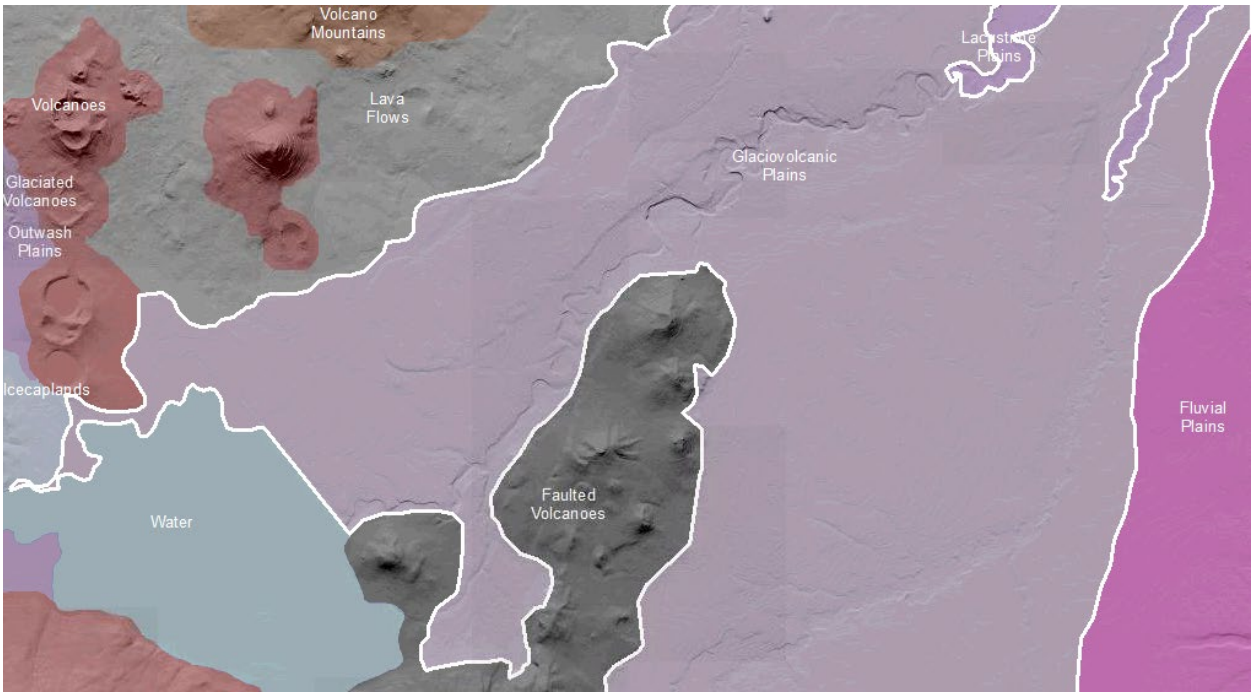
Eastern Cascades Glaciovolcanic Plains

Overall Terrain:

Plains [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:

Glaciovolcanic Plains:



Glaciovolcanic Plains are plains derived from co-deposition of meltwater transported sediments and volcanic effusive deposits with rare flow rock. These plains front moraines of glacial valleys or margins of icecaplands. As such, they are similar to Outwash Plains. Glaciovolcanic Plains formed from braided water courses that deposited sediments in fans where unconfined and in long terraces where confined to valleys. Deposits are typically well sorted, ashy sands to ashy cobbly gravels. These deposits are typically many meters thick and yield deep Andisols. These deposits produce significant shallow aquifers.

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°)**
Glaciovolcanic Plains	**2.0%**	**10**	**926**	**1058**	**994**	**76%**	**24%**
Glaciovolcanic Plains, Developed	1.4%	1	1309	1323	1317	91%	9%
Glaciovolcanic Plains, Douglas-Fir	0.6%	18	694	868	784	55%	45%
Glaciovolcanic Plains, Douglas-Fir - Grand Fir-White Fir	0.6%	22	686	910	792	65%	35%
Glaciovolcanic Plains, Grand Fir-White Fir	5.0%	23	695	1002	840	80%	20%
Glaciovolcanic Plains, Grand Fir-White Fir - Douglas-Fir	1.2%	16	619	768	701	68%	32%
Glaciovolcanic Plains, Grand Fir-White Fir - Ponderosa Pine	0.3%	2	1280	1295	1285	77%	23%
Glaciovolcanic Plains, Grand Fir-White Fir - Shrub-Steppe - mix	0.9%	7	650	776	712	59%	41%
Glaciovolcanic Plains, Grasslands / Meadows	0.2%	3	639	670	652	97%	3%
Glaciovolcanic Plains, Grasslands / Meadows - Developed	1.0%	2	1276	1289	1280	85%	15%
Glaciovolcanic Plains, Grasslands / Meadows - Grand Fir-White Fir	1.6%	1	1298	1325	1312	82%	18%
Glaciovolcanic Plains, Mountain Hemlock	0.1%	12	1246	1336	1296	99%	1%
Glaciovolcanic Plains, Oregon White Oak	0.3%	8	600	698	647	79%	21%
Glaciovolcanic Plains, Ponderosa Pine	84.3%	4	1106	1238	1177	82%	18%
Glaciovolcanic Plains, Ponderosa Pine - Douglas-Fir	1.4%	17	545	759	677	49%	51%
Glaciovolcanic Plains, Ponderosa Pine - Grasslands / Meadows - mix	0.2%	1	1323	1337	1324	76%	24%
Glaciovolcanic Plains, Ponderosa Pine - Shrub-Steppe	1.0%	21	523	789	664	43%	57%

Climate:

Landform Association/Landtype Association	**Mean Annual Precipitation (mm)**	**Mean Annual Temperature °C**	**AET/PET Ratio July, Aug, Sept**
Glaciovolcanic Plains	**511**	**8**	**0.22**
Glaciovolcanic Plains, Developed	547	7	0.15
Glaciovolcanic Plains, Douglas-Fir	464	9	0.29
Glaciovolcanic Plains, Douglas-Fir - Grand Fir-White Fir	467	9	0.32
Glaciovolcanic Plains, Grand Fir-White Fir	463	8	0.25
Glaciovolcanic Plains, Grand Fir-White Fir - Douglas-Fir	449	9	0.24
Glaciovolcanic Plains, Grand Fir-White Fir - Ponderosa Pine	508	7	0.15
Glaciovolcanic Plains, Grand Fir-White Fir - Shrub-Steppe - mix	449	9	0.22
Glaciovolcanic Plains, Grasslands / Meadows	454	9	0.17
Glaciovolcanic Plains, Grasslands / Meadows - Developed	493	7	0.15
Glaciovolcanic Plains, Grasslands / Meadows - Grand Fir-White Fir	545	7	0.24
Glaciovolcanic Plains, Mountain Hemlock	1098	5	0.48
Glaciovolcanic Plains, Oregon White Oak	433	9	0.19
Glaciovolcanic Plains, Ponderosa Pine	535	7	0.20
Glaciovolcanic Plains, Ponderosa Pine - Douglas-Fir	437	9	0.22
Glaciovolcanic Plains, Ponderosa Pine - Grasslands / Meadows - mix	566	7	0.16
Glaciovolcanic Plains, Ponderosa Pine - Shrub-Steppe	435	9	0.20

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 1means that the Actual Evapotranspiration is below potential based on this climatic zone (Ringo, et. al. 2016 in draft).