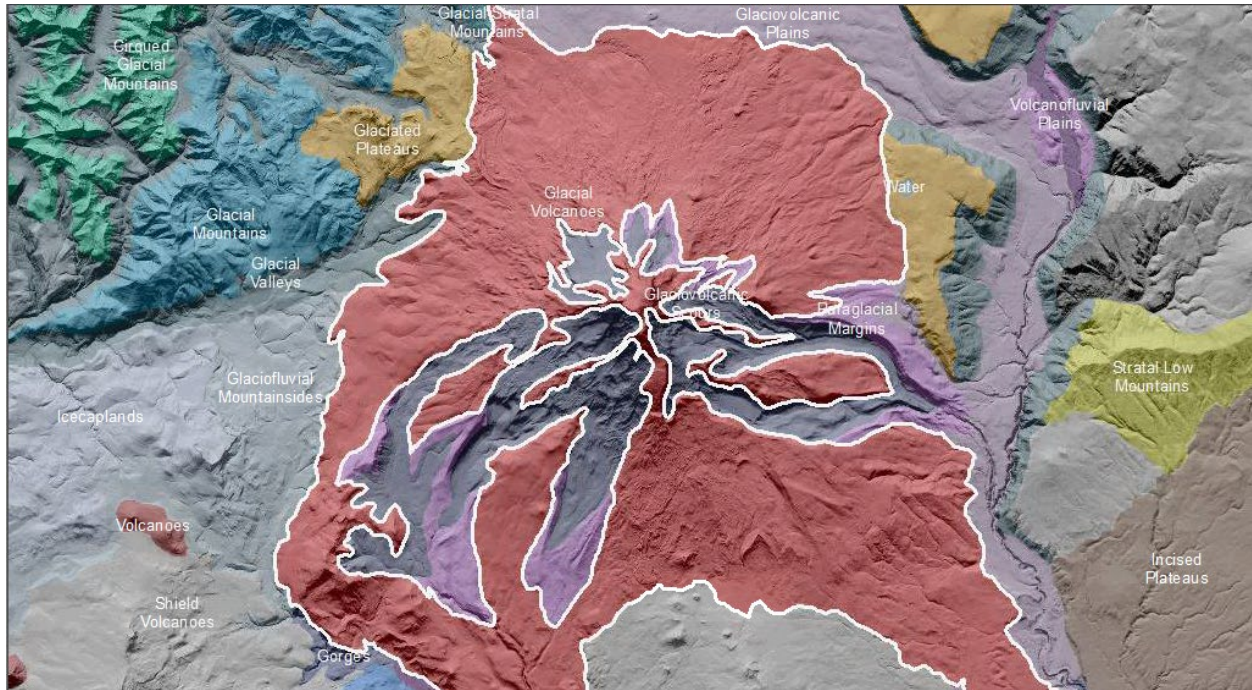


Eastern Cascades Glacial Volcanoes

Volcanoes are edifices, typically conical in shape, with a central summit vent that erupts effusive magmatic material as ash, cinder, blocks and or lava that accumulates and build up the landform.

Landform Association – Glacial Volcanoes:



Glacial Volcanoes are volcanoes that have been shaped by present and past glaciers. These are the highest mountain peaks in the Pacific Northwest. Active glaciers are still present within this map unit, as well as icecaps and permanent snowfields. The terrain is glacially scoured, U-shaped valleys and moraines.

A limited variety of soil types are present on Glacial Volcanoes Landform Associations. Soils range from shallow soils to rock or exposed rock sediments which are perched on the sides of these volcanic peaks. Fresh, unconsolidated glacial deposits have been exposed by the recession of glaciers and are subject to rapid erosion during rain on snow events. Soil taxa include Entisols, Andisols, Inceptisols and Spodosols.

This Landform Association is of 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 Associations.

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°)
Glacial Volcanoes	0.7%	21	1031	1287	1158	64%	36%
Glacial Volcanoes, Douglas-Fir	5.9%	15	614	838	731	47%	53%
Glacial Volcanoes, Douglas-Fir - Western Hemlock	1.1%	24	656	870	799	66%	34%
Glacial Volcanoes, Grand Fir	69.3%	23	668	1267	958	65%	35%
Glacial Volcanoes, Grand Fir-White Fir	0.4%	26	774	923	846	82%	18%
Glacial Volcanoes, Grand Fir-White Fir - Ponderosa Pine	1.1%	17	1542	1730	1636	36%	64%
Glacial Volcanoes, Mountain Hemlock	11.5%	20	1458	1647	1563	92%	8%
Glacial Volcanoes, Pacific Silver Fir - Grand Fir-White Fir	0.2%	24	828	993	897	94%	6%
Glacial Volcanoes, Pacific Silver Fir - Western Hemlock	0.2%	41	750	949	813	82%	18%
Glacial Volcanoes, Shasta Red Fir	6.8%	16	1632	1875	1760	50%	50%
Glacial Volcanoes, Western Hemlock	2.1%	19	1072	1301	1177	46%	54%
Glacial Volcanoes, Western Hemlock - Pacific Silver Fir	1.4%	18	1031	1190	1112	65%	35%

Climate:

Landform Association/Landtype Association	Mean Annual Temperature °C	AET/PET Ratio July, Aug, Sept
Glacial Volcanoes	7	0.43
Glacial Volcanoes, Douglas-Fir	8	0.58
Glacial Volcanoes, Douglas-Fir - Western Hemlock	8	0.60
Glacial Volcanoes, Grand Fir	7	0.53
Glacial Volcanoes, Grand Fir-White Fir	8	0.52
Glacial Volcanoes, Grand Fir-White Fir - Ponderosa Pine	6	0.22
Glacial Volcanoes, Mountain Hemlock	5	0.31
Glacial Volcanoes, Pacific Silver Fir - Grand Fir-White Fir	8	0.57
Glacial Volcanoes, Pacific Silver Fir - Western Hemlock	8	0.51
Glacial Volcanoes, Shasta Red Fir	6	0.21
Glacial Volcanoes, Western Hemlock	6	0.36
Glacial Volcanoes, Western Hemlock - Pacific Silver Fir	7	0.47

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.ntsug.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).