

aava_arcticnetworknps_tjorgenson_2009_readme_metadata.pdf

AAVA readme file for Arctic Network National Park Service (NPS)
Dataset (October 31, 2016)

Dataset Title: Alaska Arctic Vegetation Archive: Arctic Network NPS
Vegetation Plots

Dataset Author: M. Torre Jorgenson

Alaska Arctic Vegetation Archive Dataset Name:
arcticnetworknps_tjorgenson (AN_TJ)

Dataset Description:

Vegetation sampling for an ecological land survey classification and landcover map was completed for the over 19.5 million acres encompassed by the Bering Land Bridge National Preserve, Cape Krusenstern National Monument, Gates of the Arctic National Park and Preserve, Kobuk Valley National Park and Noatak National Preserve. The study was accomplished over an eight-year period (2002–2009) by ABR Inc. Environmental and Research and Services. The objective of the project was to provide maps and data for resource managers to allow them to evaluate land resources and develop management strategies that are appropriate to the landscape. Funding for the project was provided by the U.S. Department of Interior, National Park Service.

Over 1000 plots were sampled, but only 936 plots were sufficiently complete to be included here, and only 763 are included in data summarized in Jorgenson et al. (2009) although more plots were used in their analysis. Plots were subjectively located in vegetation chosen for uniformity in floristic composition and environmental conditions and were positioned along toposequences within major physiographic units (riverine, lacustrine, lowland, upland, subalpine and alpine). Plots were distributed across the five parks as follows: Bering Land Bridge National Preserve (129 plots), Cape Krusenstern National Monument (79 plots), Gates of the Arctic National Park and Preserve (170 plots), Kobuk Valley National Park (200 plots) and Noatak National Preserve (358 plots).

Plant communities sampled occur in thirteen broad habitat types including: 1) Dry coastal beach and sand dune vegetation (16 plots), 2) Rooted floating or submerged macrophyte vegetation of meso-eutrophic water (44 plots), 3) Shrub and poplar stands of riparian and warm south-facing habitats (195 plots), 4) Sedge grass and dwarf shrub mire and fen vegetation (109 plots), 5) Bog vegetation, acidic mires, including tussock tundra (98 plots), 6) Deep snowbed vegetation (5 plots), 7) Dry to moist dwarf-shrub heath and low-shrub vegetation on acidic nutrient poor substrates (90 plots), 8) Dry and mesic dwarf-shrub and graminoid vegetation on non-acidic substrate (179 plots), 9)

Boreal and low Arctic steppe inland vegetation on dry, warm substrate (13 plots), 10) Tall forb and shrub vegetation on mesic-moist soil (42 plots), 11) Saxicolous lichen communities on silicate rocks (3 plots), 12) Terricolous lichen communities on acidic soils (6 plots), and 13) Boreo-continental coniferous forest (134 plots). Two communities lacked habitat type designations.

With a few exceptions, plots had an approximately 10 meter radius (314 square meters) and were not permanently marked, but Global Positioning System (GPS) location data are available. Along with data on percent cover of plant species by plot, environmental variables were recorded such geology, hydrology, physiography, geomorphic unit, slope, aspect, micro relief, soil pH, plant community names, and vegetation structure. In addition, soil chemistry and texture data are available for 39 select plots.

A summary of the Arctic Network NPS project is provided in Jorgenson et al. (2009).

References:

Jorgenson, M. T., J. E. Roth, P. F. Miller, M. J. Macander, M. S. Duffy, A. F. Wells, G. V. Frost, E. R. Pullman. An Ecological Land Survey and Landcover Map of the Arctic Network. Natural Resource Technical Report NPS/ARC/NRTR- 2009/270. National Park Service, Fort Collins, Colorado.

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Other contacts: Amy Breen, albreen@alaska.edu, 907-474-6927

Primary Agency: Alaska Geobotany Center, University of Alaska Fairbanks

Direct Plot Archive Record Link: <http://geobotanical.portal.gina.alaska.edu/catalogs/10184-alaska-arctic-vegetation-archive-arctic-network>

Data prepared by: Lisa Druckenmiller (ladruckenmiller@alaska.edu) and Amy Breen (albreen@alaska.edu)

Link to VegBank Record: not entered yet

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

Files Available for Download:

1) AAVA Arctic Network NPS Modified Source Data

1a) Arctic Network NPS Species Cover

aava_arcticnetworknps_tjorgenson_2009_spp_modsrc.csv

aava_arcticnetworknps_tjorgenson_2009_spp_modsrc.xlsx

These files contain species cover data for the Arctic Network NPS vegetation plots in both (.csv) and (.xlsx) format. M. Torre Jorgenson provided the source data, which are summarized in (Jorgenson 2009). Both the author's 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. Species cover classes are by percent. In 28 instances, taxa were lumped into a single taxon in the PASL: 1) *Carex aurea* (*Carex aurea* and *C. garberi bifaria*), 2) *Carex petricosa* v. *petricosa* (*Carex petricosa* and *C. franklinii*), 3) *Carex rostrata* (*Carex rostrata* and *C. utriculata*), 4) *Cetraria islandica* (*Cetraria* cf. *islandica*, *C. islandica crispiformis* and *C. islandica islandica*), 5) *Cladonia gracilis* s. lat. (*Cladonia gracilis*, *C. gracilis elongata* and *C. gracilis vulnerata*), 6) *Cladonia stellaris* (*Cladonia stellaris* and *C. aberrans*), 7) *Dicranum spadiceum* (*Dicranum angustum*, *D. laevidens* and *D. spadiceum*), 8) *Elymus trachycaulus* s. *trachycaulus* (*Agropyron pauciflorum* and *A. pauciflorum pauciflorum*), 9) *Limprichtia revolvens* (*Limprichtia revolvens* and *Drepanocladus revolvens*), 10) *Luzula kjellmaniana* (*Luzula kjellmaniana* and *L. tundricola*), 11) *Myriophyllum sibiricum* (*Myriophyllum spicatum* and *M. spicatum exalbescens*), 12) *Oxytropis varians* (*Oxytropis campestris* and *O. campestris varians*), 13) *Packera ogotorukensis* (*Senecio ogotorukensis* and *S. conterminus*), 14) *Papaver lapponicum* (*Papaver lapponicum* and *P. radicum*), 15) *Potentilla rubricaulis* (*Potentilla rubricaulis* and *P. hookeriana*), 16) *Pedicularis albolobiata* (*Pedicularis sudetica* and *P. sudetica albolobiata*), 17) *Philonotis fontana* (*Philonotis phontana* and *P. tomentella*), 18) *Poa arctica* s. *lanata* (*Poa arctica* and *P. lanata*), 19) *Potentilla rubricaulis* (*Potentilla rubricaulis* and *P. hookeriana*), 20) *Ranunculus hypreboreus* (*Ranunculus hyperboreus* and *R. lapponicus*), 21) *Ranunculus trichophyllus* (*Ranunculus trichophyllus* and *R. trichophyllus* var. *hispidulus*), 22) *Rubus idaeus* (*Rubus idaeus* and *R. arcticus stellatus*), 23) *Sagina nivalis* (*Sagina nivalis* and *S. intermedia*), 24) *Smelowskia porsildii* (*Smelowskia calycina* and *S. calycina integrifolia* and *S. calycina* var. *porsildii*), 25) *Solidago multiradiata* (*Solidago multiradiata* and *S. multiradiata* var. *multiradiata*), 26) *Sphagnum imbricatum* (*Sphagnum imbricatum* and *S. steerei*), 17) *Syntrichia norvegica* (*Syntrichia norvegica* and *Tortula norvegica*), 26) *Syntrichia ruralis* (*Syntrichia ruralis* and *Tortula ruralis*), 27) *Vulpicida pinastri* (*Vulpicida pinastri* and *Cetraria pinastri*), and 28) *Vulpicida tilesii* (*Vulpicida tilesii* and *Cetraria tilesii*).

The field 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 follow the pattern: Location (BELA -

Bering Land Bridge National Preserve, CAKER –Cape Krusenstern National Monument, GAAR –Gates of the Arctic National Park and Preserve, KOVA – Kobuk Valley National Park, and NOAT – Noatak National Preserve); transect number (toposequence); plot number, and year of data collection, and are retained in the 'Field releve number' field in the Turboveg database. See pages 4–6 in Jorgenson et al. (2009) for data collection methods.

1b) Arctic Network NPS Environmental Data

aava_arcticnetworknps_tjorgenson_2009_allenv_modsrc.csv

aava_arcticnetworknps_tjorgenson_2009_allenv_modsrc.xlsx

These files contain the modified environmental data for the Arctic Network NPS vegetation plots in both (.csv) and (.xlsx) format. M. Torre Jorgenson provided the source data, which are summarized in Jorgenson et al. (2009). For changes to these data during entry into Turboveg, see 4a) below. The header data in the Turboveg database only includes a subset of these data. The codes used in this file are in the Legend for Environmental Variables file in the project metadata folder (aava_arcticnetworknps_tjorgenson_2009_envlegend_metadata.pdf). See pages 4–6 in Jorgenson et al. (2009) for data collection methods.

Improvements or descriptions of the source data: 1) Observer names were spelled out except where they were not reported, 2) Geographic landmark place names were corrected where necessary using the latitudes and longitudes of plots in conjunction with Google Earth and topographic maps., 3) When slope was zero, and aspect was recorded as '9999' it was an indication that the plot was 'Too flat to determine' per conversations with M. T. Jorgenson and these words were substituted., 4) For consistency in fields where numeric values were required L. Druckenmiller substituted -9999 for entries of n/d, 99, 999, 999.9 or -9999.9 or empty cells to indicate 'no data', and 5) The header 'Plot ecotypes' include physiographic, moisture, soil texture and vegetation structure descriptors (see aava_arcticnetworknps_tjorgenson_2009_envlegend_metadata.pdf). Codes after the first hyphen identify dominant species. The symbol '_' indicates missing data.

2) AAVA Arctic Network NPS Turboveg Database

aava_arcticnetworknps_tjorgenson_2009_tv.zip

This file is the Arctic Network NPS 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 (PASL) created for the Arctic Vegetation Archive. The current Turboveg Data Dictionary and Panarctic Species List files are necessary to use these data in Turboveg. These files are updated periodically and available for download via 'Data and Resources' section of the data record. Cells assigned -9999 or n/d were converted to -9 to conform to Turboveg standards.

Species Data: For the cross-walk from the modified source species data to the Turboveg database, we made the following changes: 1) The species determinations are by the author. These may differ from the species names in the Turboveg database as the nomenclature in the database follows the PASL created for the Arctic Vegetation Archive. As described in detail above in 1a): In 28 instances, taxa were lumped into a single taxon in the PASL.

Environmental Data: For the cross-walk from the modified environmental source data to the Turboveg database, we made the following changes: 1) Aspect in degrees was rounded up or down to the nearest cardinal, primary intercardinal and secondary intercardinal direction and plots that were too flat to determine were recorded as '-1' following the Turboveg protocol., 2) For the Turboveg 'Community Name' we used the Final Floristic Class where available. However, for 52 cases, where the authors 'Final Floristic Class' was missing and plots were classed as 'outlier", 'no class', or 'no data', either the authors 'Field Floristic Class' was used (10 cases), or a short list of the species with dominant cover from the plot are included (42 cases), 3) Geographic landmark was used for the Turboveg field 'location.', 4) A 'boreal' subzone was added to the header data to accommodate some plots, 5) Habitat types were assigned after the fact by D. A. 'Skip' Walker in 2015, 6) Plot floristic qualities were assigned by M. Torre Jorgenson, 7) Ecotype names are included in the Turboveg field 'Remarks' as well as species names changes that were made during entry into Turboveg.

3) AAVA Arctic Network NPS Ancillary Data

3a) Arctic Network NPS Plot Location Map

aava_arcticnetworknps_tjorgenson_2009_plotmap_anc.jpg

This file presents the location of plots within the 5 parks and preserves. Single dots on the map represent multiple vegetation plots along transects. The transect number adjacent to the dot can be linked to the field plot number. The field plot numbers follow the pattern: Location (BELA -Bering Land Bridge National Preserve, CAKER -Cape Krusenstern National Monument, GAAR -Gates of the Arctic National Park and Preserve, KOVA -Kobuk Valley National Park, and NOAT -Noatak National Preserve); transect number; plot number, and year of data collection

3b) Arctic Network NPS Publication

jorgensont_2009_npsrept_2009-270_ecosurveylandaparctnet.pdf

This is a (.pdf) file of the reference cited in the dataset description for the Arctic Network NPS vegetation plots.

3c) Arctic Network NPS Soils Data

aava_arcticnetworknps_tjorgenson_2009_soilchem_anc.csv
aava_arcticnetworknps_tjorgenson_2009_soilchem_anc.xlsx

Soil texture and pH are included in the environmental data by plot. These are additional soils data for a select 39 plots. To assess differences in bedrock chemistry, samples were sent to the Soil, Plant and Water Testing Laboratory at Colorado State University, Boulder, Colorado. For further information on data collection methods used for the soils data, refer to pages 4-6 in Jorgenson et al. (2009).

4) AAVA Arctic Network NPS Metadata

aava_arcticnetworknps_tjorgenson_2009_readme_metadata.pdf
aava_arcticnetworknps_tjorgenson_2009_readme_metadata.txt
aava_arcticnetworknps_tjorgenson_2009_envlegend_metadata.pdf

These files are the metadata for the Arctic Network NPS vegetation plots and include a readme file in (.txt) and (.pdf) format, and an environmental legend 'envlegend' in (.pdf) format for the modified environmental data that are specific to this dataset. For further information on collection methods used for this dataset refer to pages 4-6 in Jorgenson et al. (2009).

Modifications to environmental source data:

The table below in comma separated values (.csv) format indicates the modifications made to source data in the preparation of the AAVA Arctic Network NPS Modified Source Environmental Data files (aava_arcticnetworknps_tjorgenson_2009_allenv_modsrc.csv and aava_arcticnetworknps_tjorgenson_2009_allenv_modsrc.xlsx) and fields that were used to crosswalk these data to the Turboveg database (aava_arcticnetworknps_tjorgenson_2009_tv.zip).

VARIABLE, IN ENVIRONMENTAL MODIFIED SOURCE DATA FILE, IN TURBOVEG FILE AS THE SAME NAMED FIELD, DATA SOURCE AND CHANGES MADE TO DATA
TURBOVEG RELEVANCE NUMBER, Y, Y, Turboveg assigned numbers.
FIELD PLOT NUMBER, Y, Y, Jorgenson personal communication (2015). Field plot numbers are retained in Turboveg under 'field plot number.'
DATA ORIGIN, Y, N, "Jorgenson personal communication (2015). All data are from ABR, Inc. Fairbanks, AK via M. T. Jorgenson."
LOCATION, Y, Y, Jorgenson personal communication (2015). Included in Turboveg field 'Region.'
TRANSECT NUMBER, Y, N, Jorgenson personal communication (2015).
DATE, Y, Y, Jorgenson personal communication (2015).
YEAR, Y, N, Jorgenson personal communication (2015).
OBSERVER FOR ENVIRONMENTAL DATA (NOTE: INITIALS ARE

UNKNOWN),Y,N,"Jorgenson personal communication (2015). For source data,, names of observers are listed. TH and NDK initials were not identified."

OBSERVER FOR VEGETATION DATA (NOTE: INITIALS ARE UNKNOWN),Y,N,"Jorgenson personal communication (2015). For source data,, names of observers are listed. TH and NDK initials were not identified."

GEOGRAPHIC LANDMARK,Y,Y,Jorgenson personal communication (2015). L. Druckenmiller corrected names as necessary using latitudes and longitudes of plots in conjunction with Google Earth and topographic maps. Geographic Landmark name is included in Turboveg field 'Location.'

LATITUDE (DD NAD83),Y,Y,Jorgenson personal communication (2015).
LONGITUDE (DD NAD83),Y,Y,Jorgenson personal communication (2015).
ELEVATION (M),Y,Y,Jorgenson personal communication (2015).
PLOT RADIUS (M),Y,Y,Jorgenson personal communication (2015).
PLOT SIZE (SQUARE METERS),Y,Y,Jorgenson personal communication (2015).
SITE PHYSIOGRAPHY,Y,N,Jorgenson personal communication (2015).
SLOPE (DEGREES),Y,Y,"Jorgenson personal communication (2015). Lisa Druckenmiller changed n/d to -9999 to indicate 'no data' in the modsrc file. For Turboveg, values of -9999 (no data) were converted to -9. "
ASPECT (DEGREES OR TOO FLAT TO DETERMINE),Y,Y,"Jorgenson personal communication (2015). Lisa Druckenmiller converted 999 to verbal description (too flat to determine) and blanks with a slope to -9999. For entry into Turboveg, we used code -1 to indicate too flat to determine and aspect measurements were rounded up or down to the nearest cardinal, primary intercardinal, and secondary intercardinal direction to crosswalk to Turboveg field 'Aspect.' For Turboveg, values of -9999 (no data) were converted to -9."

SURFACE GEOMORPHOLOGY UNIT (CODED),Y,N,Jorgenson personal communication (2015). See 'environmental legend' for codes.
SUBSURFACE GEOMORPHOLOGY UNIT (CODED),Y,N,Jorgenson personal communication (2015). See 'environmental legend' for codes.
MACROTOPOGRAPHY,Y,N,Jorgenson personal communication (2015).
MICROTOPOGRAPHY,Y,N,Jorgenson personal communication (2015).
MICRORELIEF (CM),Y,N,"Jorgenson personal communication (2015). For the source data 999.9 was converted to -9999. For Turboveg, values of -9999 (no data) were converted to -9."

"NATIONAL WETLANDS INVENTORY WATER REGIME (USFWS, National Wetlands Inventory)",Y,N,"Jorgenson personal communication (2015). See USFWS, National Wetlands Inventory."

"WATER DEPTH (CM) (NEGATIVE NUMBERS (DEPTHS BEFORE REACHING WATER), POSITIVE NUMBERS (DEPTH OF SURFACE WATER PRESENT), -9999 indicates no water reached.",Y,N,"Jorgenson personal communication (2015). Lisa Druckenmiller converted n/d to -9999 to indicate 'no data. For Turboveg, values of -9999 (no data) were converted to -9."

SATURATED LESS THAN 30 CM (YES/NO/UNKNOWN/No Data (n/d)),Y,N,Jorgenson personal communication (2015).
DRAINAGE (DESCRIPTIVE),Y,N,Jorgenson personal communication (2015).
SOIL MOISTURE (DESCRIPTIVE),Y,N,Jorgenson personal communication

(2015). D. A. 'Skip' Walker used soil moisture in conjunction with plant communities to infer site moisture.

LOWEST MOTTLE DEPTH (CM),Y,N,Jorgenson personal communication (2015).

LOW MATRIX DEPTH (CM),Y,N,Jorgenson personal communication (2015).

HYDRIC SOIL (YES/NO/UNKNOWN),Y,N,Jorgenson personal communication (2015). D. A. 'Skip' Walker used hydric soil in conjunction with plant communities and soil moisture to infer site moisture.

WATER PH,Y,N,"Jorgenson personal communication (2015). For the source data, No data and 999 were changed to '-9999.'"

WATER CONDUCTIVITY (MICRO SIEMENS),Y,N,"Jorgenson personal communication (2015). What do -9999, -9999, and -99999 mean? For the blanks I put in -9999. Are these units correct?"

SOIL PH (PASTE) AT 10 CM OR FIRST MINERAL HORIZON,Y,Y,Jorgenson personal communication (2015). Blanks were changed to -9999 and for Turboveg these were changed to '-9.'

SOIL PH (PASTE) AT 30 CM,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted 999 to -9999 to indicate 'no data.'

SOIL CONDUCTIVITY (MICRO SIEMENS/CM),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and 999.9 and blanks to -9999 to indicate 'no data.'

"SITE PH (BY PRIORITY IN THIS ORDER: EITHER WATER PH, SOIL PH AT 10 CM, OR SOIL PH AT 30 CM DEPENDING ON AVAILABILITY.)",Y,N,"Jorgenson personal communication (2015). For the source data, 999 and 999.9 and blanks were converted to '-9999.' Site_ph is a single measure of pH for a site. It is either (in priority from highest to lowest) equal to the water_ph, soil_ph_10, or soil_ph_30 depending on which data we have available for pH."

SITE CONDUCTIVITY (MICRO SIEMENS/CM) BY PRIORITY IN THIS ORDER: WATER CONDUCTIVITY OR SOIL CONDUCTIVITY,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed -9999.9 and blanks to -9999.

SITE CHEMISTRY (CODE),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted blank cells to -9999 to indicate 'no data.' See 'environmental legend' for codes.

THAW DEPTH (CM) (-9999 MEANS NO THAW DEPTH REACHED),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted blank cells to -9999 to indicate 'no data.'

PERMAFROST (YES/NO/UNKNOWN),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted blank cells to n/d to indicate 'no data.'

DEPTH OF TOP ORGANIC LAYER (CM),Y,Y,Jorgenson personal communication (2015). Lisa Druckenmiller converted blank cells to n/d to indicate 'no data.'

CUMULATIVE ORGANIC LAYERS (CM) TOTAL ORGANIC IN 40 CM,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted blank cells and 999 to -99999 to indicate 'no data.'

DOMINANT MINERAL TEXTURE IN TOP 40 CM,Y,Y,Jorgenson personal communication (2015). Lisa Druckenmiller changed ND to n/d to indicate 'no data.'

LOESS THICKNESS (CM) EOLIAN SILT THICKNESS,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and 999.9 and

blanks to -9999 to indicate 'no data.'

ROOT DEPTH (CM),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and 999.9 and blanks to -9999 to indicate 'no data.'

SURFACE FRAGMENT COVER (PERCENT),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and 999.9 mean and blanks to -9999 to indicate 'no data.'

FROST BOILS (PERCENT),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and 999.9 and blanks to -9999 to indicate 'no data.'

ROCK DEPTHS (CM) DEPTH TO COARSE FRAGMENTS GREATER THAN 15 PERCENT,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed 999 and blanks to -9999 to indicate 'no data.'

CRYOTURBATION (YES/NO/UNKNOWN),Y,N,Jorgenson personal communication (2015).

SOIL STRATIGRAPHY (YES/NO/UNKNOWN),Y,N,Jorgenson personal communication (2015).

SOIL SAMPLE (YES/NO),Y,N,Jorgenson personal communication (2015).

MAX DEPTH PLUG/PROBE (CM),Y,N,"Jorgenson personal communication (2015). Lisa Druckenmiller changed 999, 999.9 and n/d to -9999 to indicate 'no data.'"

SOIL SAMPLING METHOD,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller converted ND and blank cells to n/d to indicate 'no data.'

SOIL CLASS (NRCS),Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed ND to n/d to indicate 'no data.'

SOIL ASSOCIATION,Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed blanks to n/d to indicate 'no data.'

VEGETATION CLASSIFICATION Level IV (VIERECK ET AL. 1992),Y,N,Jorgenson personal communication (2015).

ECOTYPE VEGETATION STRUCTURE (CODED),Y,N,Jorgenson personal communication (2015). See 'environmental legend' for code definitions.

DISTURBANCE CLASSES (CODED),Y,N,Jorgenson personal communication (2015). See 'environmental legend' for code definitions.

FIELD FLORISTIC CLASS,Y,N,Jorgenson personal communication (2015).

FINAL FLORISTIC CLASS,Y,N,"Jorgenson personal communication (2015). For 52 cases, where the authors 'Final Floristic Class' was missing data, listed classes as 'outlier", 'no class', or 'no data', either the authors 'Field Floristic Class' was used (10 cases) or a short list of species with dominant cover from the plot are included (42 cases). See 'environmental legend' for code definitions."

PLOT ECOTYPE (CODED) SEE README AND ENVIRONMENTAL LEGEND,Y,N,Jorgenson personal communication (2015). See 'environmental legend' for code definitions.

DOMINANT PLANTS,Y,N,Jorgenson personal communication (2015).

FIELD NOTES,Y,N,Jorgenson personal communication (2015).

OFFICE NOTES,Y,N,Jorgenson personal communication (2015).

ECOTYPE ANALYSIS (Y/N),Y,N,Jorgenson personal communication (2015).

"ENVIRONMENTAL OUTLIERS (YES, NO, OR OUTLIER TYPE)",Y,N,Jorgenson personal communication (2015). See report Jorgenson et al. 2009.

VEGETATION OUTLIER (Y/N),Y,N,Jorgenson personal communication (2015).
GEOMORPHOLOGY DATA REVIEW (Y/N),Y,N,Jorgenson personal communication (2015).
ECOTYPE RARE (YES/NO),Y,N,Jorgenson personal communication (2015).
VEGETATION SAMPLING QUALITY (SCALAR) LOW QUALITY (1) to HIGH QUALITY (4),Y,N,Jorgenson personal communication (2015).
ECOTYPE ABBREVIATION,Y,N,Jorgenson personal communication (2015).
MAP ECOTYPE (ARCTIC NETWORK NPS),Y,N,Jorgenson personal communication (2015).
MAP ECOTYPE ABBREVIATION (ARCTIC NETWORK NPS),Y,N,Jorgenson personal communication (2015).
MAP VEGETATION (ARCTIC NETWORK NPS),Y,N,Jorgenson personal communication (2015).
SOIL LANDSCAPE DESCRIPTION,Y,N,Jorgenson personal communication (2015).
NEEDLELEAF TREE COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
"NEEDLELEAF TREE CROWN CLASS (0-OVERTOPPING, D-DOMINANT, C-CODOMINANT, I-INTERMEDIATE, U-UNDERSTORY)",Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed periods -9999 to indicate 'no data.'
BROADLEAF TREE COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
"BROADLEAF TREE CROWN CLASS (0-OVERTOPPING, D-DOMINANT, C-CODOMINANT, I-INTERMEDIATE, U-UNDERSTORY)",Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed periods -9999 to indicate 'no data.'
DWARF BROADLEAF COVER (PERCENT),Y,N,Jorgenson personal communication (2015).
"DWARF BROADLEAF CROWN CLASS (0-OVERTOPPING, D-DOMINANT, C-CODOMINANT, I-INTERMEDIATE, U-UNDERSTORY)",Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed periods -9999 to indicate 'no data.'
DWARF NEEDLELEAF COVER (PERCENT),Y,N,Jorgenson personal communication (2015).
"DWARF NEEDLELEAF CROWN CLASS (0-OVERTOPPING, D-DOMINANT, C-CODOMINANT, I-INTERMEDIATE, U-UNDERSTORY)",Y,N,Jorgenson personal communication (2015). Lisa Druckenmiller changed periods -9999 to indicate 'no data.'
STAND DEAD TREE COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
TALL SHRUB COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
LOW SHRUB COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
DWARF SHRUB COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
GRAMINOIDS COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
TUSSOCK COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
FORBS COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).

MOSSES COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
LICHENS COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
LITTER COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
LITTER ALONE COVER-AREA LACKING OVERTOPPING VEGETATION
(PERCENT),Y,N,Jorgenson personal communication (2015).
BARE SOIL COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
WATER COVER (PERCENT),Y,Y,Jorgenson personal communication (2015).
NOTES (VEGETATION),Y,N,Jorgenson personal communication (2015).