exploring Challenges for Managing Europe's Seas*. University of Plymouth, Marine Institute, Plymouth UK, 43 p. ([http://www.elme-eu.org/ELME\\_Results.pdf](http://www.elme-eu.org/ELME_Results.pdf)).
- Lantuit, H. and Pollard, W.H. 2005. Temporal stereophotogrammetric analysis of retrogressive thaw slumps on Herschel Island, Yukon Territory. *Natural Hazards and Earth System Sciences*, **5**, 413-423.
- Lantuit, H. and Pollard, W.H. 2008. Fifty years of coastal erosion and retrogressive thaw slump activity on Herschel Island, southern Beaufort Sea, Yukon Territory, Canada, *Geomorphology*, **95** (1-2), 84-102.
- Lantuit, H., Atkinson, D., Grigoriev, M., Rachold, V., Grosse, G., Hubberten, H., Overduin, P. and Couture, N. 2008a. Coastal erosion history retrieval using multi-sensor imagery on the permafrost coasts of the Bykovsky Peninsula. *Eos, Transactions of the American Geophysical Union*, **89** (53), Fall Meeting Supplement, Abstract C13B-07.
- Lantuit, H., Overduin, P.P., Couture, N. and Ødegård, R.S. 2008b. Sensitivity of coastal erosion to ground ice contents : an Arctic-wide study based on the ACD classification of Arctic coasts. Proceedings 9th International Conference on Permafrost,
- Lantuit, H., Rachold, V., Pollard, W.H., Steenhuisen, F., Ødegård, R. and Hubberten, H.-W. 2009. Towards a calculation of organic carbon release from erosion of Arctic coasts using non-fractal coastline datasets. *Marine Geology*, **257**, 1-10.
- Lantuit, H., Overduin, P., Solomon, S., Mercier, D. 2010. Coastline evolution in polar systems using remote sensing. In: *Geomatic Solutions for Coastal Environments* (Maanan, M. and Robin, M., editors). Nova Science Publishers, *nnn-~~nnn~~*.
- Lantuit, H., Overduin, P.P., Couture, N., Aré, F., Atkinson, D., Brown, J., Cherkashov, G., Drozdov, D., Forbes, D.L., Graves-Gaylord, A., Grigoriev, M., Hubberten, H.-W., Jordan, J., Jorgenson, T., Ødegård, R.S., Ogorodov, S., Pollard, W., Rachold, V., Sedenko, S., Solomon, S., Steenhuisen, F., Streletskaya, I., Vasiliev, A. and Wetterich, S. 2011. The ACD coastal database: a new classification scheme and statistics on Arctic permafrost coastlines. *Estuaries and Coasts*, in press (published on-line 2011-02-01), doi:10.1007/s12237-010-9362-6, 18 p.
- Larsen, J.N. 2010a. Climate change, natural resource dependency, and supply shocks: the case of Greenland. In: *The Political Economy of Northern Regional Development. Vol. 1* (Winther, G., et al., editors). *TemaNord*, **521**, 205-218. (<http://www.norden.org/en/publications/publications/2010-521>).
- Larsen, J.N. 2010b. Economies and business in the Arctic region. In: Polar Law Textbook (Loukacheva, N., editor). *TemaNord*, **538**, 81-100. (<http://www.norden.org/en/publications/publications/2010-538>).
- Larsen, J.N. and Huskey, L. 2010. Material wellbeing in the Arctic. Chapter 3 in: *Arctic Social Indicators* (Larsen, J.N., Schweitzer, P. and Fondahl, G., editors). *TemaNord*, **519**, 47-66 (<http://www.norden.org/en/publications/publications/2010-519>).
- Larsen, J.N., Schweitzer, P. and Fondahl, G. (editors). 2010. *Arctic Social Indicators*. *TemaNord*, **519** (<http://www.norden.org/en/publications/publications/2010-519>).
- Larsen, B.B., Elverhøi, A., and Aagaard, P. 1987. Study of particulate material in sea ice in the Fram Strait - a contribution to paleoclimatic research? *Polar Research*, **5**, 313-315.
- Lauriol, B. and Gray, J.T. 1980. Processes responsible for the concentration of boulders in the intertidal zone in Leaf Basin, Ungava. In: *The Coastline of Canada: Littoral Processes and Shore Morphology* (McCann, S.B., editor). Geological Survey of Canada, Ottawa. Paper 80-10, 281-292.
- Lavers, J.L., Jones, I.L., Diamond, A.W. and Robertson, G.J. 2008. Annual survival of North American Razorbills (*Alca torda*) varies with ocean climate indices. *Canadian Journal of Zoology*, **86**, 51-61.
- Lavoie, C., Allard, M. and Hill, P.R. 2002. Holocene deltaic sedimentation along an emerging coast: Nastapoka River delta, eastern Hudson Bay, Québec. *Canadian Journal of Earth Sciences*, **39** (4), 505-518.
- Lawrence, D.M. and Slater, A.G. 2006. A projection of severe near-surface permafrost degradation during the 21st century. *Geophysical Research Letters*, **32**, L24401, doi:10.29/2005GL025080.
- LeBlanc, A.-M., Oldenborger, G., Sladen, W., Mate, D., Carbonneau, A.-S., Gosselin, P., l'Hérault, E. and Allard, M. 2010. Assessing permafrost conditions in support of climate change adaptation in Pangnirtung, Nunavut. *Proceedings 6th Canadian Permafrost Conference*, Calgary, Alberta, 1242-1250 (<http://pubs.aina.ucalgary.ca/cpc/CPC6-1242.pdf>).

- Lemmen, D., Warren, F., Lacroix, J. and Bush, E. (editors). 2008. *From Impacts to Adaptation: Canada in a Changing Climate*. Government of Canada, Ottawa, [n] p.
- Leont'yev, I.O. 2003. Modelling erosion of sedimentary coasts in the western Russian Arctic. *Coastal Engineering*, **47**, 413–429.
- Leont'yev, I.O. 2004. Coastal profile modeling along the Russian Arctic coast. *Coastal Engineering*, **51**, 779-794.
- Lesack, L.F.W. and Marsh, P. 2010. River-to-lake connectivities, water renewal, and aquatic habitat diversity in the Mackenzie River Delta. *Water Resources Research*, **46**, W12504, 16 p., doi:10.1029/2010WR009607.
- Levinson, S.C. 2003a. *Space in Language and Cognition: Explorations in Cognitive Diversity*. Cambridge University Press, Cambridge, 414 p.
- Levinson, S.C. 2003b. Spatial language. In: *Encyclopedia of Cognitive Science* (Nadel, L., editor). Nature Publishing Group, London, 131-137.
- Lindholt, L. 2006. Arctic natural resources in a global perspective. Chapter 3 in: *The Economy of the North* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 27-37.
- Lindholt, L. and Glomsrød, S. 2009. Future production of petroleum in the Arctic under alternative oil prices. Chapter 5 in: *The Economy of the North 2008* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 69-73
- Link, P.M. and Tol, R.S.J. 2009. Economic impacts on key Barents Sea fisheries arising from changes in the strength of the Atlantic thermohaline circulation. *Global Environmental Change*, **19**, 422-433.
- Lipovsky, P.S. and Yoshikawa, K. 2008. Initial results from the first year of the Permafrost Outreach Program, Yukon, Canada. *Yukon Exploration and Geology*, 161-172.
- Lisitsyn, A.P. 1995. The marginal filter of the ocean. *Oceanology*, **34**, 671-682.
- Loeng, H. and Drinkwater, K. 2007. An overview of the ecosystems of the Barents and Norwegian seas and their response to climate variability. *Deep Sea Research* (Part II), **54**, 2478-2500.
- Loeng, H., Brander, K., Carmack, E., Denisenko, S., Drinkwater, K., Hansen, B., Kovacs, K., Livingston, P., McLaughlin, F. and Sakshaug, E. 2005. Marine systems. In: *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge UK, 453-538.
- Lønne, I. and Nemeč, W. 2004. High-Arctic fan delta recording deglaciation and environment disequilibrium. *Sedimentology*, **51**, 553–589.
- Loring, P.A., Gerlach, S.C., Atkinson, D.E. and Murray, M.S. 2011. Ways to help and ways to hinder: governance for effective adaptation to an uncertain climate. *Arctic*, **64** (1), 73-88.
- Lynch, A.H. and Brunner, R.D. 2007. The importance of context in climate change impacts assessment: lessons from Barrow, Alaska. *Climatic Change*, **82**, 93-111.
- Mackay, J.R. 1972. Offshore permafrost and ground ice, southern Beaufort Sea, Canada. *Canadian Journal of Earth Sciences*, **9**, 1550-1561.
- Mahoney, A. and Gearheard, S. 2008. *Handbook for Community-Based Sea Ice Monitoring*. NSIDC Special Report 14, National Snow and Ice Data Center, Boulder, USA ([http://nsidc.org/pubs/special/nsidc\\_special\\_report\\_14.pdf](http://nsidc.org/pubs/special/nsidc_special_report_14.pdf)).
- Mahoney, A., Eicken, H., Shapiro, L. and Grenfell, T.C. 2004. Ice motion and driving forces during a spring ice shove on the Alaskan Chukchi coast. *Journal of Glaciology*, **50**, 195-207.
- Mahoney, A., S. Gearheard, T. Oshima, and T. Qillaq. 2009. Sea ice thickness measurements from a community-based observing network. *Bulletin of the American Meteorological Society*, **90** (3), 370-377.
- Makogon, Y.F., Holditch, S.A. and Makogon, T.Y. 2007. Natural gas-hydrates – a potential energy source for the 21st century. *Journal of Petroleum Science and Engineering*, **56**, 14-31.
- Manson, G.K. and Solomon, S.M. 2007. Past and future forcing of Beaufort Sea coastal change. *Atmosphere-Oceans*, **45**, 107–122.
- Manson, G.K., Solomon, S.M., Forbes, D.L., Atkinson, D.E. and Craymer, M. 2005a. Spatial variability of factors influencing coastal change in the western Canadian Arctic. *Geo-Marine Letters*, **25**, 138-145.
- Manson, G.K., D.L. Forbes, C. Armenakis and F. Savopol. 2005b. Remote measurements of coastal change using QuickBird, IKONOS and aerial photography, Sachs Harbour, Northwest Territories, Canada. *Proceedings 8th International Conference on Remote Sensing for Marine and Coastal Environments*, Halifax, on CD-ROM.

- Mars, J.C. and Houseknecht, D.W. 2007. Quantitative remote sensing study indicates doubling of coastal erosion rate in past 50 yr along a segment of the Arctic coast of Alaska. *Geology*, **35**, 583-586.
- Marsh, P. and Schmidt, T. 1993. Influence of a Beaufort Sea storm surge on channel levels in the Mackenzie Delta. *Arctic*, **46**, 35-41.
- Martini, I.P., Jefferies, R.L., Morrison, R.I.G. and Abraham, K.F. 2009. Polar coastal wetlands: development, structure, and land use. In: *Coastal Wetlands: an Integrated Ecosystem Approach* (Perillo, G.M.E., Wolanski, E., Cahoon, D.R. and Brinson, M.M., editors). Elsevier, Amsterdam, 119-155.
- Maslanik, J.A., Fowler, C., Stroeve, J., Drobot, S., Zwally, H.J., Yi, D. and Emery, W. 2007. A younger, thinner Arctic ice cover: increased potential for rapid, extensive sea-ice loss. *Geophysical Research Letters*, **34**, L24501, doi:10.1029/2007GL032043.
- Mason, O.K. 1997. *Living with the Coast of Alaska*. Duke University Press, Durham, 348 p.
- Mason, O.K. and Jordan, J.W. 1993. Heightened North Pacific storminess during synchronous late Holocene erosion of northwest Alaska beach ridges. *Quaternary Research*, **40** (1), 55-69.
- Matthews, J., Dawson, A.G. and Shakesby, R.A. 1986. Lake shoreline development, frost weathering and rock platform erosion in an alpine periglacial environment, Jotunheimen, southern Norway. *Boreas*, **15**, 33-50.
- Maxwell, B. 1982. *The Climate of the Canadian Arctic Islands and Adjacent Waters*. Atmospheric Environment Service, Environment Canada, Downsview, Canada. Climatological Studies no. 30, vol. 2, 589 p.
- Maykut, G.A. 1978. Energy exchange over young sea ice in the central Arctic. *Journal of Geophysical Research*, **83** (C7), 3646-3658.
- McClelland, J.W., Holmes, R.M., Peterson, B.J., and Stieglitz, M. 2004. Increasing river discharge in the Eurasian Arctic: consideration of dams, permafrost thaw, and fires as potential agents of change. *Journal of Geophysical Research*, **109**, D18102, doi:10.1029/2004JD004583.
- McClelland, J.W., Déry, S.J., Peterson, B.J., Holmes, R.M., and Wood, E.F. 2006. A pan-arctic evaluation of changes in river discharge during the latter half of the 20th century. *Geophysical Research Letters*, **33**, L06715, doi:10.1029/2006GL025753.
- McClelland, J.W., Holmes, R.M., Peterson, B.J., Amon, R., Brabets, T., Cooper, L., Gibson, J., Gordeev, V.V., Guay, C., Milburn, D., Staples, R., Raymond, P.A., Shiklomanov, I., Striegl, R., Zhulidov, A., Gurtovaya, T., and Zimov, S. 2008. Development of a pan-Arctic database for river chemistry. *Eos, Transactions, American Geophysical Union*, **89**, 217-218.
- McDonald, M., Arragutainaq, L. and Novalinga, Z. 1997. *Voices from the Bay*. Canadian Arctic Resources Committee, Ottawa, [n] p.
- McGhee, R. 1981. A tale of two cultures: a prehistoric village in the Canadian Arctic. *Archaeology* (July/August 1981), 44-51.
- McGhee, R. 1996. *Ancient People of the Arctic*. University of British Columbia Press, Vancouver.
- McGhee, R. 2004. *The Last Imaginary Place. A Human History of the Arctic World*. Key Porter Books, Toronto.
- McGuire, A.D., Anderson, L.G., Christensen, T.R., Dallimore, S., Guo, L., Hayes, D.J., Heimann, M., Lorenson, T.D., Macdonald, R.W. and Roulet, N. 2009. Sensitivity of the carbon cycle in the Arctic to climate change. *Ecological Monographs*, **79** (4), 523-555.
- McNeave, C., Parsons, M.A., Gearheard, S., Huntington, H., Pulsifer, P.L. and McCann, H. 2010. Archiving local and traditional knowledge of the Arctic – Managing data and information in partnership with indigenous communities and earth scientists. Abstract ED31C-0678, poster presented at 2010 Fall Meeting, American Geophysical Union, San Francisco.
- Meier, W.N., Stroeve, J. and Gearheard, S. 2006. Bridging perspectives from remote sensing and Inuit communities on changing sea-ice cover in the Baffin Bay region. *Annals of Glaciology*, **44**, 433-438.
- Merkel, F.R. 2004. Evidence of population decline in common eiders breeding in western Greenland. *Arctic*, **57**, 27-36.
- Merkel, F.R. and Barry, T. 2008. *Seabird Harvest in the Arctic*. CAFF International Secretariat, Circumpolar Seabird Group (CBird), Akureyri, Iceland. Technical Report No. 16.
- Mitrovica, J.X., Tamisiea, M.E., Davis, J.L. and Milne, G.A. 2001. Recent mass balance of polar ice sheets inferred from patterns of global sea-level change. *Nature*, **409**, 1026.
- Mueller, D.R. and Vincent, W.F. 2006. Microbial habitat dynamics and ablation control on the

- Ward Hunt Ice Shelf. *Hydrological Processes*, **20** (4), 857-876.
- Mueller, D.R., Vincent, W.F. and Jeffries, M.O. 2003. Break-up of the largest Arctic ice shelf and associated loss of an epishelf lake. *Geophysical Research Letters*, **30**, 2031, doi:10.1029/2003GL017931.
- Mueller, D.R., Copland, L., Hamilton, A. and Stern, D.R. 2008. Examining Arctic ice shelves prior to the 2008 breakup. *Eos, Transactions American Geophysical Union*, **89** (49), 502-503, doi:10.1029/2008EO490002.
- Mueter, F.J. and Litzow, M.A. 2008. Sea ice retreat alters the biogeography of the Bering Sea continental shelf. *Ecological Applications*, **18**, 309-320.
- Muir, M.A.K. 2001. Integrated coastal management and marine protection in the Canadian Arctic. *Proceedings, 7th Circumpolar Co-operation Conference*, Tromsø, Norway. Arctic Institute of North America, Calgary, Canada, 16 p.
- Narod, B.B., Clarke, G.K.C. and Prager, B.T. 1988. Airborne UHF radar sounding of glaciers and ice shelves, northern Ellesmere Island, Arctic Canada. *Canadian Journal of Earth Sciences*, **25**, 95-105.
- Neff, J.C., Finlay J.C., Zimov, S.A., Davydov, S.P., Carrasco, J.J., Schuur, E.A.G. and Davydova, A.I. 2006. Seasonal changes in the age and structure of dissolved organic carbon in Siberian rivers and streams. *Geophysical Research Letters*, **33**, L23401, doi:10.1029/2006GL028222.
- Nickels, S., Furgal, C., Buell, M., and Moquin, H. 2006. *Unikkaaqatigiit – Putting the Human Face on Climate Change: Perspectives from Inuit in Canada*. Joint publication of Inuit Tapiriit Kanatami, Nasivvik Centre for Inuit Health and Changing Environments at Université Laval, and Ajunginiq Centre at the National Aboriginal Health Organisation, Ottawa, 196 p.
- Nielsen, N. 1994. Geomorphology of a degrading Arctic delta, Sermilik, southeast Greenland. *Geografisk Tidsskrift – Danish Journal of Geography*, **94** (1), 46-57.
- Njåstad, B., Kelman, I. and Rosenberg, S. (editors). 2009. *Vulnerability and Adaptation to Climate Change in the Arctic*. Sustainable Development Working Group, Arctic Council. Norsk Polar-institutt, Tromsø, Brief Report Series no. 12, 58 p. and 9 appendices.
- Norberg, J., Wilson, J., Walker, B. and Ostrom, E. 2008. Diversity and resilience of social-ecological systems. In: *Complexity Theory for a Sustainable Future* (Norberg, J. and Cumming, G.S., editors). Columbia University Press, New York, 46-80.
- Norshipping. 2007. *Arctic Shipping 2030: From Russia with Oil, Stormy Passage, or Arctic Great Game?* ECON-Report no. 2007-070, Project no. 50450.
- Normann, A.K. 2007. *Connecting People. Towards an Industrial Cluster. The North Norwegian Marine Biotechnology Industry*. Norut, Tromsø, Report SF-02/2007.
- Norton, D.W., 2002. Coastal sea ice watch: private confessions of a convert to indigenous knowledge. In: *The Earth is Faster Now: Indigenous Observations of Arctic Environmental Change* (Krupnik, I. and Jolly, D., editors). Arctic Research Consortium of the United States, Fairbanks, AK, USA, 126-155.
- Norton, D.W. and Gaylord, A.G. 2004. Drift velocities of ice floes in Alaska's northern Chukchi sea flaw zone: determinants of success by spring subsistence whalers in 2000 and 2001. *Arctic*, **57**, 347-362.
- NTI. 2001. *Elders Conference on Climate Change*. Nunavut, Nunavut Tunngavik Incorporated, Iqaluit.
- NTI. 2005. *What if the Winter Doesn't Come?: Inuit Perspectives on Climate Change Adaptation Challenges in Nunavut*. Nunavut Tunngavik Incorporated, Iqaluit.
- NTK (Nunavuummi Tasiujarjuamiuguatigiit Katutjiqatigiingit). 2008. A life vest for Hudson Bay's drifting stewardship. *Arctic*, **61**, Supplement 1, 35-47.
- Ødegård, R.S. and Sollid, J.L. 1993. Coastal cliff temperatures related to the potential for cryogenic weathering processes, western Spitsbergen, Svalbard. *Polar Research*, **12**, 95-106.
- Ødegård, R.S., Eitzelmüller, B., Vatne, G. and Sollid, J.L. 1995. Near-surface spring temperatures in an Arctic coastal cliff: possible implications of rock breakdown. In: *Steepland Geomorphology* (Slaymaker, O., ed.). Wiley, Chichester, UK, 89-102.
- Ogorodov, S.A. 2003. Physical-geographical characteristic: coasts [in Russian]. Chapter 1.5 in *The Pechora Sea: Integrated Research* (Romankevich, E.A., Lisitzin, A.P. and Vinogradov, M.E., editors). P.P. Shirshov Institute of Oceanology RAS, Arctic and Antarctic Research Institute, VniIOceanGeologia, Institute for System Analysis RAS, M.V. Lomonosov Moscow State University, Institute of Environmental Problems of the North (Ural Branch) RAS, Moscow, 39-51

(ISBN 5-8037-0077-0).

- Ogorodov, S.A. 2005. Human impacts on coastal stability in the Pechora Sea. *Geo-Marine Letters*, **25** (2-3), 190-195
- Ogorodov, S.A. 2008. Effects of changing climate and sea ice extent on Pechora and Kara Seas coastal dynamics. *Proceedings 9th International Conference on Permafrost*, Fairbanks, Alaska, 1317-1320.
- Ogorodov, S.A., Kamalov, A.M., Zubakin, G.K. and Gudoshnikov, Y.P. 2005. The role of sea ice in coastal and bottom dynamics in the Pechora Sea. *Geo-Marine Letters*, **25**, 146-152.
- Oliver-Smith, A. 2009. *Sea Level Rise and the Vulnerability of Coastal Peoples: Responding to the Local Challenges of Global Climate Change in the 21st Century*. Intersections, United Nations University (Institute for Environment and Human Security) and Munich Re, UNU-EHS Publication No. 7, 56 p.
- Olsen, E., Gjørseter, H., Røttingen, I., Dommasnes, A., Fossum, P. and Sandberg, P. 2007. The Norwegian ecosystem-based management plan for the Barents Sea. *ICES Journal of Marine Science*, **64**, 599-602.
- Olson, M. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Harvard University Press, Cambridge, Massachusetts, 195 p.
- Oozeva, C., Noongwook, C., Noongwook, G., Alowa, C. and Krupnik, I. 2004. *Watching Ice and Weather Our Way*. Arctic Studies Center, Smithsonian Institution, Washington, DC, USA.
- Opsahl, S., Benner, R. and Amon, R.W. 1999. Major flux of terrigenous dissolved organic matter through the Arctic Ocean. *Limnology and Oceanography*, **44**, 2017-2023.
- Ostrom, E. 2008. Frameworks and theories of environmental change. *Global Environmental Change*, **18**, 249-252.
- Overduin, P.P. and Couture, N.J. (editors). 2006. *Arctic Coastal Dynamics II – Science and Implementation Plan*. Arctic Centre, University of Groningen, Netherlands, 13 p. and 4 appendices.
- Overduin, P.P. and Kane, D.L. 2006. Frost boils and soil ice content: field observations. *Permafrost and Periglacial Processes*, **17**, 291-307.
- Overduin, P.P., Hubberten, H.-W., Rachold, V., Romanovskii, N., Grigoriev, M. and Kasymkaya, M. 2007. The evolution and degradation of coastal and offshore permafrost in the Laptev and East Siberian seas during the last climatic cycle. *Geological Society of America, Special Papers*, **426**, 97-111.
- Overeem, I. and Syvitski, J.P.M. 2010. Shifting discharge peaks in Arctic rivers, 1977-2007. *Geografiska Annaler*, **92**, 285-296.
- Overeem, I., Wobus, C.W., Anderson, R.S., Clow, G.D., Urban, F.E. and Stanton, T.P. 2009. Quantifying sea-ice loss as a driver of Arctic coastal erosion. *Eos, Transactions American Geophysical Union*, **90** (52), Fall Meeting Supplement, Abstract EP43B-0658.
- Overeem, I., Anderson, R.S., Wobus, C.W., Matell, N., Urban, F.E., Clow, G.D. and Stanton, T.P. 2010. The impact of sea ice loss on wave dynamics and coastal erosion along the Arctic coast. Abstract EP54B-05, presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco.
- Overing, J. 1985. Introduction. In: *Reason and Morality* (Overing, J., editor). ASA Monographs, 24. Routledge, London, 278 p.
- Overland, J. 2009. Fisheries in the Bering Sea. In: *Arctic Report Card 2009* (Richter-Menge, J. and Overland, J.E., editors), [http://www.arctic.noaa.gov/reportcard/essay\\_overland.html](http://www.arctic.noaa.gov/reportcard/essay_overland.html).
- Overpeck, J.T., Sturm, M., Francis, J.A., Perovich, D.K., Serreze, M.C., Benner, R., Carmack, E.C., Chapin III, F.S., Gerlach, S.C., Hamilton, L.C., Hinzman, L.D., Holland, M., Huntington, H.P., Key, J.R., Lloyd, A.H., MacDonald, G.M., McFadden, J., Noone, D., Prowse, T.D., Schlosser, P. and Vörösmarty, C. 2005. Arctic system on trajectory to new, seasonally ice-free state. *Eos, Transactions American Geophysical Union*, **86** (34), 309-316.
- PAME (Protection of Arctic Marine Environment). 2009a. *Arctic Marine Shipping Assessment*. PAME Working Group, Arctic Council, 194 p. (<http://web.arcticportal.org/en/pame/amsa-2009-report>).
- PAME (Protection of Arctic Marine Environment). 2009b. *Arctic Offshore Oil and Gas Guidelines*. PAME Working Group, Arctic Council, 98 p.
- Parewick, K. 2008. Coast and People Working Group. In: *Arctic Coastal Dynamics, Proceedings of 6th International Workshop* (Overduin, P.P. and Couture, N., editors). *Berichte zur Polar- und Meeresforschung*, **576**, 8-12.

- Parkinson, A.J. 2008. The International Polar Year, 2007-2008, an opportunity to focus on infectious diseases in Arctic regions. *Emerging Infectious Diseases*, **14** (1), 1-3.
- Parkinson, A.J. and Butler, J.C. 2005. Potential impacts of climate change on infectious diseases in the Arctic. *International Journal of Circumpolar Health*, **64** (5), 478-486.
- Paull, C.K., Ussler III, W., Dallimore, S.R., Blasco, S.M., Lorenson, T.D., Melling, H., Medioli, B.E., Nixon, F.M. and McLaughlin, F.A. 2007. Origin of pingo-like features on the Beaufort Sea shelf and their possible relationship to decomposing methane gas hydrates. *Geophysical Research Letters*, **34**, L01603, doi:10.1029/2006GL027977, 5 p.
- Pearce, T. 2005. Living with climate change in Ulukhaktok (Holman, NT). *Weathering Change*, Spring 2005, 6.
- Pearce, T., Smit, B., Duerden, F., Katayoak, F., Inuktalik, R., Goose, A., Ford, J. and Wandel, J. 2006. Travel routes, harvesting and climate change in Ulukhaktok, Canada. *Northern Research Forum Open Meeting – The Borderless North*. Oulu, Finland and Luleå, Sweden.
- Pearce, T., Ford, J., Laidler, G., Smit, B., Duerden, F., Allarut, M., Andrachuk, M., Baryluk, S., Dialla, A., Elee, P., Goose, A., Ikummaq, T., Joamie, E., Kataoyak, F., Loring, E., Meakin, S., Nickels, S., Shappa, K., Shirley, J., and Wandel, J. 2009. Community collaboration and environmental change research in the Canadian Arctic. *Polar Research*, **28**, 10-27.
- Pearce, T., Ford, J., Duerden, F., Smit, F., Andrachuk, M., Berrang-Ford, L. and Smith, T. 2010. Advancing adaptation planning for climate change in the Inuvialuit Settlement Region (ISR): a review and critique. *Regional Environmental Change*, published on-line, doi:10.1007/s10113-010-0126-4.
- Peckham, S.D., Manley, W.F., Dyrurgerov, M., and Syvitski, J.P.M. 2002. Modeling coastal erosion near Barrow Alaska. In: *Arctic Coastal Dynamics, Report of an International Workshop*, Potsdam (Rachold, V., Brown, J. and Solomon, S., editors). *Berichte zur Polar- und Meeresforschung*, **413**, 46-47.
- Peltier, W.R. 2004. Global glacial isostasy and the surface of the ice-age Earth: the ICE-5G (VM2) model and GRACE. *Annual Review of Earth and Planetary Science*, **32**, 111-149.
- Pelyasov, A. 2009. *And the Last will be First: Northern Periphery on the Route to the Knowledge Economy* [in Russian]. Centre for Productive Forces, Moscow.
- Perovich, D.K. and Richter-Menge, J.A. 2009. Loss of sea ice in the Arctic. *Annual Review of Marine Science*, **1**, 417-441.
- Peterson, B.J., Holmes, R.M., McClelland, J.W., Vörösmarty, C.J., Lammers, R.B., Shiklomanov, A.I., Shiklomanov, I.A., and Rahmstorf, S. 2002. Increasing river discharge to the Arctic Ocean. *Science*, **298**, 2171-2173.
- Pfeffer, W.T., Harper J.T. and O'Neel, S. 2008. Kinematic constraints on glacier contributions to 21st century sea-level rise. *Science*, **321**, 1340-1343.
- Plater, A.J., Long, A.J., Spencer, C.D. and Delacour, R.A.P. 1999. The stratigraphic record of sea-level change and storms during the last 200 years: Romney Marsh, southeast England. *Quaternary International*, **55**, 17-28.
- Polder, A., Odland, J.O., Tkachev, A., Foereid, S., Savinova, T.N. and Skaare, J.U. 2003. Geographic variation of chlorinated pesticides, toxaphenes and PCBs in human milk from sub-Arctic and Arctic locations in Russia. *Science of the Total Environment*, **306**, 179-195.
- Poppel, B. 2006. Interdependence of subsistence and market economies in the Arctic. Chapter 5 in: *The Economy of the North* (Glomsrød, S. and Aslaksen, I., editors). Statistics Norway, Oslo, 65-80.
- Poppel, B. 2010. Some data sources on people, peoples, communities, regions and human activities in Greenland. In: *The Political Economy of Northern Regional Development, Vol. 1* (Winther, G. et al., editors). *TemaNord*, **521**, 254-282.
- Poppel, B. and Kruse, J. 2009. The importance of a mixed cash- and harvest herding based economy to living in the Arctic – an analysis based on Survey of Living Conditions in the Arctic (SLiCA). Chapter 3 in: *Quality of Life in the New Millennium: Advances in Quality-of-Life Studies, Theory and Research* (Møller, V. and Huscka, D., editors). Social Indicators Research Series. Springer Verlag, 27-42.
- Powers, S.P., Bishop, M.A., Grabowski, J.H. and Peterson, C.H. 2002. Intertidal benthic resources of the Copper River delta, Alaska, USA. *Journal of Sea Research*, **47**, 13-23.
- Prior D.B. and Pickrill, R.A. 1997. Marine geoscience contributions to coastal zone management in Canada. *Bedford Institute of Oceanography Science Review 1994 and 1995*, 86-92

- Pritchard, H.D., Arthern, R.J., Vaughan, D.G. and Edwards, L.A. 2009. Extensive dynamic thinning on the margins of the Greenland and Antarctic ice sheets. *Nature*, **461**, 971-975.
- Proshutinsky, A., Ashik, I.M., Dvorkin, E.N., Häkkinen, S., Krishfield, R.A. and Peltier, W.R. 2004. Secular sea level change in the Russian sector of the Arctic Ocean. *Journal of Geophysical Research*, **109**, C03042, doi:10.1029/2003JC002007.
- Proshutinsky, A., Ashik, I., Häkkinen, S., Hunke, E., Krishfield, R., Maltrud, M., Maslowski, W. and Zhang, J. 2007. Sea level variability in the Arctic Ocean from AOMIP models. *Journal of Geophysical Research*, **112**, C04S08, doi:10.1029/2006JC003916.
- Proshutinsky, A., Timmermans, M.-L., Ashik, I., Beszczynska-Moeller, A., Carmack, E., Frolov, I., Krishfield, R., McLaughlin, F., Morisn, J., Polyakov, I., Shimada, K., Sokolov, V., Steele, M., Toole, J. and Woodgate, R. 2010. Ocean. In: The Arctic (Richter-Menge, J., editor). In: *State of the Climate in 2009. Bulletin of the American Meteorological Society*, **91** (7), S109-S112.
- Prowse, T., Furgal, C., Wrona, F. and Reist, J. 2009. Implications of climate change for northern Canada: freshwater, marine, and terrestrial ecosystems. *Ambio*, **38**, 282-289.
- Pulsifer, P.L., Kaufman, M., Young, D., Collins, J.A., Eicken, H. and Gearheard, S. 2010. Using schema-less database technology to develop a web application for sea ice monitoring. Abstract IN31B-1292, poster presented at 2010 Fall Meeting, American Geophysical Union, San Francisco.
- Rachold, V. and Cherkashov, G. (editors). 2004. Arctic Coastal Dynamics. Report of the 4th International Workshop, November 10-13, 2003, St. Petersburg, Russia. *Berichte zur Polar- und Meeresforschung*, **429**, 1-229.
- Rachold, V., Grigoriev, M.N., Are, F.E., Solomon, S.M., Reimnitz, E., Kassens, H. and Antonov, M. 2000. Coastal erosion vs. riverine sediment discharge in the Arctic shelf seas. *International Journal of Earth Sciences*, **89**, 450-460.
- Rachold, V., Brown, J. and Solomon, S. (editors). 2002. Arctic Coastal Dynamics. Report of the 2nd International Workshop, November 26-30, 2001, Potsdam, Germany. *Berichte zur Polar- und Meeresforschung*, **413**, 1-103.
- Rachold, V., Brown, J., Solomon, S. and Sollid, J.L. (editors). 2003. Arctic Coastal Dynamics. Report of the 3rd International Workshop, December 2-5, 2002, Oslo, Norway. *Berichte zur Polar- und Meeresforschung*, **443**, 1-127.
- Rachold, V., Lantuit, H., Couture, N. and Pollard, W.H. (editors). 2005a. Arctic Coastal Dynamics. Report of the 5th International Workshop, October 13-16, 2004, Montreal, Canada. *Berichte zur Polar- und Meeresforschung*, **506**, 1-143.
- Rachold, V., Aré, F., Atkinson, D.E., Cherkashov, G. and Solomon, S.M. 2005b. Arctic Coastal Dynamics (ACD): an introduction. *Geo-Marine Letters*, **25**, 63-68.
- Radić, V. and Hock, R. 2011. Regionally differentiated contribution of mountain glaciers and ice caps to future sea-level rise. *Nature Geoscience*, **4**, 91-94.
- Ragen, T.J., Huntington, H.P. and Hovelsrud, G.K. 2008. Conservation of Arctic marine mammals faced with climate change. *Ecological Applications*, **18** (Supplement), S166-S174.
- Rahmstorf, S. 2007. A semi-empirical approach to projecting future sea-level rise. *Science*, **315**, 368-370.
- Rapp, A. 1960. Talus slopes and mountain walls at Tempelfjorden, Spitsbergen - a geomorphological study of the denudation of slopes in an Arctic locality. *Meddelande Uppsala Universitets Geografiska Institution*, 55A, Uppsala University, Uppsala, Sweden.
- Rasmussen, R.O. 2005. *Socioøkonomisk analyse af fangererhvervet i Grønland*. Udarbejdet for Grønlands Hjemmestyre, Direktoratet for Fiskeri og Fangst, Nuuk.
- Rawlins, M.A., Willmott, C.J., Shiklomanov, A., Linder, E., Froking, S., Lammers, R.B., and Vörösmarty, C.J. 2006. Evaluation of trends in derived snowfall and rainfall across Eurasia and linkages with discharge to the Arctic Ocean. *Geophysical Research Letters*, **33**, L07403, doi:10.1029/2005GL025231.
- Raymond, P.A., McClelland, J.W., Holmes, R.M., Zhulidov, A.V., Mull, K., Peterson, B.J., Striegl, R.G., Aiken, G.R. and Gurtovaya, T.Y. 2007. Flux and age of dissolved organic carbon exported to the Arctic Ocean: a carbon isotopic study of the five largest Arctic rivers. *Global Biogeochemical Cycles*, **21**, GB4011, doi:10.1029/2007GB002934.
- Regehr, E.V., Lunn, N.J., Amstrup, S.C. and Stirling, I. 2007. Effects of earlier sea ice breakup on survival and population size of polar bears in western Hudson Bay. *Journal of Wildlife Management*, **71**, 2673-2683.

- Regular, P.M., Shuhood, F., Power, T., Montevecchi, W.A., Robertson, G.J., Ballam, D., Piatt, J.F. and Nakashima, B. 2009. Murre, capelin, and ocean climate: inter-annual associations across a decadal shift. *Environmental Monitoring and Assessment*, **156**, 293-302.
- Reid, P.C., Johns, D.G., Edwards, M., Starr, M., Poulin, M. and Snoeijs, P. 2007. A biological consequence of reducing Arctic ice cover: arrival of the Pacific diatom *Neodenticula seminae* in the North Atlantic for the first time in 800 000 years. *Global Change Biology*, **13**, 1910-1921.
- Reimer, B. and Tachikawa, M. 2008. Capacity and social capital in rural communities. Chapter 6 in: *Revitalization: Fate and Choice* (Apedaile, P. and Tsuboi, N., editors). Rural Development Institute, Brandon, Manitoba, Canada.
- Reimnitz, E. 2000. Interactions of river discharge with sea ice in proximity of Arctic deltas: a review. *Polarforschung*, **70**, 123-134.
- Reimnitz, E., and Barnes, P. 1974. Sea ice as a geologic agent on the Beaufort Sea shelf of Alaska. In: *The Coast and Shelf of the Beaufort Sea* (Reed, J.C. and Sater, J.E., editors). Arctic Institute of North America, Arlington, Virginia, USA, 301-353.
- Reimnitz, E., Rodeick, C.A. and Wolf, S.C. 1974. Strudel scour: a unique Arctic marine geologic phenomenon. *Journal of Sedimentary Petrology*, **44** (2), 409-420.
- Reimnitz, E., Dethleff, D. and Nürnberg, D. 1994. Contrasts in Arctic shelf sea-ice regimes and some implications: Beaufort Sea and Laptev Sea. *Marine Geology*, **119**, 215-225.
- Reimnitz, E., Graves, S.M. and Barnes, P.W. 1988. *Beaufort Sea Coastal Erosion, Sediment Flux, Shoreline Evolution, and the Erosional Shelf Profile*. United States Geological Survey, Map I-1182-G, 22 p.
- Reimnitz, E., Barnes, P.W. and Harper, J.R. 1990. A review of beach nourishment from ice transport of shoreface materials, Beaufort Sea, Alaska. *Journal of Coastal Research*, **6**, 439-470.
- Reist, J., Wrona, F., Prowse, T., Power, M., Dempson, J., Beamish, R., King, J., Carmichael, T. and Sawatsky, C. 2006a. General effects of climate change on Arctic fishes and fish populations. *Ambio*, **35**, 370-380.
- Reist, J., Wrona, F., Prowse, T., Power, M., Dempson, J., King, J., Beamish, R. 2006b. An overview of effects of climate change on selected arctic freshwater and anadromous fishes. *Ambio*, **35**, 381-387.
- Reist, J., Wrona, F., Prowse, T., Dempson, J., Power, M., Köck, G., Carmichael, T.J., Sawatsky, C.D., Lehtonen, H., Tallman, R.F., 2006c. Effects of climate change and UV radiation on fisheries for arctic freshwater and anadromous species. *Ambio*, **35**, 402-410.
- Rember, D.R., and Trefry, J.H. 2004. Increased concentrations of dissolved trace metals and organic carbon during snowmelt in rivers of the Alaskan Arctic. *Geochimica et Cosmochimica Acta*, **68**, 477-489.
- Reschny, J. 2007. *Mining, Inuit Traditional Activities and Sustainable Development: a Study of the Effects of Winter Shipping at the Voisey's Bay Nickel Mine*. MA dissertation, Department of Geography, Memorial University of Newfoundland, St. John's, NL, Canada..
- Resilience Alliance. 2011. *Assessing Resilience in Social-Ecological Systems: Workbook for Practitioners*. Revised version 2.0 (<http://www.resalliance.org/3871.php>; accessed 2011-02-20).
- Revkin, A.C. 2008. Video: Alaska's eroding Arctic coast. *New York Times*, video and interview with C. Wobus (<http://dotearth.blogs.nytimes.com/2008/09/25/video-alaskas-eroding-arctic-coast/?ei=5070&emc=eta1>; accessed 2011-02-12).
- Richmond, C. 2009. The social determinants of Inuit health: a focus on social support in the Canadian Arctic. *International Journal of Circumpolar Health*, **68** (5), 471-487.
- Richmond, C., Ross, N.A. and Egeland, G.M. 1997. Social support and thriving health: a new approach to understanding the health of indigenous Canadians. *American Journal of Public Health*, **97** (10), 1827-1833.
- Richter-Menge, J. (editor). 2010. The Arctic. In: *State of the Climate in 2009* (Arndt, D.S., Baringer, M.O. and Johnson, M.R., editors). *Bulletin of the American Meteorological Society*, **91** (7), Special Supplement, S107-S124.
- Richter-Menge, J. and Overland, J.E. (editors). 2010. Arctic Report Card 2010. (<http://www.arctic.noaa.gov/reportcard>, accessed 2011-02-20).
- Riedlinger, D. and Berkes, F. 2001. Contributions of traditional knowledge to understanding climate change in the Canadian Arctic. *Polar Record*, **37**, 315-328.
- Riewe, R. and Oakes, J. (editors). 2006. *Climate Change: Linking Traditional and Scientific Knowledge*. Aboriginal Issues Press, Winnipeg, [n] pp.



- Rignot, E., Bamber, J.L., van den Broeke, M., Davis, C., Li, Y., van de Berg, W.J. and van Meijgaard, E. 2008. Recent Antarctic ice mass loss from radar interferometry and regional climate modeling. *Nature Geoscience*, **1**, 106-109.
- Roberts, A., Hinzman, L., Walsh, J.E., Holland, M., Cassano, J., Döscher, R., Mitsudera, A. and Sumi, A. 2010a. A Science Plan for Regional Arctic System Modeling. Report to the National Science Foundation from the International Arctic Science Community. International Arctic Research Center, University of Alaska, Fairbanks. IARC Technical Papers 10-0001, iv+47 p. (<http://www.iarc.uaf.edu/publications/reports/IARCTP10-0001.pdf>; accessed 2011-02-06).
- Roberts, A., Cherry, J., Elliot, S., Hinzman, L. and Walsh, J. 2010b. Proposed development of a Community Arctic System Model for understanding environmental complexity. In: *State of the Arctic: Approaches to Integrated Studies of the Arctic System*, Miami, March 2010. (<http://soa.arcus.org/sites/soa.arcus.org/files/sessions/1-3-approaches-integrated-studies-arctic-system/pdf/1-3-7-roberts-andrew.pdf>; accessed 2011-02-06)
- Robertson, G.J. and Gilchrist, H.G. 1998. Evidence of population declines among common eiders breeding in the Belcher Islands, Northwest Territories. *Arctic*, **51**, 378-385.
- Roderfeld, H., Blyth, E., Dankers, R., Huse, G., Slagstad, D., Ellingsen, I., Wolf, A. and Lange, M.A. 2008. Potential impact of climate change on ecosystems of the Barents Sea Region. *Climatic Change*, **87**, 283-303.
- Romanovskii, N.N., Hubberten, H.-W., Gavrilov, A.V., Eliseeva, A.A. and Tipenko, G.S. 2005. Offshore permafrost and gas hydrate stability zone on the shelf of the East Siberian Seas. *Geo-Marine Letters*, **25**, 167-182
- Rosser, N.J., Petley, D.N., Lim, M., Dunning, S.A. and Allison, R.J. 2005. Terrestrial laser scanning for monitoring the process of hard rock coastal cliff erosion. *Quarterly Journal of Engineering Geology and Hydrogeology*, **38**, 363-375.
- Rothrock, D.A. and Zhang, J. 2005. Arctic Ocean ice volume: What explains its recent depletion? *Journal of Geophysical Research*, **110**, C01002, 10 p., doi:10.1029/2004JC002282.
- Roulet, N.T., Jano, A., Kelly, C.A., Klinger, L.F., Moore, T.R., Protz, R., Ritter, J.A. and Rouse, W.R. 1994. Role of the Hudson Bay lowland as a source of atmospheric methane. *Journal of Geophysical Research*, **99**, 1439-1454.
- Ruz, M.-H., Héquette, A. and Hill, P.R. 1992. A model of coastal evolution in a transgressed thermokarst topography, Canadian Beaufort Sea. *Marine Geology*, **106**, 251-278.
- St-Hilaire, D., Bell, T., Forbes, D.L. and Taylor, R.B. 2010. *Arctic Coastal Dynamics under Changing Relative Sea-Level and Environmental Forcing, Canadian Arctic Archipelago, Northwest Territories and Nunavut*. Geological Survey of Canada, Scientific Presentation 7, 1 sheet.
- Sable, T., Howell, G., Wilson, D., Penashue, P. and Sillitoe, P. 2007. The Ashkui Project: linking western science and Innu environmental knowledge in creating a sustainable environment. In: *Local Science vs. Global Science: Approaches to Indigenous Knowledge in International Development* (Sillitoe, P., editor). Berghahn Books, New York, 109-127.
- Sakshaug, E. 2004. Primary and secondary production in the Arctic seas. In: *The Organic Carbon Cycle in the Arctic Ocean* (Macdonald, R.W., editor). Springer, Berlin, 57-81.
- Samuelson, G.M. 2001. Polychaetes as indicators of environmental disturbance on subarctic tidal flats, Iqaluit, Baffin Island, Nunavut Territory. *Marine Pollution Bulletin*, **42**, 733-741.
- Sánchez-García, L., Vonk, J., Charkin, A., Kosmach, D., Dudarev, O., Semiletov, I., Gustafsson, Ö., 2009. Remobilization and degradation of Myostah Island (Laptev Sea), as part of the collapsing Arctic coastal ice complex. *Geophysical Research Abstracts*, **11**, EGU2009-2983 (<http://meetingorganizer.copernicus.org/EGU2009/EGU2009-2983.pdf>; accessed 2011-02-12).
- SAON (Sustaining Arctic Observing Networks). 2009. *Observing the Arctic*. Report of the SAON Initiating Group to the Arctic Council, 12 p. ([www.arcticobserving.org](http://www.arcticobserving.org)).
- SAON Steering Group. 2011. *Plan for the Implementation Phase of SAON*. Report to the Arctic Council and the International Arctic Science Committee, Final Report (February 2011), 14 p. ([http://arcticobserving.org/images/stories/SAON\\_Reports/SAON\\_Report\\_February\\_20112.pdf](http://arcticobserving.org/images/stories/SAON_Reports/SAON_Report_February_20112.pdf); accessed 2011-03-31).
- Savelieva, N.I., Semiletov, I.P., Vasilevskaya, L.N. and Pugach, S.P. 2000. A climate shift in seasonal values of meteorological and hydrological parameters for northeastern Asia. *Progress in Oceanography*, **47**, 279-297.
- Scheffer, M., Westely, F., Brock, W.A. and Holmgren, M. 2002. Dynamic interaction of societies and ecosystems—linking theories from ecology, economy and sociology. In: *Panarchy: Understanding Transformations in Human and Natural Systems* (Gunderson, L.H., Holling, C., Wall,

- E. and Marzall, K, editors). Washington, Island Press, Washington, DC, 195-240.
- Schirmermeister, L., Kunitsky, V., Grosse, G., Wetterich, S., Meyer, H., Schwamborn, G., Babiy, O., Derevyagin, A., Siegert, C. 2010. Sedimentary characteristics and origin of the Late Pleistocene Ice Complex on northeast Siberian Arctic coastal lowlands and islands – a review. *Quaternary International*, in press (doi:10.1016/j.quaint.2010.04.004).
- Schledermann, P. 1990. *Crossroads to Greenland. 3000 years of Prehistory in the Eastern High Arctic*. Komatik Series. The Arctic Institute of North America, Calgary.
- Schneider, J., Grosse, G. and Wagner, D. 2009. Land cover classification of tundra environments in the Arctic Lena Delta based on Landsat 7 ETM+ data and its application for upscaling of methane emissions. *Remote Sensing of Environment*, **113**, 380-391.
- Schuur, E.A.G., Bockheim, J., Canadell, J.G., Euskirchen, E., Field, C.B., Goryachkin, S.V., Hagemann, S., Kuhry, P., Lafleur, P.M., Lee, H., Mazhitova, G., Nelson, F.E., Rinke, A., Romanovsky, V.E., Shiklomanov, N., Tarnocai, C., Venevsky, S., Vogel, J.G. and Zimov, S.A. 2008. Vulnerability of permafrost carbon to climate change: implications for the global carbon cycle. *BioScience*, **58**, 701-714.
- Scott, W.R. 2001. *Institutions and Organizations: Ideas and Interests*. Sage Publications, Thousand Oaks, California, 267 p.
- Séguin, J. (editor). 2008. *Human Health in a Changing Climate: A Canadian Assessment of Vulnerabilities and Adaptive Capacity*. Health Canada, Ottawa, 458 p. plus *Synthesis Report*.
- Serreze, M.C., Maslanik, J.A., Scambos, T.A., Fetterer, F., Stroeve, J., Knowles, K., Fowler, C., Drobot, S., Barry, R.G. and Haran, T.M. 2002. A record minimum Arctic sea ice extent and area in 2002. *Geophysical Research Letters*, **30** (3), 1110-1113.
- Steele, M., Moritz, R., Meredith, M. and Lee, C.M. 2006. The large-scale freshwater cycle of the Arctic. *Journal of Geophysical Research*, **111**, C11010, doi:10.1029/2005JC003424.
- Serreze, M.C., Holland, M.M. and Stroeve, J. 2007. Perspectives on the Arctic's shrinking sea-ice cover. *Science*, **315**, 1533-1536.
- Shakhova, N., Semiletov, I., Salyuk, A., Yusupov, V., Kosmach, D. and Gustafsson, Ö. 2010a. Extensive methane venting to the atmosphere from sediments of the East Siberian Arctic Shelf. *Science*, **327**, 1246-1250.
- Shakhova, N., Semiletov, I. and Gustafsson, Ö. 2010b. Methane from the East Siberian Shelf – response. *Science*, **329**, 1147-1148.
- Shapiro, L.H. and Barnes, P.W. 1991. Correlation of nearshore ice movement with seabed ice gouges near Barrow, Alaska. *Journal of Geophysical Research*, **96**, 16979-16989.
- Sharov, A.I. 2005. Studying changes of ice coasts in the European Arctic. *Geo-Marine Letters*, **25**, 153-166.
- Sharov, A.I., Raggam, H. and Schardt, M. 2000. Satellite hydrographic monitoring along the Russian Arctic coast. *International Archives of Photogrammetry and Remote Sensing*, **33** (B4), 948-955.
- Sharp, M. and Wolken, G. 2010. Glaciers outside Greenland. In: *Arctic Report Card: Update for 2010*, 48-54; <http://www.arctic.noaa.gov/reportcard>.
- Shaw, J., Taylor, R.B., Forbes, D.L., Ruz, M-H., and Solomon, S. 1998. *Sensitivity of the Coasts of Canada to Sea-Level Rise*. Geological Survey of Canada, Bulletin 505, 79 p.+ map.
- Shiklomanov, A.I. 2010. River discharge. In: The Arctic (Richter-Menge, J., editor). In: *State of the Climate in 2009*. *Bulletin of the American Meteorological Society*, **91** (7), S116-S117.
- Shiklomanov, A.I. and Lammers, R.B. 2009. Record Russian river discharge in 2007 and the limits of analysis. *Environmental Research Letters*, **4**, 045015, doi:10.1088/1748-9326/4/4/045015.
- Sjare, B. and Stenson, G.B. 2010. Changes in the reproductive parameters of female harp seals (*Pagophilus groenlandicus*) in the northwest Atlantic. *ICES Journal of Marine Sciences*, **67**, 304-315.
- Sluyter, A. 2002. *Colonialism and Landscape: Postcolonial Theory and Applications*. Rowman and Littlefield, Lanham, Maryland, USA, 267 p.
- Smedsrud, L.H., Sorteberg, A. and Kloster, K. 2008. Recent and future changes in the Arctic sea-ice cover. *Geophysical Research Letters*, **35**, L20503, doi:10.1029/2008GL034813.
- Smit, B., Burton, I., Klein, R. and Street, R. 1999. The science of adaptation: a framework for assessment. *Mitigation and Adaptation Strategies for Global Change*, **4**, 199-213.
- Smit, B., Hovelsrud, G. and Wandel, J. 2008. *CAVIAR: Community Adaptation and Vulnerability in*

- Arctic Regions*. Department of Geography, University of Guelph, Guelph, Canada. Occasional Paper No. 28, 23 p.
- Smith, I.R., Bell, T., Forbes, D.L. and Martin, B. 2006. A hypersaline coastal marine transgressive basin with sedimentary mirabilite formation, southern Banks Island, NWT. *Proceedings, ArcticNet Annual Science Meeting 2006*, Victoria, BC, 95.
- Solomon, S.M. 2005. Spatial and temporal variability of shoreline change in the Beaufort–Mackenzie region, Northwest Territories, Canada. *Geo-Marine Letters*, **25**, 127-137.
- Solomon, S.M. and Covill, R. 1995. Impacts of the September 1993 storm on Beaufort Sea. *Proceedings 1995 Canadian Coastal Conference*, Dartmouth NS. Canadian Coastal Science and Engineering Association, **2**, 779-795.
- Solomon, S., Mudie, P.J., Cranston, R., Hamilton, T., Thibaudeau, S.A. and Collins, E.S. 2000. Characterisation of marine and lacustrine sediments in a drowned thermokarst embayment, Richards Island, Beaufort Sea, Canada. *International Journal of Earth Sciences*, **89** (3), 503–521.
- Solomon, S.M., Taylor, A.E. and Stevens, C.W. 2008a. Nearshore ground temperatures, seasonal ice bonding, and permafrost formation within the bottom-fast ice zone, Mackenzie Delta, NWT. *Proceedings 9th International Conference on Permafrost*, Fairbanks, Alaska, 1675-1680.
- Solomon, S.M., Forbes, D.L., Fraser, P., Moorman, B.J., Stevens, C.W. and Whalen, D. 2008b. Near-shore geohazards in the southern Beaufort Sea, Canada. In: *Proceedings of the 7th International Pipeline Conference*, Calgary, AB, American Society of Mechanical Engineers, 9 p. on CD-ROM.
- Spencer, R.G.M., Aiken, G.R., Wickland, K.P., Striegl, R.G. and Hernes, P.J. 2008. Seasonal and spatial variability in dissolved organic matter quantity and composition from the Yukon River basin, Alaska. *Global Biogeochemical Cycles*, **22**, GB4002, doi:10.1029/2008GB003231
- Squire, V.A. 2007. Of ocean waves and sea-ice revisited. *Cold Regions Science and Technology*, **49**, 110-133.
- Squires, M., Lesack, L.F.W., Hecky, R.E., Guildford, S.J., Ramlal, P. and Higgins, S.N. 2009. Primary production and carbon dioxide metabolic balance of a lake-rich Arctic river floodplain: partitioning of phytoplankton, epipelton, macrophyte, and epiphyton production among lakes on the Mackenzie Delta. *Ecosystems*, **12**, 853–872, doi:10.1007/s10021-009-263-3.
- Stammler, F. 2009. Mobile phone revolution in the tundra? Technological change among Russian reindeer nomads. *Folklore*, **41**, 47-78.
- Stammler, F. and Peskov, V. 2008. Building a ‘culture of dialogue’ among stakeholders of north-west Russia oil extraction. *Europe-Asia Studies*, **60** (5), 831-849.
- Steele, M., Ermold, W., and Zhang, J.L. 2008. Arctic Ocean surface warming trends over the past 100 years. *Geophysical Research Letters*, **35**, L02614, doi:10.1029/2007GL031651.
- Stevens, C.W., Moorman, B.J. and Solomon, S.M. 2008. Detection of frozen and unfrozen interfaces with ground penetrating radar in the nearshore zone of the Mackenzie Delta, Canada. *Proceedings 9th International Conference on Permafrost*, Fairbanks, Alaska, 1711-1716.
- Stirling, I. and Derocher, A.E. 1993. Possible impacts of climatic warming on polar bears. *Arctic*, **46**, 240-245.
- Stirling, I. and Parkinson, C.L. 2006. Possible effects of climate warming on selected populations of polar bears (*Ursus maritimus*) in the Canadian Arctic. *Arctic*, **59**, 261-275.
- Stirling, I., Cleator, H. and Smith, T.G. 1981. Marine mammals. In: *Polynyas in the Canadian Arctic* (Stirling, I. and Cleator, H., editors). Canadian Wildlife Service, Occasional Paper **45**, 45-58.
- Streletskaya, I.D., Vasiliev, A.A. and Vanstein, B.G. 2009. Erosion of sediment and organic carbon from the Kara Sea coast. *Arctic, Antarctic, and Alpine Research*, **41**, 79-87.
- Stroeve, J.C., Serreze, M.C., Fetterer, F., Arbetter, T., Meier, W., Maslanik, J. and Knowles, K. 2005. Tracking the Arctic's shrinking ice cover: another extreme September minimum in 2004. *Geophysical Research Letters*, **32**, L04501, 4 p.
- Stroeve, J.C., Serreze, M.C., Drobot, S., Gearheard, S., Holland, M.M., Maslanik, J., Meier, W., and Scambos, T. 2008. Arctic sea ice extent plummets in 2007. *Eos, Transactions American Geophysical Union*, **89**, 13-20.
- Suluk, T.K. and Blakney, S.L. 2008. Land claims and resistance to the management of harvester activities in Nunavut. *Arctic*, **61**, Supplement 1, 62-70.
- Sunamura, T. 1992. *Geomorphology of Rocky Coasts*. Wiley, Chichester, UK.
- Suydam, R.S., Dickson, D.L., Fadely, J.B. and Quakenbush, L.T. 2000. Population declines of king and common eiders of the Beaufort Sea. *Condor*, **102**, 219-222.

- Syroechkovskiy, Jr. E., and K. Klovov. 2007. *Development of Methodology of Waterfowl Subsistence Harvest Survey in North-Eastern Russia and Evaluation of Hunting Pressure on Waterfowl Populations with Special Reference to Eiders*. Unpublished report of the Goose, Swan and Duck Study Group for ECORA GEF project, Moscow, 128 p.
- Syvitski, J.P.M. 2002. Sediment transport variability in Arctic rivers: implications for a warmer future. *Polar Research*, **21** (2), 323-330.
- Syvitski, J.P.M., Manley, W.F., Peckham, S.D., Dyurgerov, M., Lestak, L.R., Lynch, A.H., and Maslanik, J.A. 2003. Arctic coastal erosion: a regional to local perspective. *Proceedings 33rd International Arctic Workshop* (Bondevik, S., Hald, M., Isaksson, E., Koc, N. and Vorren, T., editors). Norsk Polarinstitut, Tromsø, Norway, Internrapport 13, 24-25.
- Syvitski, J.P.M., Harvey, N., Wollanski, E., Burnett, W.C., Perillo, G.M.E., and Gornitz, V. 2005. Dynamics of the coastal zone. In: *Global Fluxes in the Anthropocene* (Crossland, C.J., Kremer, H.H., Lindeboom, H.J., Marshall Crossland, J.I., Le Tissier, M.D.A., editors). Springer, Berlin, 39-94.
- Tarnocai, C. 2009. The impact of climate change on Canadian peatlands. *Canadian Water Resources Journal*, **34**, 453-466.
- Tester, F.J. and Irniq, P. 2008. Inuit Qaujimatugangit: social history, politics and the practice of resistance. *Arctic*, **61**, Supplement 1, 48-61.
- Todd, C.D., Highes, S.L., Marshall, C.T., MacLean, J.C., Lonergan, M.E. and Biuw, E.M. 2008. Detrimental effects of recent ocean surface warming on growth condition of Atlantic salmon. *Global Change Biology*, **14**, 958-970.
- Tomkovich, P.S., Syroechkovski, E.E., Jr., Lappo, E.G. and Zöckler, C. 2002. Sharp population decline in spoon-billed sandpiper, *Eurynorhynchus pygmeus*, the globally threatened species. *Bird Conservation International*, **12**, 1-18.
- Tremblay, M., Furgal, C., Lafortune, V., Larrivé, C., Savard, J.P., Barrett, M., Annanack, T., Enish, N., Tookalook, P. and Etidloie, B. 2006. Climate change, communities and ice: bringing together traditional and scientific knowledge for adaptation in the North. In: *Climate Change: Linking Traditional and Scientific Knowledge* (Riewe, R. and Oakes, J., editors). Aboriginal Issues Press, University of Manitoba, Winnipeg, Canada, p. *nnn-nnn*.
- Tuktoyaktuk Declaration. 2006. Coastal Zone Canada 2006 Conference Statement, 18 August 2006. *Arctic*, **61**, Supplement 1, 122-123
- Turner, B.L., Kasperson, R.E., Matson, P.A., McCarthy, J., Corell, R., Christensen, L., Eckley, N., Kasperson, J.X., Luers, A., Martello, M.L., Polsky, C., Pulsipher, A. and Schiller, A. 2003a. A framework for vulnerability analysis in sustainability science. *Proceedings of the National Academy of Sciences*, **100**, 8074-8079.
- Turner, B.L., Matson, P.M., McCarthy, J.J., Corell, R.W., Christensen, L., Eckley, N., Hovelsrud-Broda, G., Kasperson, J.X., Kasperson, R.E., Luers, A., Lavender, B., Martello, M.L., Mathiesen, S., Naylor, R., Polsky, C., Pulsipher, A., Schiller, A., Selin and Tyler, N. 2003b. Illustrating the coupled human-environment system for vulnerability analysis: three case studies. *Proceedings of the National Academy of Sciences*, **100**, 8080-8085.
- Turner, R.K., Adger, N. and Lorenzoni, I. (editors). 1997. *Towards Integrated modelling and Analysis in Coastal Zones: Principles and Practices*. LOICZ Reports and Studies No. 11.
- Turnpenny, J., Nilsson, M., Russel, D., Jordan, A., Hertin, J. and Nykvist, B. 2008. Why is integrating policy assessment so hard? A comparative analysis of the institutional capacities and constraints. *Journal of Environmental Planning and Management*, **51**, 759-775.
- Tyler, N.J.C., Turi, J.M., Sundset, M.A., Bull, K.S., Sara, M.N., Reinert, E., Oskal, N., Nelleman, C., McCarthy, J.J., Mathiesen, J., Marell, M.L., Magga, O.H., Hovelsrud, G.K., Hanssen-Bauer, I., Eira, N.I., and Corell, R.W. 2006. Saami reindeer pastoralism under climate change: applying a generalized framework for vulnerability studies to a sub-arctic social-ecological system. *Global Environmental Change*, **17**, 191-206.
- UNEP. 2002. *Global Environment Outlook 3*. United Nations Environment Program. Earthscan Publications, London, 416 p.
- UNEP. 2003. *Ecosystems and Human Well-Being: A Framework for Assessment*. Millennium Ecosystem Assessment. Island Press, Washington, DC, 245 p.
- UNEP. 2005. *Ecosystems and Human Wellbeing: Synthesis*. Millennium Ecosystem Assessment. Island Press, Washington, DC, 160 p.
- UNEP. 2007. *Global Environment Outlook 4*. United Nations Environment Program, Nairobi, 540 p.
- UNESCO. 2005. *An Implementation Strategy for the Coastal Module of the Global Ocean Observing*

- System. GOOS Report No. 148, IOC Information Documents Series No. 1217, UNESCO, 141 p.
- UNESCO. 2006. *A Coastal Theme for the IGOS Partnership – For the Monitoring of Our Environment from Space and from Earth*. IOC Information document No. 1220, UNESCO, 60 p.
- US Army Corps of Engineers. 2006. *Alaska Village Erosion Technical Assistance Program*. Alaska Division, USA Corps of Engineers.
- van Oostdam, J., Donaldson, S.G., M. Feeley, M., Arnold, D., Ayotte, P., Bondy, G., Chan, L., Dewailly, E., Furgal, C.M., Kuhnlein, H., Loring, E., Muckle, G., Myles, E., Receveur, O., Tracy, B., Gill, U. and Kalhok, S. 2005. Human health implications of environmental contaminants in Arctic Canada: a review. *Science of the Total Environment*, 351–352, 165–246.
- Vasiliev, A., Kanevskiy, M., Cherkashov, G., and Vanshtein, B. 2005. Coastal dynamics at the Barents and Kara Sea key sites. *Geo-Marine Letters*, **25** (2-3), 110-120.
- Velicogna, I. and Wahr, J. 2006. Measurements of time-variable gravity show mass loss in Antarctica. *Science*, **311**, 1754-1756.
- Vermeer, M. and Rahmstorf, S. 2009. Global sea level linked to global temperature. *Proceedings of the National Academy of Sciences (USA)*, **106**, 21527-21532.
- Vilhjálmsdóttir, H. 1997. Climatic variations and some examples of their effects on the marine ecology of Icelandic and Greenland waters, in particular during the present century. *Rit Fiskideildar*, **15** (1), 7-29.
- Vilhjálmsdóttir, H., Hoel, A.H., Agnarsson, S., Arnason, R., Carscadden, J.E., Eide, A., Fluharty, D., Hønneland, G., Hvingel, C., Jakobsson, J., Lilly, G., Nakken, O., Radchenko, V., Ramstad, S., Schrank, W., Vestergaard, N. and Wilderbuer, T. 2005. Fisheries and aquaculture. In: *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge UK, 691-780.
- Vincent, K. 2007. Uncertainty in adaptive capacity and the importance of scale. *Global Environmental Change*, **17**, 12-24.
- Vincent, W.F., Gibson, J.A.E. and Jeffries, M.O. 2001. Ice shelf collapse, climate change, and habitat loss in the Canadian high Arctic. *Polar Record*, **37**, 133-142.
- Vincent, W.F., Mueller, D.R. and Bonilla, S. 2004. Ecosystems on ice: the microbial ecology of Markham Ice Shelf in the high Arctic. *Cryobiology*, **48**, 103-112.
- Wagner, D., Kobabe, S., Pfeiffer, E.-A. and Hubberten, H.-W. 2003. Microbial controls on methane fluxes from a polygonal tundra of the Lena Delta, Siberia. *Permafrost and Periglacial Processes*, **14**, 173-185.
- Wagner, D., Gattinger, A., Embacher, A., Pfeiffer, E.-A., Schloter, M. and Lipski, A. 2007. Methanogenic activity and biomass in Holocene permafrost deposits of the Lena Delta, Siberian Arctic and its implication for the global methane budget. *Global Change Biology*, **13**, 1989-1099, doi:10.1111/j.1365-2486.2007.01331.x.
- Walker, H.J. 1998. Arctic deltas. *Journal of Coastal Research*, **14**, 718-738.
- Walker, H.J. 2005. Arctic coastal geomorphology. In: *Encyclopedia of Coastal Science* (Schwartz, M.L., editor). Springer, Dordrecht, 49–55.
- Walter, K.M., Zimov, S.A., Chanton, J.P., Verbyla, D. and Chapin III, F.S. 2006. Methane bubbling from Siberian thaw lakes as a positive feedback to climate warming. *Nature*, **443**, 71-75.
- Wang, M. and Overland, J.E. 2009. A sea ice free summer Arctic within 30 years? *Geophysical Research Letters*, **36**, L07502, doi:10.1029/2009GL037820.
- Wang, S., Trishchenko, A.P., Khlopenkov, K.V. and Davidson, A. 2006. Comparison of [Intergovernmental] Panel on Climate Change Fourth Assessment Report climate model simulations of surface albedo with satellite products over northern latitudes. *Journal of Geophysical Research*, **111**, D21108, doi:10.1029/2005JD006728.
- Wangensteen, B., Eiken, T., Ødegård R. S. and Sollid J.L. 2007. Measuring coastal cliff retreat in the Kongsfjorden area, Svalbard, using terrestrial photogrammetry. *Polar Research*, **26**, 14-21.
- Warren, J.A., Berner, J.E. and Curtis, T. 2005. Climate change and human health: infrastructure impacts to small remote communities in the north. *International Journal of Circumpolar Health*, **64** (5), 487-497.
- Wenzel, G.W. 2004. From TEK to IQ: *Inuit Qaujimagatuqangit* and Inuit Cultural Ecology. *Arctic Anthropology*, **41** (2), 238-250.
- Weslawski, J.M. and Szymelfenig, M. 1997. Community composition of tidal flats on Spitsbergen: consequence of disturbance? In: *Biogeochemical Cycling and Sediment Ecology* (Gray, J.S., Ambrose Jr., W. and Szaniawska, A., editors). NATO Advanced Studies Institute Series 2, **59**, 185-194.

- West, J. and Hovelsrud, G.K. 2010. Cross-scale adaptation challenges in the coastal fisheries: findings from Lebesby, Northern Norway. *Arctic*, in press.
- Wiese, F.K. and Robertson, G.J. 2004. Assessing seabird mortality from chronic oil discharge at sea. *Journal of Wildlife Management*, **68**, 627-638.
- Williams, M., and Dowdeswell, J.A. 2001. Historical fluctuations of the Matusevich Ice Shelf, Severnaya Zemlya, Russian High Arctic. *Arctic, Antarctic and Alpine Research*, **33**, 211-222.
- Willmott, C.J. and Rawlins, M.A. 1999. *Arctic Monthly Precipitation: Land-Surface Station Climatology Archive* (version. 1.01) Arctic Land-Surface Precipitation: Gridded Monthly and Annual Climatologies. Center for Climatic Research, Department of Geography, University of Delaware, Newark, Delaware.
- Wilson, S.K., Graham, N.A.J., Pratchett, M.S., Jones, G.P. and Polunin, N.V.C. 2006. Multiple disturbances and the global degradation of coral reefs: are reef fishes at risk or resilient? *Global Change Biology*, **12**, 2220-2234.
- Wobus, C.W., Anderson, R.S., Overeem, I., Matell, N., Urban, F.E., Clow, G.D., Holmes, C.D. and Jones, B.M. 2008. Monitoring coastal erosion on the Beaufort Sea coast: erosion process and the relative roles of thermal and wave energy. *Eos, Transactions American Geophysical Union*, **89** (53), Fall Meeting Supplement, Abstract C53A-03.
- Wobus, C.W., Anderson, R.S., Overeem, I., Urban, F.E., Clow, G.D. and Stanton, T.P. 2009. Calibrating thermal erosion models along an Arctic coastline. *Eos, Transactions American Geophysical Union*, **90** (52), Fall Meeting Supplement, Abstract EP33C-08.
- Wobus, C.W., Anderson, R.S., Overeem, I., Stanton, T.P., Clow, G.D., Urban, F.E. 2010. The role of summertime storms in thermoabrasion of a permafrost coast. Abstract EP23A-0770, poster presented at *2010 Fall Meeting, American Geophysical Union*, San Francisco.
- Wolfe, B.B., Armitage, D., Wesche, S., Brock, B.E., Sokal, M.A., Clogg-Wright, K.P., Mongeon, C.L., Adam, M.E., Hall, R.I., and Edwards, T.W.D. 2007. From isotopes to TK interviews: towards interdisciplinary research in Fort Resolution and the Slave River Delta, Northwest Territories. *Arctic*, **60**, 75-87.
- Wolfe, S.A., Kotler, E. and Dallimore, S.R. 2001. *Surficial Characteristics and the Distribution of Thaw Landforms (1970 to 1999), Shingle Point to Kay Point, Yukon Territory*. Geological Survey of Canada, Open File **4115**, Ottawa, Canada.
- Woo, M.K. 1986. Permafrost hydrology in North America. *Atmosphere-Ocean*, **24**, 201-234.
- Woo, M.K., Modeste, P., Martz, L., Blondin, J., Kochtubajda, B., Tutcho, D., Gyakum, J., Takazo, A., Spence, C., Tutcho, J., Di Cenzo, P., Kenny, G., Stone, J., Neyelle, I., Baptiste, G., Modeste, M., Kenny, B. and Modeste, W. 2007. Science meets traditional knowledge: water and climate in the Sahtu (Great Bear Lake) region, Northwest Territories, Canada. *Arctic*, **60**, 37-46.
- Woollet, J.M. and Kaplan, S.A. 2000. Challenges and choices: exploring the interplay of climate, history, and culture on Canada's Labrador coast. *Arctic, Antarctic, and Alpine Research*, **32** (3), 351-359.
- Wrona, F.J., Prowse, T.D., Reist, J.D., Beamish, R., Gibson, J.J., Hobbie, J., Jeppersen, E., King, J., Koeck, G., Korhola, A., Lévesque, L., Macdonald, R., Power, M., Skvortsov, V. and Vincent, W. 2005. Freshwater ecosystems and fisheries. In: *Arctic Climate Impact Assessment*. Cambridge University Press, Cambridge UK, 353-452.
- Yang, D., Kane, D., Hinzman, L., Zhang, X., Zhang, T., and Ye, H. 2002. Siberian Lena River hydrologic regime and recent change. *Journal of Geophysical Research*, **107** (D23), 4694, doi:10.1029/2002JD002542.
- Yang, D., Robinson, D., Zhao, Y., Estilow, T., and Ye, B. 2003. Streamflow response to seasonal snow cover extent changes in large Siberian watersheds. *Journal of Geophysical Research*, **108** (D18), 4578, doi:10.1029/2002JD003149.
- Yang, D., Zhao, Y., Armstrong, R., Robinson, D., and Brodzik, M.-J. 2007. Streamflow response to seasonal snow cover mass changes over large Siberian watersheds. *Journal of Geophysical Research*, **112**, F02S22, doi:10.1029/2006JF000518.
- Ye, B., Yang, D. and Kane, D. 2003. Changes in Lena River streamflow: human impacts versus natural variations. *Water Resources Research*, **39** (7), 1200, doi:10.1029/2003WR001991.
- Young, A., and Saunders, I. 1986. Rates of surface processes and denudation. In: *Hillslope Processes* (Abrahams, A.D., editor). Allen and Unwin, Boston, MA, USA, 3-27.
- Young, O. and Einarsson, N. 2004a. Introduction: human development in the Arctic. Chapter 1 in: *Arctic Human Development Report*. Stefansson Arctic Institute, 15-26

- Young, O. and Einarsson, N. 2004b. A human development agenda for the Arctic: major findings and emerging issues. Chapter 13 in: *Arctic Human Development Report*. Stefansson Arctic Institute, 229-242.
- Young, T.K. and Bjerregaard, P. (editors). 2008. *Health Transitions in Arctic Populations*. University of Toronto Press, Toronto, Canada, 489 p.
- Young, T.K. and Mäkinen, T.M. 2009. The health of Arctic populations: Does cold matter? *American Journal of Human Biology*, **22** (1), 129-133.
- Zhang, X., Harvey, K.D., Hogg, W.D. and Yuzyk, T.R. 2000. Trends in Canadian streamflow. *Water Resources Research*, **37**, 987-998.
- Zhang, X., Walsh, J.E., Zhan, J., Bhatt, U.S. and Ikeda, M. 2004. Climatology and interannual variability of Arctic cyclone activity: 1948-2002. *Journal of Climate*, **17**, 2300-2317.
- Zhang, Y., Wang, S., Barr, A.G and Black, T.A. 2008. Impact of snow cover on soil temperature and its simulation in the EALCO model. *Cold Regions Science and Technology*, **52**, 355-370.
- Zajaczkowski, M. and Włodarska-Kowalczyk, M. 2007. Dynamic sedimentary environments of an Arctic glacier-fed river estuary (Adventfjorden, Svalbard). I. Flux, deposition, and sediment dynamics. *Estuarine, Coastal and Shelf Science*, **74**, 285-296.
- Zenkovich, V.P. 1985. Arctic USSR. In: *The World's Coastline* (Bird, C.F. and Schwartz, M.L., editors). Van Nostrand Reinhold, New York, 863-871.
- Ziaja, W. 2004. Spitsbergen landscape under 20th Century climate change: Sørkapp Land. *Ambio*, **33**, 295-299.
- Ziaja, W., Maciejowski, W. and Ostafin, K. 2009. Coastal landscape dynamics in NE Sørkapp Land (SE Spitsbergen), 1900-2005. *Ambio*, **38** (4), 201-208.
- Zimov, S.A., Voropaev, Y.V., Semiletov, I.P., Davidov, S.P., Prosiannikov, S.F., Chapin III, F.S., Chapin, M.C., Trumbore, S. and Tyler, S. 1997. North Siberian lakes: a methane source fuelled by Pleistocene carbon. *Science*, **277**, 800-802.
- Zöckler, C. 1998. *Patterns in Biodiversity in Arctic Birds*. World Conservation Monitoring Centre, Biodiversity Bulletin No. **3**, 15 p.
- Zöckler, C., Syroechkovskiy, E.E. and Atkinson, P.W. 2010. Rapid and continued population decline in the spoon-billed sandpiper (*Calidris pygmaea*) indicates imminent extinction unless conservation action is undertaken. *Bird Conservation International*, in press.





## Contributors

Elena N. Andreeva	<i>Institute for System Analysis, Russian Academy of Sciences, Moscow, Russia</i>
David E. Atkinson	<i>University of Victoria, Victoria, BC, Canada</i>
Tom Barry	<i>CAFF Secretariat, Arctic Council, Akureyri, Iceland</i>
Beate Bowron	<i>Canadian Institute of Planners, Toronto, Canada</i>
Norm Catto	<i>Memorial University of Newfoundland, St. John's, NL, Canada</i>
Ben Collen	<i>Institute of Zoology, Zoological Society of London, London, UK</i>
Roland Cormier	<i>Fisheries and Habitat Division, Fisheries and Oceans Canada, Moncton, NB, Canada</i>
Nicole Couture	<i>Natural Resources Canada, Ottawa, Canada</i>
Scott R. Dallimore	<i>Natural Resources Canada, Institute of Ocean Sciences, Sidney, BC, Canada</i>
Thomas A. Douglas	<i>Cold Regions Research and Engineering Laboratory, US Army Corps of Engineers, Fairbanks, AK, USA</i>
Hajo Eicken	<i>University of Alaska, Fairbanks, AK, USA</i>
Donald L. Forbes	<i>Natural Resources Canada, Bedford Institute of Oceanography, Dartmouth, NS, Canada and Memorial University of Newfoundland, St. John's, NL, Canada</i>
James Ford	<i>McGill University, Montréal, QC, Canada</i>
Shari Gearheard	<i>Ittaq and National Snow and Ice Data Center, University of Colorado at Boulder, Clyde River, NU, Canada</i>
Michael Gill	<i>Circumpolar Biodiversity Monitoring Program Office, Environment Canada, Whitehorse, YT, Canada</i>
Mikhail N. Grigoriev	<i>Permafrost Institute, Russian Academy of Sciences, Yakutsk, Russia</i>
Louwrens Hacquebord	<i>University of Groningen, Groningen, The Netherlands</i>
Alf Håkon Hoel	<i>Institute of Marine Research, Tromsø, Norway</i>
R. Max Holmes	<i>Woods Hole Research Center, Woods Hole, MA, USA</i>

Greta K. Hovelsrud	<i>Center for International Climate and Environmental Research (CICERO), Oslo, Norway</i>
Thomas S. James	<i>Natural Resources Canada, Institute of Ocean Sciences, Sidney, BC, Canada</i>
Andreas Kannen	<i>Centre for Materials and Coastal Research, Helmholtz-Zentrum, Geesthacht, Germany</i>
Hartwig Kremer	<i>LOICZ International Project Office, Helmholtz-Zentrum, Geesthacht, Germany</i>
Hugues Lantuit	<i>Alfred Wegener Institute for Marine and Polar Research, Potsdam, Germany</i>
Joan Nymand Larsen	<i>Stefansson Arctic Institute, University of Akureyri, Akureyri, Iceland</i>
Jonathan Loh	<i>Institute of Zoology, Zoological Society of London, London, UK</i>
Gavin K. Manson	<i>Natural Resources Canada, Bedford Institute of Oceanography, Dartmouth, NS, Canada</i>
David Mate	<i>Natural Resources Canada, Ottawa, Canada</i>
James W. McClelland	<i>Marine Science Institute, University of Texas at Austin, Austin, TX, USA</i>
Louise McRae	<i>Institute of Zoology, Zoological Society of London, London, UK</i>
Eirik Mikkelsen	<i>NORUT Northern Research Institute, Tromsø, Norway</i>
Derek Mueller	<i>Carleton University, Ottawa, Canada</i>
Rune S. Ødegård	<i>Høgskolen i Gjøvik, Gjøvik, Norway</i>
Stanislav Ogorodov	<i>Lomonosov Moscow University, Moscow, Russia</i>
Pier Paul Overduin	<i>Alfred Wegener Institute for Marine and Polar Research, Potsdam, Germany</i>
Kathleen Parewick	<i>Memorial University of Newfoundland, St. John's, NL, Canada</i>
Birger Poppel	<i>Ilisimatusarfik, University of Greenland, Nuuk, Greenland</i>
Andrey Proshutinsky	<i>Woods Hole Oceanographic Institution, Woods Hole, MA, USA</i>
Lee Ann Pugh	<i>Department of Environment, Government of Nunavut, Iqaluit, NU, Canada</i>

Volker Rachold	<i>International Arctic Science Committee, Potsdam, Germany</i>
Justyn Salamon	<i>Danish Arctic Institute, Copenhagen, Denmark</i>
Liudmila Sergienko	<i>Petrozavodsk State University, Petrozavodsk, Karelia, Russia</i>
Steven M. Solomon	<i>Natural Resources Canada, Bedford Institute of Oceanography, Dartmouth, NS, Canada</i>
James P.M. Syvitski	<i>CSDMS, University of Colorado, Boulder, CO, USA</i>
Jennifer West	<i>Center for International Climate and Environmental Research (CICERO, Oslo, Norway)</i>
Sebastian Wetterich	<i>Alfred Wegener Institute for Marine and Polar Research, Potsdam, Germany</i>
Christoph Zöckler	<i>United Nations Environment Programme - World Conservation Monitoring Centre (UNEP-WCMC), Cambridge, UK</i>

### **Peer Reviewers**

Jerry Brown	<i>International Permafrost Association, Woods Hole, MA, USA</i>
Margareta Johansson	<i>University of Lund, Lund, Sweden</i>
Leslie King	<i>Vancouver Island University, Nanaimo, BC, Canada</i>

## Acknowledgements

This report has benefitted from the contributions and enthusiasm of many individuals and organizations and we thank them all. In particular, the editorial team wishes to thank the Lead Authors, the Contributing Authors, contributors of photographs and other figures, and the sponsoring organizations – IASC, LOICZ, AMAP, and IPA. The participants in the Workshop on Arctic Coastal Zones at Risk, Tromsø, Norway, October 2007, which was supported by the International Human Dimensions Programme on Global Environmental Change, IHDP, and the Norwegian Institute for Air Research, NILU, and hosted by the Polar Environmental Centre in Tromsø, issued the first call for this report and we thank them for planting the seed. In addition to the sponsoring organizations, the following have supported the editorial process: the Climate Change Geoscience Program, Natural Resources Canada; the Alfred Wegener Institute for Marine and Polar Research (Potsdam); ArcticNet and the Networks of Centres of Excellence (Canada); and the Helmholtz-Zentrum Geesthacht, Centre for Materials and Coastal Research. In addition to the peer reviewers (Jerry Brown, Margareta Johansson, Leslie King), we thank others who responded to the open review (including Ian Church, Bruce Forbes, Erik Gant, Guido Grosse, Michael Hall, Larry Hinzman, Hans Meltofte, Elena Nikitina, Josef Pacyna, Tavis Potts, Cameron Wobus, Wiesław Ziaja) and various contributors for their comments on other parts of the report. We have incorporated as many suggestions as possible and beg their forbearance where any recommendations have not been adopted. None of the reviewers should be considered responsible for the final text. Financial support for production and publication was provided by IASC, LOICZ, AMAP, and IPA.

The publishers have no responsibility for the persistence or accuracy of URLs for web sites referenced in this report and cannot guarantee that content on such web sites is or will remain correct and appropriate. Every effort has been made to credit sources and to obtain authorization as appropriate to reproduce material in this report. Anyone who has not been properly acknowledged is asked to contact the publishers so that due credit can be given in any future editions or on-line release.