aava_oumalik_jebersole_1985_readme_metadata.pdf


AAVA readme file for Oumalik Vegetation Plots (December 9, 2016)

Dataset Title: Alaska Arctic Vegetation Archive: Oumalik Vegetation Plots

Dataset Author: James J. Ebersole

Alaska Arctic Vegetation Archive Dataset Name: oumalik_jebersole (OUM_JJE)

Dataset Description:

The vegetation in the vicinity of Oumalik Oil Well Number 1 was described and mapped by J. Ebersole for his doctoral thesis at the University of Colorado, Department of Environmental, Population and Organismic Biology (Ebersole 1985). Funding for the research came primarily from the Cold Climate Research Laboratory based on support from the U. S. Geological Survey program in the National Petroleum Reserve—Alaska, and the U. S. Department of Energy. Additional funding came from a National Science Foundation (NSF) Doctoral Dissertation Improvement Grant, a University of Colorado (CU) Graduate Student Foundation Fund Award, a NSF Graduate Fellowship, a Danforth Foundation Graduate Fellowship, and a CU Tuition Fellowship. The study was initiated in 1979 with additional fieldwork completed in 1980 and 1981.

A total of one hundred thirty plots were subjectively located for uniformity in floristic composition and environmental conditions. Forty—three plots included only vascular plant data and are not included in this dataset. Of the eighty—seven remaining plots, fifty—four were located in natural habitats and thirty—three in anthropogenically disturbed habitats. The fifty—four natural plots occurred in fourteen habitat types including: a) zoogenic communities (2 plots), b) naturally eroding lake or river bluffs dominated by graminoids and forbs (4 plots), c) naturally eroding lake or river bluffs dominated by shrubs (2 plots), d) willow shrub vegetation of riparian areas and warm habitats (1 plot), e) bog vegetation, acidic mires, including tussock tundra (22 plots), f) moist to wet acidic tussock and nontussock tundra (3 plots), g) moist to wet acidic low—shrub heaths (1 plot), h) moderately drained deep snowbeds (1 plot), i) moist and dry acidic dwarf—shrub heaths (8 plots), j) dry and mesic dwarf—shrub and graminoid vegetation on non—acidic substrate (1 plot), k) dry nonacidic tundra (1 plot), l) shallow nonacidic snowbeds (2 plots), m) moist nonacidic tundra (3 plots), and n) frost boil vegetation in nonacidic tundra (3 plots).

Plots were permanently marked with a stake and on an aerial

photograph, and the size of each sample area was estimated after a complete species list and cover were obtained. Environmental data (including soil physical variables, subjective site assessments, and active layer depths) were collected in the field and soil samples were brought back to the lab for chemical assessments. DCA ordinations were used to analyze vegetation-environment relationships.

These data were subsequently used in several publications listed below.

References:

Ebersole, J. J. 1985. Vegetation Disturbance and Recovery at the Oumalik Oil Well, Arctic Coastal Plain, Alaska. PhD thesis, University of Colorado, Boulder, Colorado, USA.

Ebersole, J. J. 1987. Short-term recovery at an Alaskan Arctic Coastal Plain site. Arctic and Alpine Research 19:442-450.

Ebersole, J. J. 1989. Role of the seed bank in providing colonizers on a tundra disturbance in Alaska. Canadian Journal of Botany 67:466-471.

Forbes, B. C., J. J. Ebersole, and B. Strandberg. 2001. Anthropogenic disturbance and patch dynamics in circumpolar arctic ecosystems. Conservation Biology 15:954-969.

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Primary Agency: Alaska Geobotany Center, University of Alaska Fairbanks

Direct Plot Archive Record Link: http://geobotanical.portal.gina.alaska.edu/manager/catalogs/9689-alaska-arctic-vegetation-archive-oumalik-veget

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

Link to VegBank Record: Will add when available

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

Files Available for Download:

1) AAVA Oumalik Modified Source Data

1a) Oumalik Species Cover
aava_oumalik_jebersole_1985_spp_modsrc.csv
aava_oumalik_jebersole_1985_spp_modsrc.xlsx

These files contain species cover data for the Oumalik vegetation plots in both .csv and .xlsx format. The source of these data is the author's thesis (Ebersole, 1985; Tables B1 and B3). 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 the Ordinal cover–abundance scale 1–9 (modified from Westhoff and Maarel 1978): 1 (less than 1 percent cover), 2 (1 percent), 3 (2–3 percent), 4 (4–5 percent), 5 (6–12 percent), 6 (13–24 percent), 7 (25–49 percent), 8 (50–74 percent), 9 (75–100 percent). In three instances, taxa were lumped into a single taxon in the PASL: 1) Dicranum spadiceum (Dicranum angustum and Dicranum spadiceum), 2) Campylium hispidulum  (Campylium hispidulum and Campylium sommerfeltii), and 3) Peltigera canina (Peltigera canina and Peltigera canina f. sorediata). 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) Oumalik Environmental Data
aava_oumalik_jebersole_1985_allenv_modsrc.csv
aava_oumalik_jebersole_1985_allenv_modsrc.xlsx

These files contain modified environmental data for the Oumalik vegetation plots in both .csv and .xlsx format.  The source of these data is the author's thesis (Ebersole, 1985; Table C1). For the source of the fields within the file, see below. The header data in the Turboveg database only includes a subset of these data. 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. The codes used in this file are in the Legend for Environmental Variables file in the project metadata folder (aava_oumalik_jebersole_1985_envlegend_metadata.pdf).

Improvements to the source data include: 1) latitude and longitude were obtained by the author in 2014 using aerial photographs and Google Earth, and include accuracy estimates in meters for each plot location, 2) the author provided additional data from field notes including plot shape, sample area, date of sampling, physiographic province, habitat type, subzone, vascular plant and cryptogam taxonomic quality, soils data, surface geology, position, cover by growth form, and comments for the remarks section, and 3) in 2014 L. Druckenmiller used sand/silt/clay data and the Natural Resources Conservation Service Texture online converter to obtain soil textures.

2) AAVA Oumalik Turboveg Database
aava_oumalik_ebersole_1985_tv.zip

This file is the Oumalik 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 (beta 1.0) 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.

For the cross-walk from the source data to the database, we made the
following changes: 1) pH was rounded from two places after the decimal
to one place after the decimal to crosswalk to Turboveg, 2) soil
texture classes were crosswalked to Turboveg standards, 3) values of
less than 1 for cover of tall shrub, erect and prostrate dwarf shrub,
graminoid, forb, lichen, soil and mean moss layer height were changed
to "1" as integers are required to crosswalk to Turboveg.

3) AAVA Oumalik Ancillary Data

3a) Oumalik Plot Location Map
aava_oumalik_jebersole_1985_plotmap_anc.pdf

This file is a plot map of the Oumalik vegetation plots.

3b) Oumalik Soils Data
aava_oumalik_jebersole_1985_soildata_anc.csv
aava_oumalik_jebersole_1985_soildata_anc.xlsx


These are physical and chemical soil data for the Oumalik permanent
vegetation plots (Ebersole, 1985; Appendix: Table C1). All soil
samples came from a 10 cm depth. Soil nomenclature and terminology are
according to Soil Survey Staff (1974).

3c) Oumalik Publications
ebersolej_1987_arctantarctalpres_recoveryarcticplndisturb.pdf
ebersolej_1989_canjbotany_seedbankcolinizdisturbtundra.pdf
forbesb_2001_conservbiol_anthropodisturb_circumpolarctic.pdf

These are pdf files of the references cited in the dataset description
for the Oumalik permanent vegetation plots. Journal names are

abbreviated using the standards for the abbreviation of titles of periodicals and serial titles. The primary reference is not included: Ebersole, J. J. 1985. Vegetation Disturbance and Recovery at the Oumalik Oil Well, Arctic Coastal Plain, Alaska. PhD thesis, University of Colorado, Boulder, Colorado, USA.

3e) Oumalik Photos
aavaoumalik_jebersole_1985_plotphotos_anc.pdf

This .pdf file contains photographs for some of the plots in the Oumalik vegetation study.

4) AAVA Oumalik Metadata
aava_oumalik_jebersole_1985_readme_metadata.txt
aava_oumalik_jebersole_1985_envlegend_metadata.pdf
aava_oumalik_jebersole_1985_spplegend_metadata.pdf

These files are metadata for the Oumalik permanent vegetation plots. These include metadata legends for the modified environmental, soils, and species data specific to this dataset and a readme file.

Modifications to environmental source data:

The table below in comma separated values format indicates the modifications made to source data in the preparation of the AAVA Oumalik Modified Source Environmental Data files (aava_oumalik_jebersole_1985_allenv_modsrc.csv and aava_oumalik_jebersole_1985_allenv_modsrc.xlsx) and fields that were used to crosswalk these data to the Turboveg database (aava_oumalik_ebersole_1985_tv.zip).

VARIABLE,IN ENVIRONMENTAL MODIFIED SOURCE DATA FILE,IN TURBOVEG FILE FIELD WITH THE SAME NAME,Data source and changes made to data
PLOT NUMBER,Y,Y,Appendix: Table C1 (Ebersole 1985). The plot numbers in the modified 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.
COMMUNITY (CODE),Y,N,Appendix: Table C1 (Ebersole 1985). Crosswalked to Turboveg field 'Community type.'
DISTURBANCE TYPE (CODE),Y,N,Appendix: Table C1 (Ebersole 1985).
DISTURBANCE INTENSITY (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
DISTURBANCE SCORE (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985). Turboveg field 'Disturbance.'
THAW DEPTH (CM),Y,N,Appendix: Table C1 (Ebersole 1985).
ASPECT (DEGREES),Y,Y,Appendix: Table C1 (Ebersole 1985).
SLOPE (DEGREES),Y,Y,Appendix: Table C1 (Ebersole 1985).
WATER DEPTH (CM),Y,N,Appendix: Table C1 (Ebersole 1985).
SITE MOISTURE (ORDINAL SCALE),Y,Y,Appendix: Table C1 (Ebersole 1985).

Crosswalked to Turboveg field 'Site moisture.'
SOIL MOISTURE (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
SUMMER AIR TEMPERATURE (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
DURATION OF SNOW (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985). Aided in crosswalk to Turboveg field 'Habitat type.'
WIND REGIME (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
AGE OF SURFACE (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
SURFACE STABILITY (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985). Aided in crosswalk to Turboveg field 'Surficial geology.'
CRYOTURBATION (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
COVER OF BARE SOIL (PERCENT),Y,Y,Appendix: Table C1 (Ebersole 1985). Aided in crosswalk to Turboveg field 'Cover bare soil.'
COVER OF WATER (PERCENT),Y,Y,Appendix: Table C1 (Ebersole 1985). Aided in crosswalk to Turboveg field 'Cover water.'
CARIBOU SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
MICROTINE SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
GROUND SQUIRREL SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
PTARMIGAN SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
BIRDS SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
INSECTS SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
OTHER ANIMAL SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
TOTAL ANIMAL SIGN (ORDINAL SCALE),Y,N,Appendix: Table C1 (Ebersole 1985).
MICRORELIEF TYPE (CODE),Y,N,Appendix: Table C1 (Ebersole 1985). Aided with crosswalk to Turboveg 'Position and Habitat type.'
MICRORELIEF HEIGHT (CM),Y,Y,Appendix: Table C1 (Ebersole 1985).
SAND AT 10 CM (PERCENT),Y,N,"Appendix: Table C1 (Ebersole 1985). L. Druckenmiller used sand, silt, and clay data and the U.S.D.A. Natural Resources Conservation Service Texture Calculator (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167) for Turboveg field 'Soil texture.'"
SILT AT 10 CM (PERCENT),Y,N,"Appendix: Table C1 (Ebersole 1985). L. Druckenmiller used sand, silt, and clay data and the U.S.D.A. Natural Resources Conservation Service Texture Calculator (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167) for Turboveg field 'Soil texture.'"
CLAY AT 10 CM (PERCENT),Y,N,"Appendix: Table C1 (Ebersole 1985). L. Druckenmiller used sand, silt, and clay data and the U.S.D.A. Natural Resources Conservation Service Texture Calculator (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/?cid=nrcs142p2_054167) for Turboveg field 'Soil texture.'"
HYGROSCOPIC MOISTURE AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
ORGANIC MATTER AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
WATER ABSORPTION AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).

FIELD CAPACITY AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
WILTING POINT AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
AVAILABLE WATER AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
CARBONATES AT 10 CM (PERCENT),Y,N,Appendix: Table C1 (Ebersole 1985).
PH AT 10 CM (PASTE),Y,Y,"Appendix: Table C1 (Ebersole 1985). PH was recorded to two places after the decimal, but rounded to one place after the decimal to crosswalk to Turboveg field 'pH.'"
NH4-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
NO3-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
N-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
P-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
K-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
CA-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
MG-TOTAL AVAILABLE AT 10 CM (PPM),Y,N,Appendix: Table C1 (Ebersole 1985).
CATION EXCHANGE CAPACITY AT 10 CM (MEQ/100 G),Y,N,Appendix: Table C1 (Ebersole 1985).
PLANT COMMUNITY,Y,Y,Appendix: Table C1 (Ebersole 1985). Turboveg field 'Plant community.'
DATE (YYYYMMDD),Y,Y,Data provided by the author from field notes.
RELEVE AREA (SQUARE METERS),Y,Y,Data provided by the author from field notes.
RELEVE SHAPE,Y,Y,Data provided by the author from field notes.
COVER TREE LAYER (PERCENT),Y,Y,Data provided by the author from field notes.
COVER SHRUB LAYER (PERCENT),Y,Y,Data provided by the author from field notes.
COVER TALL SHRUBS (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
COVER LOW SHRUBS (PERCENT),Y,Y,Data provided by the author from field notes.
COVER ERECT DWARF-SHRUBS (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
COVER PROSTRATE DWARF-SHRUBS (PERCENT,Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for Turboveg.
COVER GRAMINOIDS (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.

COVER TUSSOCK GRAMINOIDS (PERCENT),Y,Y,Data provided by the author from field notes.
COVER FORBS (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
COVER SEEDLESS VASCULAR PLANTS,Y,Y,Data provided by the author from field notes.
COVER MOSSES AND LIVERWORTS (PERCENT),Y,Y,Data provided by the author from field notes.
COVER LICHEN LAYER (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
COVER OF CRUST (PERCENT),Y,Y,Data provided by the author from field notes.
COVER ALGAE LAYER (PERCENT),Y,Y,Data provided by the author from field notes.
COVER BARE SOIL (PERCENT),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
COVER BARE ROCK (PERCENT),Y,Y,Data provided by the author from field notes.
COVER OPEN WATER (PERCENT),Y,Y,Data provided by the author from field notes.
COVER LITTER LAYER (PERCENT),Y,Y,Data provided by the author from field notes.
COVER TOTAL (PERCENT),Y,Y,Data provided by the author from field notes.
MEAN CANOPY HEIGHT (CM),Y,Y,Data provided by the author from field notes.
MEAN TREE LAYER HEIGHT (M),Y,Y,Data provided by the author from field notes.
MEAN SHRUB LAYER HEIGHT (CM),Y,Y,Data provided by the author from field notes.
MEAN HERB LAYER HEIGHT (CM),Y,Y,Data provided by the author from field notes.
MEAN MOSS LAYER HEIGHT (CM),Y,Y,Data provided by the author from field notes. Values of less than 1 were rounded up as an integer is required for the crosswalk to Turboveg.
REMARKS,Y,Y,Data provided by the author from field notes.
LATITUDE WGS 84 (DD),Y,Y,"In 2014, the author used project maps and aerial photographs and Google Earth to obtain latitude and longitude data. "
LONGITUDE WGS 84 (DD),Y,Y,"In 2014, the author used project maps and aerial photographs and Google Earth to obtain latitude and longitude data. "