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Domokos & .

(Kovac,1984)

.....

(Clarke, 1979) .

(Sharma *et al.*, 1997) .

Hisdal & Tveito, ) .

(1993

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(Sen, 1978) .

.(Cadavid *et al.*, 1992)

Naghdi ).

(*et al.*, 2006

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<sup>1</sup> - Root Mean Squire of Error

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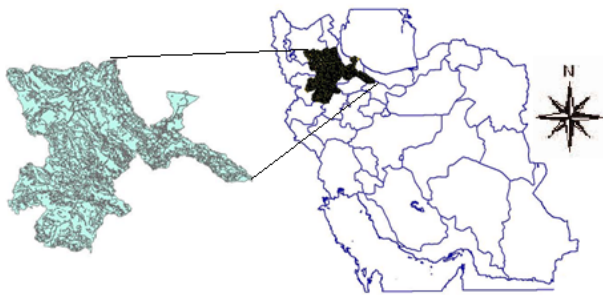
( )

(Ashraf zadeh *et al.*, .

2005)

(Sheikh, 1999) .

(sharifinejad, 1999)



۳۴°،۵۵'

۵۱°،۱۳' ۴۶°،۳۰'

۳۷°،۵۲'



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:(Alizadeh, 2003)

$$y = a + bx$$

(

:(Mahdavi, 2004 )

: y:

: a

: x

: b

$$\begin{aligned} y_H &= \bar{y} + K_N S_y \\ y_L &= \bar{y} - K_N S_y \end{aligned}$$

(

$y_L$   $y_H$  :  
 $\bar{y}$  :

$$b = \frac{\sum xy_i}{\sum x_i^2}$$

K

$S_y$

$K_N$

$x_i$  :

$y_L$

$y_H$

:  $y_i$

r

$$r = \frac{\sum xy}{\sum x^2 \sum y^2}$$

(

:(Mahdavi, 2004 )

...

y

:

( )

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$$q_{j+1} = q_{avj+1} + b_{j,j+1}(q_j - q_{avj}) + z_i s_{j+1} \sqrt{1 - r_{j,j+1}^2} \quad ($$

:  $q_j, q_{j+1}$  :

:  $q_{avj}, q_{avj+1}$  (j+1) (j)

:  $s_j, s_{j+1}$  (j+1) (j)

:  $r_{j,j+1}$  (j+1) (j)

:  $z_i$  (j+1) (j)

( )

$$\left( \begin{matrix} s_{j+1} \\ s_j \end{matrix} \right) r_{j,j+1} ; b_{j,j+1} \quad ($$

j+1

j

.(Patra, 2001)

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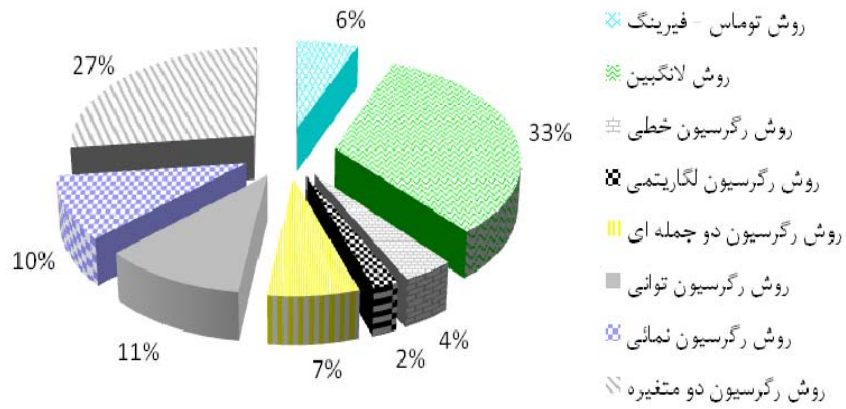
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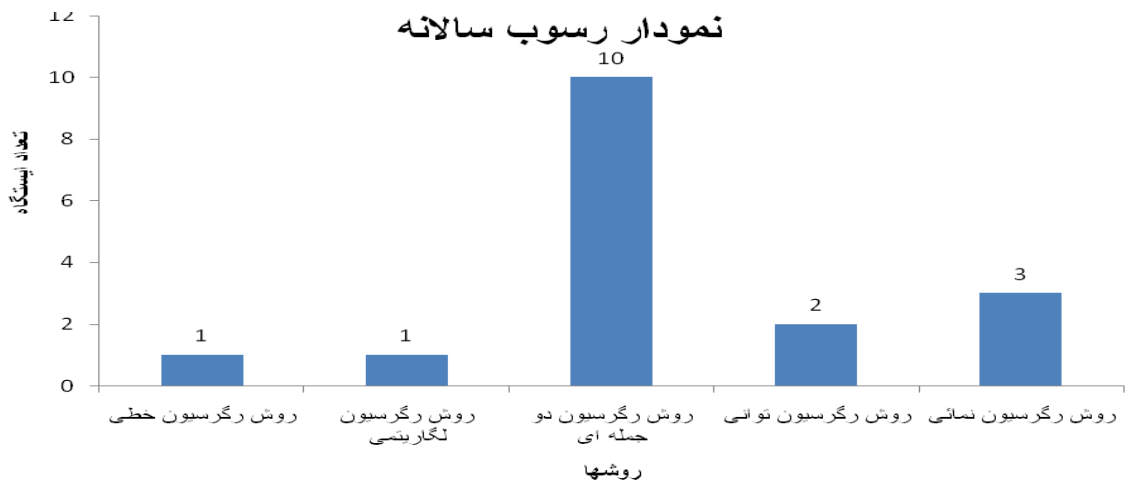
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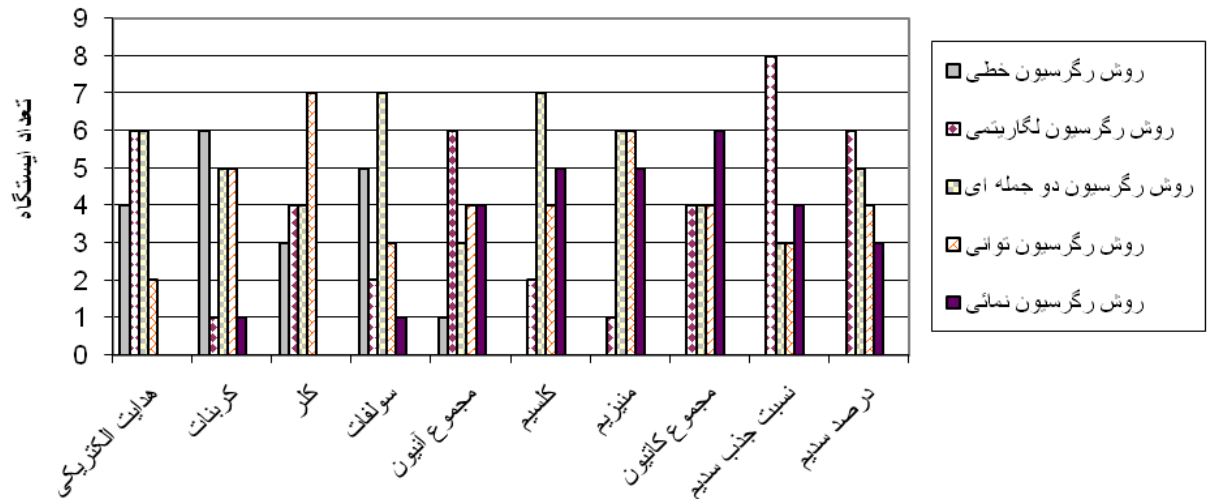




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& Domokos, 1984)

(Clarke, 1979) (Kovac

(Sen, 1978)

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## **Applicability of Various Reconstruction Methods of Hydrometric Data (Case Study: Sefidroud Basin)**

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(Received:2010/December/28 , Accepted:2011/October/28)

### **Abstract**

The necessity of using discharge data in hydrological designs and regional programming is an unavoidable matter. Unfortunately, malfunctioning of observation instruments, natural disasters and other problems sometimes result in incomplete or missing data. Having of data related to time series is necessary for every investigation about hydrometeorology. Thus missing data should be estimated in a proper way. There are different methods for generation of missing data which estimates the data with regard to particular parameters. In this study, we have used four methods including linear regression, multiple regression, Longbein method and Thomas-Fiering method for reconstruction of hydrometric data including monthly and annual discharge, sediment and water quality data. Results showed that among various methods, in 192 cases of reconstruction of monthly average discharge of 17 stations, Longbein and multiple regression methods in 33% and 27% of the cases have provided the best results, respectively. Two-variable regression in 8 of 17 stations had the best answer and it is suitable for estimating of annual average discharge. Also results indicated that we cannot use of relation between discharge-water quality and discharge-sediment to reconstruct data using above mentioned methods in the Sefidroud basin.

**Keywords:** Hydrometric data, Longbein method, Multiple regression, Sefidroud basin