

Variation of Cations Concentration in Tigris River within Mosul City

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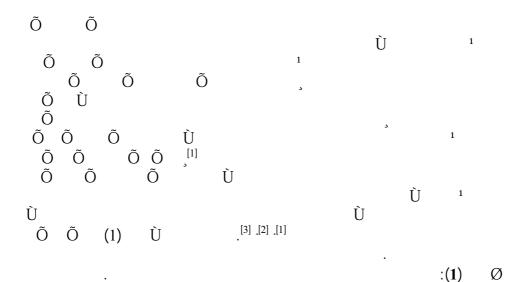
The study concentrates on evaluation of cations concentration in Tigris river within Mosul city. Many samples had been taken from the river during Sept (2000) to Jun (2001), The study revealed that the Calcium ion is the predominant cation followed by Magnesium ion followed by Sodium ion and finally Potassium ion with concentrations of (4, 1.8, 1.3, 0.14) meq/l and percent of (55.9%, 24.8%, 17.4%, 1.9%) for each of them respectively.

The study revealed that there were no valuable variation of actions concentrations along the river stream involved in the study, also the concentration of Calcium, Magnesium and Sodium ions increased in rainy months of the year. The results of this study compared with a study done on Mosul dam lake it showed that there were similarity in seasonal concentration variation between two studies but ions concentrations in the river was higher than there concentration in the lake.

Also the results of this study were compared with the previous study for Tigris river 30 years ago showed that all cations concentration in current study is more than those of previous study except the Magnesium ion stays constant. Concentration of the cations in Tigris river is less than those in ground water on the region by 5.6 time for Calcium, 9.3 times for Magnesium, 14.3 times for Sodium and 11.4 times for Potassium.

Key words: Tigris River, Cations, Calcium ion, Magnesium ion, Sodium ion, Potassium ion.

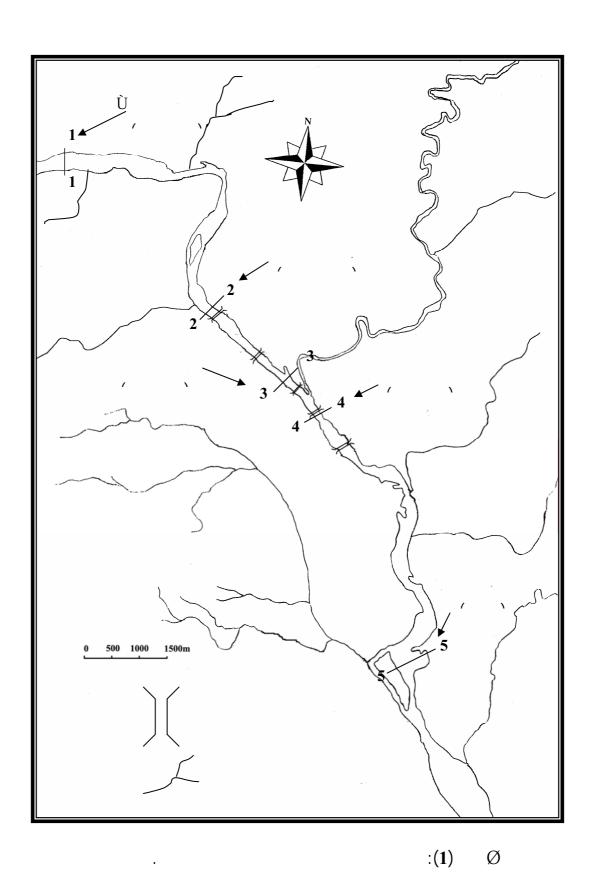
أستلم في 7/7/2005 قبل في 2006/1/2



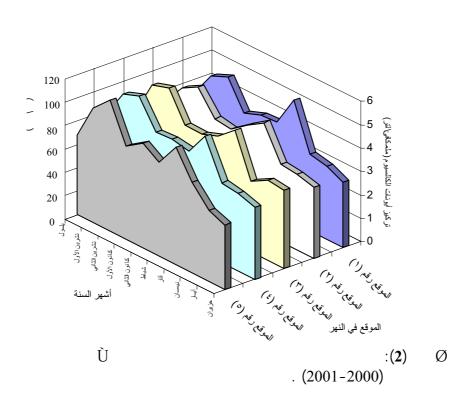
 (Ca^{+2}) (K^{+1}) (Na^{+1}) (\mathbf{Mg}^{+2}) 0.22 4.5 9.1 14.22 ^[4] .Ø 1.6 ^[6] .Ø 18.61 16.69 22.85 4.5 115 100 104 [7]. Ø 0.04 1.2 1.02 2.6 [8]

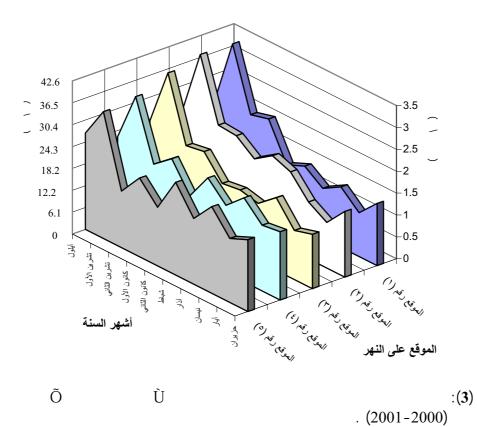
(K ⁺¹)	(Na ⁺¹)	(\mathbf{Mg}^{+2})	(Ca ⁺²)	
0.19-0.05	1.50-0.58	3.40-1.00	5.26-2.82	(1)
0.20-0.08	1.60-0.75	3.42-1.04	4.84-3.06	(2)
0.22-0.06	1.60-0.80	3.26-1.12	5.25-3.04	(3)
0.20-0.06	1.60-0.90	2.98-1.34	5.40-3.08	(4)
0.21-0.06	1.60-0.70	2.90-1.29	5.63-2.78	(5)

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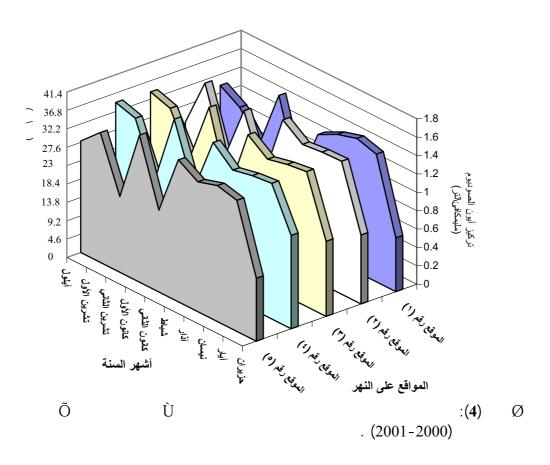


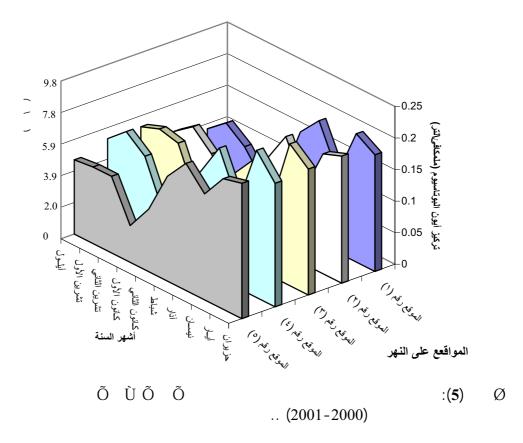
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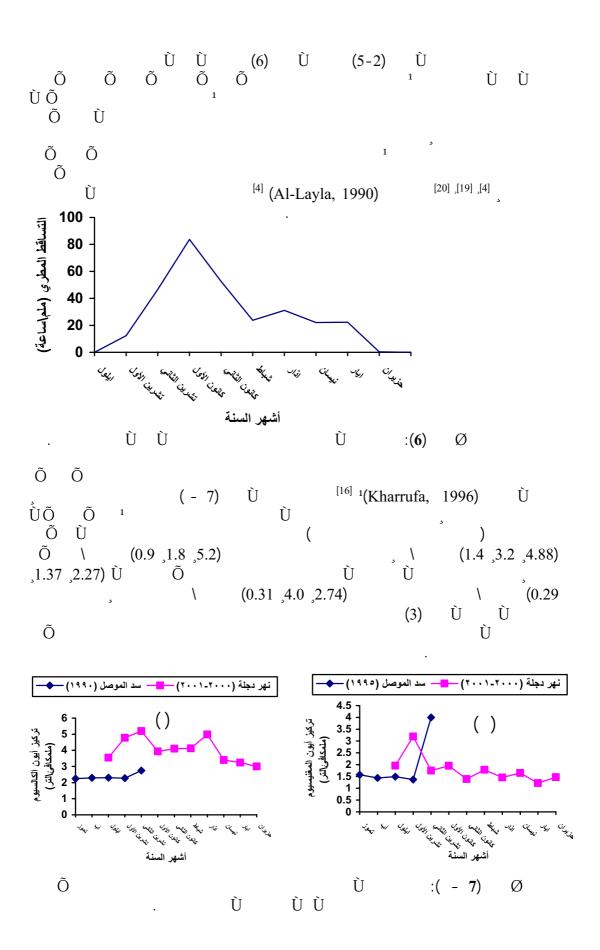


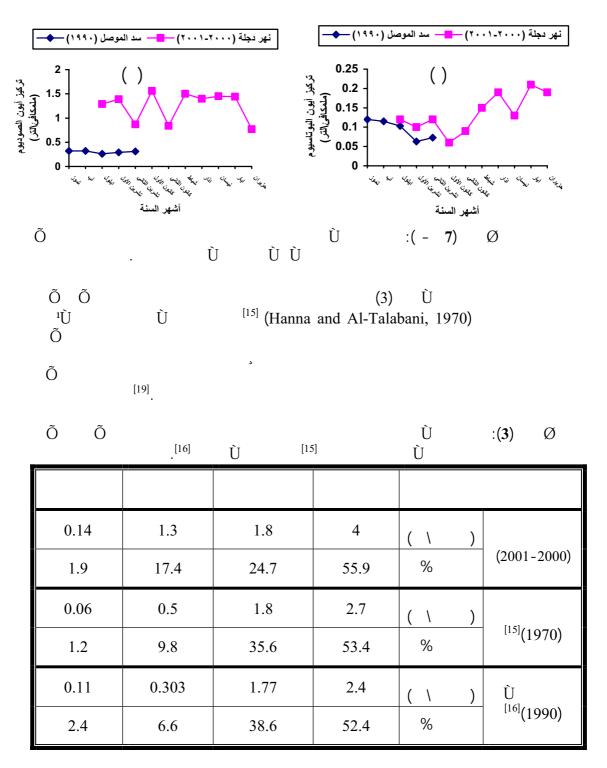


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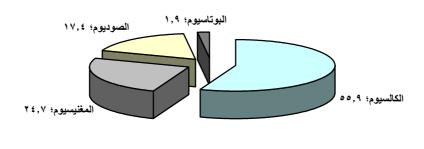






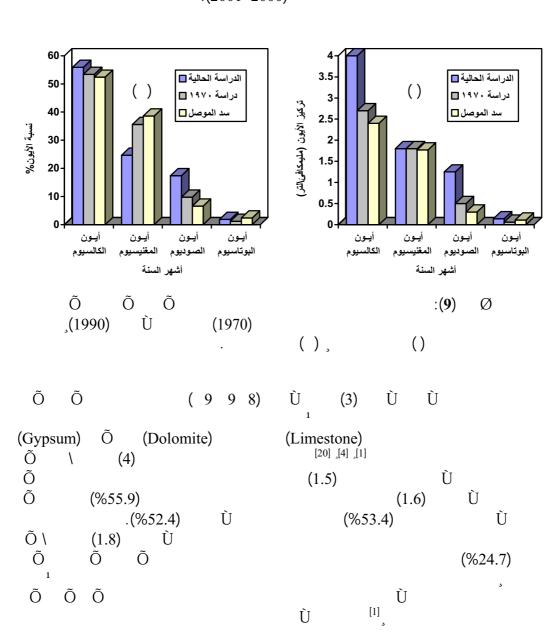


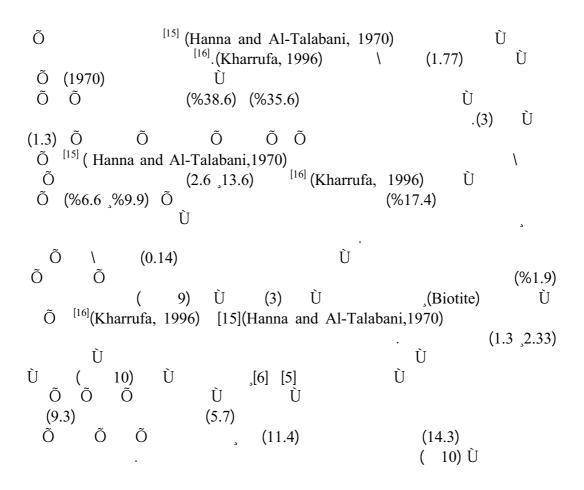
(Piediagram) (8) Ù (9) Ù $\tilde{O}^{[15]}$ (Hanna and Al-Talabani, 1970) \tilde{O} \tilde{O} \tilde{O} (Kharufa, 1996) \tilde{U}



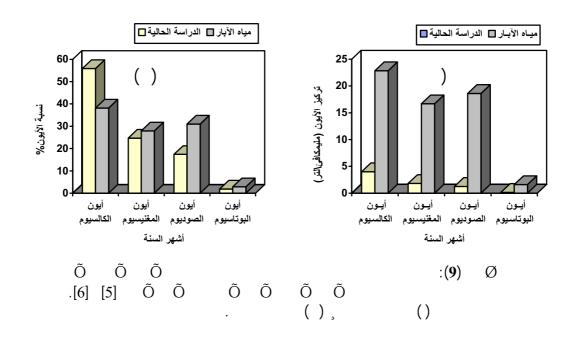
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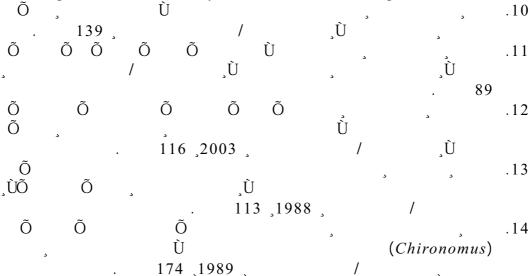


١ (7.24).1 .2 .%55.9) Õ Õ١ (0.14, 1.3, 1.8, 4)(%1.9 ,%17.4 ,%24.7 .3 ÙÕ Ù .4 Õ ÕÕ .5 .Ù Õ (1.6) Õ Ù .6 (2.6)(1.3)Ù. Õ .7 Õ Õ Ù Ù Ù (2.33, 13.6, 1.5)Õ ÙÕ Ù .8 Õ 9.3 5.6 14.3 11.4 .9

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