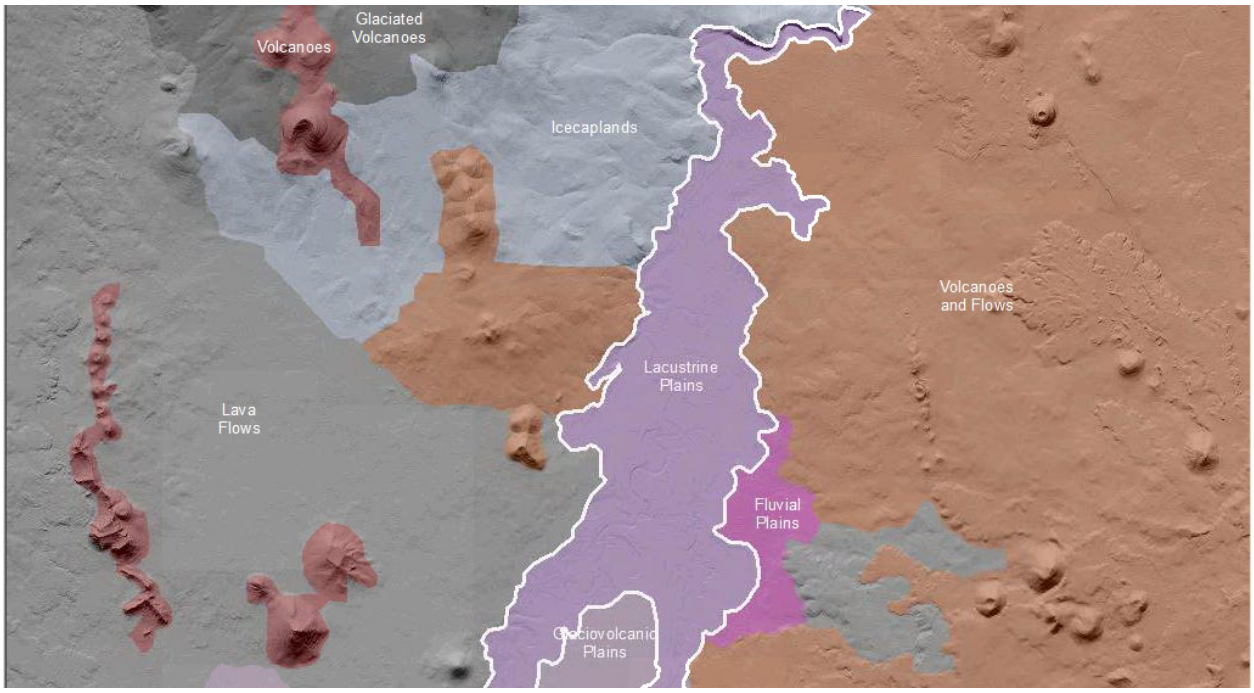
Eastern Cascades Lacustrine Plains

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:

Lacustrine Plains:



Lacustrine Plains

Lacustrine Plains are exposed lakebeds that are the relicts of (pluvial) Pleistocene lakes that were once ubiquitous in the Great Basin and the Northwest. This landform excludes relict lakebeds pluvially altered or incised by subsequent water flow and lakebeds that are the results of recent anthropogenic activities. The low angle or zero slope lakebed is the result of accumulated sediments in the lake bottoms. The collections of silt and clays provide productive soils when moisture is available. These deposits are sources of eolian dust and local sand dune fields. Soils on these deposits are typically Mollisols to Aridisols (especially along the margins of extant lakes where salts accumulate within the profile. Playas are at a smaller scale than the Lacustrine Plains and are in arid to semi-arid regions. Playas have oblong to circular shape. Lacustrine areas may or may not be connected to another watershed.

This Landform Association is rare 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°)
Lacustrine Plains	**0.3%**	**2**	**1363**	**1383**	**1368**	**81%**	**19%**
Lacustrine Plains, Developed	16.9%	1	1311	1326	1314	82%	18%
Lacustrine Plains, Developed - Grand Fir-White Fir	2.6%	2	1264	1290	1267	99%	1%
Lacustrine Plains, Developed - Grasslands / Meadows	7.4%	1	1379	1389	1382	76%	24%
Lacustrine Plains, Developed - Lodgepole Pine	1.3%	2	1268	1279	1271	84%	16%
Lacustrine Plains, Developed - Shrub-Steppe	1.2%	3	1318	1349	1330	98%	2%
Lacustrine Plains, Grand Fir-White Fir - Grasslands / Meadows	2.0%	0	1264	1268	1265	86%	14%
Lacustrine Plains, Grasslands / Meadows	1.6%	1	1642	1655	1646	62%	38%
Lacustrine Plains, Lodgepole Pine - Grand Fir-White Fir	2.1%	1	1490	1500	1494	79%	21%
Lacustrine Plains, Ponderosa Pine	15.8%	3	1377	1410	1383	76%	24%
Lacustrine Plains, Ponderosa Pine - Developed	24.7%	2	1267	1287	1273	80%	20%
Lacustrine Plains, Ponderosa Pine - Grasslands / Meadows - mix	7.1%	2	1268	1279	1273	84%	16%
Lacustrine Plains, Ponderosa Pine - Lodgepole Pine	6.8%	2	1490	1522	1500	66%	34%
Lacustrine Plains, Salt Desert	0.2%	3	1319	1336	1327	97%	3%
Lacustrine Plains, Shrub-Steppe - Lodgepole Pine	7.2%	1	1490	1533	1492	77%	23%
Lacustrine Plains, Shrub-Steppe - Western Juniper	1.6%	3	1640	1659	1649	83%	17%
Lacustrine Plains, Water - Grasslands / Meadows - mix	1.5%	1	1266	1272	1267	81%	19%

Climate:

Landform Association/Landtype Association	Mean Annual Precipitation (mm)	Mean Annual Temperature °C	AET/PET Ratio July, Aug, Sept
Lacustrine Plains	**496**	**7**	**0.16**
Lacustrine Plains, Developed	473	7	0.18
Lacustrine Plains, Developed - Grand Fir-White Fir	592	7	0.29
Lacustrine Plains, Developed - Grasslands / Meadows	478	7	0.14
Lacustrine Plains, Developed - Lodgepole Pine	504	7	0.17
Lacustrine Plains, Developed - Shrub-Steppe	267	9	0.15
Lacustrine Plains, Grand Fir-White Fir - Grasslands / Meadows	626	7	0.34
Lacustrine Plains, Grasslands / Meadows	529	7	0.09
Lacustrine Plains, Lodgepole Pine - Grand Fir-White Fir	702	6	0.16
Lacustrine Plains, Ponderosa Pine	479	7	0.13
Lacustrine Plains, Ponderosa Pine - Developed	501	7	0.17
Lacustrine Plains, Ponderosa Pine - Grasslands / Meadows - mix	485	7	0.17
Lacustrine Plains, Ponderosa Pine - Lodgepole Pine	720	6	0.16
Lacustrine Plains, Salt Desert	259	9	0.14
Lacustrine Plains, Shrub-Steppe - Lodgepole Pine	448	6	0.06
Lacustrine Plains, Shrub-Steppe - Western Juniper	527	7	0.08
Lacustrine Plains, Water - Grasslands / Meadows - mix	504	7	0.23

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).