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(Q₂)   .[   ]

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$Q_2 = 0.55 \, A^{0.45}$ ( )

A ( )

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$Q_2 = 214. \, Q_m \, A^{0.606}$ ( )

Q_m ( )

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/   /

/   /

(Q ₂)

.   ( )   (A)

:[   ]

$Q_2 = 0.754 \, A^{0.707}$ ( )

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			/	/	/	/		/	X,y
			/	/	/	/		/	LOG x,y
			/	/	/	/		/	X,y
			/	/	/	/		/	X,y
			/	/	/	/		/	X,y
			/	/	/	/		/	X,y
			/	/	/	/		/	LOG x,y
			/	/	/	/		/	X,y
			/	/	/	/		/	Logx, LOG y
			/	/	/	/		/	LOGx,LOGy
			/	/	/	/		/	X,y
			/	/	/	/		/	LOGx,LOGy
			/	/	/	/		/	LOGx,LOGy
			/	/	/	/		/	X,y

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(Index Flood):

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		(m³/s)						
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Log Q_2 = 17.68 + 5.88 log L_W – 9.5 log H + 1.5 log S_r +2.97 log S_w	( )
log Q_5 = 0.51 + 0.6 L_W – 0.003 H + 0.6 S_r + 0.05 S_W	( )
Log Q_{10} = 0.21 + 0.6 L_W – 0.002 H + 0.14 S_R + 0.04 S_W	( )
Log Q_{20} = 0.6 L_W + 0.002H + 0.16 S_r + 0.03 S_W – 0.08	( )
Log Q_{25} = 0.14 log L_W – 0.002log H + 0.17log S_r + 0.02log S_W – 0.17	( )
Q_{50} = 0.85 $A^{1.42}$	( )
Q_{100} = 0.86 $A^{1.68}$	( )

(S_r)   (**H**)   (**L$_W$**)   (**Q$_T$**)

(**A**)   (**L$_r$**)   (**S$_W$**)

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$Q_{2.33}$ ( )

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A   ((Q$_2$)

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Log Q $_{2.33}$ = 0.67 + 0.011 A   ( )   /

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A

H   L$_W$

S$_W$ S$_r$

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)   Log Q_2 = 215.85 + 75.39 log A – 47.98
log L_W + 18.11 log H + 6.94 log S_r + 35.17
log S_W ( )

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13- Moscrip, Amy L. and Darid R. Montgomery, 1997. Urbanization , Flood Freqency, and Salmon Abundace in Puget Lowland Stream , Journal of the American Water Resources Association , vol.33, Issue 6.

14- Robert, A., 2003. River Processes. Oxford University Press. New York.

15- Brooks, K.N., P. Ffolliott, H.Gregersen, L.F.DeBano, 2003. Hydrology and the Management of Watersheds. Iowa State University Press.

16- Chow, V. T., 1988. Applied Hydrology, Mc.Graw Hill Book Co. New York.

17- Linsley, R., 1982. Hydrology for Engineers. Mc. Graw Hill Book Co., New York.

Determination of the Regional Relations of Floods in West Mazandaran

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Abstract

There are various statistical and experimental methods to estimate flood discharge. Acceptability, and an assurance of the results necessitates considering limitations, as well as environmental and hydrological conditions. In this research it is tried to analyze the floods in west of Mazandaran while considering a study of area separation into monotone hydrological units using such different statistical methods as: Index flood, Correlation equation series and Correlation equation method as well as proportions average. Finally, and according to the obtained results, the best regional relations of floods in each monotone unit were determined. The results show that correlation equations series and correlation equations with proportions average are fit to be used in analyzing rivers with rainy-snowy flow regimes and snow-rainy regimes, respectively. In rivers with rainy flow regime, Index flood method is determined as the most appropriate way to analyze the flood.

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