

EROSIONAL PROBLEMS RELATED TO LAND-USE ACTIVITIES IN THE WILLAMETTE RIVER BASIN, OREGON

A NEW VIEW OF SPACE

The present-day image of the Willamette River basin, as perceived by a high-altitude camera, is an oddly repetitive and blurry landscape. The image shows a repetitive pattern in the vegetation cover of the land surface typical of many river basins in the Pacific Northwest...

Other and subtle aspects appear to be the irregular, fractal patterns of agricultural fields and forested hillsides. Upon close inspection, the intricate and varied patterns of agriculture become apparent. Most characteristic patterns appear at the intersections of major roads or forks of the Willamette River...

Interpreting the image for use as the base, topographic, drainage, and lands use, and the streamlines of roads and powerlines, and the early traces of streams and rivers. Morphometric measurements of the high Cascades.

CONVERSION FACTORS Factors for converting U.S. customary units to the International System of Units (SI) are given below for four significant figures. However, in this table the metric equivalents are shown only to the number of significant figures contained in the original U.S. customary units.

Length: 1 inch = 2.540 centimeters (exactly) 1 foot = 0.3048 meters (exactly) 1 mile = 1.609 kilometers (exactly)

Area: 1 square foot = 0.0929 square meters (exactly) 1 acre = 0.0003086 square kilometers (exactly) 1 square mile = 2.59 square kilometers (exactly)

Volume: 1 cubic foot = 0.0283 cubic meters (exactly) 1 cubic yard = 0.765 cubic meters (exactly) 1 acre-foot = 1233 cubic meters (exactly)

Weight: 1 pound = 0.4536 kilograms (exactly) 1 ounce = 0.0283 kilograms (exactly) 1 ton = 0.907 metric tons (exactly)

Temperature: 1 degree Fahrenheit = 5/9 degree Celsius (exactly) 32 degrees Fahrenheit = 0 degrees Celsius (exactly) 9 degrees Celsius = 16 degrees Fahrenheit (exactly)

Pressure: 1 atmosphere = 101.3 kilopascals (exactly) 1 atmosphere = 14.7 pounds per square inch (exactly) 1 atmosphere = 1.013 bar (exactly)

Power: 1 horsepower = 746 watts (exactly) 1 kilowatt = 1.34 horsepower (exactly) 1 megawatt = 1.34 kilowatts (exactly)

Energy: 1 kilowatt-hour = 3.6 megajoules (exactly) 1 kilowatt-hour = 3.412 British thermal units (exactly) 1 kilowatt-hour = 8.45 kilocalories (exactly)

Speed: 1 mile per hour = 1.609 kilometers per hour (exactly) 1 mile per hour = 0.447 meters per second (exactly) 1 mile per hour = 1.48 kilometers per hour (exactly)

Acceleration: 1 foot per second squared = 0.305 meters per second squared (exactly) 1 foot per second squared = 0.000305 kilometers per second squared (exactly)

Force: 1 pound-force = 4.448 newtons (exactly) 1 pound-force = 4.448 dynes (exactly) 1 pound-force = 0.454 kilograms (exactly)

Force per unit area: 1 pound-force per square inch = 6.895 kilopascals (exactly) 1 pound-force per square inch = 6.895 newtons per square meter (exactly)

Force per unit length: 1 pound-force per inch = 175 newtons per meter (exactly) 1 pound-force per inch = 175 dynes per centimeter (exactly)

Force per unit volume: 1 pound-force per cubic inch = 27.7 kilonewtons per cubic meter (exactly) 1 pound-force per cubic inch = 27.7 newtons per cubic centimeter (exactly)

Force per unit mass: 1 pound-force per pound-mass = 9.807 meters per second squared (exactly) 1 pound-force per pound-mass = 9.807 newtons per kilogram (exactly)

Force per unit area per unit length: 1 pound-force per square inch per foot = 1.488 kilonewtons per square meter per meter (exactly) 1 pound-force per square inch per foot = 1.488 newtons per square centimeter per centimeter (exactly)

Force per unit area per unit volume: 1 pound-force per square inch per cubic foot = 3.77 kilonewtons per square meter per cubic meter (exactly) 1 pound-force per square inch per cubic foot = 3.77 newtons per square centimeter per cubic centimeter (exactly)

Force per unit area per unit mass: 1 pound-force per square inch per pound-mass = 4.448 newtons per square meter per kilogram (exactly) 1 pound-force per square inch per pound-mass = 4.448 dynes per square centimeter per gram (exactly)

Force per unit area per unit length per unit mass: 1 pound-force per square inch per foot per pound-mass = 1.488 newtons per square meter per meter per kilogram (exactly) 1 pound-force per square inch per foot per pound-mass = 1.488 dynes per square centimeter per centimeter per gram (exactly)

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