

## Klamath Mountains Fluvial Plains, Serpentinitic

**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, Serpentinitic:



**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. Serpentinitic is a term attached to the Landtype Association if the base geology is peridotite or serpentine (from geologic maps). The resultant chemical imbalance (low Ca/Mg ratio) may or may not dominate the above ground vegetation assemblages. In some areas, the chemical imbalance may be obscured by sediment shifting which neutralizes the affect by mixing multiple parent materials.

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. Thickness 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 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°)
<b>Fluvial Plains, Serpentinic</b>	<b>0.0%</b>	<b>12</b>	<b>449</b>	<b>573</b>	<b>482</b>	<b>76%</b>	<b>24%</b>
Fluvial Plains, Serpentinic, Douglas-Fir	41.9%	12	451	559	487	74%	26%
Fluvial Plains, Serpentinic, Douglas-Fir - Port Orford-cedar	58.1%	12	446	586	477	79%	21%

### Climate:

Landform Association/Landtype Association	Mean Annual Precipitation (mm)	Mean Annual Temperature °C	AET/PET Ratio July, Aug, Sept
<b>Fluvial Plains, Serpentinic</b>	<b>1876</b>	<b>11</b>	<b>0.33</b>
Fluvial Plains, Serpentinic, Douglas-Fir	1842	11	0.20
Fluvial Plains, Serpentinic, Douglas-Fir - Port Orford-cedar	1909	11	0.46

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.umn.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).