

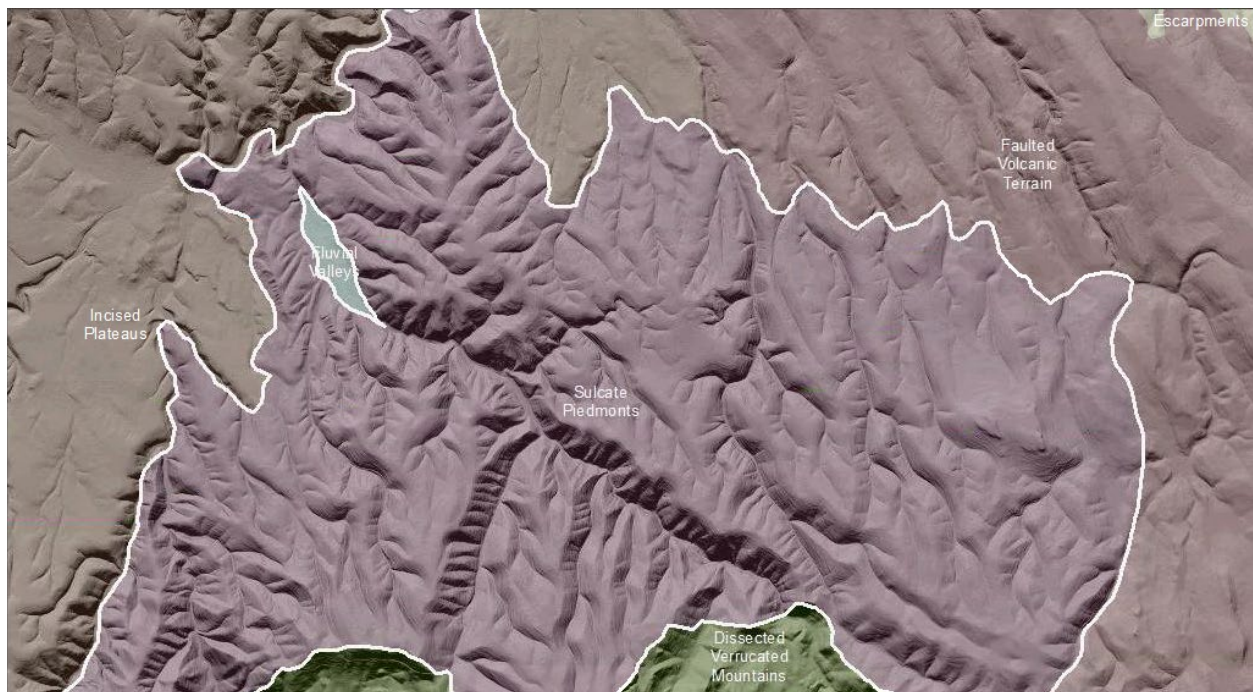
Eastern Cascade Sulcate Piedmonts

Overall Terrain:

Plain [Landscape Term] A general term referring to an extensive, lowland area that ranges from level to gently sloping or undulating. A plain has few or no prominent hills or valleys, and usually occurs at low elevation relative to surrounding areas. (Bates and Jackson, 1980)

Landform Association:

Sulcate Piedmonts:



Sulcate Piedmonts are advance weathering and degradation phase of Piedmonts. They are characterized by surfaces with longitudinal furrows with crests that are smoothly convex and swales that are v-shaped. Drainage sideslopes are planar convex. Sulcate Piedmonts have repeating landform patterns of accordant ridges and swales. Unlike Piedmonts, the accordant ridges of this map unit are of unknown depth of erosion beneath the presumed original surface of the parent surface.

Soils on ridgetops tend to be rich in patterned ground, do-called biscuit scabland or mima mound microtopography. The pattern ground or scabs tend to elongate on the backslopes forming stony stripes that virtually feed accumulation piles of stones at the toeslope position. Soil taxa vary from Ultisols in the west to Mollisols in the east.

This Landform Association has a limited spatial extent on National Forest System Lands.

Landtype Associations: Landtype Associations are formed by intersecting vegetation series or groups of vegetation series with Landform Associations.

Topography:

The following tables represent the average conditions for the Landform Association. Only lands within and adjacent to National Forest System Lands were mapped by this project. The entire EPA Level III Ecoregion is not covered by this mapping.

The percent of Landform Association (% of LfA) in bold in the table below refers to the percent of the Ecoregion represented by that Landform Association. The (% of LfA) numbers not in bold in the table below refer to the percent of each Landtype Association within the Landform Association.

Landform Association/Landtype Association	% of LfA	Mean % Slope	Minimum Elevation (m)	Maximum Elevation (m)	Mean Elevation (m)	% Northerly Aspect (226° - 134°)	% Southerly Aspect (135° - 225°)
Sulcate Piedmonts	0.9%	24	637	949	811	75%	25%
Sulcate Piedmonts, Douglas-Fir	19.4%	20	681	977	847	58%	42%
Sulcate Piedmonts, Douglas-Fir - Grand Fir-White Fir	3.9%	24	694	1052	833	93%	7%
Sulcate Piedmonts, Douglas-Fir - Grand Fir-White Fir - mix	0.5%	25	825	1015	945	93%	7%
Sulcate Piedmonts, Douglas-Fir - Grasslands / Meadows	2.7%	26	598	1043	879	89%	11%
Sulcate Piedmonts, Douglas-Fir - Ponderosa Pine	0.7%	28	818	1067	959	52%	48%
Sulcate Piedmonts, Douglas-Fir - Shrub-Steppe	1.2%	21	597	832	732	57%	43%
Sulcate Piedmonts, Grand Fir-White Fir	51.5%	27	592	999	808	89%	11%
Sulcate Piedmonts, Grasslands / Meadows	3.2%	26	387	661	574	72%	28%
Sulcate Piedmonts, Pacific Silver Fir - Grand Fir-White Fir	1.3%	12	890	1101	1018	96%	4%
Sulcate Piedmonts, Ponderosa Pine	2.2%	20	526	845	700	72%	28%
Sulcate Piedmonts, Ponderosa Pine - Grasslands / Meadows	0.6%	35	361	567	465	97%	3%
Sulcate Piedmonts, Ponderosa Pine - Grasslands / Meadows - mix	5.9%	29	378	952	672	74%	26%
Sulcate Piedmonts, Ponderosa Pine - Shrub-Steppe	1.3%	14	657	797	743	57%	43%
Sulcate Piedmonts, Shrub-Steppe - Grasslands / Meadows	1.1%	32	509	847	718	36%	64%
Sulcate Piedmonts, Shrub-Steppe - Ponderosa Pine	0.5%	8	736	825	785	43%	57%
Sulcate Piedmonts, Western Hemlock	2.7%	9	902	1143	1039	92%	8%
Sulcate Piedmonts, Western Hemlock - Grasslands / Meadows	0.7%	15	771	1088	987	98%	2%
Sulcate Piedmonts, Western Red-cedar - Grand Fir-White Fir	0.5%	54	599	840	722	80%	20%

Climate:

Landform Association/Landtype Association	Mean Annual Precipitation (mm)	Mean Annual Temperature °C	AET/PET Ratio July, Aug, Sept
Sulcate Piedmonts	643	9	0.28
Sulcate Piedmonts, Douglas-Fir	540	9	0.27
Sulcate Piedmonts, Douglas-Fir - Grand Fir-White Fir	487	9	0.20
Sulcate Piedmonts, Douglas-Fir - Grand Fir-White Fir - mix	502	8	0.15
Sulcate Piedmonts, Douglas-Fir - Grasslands / Meadows	736	8	0.32
Sulcate Piedmonts, Douglas-Fir - Ponderosa Pine	491	8	0.19
Sulcate Piedmonts, Douglas-Fir - Shrub-Steppe	441	9	0.24
Sulcate Piedmonts, Grand Fir-White Fir	694	8	0.33
Sulcate Piedmonts, Grasslands / Meadows	461	10	0.15
Sulcate Piedmonts, Pacific Silver Fir - Grand Fir-White Fir	1430	7	0.47
Sulcate Piedmonts, Ponderosa Pine	432	9	0.22
Sulcate Piedmonts, Ponderosa Pine - Grasslands / Meadows	450	10	0.19
Sulcate Piedmonts, Ponderosa Pine - Grasslands / Meadows - mix	433	9	0.20
Sulcate Piedmonts, Ponderosa Pine - Shrub-Steppe	443	9	0.20
Sulcate Piedmonts, Shrub-Steppe - Grasslands / Meadows	474	9	0.25
Sulcate Piedmonts, Shrub-Steppe - Ponderosa Pine	452	9	0.22
Sulcate Piedmonts, Western Hemlock	1447	7	0.49
Sulcate Piedmonts, Western Hemlock - Grasslands / Meadows	1378	8	0.47
Sulcate Piedmonts, Western Red-cedar - Grand Fir-White Fir	493	9	0.26

The ratio of Actual Evapotranspiration to Potential Evapotranspiration (AET/PET) is used as a broad-scale indicator of potential drought stress. We obtained modeled actual and potential evapotranspiration datasets from the Numerical Terradynamic Simulation Group at the University of Montana (<http://www.ntsg.umt.edu/project/mod16>) for a 30 year climate average. AET/PET ratio in the table above is based on a scale of zero to one. A value closer to 1 means the vegetation is transpiring close to its potential. A value farther from 1 means that the Actual Evapotranspiration is below potential based on this climatic zone (Ringo, et. al. 2016 in draft).