

PEAK DISCHARGES FOR SELECTED FREQUENCIES

Report prepared for: autodelin
Time: 10:51

Date: 10/16/2008

Watershed Name: ADAMS CR

PEAK DISCHARGE CALCULATION BY PREDICTION EQUATION

Peak discharges for the ungaged watershed have been determined from a set of hydrologic prediction equations derived using generalized least squares. The models relate peak discharges to physical watershed characteristics such as area and precipitation. The equations take this form:

$$Q(T) = (10.0^{C_0(T)}) * (CHR_1^{C_1(T)}) * \dots * (CHR_n^{C_n(T)})$$

Q(T) = Peak Discharge for Return Period T
Cx(T) = Coefficient x for Return Period T
CHR1 = The First Watershed Characteristic
CHRn = The nth Watershed Characteristic

Note: * = multiplication, ^ = exponentiation

For this ungaged watershed, peak discharges were estimated using prediction equations for this flood region:

WESTERN INTERIOR WATERSHEDS - < 2875 FEET

WATERSHED ELEVATION = 1440 FEET

For western interior watersheds with mean elevations below 2875 feet, peaks are estimated using the prediction equations for western interior watersheds below 3000 feet.

Prediction Equation for Interior Watersheds < 3000 Feet

$$Q(T) = (10.0^{C_0(T)}) * (X_1^{C_1(T)}) * (X_2^{C_2(T)}) * (X_3^{C_3(T)}) * (X_4^{C_4(T)}) * (X_5^{C_5(T)})$$

Q(T) = Peak Discharge for Return Period T
Cx(T) = Coefficient x for Return Period T
X1 = Drainage area (square miles)
X2 = Mean watershed slope (degrees)
X3 = 2-year 24-hour precipitation intensity (inches)
X4 =
X5 =

Note: * = multiplication, ^ = exponentiation

Prediction Equation Coefficients

Return Period T	Coefficients					
	C0(T)	C1(T)	C2(T)	C3(T)	C4(T)	C5(T)
2	9.607E-01	9.004E-01	4.695E-01	8.481E-01		
5	1.162E+00	9.042E-01	4.735E-01	7.355E-01		
10	1.267E+00	9.064E-01	4.688E-01	6.937E-01		
20	1.351E+00	9.081E-01	4.633E-01	6.651E-01		
25	1.375E+00	9.086E-01	4.615E-01	6.578E-01		
50	1.443E+00	9.101E-01	4.559E-01	6.390E-01		
100	1.503E+00	9.114E-01	4.501E-01	6.252E-01		

500 1.620E+00 9.141E-01 4.365E-01 6.059E-01

Required Watershed Characteristics

Drainage area	(square miles)	6.130
Mean watershed slope	(degrees)	14.400
2-year 24-hour precipitation intensity	(inches)	2.280

PEAK DISCHARGE ESTIMATES BASED ON PREDICTION EQUATIONS

Return Period years	Peak Flow cfs	95% Lower Limit cfs	Confidence Upper Limit cfs
2	329	176	615
5	486	261	904
10	591	315	1110
20	693	364	1320
25	726	378	1390
50	825	423	1610
100	925	464	1840
500	1160	550	2420

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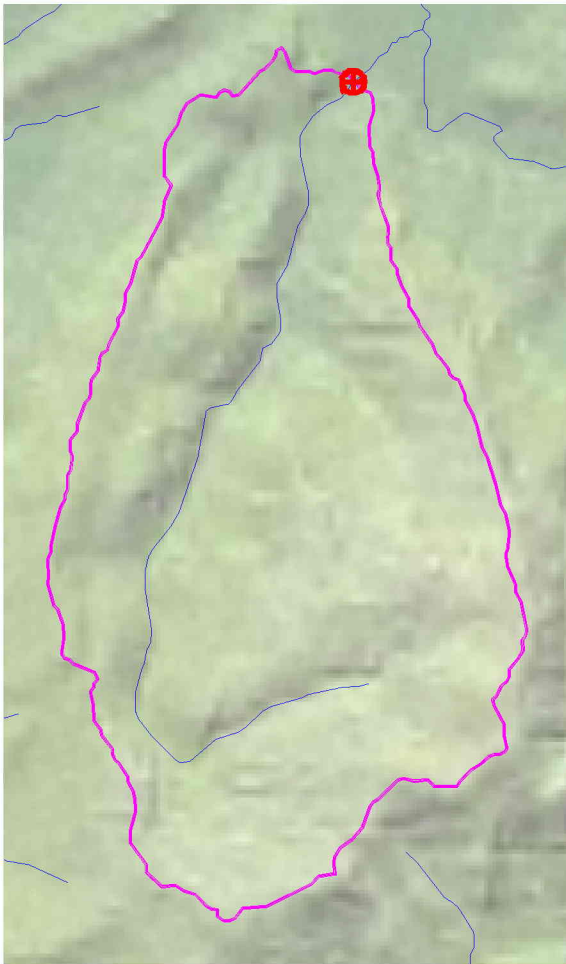
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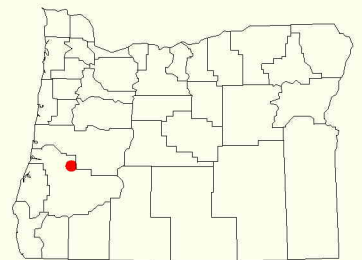
0 1 mile



Pour point



Watershed boundary



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<http://www1.wrd.state.or.us/files/wars/081016.105156.zip>