Blue Mountain Fluvial Plains

Plateaus in the Pacific Northwest are predominantly underlain by stacked flows of the Columbia River Basalts and form extensive elevated plains bounded on one or more sides by steep slopes hundreds of feet above adjoining areas. Plateaus are differentiated from each other by the most-evident surficial processes of alteration.

Landform Association:
Fluvial Plains:

Fluvial Plains are an extensive, lowland area that ranges from level to gently sloping or undulating. Fluvial Plains are produced by migrating channels and floodplains of non-glacial streams. Locally, older deposits identified as terraces are included in this map unit. The bounds of fluvial plains conform to the surrounding uplands as they confine the streams.

Fluvial Plains have relict and abandoned stream landforms. Relict landforms in this map unit are those formed during a prior hydrologic regime of the glacial or pluvial epochs. As such, they consist of generally higher energy stream deposits – sandy to boulder gravel beds upwards of several meters in thickness. Relict landforms are generally present at the margins of fluvial plains where confined in mountain valleys. Channel, bar and terrace landforms are muted in morphology due to weathering and surface degradation over the thousands of year since their formation. Soil profiles are typically deep and high differentiated in horizon properties from the parent material. Soil taxa vary according to age and climatic regime, though Alfisols and Mollisols are common.

Abandoned stream landforms are generally younger in age and formed under a hydrologic regime similar to that of the present stream. These generally consist of variable energy (except in modern glacial watershed) stream deposits, including lower energy silt to sandy beds and flashy, high-energy debris flow deposits. Thicknness of deposits is consequently variable between as well as within catchments. These are relatively young landforms and deposits, located adjacent to the modern stream channel, and soil profile development is immature – Entisols, Inceptisols and Mollisols are typical.

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°)**
Fluvial Plains	**1.6%**	**5**	**1111**	**1223**	**1153**	**78%**	**22%**
Fluvial Plains, Developed	18.9%	4	766	897	820	77%	23%
Fluvial Plains, Developed - Ponderosa Pine	0.3%	2	946	977	963	98%	2%
Fluvial Plains, Developed - Western Juniper	0.4%	12	786	895	836	92%	8%
Fluvial Plains, Douglas-Fir	12.1%	5	1275	1397	1322	68%	32%
Fluvial Plains, Douglas-Fir - Grasslands / Meadows - mix	0.8%	3	1373	1466	1409	93%	7%
Fluvial Plains, Grand Fir-White Fir	3.8%	9	1345	1495	1405	73%	27%
Fluvial Plains, Grand Fir-White Fir - Douglas-Fir	1.4%	3	1510	1669	1552	65%	35%
Fluvial Plains, Grand Fir-White Fir - Grasslands / Meadows	0.3%	5	1403	1490	1438	89%	11%
Fluvial Plains, Grasslands / Meadows	0.2%	3	857	906	888	100%	0%
Fluvial Plains, Grasslands / Meadows - Ponderosa Pine - mix	1.0%	4	1363	1454	1392	57%	43%
Fluvial Plains, Grasslands / Meadows - Shrub-Steppe	1.2%	4	1082	1151	1104	95%	5%
Fluvial Plains, Ponderosa Pine	19.0%	4	1264	1393	1302	87%	13%
Fluvial Plains, Ponderosa Pine - Douglas-Fir	1.0%	4	1150	1233	1180	63%	37%
Fluvial Plains, Ponderosa Pine - Grand Fir-White Fir - mix	0.8%	5	1379	1490	1431	41%	59%
Fluvial Plains, Ponderosa Pine - Riparian Shrub / Hardwood Forest	1.2%	5	1377	1487	1427	91%	9%
Fluvial Plains, Ponderosa Pine - Shrub-Steppe	1.8%	3	1380	1460	1408	50%	50%
Fluvial Plains, Riparian Shrub / Hardwood Forest	4.6%	1	1360	1411	1376	65%	35%
Fluvial Plains, Shrub-Steppe	21.1%	4	1037	1136	1074	72%	28%
Fluvial Plains, Shrub-Steppe - Western Juniper	0.8%	4	888	931	908	95%	5%
Fluvial Plains, Western Juniper	8.3%	6	1062	1177	1106	78%	22%
Fluvial Plains, Western Juniper - Grasslands / Meadows	0.2%	4	865	959	894	89%	11%
Fluvial Plains, Western Juniper - Shrub-Steppe	1.1%	12	768	902	832	94%	6%

Climate:

Landform Association/Landtype Association	**Mean Annual Precipitation (mm)**	**Mean Annual Temperature °C**	**AET/PET Ratio July, Aug, Sept**
Fluvial Plains	**401**	**7**	**0.15**
Fluvial Plains, Developed	315	9	0.23
Fluvial Plains, Developed - Ponderosa Pine	356	8	0.13
Fluvial Plains, Developed - Western Juniper	269	9	0.12
Fluvial Plains, Douglas-Fir	508	6	0.20
Fluvial Plains, Douglas-Fir - Grasslands / Meadows - mix	522	6	0.16
Fluvial Plains, Grand Fir-White Fir	654	6	0.23
Fluvial Plains, Grand Fir-White Fir - Douglas-Fir	588	5	0.14
Fluvial Plains, Grand Fir-White Fir - Grasslands / Meadows	580	6	0.22
Fluvial Plains, Grasslands / Meadows	286	9	0.06
Fluvial Plains, Grasslands / Meadows - Ponderosa Pine - mix	494	6	0.17
Fluvial Plains, Grasslands / Meadows - Shrub-Steppe	387	7	0.10
Fluvial Plains, Ponderosa Pine	409	6	0.16
Fluvial Plains, Ponderosa Pine - Douglas-Fir	453	7	0.14
Fluvial Plains, Ponderosa Pine - Grand Fir-White Fir - mix	549	6	0.14
Fluvial Plains, Ponderosa Pine - Riparian Shrub / Hardwood Forest	547	6	0.15
Fluvial Plains, Ponderosa Pine - Shrub-Steppe	570	6	0.15
Fluvial Plains, Riparian Shrub / Hardwood Forest	493	6	0.15
Fluvial Plains, Shrub-Steppe	347	8	0.11
Fluvial Plains, Shrub-Steppe - Western Juniper	297	9	0.08
Fluvial Plains, Western Juniper	323	8	0.10
Fluvial Plains, Western Juniper - Grasslands / Meadows	283	9	0.11
Fluvial Plains, Western Juniper - Shrub-Steppe	282	9	0.09

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).