

Supplement of

CASCADE - The Circum-Arctic Sediment CARbon DatabasE

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Full list of references used in CASSCADE

Astakhov, A. S., Kolesov, G. M., Dudarev, O. V., Ivanov, M. V. and Kolesnik, A. N.: Noble metals in the bottom sediments of the Chukchi Sea, *Geochem. Int.*, 48(12), 1208–1219, doi:10.1134/S0016702910120050, 2010.

Astakhov, A. S., Rujian, W., Crane, K., Ivanov, M. V. and Aiguo, G.: Lithochemical classification of the arctic depositional environments (Chukchi Sea) by methods of multivariate statistic, *Geochem. Int.*, 51(4), 269–289, doi:10.1134/S001670291302002X, 2013.

Åström, E., Carroll, M., Sen, A., Niemann, H., Ambrose, W., Lehmann, M. and Carroll, J.: Chemosynthesis influences food web and community structure in high-Arctic benthos, *Mar. Ecol. Prog. Ser.*, 629, 19–42, doi:10.3354/meps13101, 2019.

Bartels, M., Titschack, J., Fahl, K., Stein, R. and Hebbeln, D.: Wahlenbergfjord, eastern Svalbard: a glacier-surrounded fjord reflecting regional hydrographic variability during the Holocene?, *Boreas*, 47(4), 1003–1021, doi:10.1111/bor.12325, 2018.

Baskaran, M., Asbill, S., Santschi, P., Brooks, J., Champ, M., Adkinson, D., Colmer, M. R. and Makeyev, V.: Pu, ¹³⁷Cs and excess ²¹⁰Pb in Russian Arctic sediments, *Earth and Planetary Science Letters*, 140(1–4), 243–257, doi:10.1016/0012-821X(96)00040-4, 1996.

Bauch, H. A., Kassens, H., Erlenkeuser, H., Grootes, P. M. and Thiede, J.: Depositional environment of the Laptev Sea (Arctic Siberia) during the Holocene, *Boreas*, 28(1), 194–204, doi:10.1111/j.1502-3885.1999.tb00214.x, 1999.

Beeskov, B. and Rachold, V.: Geochemical Processes in the Yenisei River and Estuary, in Stein, R., Fahl, K., Fütterer, K.D., Galimov E. (Eds.) *Siberian River Run-off in the Kara Sea: Characterization, Quantification, Variability, and Environmental Significance.*, pp. 125–148, Elsevier, Amsterdam., doi:10.1594/PANGAEA.802254, 2003.

Belicka, L. L. and Harvey, H. R.: The sequestration of terrestrial organic carbon in Arctic Ocean sediments: A comparison of methods and implications for regional carbon budgets, *Geochimica et Cosmochimica Acta*, 73(20), 6231–6248, doi:10.1016/j.gca.2009.07.020, 2009.

- Belicka, L. L., Macdonald, R. W. and Harvey, H. R.: Sources and transport of organic carbon to shelf, slope, and basin surface sediments of the Arctic Ocean, *Deep Sea Research Part I: Oceanographic Research Papers*, 49(8), 1463–1483, doi:10.1016/S0967-0637(02)00031-6, 2002.
- Belicka, L. L., Macdonald, R. W., Yunker, M. B. and Harvey, H. R.: The role of depositional regime on carbon transport and preservation in Arctic Ocean sediments, *Marine Chemistry*, 86(1–2), 65–88, doi:10.1016/j.marchem.2003.12.006, 2004.
- Belyaev, N. A., Peresykin, V. I. and Ponyaev, M. S.: The organic carbon in the water, the particulate matter, and the upper layer of the bottom sediments of the west Kara Sea, *Oceanology*, 50(5), 706–715, doi:10.1134/S0001437010050085, 2010.
- Belyaev, N. A.: Organic matter and hydrocarbon markers of the White Sea (in russian), PhD Thesis. P.P. Shirshov Institute of Oceanology, Russian Academy of Sciences, Moscow, Russia, 2015.
- Birgel, D. and Hass, H.: Oceanic and atmospheric variations during the last deglaciation in the Fram Strait (Arctic Ocean): a coupled high-resolution organic-geochemical and sedimentological study, *Quaternary Science Reviews*, 23(1–2), 29–47, doi:10.1016/j.quascirev.2003.10.001, 2004.
- Birgel, D.: Distribution, composition, flux and variability of organic carbon in Fram Strait/Yermak Plateau (Arctic ocean) and (palaeo) environmental significance = Verteilung, Zusammensetzung, Fluss und Variabilität von organischem Kohlenstoff in der Framstraße/Yermak Plateau (Arktischer Ozean) und die Bedeutung für (Paläo)-Umweltrekonstruktionen, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven. [online] Available from: <https://epic.awi.de/id/eprint/26642/>, doi:10.2312/BzPM_0463_2003, 2003.
- Boucein, B., Fahl, K., Siebold, M. and Stein, R.: Total organic carbon in surface sediments of the Ob and Yenisei estuaries and adjacent coastal areas, appendix 1, supplement to: Boucein, Bettina; Fahl, Kirsten; Siebold, Martina; Stein, Ruediger (1999): Quantity and quality of organic carbon in surface sediments of the Ob and Yenisei estuaries and adjacent coastal areas: marine productivity vs. terrigenous input. In: Matthiessen, J; Stepanets, O V; Stein, R; Fütterer, D K & Galimov, E M (eds.), *The Kara Sea Expedition of RV Akademik Boris Petrov 1997: First Results of a Joint Russian-German Pilot Study*, Reports on Polar Research, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, 300, 116-126, , doi:10.1594/PANGAEA.57448, 1999.
- Bröder, L., Andersson, A., Tesi, T., Semiletov, I. and Gustafsson, Ö.: Quantifying Degradative Loss of Terrigenous Organic Carbon in Surface Sediments Across the Laptev and East Siberian Sea, *Global Biogeochem. Cycles*, 33(1), 85–99, doi:10.1029/2018GB005967, 2019.
- Bröder, L., Tesi, T., Andersson, A., Eglinton, T. I., Semiletov, I. P., Dudarev, O. V., Roos, P. and Gustafsson, Ö.: Historical records of organic matter supply and degradation status in the East Siberian Sea, *Organic Geochemistry*, 91, 16–30, doi:10.1016/j.orggeochem.2015.10.008, 2016.
- Bröder, L., Tesi, T., Salvadó, J. A., Semiletov, I. P., Dudarev, O. V. and Gustafsson, Ö.: Fate of terrigenous organic matter across the Laptev Sea from the mouth of the Lena River to the deep sea of the Arctic interior, *Biogeosciences*, 13(17), 5003–5019, doi:10.5194/bg-13-5003-2016, 2016.

- Clough, L. M., Ambrose, W. G., Kirk Cochran, J., Barnes, C., Renaud, P. E. and Aller, R. C.: Infaunal density, biomass and bioturbation in the sediments of the Arctic Ocean, *Deep Sea Research Part II: Topical Studies in Oceanography*, 44(8), 1683–1704, doi:10.1016/S0967-0645(97)00052-0, 1997.
- Couture, N. J., Irrgang, A., Pollard, W., Lantuit, H. and Fritz, M.: Coastal Erosion of Permafrost Soils Along the Yukon Coastal Plain and Fluxes of Organic Carbon to the Canadian Beaufort Sea, *J. Geophys. Res. Biogeosci.*, 123(2), 406–422, doi:10.1002/2017JG004166, 2018.
- Darby, D. A., Naidu, A. S., Mowatt, T. C. and Jones, G.: Sediment Composition and Sedimentary Processes in the Arctic Ocean, in *The Arctic Seas*, edited by Y. Herman, pp. 657–720, Springer US, Boston, MA., doi:10.1007/978-1-4613-0677-1_24, 1989.
- De Jonge, C., Stadnitskaia, A., Hopmans, E. C., Cherkashov, G., Fedotov, A., Streletskaya, I. D., Vasiliev, A. A. and Sinninghe Damsté, J. S.: Drastic changes in the distribution of branched tetraether lipids in suspended matter and sediments from the Yenisei River and Kara Sea (Siberia): Implications for the use of brGDGT-based proxies in coastal marine sediments, *Geochimica et Cosmochimica Acta*, 165, 200–225, doi:10.1016/j.gca.2015.05.044, 2015.
- de Vernal, A., Hillaire-Marcel, C., Le Duc, C., Roberge, P., Brice, C., Matthiessen, J., Spielhagen, R. F. and Stein, R.: Natural variability of the Arctic Ocean sea ice during the present interglacial, *Proc Natl Acad Sci USA*, 117(42), 26069–26075, doi:10.1073/pnas.2008996117, 2020.
- Demina, L. L., Filip'eva, K. V., Shevchenko, V. P., Novigatsky, A. N. and Filippov, A. S.: (Table 3) Major element contents in <1 mm size fraction from surface layer bottom sediments of the Kem' River estuary, , doi:10.1594/PANGAEA.762804, 2005.
- Dolotov, Yu. S., Filatov, N. N., Shevchenko, V. P., Petrov, M. P., Tolstikov, A. V., Zdrovennov, R. E., Platonov, A. V., Filippov, A. S., Bushuev, K. L., Kutcheva, I. P., Denisenko, N. V., Stein, R. and Saukel, C.: Multidisciplinary studies in Onega Bay of the White Sea and the estuary of the Onega River during the summer period, *Oceanology*, 48(2), 255–267, doi:10.1134/S0001437008020136, 2008.
- Drenzek, N. J., Montluçon, D. B., Yunker, M. B., Macdonald, R. W. and Eglinton, T. I.: Constraints on the origin of sedimentary organic carbon in the Beaufort Sea from coupled molecular ^{13}C and ^{14}C measurements, *Marine Chemistry*, 103(1–2), 146–162, doi:10.1016/j.marchem.2006.06.017, 2007.
- Dunton, K.; Konar, B.; Grebmeier, J.; Trefry, J.; Cooper, L.; Harvey, R.; Schonberg, S. (2012). Chemical and benthos data collected from CTD, bottle, and other instruments in the Chukchi Sea in 2009-2010 as part of the Chukchi Sea Offshore Monitoring in Drilling Area - Chemical and Benthos (COMIDA-CAB) project (NCEI Accession 0095566). Grebmeier, 2009; Dunton, K., 2010. NOAA National Centers for Environmental Information. Dataset. doi:10.7289/v5c8279z, Accessed 2018-04-24.
- Expedition 302 Scientists: Carbon and sulphur contents of bulk sediment from Hole 302-M0002A, 227 data points, doi:10.1594/PANGAEA.326080, 2006.
- Fahl, K. and Stein, R.: Biomarkers as organic-carbon-source and environmental indicators in the Late Quaternary Arctic Ocean: problems and perspectives, *Marine Chemistry*, 63(3–4), 293–309, doi:10.1016/S0304-4203(98)00068-1, 1999.

Fahl, K. and Stein, R.: Modern organic carbon deposition in the Laptev Sea and the adjacent continental slope: surface water productivity vs. terrigenous input, *Organic Geochemistry*, 26(5–6), 379–390, doi:10.1016/S0146-6380(97)00007-7, 1997.

Fahl, K., Cremer, H., Erlenkeuser, H., Hanssen, H., Hölemann, J., Kassens, H., Knickmeier, K., Kosobokova, K., Kunz-Pirrung, M., Lindemann, F., Markhaseva, E., Lischka, S., Petryashov, V., Piepenburg, D., Schmid, M., Spindler, M., Stein, R. and Tuschling, K.: Sources and Pathways of Organic Carbon in the Modern Laptev Sea (Arctic Ocean): Implication from Biological, Geochemical and Geological Data, *Polarforschung*, 69, 193–205, hdl:10013/epic.29844.d001, doi:10.1594/PANGAEA.69769, 2001.

Fahl, K., Stein, R., Gaye-Haake, B., Gebhardt, C., Kodina, L. A., Unger, D. and Ittekkot, V.: Biomarkers in surface sediments from the Ob and Yenisei estuaries and the southern Kara Sea: Evidence for particulate organic carbon sources, pathways, and degradation, in *Siberian river run-off in the Kara Sea : characterisation, quantification, variability and environmental significance*, *Proceedings in Marine Sciences*, vol. 6, pp. 329–348, Elsevier, Amsterdam., doi:10.1594/PANGAEA.728236, 2003.

Fahl, K., Stein, R., Gaye-Haake, B., Gebhardt, C., Kodina, L. A., Unger, D. and Ittekkot, V.: Biomarkers in surface sediments from the Ob and Yenisei estuaries and the southern Kara Sea: Evidence for particulate organic carbon sources, pathways, and degradation, *Siberian river run-off in the Kara Sea : characterisation, quantification, variability and environmental significance* / ed. by Ruedidger Stein ... Amsterdam [u.a.] : Elsevier, 329-348. (*Proceedings in Marine Science* ; 6), 2003.

Faux, J. F., Belicka, L. L. and Rodger Harvey, H.: Organic sources and carbon sequestration in Holocene shelf sediments from the western Arctic Ocean, *Continental Shelf Research*, 31(11), 1169–1179, doi:10.1016/j.csr.2011.04.001, 2011.

Feder, H. M., Naidu, A. S., Hameedi, M. S., Jewett, S. C., Johnson, W. R. (1989). The Chukchi Sea continental shelf: benthos-environmental interactions. OCSEAP Final Rep. 68. U.S. Dept Commerce, NOAA, Washington, DC, p. 25-311.

Feder, H. M., Naidu, A. S., Jewett, S. C., Hameedi, J. M., Johnson, W. R. and Whitley, T. E.: The northeastern Chukchi Sea: benthos-environmental interactions, *Marine Ecology Progress Series*, 111(1/2), 171–190, 1994.

Fernandes, M. B. and Sicre, M.-A.: The importance of terrestrial organic carbon inputs on Kara Sea shelves as revealed by n-alkanes, OC and $\delta^{13}\text{C}$ values, *Organic Geochemistry*, 31(5), 363–374, doi:10.1016/S0146-6380(00)00006-1, 2000.

Galimov, E. M., Kodina, L. A., Stepanets, O. V. and Korobeinik, G. S.: Biogeochemistry of the Russian Arctic. Kara Sea: Research results under the SIRRO project, 1995–2003, *Geochem. Int.*, 44(11), 1053–1104, doi:10.1134/S0016702906110012, 2006.

Glud, R., Holby, O., Hoffmann, F. and Canfield, D.: Benthic mineralization and exchange in Arctic sediments (Svalbard, Norway), *Mar. Ecol. Prog. Ser.*, 173, 237–251, doi:10.3354/meps173237, 1998.

Goñi, M. A., O'Connor, A. E., Kuzyk, Z. Z., Yunker, M. B., Gobeil, C. and Macdonald, R. W.: Distribution and sources of organic matter in surface marine sediments across the North American Arctic

margin: Organic Matter In Arctic Sediments, *J. Geophys. Res. Oceans*, 118(9), 4017–4035, doi:10.1002/jgrc.20286, 2013.

Goñi, M. A., Yunker, M. B., Macdonald, R. W. and Eglinton, T. I.: The supply and preservation of ancient and modern components of organic carbon in the Canadian Beaufort Shelf of the Arctic Ocean, *Marine Chemistry*, 93(1), 53–73, doi:10.1016/j.marchem.2004.08.001, 2005.

Grebmeier, J. and Cooper, L. W.: Surface sediment samples collected from the Canadian Coast Guard Ship (CCGS) Sir Wilfrid Laurier, Northern Bering Sea to Chukchi Sea, 2016, , doi:10.18739/A2J96089F, 2019.

Grebmeier, J. and Cooper, L.: SWL11 Sediment Parameters. Version 1.0, 1 data file, 1 ancillary/documentation file, 16 KiB, doi:10.5065/D66M34WF, 2015.

Grebmeier, J. and Cooper, L.: SWL12 Sediment parameters. Version 2.0, 1 data file, 1 ancillary/documentation file, 14 KiB, doi:10.5065/D67P8WFM, 2015.

Grebmeier, J. and Cooper, L.: SWL13 Sediment parameters. Version 1.0, 1 data file, 1 ancillary/documentation file, 18 KiB, doi:10.5065/D63X84PT, 2015.

Grebmeier, J. and Cooper, L.: SWL15 Sediment Parameters. Version 1.0, 2 data files, 1 ancillary/documentation file, 25 KiB, doi:10.5065/D6KW5DDD, 2016.

Grebmeier, J. M. and Cooper, L. W.: Surface sediment samples collected from the Canadian Coast Guard Ship (CCGS) Sir Wilfrid Laurier, Northern Bering Sea to Chukchi Sea, 2014, doi:10.18739/A2DJ58G4T, 2019.

Grebmeier, J. M. and Cooper, L. W.: Surface sediment samples collected from the CCGS Sir Wilfrid Laurier 2018, Northern Bering Sea to Chukchi Sea, doi:10.18739/A2C824F2J, 2019.

Grebmeier, J. M. and Cooper, L. W.: Surface sediment samples collected from the CCGS Sir Wilfrid Laurier, Northern Bering Sea to Chukchi Sea, 2017, doi:10.18739/A23775V2D, 2019.

Grebmeier, J. M. and Cooper, L. W.: Surface sediment samples collected from the United States Coast Guard Cutter Healy (HLY1801), Northern Bering Sea to Chukchi Sea, doi:10.18739/A2H12V769, 2019.

Grebmeier, J., Bluhm, B., Cooper, L., Denisenko, S., Iken, K., Kedra, M. and Serratos, C.: Time-Series Benthic Community Composition and Biomass and Associated Environmental Characteristics in the Chukchi Sea During the RUSALCA 2004–2012 Program, *Oceanog*, 28(3), 116–133, doi:10.5670/oceanog.2015.61, 2015.

Grebmeier, J., Cooper, L. 2015. SWL10 Sediment Parameters. Version 1.0. UCAR/NCAR - Earth Observing Laboratory. doi:10.5065/D6Z31WQ6, <https://doi.org/10.5065/D6Z31WQ6>. Accessed 30 Jul 2020.

Grebmeier, J., Cooper, L. 2016. PacMARS Surface Sediment Parameters. Version 2.0. UCAR/NCAR - Earth Observing Laboratory. doi:10.5065/D6416V3G, <https://doi.org/10.5065/D6416V3G>. Accessed 30 Jul 2020.

- Griffith, D. R., Martin, W. R. and Eglinton, T. I.: The radiocarbon age of organic carbon in marine surface sediments, *Geochimica et Cosmochimica Acta*, 74(23), 6788–6800, doi:10.1016/j.gca.2010.09.001, 2010.
- Grotheer, H., Meyer, V., Riedel, T., Pfalz, G., Mathieu, L., Hefter, J., Gentz, T., Lantuit, H., Mollenhauer, G. and Fritz, M.: Burial and Origin of Permafrost-Derived Carbon in the Nearshore Zone of the Southern Canadian Beaufort Sea, *Geophys. Res. Lett.*, 47(3), doi:10.1029/2019GL085897, 2020.
- Guo, L., Semiletov, I., Gustafsson, Ö., Ingri, J., Andersson, P., Dudarev, O. and White, D.: Characterization of Siberian Arctic coastal sediments: Implications for terrestrial organic carbon export: TERRESTRIAL ORGANIC C EXPORT TO ARCTIC, *Global Biogeochem. Cycles*, 18(1), n/a-n/a, doi:10.1029/2003GB002087, 2004.
- Gurvich, E. G., Isaeva, A. B., Dyomina, L. V., Levitan, M. A. and Muravyov, K. G.: Chemical composition of bottom sediments from the Kara Sea and estuaries of the Ob and Enisey Rivers, doi:10.1594/PANGAEA.770042, <https://doi.org/10.1594/PANGAEA.770042>, 1995.
- Gurvich, E. G., Isaeva, A. B., Dyomina, L. V., Levitan, M. A. and Muravyov, K. G.: Chemical composition of bottom sediments from the Kara Sea and estuaries of the Ob and Yenisey Rivers, *Oceanology of the Russian Academy of Sciences*, 34(5), 701–709, doi:10.1594/PANGAEA.122625, 1995.
- Gurvich, E. G., Isaeva, A. B., Dyomina, L. V., Levitan, M. A. and Muravyov, K. G.: Chemical composition of bottom sediments from the Kara Sea and estuaries of the Ob and Yenisey Rivers, *Oceanology of the Russian Academy of Sciences*, 34(5), 701–709, doi:10.1594/PANGAEA.122626, 1995.
- Gurvich, E. G., Isaeva, A. B., Dyomina, L. V., Levitan, M. A. and Muravyov, K. G.: Chemical composition of bottom sediments from the Kara Sea and estuaries of the Ob and Yenisey Rivers, *Oceanology of the Russian Academy of Sciences*, 34(5), 701–709, doi:10.1594/PANGAEA.122627, 1995.
- Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-1054, 208 data points, doi:10.1594/PANGAEA.122918, 2003.
- Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-829, 111 data points, doi:10.1594/PANGAEA.122919, 2003.
- Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-830, 60 data points, doi:10.1594/PANGAEA.122920, 2003.
- Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-831, 30 data points, doi:10.1594/PANGAEA.122921, 2003.
- Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-833, 30 data points, doi:10.1594/PANGAEA.122922, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-835, 45 data points, doi:10.1594/PANGAEA.122923, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-838-2, 94 data points, doi:10.1594/PANGAEA.122925, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-841-2, 126 data points, doi:10.1594/PANGAEA.122926, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-841-3, 107 data points, doi:10.1594/PANGAEA.122927, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-847, 30 data points, doi:10.1594/PANGAEA.122930, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-858-3, 233 data points, doi:10.1594/PANGAEA.122935, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-861-2, 202 data points, doi:10.1594/PANGAEA.122938, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-869, 45 data points, doi:10.1594/PANGAEA.122942, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-875-2, 190 data points, doi:10.1594/PANGAEA.122945, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-877-3, 219 data points, doi:10.1594/PANGAEA.122947, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-880-3, 282 data points, doi:10.1594/PANGAEA.122950, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-883-3, 171 data points, doi:10.1594/PANGAEA.122953, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-891-2, 239 data points, doi:10.1594/PANGAEA.122955, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-894, 45 data points, doi:10.1594/PANGAEA.122957, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-897-1, 30 data points, doi:10.1594/PANGAEA.122959, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-897-2, 186 data points, doi:10.1594/PANGAEA.122960, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-902-2, 234 data points, doi:10.1594/PANGAEA.122965, 2003.

Gurvich, E. G.: Chemical composition of Barents Sea bottom sediments from the core ASV11-987, 225 data points, doi:10.1594/PANGAEA.122966, 2003.

Gurvich, E., Isaeva, A., Dyomina, L., Levitan, M. and Muravyov, K.: Chemical composition of bottom sediments from the Kara Sea and estuaries of the Ob and Yenisey Rivers, *Oceanology of the Russian Academy of Sciences*, 34(5), 701–709, 1995.

Hörner, T., Stein, R., Fahl, K. and Birgel, D.: Post-glacial variability of sea ice cover, river run-off and biological production in the western Laptev Sea (Arctic Ocean) – A high-resolution biomarker study, *Quaternary Science Reviews*, 143, 133–149, doi:10.1016/j.quascirev.2016.04.011, 2016.

Hulth, S., Hall, P. O. J., Landén, A. and Blackburn, T. H.: Arctic sediments (Svalbard): pore water and solid phase distributions of C, N, P and Si, *Polar Biol*, 16(6), 447–462, doi:10.1007/BF02390426, 1996.

Jakobsson, M., Pearce, C., Cronin, T. M., Backman, J., Anderson, L. G., Barrientos, N., Björk, G., Coxall, H., de Boer, A., Mayer, L. A., Mörrth, C.-M., Nilsson, J., Rattray, J. E., Stranne, C., Semiletov, I. and O'Regan, M.: Post-glacial flooding of the Bering Land Bridge dated to 11 cal ka BP based on new geophysical and sediment records, *Clim. Past*, 13(8), 991–1005, doi:10.5194/cp-13-991-2017, 2017.

Karlsson, E. S., Charkin, A., Dudarev, O., Semiletov, I., Vonk, J. E., Sánchez-García, L., Andersson, A. and Gustafsson, Ö.: Carbon isotopes and lipid biomarker investigation of sources, transport and degradation of terrestrial organic matter in the Buor-Khaya Bay, SE Laptev Sea, *Biogeosciences*, 8(7), 1865–1879, doi:10.5194/bg-8-1865-2011, 2011.

Karlsson, E., Gelting, J., Tesi, T., van Dongen, B., Andersson, A., Semiletov, I., Charkin, A., Dudarev, O. and Gustafsson, Ö.: Different sources and degradation state of dissolved, particulate, and sedimentary organic matter along the Eurasian Arctic coastal margin: ARCTIC MARGIN OC POOL DIFFERENCES, *Global Biogeochem. Cycles*, 30(6), 898–919, doi:10.1002/2015GB005307, 2016.

Keskitalo, K., Tesi, T., Bröder, L., Andersson, A., Pearce, C., Sköld, M., Semiletov, I. P., Dudarev, O. V. and Gustafsson, Ö.: Sources and characteristics of terrestrial carbon in Holocene-scale sediments of the East Siberian Sea, *Clim. Past*, 13(9), 1213–1226, doi:10.5194/cp-13-1213-2017, 2017.

Kim, J.-H., Peterse, F., Willmott, V., Kristensen, D. K., Baas, M., Schouten, S. and Sinninghe Damsté, J. S.: Large ancient organic matter contributions to Arctic marine sediments (Svalbard), *Limnol. Oceanogr.*, 56(4), 1463–1474, doi:10.4319/lo.2011.56.4.1463, 2011.

Knies, J. and Martinez, P.: Organic matter sedimentation in the western Barents Sea region: Terrestrial and marine contribution based on isotopic composition and organic nitrogen content., *Norwegian Journal of Geology / Norsk Geologisk Forening*, 89(1/2), 79–89, doi:10.1594/PANGAEA.817234, 2009.

Knies, J. and Stein, R.: New aspects of organic carbon deposition and its paleoceanographic implications along the Northern Barents Sea Margin during the last 30,000 years, *Paleoceanography*, 13(4), 384–394, doi:10.1029/98PA01501, 1998.

Knies, J.: Organic geochemistry of sediment core PS2122-1, 168 data points, doi:10.1594/PANGAEA.107730, 1994.

Knies, J.: Spätquartäre Paläoumweltbedingungen am nördlichen Kontinentalrand der Barents- und Kara-See. Eine Multi-Parameter-Analyse (Late Quaternary paleoenvironment along the northern Barents and Kara seas continental margin. A multi parameter analysis), Alfred-Wegener-Institut für Polar- und Meeresforschung. [online] Available from: https://www.tib.eu/suchen/id/awi:doi~10.2312%252FBzP_0304_1999/, doi:10.2312/BzP_0304_1999, (Accessed 17 March 2020), 1999.

Knies, J.: Spätquartäre Paläoumweltbedingungen am nördlichen Kontinentalrand der Barents- und Kara-See. Eine Multi-Parameter-Analyse (Late Quaternary paleoenvironment along the northern Barents and Kara seas continental margin. A multi parameter analysis), Alfred-Wegener-Institut für Polar- und Meeresforschung., doi:10.2312/BzP_0304_1999, 1999.

Komarnitsky, V. M., Evsyukov, V. G. and Ustinov, N. V.: Processing results from drill hole VNIIO-1988-Sht-01 on the shelf of the Barents Sea (Report 6404, Murmansk), 10 datasets, doi:10.1594/PANGAEA.683533, 1989.

Komarnitsky, V. M.: Contents of total organic carbon and bitumen in sedimentary rocks from Hole VNIIO-1985-82 drilled in the Barents Sea, 230 data points, doi:10.1594/PANGAEA.676953, 2008.

Komarnitsky, V. M.: Contents of total organic carbon and bitumen in sedimentary rocks of Hole VNIIO-1985-Arct-01 drilled in the Barents Sea, 483 data points, doi:10.1594/PANGAEA.676849, 2008.

Komarnitsky, V. M.: Contents of total organic carbon and bitumen in sedimentary rocks of Hole VNIIO-1985-Kur-01 drilled in the Barents Sea, 215 data points, doi:10.1594/PANGAEA.676865, 2008.

Kordikov, A. A.: Organic and carbonaceous carbon in surface Kara Sea sediments, PANGAEA., doi:10.1594/PANGAEA.127177, 2003. <https://doi.org/10.1594/PANGAEA.127177>

Korsun, S., Hald, M., Panteleva, N., Tarasov, G. and Båmstedt, U.: Biomass of foraminifera in the St. Anna Trough, Russian arctic continental margin, *Sarsia*, 83(5), 419–431, doi:10.1080/00364827.1998.10413701, 1998.

Krishnamurthy, R. V., Machavaram, M., Baskaran, M., Brooks, J. M. and Champ, M. A.: Organic Carbon Flow in the Ob, Yenisey Rivers and Kara Sea of the Arctic Region, *Marine Pollution Bulletin*, 42(9), 726–732, doi:10.1016/S0025-326X(00)00202-2, 2001.

Kröncke, I., Tan, T. and Stein, R.: High benthic bacteria standing stock in deep Arctic basins, *Polar Biol*, 14(6), doi:10.1007/BF00240263, 1994.

Langone L, Aliani S., Giglio F., Giordano P., Tesi T, Del Bianco Miserocchi S.. Modern sediment distribution and composition in Kongsfjorden, Svalbard. 34th IAS (Sedimentology Association of Sedimentologists) Meeting, 10-13 Sept 2019 Rome.

- Langrock, U., Stein, R., Lipinski, M. and Brumsack, H.-J.: Paleoenvironment and sea-level change in the early Cretaceous Barents Sea? implications from near-shore marine sapropels, *Geo-Marine Letters*, 23(1), 34–42, doi:10.1007/s00367-003-0122-5, 2003.
- Lein, A. Y. and Ivanov, M. V.: (Table 3.1.4b) Organic carbon contents and isotopic composition in surface layer bottom sediments of the White Sea, doi:10.1594/PANGAEA.770025, 2009.
- Lein, A. Y., Pimenov, N. V., Savvichev, A. S., Pavlova, G. A., Rusanov, I. I., Miller, Y. M. and Ivanov, M. V.: (Table 3) Contents of organic carbon and calcium carbonate and their carbon isotopic composition in bottom sediments from the area of the Spitsbergen (Svalbard) Archipelago, 103 data points, doi:10.1594/PANGAEA.760899, 2000.
- Lein, A. Y., Pimenov, N. V., Savvichev, A. S., Pavlova, G. A., Rusanov, I. I., Miller, Y. M. and Ivanov, M. V.: (Table 6) Contents of Ba and P in the surface layer of silts from the area of the Spitsbergen (Svalbard) Archipelago, doi:10.1594/PANGAEA.760924, 2000.
- Lein, A. Yu., Kravchishina, M. D., Politova, N. V., Savvichev, A. S., Veslopolova, E. F., Mitskevich, I. N., Ul'yanova, N. V., Shevchenko, V. P. and Ivanov, M. V.: Transformation of particulate organic matter at the water-bottom boundary in the Russian Arctic seas: Evidence from isotope and radioisotope data, *Lithol Miner Resour*, 47(2), 99–128, doi:10.1134/S0024490212020034, 2012.
- Lein, A. Yu., Pimenov, N. V., Rusanov, I. I., Pavlova, G. A., Savvichev, A. S. and Verkhovskaya, Z. I.: Methane cycle in the Barents Sea, *Lithol Miner Resour*, 43(5), 405–428, doi:10.1134/S0024490208050015, 2008.
- Lein, A. Yu., Savvichev, A. S., Rusanov, I. I., Pavlova, G. A., Belyaev, N. A., Craine, K., Pimenov, N. V. and Ivanov, M. V.: Biogeochemical processes in the Chukchi Sea, *Lithol Miner Resour*, 42(3), 221–239, doi:10.1134/S0024490207030029, 2007.
- Li, Z., Wang, X., Jin, H., Ji, Z., Bai, Y. and Chen, J.: Variations in organic carbon loading of surface sediments from the shelf to the slope of the Chukchi Sea, Arctic Ocean, *Acta Oceanol. Sin.*, 36(8), 131–136, doi:10.1007/s13131-017-1026-y, 2017.
- Limoges, A., Ribeiro, S., Weckström, K., Heikkilä, M., Zamelczyk, K., Andersen, T. J., Tallberg, P., Massé, G., Rysgaard, S., Nørgaard-Pedersen, N. and Seidenkrantz, M.-S.: Linking the Modern Distribution of Biogenic Proxies in High Arctic Greenland Shelf Sediments to Sea Ice, Primary Production, and Arctic-Atlantic Inflow, *J. Geophys. Res. Biogeosci.*, 123(3), 760–786, doi:10.1002/2017JG003840, 2018.
- Magen, C., Chaillou, G., Crowe, S. A., Mucci, A., Sundby, B., Gao, A., Makabe, R. and Sasaki, H.: Origin and fate of particulate organic matter in the southern Beaufort Sea – Amundsen Gulf region, Canadian Arctic, *Estuarine, Coastal and Shelf Science*, 86(1), 31–41, doi:10.1016/j.ecss.2009.09.009, 2010.
- Maiti, K., Carroll, J. and Benitez-Nelson, C. R.: Sedimentation and particle dynamics in the seasonal ice zone of the Barents Sea, *Journal of Marine Systems*, 79(1–2), 185–198, doi:10.1016/j.jmarsys.2009.09.001, 2010.

- Mardanian, I. and Kodina, L. A.: Organic carbon of sediment core BP01-26/03, , doi:10.1594/PANGAEA.232264, 2005.
- Martens et al., 2021. CASCADE - The Circum-Arctic Sediment Carbon Database. Bolin Centre for Climate Research, Stockholm University, Sweden. doi:10.17043/cascade, 2021.
- Martens, J., Wild, B., Muschitiello, F., O'Regan, M., Jakobsson, M., Semiletov, I., Dudarev, O. V. and Gustafsson, Ö.: Remobilization of dormant carbon from Siberian-Arctic permafrost during three past warming events, *Sci. Adv.*, 6(42), eabb6546, doi:10.1126/sciadv.abb6546, 2020.
- Martens, J., Wild, B., Pearce, C., Tesi, T., Andersson, A., Bröder, L., O'Regan, M., Jakobsson, M., Sköld, M., Gemery, L., Cronin, T. M., Semiletov, I., Dudarev, O. V. and Gustafsson, Ö.: Remobilization of old permafrost carbon to Chukchi Sea sediments during the end of the last deglaciation, *Global Biogeochem. Cycles*, 2018GB005969, doi:10.1029/2018GB005969, 2019.
- Matthießen, J., Stepanets, O. and Stein, R.: The Kara Sea expedition of RV "Akademik Boris Petrov" 1997: first results of a joint Russian-German pilot study, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven. [online] Available from: <https://epic.awi.de/id/eprint/26480/>, 1999.
- Mueller-Lupp, T., Bauch, H. A., Erlenkeuser, H., Hefter, J., Kassens, H. and Thiede, J.: Changes in the deposition of terrestrial organic matter on the Laptev Sea shelf during the Holocene: evidence from stable carbon isotopes, *International Journal of Earth Sciences*, 89(3), 563–568, doi:10.1007/s005310000128, 2000.
- Muschitiello, F., O'Regan, M., Martens, J., West, G., Gustafsson, Ö. and Jakobsson, M.: A new 30 000-year chronology for rapidly deposited sediments on the Lomonosov Ridge using bulk radiocarbon dating and probabilistic stratigraphic alignment, *Geochronology*, 2(1), 81–91, doi:10.5194/gchron-2-81-2020, 2020.
- Naidu, A. S., Cooper, L. W., Finney, B. P., Macdonald, R. W., Alexander, C. and Semiletov, I. P.: Organic carbon isotope ratios ($\delta^{13}\text{C}$) of Arctic Amerasian Continental shelf sediments, *International Journal of Earth Sciences*, 89(3), 522–532, doi:10.1007/s005310000121, 2000.
- Naidu, A. S., Scalan, R. S., Feder, H. M., Goering, J. J., Hameedi, M. J., Parker, P. L., Behrens, E. W., Caughey, M. E. and Jewett, S. C.: Stable organic carbon isotopes in sediments of the north Bering-south Chukchi seas, Alaskan-Soviet Arctic Shelf, *Continental Shelf Research*, 13(5–6), 669–691, doi:10.1016/0278-4343(93)90099-J, 1993.
- Nemirovskaya, I. A.: Hydrocarbons in the water, particulate matter, seston, and bottom sediments of the White Sea in the late summer, *Water Resour*, 36(1), 64–75, doi:10.1134/S0097807809010060, 2009.
- Nemirovskaya, I. A.: The concentration and composition of hydrocarbons in water, particulate matter, and bottom sediments of the Kara Sea, *Oceanology*, 50(5), 716–728, doi:10.1134/S0001437010050097, 2010.
- Novikov, G. V.: Chemical composition of Barents Sea sediments from the core ASV14-1183-G, doi:10.1594/PANGAEA.127231, 2003.

- Novikov, G. V.: Chemical composition of Barents Sea sediments from the core ASV14-1183-GC, 391 data points, doi:10.1594/PANGAEA.127232, 2003.
- Novikov, G. V.: Chemical composition of Barents Sea sediments from the core ASV14-1190-G, doi:10.1594/PANGAEA.127233, 2003.
- Novikov, G. V.: Chemical composition of Barents Sea sediments from the core ASV14-1190-GC, 465 data points, doi:10.1594/PANGAEA.127234, 2003.
- Nürnberg, D., Wollenburg, I., Dethleff, D., Eicken, H., Kassens, H., Letzig, T., Reimnitz, E. and Thiede, J.: Sediments in Arctic sea ice: Implications for entrainment, transport and release, *Marine Geology*, 119(3–4), 185–214, doi:10.1016/0025-3227(94)90181-3, 1994.
- Pagels, U.: Sedimentologische Untersuchungen und Bestimmung der Karbonatlösung in Spätquartären Sedimenten des östlichen Arktischen Ozeans, doi:10.1594/PANGAEA.56564, 2000.
- Pathirana, I., Knies, J., Felix, M. and Mann, U.: Towards an improved organic carbon budget for the western Barents Sea shelf, *Clim. Past*, 10(2), 569–587, doi:10.5194/cp-10-569-2014, 2014.
- Pavlidis, Y. A.: Chemical composition of 169 sediment profiles from the Arctic seas, 169 datasets, doi:10.1594/PANGAEA.728934, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1267, 15 data points, doi:10.1594/PANGAEA.121901, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1275, 16 data points, doi:10.1594/PANGAEA.121902, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1276, 19 data points, doi:10.1594/PANGAEA.121903, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1277, 10 data points, doi:10.1594/PANGAEA.121904, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1280, 14 data points, doi:10.1594/PANGAEA.121905, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of sediment core PSh12-1324, 33 data points, doi:10.1594/PANGAEA.121906, 2003.
- Pavlidis, Y. A.: Opal, total organic carbon and calcium carbonate concentration of surface sediments, doi:10.1594/PANGAEA.53553, 1998.
- Pchelina, T. M. and Komarnitsky, V. M.: Chemical characteristics of bitumen from sedimentary rocks of VNIIO-1984-80 Hole drilled in the Barents Sea, 591 data points, doi:10.1594/PANGAEA.626692, 2007.
- Pchelina, T. M., Bro, E. G., Basov, V. A. and Komarnitsky, V. M.: Processing results from drill hole VNIIO-1983-81, Severo-Kildinskaya Area (Report 5801, Leningrad), 12 datasets, doi:10.1594/PANGAEA.690548, 1984.

Peresyphkin, V. I., Lukashin, V. N., Isaeva, A. B. and Prego, R.: (Table 4) Content and composition of lignin and its derivatives in the surface layer of bottom sediments from the Kandalaksha Bay, doi:10.1594/PANGAEA.762652, 2004.

Petrova, V. I.: Carbon and CaCO₃ contents in bottom sediments from the Kara Sea, PANGAEA., doi:10.1594/PANGAEA.183582, 1999. <https://doi.org/10.1594/PANGAEA.183582>

Pieńkowski, A. J., Gill, N. K., Furze, M. F., Mugo, S. M., Marret, F. and Perreux, A.: Arctic sea-ice proxies: Comparisons between biogeochemical and micropalaeontological reconstructions in a sediment archive from Arctic Canada, *The Holocene*, 27(5), 665–682, doi:10.1177/0959683616670466, 2017.

Radosavljevic, B., Lantuit, H., Plessen, B. and Knoblauch, C.: Granulometry and bulk geochemistry of nearshore sediments, Herschel Island, Yukon Territory, Canada, doi:10.1594/PANGAEA.859116, 2016.

Riedel, T.: Total organic carbon of sediment core PG2303-1, [online] Available from: <https://doi.pangaea.de/10.1594/PANGAEA.875615>, doi:10.1594/PANGAEA.875615, (Accessed 8 April 2020), 2017.

Ronkina, Z. Z., Basov, V. A. and Bro, E. G.: Processing results from drill hole 21, Murmanskaya Area (Report 5634, Leningrad), 4 datasets, doi:10.1594/PANGAEA.690495, 1983.

Ronkina, Z. Z.: Contents of some components of organic matter in sedimentary rocks from Hole VNIIO-1984-22 drilled in the Barents Sea, , 331 data points, doi:10.1594/PANGAEA.678506, 2008.

Salvadó, J. A., Bröder, L., Andersson, A., Semiletov, I. P. and Gustafsson, Ö.: Release of Black Carbon From Thawing Permafrost Estimated by Sequestration Fluxes in the East Siberian Arctic Shelf Recipient: Release of BC From Thawing Permafrost, *Global Biogeochem. Cycles*, 31(10), 1501–1515, doi:10.1002/2017GB005693, 2017.

Salvadó, J. A., Tesi, T., Sundbom, M., Karlsson, E., Kruså, M., Semiletov, I. P., Panova, E. and Gustafsson, Ö.: Contrasting composition of terrigenous organic matter in the dissolved, particulate and sedimentary organic carbon pools on the outer East Siberian Arctic Shelf, *Biogeosciences*, 13(22), 6121–6138, doi:10.5194/bg-13-6121-2016, 2016.

Savinov, V. M., Petrova, V. I., Boitsov, S. and Plotitsyna, N.: Polyaromatic hydrocarbons in sediments from the Barents and White Seas, doi:10.1594/PANGAEA.848575, 2015.

Schreiner, K. M., Bianchi, T. S., Eglinton, T. I., Allison, M. A. and Hanna, A. J. M.: Sources of terrigenous inputs to surface sediments of the Colville River Delta and Simpson's Lagoon, Beaufort Sea, Alaska: INPUTS TO THE COLVILLE RIVER DELTA, AK, *J. Geophys. Res. Biogeosci.*, 118(2), 808–824, doi:10.1002/jgrg.20065, 2013.

Schubert, C. J. and Calvert, S. E.: Nitrogen and carbon isotopic composition of marine and terrestrial organic matter in Arctic Ocean sediments: Deep Sea Research Part I: Oceanographic Research Papers, 48(3), 789–810, doi:10.1016/S0967-0637(00)00069-8, 2001.

Schubert, C. J.: Organischer Kohlenstoff in spätquartären Sedimenten des Arktischen Ozeans: Terrigener Eintrag und marine Produktivität (Organic carbon in late Quaternary Arctic Ocean sediments:

Terrigenous supply and marine productivity), Alfred-Wegener-Institut für Polar- und Meeresforschung., doi:10.2312/BzP_0177_1995, 1995.

Schytt, V.: Ymer-80, the Swedish Arctic Expedition 1980, *Journal of Geography (Chigaku Zasshi)*, 90(2), 93–102, doi:10.5026/jgeography.90.93, 1981.

Smith, J. N., Ellis, K. M., Naes, K., Dahle, S. and Matishov, D.: Sedimentation and mixing rates of radionuclides in Barents Sea sediments off Novaya Zemlya, *Deep Sea Research Part II: Topical Studies in Oceanography*, 42(6), 1471–1493, doi:10.1016/0967-0645(95)00050-X, 1995.

Sparkes, R. B., Doğrul Selver, A., Gustafsson, Ö., Semiletov, I. P., Haghypour, N., Wacker, L., Eglinton, T. I., Talbot, H. M. and van Dongen, B. E.: Macromolecular composition of terrestrial and marine organic matter in sediments across the East Siberian Arctic Shelf, *The Cryosphere*, 10(5), 2485–2500, doi:10.5194/tc-10-2485-2016, 2016.

Spielhagen, R., Erlenkeuser, H. and Siegert, C.: History of freshwater runoff across the Laptev Sea (Arctic) during the last deglaciation, *Global and Planetary Change*, 48(1–3), 187–207, doi:10.1016/j.gloplacha.2004.12.013, 2005.

Stein, R. and Fahl, K.: Holocene accumulation of organic carbon at the Laptev Sea continental margin (Arctic Ocean): sources, pathways, and sinks, *Geo-Marine Letters*, 20(1), 27–36, doi:10.1007/s003670000028, 2000.

Stein, R. and Fahl, K.: The Kara Sea: Distribution, sources, variability and burial of organic carbon, in *The Organic Carbon Cycle in the Arctic Ocean*, edited by R. Stein and R. W. MacDonald, pp. 213–237, Springer Berlin Heidelberg, Berlin, Heidelberg., doi:10.1007/978-3-642-18912-8_7, 2004.

Stein, R., Boucein, B. and Meyer, H.: Anoxia and high primary production in the Paleogene central Arctic Ocean: First detailed records from Lomonosov Ridge: ANOXIA AND HIGH PRIMARY PRODUCTION, *Geophys. Res. Lett.*, 33(18), doi:10.1029/2006GL026776, 2006.

Stein, R., Boucein, B., Fahl, K., Garcia de Oteyza, T., Knies, J. and Niessen, F.: Accumulation of particulate organic carbon at the Eurasian continental margin during late Quaternary times: controlling mechanisms and paleoenvironmental significance, *Global and Planetary Change*, 31(1–4), 87–104, doi:10.1016/S0921-8181(01)00114-X, 2001.

Stein, R., Fahl, K., Gierz, P., Niessen, F. and Lohmann, G.: Arctic Ocean sea ice cover during the penultimate glacial and the last interglacial, *Nat Commun*, 8(1), 373, doi:10.1038/s41467-017-00552-1, 2017.

Stein, R., Fahl, K., Ivanov, G. I., Levitan, M. A. and Tarasov, G.: Modern and Late Quaternary Depositional Environment of the St. Anna Trough Area, Northern Kara Sea, *Reports on Polar Research*, Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, 342 [online] Available from: <https://epic.awi.de/id/eprint/3032/>, doi:10013/epic.10345.d001, 1999.

Stein, R., Fahl, K., Niessen, F. and Siebold, M.: Late Quaternary Organic Carbon and Biomarker Records from the Laptev Sea Continental Margin (Arctic Ocean): Implications for Organic Carbon Flux and Composition, in *Land-Ocean Systems in the Siberian Arctic*, edited by H. Kassens, H. A. Bauch, I. A.

Dmitrenko, H. Eicken, H.-W. Hubberten, M. Melles, J. Thiede, and L. A. Timokhov, pp. 635–655, Springer Berlin Heidelberg, Berlin, Heidelberg., doi:10.1007/978-3-642-60134-7_48, 1999.

Stein, R., Fahl, K., Schade, I., Manerung, A., Wassmuth, S., Niessen, F. and Nam, S.-I.: Holocene variability in sea ice cover, primary production, and Pacific-Water inflow and climate change in the Chukchi and East Siberian Seas (Arctic Ocean): HOLOCENE SEA ICE CHANGES IN THE CHUKCHI AND EAST SIBERIAN SEAS, *J. Quaternary Sci.*, 32(3), 362–379, doi:10.1002/jqs.2929, 2017.

Stein, R., Grobe, H. and Wahsner, M.: Organic carbon, carbonate, and clay mineral distributions in eastern central Arctic Ocean surface sediments, *Marine Geology*, 119(3–4), 269–285, doi:10.1016/0025-3227(94)90185-6, 1994.

Stein, R., Ivanov, G. I., Levitan, M. A. and Fahl, K.: Surface-sediment composition and sedimentary processes in the central Arctic Ocean and along the Eurasian Continental Margin, Alfred-Wegener-Institut für Polar- und Meeresforschung, doi:10.2312/BZP_0212_1996, 1996.

Stein, R., Macdonald, R. W., Naidu, A. S., Yunker, M. B., Gobeil, C., Cooper, L. W., Grebmeier, J. M., Whitedge, T. E., Hameedi, M. J., Petrova, V. I., Batova, G. I., Zinchenko, A. G., Kursheva, A. V., Narkevskiy, E. V., Fahl, K., Vetrov, A., Romankevich, E. A., Birgel, D., Schubert, C., Harvey, H. R. and Weiel, D.: Organic Carbon in Arctic Ocean Sediments: Sources, Variability, Burial, and Paleoenvironmental Significance, in *The Organic Carbon Cycle in the Arctic Ocean*, edited by R. Stein and R. W. MacDonald, pp. 169–314, Springer Berlin Heidelberg, Berlin, Heidelberg., doi:10.1007/978-3-642-18912-8_7, 2004.

Stein, R., Schubert, C., Vogt, C. and Fütterer, D.: Stable isotope stratigraphy, sedimentation rates, and salinity changes in the Latest Pleistocene to Holocene eastern central Arctic Ocean, *Marine Geology*, 119(3–4), 333–355, doi:10.1016/0025-3227(94)90189-9, 1994.

Stein, R.: Upper Cretaceous/lower Tertiary black shales near the North Pole: Organic-carbon origin and source-rock potential, *Marine and Petroleum Geology*, 24(2), 67–73, doi:10.1016/j.marpetgeo.2006.10.002, 2007.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-1006-1, 47 data points, doi:10.1594/PANGAEA.122893, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-1006-2, 165 data points, doi:10.1594/PANGAEA.122894, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-858-1, 32 data points, doi:10.1594/PANGAEA.122903, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-880-1, 59 data points, doi:10.1594/PANGAEA.122908, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-880-2, 32 data points, doi:10.1594/PANGAEA.122909, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-883-1, 60 data points, doi:10.1594/PANGAEA.122911, 2003.

Strekopytov, S. V.: Chemical composition of Barents Sea sediments at station ASV11-883-2, 77 data points, doi:10.1594/PANGAEA.122912, 2003.

Tesi, T., Muschitiello, F., Smittenberg, R. H., Jakobsson, M., Vonk, J. E., Hill, P., Andersson, A., Kirchner, N., Noormets, R., Dudarev, O., Semiletov, I. and Gustafsson, Ö.: Massive remobilization of permafrost carbon during post-glacial warming, *Nat Commun*, 7(1), 13653, doi:10.1038/ncomms13653, 2016.

Tesi, T., Semiletov, I., Dudarev, O., Andersson, A. and Gustafsson, Ö.: Matrix association effects on hydrodynamic sorting and degradation of terrestrial organic matter during cross-shelf transport in the Laptev and East Siberian shelf seas: Sorting and Degradation of TerrOC, *J. Geophys. Res. Biogeosci.*, 121(3), 731–752, doi:10.1002/2015JG003067, 2016.

Tolosa, I., Fiorini, S., Gasser, B., Martín, J. and Miquel, J. C.: Carbon sources in suspended particles and surface sediments from the Beaufort Sea revealed by molecular lipid biomarkers and compound-specific isotope analysis, *Biogeosciences*, 10(3), 2061–2087, doi:10.5194/bg-10-2061-2013, 2013.

van Dongen, B. E., Semiletov, I., Weijers, J. W. H. and Gustafsson, Ö.: Contrasting lipid biomarker composition of terrestrial organic matter exported from across the Eurasian Arctic by the five great Russian Arctic rivers: OM COMPOSITION FROM ARCTIC RIVERS, *Global Biogeochem. Cycles*, 22(1), n/a-n/a, doi:10.1029/2007GB002974, 2008.

Vanshtein, B. G.: Total organic carbon and calcium carbonate contents in Barents Sea bottom sediments, Core PL-96-101 sampled from R/V Professor Logachev in 1996, doi:10.1594/PANGAEA.615766, 2007.

Vetrov, A. A. and Romankevich, E. A.: *Carbon Cycle in the Russian Arctic Seas*, Springer Berlin Heidelberg, Berlin, Heidelberg, doi:10.1007/978-3-662-06208-1, 2004.

Vetrov, A. A., Semiletov, I. P., Dudarev, O. V., Peresyphkin, V. I. and Charkin, A. N.: Composition and genesis of the organic matter in the bottom sediments of the East Siberian Sea, *Geochem. Int.*, 46(2), 156–167, doi:10.1134/S0016702908020055, 2008.

Vetrov, A. A.: Carbon analysis of sediment core ASV13_1115-GC from the Southern Barents Sea, 38 data points, doi:10.1594/PANGAEA.438805, 2006.

Vetrov, A. A.: Carbon analysis of sediment core ASV13_1118-GC from the Southern Barents Sea, 26 data points, doi:10.1594/PANGAEA.438806, 2006.

Vetrov, A. A.: Carbon analysis of sediment core ASV13_1126-GC from the Southern Barents Sea, 32 data points, doi:10.1594/PANGAEA.438807, 2006.

Vetrov, A. A.: Carbon analysis of sediment core ASV13_1127-GC from the Southern Barents Sea, 28 data points, doi:10.1594/PANGAEA.438808, 2006.

Vetrov, A. A.: Carbon analysis of sediment core ASV13_1129-GC from the Southern Barents Sea, 18 data points, doi:10.1594/PANGAEA.438809, 2006.

Vogt, C., Knies, J., Spielhagen, R. F. and Stein, R.: Detailed mineralogical evidence for two nearly identical glacial/deglacial cycles and Atlantic water advection to the Arctic Ocean during the last 90,000 years, *Global and Planetary Change*, 31(1–4), 23–44, doi:10.1016/S0921-8181(01)00111-4, 2001.

Vogt, C.: Zeitliche und räumliche Verteilung von Mineralvergesellschaftungen in spätquartären Sedimenten des Arktische Ozeans und ihre Nützlichkeit als Klimaindikatoren während der Glazial/Interglazial-Wechsel (Regional and temporal variations of mineral assemblages in Arctic Ocean sediments as climate indicator during glacial/interglacial changes), Alfred-Wegener-Institut für Polar- und Meeresforschung., 1997.

Vogt, C.: Zeitliche und räumliche Verteilung von Mineralvergesellschaftungen in spätquartären Sedimenten des Arktische Ozeans und ihre Nützlichkeit als Klimaindikatoren während der Glazial/Interglazial-Wechsel (Regional and temporal variations of mineral assemblages in Arctic Ocean sediments as climate indicator during glacial/interglacial changes), Alfred-Wegener-Institut für Polar- und Meeresforschung., doi:10.2312/BzP_0251_1997, 1997.

Vonk, J. E., Sánchez-García, L., Semiletov, I., Dudarev, O., Eglinton, T., Andersson, A. and Gustafsson, Ö.: Molecular and radiocarbon constraints on sources and degradation of terrestrial organic carbon along the Kolyma paleoriver transect, East Siberian Sea, *Biogeosciences*, 7(10), 3153–3166, doi:10.5194/bg-7-3153-2010, 2010.

Vonk, J. E., Sánchez-García, L., van Dongen, B. E., Alling, V., Kosmach, D., Charkin, A., Semiletov, I. P., Dudarev, O. V., Shakhova, N., Roos, P., Eglinton, T. I., Andersson, A. and Gustafsson, Ö.: Activation of old carbon by erosion of coastal and subsea permafrost in Arctic Siberia, *Nature*, 489(7414), 137–140, doi:10.1038/nature11392, 2012.

Vonk, J. E., Semiletov, I. P., Dudarev, O. V., Eglinton, T. I., Andersson, A., Shakhova, N., Charkin, A., Heim, B. and Gustafsson, Ö.: Preferential burial of permafrost-derived organic carbon in Siberian-Arctic shelf waters, *J. Geophys. Res. Oceans*, 119(12), 8410–8421, doi:10.1002/2014JC010261, 2014.

Wennström, R.: Distribution and sources of terrestrial organic carbon in surface sediments on the East Siberian Arctic Shelf, Master thesis, Stockholm University, Stockholm, Sweden, 10 June, 2018.

Wild, B., Shakhova, N., Dudarev, O., Ruban, A., Kosmach, D., Tumskey, V., Tesi, T., Joß, H., Alexanderson, H., Jakobsson, M., Mazurov, A., Semiletov, I., and Gustafsson, Ö.: Organic matter across subsea permafrost thaw horizons on the East Siberian Arctic Shelf, *The Cryosphere Discuss.*, <https://doi.org/10.5194/tc-2018-229>, doi:10.5194/tc-2018-229, 2018.

Winkelmann, D. and Knies, J.: Recent distribution and accumulation of organic carbon on the continental margin west off Spitsbergen: CARBON OFF SPITSBERGEN, *Geochem. Geophys. Geosyst.*, 6(9), n/a-n/a, doi:10.1029/2005GC000916, 2005.

Wollenburg, J. E. and Kuhnt, W.: The response of benthic foraminifers to carbon flux and primary production in the Arctic Ocean, *Marine Micropaleontology*, 40(3), 189–231, doi:10.1016/S0377-8398(00)00039-6, 2000.

Wollenburg, J. E. and Mackensen, A.: Living benthic foraminifers from the central Arctic Ocean: faunal composition, standing stock and diversity, *Marine Micropaleontology*, 34(3–4), 153–185, doi:10.1016/S0377-8398(98)00007-3, 1998.

Xiao, X., Fahl, K., Müller, J. and Stein, R.: Sea-ice distribution in the modern Arctic Ocean: Biomarker records from trans-Arctic Ocean surface sediments, *Geochimica et Cosmochimica Acta*, 155, 16–29, doi:10.1016/j.gca.2015.01.029, 2015.

Yunker, M. B., Belicka, L. L., Harvey, H. R. and Macdonald, R. W.: Tracing the inputs and fate of marine and terrigenous organic matter in Arctic Ocean sediments: A multivariate analysis of lipid biomarkers, *Deep Sea Research Part II: Topical Studies in Oceanography*, 52(24–26), 3478–3508, doi:10.1016/j.dsr2.2005.09.008, 2005.

Yunker, M. B., Macdonald, R. W., Cretney, W. J., Fowler, B. R. and McLaughlin, F. A.: Alkane, terpene and polycyclic aromatic hydrocarbon geochemistry of the Mackenzie River and Mackenzie shelf: Riverine contributions to Beaufort Sea coastal sediment, *Geochimica et Cosmochimica Acta*, 57(13), 3041–3061, doi:10.1016/0016-7037(93)90292-5, 1993.

Zaripov, O. G.: Chemical characteristics of bitumen from sedimentary rocks in Hole VNIIO-1986-NGul-01 drilled in the Barents Sea, 1373 data points, doi:10.1594/PANGAEA.680782, 2008.

Zaripov, O. G.: Contents of total organic carbon and bitumen A in sediments and sedimentary rocks from Hole VNIIO-1986-01 drilled in the Barents Sea, 98 data points, doi:10.1594/PANGAEA.678274, 2008.

Zhang, X., Bianchi, T. S. and Allison, M. A.: Sources of organic matter in sediments of the Colville River delta, Alaska: A multi-proxy approach, *Organic Geochemistry*, 87, 96–106, doi:10.1016/j.orggeochem.2015.07.002, 2015.