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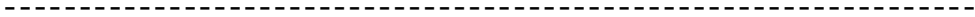
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1998-1997

2006-2005



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(Discharge)

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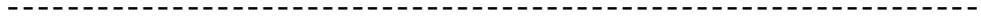
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(2002)

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(Revercing Water

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Model:1506 sampler)

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.Model:CM-2 (Current meter)

Model: PS-10E: OSK (Echo Sounder)

3336,

( pH- temperature field meter)

.Model:CC-411

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Model: E-202 OSK 3288 (Digital Salinometer)

(T.D.S) ( / ) (E.C)

Model: 556 Multi-Probe System (MPS) (YSI) ( / )

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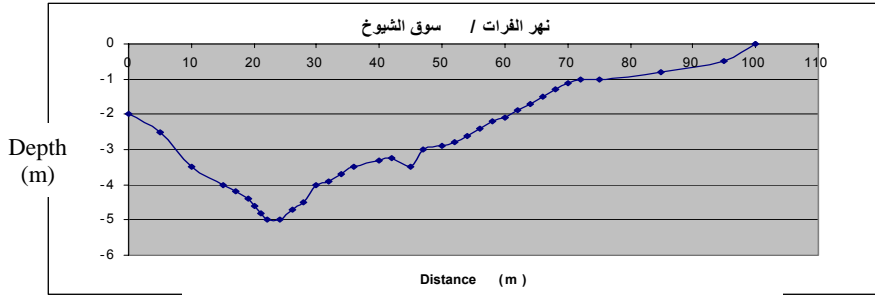
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-:(Bowden & Sharf al-Den, 1966)

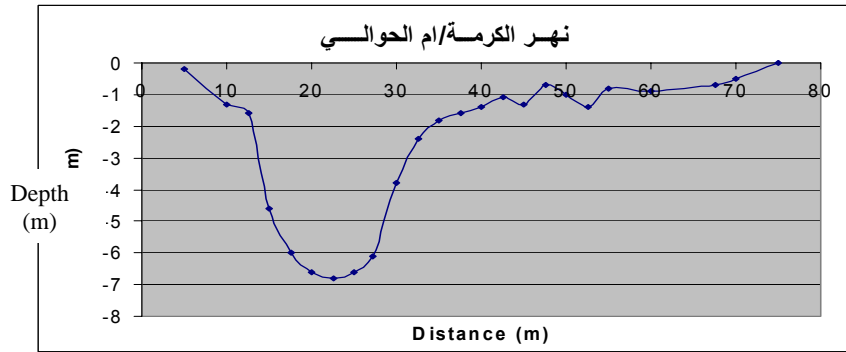
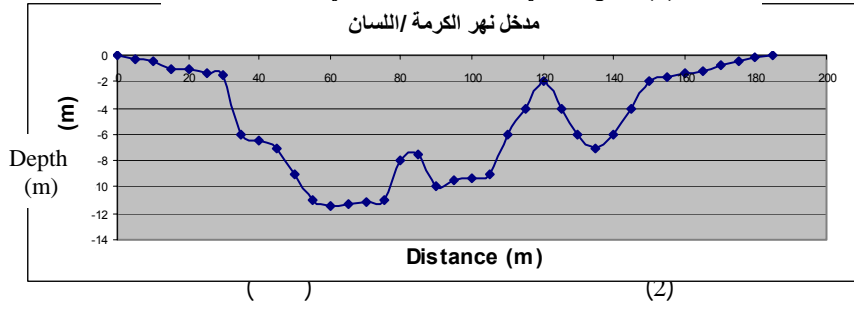
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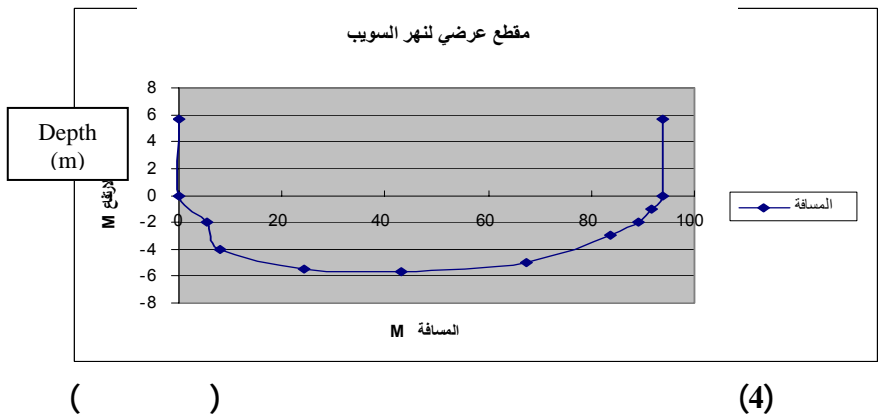
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الملحق (1) مقطع عرضي لمجرى نهر الفرات في سوق



الملحق (3) مقطع عرضي لمدخل نهر كرمة علي (منطقة الحوالي)





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103	81	78	81	126	93	79	71	109	122	145	162	92		1990
227	156	111	158	260	270	268	266	280	271	258	245	175		1995
149	96	103	109	121	165	201	188	183	161	106	176	175		1997

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									2	1	2	1		
119	130	79	159	71	78	96	97	115	179	141	150	137		1990
384	289	292	410	585	517	414	400	412	394	326	268	305		1995
270	200	211	249	274	167	350	317	335	363	300	243	236		1997



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10.5	334	218	247	306	399	478	534	600	352	281	245	203	150	-1989 1990	
20.0	626	274	243	295	412	495	649	741	1100	928	1098	968	304	-1997 1998	
9.6	300	203	211	292	360	383	405	336	324	315	292	261	216	-2005 (*) 2006	

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معدل التغذية الحالية م/3/ثا لشهر ك1	معدل التغذية قبل التجفيف م/3/ثا لشهر آذار م/3/ثا	معدل التغذية الحالية لشهر آذار م/3/ثا	نسبة التغذية الحالية إلى السابقة لشهر ك1	نسبة التغذية الحالية إلى السابقة لشهر آذار	كمية المياه الخارجة من الاهوار م/3/ثا لشهر ك1	كمية المياه الخارجة من الاهوار م/3/ثا لشهر آذار	نسبة المياه الخارجة قياسا بالداخلية لشهر ك1	نسبة المياه الخارجة قياسا بالداخلية لشهر آذار	معدل التغذية قبل التجفيف م/3/ثا لشهر ك1	
%78.6	55.7	81	34	%44.8	%42.0	103	230	61	145	
%15.0	%16.7	21	17	%56.5	%44.2	140	248	102	231	
%0.81	%0.98	0.97	0.54	%40.8	%21.7	120	294	55	253	

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% 21.7 44.2 42.0 /3 55 102 61

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% 15.0 16.7 55.0 /<sup>3</sup> 54 17 34

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Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.800	1.921	2.247	2.392	3.689	3.991
1.881	1.761	2.341	2.213	3.842	3.649
1.922	1.513	2.391	1.907	3.927	3.173
1.942	1.440	2.402	1.822	3.985	2.966

2006

(6)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.211	1.203	1.548	1.534	2.754	2.668
1.212	1.204	1.552	1.534	2.781	2.672
1.193	1.194	1.531	1.524	2.739	2.656
1.244	1.211	1.585	1.548	2.825	2.713
1.253	1.212	1.606	1.532	2.908	2.762
1.284		1.637		2.942	

2006

(7)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.532	1.501	1.901	1.865	2.582	2.563
1.534	1.493	1.899	1.865	2.592	2.554
1.511		1.879		2.577	
1.512		1.879		2.592	
1.553		1.906		2.632	
		1.972		2.649	

2007

(8)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.854	2.202	2.282	2.608	2.541	2.966
1.934		2.374		2.644	
1.974		2.423		2.701	
2.020		2.473		2.76	
2.122		2.588		2.894	
2.190		2.665		2.979	

2006

(9)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.130	1.398	1.451	1.012	2.387	2.221
1.359	1.133	1.453	1.263	2.333	2.133
1.192	1.453	1.474	1.075	2.444	2.263
1.152	1.502	1.432		2.313	2.232
1.073		1.403		2.243	

2006

(10)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.352	1.391	1.724	1.770	2.961	3.121
1.394	1.394	1.762	1.770	3.040	3.143
1.394	1.394	1.764	1.770	3.060	3.153
1.392	1.392	1.761	1.770	3.070	3.163
1.392		1.771		3.114	

2006

(11)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.321	1.314	1.653	1.654	2.156	2.532
1.331	1.324	1.664	1.653	2.177	2.151
1.342	1.344	1.674	1.682	2.192	2.204
1.352		1.676		2.199	



2007

(12)

Salinity g/l		T.D.S g/l		Cond. mS/cm	
Ebb	Flood	Ebb	Flood	Ebb	Flood
1.133	1.271	1.441	1.621	2.491	2.853
1.153	1.261	1.473	1.611	2.553	2.953
1.142	1.333	1.464	1.673	2.544	2.894
1.182	1.292	1.513	1.642	2.632	
1.233		1.573		2.763	

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(<sup>3</sup> 6.93) /<sup>3</sup> 220  
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### **The Interaction between Water Masses of the Marshes and the Shatt Al-Arab River (South of Iraq).**

**H.K. Al- Mahmood S.S. Abdullah A.A. Al-Mahdi**  
*Marine Physics, Marine Science Center, Univ. Basrah, Iraq*

#### **Abstract**

The aim of this study is to explain the role of the discharge of the input Rivers from north on the Water Balance of the Al-Hawza and Qurna Marshes and explain the effect of these Marshes on Shatt Al-Arab Water quality. The Study period include several years before and after drying the marshes. The Results show that the internal quantities of the water after the rehabilitation of Marshes were increasing simultaneous, second there was a difference in salinity between the internal in comparison with external masses of water from Hor Al-Hammar, located in Garmat Ali, Third, because the effect of the dried weather and the relatively shallow at the full areas. That lead to a weak exchange between Marshes and Shatt Al-Arab River.