

**Table 3.** Regional regression equations for estimating peak flows of streams in Virginia.

[DA, basin drainage area in square miles; a, generalized least squares regression]

	Pseudo R-square	Average Standard Error of Prediction (in percent)	Standard Model Error (in percent)
<b>Virginia basins in the Coastal Plain region*</b>			
Log10(0.2 peak) = 1.918 + 0.644 • Log10(DA)	0.91	48	44
Log10(0.1 peak) = 2.107 + 0.626 • Log10(DA)	0.90	51	47
Log10(0.04 peak) = 2.315 + 0.609 • Log10(DA)	0.88	56	51
Log10(0.02 peak) = 2.457 + 0.594 • Log10(DA)	0.86	60	55
Log10(0.01 peak) = 2.580 + 0.583 • Log10(DA)	0.84	65	58
Log10(0.005 peak) = 2.698 + 0.573 • Log10(DA)	0.82	71	64
<b>Virginia basins in the Piedmont region, except those within the Mesozoic Basin region*</b>			
Log10(0.5 peak) = 2.197 + 0.593 • Log10(DA)	0.74	46	43
Log10(0.4292 peak) = 2.287 + 0.576 • Log10(DA)	0.74	45	42
Log10(0.2 peak) = 2.540 + 0.551 • Log10(DA)	0.93	34	32
Log10(0.1 peak) = 2.719 + 0.534 • Log10(DA)	0.93	33	31
Log10(0.04 peak) = 2.916 + 0.514 • Log10(DA)	0.92	34	32
Log10(0.02 peak) = 3.043 + 0.501 • Log10(DA)	0.91	36	34
Log10(0.01 peak) = 3.157 + 0.490 • Log10(DA)	0.90	38	36
Log10(0.005 peak) = 3.263 + 0.480 • Log10(DA)	0.89	41	38
<b>Virginia basins in the Mesozoic Basin region*</b>			
Log10(0.5 peak) = 2.002 + 0.722 • Log10(DA)	0.85	44	41
Log10(0.4292 peak) = 2.090 + 0.707 • Log10(DA)	0.85	44	42
Log10(0.2 peak) = 2.416 + 0.660 • Log10(DA)	0.83	44	42
Log10(0.1 peak) = 2.656 + 0.624 • Log10(DA)	0.82	44	41
Log10(0.04 peak) = 2.923 + 0.586 • Log10(DA)	0.81	43	40
Log10(0.02 peak) = 3.097 + 0.561 • Log10(DA)	0.80	42	39
Log10(0.01 peak) = 3.265 + 0.537 • Log10(DA)	0.80	41	37
Log10(0.005 peak) = 3.401 + 0.521 • Log10(DA)	0.80	40	36
<b>Virginia basins in the Blue Ridge region*</b>			
Log10(0.5 peak) = 2.127 + 0.709 • Log10(DA)	0.98	18	17
Log10(0.4292 peak) = 2.204 + 0.700 • Log10(DA)	0.98	19	18
Log10(0.2 peak) = 2.490 + 0.668 • Log10(DA)	0.97	22	20
Log10(0.1 peak) = 2.689 + 0.647 • Log10(DA)	0.95	26	24
Log10(0.04 peak) = 2.893 + 0.629 • Log10(DA)	0.92	31	29
Log10(0.02 peak) = 3.030 + 0.616 • Log10(DA)	0.91	34	32
Log10(0.01 peak) = 3.184 + 0.593 • Log10(DA)	0.86	33	30
Log10(0.005 peak) = 3.288 + 0.586 • Log10(DA)	0.83	37	33
<b>Virginia basins in the Valley and Ridge region*</b>			
Log10(0.5 peak) = 2.053 + 0.733 • Log10(DA)	0.94	24	22
Log10(0.4292 peak) = 2.121 + 0.725 • Log10(DA)	0.94	24	23
Log10(0.2 peak) = 2.382 + 0.689 • Log10(DA)	0.92	25	24
Log10(0.1 peak) = 2.557 + 0.665 • Log10(DA)	0.90	28	27
Log10(0.04 peak) = 2.741 + 0.642 • Log10(DA)	0.86	33	31
Log10(0.02 peak) = 2.862 + 0.626 • Log10(DA)	0.83	37	35
Log10(0.01 peak) = 2.963 + 0.615 • Log10(DA)	0.80	41	39
Log10(0.005 peak) = 3.063 + 0.603 • Log10(DA)	0.76	46	43
<b>Virginia basins in the Appalachian Plateau region*</b>			
Log10(0.5 peak) = 1.980 + 0.833 • Log10(DA)	0.94	0.25	0.23
Log10(0.4292 peak) = 2.048 + 0.824 • Log10(DA)	0.94	0.26	0.23
Log10(0.2 peak) = 2.289 + 0.798 • Log10(DA)	0.91	0.31	0.28
Log10(0.1 peak) = 2.450 + 0.781 • Log10(DA)	0.86	0.37	0.34
Log10(0.04 peak) = 2.631 + 0.759 • Log10(DA)	0.80	0.45	0.41
Log10(0.02 peak) = 2.740 + 0.750 • Log10(DA)	0.76	0.51	0.47