aava_hacisachsen_2008_readme_metadata.pdf

AAVA readme file for High Arctic Canada – Isachsen, Ellef Ringnes Island Vegetation Plots (August 23, 2017)

Dataset Title: High Arctic Canada Isachsen, Ellef Ringnes Island Vegetation Plots

Dataset Author: Corrine Vonlanthen

Alaska Arctic Vegetation Archive Dataset Name: higharcticcanadaisachsen_cvonlanthen (HACISACHSEN_CV)

Dataset Description:

The vegetation at Isachsen (the now closed High Arctic Weather Station) on Ellef Ringnes Island, Canada was studied as part of a multi-year project focused on patterned-ground plant communities. Patterned ground includes circles, polygons, nets, hummocks, and other features caused by differential freezing processes in soils. Vegetation plot data were collected at Isachsen, during July 22–29, 2005. The primary source document is a data report by Vonlanthen et al. (2006). An analysis and summary of all the High Arctic Canada sites (Green Cabin, Banks Island; Mould Bay, Prince Patrick Island; and Isachsen, Ellef Ringnes Island) are included in Vonlanthen et al. (2008). Funding for this project was provided to D. A. 'Skip' Walker through a U.S. National Science Foundation Grant from the Office of Polar Programs, OPP-0120736.

Fifty-two plots were subjectively located across very barren areas on small non-sorted polygons and in xeromesic situations on larger more vegetated non-sorted polygons. Plot data were collected from the centers of patterned ground features and the areas between the features, and included: a) zonal habitat types of subzone A (34 plots), b) fens and base rich wetlands (11 plots), c) pond and lake margins with with aquatic grasses (4 plots), and d) aquatic rooted floating or submerged macrophyte vegetation or meso-eutrophic water locations (3 plots).

Species cover was recorded following the old Braun-Banquet cover-abundance classes: [r (rare, single occurrence); + (multiple occurrences, less than 1% cover); 1 (1–5% cover); 2 (5–25% cover); 3 (26–50% cover); 4 (50–75% cover); 5 (75–100% cover)]. Plots were located in homogeneous areas of vegetation but did not have discrete boundaries. The approximate area required to achieve a complete species list for the community was recorded. GPS coordinates were obtained for all plots and plots were permanently marked with a stake with the plot number in the approximate center of the area surveyed. Percentage cover of plant growth forms, and additional environmental data were also recorded. Soil samples were obtained from the top

mineral horizon for physical and chemical analysis. Soil pits for each grid were described although individual plots did not have soil pits. All aboveground vegetation in a 20 x 50 cm frame was clipped near the releve for plant biomass data. Photographs are available for 46 of the 52 plots. Complete descriptions of the methods are in Vonlanthen et al. (2006) and Vonlanthen et al. (2008).

References and publications resulting from the study are listed below.

References:

Epstein, H. E., D. A. Walker, M. K. Raynolds, G. J. Jia, and A. M. Kelly. Phyotomass patterns across a temperature gradient of the North American arctic tundra. Journal of Geophysical Research. 113:G03S02. doi:10.1029/2007JG000555, 2008

Michelson, G. J., C. L. Ping, H. Epstein, J. M. Kimble, and D. A. Walker. 2008. Soils and frost boil ecosystems across the North American Arctic Transect. Journal of Geophysical Research 113:G03S11. doi10.1029/2007JG000672

Ping, C. L., G. J. Michelson, J. M. Kimble, V. E. Romanovsky, Y. L. Shur, D. K. Swanson, and D. A. Walker. 2008. Cryogenesis and soils formation along a bioclimate gradient in Arctic North America. Journal of Geophysical Research. 113:G03S12. doi:10.1029/2008JG000744, 2008

Raynolds, M. K., D. A. Walker, H. E. Epstein, J. E. Pinzon and C. J. Tucker. 2012. A new estimate of tundra-biome phytomass from trans-Arctic field data and AVHRR NDVI. Remote Sensing Letters, 3:403-411. doi:10.1080/01431161.2011.609188

Vonlanthen, C., M. K. Raynolds, C. Munger, A. Kade, and D. A. Walker 2006. Biocomplexity of Patterned Ground, Isachsen Expedition, July 2005. Data Report. Alaska Geobotany Center, University of Alaska Fairbanks, Fairbanks, Alaska, USA. 86 pp.

Vonlanthen, C. M., D. A. Walker, M. K. Raynolds, A. Kade, P. Kuss, F. J. A. Daniëls, and N. V. Matveyeva. 2008. Patterned-Ground Plant Communities along a bioclimate gradient in the High Arctic, Canada. Phytocoenologia. 38:23-63.

Walker, D. A., H. E. Epstein, V. E. Romanovsky, C. L. Ping, G. J. Michaelson, R. P. Daanen, Y. Shur, R. A. Peterson, W. B. Krantz, M. K. Raynolds, W. A. Gould, G. Gonzalez, D. J. Nicolsky, C. M. Vonlanthen, A. N. Kade, P. Kuss, A. M. Kelley, C. A. Munger, C. T. Tarnocai, N. V. Matveyeva, and F. J. A. Daniëls. 2008. Arctic patterned-ground ecosystems: A synthesis of field studies and models along a North American Arctic Transect. Journal of Geophysical Research. 113:G03S01. doi:10.1029/2007JG000504, 2008

Walker, D. A., M. K. Raynolds, and W. A. Gould. 2008. Fred Daniëls, Subzone A, and the North American Arctic Transect. Abhandlungen aus dem Westfälischen Museum for Naturkunde 70:387–400.

Walker, D. A., P. Kuss, H. E. Epstein, A. N. Kade, C. M. Vonlanthen, M.K. Raynolds and F. J. A. Daniëls. 2011. Vegetation of zonal patterned-ground ecosystems along the North America Arctic bioclimate gradient. Applied Vegetation Science 14:440–463.

Walker, D. A., H. E. Epstein, M. K. Raynolds, P. Kuss, M. A. Kopecky, G. V. Frost, F. J. A. Daniëls, M. O. Leibman, N. G. Moskalenko, G. V. Matyshak, O. V. Khitun, A. V. Khomutov, B. C. Forbes, U. S. Bhatt, A. N. Kade, C. M. Vonlanthen, and L. Tichy. 2012. Environment, vegetation and greenness (NDVI) along the North America and Eurasia Arctic transects. Environmental Research Letters, 7:17pp. doi: 10.1088/1748-9326/7/1/015504

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Primary Agency: Alaska Geobotany Center, University of Alaska Fairbanks

Direct Plot Archive Record Link: http://alaskaaga.gina.alaska.edu/catalogs/11854-alaska-arctic-vegetation-archive-high-arctic-c

Data prepared by: Lisa Druckenmiller (ladruckenmiller@alaska.edu) and Ksusha Ermokina (diankina@gmail.com>)

Link to VegBank Record: yet to be entered

Missing data: Indicated by -9999 for numerical data and n/a for categorical or text data

Files Available for Download:

1) AAVA High Arctic Canada - Isachsen Modified Source Data

1a) AAVA High Arctic Canada - Isachsen Species Cover Data
aava_hacisachsen_cvonlanthen_2008_spp_modsrc.csv
aava_hacisachsen_cvonlanthen_2008_spp_modsrc.xlsx

These files contain species cover data for the High Arctic Canada - Isachsen plots in both comma separated values (.csv) and Excel (.xlsx) format. The source for these data is a data report by Vonlanthen et al. (2006). The original dataset presents the species cover classes according to the old Braun-Blanquet scale: r (rare), + (common but less than 1 percent), 1 (1 to 5 percent), 2 (6 to 25 percent), 3 (26

to 50 percent), 4 (51 to 75 percent) and 5 (76 to 100 percent). Both the author's species determination and the current taxonomy according to the Panarctic Species List (PASL) are listed. Taxa are listed in alphabetical order according to the accepted PASL name. The plot numbers in the source data are the author's. The main plot numbers in the Turboveg database are accession numbers and will differ. The author's plot numbers are retained in the 'Field releve number' field in the Turboveg database.

1b) AAVA High Arctic Canada - Isachsen Environmental Data
aava_hacisachsen_cvonlanthen_2008_allenv_modsrc.csv
aava_hacisachsen_cvonlanthen_2008_allenv_modsrc.xlsx

These files contain modified environmental data for the High Arctic Canada - Isachsen in .csv and .xlsx format. The source of these data is a report by Vonlanthen et al. (2006) and an analysis published by Vonlanthen et al. (2008). The plot numbers in the source data are the author's. The main plot numbers in the Turboveg database are accession numbers and will differ. The author's plot numbers are retained in the 'Field releve number' field in the Turboveg database. For codes and scalar values see the environmental legend 'envlegend' file in the metadata folder.

During data entry, adjustments to the environmental data included: 1) latitude and longitude recorded as degrees, minutes, seconds were converted to decimal degrees, and 2) texture was determined using sand, silt and clay percentages and the U.S. Department of Agriculture, Natural Resources Conservation Service Soil Texture Calculator.

2) AAVA High Arctic Canada - Isachsen Turboveg Database
aava_hacisachsen_cvonlanthen_2008_tv.zip

This file is the High Arctic Canada - Isachsen Turboveg Database (.dbf). Turboveg is a software program for managing vegetation-plot data (see http://www.synbiosys.alterra.nl/turboveg/). The database includes both species cover and environmental header data. The header data for the database are consistent across all datasets in the AAVA. There are both required and recommended fields for inclusion in the AAVA. Consequently, only a subset of the modified source environmental data are included in the database and these may be cross-walked to the AAVA data dictionary. The species nomenclature used in the database is according to the Panarctic Species List created for the Arctic Vegetation Archive. The current data dictionary and PASL files are required for the correct use of these data in Turboveg. These files are updated periodically and available for download via 'Data and Resources' section of the data record.

During species data entry into Turboveg database, Ochrolechia cf. inaequatula was entered as Ochrolechia sp. and in two instances,

species were lumped into a single taxon in the PASL: 1) Ceratodon purpureus (Ceratodon purpureus and Ceratodon purpureus v. rotundifolius), and 2) Plagiochila porelloides (Plagiochila asplenioides and Plagiochila asplenioides s. porelloidesa).

For the cross-walk from the environmental source data to the Turboveg database, we made the following changes: 1) written aspects were crosswalked to the nearest categorical degree available for Turboveg, 2) for entry into Turboveg decimal values in the fields prostrate dwarf shrubs, algae, vegetation height, and moss depth were rounded up to the nearest percent, 3) methods used for recording forb cover, lichen cover, and moss cover were not compatible with Turboveg, but these data are available in the source data, 4) the 10 site moisture scalar values recorded in the field were crosswalked to the 4 classes available for Turboveg, 5) with the aid of the D. A. 'Skip' Walker, site topographic positions were crosswalked to the classes available in Turboveg, 6) habitat types were assigned by D. A. 'Skip' Walker in May 2017, 7) pH was measured to two decimal places but rounded to one decimal place for entry into Turboveg, and 8) for Turboveg soil texture, only the major soil classes are retained from the calculated textures.

3) AAVA High Arctic Canada – Isachsen Ancillary Data

3a) High Arctic Canada – Isachsen Plot Location Map
aava_hacisachsen_cvonlanthen_2008_plotmap_anc.jpg

This map shows the location of the Isachsen plots on an aerial photograph of Ellef Ringnes Island, Canada.

3b) High Arctic Canada – Isachsen Photos
aava_hacisachsen_cvonlanthen_2008_photolog_anc.pdf

This file contains digitized photos from Vonlanthen et al. 2006. Only 46 of the 52 plots have photographs.

3c) High Arctic Canada – Isachsen Publications
epsteinh_2008_jgeophysres_phytomass_arctic_gradent.pdf
michaelsong_2008_jgeophysres_soils_arctic_gradient.pdf
pingc_2008_geophysres_cryogenesis_soils_arctic_gradient.pdf
raynoldsm_2012_remotesenslett_biomass_est_ndvi_.pdf
vonlanthenc_2006_datarpt_isachsen_ellefringnes_patterngrnd.pdf
vonlanthanc_2008_phytocoenologia_patterngrnd_higharct.pdf
walkerd_2008_abhandlungen_westfälischen_museum_subzone_a.pdf
walkerd_2008_jgeophysres_patterngrnd_naat_eurasionat.pdf
walkerd_2011_appvegsci_veg_zonal_pattgrnd_naat.pdf
walkerd_2012_environreslett_ndvibiomass_naat_eurasarctrans.pdf

These are .pdf files associated with the dataset description and analysis for the High Arctic Canada – Isachsen plots.

3d) High Arctic Canada – Isachsen Soils Data
aava_hacisachsen_cvonlanthen_2008_soils_physchem_anc.csv
aava_hacisachsen_cvonlanthen_2008_soils_physchem_anc.xlsx

These files contain soil physical and chemical data in .csv and .xlsx format. The source of the soils physical and chemistry data is Vonlanthen et al. (2006; Table 7). Soil samples were collected in the top mineral horizon at 10 cm. As noted above texture was determined using sand, silt and clay percentages and the U.S. Department of Agriculture, Natural Resources Conservation Service Soil Texture Calculator. These data were analyzed and published by Ping et al. (2008).

Soil descriptions from the grids provide a basic understanding of soils of representative plots Vonlanthen et al. (2006; pages 53-64).

3e) High Arctic Canada – Isachsen Biomass Data
aava_hacisachsen_cvonlanthen_2008_biomass_anc.csv
aava_hacisachsen_cvonlanthen_2008_biomass_anc.xlsx

The source of the biomass data is Vonlanthen et al. (2006; Table 10). All aboveground biomass (living and standing dead) was clipped within a 20 x 50 cm frame (0.1 square meter) near releves in 2003. Samples were sorted by plant functional type (moss, lichen, forb, horsetail, deciduous shrub, evergreen shrub, and graminoid) in the field. Samples were frozen for transport and later in the lab were oven dried. Oven dried weights are recorded. Of the fifty-two total plots, thirty-five include biomass data that were analyzed and published by Epstein et al. (2008) and Raynolds et al. (2012).

4) AAVA High Arctic Canada – Isachsen Metadata
aava_hacisachsen_cvonlanthen_2008_envlegend_metadata.pdf
aava_hacisachsen_cvonlanthen_2008_readme_metadata.pdf
aava_hacisachsen_cvonlanthen_2008_readme_metadata.txt

These are the metadata files for the High Arctic Canada – Isachsen vegetation plots. The ‘envlegend’ describes the variables in the header data for the source environmental file and part of the soils data (aava_hacisachsen_cvonlanthen_2008_allenv_modsrc.xlsx, and .csv and aava_hacisachsen_cvonlenthen_2008_soils_modsrc.xlsx, and .csv), while the readme describes all of the data.

Modifications to environmental source data:

VARIABLE, IN THE ENVIRONMENTAL MODIFIED SOURCE DATA FILE,IN THE TURBOVEG FILE AS THE SAME NAMED FIELD,DATA SOURCE AND CHANGES MADE TO DATA
PLOT NUMBER,YES,YES,From Vonlanthen et al. (2006; Table 4).
LOCATION,YES,YES,From Vonlanthen et al. (2006; Table 4).

SITE TYPE,YES,NO,From Vonlanthen et al. (2006; Table 4).
CHARACTERISTIC SPECIES,YES,YES,From Vonlanthen et al. (2006; Table 4). Species names were changed to align with the currently accepted Panarctic Species List. Characteristic species are included in the Turboveg 'Remarks' field.
STUDY SITE,YES,NO,From Vonlanthen et al. (2006; Table 4).
DATE OF DATA COLLECTION,YES,YES,From Vonlanthen et al. (2006; Table 4).
OBSERVERS,YES,NO,From Vonlanthen et al. (2006; Table 4). Changed initials to the full names of observers.
PHOTO NUMBERS (SITE /SOIL),YES,NO,From Vonlanthen et al. (2006; Table 4).
PLOT SIZE (MxM),YES,NO,From Vonlanthen et al. (2006; Table 4).
PLOT SIZE (SQUARE METERS),YES,NO,From Vonlanthen et al. (2006; Table 4). Calculated area from plot size measurements and reported as square meter in Turboveg 'Plot size .'
GPS NORTH (DMS),YES,NO,"From Vonlanthen et al. (2006; Table 4). To meet Turboveg standards latitude values in degrees, minutes, seconds (DMS) were converted to decimal degrees (DD). "
GPS WEST (DMS),YES,YES,"From Vonlanthen et al. (2006; Table 4). To meet Turboveg standards latitude values in degrees, minutes, seconds (DMS) were converted to decimal degrees (DD). "
LATITUDE (DD),NO,YES,"Converted degrees, minutes, seconds to decimal degrees to meet Turboveg standards."
LONGITUDE (DD),NO,YES,"Converted degrees, minutes, seconds to decimal degrees to meet Turboveg standards."
ELEVATION (M),YES,YES,From Vonlanthen et al. (2006; Table 4).
ASPECT,YES,YES,"From Vonlanthen et al. (2006; Table 4). For entry into Turboveg, converted verbal expression of aspect to degrees."
ASPECT (DEGREES),YES,YES,"From Vonlanthen et al. (2006; Table 4). For entry into Turboveg, converted verbal expression of aspect to degrees."
SLOPE (DEGREES),YES,YES,From Vonlanthen et al. (2006; Table 4).
TREE COVER (PERCENT),NO,NO,From data sheets. Tree cover was recorded as 0 on the data sheets and is not included in the data report.
LOW SHRUB COVER (PERCENT),NO,NO,From data sheets. Low shrub cover was recorded as 0 on the data sheets and is not included in the data report.
ERECT DWARF SHRUB COVER (PERCENT),YES,YES,From data sheets. Erect dwarf shrub cover was recorded as 0 on the data sheets and is not included in the data report.
PROSTRATE DWARF SHRUB COVER (PERCENT),YES,YES,From data sheets. Prostrate dwarf shrub cover was recorded as 0 on the data sheets and is not included in the data report.
ERECT FORB COVER (PERCENT),YES,NO,From Vonlanthen et al. (2006; Table 5). Forb cover was collected separately for erect and matted forbs and is available in the source data. Turboveg requires total forb cover to be estimated in the field and as these are unavailable the data were recorded as absent (-9).
MAT AND CUSHION FORB COVER (PERCENT),YES,NO,From Vonlanthen et al.

(2006; Table 5). Forb cover was collected separately for erect and matted forbs and is available in the source data. Turboveg requires total forb cover to be estimated in the field and as these are unavailable the data were recorded as absent (-9).
NON-TUSSOCK GRAMINOID COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + and r were converted to 1 to meet turboveg standards of a whole number.
TUSSOCK GRAMINOID COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5).
FOLIOSE LICHEN COVER (PERCENT),YES,NO,"From Vonlanthen et al. (2006; Table 5). Foliose, fruticose and crustose lichen cover are available in the source data recorded as the sum of individual species cover calculated in the office. An estimate of total cover of lichens was not recorded in the field as required for the Turboveg column 'Lichen Cover' and is thus recorded as being absent (-9)."
FRUTICOSE LICHEN COVER (PERCENT),YES,NO,"From Vonlanthen et al. (2006; Table 5). Foliose, fruticose and crustose lichen cover are available in the source data recorded as the sum of individual species cover calculated in the office. An estimate of total cover of lichens was not recorded in the field as required for the Turboveg column 'Lichen Cover' and is thus recorded as being absent (-9)."
CRUSTOSE LICHEN COVER (PERCENT),YES,NO,"From Vonlanthen et al. (2006; Table 5). Foliose, fruticose and crustose lichen cover are available in the source data recorded as the sum of individual species cover calculated in the office. An estimate of total cover of lichens was not recorded in the field as required for the Turboveg column 'Lichen Cover' and is thus recorded as being absent (-9)."
PLEUROCARPOUS BRYOPHYTES COVER (PERCENT),YES,NO,From Vonlanthen et al. (2006; Table 5). Pleurocarpous and acrocarpous moss and liverwort cover are available in the source data recorded as sum of individual species cover calculated in the office. An estimate of total cover of mosses and liverworts was not recorded in the field as required for the Turboveg column 'Mosses and Liverwort Cover' and this column of data is recorded as being absent (-9).
ACROCARPOUS BRYOPHYTES COVER (PERCENT),YES,NO,From Vonlanthen et al. (2006; Table 5). Pleurocarpous and acrocarpous moss and liverwort cover are available in the source data recorded as sum of individual species cover calculated in the office. An estimate of total cover of mosses and liverworts was not recorded in the field as required for the Turboveg column 'Mosses and Liverwort Cover' and this column of data is recorded as being absent (-9).
LIVERWORTS COVER (PERCENT),YES,NO,From Vonlanthen et al. (2006; Table 5). Pleurocarpous and acrocarpous moss and liverwort cover are available in the source data recorded as sum of individual species cover calculated in the office. An estimate of total cover of mosses and liverworts was not recorded in the field as required for the Turboveg column 'Mosses and Liverwort Cover' and this column of data is recorded as being absent (-9).
HORSETAILS COVER (PERCENT),YES,YES,"From Vonlanthen et al. (2006; Table 5). Horsetail cover data were used for the Turboveg field

'Seedless Vascular Plant"" cover."
ALGAE COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
ROCK COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
BARE SOIL COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
WATER COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
WATER DEPTH (CM),YES,NO,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
TOTAL DEAD COVER (PERCENT),YES,YES,From Vonlanthen et al. (2006; Table 5). Values of + were converted to 1 to meet Turboveg standards.
VEGETATION CANOPY MEAN HEIGHT (CM),YES,YES,From Vonlanthen et al. (2006; Table 6).
MOSS HEIGHT (CM) THICKNESS ABOVE AND BELOW GROUND,YES,YES,From Vonlanthen et al. (2006; Table 6).
ORGANIC DEPTH (CM),YES,YES,From Vonlanthen et al. (2006; Table 6).
A HORIZON DEPTH (CM),YES,NO,From Vonlanthen et al. (2006; Table 6).
MICRORELIEF (CM),YES,NO,From Vonlanthen et al. (2006; Table 6).
MEAN THAW DEPTH (CM),YES,NO,From Vonlanthen et al. (2006; Table 6).
LANDFORM (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
SURFICIAL GEOLOGY (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
SURFICIAL GEOLOGY,YES,YES,From Vonlanthen et al. (2006; Table 6). Used for crosswalk to Turboveg field 'Surficial geology.'
PARENT MATERIAL (FROM DATASHEETS),YES,NO,From datasheets. Used for crosswalk to Turboveg field 'Surficial geology.'
SURFICIAL GEOMORPHOLOGY (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
MICROSITE (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
SITE MOISTURE (SCALAR),YES,NO,From Vonlanthen et al. (2006; Table 6).
SITE MOISTURE (CROSSWALKED TO TURBOVEG),YES,YES,From Vonlanthen et al. (2006; Table 6). Site moisture data were cross-walked by D. A. 'Skip' Walker to the 4 categories allowed for Turboveg.
SOIL MOISTURE (SCALAR),YES,NO,From Vonlanthen et al. (2006; Table 6).
GLACIAL GEOLOGY (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
TOPOGRAPHIC POSITION (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
TOPOGRAPHIC POSITION,YES,NO,From Vonlanthen et al. (2006; Table 6). Verbal topographic position data were crosswalked to Turboveg field 'Topographic position.'
SOIL UNIT,YES,NO,From Vonlanthen et al. (2006; Table 6).
ESTIMATED SNOW DURATION (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
DISTURBANCE DEGREE (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
DISTURBANCE TYPE (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
STABILITY (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).
EXPOSURE (CODE),YES,NO,From Vonlanthen et al. (2006; Table 6).

REMARKS,YES,YES,Data from entry of species into Turboveg with crosswalk to Panarctic Species List.
FIELD ASSOCIATION/COMMUNITY,YES,YES,From field datasheets. Species names were changed to align with current accepted Panarctic Species List. Field association/community names are included in the Turboveg 'Remarks' field.
PLANT COMMUNITY NAME,YES,YES,From Vonlanthen et al. (2008; 4 and 5) in Turboveg field 'Plant community.'
SOIL TEXTURE (CALCULATED FROM SOIL SEPARATES WITH USDA, NRCS TEXTURE CALCULATOR),YES,YES,"Calculated from soil separates with the USDA, NRCS texture calculator."