

Loamy Frozen Wet Terraces, High Elevation (M135A_175)

Ecoregion Classification

Section: Alaska Mountains (M135A)

Subsection(s): Alpine Flood Plains & Terraces & Fans (M135A.V1)

Toklat Basin Lowlands (M135A.M7)

Teklanika Alpine Mountains & Plateaus (M135A.M6)

Boreal Outer Range & Kantishna Hills (M135A.M1L)

Alpine Outer Range & Kantishna Hills (M135A.M1)

Glaciated Uplands (M135A.G1)

Physiographic Features

Elevation (meters): *RV* 657 *Range* 275 to 1,238

Slope Gradient (percent): 4 0 to 14

Aspect (clockwise direction): southwest to northeast

Landform: turf hummocks on alluvial flats on basin floors; turf hummocks on fans on mountains; turf hummocks on mountains; turf hummocks on plateaus

Landform Positions: shoulders; summits; toeslopes

	<i>Frequency</i>	<i>Duration</i>	<i>Beginning Month</i>	<i>Ending Month</i>	<i>Depth (cm)</i>
Flooding:	None				
Ponding:	Frequent	Long	May	Jun	to

Climatic Features

Annual Precipitation (millimeters): *RV* 590 *Range* 358 to 1,229

Annual Air Temperature (°C): -3.0 -8.3 to -2.0

Frost Free Days: 64 50 to 80

Soil Features

Parent Materials: woody organic material and/or grassy organic material over silty cryoturbate over gravelly cryoturbate derived from schist

woody organic material and/or grassy organic material over silty cryoturbate

woody organic material and/or grassy organic material over silty cryoturbate over silty eolian deposits

Rooting Depth (cm): *RV:* 43 *Range:* 28 to 72

Soil Layers and Properties within Representative Rooting Depth:

Layers are described from the surface downward. If more than one texture is listed, the predominant texture is listed first. AWC = available water capacity. CEC = cation exchange capacity.

Thickness (cm)	Texture	Permeability	AWC (cm/cm)	pH	Effective CEC (me/100g)	CEC (me/100g)
20 to 31	peat	moderately rapid	.34	3.3 to 3.9	30	
8 to 14	silt loam, muck; mucky silt loam	moderate	.19 to .40	4.4 to 5.3	15	
8 to 13	silt loam, muck; very channery silt loam	moderate to moderately rapid	.12 to .19	4.4 to 5.4	6 to 15	

Restrictive Features: permafrost at 42 to 61 cm
strongly contrasting textural stratification at 34 cm in some components

Water Table (May to September): 0 to 50 cm

Drainage Class: very poorly drained

Vegetation Features

Common Vegetation Types:

Vegetation Type

Tussock cottongrass/mixed ericaceous shrub meadow

Ecological Status

Climax plant community

Ecological Status-Transition Description:

A single plant community with tussock cottongrass/mixed ericaceous shrub/sedge scrub is identified on this site. No transitional pathways to other communities have been identified for this site.

Vascular Plant Species Richness:

Vascular plant species richness is based on 1999-2002 field season data only. Data from 1997 and 1998 were not used in the calculations.

Vegetation Type	Total	Min.	Per Stand		Number of Stands
			Avg.	Max.	
Tussock cottongrass/mixed ericaceous shrub meadow	31	11	14	17	8

Characteristics of Tussock cottongrass/mixed ericaceous shrub meadow

Ecological Status: Climax plant community

Plant Species Cover, Constancy, and Importance:

Cover, constancy, and importance are based on 1997-2002 field season data. Number of stands sampled = 16. Only those vascular, lichen, and bryophyte species with average cover >=5% and constancy >=15% are listed.

Stratum	Symbol	Scientific Name	Percent			Importance Value	
			Canopy Cover	Constancy			
			Min.	Avg.	Max.		
SD-SL	B EGL	Betula glandulosa	0.1	14	50	100	37
SD-SL	VAUL	Vaccinium uliginosum	2.0	14	40	100	37
SD-SL	LEPAD	Ledum palustre ssp. decumbens	5.0	13	30	100	36
SD-SL	SAPU15	Salix pulchra	0.1	7	20	19	12
SD	EMNI	Empetrum nigrum	0.1	7	20	81	24
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	0.1	5	15	100	22
GM	ERVA4	Eriophorum vaginatum	40.0	56	70	44	50
GM	ERBR6	Eriophorum brachyantherum	0.1	43	75	50	46
GM	CABI5	Carex bigelowii	0.1	12	35	62	27
GM	CAREX	Carex	10.0	30	50	19	24
FD-FM	RUCH	Rubus chamaemorus	0.1	5	15	100	22
L	LICHEN	total lichens	0.0	9	35	100	30
M	MOSS	total bryophytes-mosses and liverworts	20.0	47	90	100	69
M1	SPHAG2	Sphagnum	7.0	38	90	88	58
M1	ZZMOSS	unknown-mosses	3.0	7	10	50	19
M1	PLSC70	Pleurozium schreberi	0.1	6	15	38	15
M1	HYSP70	Hylocomium splendens	3.0	11	15	19	14
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	0.0	37	85	100	61
B	LITTER2	litter-woody debris >2.5 cm	0.0	0	0	100	0
B	SOIL	mineral-bare soil	0.0	0	0	100	0
B	ROCK	mineral-surface rock fragments	0.0	0	0	100	0
B	WATER	water	0.0	0	5	100	0

Stratum Height:

Stratum height is based on 1997-2002 field season data. All plant species and ground layer records from all stands are included in the calculations.

Stratum Name	Included Strata	Height			Units	Number of Records
		Min.	Avg.	Max.		
Trees	TT, TM, TS	2.0	3.7	6.0	m	6
Tree regeneration	TR	0.5	0.8	1.5	m	6
Low shrubs	SL	30.0	42.3	100.0	cm	13
Dwarf shrubs	SD	5.0	14.2	20.0	cm	45
Tall and medium grasses and grass-like	GT, GM	20.0	35.0	50.0	cm	9
Tall and medium forbs	FT, FM	10.0	18.0	30.0	cm	5
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	5.5	10.0	cm	30

Mapunit Components

Common Name (Soils Name):

- Alpine-tussock-scrub gravelly schist slopes, frozen (Typic Histoturbels, loamy-skeletal)
- Alpine-tussock-scrub mica rich silty slopes, frozen (Typic Histoturbels, coarse-silty)
- Alpine-tussock-scrub silty loess slopes, frozen (Typic Histoturbels, coarse-silty)

Soil Map Units

Only those map units in which the landtype is a major component are listed. The landtype also may occur as a minor component in other map units.

Symbol: Common Name (Soils Name):

- 10SU Boreal Plateaus with Continuous Permafrost, Wet
(Typic Histoturbels, coarse-silty-Typic Historthels, loamy-skeletal Association, 0 to 10 percent slopes)
- 11P Alpine Plains with Continuous Permafrost
(Typic Histoturbels, coarse-silty, 0 to 5 percent slopes)
- 11P1 Alpine Plains and Drainages with Continuous Permafrost
(Typic Histoturbels, coarse-silty-Glacic Folistels, dysic-Terric Fibristels, loamy Association, 0 to 5 percent slopes)
- 7FGA Alpine Plains and Hills with Continuous Permafrost, Nenana Gravels
(Typic Histoturbels, coarse-silty-Typic Historthels, loamy-skeletal Association, 0 to 15 percent slopes)
- 8LM Alpine Low Loess Mountains with Discontinuous Permafrost
(Typic Histoturbels, coarse-silty-Ruptic-Histic Aquiturbels, loamy-skeletal Association, 5 to 25 percent slopes)
- 8LM1 Alpine Low Schist Mountains with Discontinuous Permafrost
(Typic Histoturbels, loamy-skeletal-Ruptic-Histic Aquiturbels, loamy-skeletal Association, 0 to 20 percent slopes)
- 8MFS1 Boreal Schist Lower Mountain Slopes with Continuous Permafrost
(Typic Historthels, loamy-skeletal-Typic Historthels, coarse-loamy-Typic Histoturbels, loamy-skeletal Association, 8 to 25 percent slopes)
- 8ST1 Alpine Schist Terraces and Mountain Toeslopes with Discontinuous Permafrost
(Typic Histoturbels, loamy-skeletal-Typic Historthels, coarse-loamy-Typic Haplogelods, sandy-skeletal Association, 0 to 10 percent slopes)

Geographically Associated Landtypes

M135A_180—Gravelly Frozen Slopes:

This site occurs on soils that are drier. The climax plant community is "Shrub birch-mixed ericaceous shrub/sedge scrub."

M135A_182—Gravelly Frozen Slopes, Ruptic:

This site occurs on non-sorted circles. The climax plant community is "Shrub birch/sedge scrub mosaic."

M135A_405—Swales:

This site occurs on very deep, seasonally wet soils in swales. The climax plant community is "Green alder scrub mosaic."