

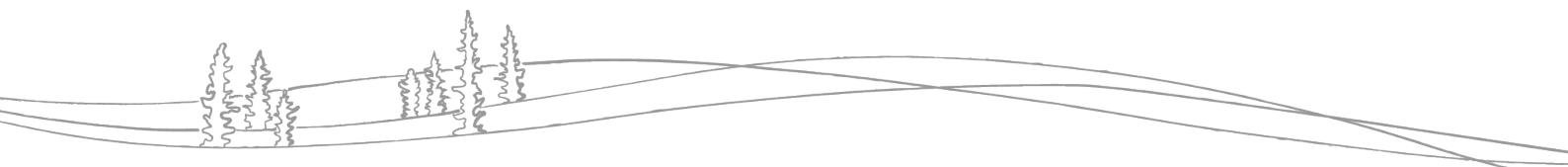


Government of
Northwest Territories

Northwest Territories Geological Survey Publications Released 2015 to Current

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Summary 2015–2016

NWT Open Reports: 15
NWT Open Files: 6
External: NA
Extras (Overviews and GSF abstract Vol): 2
Assessment Reports: NA

Falck, H., and Gochnauer, K., 2016. 2015 Northwest Territories Mineral Exploration Overview: Updated February 2016; Northwest Territories Geological Survey, 34 pages.

Fischer, B.J., Covello, L., and Mirza, A.M., 2015. Historical aeromagnetic surveys over the north shore of the East Arm, Great Slave Lake, NWT; Northwest Territories Geological Survey, NWT Open File 2015-02, digital data.

<https://doi.org/10.46887/2015-02>

Geological Survey of Canada, 2015. Surficial geology, Snowbird Lake, Northwest Territories, NTS 65D; Geological Survey of Canada, Canadian Geoscience Map (preliminary, Surficial Data Model v.2.0 conversion of NWT Open File 2006-02); Northwest Territories Geological Survey, NWT Open File 2015-03, scale 1:125 000. <https://doi.org/10.46887/2015-03>

Irwin, D., 2016. Mineral showings, petroleum wells and generalized geology of the Inuvialuit settlement area; Northwest Territories Geological Survey, NWT Open Report 2016-004, 1 poster in Adobe® PDF format.

<https://doi.org/10.46887/2016-004>

Irwin, D., Normandeau, P.X., and Gervais, S.D. (compilers), 2015. 43rd Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2015.

Johnstone, R.M., Irwin, D., and Stubley, M., 2015: Preliminary geology of the Camsell Lake area, parts of NTS 075M/6, 10, & 11 (a digital re-release of EGS 1992-02 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-013. <https://doi.org/10.46887/2015-013>

Martel, E., 2015. The structural model for Howard's Pass Pb-Zn District, Northwest Territories: Grounds for re-interpretation; Northwest Territories Geological Survey, NWT Open File 2015-01, 54 pages.

<https://doi.org/10.46887/2015-01>

Mirza, A.M., 2015. Enhancements of airborne geophysical data from assessment report 084553, BLKFLY claims, Courageous Lake, NWT; Northwest Territories Geological Survey, NWT Open Report 2015-014, digital data. <https://doi.org/10.46887/2015-014>

Mirza, A.M., 2015. Enhancements of airborne geophysical data from assessment reports 084555 and 084576, BIO and TG claims, Yamba and Point lakes area, NWT; Northwest Territories Geological Survey, NWT Open Report 2015-015, digital data. <https://doi.org/10.46887/2015-015>

Mirza, A.M., 2015. Enhancements of airborne geophysical data from assessment report 084563, LISA claims, Back Lake area, NWT; Northwest Territories Geological Survey, NWT Open Report 2015-016, digital data.

<https://doi.org/10.46887/2015-016>

Mirza, A.M., 2015. Enhancements of airborne geophysical data from assessment report 084582, Starfish Property, Seahorse Lake area, NWT; Northwest Territories Geological Survey, NWT Open Report 2015-017, digital data. <https://doi.org/10.46887/2015-017>

Mirza, A.M., 2015. Enhancements of airborne geophysical data from assessment report 084585, Matonabbee Point, Great Slave Lake, NWT; Northwest Territories Geological Survey, NWT Open Report 2015-018, digital data. <https://doi.org/10.46887/2015-018>

NTGS, BCOGC, BC MNGD, YGS, and NEB., 2016. The unconventional gas resources of Mississippian-Devonian shales in the Liard Basin of British Columbia, the Northwest Territories, and Yukon; Northwest Territories Geological Survey, NWT Open File 2016-05; National Energy Board, Energy Briefing Note, 16 pages. <https://doi.org/10.46887/2016-05>

NTGS, and NEB., 2015. An assessment of the unconventional petroleum resources of the Bluefish Shale and the Canol Shale in the Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2015-05; National Energy Board, Energy Briefing Note, 10 pages. <https://doi.org/10.46887/2015-05>

Palmer, M.J., Galloway, J.M., Jamieson, H.E., Patterson, R.T., Falck, H., and Kokelj, S.V., 2016. The concentration of arsenic in lake waters of the Yellowknife area; Northwest Territories Geological Survey, NWT Open File 2015-06, 25 pages. <https://doi.org/10.46887/2015-06>

Palmer, E.M., Lentz, D.R., and Falck, H., 2015. Gamma-ray spectrometry analysis of selected rare-element bearing granitic pegmatites in the Yellowknife pegmatite field, NWT: Preliminary evaluation of exploration potential; Northwest Territories Geological Survey, NWT Open Report 2015-010, 10 pages. <https://doi.org/10.46887/2015-010>

Pierce, K.L., and Falck, H., 2015. Delineation of watersheds in the Mackenzie Mountains; Northwest Territories Geological Survey, NWT Open Report 2015-007, ESRI® digital files. <https://doi.org/10.46887/2015-007>

Stubley, M., Bégin, N., and Irwin, D., 2015. Geology of the Smoky Lake area, southern Slave Province, parts of NTS 85P/3 & 6 (a digital re-release of EGS 1993-05 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-011. <https://doi.org/10.46887/2015-011>

Stubley, M.P., Cairns, S.R., Irwin, D., King, J.E., Jaegli, K., and Tyler, T., 2015. Geology of the Ames Lake area, south-central Slave Province; NTS 085P/6 & 11 (a digital re-release of EGS 1994-11 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-008. <https://doi.org/10.46887/2015-008>

Stubley, M., and Irwin, D., 2015. Preliminary geology of the Prang Lake area, parts of NTS 085P/15 & 16 (a digital re-release of EGS 1990-19 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-005. <https://doi.org/10.46887/2015-005>

Stubley, M., and Irwin, D., 2015. Preliminary geology of the Squalus Lake area, part of north-central NTS area 85P (a digital re-release of EGS 1992-10 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-012. <https://doi.org/10.46887/2015-012>

Stubley, M., Irwin, D., and Burlingame, T., 2015. Preliminary geology of the McCrea -Drybones Lakes area, parts of NTS 085P/9 & 10 (a digital re-release of EGS 1990-4 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2015-004. <https://doi.org/10.46887/2015-004>

Stubley, M., Marklund, J., and Irwin, D., 2015. Geology of the Spencer Lake area, parts of NTS 085P/1 & 2 (a digital re-release of EGS 1989-12 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, Open Report 2015-006. <https://doi.org/10.46887/2015-006>

Summary 2016–2017

Open Reports: 31

Open Files: 5

External: 10

Extras (Overviews and Annual Yellowknife Geoscience Forum Abstract Volume): 3

Assessment Reports: NA

Berger, A., Cousens, B., Ootes, L., and Jackson, V.A., 2015. Geochemistry of late Archean rocks from the Slave craton, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-029, 37 pages.

<https://doi.org/10.46887/2015-029>

Cairns, S., Dunford, A., Bowdidge, C., Cumming, G., Doan, A., and Machan, S., 2016. 2015 Northwest Territories Geological Survey Core Recovery Program; Northwest Territories Geological Survey, NWT Open Report 2016-006, 19 pages. <https://doi.org/10.46887/2016-006>

Cairns, S., Falck, H., Elliott, B., and Powell, L., 2017. 2017 Northwest Territories Mineral Exploration Overview: February 2017; Northwest Territories Geological Survey, 19 pages.

Duchesne, C., Morse, P.D., Wolfe, S.A., and Kokelj, S.V., 2016. Report on 2010–2015 permafrost thermal investigations in the Yellowknife area, Northwest Territories; Geological Survey of Canada, Open File 8093; Northwest Territories Geological Survey, NWT Open Report 2016-019, 54 pages. <https://doi.org/10.46887/2016-019>

Elliott, B., and Normandeau, P.X., 2016. Slave province surficial materials and permafrost study – Kimberlite indicator mineral counts and grain morphology from the 2015 reverse circulation drilling program; Northwest Territories Geological Survey, NWT Open Report 2016-018, 6 pages and appendix. <https://doi.org/10.46887/2016-018>

Elliott, B., and Normandeau, P.X., 2017. Slave province surficial materials and permafrost study — Kimberlite indicator mineral chemistry from the 2015 reverse circulation drilling program, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-011, 7 pages and appendix. <https://doi.org/10.46887/2017-011>

Hayes, B., and Stewart, R., 2017. Deep subsurface saline aquifer characterization, Dehcho region, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2015-07, 36 pages and appendices.
<https://doi.org/10.46887/2015-07>

Irwin, D., 2016. Mineral Showings, petroleum wells and generalized geology of the Gwich'in settlement area; Northwest Territories Geological Survey, NWT Open Report 2016-001, 1 poster in Adobe® PDF format.
<https://doi.org/10.46887/2016-001>

Irwin, D., 2016. Mineral showings, petroleum wells and generalized geology of the Sahtu settlement area; Northwest Territories Geological Survey, NWT Open Report 2016-002, 1 poster in Adobe® PDF format.
<https://doi.org/10.46887/2016-002>

Irwin, D., 2016. Mineral showings, petroleum wells and generalized geology of the Dehcho region; Northwest Territories Geological Survey, NWT Open Report 2016-005, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2016-005>

Irwin, D., 2016. Mineral showings, petroleum wells and generalized geology of the Wek'èezhìi resource management area (Tłı̨chǫ); Northwest Territories Geological Survey, NWT Open Report 2016-011, 1 poster in Adobe® PDF format.
<https://doi.org/10.46887/2016-011>

Irwin, D., Gervais, S.D., and Terlaky, V. (compilers), 2016. 44th Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2016.

Jackson, V.A., McGoldrick, S., Hamilton, M.A., and Ootes, L., 2015. Preliminary Geology of part of the Archean Burnt Inlet belt, Indin Lake, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-009, 29 pages. <https://doi.org/10.46887/2015-009>

Jackson, V.A., Ootes, L., and Hamilton, M.A., 2015. Geology of a Volcanogenic Massive Sulphide Showing, southern Fenton Lake, Northwest Territories (NTS 85I/15); Northwest Territories Geological Survey, NWT Open Report 2015-028, 16 pages. <https://doi.org/10.46887/2015-028>

Jackson, V.A., and Ootes, L., 2016. Petrographic summary of samples from the Snare River volcanic belt, Northwest Territories (NTS 85 O/13); Northwest Territories Geological Survey, NWT Open Report 2015-027, 47 pages. <https://doi.org/10.46887/2015-027>

Jackson, V.A., and Ootes, L., 2016. Petrographic summary of samples from the Sharrie Lake area, southern Beaulieu River volcanic belt, Northwest Territories (Part of NTS 85I/10 and 11); Northwest Territories Geological Survey, NWT Open Report 2015-026, 57 pages. <https://doi.org/10.46887/2015-026>

Jackson, V.A., Williams, B., Berger, A., and Ootes, L., 2015. Geology of the Volcanic Rocks at Sharrie Lake, southern Slave craton, NWT (part of NTS 85I/10 and 11); Northwest Territories Geological Survey, NWT Open Report 2015-024, 1 map, scale 1:10,000, and two accompanying tables. <https://doi.org/10.46887/2015-024>

Jackson, V.A., Williams, B., Berger, A., Ootes, L., and Hamilton, M.A., 2015. Geology of some of the volcanic rocks at Wijinnedi Lake – Snare River, southern Slave craton, NWT (part of NTS 85O/13); Northwest Territories Geological Survey, NWT Open Report 2015-025, 1:15,000 scale map and accompanying report, 34 pages. <https://doi.org/10.46887/2015-025>

Johnstone, R.M., Irwin, D., and Stuble, M., 2016: Preliminary geology of the Lake of the Enemy area, NTS 075M/9, parts of 075 M/10, 15 & 16 (a digital re-release of EGS 1992-18 in ESRI and Adobe formats); Northwest Territories Geological Survey, Open Report 2016-016. <https://doi.org/10.46887/2016-016>

Johnstone, R.M., Irwin, D., and Stuble, M., 2016: Preliminary geology of the Southern MacKay Lake area, District of Mackenzie, parts of NTS 075M/10, 11, 14, 15 & 16 (a digital re-release of EGS 1993-09 in ESRI® and Adobe® formats); Northwest Territories Geological Survey, NWT Open Report 2016-017. <https://doi.org/10.46887/2016-017>

Kouhi, D.W., and Tiampo, K.F., 2016. Current status of magnetic inversion project at Thor Lake, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2016-06, 31 pages. <https://doi.org/10.46887/2016-06>

McKillop, R., Sacco, D., Cummings, D., Ross, M., Campbell, J., and Winterburn, P., 2016. Surficial geology applied to drift exploration: New insights with existing datasets; P.X. Normandeau (compiler). Yellowknife Geoscience Forum, 2015, Workshop; Northwest Territories Geological Survey, NWT Open Report 2016-009, 12 pages and appendix. <https://doi.org/10.46887/2016-009>

Mirza, A.M., 2016. High resolution total field and gradient aeromagnetic survey of the Chan Lake area, Northwest Territories, NTS 085K; Northwest Territories Geological Survey, NWT Open File 2016-03, 15 maps and digital data. <https://doi.org/10.46887/2016-03>

Mirza, A.M., and Elliott, B., 2017. Aeromagnetic survey of the central Slave craton area, Northwest Territories, parts of NTS 75M and 75 N; Northwest Territories Geological Survey, NWT Open Report 2017-014, 44 pages with 10 maps and digital data. <https://doi.org/10.46887/2017-014>

Mirza, A.M., and Elliott, B., 2017. Airborne electromagnetic and horizontal-gradient magnetic survey of the central Slave craton area, Northwest Territories, parts of NTS 75M, N, and 76D; Northwest Territories Geological Survey; NWT Open Report 2017-015, 121 pages with 54 maps and digital data. <https://doi.org/10.46887/2017-015>

Morse, P.D. (comp.), 2017. Report on the Permafrost and Hydrogeology Interactions meeting, 14 November 2016, Yellowknife, NWT; Geological Survey of Canada, Open File 8192, 60 pages. (Northwest Territories Geological Survey, NWT Open Report 2017-010). <https://doi.org/10.46887/2017-010>

Normandeau, P.X., Elliott, B., and Gervais, S.D., 2016. Slave Province Surficial Materials and Permafrost Study – Geochemical and textural data from the 2015 Reverse Circulation Drilling Program; Northwest Territories Geological Survey, NWT Open Report 2016-012, 12 pages and appendix. <https://doi.org/10.46887/2016-012>

NTGS, BCOGC, BC MNGD, YGS, NEB, 2016. The Unconventional Gas Resources of Mississippian-Devonian Shales in the Liard Basin of British Columbia, the Northwest Territories, and Yukon; Northwest Territories Geological Survey, NWT Open File 2016-05; National Energy Board, Energy Briefing Note (March 2016), 16 pages. <https://doi.org/10.46887/2016-05>

Palmer, E.M., Lentz, D.R., and Falck, H., 2015. Gamma-ray spectrometry analysis of selected rare-element bearing granitic pegmatites in the Yellowknife pegmatite field, NWT: preliminary evaluation of exploration potential; Northwest Territories Geological Survey, NWT Open Report 2015-010, 10 pages. <https://doi.org/10.46887/2015-010>

Palmer, E.M., Lentz, D.R., and Falck, H., 2016. Field and lithogeochemical data for the Prestige pluton and surrounding pegmatites, NWT, Canada; Northwest Territories Geological Survey, NWT Open Report 2016-003, 16 pages. <https://doi.org/10.46887/2016-003>

Pyle, L.J., Rocheleau, J., and Fiess, K.M., 2015. Devonian and Cretaceous hydrocarbon source rocks, Central Mackenzie Valley, Northwest Territories (Presentation at the Yellowknife Geoscience Forum, 2014); Northwest Territories Geological Survey, NWT Open Report 2015-003, 23 pages. <https://doi.org/10.46887/2015-003>

Segal, R.A., Kokelj, S.V., Lantz, T.C., Pierce, K.L., Durkee, K., Gervais, S., Mahon, E., Snijders, M., Buysse, J., and Schwarz, S., 2016. Mapping of terrain affected by retrogressive thaw slumping in northwestern Canada; Northwest Territories Geological Survey, NWT Open Report 2016-023, 5 pages. <https://doi.org/10.46887/2016-023>

Segal, R.A., Kokelj, S.V., Lantz, T.C., Durkee, K., Gervais, S., Mahon, E., Snijders, M., Buysse, J., and Schwarz, S., 2016. Broad-scale mapping of terrain impacted by retrogressive thaw slumping in northwestern Canada; Northwest Territories Geological Survey, NWT Open Report 2016-008, 17 pages. <https://doi.org/10.46887/2016-008>

Segal, R.A., Lantz, T.C., and Kokelj, S.V., 2016. Inventory of active retrogressive thaw slumps in the Peel Plateau, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-020, 7 pages. <https://doi.org/10.46887/2015-020>

Segal, R.A., Lantz, T.C., and Kokelj, S.V., 2016. Inventory of active retrogressive thaw slumps on eastern Banks Island, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-021, 8 pages. <https://doi.org/10.46887/2015-021>

Segal, R.A., Lantz, T.C., and Kokelj, S.V., 2016. Inventory of active retrogressive thaw slumps in the Bluenose Moraine, western Nunavut; Northwest Territories Geological Survey, NWT Open Report 2015-023, 8 pages. <https://doi.org/10.46887/2015-023>

Segal, R.A., Lantz, T.C., Kokelj, S.V., Brietzke, C.K., Reichheld, S., and Martin, A.F., 2016. Inventory of retrogressive thaw slumps in the Tuktoyaktuk coastlands, western Anderson Plain, and Mackenzie Delta region, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-022, 9 pages. <https://doi.org/10.46887/2015-022>

Shelton, K.L., Smith, A.D., Hill, L., and Falck, H., 2016. Ore petrography, fluid inclusion and stable isotope studies of gold and base-metal sulphide mineralization in a northern portion of the Yellowknife greenstone belt; Northwest Territories Geological Survey, NWT Open File 2016-02, 38 pages. <https://doi.org/10.46887/2016-02>

External Publications

Haiblen, A.M., Ward, B.C., Campbell, J.E., and Normandeau, P.X., 2016. Landform-sediment associations within ‘subglacial meltwater corridors’ reflect channelised subglacial hydraulic conditions during deglaciation on the Canadian Shield. 2016, C33A-0758. AGU Fall Meeting Abstracts.

Haugaard, R., Ootes, L., Creaser, R.A., and Konhauser, K.O., 2016. The nature of Mesoarchaean seawater and continental weathering in 2.85 Ga banded iron formation, Slave craton, NW Canada; *Geochimica et Cosmochimica Acta*, volume 194, pages 34–56. <https://doi.org/10.1016/j.gca.2016.08.020>

Haugaard, R., Ootes, L., Heaman, L.M., Hamilton, M.A., Shaulis, B.J., and Konhauser, K., 2017. Depositional timing of Neoarchean turbidites of the Slave craton—Recommended nomenclature and type localities; *Canadian Journal of Earth Sciences*, volume 54, number 1, pages 15–32. <https://doi.org/10.1139/cjes-2016-0098>

Haugaard, R., Ootes, L., and Konhauser, K., 2017. Neoarchaean banded iron formation within a ~2620 Ma turbidite-dominated deep-water basin, Slave craton, NW Canada; *Precambrian Research*, volume 292, pages 130–151. <https://doi.org/10.1016/j.precamres.2017.01.025>

Houben, A.J., French, T.D., Kokelj, S.V., Wang, X., Smol, J.P., and Blais, J.M., 2016. The impacts of permafrost thaw slump events on limnological variables in upland tundra lakes, Mackenzie Delta region; *Fundamental and Applied Limnology*, volume 189, number 1, pages 11–35. <https://doi.org/10.1127/fal/2016/0921>

Kokelj, S.V., Palmer, M.J., Lantz, T.C., and Burn, C.R., 2017. Ground Temperatures and permafrost warming from forest to tundra, Tuktoyaktuk coastlands and Anderson plain, NWT, Canada; *Permafrost and Periglacial Processes*, volume 28, issue 3, pages 543–551. <https://doi.org/10.1002/ppp.1934>

Ootes, L., Jackson, V.A., Davis, W.J., Bennett, V., Smar, L., and Cousens, B.L., 2017. Parentage of Archean basement within a Paleoproterozoic orogen and implications for on-craton diamond preservation: Slave craton and Wopmay orogen, northwest Canada; *Canadian Journal of Earth Sciences*, volume 54, number 2, pages 203–232. <https://doi.org/10.1139/cjes-2016-0059>

Ootes, L., Snyder, D., Davis, W.J., Acosta-Góngora, P., Corriveau, L., Mumin, A.H., Gleeson, S.A., Samson, I.M., Montreuil, J.-F., Potter, E., and Jackson, V.A., 2017. A Paleoproterozoic Andean-type iron oxide copper-gold environment, the Great Bear magmatic zone, Northwest Canada; *Ore Geology Reviews*, volume 81, part 1, pages 123–139. <https://doi.org/10.1016/j.oregeorev.2016.09.024>

Kelley, K.D., Selby, D., Falck, H., and Slack, J.F., 2017. Re-Os systematics and age of pyrite associated with stratiform Zn-Pb mineralization in the Howards Pass district, Yukon and Northwest Territories, Canada; *Miner Deposita* volume 52, pages 317–335. <https://doi.org/10.1007/s00126-016-0663-y>

Slack, J.F., Falck, H., Kelley, K.D., and Xue, G.G., 2017. Geochemistry of host rocks in the Howards Pass district, Yukon-Northwest Territories, Canada: Implications for sedimentary environments of Zn-Pb and phosphate mineralization; *Mineralium Deposita*, volume 52, issue 4, pages 565–593. <https://doi.org/10.1007/s00126-016-0680-x>

Summary 2017–2018

Open Reports: 8

Open Files: 6

External: 10

Extras (Overviews and Annual Yellowknife Geoscience Forum Abstract Volume): 3

Assessment Reports: NA

Cummings, D.I., 2018. Slave province surficial material and permafrost study – Quaternary geology of the 2012 Diavik Diamond Mines Inc. Till sample grid, Lac de Gras area, NWT (NTS 76C) – Map and Technical Report; Northwest Territories Geological Survey, NWT Open Report 2017-012, 87 pages, appendix, and digital data.

<https://doi.org/10.46887/2017-012>

Falck, H., Cairns, S., Robb, M., and Powell, L., 2018. 2017 Northwest Territories Mineral Exploration Overview: February 2018; Northwest Territories Geological Survey, 30 pages.

Fischer, B.J., 2018. Carlin-type gold and clastic-dominated zinc-lead potential of the Misty Creek embayment region, Mackenzie Mountains, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2017-02, 90 pages. <https://doi.org/10.46887/2017-02>

Fischer, B.J., Martel, E., and Falck, H., 2018. Geology of the Mactung tungsten skarn and area – Review and 2016 field observations; Northwest Territories Geological Survey, NWT Open File 2018-02, 84 pages and appendices.

<https://doi.org/10.46887/2018-02>

Geological Survey of Canada, 2017. Surficial geology, Snowbird Lake, Northwest Territories, NTS 65D; Geological Survey of Canada, Canadian Geoscience Map 202 (2nd edition, preliminary, Surficial Data Model v. 2.3 conversion of NWT Open File 2015-03); Northwest Territories Geological Survey, NWT Open File 2017-04, scale 1:125 000.

<https://doi.org/10.46887/2017-04>

Irwin, D., 2017. Mineral showings, petroleum wells and generalized geology of parts of the south Slave and north Slave regions, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-022, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2017-022>

Irwin, D., Gervais, S.D., and Terlaky, V. (compilers), 2017. 45th Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2017.

Jamieson, H.E., Maitland, K.M., Oliver, J.T., and Palmer, M.J., 2017. Regional distribution of arsenic in near-surface soils in the Yellowknife area; Northwest Territories Geological Survey, NWT Open File 2017-03, 28 pages and appendices.

<https://doi.org/10.46887/2017-03>

Lantz, T.C., Steedman, A.E., Kokelj, S.V., and Segal, R.A., 2017. Inventory of polygonal terrain in the Tuktoyaktuk coastlands, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2016-022, 10 pages and digital data. <https://doi.org/10.46887/2016-022>

Martel, E., Fischer, B.J., Pierce, K.L., and Falck, H., 2018. Geology of the Mactung tungsten skarn deposit; Northwest Territories Geological Survey, NWT Open File 2018-01, 1 map at 1:10 000 scale and digital files.

<https://doi.org/10.46887/2018-01>

Mirza, A.M., and Fischer, B.J., 2016. Aeromagnetic data, Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2016-021, 1 poster and digital data. <https://doi.org/10.46887/2016-021>

Mirza, A.M., and Prowse, N.D., 2018. Slave province surficial materials and permafrost study - 100 MHz and 500 MHz ground penetrating radar survey data, Lac de Gras area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-001, 13 pages and appendices. <https://doi.org/10.46887/2017-001>

Okulitch, A.V., and Irwin, D., 2017. Geological compilation of the western mainland and arctic islands of the Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2016-09, ESRI® digital files and PDF files. <https://doi.org/10.46887/2016-09>

Ootes, L., Sandeman, H.A.I., and Jackson, V.A., 2017. Ultramafic intrusions (Wopmay pyroxenite pipes) in the southern metamorphic internal zone of the Wopmay orogen and the southwestern Slave craton, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2015-030, 31 pages and appendices. <https://doi.org/10.46887/2015-030>

Pyle, L.J., Rocheleau, J., Fiess, K.M., Fraser, T.L., and Ferri, F., 2016. Petroleum potential, lithogeochemical, and mineralogical data from Devonian and Carboniferous sections in the Liard Basin, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2016-007, 34 pages and appendices. <https://doi.org/10.46887/2016-007>

Sacco, D.A., Turner, D.G., and McKillop, R.J., 2018. Standardization of compiled mineralogical and geochemical data sets: Lac de Gras (NTS 076D) and Aylmer Lake (NTS 076C) map areas, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-013, 51 pages. <https://doi.org/10.46887/2017-013>

External Publications

Acosta-Góngora, P., Gleeson, S.A., Samson, I.M., Corriveau, L., Ootes, L., Jackson, S.E., and Taylor, B.E., 2017. Origin of sulfur and crustal recycling of copper in polymetallic (Cu-Au-Co-Bi-U ± Ag) iron-oxide-dominated systems of the Great Bear Magmatic Zone, NWT, Canada; Mineralium Deposita, volume 53, pages 353–376. <https://doi.org/10.1007/s00126-017-0736-6>

Elliott, B., Ross, M., Kelley, S., Cummings, D., Winterburn, P., Ward, B., Mirza, A.M., Normandeau, P.X., and Cairns, S., 2017. Revitalising exploration in a key diamond district: A case study in the Northwest Territories, Canada; 11th International Kimberlite Conference Extended Abstract, 11IKC-4638.

Haiblen, A., Ward, B., Normandeau, P.X., and Campbell, J., 2017. Enigmatic mounds in “subglacial meltwater corridors” on the Canadian Shield: A record of channelised, subglacial meltwater drainage during Laurentide deglaciation; EGU General Assembly Conference Abstracts, April 2017, 14420 pages, Vienna, Austria. <https://ui.adsabs.harvard.edu/abs/2017EGUGA..1914420H>

Kokelj, S.V., Lantz, T.C., Tunnicliffe, J., Segal, R., and Lacelle, D., 2017. Climate-driven thaw of permafrost preserved glacial landscapes, northwestern Canada; Geology, volume 45, number 4, pages 371–374. <https://doi.org/10.1130/G38626.1>

Lake, D.J., Groat, L.A., Falck, H., Mulja, T., Cempírek, J., Kontak, D., Marshall, D., Giuliani, G., and Fayek, M., 2017. Genesis of emerald-bearing quartz veins associated with the Lened W-skarn mineralization, Northwest Territories, Canada; The Canadian Mineralogist, volume 55, number 4, pages 561–593. <https://doi.org/10.3749/canmin.1700025>

Littlefair, C.A., Tank, S.E., and Kokelj, S.V., 2017. Retrogressive thaw slumps temper dissolved organic carbon delivery to streams of the Peel Plateau, NWT, Canada; Biogeosciences, volume 14, issue 23, pages 5487–5505. <https://doi.org/10.5194/bg-14-1-2017>

Morse, P.D., 2017. Report on the permafrost and hydrogeology interactions meeting, 14 November 2016, Yellowknife, Northwest Territories; Geological Survey of Canada, Open File 8192, 60 pages. <https://doi.org/10.4095/299674>

Normandeau, P.X., Harlov, D.E., Corriveau, L., Paquette, J., and McMartin, I., 2018. Characterization of fluorapatite within iron oxide alkali-calcic alteration systems of the Great Bear Magmatic Zone: A potential metasomatic process record; *The Canadian Mineralogist*, volume 56, number 2, pages 167–187. <https://doi.org/10.3749/canmin.1700035>

Poitras, S.P., Pearson, D.G., Stachel, T., and Cairns, S., 2017. Evidence for a > 200 km thick diamond-bearing root beneath the central Mackenzie Valley, Northwest Territories, Canada: Diamond indicator mineral geochemistry from the Horn Plateau and Trout Lake regions; 11th International Kimberlite Conference Extended Abstract, 11IKC-4455.

Milligan, R., Fedortchouk, Y., Normandeau, P.X., Fulop, A., and Robertson, M., 2017. Features of apatite in kimberlites from Ekati Diamond Mine and Snap Lake, Northwest Territories, Canada: modelling of kimberlite composition; 11th International Kimberlite Conference Extended Abstract, 11IKC-4519.

Summary 2018–2019

NWT Open Reports: 27
NWT Open Files: 4
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Extras (Overviews and GSF abstract Vol): 2
Assessment Reports: NA

Brasseur, P., Kokelj, S.V., Fraser, R., and Lacelle, D., 2018. A first approximation of aufeis distribution in eastern Yukon and adjacent Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2016-010, 16 pages. <https://doi.org/10.46887/2016-010>

Chételat, J., Amyot, M., Muir, D., Black, J., Richardson, M., Evans, M., and Palmer, M., 2018. Arsenic, antimony, and metal concentrations in water and sediment of Yellowknife Bay; Northwest Territories Geological Survey, NWT Open File 2017-05, 40 pages and appendices. <https://doi.org/10.46887/2017-05>

Cummings, D.I., 2018. Select dispersal trains on the Canadian Shield; Northwest Territories Geological Survey, NWT Open Report 2018-002, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2018-002>

Cummings, D., 2018. Surficial geology of the Slave: A review of 100 years of facts and ideas; Northwest Territories Geological Survey, NWT Open Report 2018-013, 74 pages and appendix. <https://doi.org/10.46887/2018-013>

Falck, H., Cairns, S., Elliott, B., and Powell, L., 2018. 2018 Northwest Territories Mineral Exploration Overview: November 2018; Northwest Territories Geological Survey, 60 pages.

Falck, H., Cairns, S., Elliott, B., and Powell, L., 2019. 2018 Northwest Territories Mineral Exploration Overview: March 2019; Northwest Territories Geological Survey, 47 pages.

Haiblen, A.M., Ward, B.C., Normandeau, P.X., Elliott, B., and Pierce, K.L., 2018. Detailed field and LiDAR based surficial geology and geomorphology in the Lac de Gras area, Northwest Territories (parts of NTS 76C and 76D); Northwest Territories Geological Survey, NWT Open Report 2017-016, 28 pages, 2 maps at 1:20 000 scale, appendix, and digital data. <https://doi.org/10.46887/2017-016>

Irwin, D., Gervais, S.D., and Terlaky, V. (compilers), 2018. 46th Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2018.

Kiss, F., 2018. Aeromagnetic survey of the Redstone River, Keele River and Mountain River areas, Mackenzie Mountains; Northwest Territories Geological Survey, NWT Open Report 2018-011. <https://doi.org/10.46887/2018-011>

Knight, J., 2018. An interpretation of the deglaciation history of the southern Slave province using 1:50 000 surficial geology maps; Northwest Territories Geological Survey, NWT Open Report 2017-018, 70 pages, digital data, and appendices. <https://doi.org/10.46887/2017-018>

Kouhi, D.W., and Tiampo, K.E., 2018. Implementation of gravity data for isolated and joint inversion methods at Thor Lake, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2016-08, 43 pages. <https://doi.org/10.46887/2016-08>

LaGrange, M., Harris, B., Ansell, M., Gingras, M., Fiess, K., and Li, L., 2018. Preliminary data for an integrated depositional and sequence stratigraphic framework for the Hare Indian and Canol formations (Horn River Group), central Mackenzie Valley, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-017, 24 pages and appendices. <https://doi.org/10.46887/2017-017>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084587, Mud Lake survey, Drybones Bay, Great Slave Lake, Northwest Territories (NTS 085I04); Northwest Territories Geological Survey, NWT Open Report 2017-002, 9 pages and digital data. <https://doi.org/10.46887/2017-002>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084588, Bear Head property, Lac Tete d'Ours Lake, Northwest Territories (NTS 076M01, 02, 07, and 08); Northwest Territories Geological Survey, NWT Open Report 2017-003, 9 pages and digital data. <https://doi.org/10.46887/2017-003>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084593, RB Claims, Credit Lake area, Northwest Territories (NTS 076D12 and 086A09); Northwest Territories Geological Survey, NWT Open Report 2017-004, 9 pages and digital data. <https://doi.org/10.46887/2017-004>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084593, Courageous Lake property (JL, KJA, and KJB claims), Northwest Territories (NTS 076D01, 03 and 076M14, 15); Northwest Territories Geological Survey, NWT Open Report 2017-005, 9 pages and digital data. <https://doi.org/10.46887/2017-005>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084743, Pine Point project, Hay River area, Northwest Territories (NTS 085B10, 11, 14, 15, and 16); Northwest Territories Geological Survey, NWT Open Report 2017-006, 9 pages and digital data. <https://doi.org/10.46887/2017-006>

Mirza, A.M., 2018. Enhancements of airborne geophysical data from NWT Assessment Report 084838, Lena West property, Northwest Territories (NTS 096K, 096M, 106O, and 106P); Northwest Territories Geological Survey, NWT Open Report 2017-007, 10 pages and digital data. <https://doi.org/10.46887/2017-007>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 033252, Courageous Lake project, central Slave craton area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-003, 9 pages and digital data. <https://doi.org/10.46887/2018-003>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 083142, Amad project, Lac de Gras area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-004, 9 pages and digital data. <https://doi.org/10.46887/2018-004>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 083278, Courageous Lake project, central Slave craton area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-005, 9 pages and digital data. <https://doi.org/10.46887/2018-005>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 083302, MacKay Lake project, central Slave craton area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-006, 9 pages and digital data. <https://doi.org/10.46887/2018-006>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 084313, Char property, Lac de Charloit area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-007, 9 pages and digital data. <https://doi.org/10.46887/2018-007>

Mirza, A.M., 2019. Enhancements of airborne geophysical data from NWT Assessment Report 083388, MacKay Lake area, district of Mackenzie, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-008, 10 pages and digital data. <https://doi.org/10.46887/2018-008>

Mirza, A.M., Dziuba, F., and Elliott, B., 2018. Slave Province Surficial Materials and Permafrost Study - The use of ground penetrating radar and capacitively coupled resistivity surveys to detect depth to bedrock, Lac de Gras region, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2016-04, 38 pages, digital data, and field report. <https://doi.org/10.46887/2016-04>

Mirza, A.M., and Fischer, B.J., 2018. Geophysical interpretation of aeromagnetic survey, Chan Lake area, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2016-07, 16 pages, 9 maps at 1:250 000 scale, appendix, and digital data. <https://doi.org/10.46887/2016-07>

Mirza, A.M., and Fischer, B.J., 2018. Airborne magnetic, electromagnetic, radiometric and gravity data for the Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2018-001, 3 maps and digital data. <https://doi.org/10.46887/2018-001>

O’Leary, D., and Sommerville, A. (Golder Associates Ltd.), 2018. Aerial photography interpretation of surficial geology and drift exploration potential for NTS 075M08, 075M15, 075M16, 075N13, and 075N14; Northwest Territories Geological Survey, NWT Open Report 2018-014, ESRI® and Adobe® digital files. <https://doi.org/10.46887/2018-014>

Pyle, L.J., Fiess, K.M., Rocheleau, J., and Terlaky, V., 2018. Source rock characterization data from the Devonian Horn River Group, Imperial Formation, and Cretaceous Slater River Formation outcrops - NTS 96D, 96E, and 106H, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2016-013, 42 pages and appendices. <https://doi.org/10.46887/2016-013>

Rocheleau, J., and Fiess, K.M., 2019. Explanatory notes for Northwest Territories Liard Basin resource assessment map series; Northwest Territories Geological Survey, NWT Open Report 2017-019, 19 pages and appendices. <https://doi.org/10.46887/2017-019>

Rocheleau, J., Pyle, L.J., and Fiess, K.M., 2018. Petroleum potential data for the Horn River Group from eight exploration wells – NTS 95N, 95O, 96C, 106H, 106J, 106K, and 106N, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2016-015, 30 pages and appendices. <https://doi.org/10.46887/2016-015>

Sacco, D.A., McKillop, R.M., Ward, B.C., and Ellis, S., 2018. Surficial geology and till sampling suitability for NTS map sheets 075M09, parts of 075N05/06/11/12, and parts of 076D05/06/07/10/11/12, Slave geological province, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2018-015, ESRI® and Adobe® digital files. Scale 1:50 000. <https://doi.org/10.46887/2018-015>

Tappert, M.C., and Tappert, R., 2018. Novel exploration tools: Using reflectance spectroscopy to detect hydration halos around kimberlites; Northwest Territories Geological Survey, NWT Open Report 2018-012, 39 pages. <https://doi.org/10.46887/2018-012>

External Publications

Acosta-Góngora, P., Pehrsson, S.J., Sandeman, H., Martel, E., and Peterson, T.D., 2018. The Ferguson Lake deposit: An example of Ni-Cu-Co-PGE mineralization in a back-arc basin setting?; Canadian Journal of Earth Sciences, volume 55, number 8, pages 958–979. <https://doi.org/10.1139/cjes-2017-0185>

Adlakha, E., Hanley, J., Falck, H., and Boucher, B., 2018. The origin of mineralizing hydrothermal fluids recorded in apatite chemistry at the Cantung W–Cu skarn deposit, NWT, Canada; European Journal of Mineralogy, volume 30, number 6, pages 1095–1113. <https://doi.org/10.1127/ejm/2018/0030-2780>

Angus, K., Arnott, R.W.C., and Terlaky, V., 2019. Lateral and vertical juxtaposition of matrix-rich and matrix-poor lithologies caused by particle settling in mixed mud–sand deep-marine sediment suspensions; Sedimentology, volume 66, issue 3, pages 940–962. <https://doi.org/10.1111/sed.12523>

Armstrong, L., Lacelle, D., Fraser, R.H., Kokelj, S.V., and Knudby, A., 2018. Thaw slump activity measured using stationary cameras in time-lapse and structure-from-motion photogrammetry; Arctic Science, volume 4, number 4, pages 827–845. <https://doi.org/10.1139/as-2018-0016>

Cummings, D., and Russell, H., 2018. Glacial dispersal trains in North America; Journal of Maps, volume 14, issue 2, pages 476–485. <https://doi.org/10.1080/17445647.2018.1478752>

Dalton, A.S., Patterson, R.T., Roe, H.M., Macumber, A.L., Swindles, G.T., Galloway, J.M., Vermaire, J.C., Crann, C.A., and Falck, H., 2018. Late Holocene climatic variability in subarctic Canada: Insights from a high-resolution lake record from the central Northwest Territories; PLOS ONE, volume 13, issue 6, e0199872.
<https://doi.org/10.1371/journal.pone.0199872>

Flower, A., 2018. Analysis of the Ordovician-Silurian Duo Lake Formation at Howards Pass in the Selwyn Basin region, NWT; Unpublished, M.Sc. Thesis, St. Francis Xavier University, Antigonish, Nova Scotia.

Gavel, M.J., Patterson, R.T., Nasser, N.A., Galloway, J.M., Hanna, B.W., Cott, P.A., Roe, H.M., and Falck, H., 2018. What killed Frame Lake? A precautionary tale for urban planners; PeerJ, volume 6, e4850. <https://doi.org/10.7717/peerj.4850>

Hutchinson, S.J., Hamilton, P.B., Patterson, R.T., Galloway, J.M., Nasser, N.A., Spence, C., and Falck, H., 2019. Diatom ecological response to deposition of the 833–850 CE White River ash (east lobe) ashfall in a small subarctic Canadian lake; PeerJ, volume 7, e6269. <https://doi.org/10.7717/peerj.6269>

Jamison, D., 2018. Deformation history of the Black Bay Fault, Northwest Territories, Canada; M.Sc. Thesis, University of Waterloo, Waterloo, Ontario. <http://hdl.handle.net/10012/13772>

Johnson, C.A., Slack, J.F., Dumoulin, J.A., Kelley, K.D., and Falck, H., 2018. Sulfur isotopes of host strata for Howards Pass (Yukon–Northwest Territories) Zn-Pb deposits implicate anaerobic oxidation of methane, not basin stagnation; Geology, volume 46, number 7, pages 619–622. <https://doi.org/10.1130/G40274.1>

Kelley, S.E., Ross, M., Elliott, B., and Normandeau, P.X., 2019. Effect of shifting ice flow and basal topography in shaping three-dimensional dispersal patterns, Lac de Gras region, Northwest Territories, Canada; Journal of Geochemical Exploration, volume 199, pages 105–127. <https://doi.org/10.1016/j.jgeexplo.2019.01.012>

Neyedley, K., Hanley, J.J., Falck, H., Bodnar, R.J., Fedele, L., Fayek, M., and Sharpe, R., 2019. Sulfide melt inclusions associated with magmatic Ni-Cu-platinum-group element (PGE) mineralization in the Caribou Lake gabbro, Blatchford Lake intrusive suite, Northwest Territories, Canada; Ore Geology Reviews, volume 107, pages 513–531.
<https://doi.org/10.1016/j.oregeorev.2019.02.009>

Normandeau, P.X., Harlov, D.E., Corriveau, L., Paquette, J., and McMartin, I., 2018. Characterization of fluorapatite within iron oxide alkali-calcic alteration systems of the Great Bear Magmatic Zone: A potential metasomatic process record; The Canadian Mineralogist, volume 56, number 2, pages 167–187. <https://doi.org/10.3749/canmin.1700035>

Reguir, E.P., Chakhmouradian, A.R., Elliott, B., Sheng, A.R., and Yang, P., 2018. Zircon Macrocrysts from the Drybones Bay Kimberlite Pipe (Northwest Territories, Canada): A High-Resolution Trace Element and Geochronological Study; Minerals, volume 8, issue 11. <https://doi.org/10.3390/min8110481>

Rosa, D., Slack, J.F., and Falck, H., 2018. Base-metal and REE anomalies in lower palaeozoic sedimentary rocks of amundsen land, central north greenland: Implications for Zn-Pb potential; Geological Survey of Denmark and Greenland Bulletin, volume 41, pages 43–46. <https://doi.org/10.34194/geusb.v41.4338>

Sheen, A.I., Heaman, L.M., Kjarsgaard, B., Ootes, L., Pearson, D.G., and Creaser, R.A., 2019. Athapuscow aulacogen revisited: Geochronology and geochemistry of the 2046 Ma Union Island Group mafic magmatism, East Arm of Great Slave Lake, Northwest Territories, Canada; Precambrian Research, volume 321, pages 85–102.
<https://doi.org/10.1016/j.precamres.2018.11.012>

van der Sluijs, J., Kokelj, S.V., Fraser, R.H., Tunnicliffe, J., and Lacelle, D., 2018. Permafrost terrain dynamics and infrastructure impacts revealed by UAV photogrammetry and thermal imaging; Remote Sensing, volume 10, issue 11. <https://doi.org/10.3390/rs10111734>

Zolkos, S., Tank, S.E., and Kokelj, S.V., 2018. Mineral weathering and the permafrost carbon-climate feedback; Geophysical Research Letters, volume 45, issue 18, pages 9623–9632. <https://doi.org/10.1029/2018GL078748>

Summary 2019–2020

Open Reports: 27

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Extras (Overviews and Annual Yellowknife Geoscience Forum Abstract Volume): 3

Assessment Reports: 14

Cameron, E.A., Lantz, T.C., O'Neill, H.B., Gill, H.K., Kokelj, S.V., and Burn, C.R., 2019. Permafrost ground temperature report: Ground temperature variability among terrain types in the Peel Plateau region of the Northwest Territories (2011–2015); Northwest Territories Geological Survey, NWT Open Report 2017-009, 8 pages and data.

<https://doi.org/10.46887/2017-009>

Connon, R., and Quinton, W., 2020. Permafrost ground temperature report: Scotty Creek research station, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-007, 8 pages, ground temperature data, and appendix. <https://doi.org/10.46887/2019-007>

Ensom, T., and Kokelj, S.V., 2020. Permafrost geotechnical report: Inuvik to Tuktoyaktuk Highway stream crossing and alignment boreholes, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-009, 6 pages, geotechnical data, and appendix. <https://doi.org/10.46887/2019-009>

Ensom, T., Kokelj, S.V., and Kamo McHugh, K., 2020. Permafrost ground temperature report: Inuvik to Tuktoyaktuk Highway stream crossing and alignment sites, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-014, 8 pages, ground temperature data, and appendix. <https://doi.org/10.46887/2019-014>

Ensom, T., Kokelj, S.V., Morse, P.D., and Kamo McHugh, K., 2020. Permafrost ground temperature data synthesis: 2013–2019 Inuvik-Tuktoyaktuk Highway region, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-020; Geological Survey of Canada, Open File 8656, 13 pages and appendix.

<https://doi.org/10.46887/2019-020>

Ensom, T., Morse, P.D., Kokelj, S.V., MacDonald, E., Young, J., Tank, S.E., Subedi, R., Grozic, E., and Castagner, A., 2020. Permafrost geotechnical borehole data synthesis: 2013–2017 Inuvik-Tuktoyaktuk region, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-012; Geological Survey of Canada, Open File 8652, 78 pages, geotechnical data, and appendices. <https://doi.org/10.46887/2019-012>

Falck, H., Elliott, B., Cairns, S., and Powell, L., 2020. Northwest Territories Mineral Exploration Overview: Updated March 2020; Northwest Territories Geological Survey, 22 pages.

Fischer, B.J., and Pierce, K.L., 2019. GIS compilation for the bedrock geology of part of the Misty Creek paleo-embayment, Mackenzie Mountains (NTS 106B); Northwest Territories Geological Survey, NWT Open Report 2019-001, digital files and appendices. <https://doi.org/10.46887/2019-001>

Flower, A.F., Fischer, B.J., and Melchin, M.J., 2019. Local stratigraphy of the Duo Lake Formation at Howards Pass in the Selwyn Basin region, Northwest Territories; Northwest Territories Geological Survey, Open Report 2017-021, 23 pages, oversized figures folder, and appendix. <https://doi.org/10.46887/2017-021>

Gervais, S.D., Irwin, D., and Terlaky, V. (compilers), 2019. 47th Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2019.

Gruber, S., Brown, N., Stewart-Jones, E., Karunaratne, K., Riddick, J., Peart, C., Subedi, R., and Kokelj, S.V., 2019. Permafrost ground temperature report: Ground temperature and site characterisation data from the Canadian Shield tundra near Lac de Gras, Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2018-009, 9 pages, appendices, and digital data. <https://doi.org/10.46887/2018-009>

Irwin, D., 2020. Geology of the Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2020-007, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2020-007>

Irwin, D., and Fiess, K.M., 2019. Discovered conventional petroleum resources in the Northwest Territories and Beaufort Sea; Northwest Territories Geological Survey, NWT Open Report 2019-015, ESRI® and Adobe® digital files. <https://doi.org/10.46887/2019-015>

LaGrange, M., Harris, B., Biddle, S., Atienza, N.M., Fiess, K., and Gingras, M., 2020. Preliminary data for an integrated depositional and sequence stratigraphic framework for the Hare Indian and Canol formations (Horn River Group), central Mackenzie Valley and Mackenzie Mountains, Northwest Territories — Part II; Northwest Territories Geological Survey, NWT Open Report 2019-002, 27 pages and appendices. <https://doi.org/10.46887/2019-002>

Martel, E., Pehrsson, S.J., Jamison, D., Thiessen, E.J., Pierce, K.L., Acosta-Góngora, P., and Davis, W.J., 2020. Geology of the Abitau Lake area, south Rae craton, Northwest Territories (NTS 75B); Northwest Territories Geological Survey, NWT Open File 2020-01, 1 map, 1:250 000 scale, and digital files. <https://doi.org/10.46887/2020-01>

Martel, E., Pehrsson, S.J., Regis, D., Thiessen, E.J., Jamison, D., Percival, J., Pierce, K.L., and Acosta-Góngora, P., 2020. Geology of the Rennie Lake area, south Rae craton, Northwest Territories (NTS 75H); Northwest Territories Geological Survey, NWT Open File 2020-03, 1 map, 1:250 000 scale, and digital files. <https://doi.org/10.46887/2020-03>

Martel, E., Pehrsson, S.J., Regis, D., Thiessen, E.J., Jamison, D., Percival, J., Pierce, K.L., and Acosta-Góngora, P., 2020. Geology of the McCann Lake area, south Rae craton, Northwest Territories (NTS 75G); Northwest Territories Geological Survey, NWT Open File 2020-02, 1 map, 1:250 000 scale, and digital files. <https://doi.org/10.46887/2020-02>

Martel, E., Pehrsson, S.J., Thiessen, E.J., Jamison, D., Pierce, K.L., Acosta-Góngora, P., and Davis, W.J., 2020. Geology of the Wholdaia Lake area, south Rae craton, Northwest Territories (NTS 75A); Northwest Territories Geological Survey, NWT Open File 2020-04, 1 map, 1:250 000 scale, and digital files. <https://doi.org/10.46887/2020-04>

Mercier, L., Sappin, A.-A., Beaudoin, G., Normandeau, P.X., and Falck, H., 2020. Iron oxide geochemistry in stream sediments from the Flat River area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2016-020, 8 pages with appendices. <https://doi.org/10.46887/2016-020>

Mirza, A.M., 2020. Enhancements of airborne geophysical data from NWT Assessment Report 083455, Labrish Lake and Lac Grandin areas, Northwest Territories (parts of NTS 085N, 085O, and 085P); Northwest Territories Geological Survey, NWT Open Report 2020-001, 11 pages and digital data. <https://doi.org/10.46887/2020-001>

Mirza, A.M., 2020. Enhancements of airborne geophysical data from NWT Assessment Report 083769, Main Block and I Block, Lac de Gras area, district of Mackenzie, Northwest Territories (NTS 076D09, 076D10, 076D11, 076D14, 076D15, 076D16, and 076C12); Northwest Territories Geological Survey, NWT Open Report 2020-002, 10 pages and digital data. <https://doi.org/10.46887/2020-002>

Mirza, A.M., 2020. Enhancements of airborne geophysical data from NWT Assessment Report 083801, Snap Lake project, central Slave craton area, Northwest Territories (NTS 075M10); Northwest Territories Geological Survey, NWT Open Report 2020-003, 8 pages and digital data. <https://doi.org/10.46887/2020-003>

Mirza, A.M., 2020. Enhancements of airborne geophysical data from NWT Assessment Report 083814, Martin River and Highland Lake blocks, Fort Simpson area, Northwest Territories (NTS 095H12, 095I11, 095I12, and 095I13); Northwest Territories Geological Survey, NWT Open Report 2020-004, 10 pages and digital data. <https://doi.org/10.46887/2020-004>

Mirza, A.M., 2020. Enhancements of airborne geophysical data from NWT Assessment Report 083817, Sherman Lake and Crowfoot Lake areas, Northwest Territories (parts of NTS 085N7, 085N8, 085N9 and 085N10); Northwest Territories Geological Survey, NWT Open Report 2020-005, 11 pages and digital data. <https://doi.org/10.46887/2020-005>

Mirza, A.M., and Elliott, B., 2019. Aeromagnetic survey of the Itchen Lake and Point Lake area, Northwest Territories, parts of NTS 086H, 086A, and 076E; Northwest Territories Geological Survey, NWT Open Report 2019-003, 48 pages, 5 map sheets, and digital data. <https://doi.org/10.46887/2019-003>

Mirza, A.M., and Fischer, B.J., 2019. Airborne magnetic, electromagnetic, radiometric and gravity data for the Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2019-018, 3 maps and digital data. <https://doi.org/10.46887/2019-018>

Northwest Territories Permafrost Database Technical Working Group, 2019. Guide to producing a ground temperature report, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2017-008, 24 pages and appendices. <https://doi.org/10.46887/2017-008>

Rainbird, R.H., 2019. Bedrock geology, Erly Lake, Northwest Territories–Nunavut, NTS 97A; Geological Survey of Canada, Canadian Geoscience Map 378; Northwest Territories Geological Survey, Open File 2019-02, 1 map, scale 1:250 000. <https://doi.org/10.46887/2019-02>

Rainbird, R.H., 2019. Bedrock geology, Brock River, Northwest Territories–Nunavut, NTS 97D; Geological Survey of Canada, Canadian Geoscience Map 407; Northwest Territories Geological Survey, Open File 2019-04, 1 map, scale 1:250 000. <https://doi.org/10.46887/2019-04>

Rudy, A.C.A., Grozic, E., and Kokelj, S.V., 2020. Permafrost geotechnical report: Remediation at Gunghi Creek on the Inuvik to Tuktoyaktuk Highway, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-010, 6 pages, geotechnical data, and appendix. <https://doi.org/10.46887/2019-010>

Rudy, A.C.A., Kokelj, S.V., and Ensom, T., 2020. Permafrost geotechnical report: Inuvik to Tuktoyaktuk Highway embankment boreholes, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-011, 7 pages, geotechnical data, and appendix. <https://doi.org/10.46887/2019-011>

Rudy, A.C.A., Kokelj, S.V., and Ensom, T., 2020. Permafrost ground temperature report: Inuvik to Tuktoyaktuk Highway embankment sites, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-016, 8 pages, ground temperature data, and appendix. <https://doi.org/10.46887/2019-016>

Rudy, A.C.A., Kokelj, S.V., Morse, P.D., and Ensom, T., 2020. Permafrost geotechnical report: Inuvik to Tuktoyaktuk Highway Sentinel program boreholes, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-008, 7 pages, geotechnical data, and appendix. <https://doi.org/10.46887/2019-008>

Rudy, A.C.A., Kokelj, S.V., Morse, P.D., and Ensom, T., 2020. Permafrost ground temperature report: Inuvik to Tuktoyaktuk Highway Sentinel sites; Northwest Territories Geological Survey, NWT Open Report 2019-017, 8 pages, ground temperature data, and appendix. <https://doi.org/10.46887/2019-017>

Stubley, M.P., and Irwin, D., 2019. Bedrock geology of the Slave craton, Northwest Territories and Nunavut; Northwest Territories Geological Survey, NWT Open File 2019-01, ESRI® and Adobe® digital files. <https://doi.org/10.46887/2019-01>

Ugalde, H., Milkereit, B., Furlan, A., and Lenauer, I., 2019. Geological interpretation of airborne magnetic and electromagnetic data, central Slave craton area, Northwest Territories, parts of NTS 75M, 75N, and 76D; Northwest Territories Geological Survey, NWT Open File 2018-04, 31 pages, appendices, digital data, and 6 maps at 1:25 000 scale. <https://doi.org/10.46887/2018-04>

Wolfe, S.A., and Kokelj, S.V., 2019. A history of water and ice: A field guide to permafrost and environmental change in the Yellowknife area, Northwest Territories; Northwest Territories Geological Survey, Open Report 2019-013; Geological Survey of Canada, Open File 8530, 44 pages. <https://doi.org/10.46887/2019-013>

External Publications

Burke, J.S., 2019. The origin of polymetallic Ni-Co-As-Bi-Sb(-Ag-U) veins in the East Arm Basin and southern Slave province, Northwest Territories; M.Sc. Thesis, Saint Mary's University, Halifax, Nova Scotia.
<https://library2.smu.ca/xmlui/handle/01/28564>

Campbell, J.E., McMartin, I., Normandeau, P.X., and Godbout, P.-M., 2019. Report of 2018 activities for the GEM-2 Rae glacial history activity in the eastern Northwest Territories and the Kitikmeot and Kivalliq regions, Nunavut; Geological Survey of Canada, Open File 8586, 16 pages. <https://doi.org/10.4095/314741>

Canam, R., 2019. Age, petrology, and geochemistry of an appinitic lamprophyre, Hjalmar Lake, south Rae craton, NT; Unpublished B.Sc. Thesis, University of British Columbia, Vancouver, British Columbia.

Cheney, C.L., Eccles, K.M., Kimpe, L.E., Thienpont, J.R., Korosi, J.B., and Blais, J.M., 2020. Determining the effects of past gold mining using a sediment palaeotoxicity model; *Science of The Total Environment*, volume 718, 137308.
<https://doi.org/10.1016/j.scitotenv.2020.137308>

LaGrange, M.T., Konhauser, K.O., Catuneanu, O., Harris, B.S., Playter, T.L., and Gingras, M.K., 2020. Sequence stratigraphy in organic-rich marine mudstone successions using chemostratigraphic datasets; *Earth-Science Reviews*, volume 203, 103137. <https://doi.org/10.1016/j.earscirev.2020.103137>

Magad-Weiss, L.K., 2019. The Union Island Group of the Great Slave Lake, NWT, Canada: A perspective on the aftermath of the Lomagundi carbon isotope excursion; M.Sc. Theses and Dissertations, University of California, Riverside, California, USA. <https://escholarship.org/uc/item/0bk7211q>

Menard, E., Nasser, N.A., Patterson, R.T., Galloway, J.M., Cott, P.A., Hanna, B.W., and Falck, H., 2019. Sub-bottom acoustic profiling as a remediation assessment tool for contaminated lakes; Springer Nature Applied Sciences, volume 1, number 572. <https://doi.org/10.1007/s42452-019-0588-z>

Morse, P.D., Wolfe, S.A., and Rudy, A.C.A., 2019. Lithalsa degradation and thermokarst distribution, subarctic Canadian Shield. In J.-P. Bilodeau, *Cold Regions Engineering 2019: proceedings of the 18th International Conference on Cold Regions Engineering and the 8th Canadian Permafrost Conference* pages 308–316. <https://doi.org/10.1061/9780784482599.036>

Neyedley, K., Hanley, J.J., Falck, H., Bodnar, R.J., Fedele, L., Fayek, M., and Sharpe, R., 2019. Sulfide melt inclusions associated with magmatic Ni-Cu-platinum-group element (PGE) mineralization in the Caribou Lake gabbro, Blatchford Lake intrusive suite, Northwest Territories, Canada; *Ore Geology Reviews*, volume 107, pages 513–531.
<https://doi.org/10.1016/j.oregeorev.2019.02.009>

Ootes, L., Sandeman, H., Cousens, B.L., Luo, Y., Pearson, D.G., and Jackson, V.A., 2020. Pyroxenitic magma conduits (ca. 1.86 Ga) in Wopmay orogen and Slave craton: Petrogenetic constraints from whole rock and mineral chemistry; *Lithos*, volume 354–355, 105220. <https://doi.org/10.1016/j.lithos.2019.105220>

Pelletier, N., Chételat, J., Cousens, B., Zhang, S., Stepner, D., Muir, D.C.G., and Vermaire, J.C., 2020. Lead contamination from gold mining in Yellowknife Bay (Northwest Territories), reconstructed using stable lead isotopes; *Environmental Pollution*, volume 259, 113888. <https://doi.org/10.1016/j.envpol.2019.113888>

Rudy, A.C.A., Morse, P.D., Kokelj, S.V., Sladen, W.E., and Smith, S.L., 2019. A new protocol to map permafrost geomorphic features and advance thaw-susceptibility modelling. In *Cold Regions Engineering 2019: proceedings of the 18th International Conference on Cold Regions Engineering and the 8th Canadian Permafrost Conference*, pages 661–669. <https://doi.org/10.1061/9780784482599.076>

Zolkos, S., Tank, S.E., Striegl, R.G., Kokelj, S.V., 2019. Thermokarst effects on carbon dioxide and methane fluxes in streams on the Peel Plateau (NWT, Canada); *Journal of Geophysical Research: Biogeosciences*, volume 124, issue 7, <https://doi.org/10.1029/2019JG005038>

Toma, J., Holmden, C., Shakotko, P., Pan, Y., and Ootes, L., 2019. Cr isotopic insights into ca. 1.9 Ga oxidative weathering of the continents using the Beaverlodge Lake paleosol, Northwest Territories, Canada; *Geobiology*, volume 17, issue 5, pages 467–489. <https://doi.org/10.1111/gbi.12342>

Wagner, A., Adlakha, E., Hanley, J., Neyedley, K., Falck, H., and Lecumberri-Sanchez, P., 2019. Characterization of apatite-hosted silicate melt inclusions in magmatic rocks associated with the Cantung (W-Cu-Au) skarn deposit, NWT, Canada; ECROFI. <https://doi.org/10.13140/RG.2.2.24974.82244>

Summary 2020–2021

Open Reports: 9

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Extras (Overviews and Annual Yellowknife Geoscience Forum Abstract Volume): 3

Assessment Reports: 26

Adrian, A. (Adrian Geosciences Inc.), 2020. Central Mackenzie Plain and southern Peel Plain subsurface mapping report; Northwest Territories Geological Survey, NWT Open Report 2020-014, 53 pages. <https://doi.org/10.46887/2020-014>

Elliott, B., Lambiv Dzemua, G., Powell, L., and Reynolds, M., 2021. Northwest Territories 2020 Mineral Exploration Overview, Updated March 2021; Northwest Territories Geological Survey, 18 pages.

Gibson, C., Morse, P.D., Kelly, J.M., Turetsky, M.R., Baltzer, J.L., Gingras-Hill, T., and Kokelj, S.V., 2020. Thermokarst Mapping Collective: Protocol for organic permafrost terrain and preliminary inventory from the Taiga Plains test area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2020-010, 24 pages, appendix and digital data. <https://doi.org/10.46887/2020-010>

Paul, J.R., Baltzer, J.L., and Kokelj, S.V., 2020. Near-surface permafrost ground ice characteristics and ecological and physical drivers of transient layer ice content in discontinuous permafrost near Yellowknife, NT.
<https://doi.org/10.5683/SP2/LX5IJN>

Paul, J.R., Kokelj, S.V., and Baltzer, J.L., 2020. Permafrost geotechnical report: Near-surface permafrost ground ice characteristics and ecological and physical drivers of transient layer ice content in discontinuous permafrost, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2020-006, 6 pages, geotechnical data, and appendix. <https://doi.org/10.46887/2020-006>

Rocheleau, J., and Fiess, K.M., 2020. Petroleum potential data for the Besa River Formation from five exploration wells – NTS 95B and 95C, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-006, 36 pages and appendices. <https://doi.org/10.46887/2019-006>

Rudy, A.C.A., and Kokelj, S.V., 2020. Inventory of retrogressive thaw slumps in the Willow River watershed, mapped using 1986, 2002, and 2018 Landsat imagery; Northwest Territories Geological Survey, NWT Open Report 2020-011, 4 pages and digital data. <https://doi.org/10.46887/2020-011>

Rudy, A.C.A., Kokelj, S.V., and Kokozska, J., 2020. Inventory of retrogressive thaw slumps on the Peel Plateau and on southeastern Banks Island, Northwest Territories using 2017 Sentinel imagery; Northwest Territories Geological Survey, NWT Open Report 2020-012, 5 pages and digital data. <https://doi.org/10.46887/2020-012>

Tappert, M., Tappert, R., and Rogge, D., 2020. Hyperspectral drill core logging with the geoLOGr - Case studies from the Northwest Territories, Canada; Northwest Territories Geological Survey, NWT Open Report 2020-009, 15 pages.
<https://doi.org/10.46887/2020-009>

Terlaky, V., Fiess, K.M., and Rocheleau, J., 2020. Outcrop description, lithogeochemical, and source-rock characterisation of the Devonian Horn River Group at the Arctic Red River east and Flyaway Creek outcrops – NTS 106F and 106G, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2019-004, 54 pages and appendices. <https://doi.org/10.46887/2019-004>

External Publications

Biddle, S.K., LaGrange, M.T., Harris, B.S., Fiess, K., Terlaky, V., and Gingras, M.K., 2021. A fine detail physico-chemical depositional model for Devonian organic-rich mudstones: A petrographic study of the Hare Indian and Canol Formations, Central Mackenzie Valley, Northwest Territories; *Sedimentary Geology*, volume 414, 105838.

<https://doi.org/10.1016/j.sedgeo.2020.105838>

Dyck, B., Goddard, R.M., Wallis, D., Hansen, L.N., and Martel, E., 2021. Metamorphic evolution of the Great Slave Lake shear zone; *Journal of Metamorphic Geology*, volume 39, issue 5, pages 567–590. <https://doi.org/10.1111/jmg.12576>

Elongo, V., Lecumberri-Sanchez, P., Legros, H., Falck, H., Adlakha, E., and Roy-Garand, A., 2020. Paragenetic constraints on the Cantung, Mactung and Lened tungsten skarn deposits, Canada: Implications for grade distribution; *Ore Geology Reviews*, volume 125, 103677. <https://doi.org/10.1016/j.oregeorev.2020.103677>

Fischer, B.J., 2020. Potential for a giant Carlin-type gold district in the Mackenzie Mountains region, Northwest Territories, Canada. in Koutz, F.R. and Pennell, W.M. (eds), *Vision for Discovery: Geology and Ore Deposits of the Great Basin*, Geological Society of Nevada 2020 Symposium Proceedings, Reno, Nevada, pages 217–284.

Lentz, C.P.E., 2020. Genesis of Gold Mineralization at the Cantung W-Cu Skarn Deposit, N.W.T.; M.Sc. Thesis, University of New Brunswick, Fredericton, New Brunswick.

<https://unbscholar.dspace.lib.unb.ca/server/api/core/bitstreams/01972247-aac8-47f7-93fe-06760bf041a8/content>

Ielpi, A., Martel, E., Fischer, B., Pehrsson, S.J., Tullio, M., and Neil, B.J.C., 2021. A reappraisal of the Nonacho Basin (Northwest Territories, Canada): Record of post-orogenic collapse and marine flooding in the Palaeoproterozoic of the Rae craton; *Precambrian Research*, volume 358, 106140. <https://doi.org/10.1016/j.precamres.2021.106140>

Janzen, R., 2020. An analysis of glacial sediment dispersion with applications to diamond exploration, Lac de Gras, Northwest Territories; M.Sc. Thesis, University of Waterloo, Waterloo, Ontario. <http://hdl.handle.net/10012/16339>

Kelley, S.E., Ward, B., Briner, J., Ross, M., Normandeau, P.X., and Elliott, B., 2020. The recession of the Laurentide Ice Sheet in southeast Northwest Territories during the Pleistocene-Holocene transition; EGU 2020, Copernicus Meetings, EGU2020-5410. <https://doi.org/10.5194/egusphere-egu2020-5410>

Keskitalo, K.H., Bröder, L., Shakil, S., Zolkos, S., Tank, S.E., van Dongen, B.E., Tesi, T., Haghipour, N., Eglinton, T.I., Kokelj, S.V., and Vonk, J.E., 2021. Downstream evolution of particulate organic matter composition from permafrost thaw slumps; *Frontiers in Earth Science*, volume 9. <https://doi.org/10.3389/feart.2021.642675>

Legros, H., Lecumberri-Sanchez, P., Elongo, V., Laurent, O., Falck, H., Adlakha, E., and Chelle-Michou, C., 2020. Fluid evolution of the Cantung tungsten skarn, Northwest Territories, Canada: Differentiation and fluid-rock interaction; *Ore Geology Reviews*, volume 127, 103866. <https://doi.org/10.1016/j.oregeorev.2020.103866>

MacDonald, E.N., Tank, S.E., Kokelj, S.V., Froese, D.G., and Hutchins, R.H.S., 2021. Permafrost-derived dissolved organic matter composition varies across permafrost end-members in the western Canadian Arctic; *Environmental Research Letters*, volume 16, number 2, 024036. <https://doi.org/10.1088/1748-9326/abd971>

Lamoureux, S.F., and Rudy, A.C.A., 2020. Melville, Bathurst, and Cornwallis Islands: Low to moderate relief innuitia. In Slaymaker, O., Catto, N. (eds) *Landscapes and Landforms of Eastern Canada. World Geomorphological Landscapes*; Springer, pages 315–332. https://link.springer.com/chapter/10.1007/978-3-030-35137-3_14

Nasser, N.A., Patterson, R.T., Galloway, J.M., and Falck, H., 2020. Intra-lake response of Arcellinida (testate lobose amoebae) to gold mining-derived arsenic contamination in northern Canada: Implications for environmental monitoring; *PeerJ*, volume 8, e9054. <https://doi.org/10.7717/peerj.9054>

Nasser, N.A., Patterson, R.T., Roe, H.M., Galloway, J.M., Falck, H., and Sanei, H., 2020. Use of Arcellinida (testate lobose amoebae) arsenic tolerance limits as a novel tool for biomonitoring arsenic contamination in lakes; *Ecological Indicators*, volume 113, 106177. <https://doi.org/10.1016/j.ecolind.2020.106177>

Neil, B.J.C., Gibson, H.D., Pehrsson, S.J., Martel, E., Thiessen, E.J., and Crowley, J.L., 2021. Provenance, stratigraphic and precise depositional age constraints for an outlier of the 1.9 to 1.8 Ga Nonacho Group, Rae craton, Northwest Territories, Canada; *Precambrian Research*, volume 352, 105999. <https://doi.org/10.1016/j.precamres.2020.105999>

Nerberg, S., 2020. Thawing Arctic permafrost seems like a distant threat. It's not; *Broadview Magazine*.
<https://broadview.org/thawing-permafrost-climate-change/>

O'Neill, H.B., Burn, C.R., Allard, M., Arenson, L.U., Bunn, M.I., Connon, R.F., Kokelj, S.A., Kokelj, S.V., LeBlanc, A.-M., Morse, P.D., and Smith, S.L., 2020. Permafrost thaw and northern development; *Nature Climate Change*, volume 10, issue 8, pages 722–723. <https://doi.org/10.1038/s41558-020-0862-5>

Palmer, M.J., Jamieson, H.E., Borčinová Radková, A., Maitland, K., Oliver, J., Falck, H., and Richardson, M., 2021. Mineralogical, geospatial, and statistical methods combined to estimate geochemical background of arsenic in soils for an area impacted by legacy mining pollution; *Science of The Total Environment*, volume 776, 145926.
<https://doi.org/10.1016/j.scitotenv.2021.145926>

Paquette, M., Rudy, A.C.A., Fortier, D., and Lamoureux, S.F., 2020. Multi-scale site evaluation of a relict active layer detachment in a High Arctic landscape; *Geomorphology*, volume 359, 107159.
<https://doi.org/10.1016/j.geomorph.2020.107159>

Paul, J.R., Kokelj, S.V., and Baltzer, J.L., 2021. Spatial and stratigraphic variation of near-surface ground ice in discontinuous permafrost of the taiga shield; *Permafrost and Periglacial Processes*, volume 32, issue 1, pages 3–18.
<https://doi.org/10.1002/ppp.2085>

Regis, D., Pehrsson, S., Martel, E., Thiessen, E., Peterson, T., and Kellett, D., 2021. Post-1.9 Ga evolution of the south Rae craton (Northwest Territories, Canada): A Paleoproterozoic orogenic collapse system; *Precambrian Research*, volume 355, 106105. <https://doi.org/10.1016/j.precamres.2021.106105>

Riou, L., Nasser, N.A., Patterson, R.T., Gregory, B.R.B., Galloway, J.M., and Falck, H., 2021. Lacustrine Arcellinida (testate lobose amoebae) as bioindicators of arsenic concentration within the Yellowknife City Gold Project, Northwest Territories, Canada; *Limnologica*, volume 87, 125862. <https://doi.org/10.1016/j.limno.2021.125862>

Shakil, S., Tank, S.E., Kokelj, S.V., Vonk, J.E., and Zolkos, S., 2020. Particulate dominance of organic carbon mobilization from thaw slumps on the Peel Plateau, NT: Quantification and implications for stream systems and permafrost carbon release; *Environmental Research Letters*, volume 15, number 11, 114019. <https://doi.org/10.1088/1748-9326/abac36>

Sjöberg, Y., Siewert, M.B., Rudy, A.C.A., Paquette, M., Bouchard, F., Malenfant-Lepage, J., and Fritz, M., 2020. Hot trends and impact in permafrost science; *Permafrost and Periglacial Processes*, volume 31, issue 4, pages 461–471.
<https://doi.org/10.1002/ppp.2047>

Subedi, R., Kokelj, S.V., and Gruber, S., 2020. Ground ice, organic carbon and soluble cations in tundra permafrost soils and sediments near a Laurentide ice divide in the Slave geological province, Northwest Territories, Canada; *The Cryosphere*, volume 14, issue 12, pages 4341–4364. <https://doi.org/10.5194/tc-14-4341-2020>

Zolkos, S., Tank, S.E., Striegl, R.G., Kokelj, S.V., Kokoszka, J., Estop-Aragonés, C., and Olefeldt, D., 2020. Thermokarst amplifies fluvial inorganic carbon cycling and export across watershed scales on the Peel Plateau, Canada; *Biogeosciences*, volume 17, issue 20, pages 5163–5182. <https://doi.org/10.5194/bg-17-5163-2020>

Summary 2021–2022

Open Reports: 10

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Extras (Overviews and GSF abstract Vol): 2

Assessment Reports: 12

Bocking, N., 2021. A case study of snowmobile-supported lake sediment sampling in the Yellowknife Greenstone Belt, Aurora Geosciences Ltd., NWT; NWT Open Report 2021-017, 9 pages and appendices.

<https://doi.org/10.46887/2021-017>

Cairns, S., Normandeau, P.X., and Elliott, B., 2022. Regional lake sediment and surface water sampling in the Slave geological province, parts of NTS 86A (Winter Lake) and 76D (Lac de Gras); Northwest Territories Geological Survey, Open Report 2021-016, 13 pages and appendices. <https://doi.org/10.46887/2021-016>

Gervais, S.D. (compiler), 2021. 49th Annual Yellowknife Geoscience Forum Abstracts; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2021.

Jackson, V.A., and Irwin, D., 2022. Bedrock geology of the Wopmay orogen and Coppermine homoclinal, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2021-02, ESRI® data and 1 map, scale 1:550 000. <https://doi.org/10.46887/2021-02>

Jackson, V.A., Ootes, L., Pierce, K.L., Bennett, V., Smar, L., Mackay, D., and Sandeman, H.A., 2022. Geology of the south-central Wopmay orogen, Northwest Territories (parts of NTS 86B, 86C, and 86D); results from the South Wopmay Bedrock Mapping Project; Northwest Territories Geological Survey, NWT Open File 2017-01, 103 pages, 1 map (2 sheets) at 1:125 000 scale, and appendices. <https://doi.org/10.46887/2017-01>

Kokoszka, J.E., and Kokelj, S.V., 2021. Broad-scale mapping of hydrologic features affected by slope-thermokarst from Arctic drainage, Northwestern Canada: Methods and Data; Northwest Territories Geological Survey, NWT Open Report 2020-013, 8 pages, appendices, and digital data. <https://doi.org/10.46887/2020-013>

Lambiv Dzemua, G., Li, H., Fischer, B.J., and Liu, Q., 2021. Preliminary beneficiation study of northern Canadian Cordilleran barite ore; Northwest Territories Geological Survey, NWT Open Report 2021-009, 23 pages and appendix. <https://doi.org/10.46887/2021-009>

Mirza, A.M., 2021. Geophysical interpretation of aeromagnetic survey, Green River area, Banks Island, Northwest Territories; Northwest Territories Geological Survey, NWT Open File 2019-03, 24 pages, 13 maps at 1:125 000 scale, appendix, and digital data. <https://doi.org/10.46887/2019-03>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083838, Benjamin Lake area, Northwest Territories (NTS 075M02); Northwest Territories Geological Survey, NWT Open Report 2021-001, 11 pages and digital data. <https://doi.org/10.46887/2021-001>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083894, King Lake area, Northwest Territories (NTS 075M09, 075M10, 075M11, 075M14, 075M15, 075M16); Northwest Territories Geological Survey, NWT Open Report 2021-002, 11 pages and digital data. <https://doi.org/10.46887/2021-002>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083912, Wecho River area, Northwest Territories (NTS 085O02, 085O03, 085O05, 085O06, 085O07, 085O10, 085O11, 085O12, 085O13, 085O14); Northwest Territories Geological Survey, NWT Open Report 2021-003, 11 pages and digital data. <https://doi.org/10.46887/2021-003>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083926, AFR Property area, Northwest Territories (NTS 076C03, 076C06); Northwest Territories Geological Survey, NWT Open Report 2021-004, 11 pages and digital data. <https://doi.org/10.46887/2021-004>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083938, Fishhook Property area, Northwest Territories (NTS 086B03); Northwest Territories Geological Survey, NWT Open Report 2021-005, 11 pages and digital data. <https://doi.org/10.46887/2021-005>

Ozyer, C.A., 2010. Ts'ude niline Tu'eyeta (Ramparts River and wetlands) candidate protected area phase II non-renewable resource assessment – Minerals; Northwest Territories Geological Survey, NWT Open File 2010-07 (Edition 2), 182 pages and digital data. <https://doi.org/10.46887/2010-07>

Petrel Robertson Consulting Ltd., 2022. Assessing new gas development drilling opportunities in the southern NWT; Northwest Territories Geological Survey, NWT Open Report 2022-004, 15 pages, 1 map, scale 1:250 000. <https://doi.org/10.46887/2022-004>

Reynolds, M.A., Lambiv Dzemua, G., Elliott, B., Poitras, S., and Powell, L., 2022. 2021 Northwest Territories Mineral Exploration Overview; Northwest Territories Geological Survey, Yellowknife, Northwest Territories, 23 pages.

Ugalde, H., Bourke, L., Fischer, B.J., and Mirza, A.M., 2020. A compilation of aeromagnetic data for the Northwest Territories Cordillera; Northwest Territories Geological Survey, NWT Open File 2020-06, 19 pages, appendices, and digital data. <https://doi.org/10.46887/2020-06>

External Publications

Aksu, B., 2021. Fluid inclusions as an exploration tool in the Yellowknife Gold Belt, Northwest Territories, Canada; ERA, M.Sc. Thesis, University of Alberta, Edmonton, Alberta. <https://doi.org/10.7939/r3-pphk-eh62>

Campbell, J.E., McMartin, I., McCurdy, M.W., Godbout, P.-M., Tremblay, T., Normandeau, P.X., and Randour, I., 2021. Field data and till composition in the GEM-2 Rae glacial synthesis activity field areas, Nunavut and Northwest Territories; Geological Survey of Canada, Open File 8808, 21 pages. <https://doi.org/10.4095/328454>

Devoie, É.G., Craig, J.R., Dominico, M., Carpino, O., Connon, R.F., Rudy, A.C.A., and Quinton, W.L., 2021. Mechanisms of discontinuous permafrost thaw in peatlands; Journal of Geophysical Research: Earth Surface, volume 126, issue 11, e2021JF006204. <https://doi.org/10.1029/2021JF006204>

Gibson, C., Cottenie, K., Gingras-Hill, T., Kokelj, S.V., Baltzer, J.L., Chasmer, L., and Turetsky, M.R., 2021. Mapping and understanding the vulnerability of northern peatlands to permafrost thaw at scales relevant to community adaptation planning; Environmental Research Letters, volume 16, number 5, 055022. <https://doi.org/10.1088/1748-9326/abe74b>

Hamilton, P.B., Hutchinson, S.J., Patterson, R.T., Galloway, J.M., Nasser, N.A., Spence, C., Palmer, M.J., and Falck, H., 2021. Late-Holocene diatom community response to climate driven chemical changes in a small, subarctic lake, Northwest Territories, Canada; The Holocene, volume 31, issue 7, pages 1124–1137. <https://doi.org/10.1177/09596836211003214>

Harris, B.S., LaGrange, M.T., Biddle, S.K., Playter, T.L., Fiess, K.M., and Gingras, M.K., 2022. Chemostratigraphy as a tool for sequence stratigraphy in the Devonian Hare Indian Formation in the Mackenzie Mountains and central Mackenzie Valley, Northwest Territories, Canada; Canadian Journal of Earth Sciences, volume 59, number 1, pages 29–45. <https://doi.org/10.1139/cjes-2020-0198>

Hauggaard, R., Waterton, P., Ootes, L., Pearson, D.G., Luo, Y., and Konhauser, K., 2021. Detrital chromites reveal Slave craton's missing komatiite; Geology, volume 49, number 9, pages 1079–1083. <https://doi.org/10.1130/G48840.1>

Kokelj, S.V., Kokoszka, J., van der Sluijs, J., Rudy, A.C.A., Tunnicliffe, J., Shakil, S., Tank, S.E., and Zolkos, S., 2021. Thaw-driven mass wasting couples slopes with downstream systems, and effects propagate through Arctic drainage networks; *The Cryosphere*, volume 15, issue 7, pages 3059–3081. <https://doi.org/10.5194/tc-15-3059-2021>

Langlois, L.A., 2021. Indicators of gold mineralization in the Yellowknife greenstone belt: A lithogeochemistry and mineralogy study; ERA, University of Alberta, Edmonton, Alberta. <https://doi.org/10.7939/r3-wvp3-zx38>

Li, H., Lambiv Dzemua, G., and Liu, Q., 2021. Beneficiation studies of the low-grade skarn phosphate from Mactung tungsten deposit, Yukon, Canada; *Minerals*, volume 11, issue 4, 421. <https://doi.org/10.3390/min11040421>

Lockie, J.H., 2021. Orogenic collapse in the Rae craton recorded through U-Pb geochronology of the paleoproterozoic upper Nonacho Group, Northwest Territories; Unpublished. B.Sc. Thesis, Laurentian University, Sudbury, Ontario.

MacNaughton, R.B., 2020a. Neoproterozoic-Cambrian stratigraphy of the Mackenzie Mountains, northwestern Canada, part I: Ediacaran measured sections and updated lithostratigraphy, NE Sekwi Mountain map area (NTS 105-P); Geological Survey of Canada, Open File 7315, 22 pages. <https://doi.org/10.4095/327237>

MacNaughton, R.B., 2020b. Neoproterozoic-Cambrian stratigraphy of the Mackenzie Mountains, northwestern Canada, part II: archival stratigraphic data for the Backbone Ranges Formation and related units, Mackenzie Mountains, Northwest Territories, Canada (NTS 95-L and 105-P); Geological Survey of Canada, Open File 8668, 26 pages. <https://doi.org/10.4095/327238>

Fraser, R.H., McFarlane-Winchester, M., and Kokelj, S.V., 2023. Recent ponding of upland ice-wedge polygon networks detected across the Canadian Arctic Archipelago using satellite remote sensing; Geomatics Canada, Open File 69. <https://doi.org/10.4095/329618>

Sladen, W.E., Parker, R.J.H., Kokelj, S.V., and Morse, P.D., 2021. Geomorphologic feature mapping methodology developed for the Dempster Highway and Inuvik to Tuktoyaktuk Highway corridors; Geological Survey of Canada, Open File 8751, 56 pages. <https://doi.org/10.4095/328181>

Terekhova, A., 2021. Classification and origin of vein-related Cu-Ag-Pb-Zn mineralization at Salkeld Lake, Nonacho Basin, Northwest Territories, Canada; M.Sc. Thesis, Saint Mary's University, Halifax, Nova Scotia <https://library2.smu.ca/xmlui/handle/01/30292>

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Castagner, A., Kokelj, S.V., and Gruber, S., 2022. A cryostratigraphic synthesis of Inuvik to Tuktoyaktuk Highway corridor geotechnical boreholes (2012–2017); Northwest Territories Geological Survey, NWT Open Report 2022-002, 12 pages and appendices. <https://doi.org/10.46887/2022-002>

Cummings, D.I., 2022, Striation and streamlined landform GIS compilation, Slave geological province, Northwest Territories, DCGeo Consulting; Northwest Territories Geological Survey, NWT Open Report 2021-015.
<https://doi.org/10.46887/2021-015>

Elliott, B., Reynolds, M.A., Squibb, C., and Powell, L., 2023. 2022 Northwest Territories Exploration and Mining Overview; Northwest Territories Geological Survey, Yellowknife, Northwest Territories, 21 pages.

Enkelmann, E., Pinto, T.F., Matthews, W., and Terlaky, V., 2023. Preliminary data for thermal evolution of Phanerozoic sediments of southwestern Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-001, 35 pages and digital data. <https://doi.org/10.46887/2022-001>

Gervais, S.D. (compiler), 2022. 50th Annual Yellowknife Geoscience Forum — Abstract Volume; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2022.

Kokelj, S.A., Beel, C.R., Connon, R.F., Graydon, C.E.D., Kokelj, S.V., and Burn, C.R., 2022. Peel Plateau climate data, Northwest Territories; Environment and Natural Resources – Water Monitoring and Management Division; Northwest Territories Geological Survey, NWT Open Report 2022-005, 16 pages, appendix, and digital data.
<https://doi.org/10.46887/2022-005>

McMartin, I., Campbell, J. E., Godbout, P. -M., Behnia, P., Tremblay, T., and Normandeau, P.X., 2022. High-resolution mapping of glacial landscapes in the north-central portion of the Laurentide Ice Sheet in Nunavut and Northwest Territories; Geological Survey of Canada, Preprint, 4, 27 pages. Natural Resources Canada.
<https://doi.org/10.4095/330867>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083976, Cole Lake and Ketcheson Lake properties, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2021-011, 14 pages and digital data. <https://doi.org/10.46887/2021-011>

Mirza, A.M., 2022. Enhancements of airborne geophysical data from NWT Assessment Report 083970, Mazenod Lake area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2021-010, 12 pages and digital data. <https://doi.org/10.46887/2021-010>

Mirza, A.M., 2023. Enhancements of airborne geophysical data from NWT Assessment Report 083994, Darnley Bay area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2021-012, 12 pages and digital data.
<https://doi.org/10.46887/2021-012>

Mirza, A.M., 2023. Enhancements of airborne geophysical data from NWT Assessment Report 084006, CEO Claims area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2021-013, 12 pages and digital data.
<https://doi.org/10.46887/2021-013>

Mirza, A.M., 2023. Enhancements of airborne geophysical data from NWT Assessment Report 084015, Gordon Lake and Yellowknife Project areas, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2021-014, 15 pages and digital data. <https://doi.org/10.46887/2021-014>

Mirza, A.M., and Knox, B., 2022. Geophysical interpretation of the Itchen Lake and Point Lake aeromagnetic survey, Northwest Territories, parts of NTS 086H, 086A, and 076E; Northwest Territories Geological Survey, NWT Open File 2021-01, 26 pages, 12 maps at 1:100 000 scale, and digital data. <https://doi.org/10.46887/2021-01>

Northwest Territories Geological Survey, 2022. Northwest Territories Geological Survey 2020–2022 Compilation of Geoscience Data; Northwest Territories Geological Survey, Yellowknife, Northwest Territories, 8 pages and digital data. <https://doi.org/10.46887/2022-016>

Petrel Robertson Consulting Ltd., 2022. Assessment of helium prospectivity in the Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-015, 26 pages. <https://doi.org/10.46887/2022-015>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of the Dehcho region, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-008, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-008>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of the Gwich'in settlement area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-009, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-009>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of the Inuvialuit settlement area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-010, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-010>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of the Sahtu settlement area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-011, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-011>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of parts of the South Slave and North Slave regions, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-012, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-012>

Pierce, K.L., 2022. Critical mineral showings and generalized geology of the Wek'èezhìi resource management area, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2022-013, 1 poster in Adobe® PDF format. <https://doi.org/10.46887/2022-013>

Sacco, D., McKillop, R., and Cronmiller, D., 2022. Surficial geology, till sampling suitability and permafrost thaw settlement hazard mapping for parts of NTS 076D and NTS 076C, Palmer Environmental Consulting Group Inc.; Northwest Territories Geological Survey, NWT Open Report 2022-003, 3 maps (42 sheets). <https://doi.org/10.46887/2022-003>

Wolfe, S.A., Kokelj, S.V., Gingras-Hill, T., and Paul, J., 2022. Northwest Territories Thermokarst Mapping Collective: Procedural manual for sentinel image classification of hydrological features in permafrost terrain; NWT Open Report 2021-007, 46 pages and appendix. <https://doi.org/10.46887/2021-007>

External Publications

Bergen, A.L., Cunningham, C.M., Terlaky, V., and Arnott, R.W.C., 2022. Influence of channelized-flow density structure on the stratal architecture of deep-marine levee deposits; *Journal of Sedimentary Research*, volume 92, number 4, pages 381–403. <https://doi.org/10.2110/jsr.2020.183>

Bilak, G.S., Niemetz, K., Reimink, J.R., Reyes, A.V., Chacko, T., DuFrane, S.A., Belosevic, M., and Ketchum, J.W.F., 2022. Evaluating the age distribution of exposed crust in the Acosta Gneiss Complex using detrital zircons in Pleistocene eskers; *Geochemistry, Geophysics, Geosystems*, volume 23, issue 5, e2022GC010380. <https://doi.org/10.1029/2022GC010380>

DeWolfe, Y.M., Knox, B., Lilley, S., MacMillan, E.J., and Partin, C.A., 2022. Volcanology, geochemistry and geodynamic setting of the Neoarchean Sunrise volcanogenic massive sulfide deposit, Beaulieu River volcanic belt, Slave craton, Northwest Territories, Canada; *Precambrian Research*, volume 372, 106608.
<https://doi.org/10.1016/j.precamres.2022.106608>

Elongo, V., Falck, H., Rasmussen, K.L., Robbins, L.J., Creaser, R.A., Luo, Y., Pearson, D.G., Sarkar, C., Adlakha, E., Palmer, M.C., Scott, J.M., Hickey, K., Konhauser, K., and Lecumberri-Sanchez, P., 2022. Ancient roots of tungsten in western North America; *Geology*, volume 50, issue 7, pages 791–795. <https://doi.org/10.1130/G49801.1>

Elongo, V.M., 2022. Tungsten skarn deposits from the Canadian Cordillera: Paleogeographic and geochemical controls on ore distribution; ERA, Ph.D. Thesis and Dissertations, University of Alberta, Edmonton, Alberta.
<https://doi.org/10.7939/r3-kddw-7h77>

Harder, S., 2022. Neo-Archean iron formations and coticules, a study of meta-exhalites in the Slave craton, Northwest Territories, Canada; Unpublished B.Sc. Thesis, Mount Royal University, Calgary, Alberta.

Kazamel, B.G., Jamieson, H.E., Leybourne, M.I., Falck, H., and Johannesson, K.H., 2023. Aqueous geochemistry and mineralogy of tungsten with emphasis on mine wastes; *Economic Geology*, volume 118, number 3, pages 659–674.
<https://doi.org/10.5382/econgeo.4939>

LaGrange, M.T., Atienza, N.M.M., Biddle, S.K., Harris, B.S., Fiess, K.M., Terlaky, V., Konhauser, K.O., and Gingras, M.K., 2022. The nature, origin, and predictors of porosity in the Middle to Late Devonian Horn River Group of the central Mackenzie Valley, Northwest Territories, Canada; *Marine and Petroleum Geology*, volume 142, 105738.
<https://doi.org/10.1016/j.marpetgeo.2022.105738>

LaGrange, M.T., Li, K., Li, L., Kabanov, P., Konhauser, K.O., Harris, B.S., Biddle, S.K., Terlaky, V., and Gingras, M.K., 2023. An example of the Middle to Late Devonian marine nitrogen cycle from mudstones of the Horn River Group, Northwest Territories, Canada; *Palaeogeography, Palaeoclimatology, Palaeoecology*, volume 618, 111512.
<https://doi.org/10.1016/j.palaeo.2023.111512>

Landry, K., 2022. Chemical characterization and timing of uranium occurrences in the Nonacho Basin, Northwest Territories, Canada; Unpublished M.Sc. Thesis, Saint Mary's University, Halifax, Nova Scotia.

Landry, K., Adlakha, E., Roy-Garand, A., Terekhova, A., Hanley, J., Falck, H., and Martel, E., 2022. Uranium mineralization in the MacInnis Lake area, Nonacho Basin, Northwest Territories: Potential linkages to metasomatic iron alkali-calcic systems; *Minerals*, volume 12, issue 12, 1609. <https://doi.org/10.3390/min12121609>

Legros, H., Elongo, V., Laurent, O., Adlakha, E., Chelle-Michou, C., Falck, H., and Lecumberri-Sanchez, P., 2022. Formation of the Lened W-(Be) skarn deposit by neutralization of a magmatic fluid—Evidence from H_3BO_3 -rich fluids; *Geosciences*, volume 12, issue 6. <https://doi.org/10.3390/geosciences12060236>

McMartin, I., Campbell, J.E., Godbout, P.-M., Behnia, P., Tremblay, T., and Normandeau, P.X., 2022. High-resolution mapping of glacial landscapes in the north-central portion of the Laurentide Ice Sheet in Nunavut and Northwest Territories; Geological Survey of Canada, preprint 4, 27 pages. <https://doi.org/10.4095/330867>

Palmer, M.J., 2022. Environmental processes that control the chemical recovery of arsenic impacted northern landscapes; Ph.D. Thesis, Carleton University, Ottawa, Ontario. <https://doi.org/10.22215/etd/2022-14987>

Regis, D., Canam, R., and Martel, E., 2022. U-Pb geochronological results from the Nonacho Lake area (NTS 75F), Northwest Territories; Geological Survey of Canada, Open File 8880, 33 pages. <https://doi.org/10.4095/329884>

Roy-Garand, A., Adlakha, E., Hanley, J., Elongo, V., Lecumberri-Sanchez, P., Falck, H., and Boucher, B., 2022. Timing and sources of skarn mineralization in the Canadian Tungsten Belt: Revisiting the paragenesis, crystal chemistry and geochronology of apatite; Mineralium Deposita, volume 57, number 8, pages 1391–1413.
<https://doi.org/10.1007/s00126-022-01107-1>

Timmerman, S., Reimink, J.R., Vezinet, A., Nestola, F., Kublik, K., Banas, A., Stachel, T., Stern, R.A., Luo, Y., Sarkar, C., Ielpi, A., Currie, C.A., Mircea, C., Jackson, V., and Pearson, D.G., 2022. Mesoarchean diamonds formed in thickened lithosphere, caused by slab-stacking; Earth and Planetary Science Letters, volume 592, 117633.
<https://doi.org/10.1016/j.epsl.2022.117633>

Wickham, A., 2022. Till geochemistry and lithogeochemical exploration for a concealed kimberlite, Northwest Territories, Canada; M.Sc. Thesis and Dissertation, University of British Columbia, Vancouver, British Columbia.
<https://dx.doi.org/10.14288/1.0412902>

Young, J.M., Alvarez, A., van der Sluijs, J., Kokelj, S.V., Rudy, A., McPhee, A., Stoker, B.J., Margold, M., and Froese, D., 2022. Recent intensification (2004–2020) of permafrost mass-wasting in the central Mackenzie Valley foothills is a legacy of past forest fire disturbances; Geophysical Research Letters, volume 49, issue 24, e2022GL100559.
<https://doi.org/10.1029/2022GL100559>

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Borissova, O.I., and Trenaman, R.T., 2023. Summary of exploration activities 1964–1997 and gold resource estimation; Tremenco Resources Ltd. Yellowknife Greenstone Project (Clan Lake Property); Northwest Territories Geological Survey, NWT Open Report 2023-016. <https://doi.org/10.46887/2023-016>

Cunada, C., Smith, K., Staples, R., and Czarnecki, A., 2023. Water quality monitoring in the Slave River at Fort Smith following a spill of treated wastewater effluent from the Al-Pac pulp and paper mill into the Athabasca River, Alberta, October 2020, Department of Environment and Climate Change; Northwest Territories Geological Survey, NWT Open Report 2023-018. <https://doi.org/10.46887/2023-018>

DesRosiers, P.D., Ward, B.C., and Sacco, D., 2023. Surficial geology north of Beauparlant Lake, Northwest Territories, part of NTS 86A09; Northwest Territories Geological Survey, NWT Open Report 2021-008, map and digital data.
<https://doi.org/10.46887/2021-008>

Dominion Diamond Mines ULC and North Arrow Minerals Inc., 2023. Lac de Gras joint venture overburden drilling and kimberlite indicator mineral data, Dominion Diamond Mines ULC and North Arrow Minerals Inc., compiled by Aurora Geosciences Ltd., NWT; Northwest Territories Geological Survey, NWT Open Report 2022-006.
<https://doi.org/10.46887/2022-006>

Elliott, B., Lambiv Dzemua, G., Reynolds, M.A., Squibb, C., and Powell, L., 2024. 2023 Northwest Territories Exploration and Mining Overview; Northwest Territories Geological Survey, Yellowknife, Northwest Territories, 30 pages.

Gervais, S.D. (compiler), 2023. 51st Annual Yellowknife Geoscience Forum — Abstract Volume; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2023.

Kokelj, S.A., Beel, C.R., Connon, R.F., Graydon, C.E.D., King, G., Kanigan, J., Esagok, D., and Kokelj, S.V., 2023. Beaufort Delta climate data, Northwest Territories; Environment and Natural Resources – Water Monitoring and Management Division; Northwest Territories Geological Survey, NWT Open Report 2022-007, 35 pages and digital data.
<https://doi.org/10.46887/2022-007>

Kokelj, S.A., Beel, C.R., Reid, R.J., Connon, R.F., Graydon, C.E.D., Olesen, D., Olesen, K., and Riley, E., 2024. North Slave climate data, Northwest Territories – Water Monitoring and Stewardship Division, Department of Environment and Climate Change; Northwest Territories Geological Survey, NWT Open Report 2023-002, 25 pages, appendix, and digital data. <https://doi.org/10.46887/2023-002>

Lockie, J., Fischer, B., and Ielpi, A., 2023. Refinement of the Nonacho Group sedimentology and stratigraphy: Results of the 2021 field season; Northwest Territories Geological Survey, NWT Open Report 2023-001, 21 pages and appendices.
<https://doi.org/10.46887/2023-001>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report 084022, Kristin Project, Mantic and Beaverhill Lake area, Northwest Territories (parts of NTS 075I and 065L); Northwest Territories Geological Survey, NWT Open Report 2023-007, 12 pages and digital data. <https://doi.org/10.46887/2023-007>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report 084035, Mad 1-3 Claims, McCrea Lake area, Northwest Territories (parts of NTS 085P09/10); Northwest Territories Geological Survey, NWT Open Report 2023-008, 12 pages and digital data. <https://doi.org/10.46887/2023-008>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Reports (084049, Lac de Gras area, and 084104, Carat Property area), Northwest Territories (parts of NTS 076C, D, E, and F); Northwest Territories Geological Survey, NWT Open Report 2023-009, 22 pages and digital data. <https://doi.org/10.46887/2023-009>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report 084171, Wool Bay project, Northwest Territories (parts of NTS 075K08); Northwest Territories Geological Survey, NWT Open Report 2023-010, 12 pages and digital data. <https://doi.org/10.46887/2023-010>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report 084225, GEM Property, Lac de Charloit area, Northwest Territories (parts of NTS 075N16); Northwest Territories Geological Survey, NWT Open Report 2023-011, 14 pages and digital data. <https://doi.org/10.46887/2023-011>

Northwest Territories Geological Survey, 2023. Northwest Territories Geological Survey 2022–2023 Compilation of Geoscience Data; Northwest Territories Geological Survey, Yellowknife, Northwest Territories, 8 pages and digital data. <https://doi.org/10.46887/2023-024>

Ola, S., and Cairns, S., 2023. Lake water and lake sediment geochemistry data donated by Chevron Standard Ltd. in parts of NTS sheets 086B, 086C, and 086G, Wopmay orogen, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2023-012. <https://doi.org/10.46887/2023-012>

Pinto, T.F., Enkelmann, E., Matthews, W., and Terlaky, V., 2024. Thermal evolution of Phanerozoic sediments of southwestern Northwest Territories: Project Summary – Year Two; Northwest Territories Geological Survey, NWT Open Report 2023-003, 8 pages and appendix. <https://doi.org/10.46887/2023-003>

Sacco, D., McGregor, C., Cronmiller, D., Johnson, C., Wolter, A., and Turner, D., 2023. Surficial geology and till sampling suitability classification for parts of NTS map sheets 086H, 076E, and 076F, Slave Geological Province, Northwest Territories, Palmer; Northwest Territories Geological Survey, NWT Open Report 2022-014. <https://doi.org/10.46887/2022-014>

van der Sluijs, J., and Kokelj, S.V., 2023. A detailed inventory of retrogressive thaw slump affected slopes using high spatial resolution digital elevation models and imagery, Peel Plateau and Anderson Plain – Tuktoyaktuk Coastlands, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2023-013, 9 pages and digital data. <https://doi.org/10.46887/2023-013>

Worley Canada Services Ltd., 2023. Mackenzie Delta LNG pre-feasibility study; Northwest Territories Geological Survey, NWT Open Report 2023-017. <https://doi.org/10.46887/2023-017>

External Publications

Austin-Fafard, S.B., 2023. Physical volcanology, lithogeochemistry, petrology, and tectonic setting of the Neoarchean volcanic rocks in the Sunset Lake area, Beaulieu River volcanic belt, Sunset Lake, Northwest Territories, Canada; M.Sc. Thesis, University of Saskatchewan, Saskatoon, Saskatchewan. <https://hdl.handle.net/10388/14113>

Canam, R., 2023. Paleoproterozoic structural evolution of the southwestern margin of the Rae craton, Northwest Territories; M.Sc. Thesis, Simon Fraser University, Vancouver, British Columbia. <https://summit.sfu.ca/item/36296>

Cheng, T.C., Soriano, C., Jamieson, H., and Falck, H., 2023. Leaching kinetics of tungsten in scheelite tailings in sodium carbonate solutions at low temperatures (25–75°C); Canadian Metallurgical Quarterly, volume 63, issue 4, pages 1484–1492. <https://doi.org/10.1080/00084433.2023.2260664>

Collins, A.J., 2023. Reprocessing of the Cantung Mine Tailings; M.Sc. Thesis, Queen's University, Kingston, Ontario.
<https://hdl.handle.net/1974/32624>

Collins, A.J., Sauber, M., Di Feo, A., Surrette, A., Jamieson, H., Falck, H., Lambiv Dzemua, G., and Gibson, C., 2023. Reprocessing of the Cantung Mine tailings: Removal of sulphide minerals. In Proceedings of the 62nd Conference of Metallurgists, COM 2023, pages 547–561. https://doi.org/10.1007/978-3-031-38141-6_75

Elliott, B., 2023. Leslie kimberlite core; GEOExPro, volume 20, issue 3.
<https://geoexpro.com/magazine/vol-20/issue-3-23/>

Huang, G., Zhao, J., Lambiv Dzemua, G., Cairns, S., Normandea, P.X., and Liu, W.V., 2024. Utilisation of local raw materials and mine waste to manufacture cement in the Northwest Territories, Canada; Advances in Cement Research, volume 36, issue 10, pages 496–507. <https://doi.org/10.1680/jadcr.23.00195>

Kokelj, S.V., Gingras-Hill, T., Daly, S.V., Morse, P.D., Wolfe, S.A., Rudy, A.C.A., van der Sluijs, J., Weiss, N., O'Neill, H.B., Baltzer, J.L., Lantz, T.C., Gibson, C., Cazon, D., Fraser, R.H., Froese, D.G., Giff, G., Klengenberg, C., Lamoureux, S.F., Quinton, W.L., Turetsky, M.R., Chiasson, A., Ferguson, C., Newton, M., Pope, M., Paul, J.A., Wilson, M.A., and Young, J.M., 2023. The Northwest Territories Thermokarst Mapping Collective: A northern-driven mapping collaborative toward understanding the effects of permafrost thaw; Arctic Science, volume 9, number 4, pages 886–918.
<https://doi.org/10.1139/as-2023-0009>

LaGrange, M.T., Li, K., Li, L., Kabanov, P., Konhauser, K.O., Harris, B.S., Biddle, S.K., Terlaky, V., and Gingras, M.K., 2023. An example of the Middle to Late Devonian marine nitrogen cycle from mudstones of the Horn River Group, Northwest Territories, Canada; Palaeogeography, Palaeoclimatology, Palaeoecology, volume 618, 111512.
<https://doi.org/10.1016/j.palaeo.2023.111512>.

Milkowski, E., 2023. Pressure-temperature constraints on the Neoarchean basement in the southern Slave Province; Unpublished B.Sc. Thesis, University of British Columbia, Vancouver, British Columbia.

Monhonval, T.M., Hirst, A.C., Bröder, L., Zolkos, S., Vonk, J.E., Tank, S.E., Keskitalo, K.H., Shakil, S., Kokelj, S.V., van der Sluijs, J., and Opfergelt, S., 2023. Evidence for preservation of organic carbon interacting with iron in material displaced from retrogressive thaw slumps: Case study in Peel Plateau, western Canadian Arctic; Geoderma, volume 433, 116443.
<https://doi.org/10.1016/j.geoderma.2023.116443>

Moore, M.R.N., Tank, S.E., Kurek, M.R., Taskovic, M., McKenna, A.M., Smith, J.L.J., S. V. Kokelj S.V., and Spencer, R.G.M., 2024. Correction to: Ultrahigh resolution dissolved organic matter characterization reveals distinct permafrost characteristics on the Peel Plateau, Canada; Biogeochemistry volume 167, page 119.
<https://doi.org/10.1007/s10533-023-01114-y>

Neil, B.J.C., Tersmette, D.B., Chacko, T., Heaman, L.M., Kjarsgaard, B.A., Martel, E., Creaser, R.A., Pearson, D.G., Stern, R.A., Dufrane, S.A., and Luo, Y., 2023. Discovery of a giant 3.3–3.1 Ga terrane in the Rae craton, Canada: Implications for the timing and extent of ancient continental growth; Geology, volume 51, number 6, pages 597–601.
<https://doi.org/10.1130/G51110.1>

Ngoyo Mandemvo, D.D., Comeau, F.-A., Raymond, J., Grasby, S.E., and Terlaky, V., 2023. Geothermal potential of closed underground mines: Resource assessment study of the Con Mine, Northwest Territories, Canada; Natural Resources Research, volume 32, page 1579–1593. <https://doi.org/10.1007/s11053-023-10214-3>

Rasmussen, K.L., Falck, H., Elongo, V., Reimink, J., Luo, Y., Pearson, D.G., Ootes, L., Creaser, R.A., and Lecumberri-Sanchez, P., 2023. The source of tungsten-associated magmas in the northern Canadian Cordillera and implications for the basement; Geology, volume 51, number 7, pages 657–662. <https://doi.org/10.1130/G51042.1>

Snyder, M.E., and Reynolds, M.A., 2024. Feeling relieved: Creating a positive bathroom field culture in the geosciences; GSA Today, volume 34, issue 3–4, pages 28–30. <https://doi.org/10.1130/GSATG574GW.1>

van der Sluijs, J., Sait, E., Bakelaar, C.N., Wentworth, A., Fraser, R.H., and Kokelj, S.V., 2023. Beyond visual-line-of-sight (BVLOS) drone operations for environmental and infrastructure monitoring: A case study in northwestern Canada; *Drone Systems and Applications*, volume 11, pages 1–15. <https://doi.org/10.1139/dsa-2023-0012>

Voigt, C., Virkkala, A.-M., Hould Gosselin, G., Bennett, K.A., Black, T.A., Detto, M., Chevrier-Dion, C., Guggenberger, G., Hashmi, W., Kohl, L., Kou, D., Marquis, C., Marsh, P., Marushchak, M.E., Nesic, Z., Nykänen, H., Saarela, T., Sauheitl, L., Walker, B., Weiss, N., Wilcox, E.J., and Sonnentag, O., 2023. Arctic soil methane sink increases with drier conditions and higher ecosystem respiration; *Nature Climate Change*, volume 13, pages 1095–1104.

<https://doi.org/10.1038/s41558-023-01785-3>

Summary 2024–2025

Open Reports: 11

Open Files: 2

External: 59

Extras (Overviews and Annual Yellowknife Geoscience Forum Abstract Volume): 2

Assessment Reports: 25

Canam, R., and Wall, C.J., 2024. New U-Pb zircon dates from granitoids underlying the East Arm basin, Great Slave Lake, Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2024-005, 9 pages and appendix.
<https://doi.org/10.46887/2024-005>

Canam, R., MacMillan, E.J., Cairns, S.R., and Pierce, K.L., 2024. Bedrock geology of the Preble and Petitot islands area in the southwestern East Arm, Great Slave Lake, Northwest Territories (parts of NTS 85H10 and 85H09); Northwest Territories Geological Survey, NWT Open File 2024-02, 1 map at 1:30 000 scale and digital files.

<https://doi.org/10.46887/2024-02>

Dziuba, F., Rudy, A.C.A., and Ensom, T., 2024. Inuvik to Tuktoyaktuk Highway 2021 winter geophysical surveys; Northwest Territories Geological Survey, NWT Open Report 2024-003. <https://doi.org/10.46887/2024-003>

Fischer, B.J., Flower, A.F., and Melchin, M.J., 2024. Chemostratigraphic and biostratigraphic analysis of the Duo Lake Formation, Howards Pass zinc-lead district, Northwest Territories and Yukon; Northwest Territories Geological Survey, NWT Open File 2023-01, 36 pages and appendices. <https://doi.org/10.46887/2023-01>

Gervais, S.D. (compiler), 2024. 52nd Annual Yellowknife Geoscience Forum — Abstract Volume; Northwest Territories Geological Survey, Yellowknife, Northwest Territories. YKGSF Abstracts Volume 2024.

MacMillan, E.J., 2024. Bedrock mapping in the area of Left and Shallow lakes of the Winter Lake greenstone belt, central Slave craton, Northwest Territories (parts of NTS 86A07/08); Northwest Territories Geological Survey, NW T Open Report 2024-001, 1 map sheet at 1:4000 scale, and appendix. <https://doi.org/10.46887/2024-001>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report (084269, Hilltop Project, south area), Northwest Territories (parts of NTS 075M03, 04, 05, and 06); Northwest Territories Geological Survey, NWT Open Report 2023-019, 13 pages and digital data. <https://doi.org/10.46887/2023-019>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report (084286, Wecho River area), Northwest Territories (parts of NTS 085O05, 06, 07, 10, 11, and 12); Northwest Territories Geological Survey, NWT Open Report 2023-020, 13 pages and digital data. <https://doi.org/10.46887/2023-020>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report (084383, Kelsey Project), Walmsley Lake-Fletcher Lake area, Northwest Territories (parts of NTS 075N07, 10, and 15); Northwest Territories Geological Survey, NWT Open Report 2023-021, 13 pages and digital data. <https://doi.org/10.46887/2023-021>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report (084396, Thor Project, blocks C08, C09, C10, LDG, MAC, and SNA), Lac de Gras area, Northwest Territories (parts of NTS 076D); Northwest Territories Geological Survey, NWT Open Report 2023-022, 19 pages and digital data. <https://doi.org/10.46887/2023-022>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Reports (084434, Lake Providence property, Desteffany Lake area, Slingshot Block B and Slingshot Block D), Lac de Gras area, Northwest Territories (parts of NTS 076D); Northwest Territories Geological Survey, NWT Open Report 2023-023, 15 pages and digital data.

<https://doi.org/10.46887/2023-023>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Reports (084457, Aylmer Lake area), District of Mackenzie, Northwest Territories (parts of NTS 076C02/07); Northwest Territories Geological Survey, NWT Open Report 2024-006, 13 pages and digital data. <https://doi.org/10.46887/2024-006>

Mirza, A.M., 2024. Enhancements of airborne geophysical data from NWT Assessment Report (084470, MacKay Lake Project, Lac de Gras area), Northwest Territories (parts of NTS 076D); Northwest Territories Geological Survey, NWT Open Report 2024-007, 14 pages and digital data. <https://doi.org/10.46887/2024-007>

Rasmussen, K.L., Falck, H., Reynolds, M.A., Luo, Y., Pearson, D.G., and Lecumberri-Sanchez, P., 2024. U–Pb and Lu–Hf isotopic characterization of magmatic and inherited zircon from granitic plutons associated with tungsten mineralization, southwestern Northwest Territories; Northwest Territories Geological Survey, NWT Open Report 2024-004, 28 pages, appendices, and supplementary data. <https://doi.org/10.46887/2024-004>

External Publications

Alsafi, N.E., Kokelj, S.V., Palmer, M.J., Bhatia, M.P., Ensom, T.P., Spence, C., Cavaco, M.A., Kurek, M.R., Spencer, R.G.M., and Tank, S.E., 2024. Icings as sentinels and biogeochemical modifiers of wintertime flow in the southern discontinuous permafrost Taiga Shield. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 358–359.

Alsafi, N.E., Palmer, M.J., Kokelj, S.V., Ensom, T.P., Spence, C., and Tank, S.E., 2024. Icings as sentinels and modifiers of water flow through winter landscapes: An exploration of physico-chemical processes on the lake-dominated, discontinuous permafrost Taiga Shield; Hydrological Processes, volume 38, issue 8, 18 pages.
<https://doi.org/10.1002/hyp.15251>

Alvarez, A., Harvey, J., Chiasson, A., Young, J., Kokelj, S., Morse, P., and Froese, D., 2024. Intrusive origin of a 4.8 meter thick ground ice body within a polygonal peatland along the Inuvik-Tuktoyaktuk Highway, NWT. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 1–9. <https://doi.org/10.52381/icop2024.232.1>

Asghari, O., Chiasson, A., Roustaei, M., Pumple, J., Kokelj, S.V., and Froese, D.G., 2024. Permafrost index properties and establishment of a large ground ice potential database for northern Canada. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 795–796.

Bender, W., Kokelj, S.V., Daly, S., Wilson, M.A., Ferguson, C., Pauzé, V., and Quinton, W., 2024. The Northwest Territories Thermokarst Mapping Collective: Opportunities and challenges of mid-project mapper training. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 693–694.

Burn, C., Bartsch, A., Chakraborty, E., Das, S., Frauenfelder, R., Gärtner-Roer, I., Gisnås, K., Herring, T., Jones, B., Kokelj, S., Langer, M., Lathrop, E., Murton, J., Nielsen, D., Niu, F., Olson, C., O'Neill, H., Opfergelt, S., Overduin, P., Schaefer, K., Schuur, E., Skierszkan, E., Smith, S., Stuenzi, S., Tank, S., van der Sluijs, J., Vieira, G., Westermann, S., Wolfe, S., and Yarmak, E., 2024. Developments in permafrost science and engineering in response to climate warming in circumpolar and high mountain regions, 2019–2024; Permafrost and Periglacial Processes, 22 pages.
<https://doi.org/10.1002/ppp.2261>

Campbell, J., Chiasson, A., Huscroft, C., and Froese, D.G., 2024. Mapping of permafrost and ground hazards for community planning near Fort Good Hope, Northwest Territories. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 7–8.

Chiasson, A., Alvarez, A., van der Sluijs, J., Rudy, A.C.A., Kokelj, S.V., and Froese, D.G., 2024. Permafrost degradation in dendritically-drained peat plateaus over the past 70 years in the central Mackenzie Valley, Northwest Territories. In 12th International Conference on Permafrost. 16-20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 174–175.

Cutts, J.A., Dyck, B.V., Perrot, M.G., Davies, J.H.F.L., Osinchuk, A.M., Šílerová, D., Stern, R.A., Chiaradia, M., and Canam, R., 2024. A contiguous Taltson-Thelon margin revisited; Geochemistry Geophysics Geosystems, volume 25, issue 7, 20 pages. <https://doi.org/10.1029/2024gc011527>

Dai, C., Howat, I.M., van der Sluijs, J., Liljedahl, A.K., Higman, B., Freymueller, J.T., Jones, M.K.W., Kokelj, S.V., Boike, J., Walker, B., and Marsh, P., 2024. Applications of ArcticDEM for measuring volcanic dynamics, landslides, retrogressive thaw slumps, snowdrifts, and vegetation heights; Science of Remote Sensing, volume 9, 100130, 14 pages. <https://doi.org/10.1016/j.srs.2024.100130>

Ensom, T.P., Kokelj, S.V., Marsh, P., Connan, R., Kamo McHugh, K., and van der Sluijs, J., 2024. Hydrothermal and terrain effects of a highway on streams in permafrost. In 12th International Conference on Permafrost. 16-20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 508–509.

Fairhurst, L., Fedortchouk, Y., Chinn, I., Normandeau, P.X., and Powell, M., 2024. Reaction rims on ilmenite and chromite: Implications for volatile behavior and crystallization conditions of kimberlite magma; The Canadian Journal of Mineralogy and Petrology, volume 62, issue 4, pages 551–573. <https://doi.org/10.3749/2300064>

Fairhurst, L., Fedortchouk, Y., Chinn, I., Normandeau, P.X., and Powell, M., 2024. Understanding kimberlite crystallisation and emplacement: Insights from reaction products on ilmenite and chromite. In International Kimberlite Conference: Extended Abstracts, volume 12, 3 pages. <https://doi.org/10.29173/ikc4075>

Froese, D.G., Moshtaghan, K., Chiasson, A., Alvarez, A., Heagy, L., Pumple, J., Unsworth, M., Kokelj, S.V., Rudy, A.C.A., Smith, S., and Young, J.M., 2024. Characterizing permafrost conditions in the central Mackenzie Valley corridor using airborne electromagnetic methods (AEM) and ground-based investigations. In 12th International Conference on Permafrost. 16-20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 517–518.

Gadd, M.G., Reynolds, M.A., Pufahl, P., and Tessier, E., 2024. Lithogeochemistry and structural geology of middle Cretaceous ironstones and shales of the Rapid Creek formation, Northwest Territories; Geological Survey of Canada, Open File 9193, 7 pages. <https://doi.org/10.4095/pzfgv7fsf3>

Galloway, J.M., Parsons, M.B., Ardkani, O.H., Falck, H., Fewster, R.E., Swindles, G.T., Sanei, H., Palmer, M.J., Nasser, N.A., and Patterson, R.T., 2024b. Organic matter is a predominant control on total mercury concentration of near-surface lake sediments across a boreal to low Arctic tundra transect in northern Canada; The Science of the Total Environment, volume 954, 176466. <https://doi.org/10.1016/j.scitotenv.2024.176466>

Gully, B., Masuzumi, T.E., Tobac, J., Tobac, J., Masuzumi, D., Scully, A., Campbell, J., Chiasson, A., Landry, M., Rudy, A.C.A., and Froese, D.G., 2024. Establishing a community-led permafrost monitoring program in the Ts'udé Niliné Tuyeta indigenous and territorial protected area, NWT. In 12th International Conference on Permafrost. 16-20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 15–16.

Hammar, J., Grünberg, I., Kokelj, S.V., van der Sluijs, J., and Boike, J., 2024. Snow accumulation, albedo and melt patterns following road construction on permafrost, Inuvik–Tuktoyaktuk Highway, Canada; The Cryosphere, volume 17, issue 12, pages 5357–5372. <https://doi.org/10.5194/tc-17-5357-2023>

Hatten, G., Kokelj, S.V., Froese, D.G., Alvarez, A., Young, J.M., Opfergelt, S., and Tank, S.E., 2024. Mineral-organic interactions may regulate dissolved organic matter bioavailability in the western Canadian Arctic. In 12th International Conference on Permafrost. 16-20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 296–297.

Humphries, J.K., van der Sluijs, J., Morse, P.D., and Kokelj, S.V., 2024. Embankment evolution of a gravel road on permafrost terrain five years after construction: the Inuvik-Tuktoyaktuk Highway. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 145–152. <https://doi.org/10.52381/icop2024.173.1>

Ketchum, J.W.F., Bleeker, W., Falck, H., and Jackson, V.A., 2025. The Yellowknife greenstone belt and underlying central Slave Cover Group, Slave craton, Canada: Constraints and questions arising from a U–Pb dating study; Canadian Journal of Earth Sciences, volume 62, number 2, pages 256–275. <https://doi.org/10.1139/cjes-2024-0028>

Kokelj, S.V., Weiss, N., Sniderhan, A., Wolfe, S., Froese, D.G., van der Sluijs, J., Baltzer, J., Lantz, T., Morse, P.D., Gruber, S., O'Neill, H.B., Alvarez, A., and Tank, S.E., 2024. Landform fingerprints reveal variation in permafrost thaw-sensitivity. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 854–855.

Korosi, J., Coleman, K., Kokelj, S.V., Palmer, M.J., Thienpont, J.R., and Quinton, W., 2024. Small, shallow lakes as sentinels of environmental change in discontinuous permafrost peatlands. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 856–857.

Landry, M., Chiasson, A., Moshtaghian, K., Alvarez, A., Kokelj, S.V., and Froese, D.G., 2024. Electrical resistivity tomography (ERT) investigations of drilling-waste sumps within discontinuous permafrost, central Mackenzie Valley, NT. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 548–549.

Legros, H., DuFrane, S.A., Luo, Y., Sarkar, C., Lambiv, G., and Pearson, D.G., 2025. Direct UPb dating and Nd isotopes of REE carbonate mineral unravel protracted history of ore precipitation at the Thor Lake (Nechalacho) deposit, NWT Canada; Lithos, volumes 496–497, 107945, ISSN 0024-4937, 12 pages. <https://doi.org/10.1016/j.lithos.2025.107945>

Lewkowicz, A.G., Wolfe, S.A., Roujanski, V., Hoeve, E., O'Neill, H.B., Gruber, S., Roy-Léveillé, P., Brown, N., Koenig, C.E.M., Brooks, H., Rudy, A.C.A., Bonnaventure, P.P., and Paquette, M., 2024. An illustrated permafrost dictionary; Canadian Permafrost Association. <https://doi.org/10.52381/CPA.permafrostdictionary.1>

Lockie, J., Ielpi, A., Canam, R., Perrot, M.G., Davies, J.H.F.L., and Ootes, L., 2025. Orogenic unroofing of the Taltson and Thelon orogens depicted through detrital zircon geochronology of the Sosan Group, Great Slave Lake Supergroup (Northwest Territories, Canada); Precambrian Research, volume 419, 107706.
<https://doi.org/10.1016/j.precamres.2025.107706>

Lockie, J., Ielpi, A., Pehrsson, S.J., Davies, J.H., and Fischer, B.J., 2025. Detrital zircon geochronology of the Paleoproterozoic Nonacho Basin (Northwest Territories, Canada): A record of post-collisional collapse amid supercontinent aggregation; Precambrian Research, volume 420, 107731.
<https://doi.org/10.1016/j.precamres.2025.107731>

MacNaughton, R.B., Cecile, M.P., and Chan, W.C., 2024. Neoproterozoic–Cambrian stratigraphy of the Mackenzie Mountains, Yukon and Northwest Territories, part V: measured sections through Cryogenian, Ediacaran, and Cambrian units, NTS 105-P, 106-A, and 106-G; Geological Survey of Canada, Open File 9174, 33 pages.
<https://doi.org/10.4095/phgu56y5rm>

Makopoulou, E., Karjalainen, O., Elia, L., Blais-Stevens, A., Lantz, T., Lipovsky, P., Lombardo, L., Nicu, I.C., Rubensdotter, L., Rudy, A.C.A., and Hjort, J., 2024. Retrogressive thaw slump susceptibility in the northern hemisphere permafrost region; Earth Surface Processes and Landforms, volume 49, issue 11, pages 3319–3331. <https://doi.org/10.1002/esp.5890>

Mandemvo, D.D.N., Comeau, F., Raymond, J., Grasby, S.E., and Terlaky, V., 2024. Geothermal potential of closed underground mines: Resource Assessment Study of the CON Mine, Northwest Territories, Canada; Natural Resources Research, volume 32, issue 4, pages 1579–1593. <https://doi.org/10.1007/s11053-023-10214-3>

Mandemvo, D.D.N., Comeau, F., Raymond, J., Grasby, S.E., and Terlaky, V., 2024. Numerische Bewertung des geothermischen und thermischen Energiespeicherpotenzials der unterirdischen Con-Mine (Nordwest-Territorien, Kanada); Mine Water and the Environment, volume 43, issue 1, pages 148–167. <https://doi.org/10.1007/s10230-024-00976-4>

Moore, M.R.N., Tank, S.E., Kurek, M.R., Taskovic, M., McKenna, A.M., Smith, J.L.J., Kokelj, S.V., and Spencer, R.G.M., 2024. Correction to: Ultrahigh resolution dissolved organic matter characterization reveals distinct permafrost characteristics on the Peel Plateau, Canada; Biogeochemistry, volume 167, issue 2, page 119. <https://doi.org/10.1007/s10533-023-01114-y>

Moshtaghian, K., Unsworth, M., Heagy, L., Alvarez, A., Chiasson, A., Young, J.M., Kokelj, S.V., and Froese, D.G., 2024. New approaches to the inversion of frequency domain airborne electromagnetic data to map discontinuous permafrost in the central Mackenzie Valley, NWT, Canada. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 627–628.

Normandeau, P.X., McMardin, I., and Corriveau, L., 2024. Till geochemistry as a vector to metasomatic iron and alkali-calcic systems and associated deposits in the Great Bear magmatic zone, Northwest Territories, Canada; Minerals, volume 14, issue 6, page 547. <https://doi.org/10.3390/min14060547>

Rajaobelison, M., Thibault, M., Comeau, F., Raymond, J., Smejkal, E.J., and Terlaky, V., 2024. Thermostratigraphic and heat flow assessment of the south Slave region in the Northwest Territories, Canada; Energies, volume 17, issue 16, page 4165. <https://doi.org/10.3390/en17164165>

Rasmussen, K.L., Falck, H., Luo, Y., Pearson, D.G., and Lecumberri-Sanchez, P., 2024. U–Pb–Hf and morphological evolution of zircon from granites associated with world-class tungsten skarn deposits in the northern Canadian Cordillera; Lithos, volumes 486–487, 107752. <https://doi.org/10.1016/j.lithos.2024.107752>

Sauber, M.E., Di Feo, A., Arik J. Collins, A.J., and Gibson, C., 2024. Unlocking value and sustainability: Reprocessing Cantung historical mine tailings for tungsten and copper. IMPC-International Mineral Processing Congress.

Speight, S.C., McFarlane, C.R.M., and Hanley, J.J., 2024. Geodynamic evolution of felsic magmatism in the Yellowknife greenstone belt, N.W.T., Canada: evidence for Archean magmatism in a volatile-saturated environment; Canadian Journal of Earth Sciences, e-First, 34 pages. <http://dx.doi.org/10.1139/cjes-2024-0097>

Stockton, E., Burn, C., Wilson, M.A., and Kokelj, S.V., 2024. Road surface n-factors across elevational and latitudinal treelines, Dempster–ITH corridor, western Arctic Canada. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 422–430. <https://doi.org/10.52381/icop2024.143.1>

Surette, A., Dobosz, A., Dzemua, G.L., Falck, H., and Jamieson, H.E., 2024. Geochemical and mineralogical heterogeneity of the Cantung mine tailings: Implications for remediation and reprocessing; Frontiers in Geochemistry, volume 2, 1392021. <https://doi.org/10.3389/fgeoc.2024.1392021>

Thienpont, J.R., O'Hagan, C., Hoskin, G., Smol, J., Kokelj, S.V., and Korosi, J., 2024. A framework for understanding the impacts of permafrost thaw-driven disturbance regimes on northern lakes. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 870–871.

Thienpont, J.R., O'Hagan, C., Kokelj, S.V., Hoskin, G.N., Pisaric, M.F.J., Smol, J.P., Stewart, E., and Korosi, J.B., 2024. A framework for understanding the impacts of thaw-driven disturbance regimes on northern lakes; Permafrost and Periglacial Processes, 14 pages. <https://doi.org/10.1002/ppp.2256>

Thiessen, E.J., Davies, J.H., Dyck, B., Perrot, M.G., and Martel, E., 2024. Detrital zircon U-Pb + Hf data supports 2.1 Ga extensional and 2.0 Ga syn-orogenic basin in southwest Rae province during early Nuna assembly; Precambrian Research, volume 410, 107455. <https://doi.org/10.1016/j.precamres.2024.107455>

Treitz, P.M., Atkinson, D.M., Blaser, A., Bonney, M.T., Braybrook, C.A., Buckley, E.C., Collingwood, A., Edwards, R., van Ewijk, K., Freemantle, V., Gregory, F., Holloway, J., Hung, J.K.Y., Lamoureux, S.F., Liu, N., Ljubicic, G., Robson, G., Rudy, A.C.A., Scott, N.A., Shang, C., and Wall, J., 2024. Remote sensing of biogeophysical variables at the Cape Bounty Arctic Watershed Observatory, Melville Island, Nunavut, Canada; *Arctic Science*, volume 10, issue 2, pages 281–304. <https://doi.org/10.1139/as-2023-0043>

van der Sluijs, J., Kokelj, S.V., and Tunnicliffe, J.F., 2023. Allometric scaling of retrogressive thaw slumps; *The Cryosphere*, volume 17, issue 11, pages 4511–4533. <https://doi.org/10.5194/tc-17-4511-2023>

van der Sluijs, J., Kokelj, S.V., Rudy, A.C.A., and Wilson, M.A., 2024. Diverse landscape expressions and patterns of thermokarst observed via systematic aerial inventory and characterization of thaw-sensitive permafrost terrain, Northwest Territories, Canada. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 835–836.

van der Sluijs, J., Sait, E., Fraser, R., Kokelj, S.V., and Bakelaar, C., 2024. Validation of beyond visual-line-of-sight drone photogrammetry for terrain and canopy height applications; *Remote Sensing Applications Society and Environment*, volume 35, 101266. <https://doi.org/10.1016/j.rsase.2024.101266>

Weiss, N., Kokelj, S.V., Rudy, A.C.A., Karunaratne, K.C., and Tjin, J., 2024. The Northwest Territories Permafrost Database. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 59–60.

Weiss, N., Kokelj, S.V., Wolfe, S., Morse, P., Sladen, W., and Tutton, R., 2024. What is happening to discontinuous permafrost around Yellowknife, NWT? In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 839–840.

Wilson, M.A., Kokelj, S.V., and Stockton, E.J., 2024. N-factor variability across the Inuvik-Tuktoyaktuk Highway treeline: Investigating the influence of snow. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 510–511.

Young, J.M., van der Sluijs, J., Kokelj, S.V., Gruber, S., Herring, T., Rudy, A.C.A., and Froese, D.G., 2024. Permafrost detachment slides: A novel high magnitude mass wasting process in warm discontinuous permafrost. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 259–260.

Ziegler, J., Lantz, T., Newton, M., Kokelj, S.V., Lord, S., and the Gwich'in Tribal Council Department of Culture and Heritage, 2024. Permafrost thaw slump impacts on culturally and ecologically important fish habitat in the Peel River watershed, Canada. In 12th International Conference on Permafrost. 16–20 June 2024, Whitehorse, Canada: International Permafrost Association. Beddoe, R.A. and Karunaratne, K.C. (Editors), pages 32–33.

Zhang, H., Lambiv Dzemua, G., and Liu, Q., 2024. Preliminary beneficiation studies of quartz samples from the Northwest Territories, Canada; *Minerals*, volume 14, issue 11, 1177. <https://doi.org/10.3390/min14111177>