# A-PDF MERGER DEMAS PUBLICAS DIRECCION GENERAL DE AGUAS

 Boletín Nº
 : 335

 Mes
 : Marzo

 Año
 : 2006

DE : JAVIER NARBONA NARANJO

ING. JEFE DEPARTAMENTO DE HIDROLOGIA

## INFORMACION PLUVIOMETRICA, FLUVIOMETRICA, ESTADO DE EMBALSES Y AGUAS SUBTERRANEAS

#### Contenido :

- 1.- Informe pluviométrico
- 2.- Volúmenes de embalses
- 3.- Informe fluviométrico
- 4.- Informe aguas subterráneas

En Internet (www.dga.cl) se publica: .

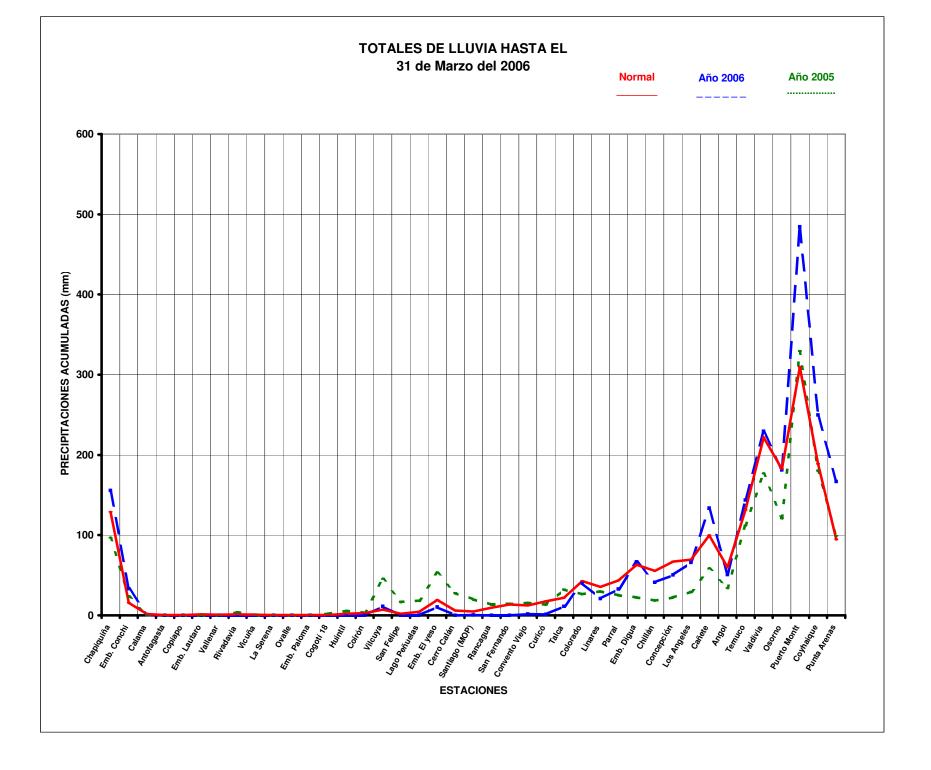
- -Los informes de este boletin
- -Caudales en tiempo real

NOTA: Datos provisorios sujetos a modificaciones posteriores

INFORME PLUVIOMETRICO NACIONAL Nº03

		TOTALES	AL 31	DE MARZO	
		2006	2005	PROMEDIO	EXCESO O DÉFICIT
ESTACIONES	MARZO	(mm)	(mm)	PROMEDIO (mm)	(%)
		·			
CENTRAL CHAPIQUIÑA	34.5	155.5	96.5	129.0	21
EMBALSE CONCHI	0.0	33.2	23.0	15.7*	111
CALAMA	0.0	0.7	0.5	1.5	- 54
ANTOFAGASTA	0.0	0.0	0.0	0.6	-100
COPIAPÓ	0.0	0.0	0.0	0.5	-100
EMBALSE LAUTARO	0.0	0.0	0.0	1.1	-100
VALLENAR	0.0	0.0	0.0	0.7	-100
RIVADAVIA	0.0	0.0	4.0	1.1	-100
VICUÑA	0.0	0.0	0.0	0.9	-100
LA SERENA	0.0	0.0	0.0	0.4	-100
OVALLE	0.0	0.0	0.0	0.4	-100
EMBALSE PALOMA	0.0	0.0	0.0	0.4	-100
COGOTÍ 18	0.0	0.0	2.0	0.5	-100
HUINTIL	0.0	0.0	5.5	1.8	-100
COIRÓN	0.0	0.0	3.0	2.6	-100
VILCUYA	0.0	11.0	45.0	7.3	52
SAN FELIPE	0.0	0.0	16.6	1.8	-100
LAGO PEÑUELAS	0.0	0.0	18.5	4.4	-100
EMBALSE EL YESO	2.5	10.3	52.7	19.3	- 47
CERRO CALAN	0.0	0.0	27.8	5.9	-100
SANTIAGO (MOP)	0.0	0.2	20.0	4.7	- 96
RANCAGUA	0.0	0.0	13.5	9.7	-100
SAN FERNANDO	0.0	0.0	14.0	13.7	-100
CONVENTO VIEJO	0.0	1.5	15.5	12.4	- 88
CURICO	0.0	1.0	13.0	17.4	- 94
TALCA	0.0	11.3	32.2	22.0	- 49
COLORADO	0.0	40.5	26.2	42.7	- 5
LINARES	0.0	20.7	29.9	35.6	- 42
PARRAL	2.3	32.6	25.3	43.4	- 25
EMBALSE DIGUA	5.0	66.5	22.3	63.0	6
CHILLÁN	14.0	41.0	18.2	55.3	- 26
CONCEPCIÓN	10.1	50.2	22.4	66.9	- 25
LOS ÁNGELES	21.9	66.0	29.7	69.4	- 5
CAÑETE	83.7	133.7	58.0	99.8	34
ANGOL	16.6	50.6	34.1	59.8	- 15
TEMUCO	68.5	143.6	112.1	131.2	9
VALDIVIA	73.0	229.2	176.9	222.0	3
OSORNO	61.5	181.2	120.9	182.3	- 1
PUERTO MONTT	177.7	484.5	329.3	309.5	57
COYHAIQUE	124.1	249.6	180.3	188.6*	32
PUNTA ARENAS	50.0	166.8	98.9	94.6	76

Promedios acumulados para el período 1961-1990 (D.G.A)
\* : Promedios calculados para períodos inferiores a 30 años Valores expresados en milímetros (1 mm = 1 lt x m2)



#### **ESTADO DE EMBALSES**

Ultimo día del mes (Volúmenes en mill-m³)

		(	,			
				PROMEDIO		
				HISTORICO	Mar	ZO
EMBALSE	REGION	CUENCA	CAPACIDAD	MENSUAL	2006	2005
Conchi	II	Loa	22	15	16	15
Lautaro	III	Copiapó	35	12	10	7
Santa Juana	III	Huasco	166	119	166	121
La Laguna	IV	Elqui	40	24	28	25
Puclaro	IV	Elqui	200	117	200	134
Recoleta	IV	Limarí	100	58	92	68
La Paloma	IV	Limarí	748	395	542	430
Cogotí	IV	Limarí	150	75	86	56
Culimo	IV	Quilimarí	10	3.0	0.4	0.6
Corrales	IV	Illapel	50	39	49	33
Peñuelas	V	Peñuelas	95	22	22	29
El Yeso	RM	Maipo	256	200	249	231
Rungue	RM	Maipo	2.2	0.3	0.3	0.2
Rapel	VI	Rapel	695	579	530	505
Colbún	VII	Maule	1544	1057	1148	942
Lag. Maule	VII	Maule	1420	968	1144	802
Bullileo	VII	Maule	60	3	0	1.3
Digua	VII	Maule	220	28	11	6.5
Tutuvén	VII	Maule	15	2.0	2.0	2.1
Coihueco	VIII	Itata	29	7	6.6	6
Lago Laja (&	a) VIII	Bio-Bio	5582	3361	2709	1923

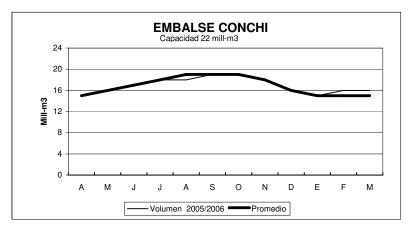
#### RESUMEN ANUAL

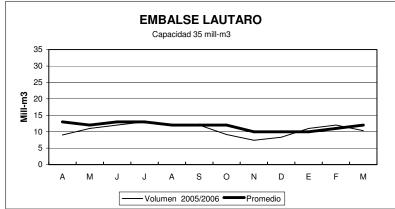
2005-2006

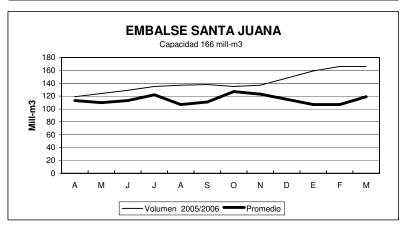
EMBALSE	A	M	J	J	A	S	0	N	D	E	F	М	
Conchi	15	16	17	18	18	19	19	18	16	15	16	16	
Lautaro	9	11	12	13	12	12	9	7	8	11	12	10	
Santa Juana	119	124	129	135	137	138	135	137	148	159	166	166	
La Laguna	26	25	27	29	31	32	36	37	38	36	31	28	
Puclaro	128	133	137	140	140	141	142	155	189	200	200	200	
Recoleta	65	69	73	75	77	80	81	86	91	91	100	92	
La Paloma	414	423	437	449	456	480	506	559	583	574	559	542	
Cogotí	53	54	58	61	63	73	80	100	104	98	92	86	
Culimo	0.0	0.0	0.0	0.0	1.3	3.1	3.7	2.9	2.4	1.9	1.2	0.4	
Corrales	31	31	32	32	37	42	43	44	46	49	49	49	
Peñuelas	27	28	29	30	35	35	34	32	29	27	24	22	
El Yeso	218	215	221	215	203	192	179	181	206	233	246	249	
Rungue	0.1	0.1	0.6	1.2	2.0	2.1	2.0	1.9	2.2	1.0	0.6	0.3	
Rapel	442	537	432	514	645	597	615	616	629	634	605	530	
Colbún	565	714	1253	1488	1506	1480	1425	1542	1544	1519	1462	1148	
Lag. Maule	743	723	761	786	829	843	863	914	1001	1088	1134	1144	
Bullileo	0	19	44	60	60	60	60	60	60	49	24	0	
Digua	4.0	28	105	160	219	220	220	199	220	93	34	11	
Tutuvén	0	3	15	13	15	13	12	12	15	6.1	4	2.0	
Coihueco	1.4	1.6	13.4	24	28.3	29	29	29	28	22	14	6.6	
Lago Laja (&)	1748	1716	1943	2110	2365	2480	2690	2970	3119	3104	2966	2709	

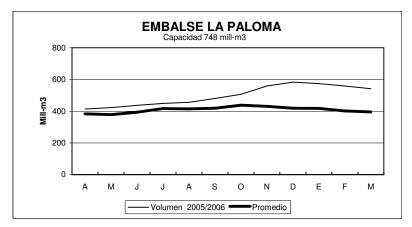
( & ): Volumen sobre cota 1300 msnm

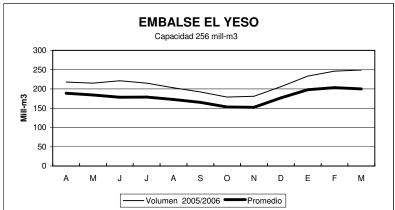
#### ESTADO DE EMBALSES

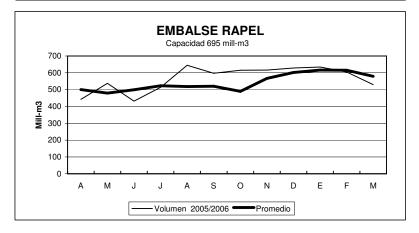


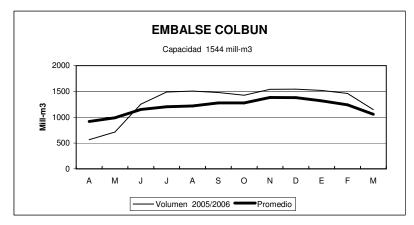


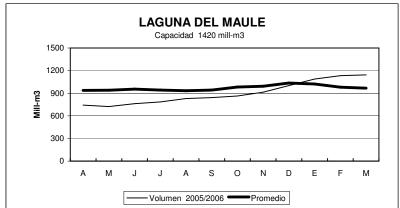


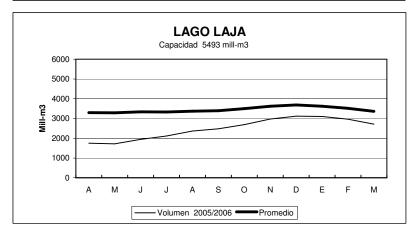








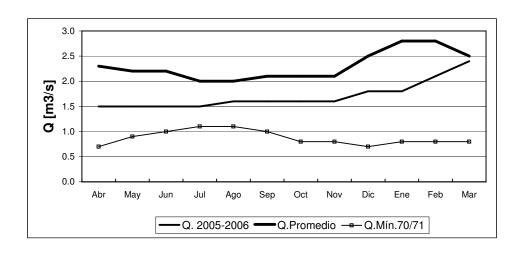




## INFORME FLUVIOMETRICO

Caudales medios mensuales en m3/seg

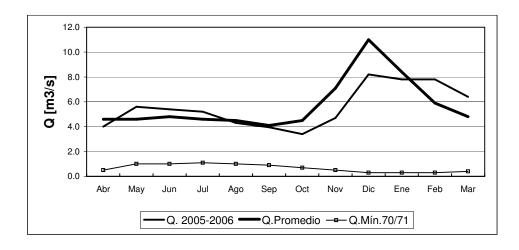
#### RIO COPIAPO EN LA PUERTA



Q. 2005-2006 Q.Promedio Q.Mín.70/71

Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
1.5	1.5	1.5	1.5	1.6	1.6	1.6	1.6	1.8	1.8	2.1	2.4
2.3	2.2	2.2	2.0	2.0	2.1	2.1	2.1	2.5	2.8	2.8	2.5
0.7	0.9	1.0	1.1	1.1	1.0	8.0	8.0	0.7	8.0	8.0	8.0

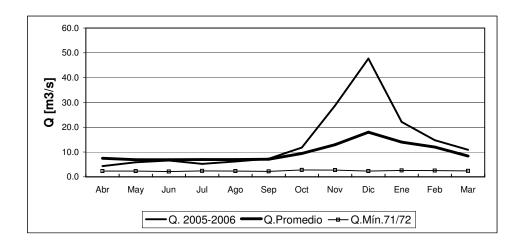
## RIO HUASCO EN ALGODONES



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
Q. 2005-2006	4.0	5.6	5.4	5.2	4.3	4.0	3.4	4.7	8.2	7.8	7.8	6.4
Q.Promedio	4.6	4.6	4.8	4.6	4.5	4.1	4.5	7.1	11.0	8.4	5.9	4.8
Q.Mín.70/71	0.5	1.0	1.0	1.1	1.0	0.9	0.7	0.5	0.3	0.3	0.3	0.4

Mar-06

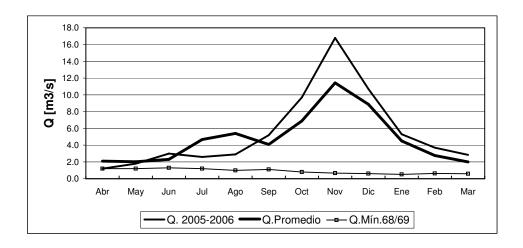
#### RIO ELQUI EN ALGARROBAL



Q. 2005-2006 Q.Promedio Q.Mín.71/72

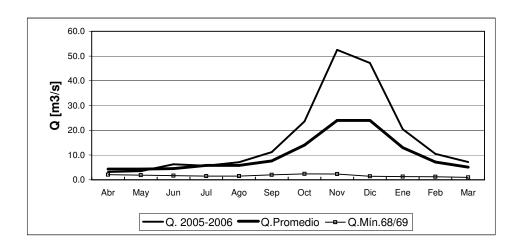
Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
4.3	5.9	6.6	5.2	6.2	7.3	11.8	28.8	47.7	22.1	14.8	10.9
7.5	6.9	6.9	7.0	7.0	7.1	9.4	13.0	18.0	14.0	12.0	8.4
2.3	2.3	2.1	2.4	2.3	2.2	2.8	2.7	2.3	2.6	2.5	2.4

#### RIO GRANDE EN LAS RAMADAS



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
Q. 2005-2006	1.2	1.8	3.0	2.6	2.9	5.2	9.7	16.8	10.7	5.3	3.7	2.9
Q.Promedio	2.1	2.0	2.3	4.7	5.4	4.1	6.9	11.4	8.9	4.5	2.8	2.0
Q.Mín.68/69	1.2	1.2	1.3	1.2	1.0	1.1	8.0	0.7	0.6	0.5	0.6	0.6

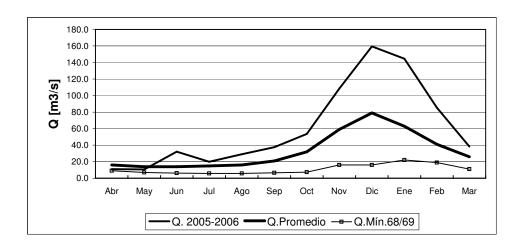
#### RIO CHOAPA EN CUNCUMEN



Q. 2005-2006 Q.Promedio Q.Mín.68/69

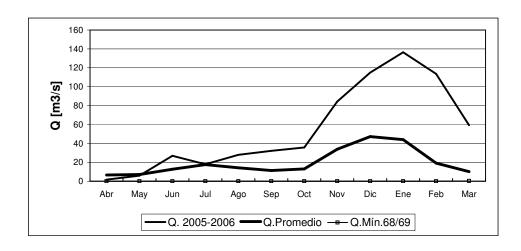
Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
3.2	3.5	6.3	5.7	7.1	11.2	23.6	52.5	47.2	20.4	10.5	7.2
4.3	4.3	4.5	5.8	5.8	7.6	14.0	24.0	24.0	13.0	7.2	5.1
2.1	1.9	1.7	1.5	1.5	2.0	2.4	2.3	1.4	1.3	1.2	1.0

#### RIO ACONCAGUA EN CHACABUQUITO



	Apr	way	Jun	Jui	Ago	Sep	Oct	NOV	DIC	⊨ne	reb	war
Q. 2005-2006	11.1	10.6	32.2	20.0	29.1	37.5	53.7	108.4	159.5	144.6	85.3	38.3
Q.Promedio	16.0	14.0	14.0	15.0	16.0	21.0	32.0	59.0	79.0	63.0	41.0	26.0
Q.Mín.68/69	9.1	6.9	6.2	5.9	5.9	6.6	7.4	16.0	16.0	22.0	19.0	11.0

#### RIO ACONCAGUA EN SAN FELIPE



Q. 2005-2006 Q.Promedio Q.Mín.68/69

Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
1.7	6.0	26.9	18.0	28	32.2	35.8	84.4	115.0	136.5	113.6	59.2
6.7	7.1	12.7	17.6	14.2	11.3	13.0	33.8	47.3	44.1	19.1	10.2
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Dic

4.8

2.8

0.4

Ene

2.8

1.7

0.3

Feb

1.4

1.1

0.3

Mar

1.1

8.0

0.3

Oct

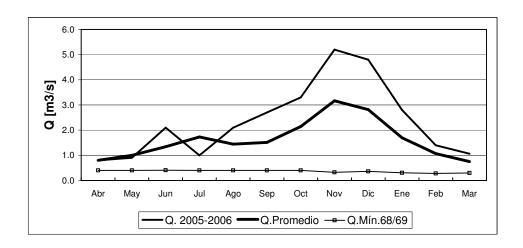
Nov

5.2

3.2

0.3

#### ESTERO ARRAYAN EN LA MONTOSA



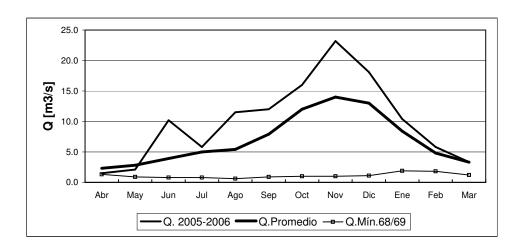
May Ago Sep Q. 2005-2006 8.0 0.9 2.1 2.7 1.0 2.1 3.3 Q.Promedio 8.0 1.0 1.3 1.7 1.4 1.5 2.1 0.4 Q.Mín.68/69 0.4 0.4 0.4 0.4 0.4 0.4

Jun

Jul

Abr

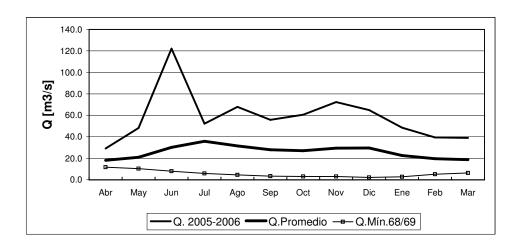
## RIO MAPOCHO EN LOS ALMENDROS



Q. 2005-2006 Q.Promedio Q.Mín.68/69

Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
1.5	2.1	10.2	5.8	11.5	12.0	16.0	23.2	18.1	10.4	5.8	3.3
2.3	2.8	3.9	5.0	5.4	7.9	12.0	14.0	13.0	8.4	4.8	3.3
1.3	0.9	0.8	0.8	0.6	0.9	1.0	1.0	1.1	1.9	1.8	1.2

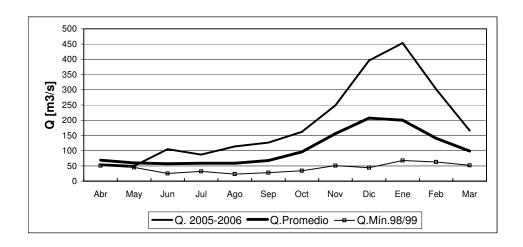
#### RIO MAPOCHO EN RINCONADA DE MAIPU



Q. 2005-2006 Q.Promedio Q.Mín.68/69

Abr	iviay	Juli	Jui	Ago	ъер	OCI	INOV	DIC	Ene	reb	iviar
29.2	48.2	122.1	52.3	67.9	55.9	60.6	72.4	64.9	48.6	39.5	39.0
18.1	21.0	30.3	35.9	31.6	28.0	27.1	29.5	29.7	22.6	19.6	18.7
11.8	10.4	8.1	6.0	4.6	3.4	3.2	3.1	2.2	2.9	5.3	6.5

## RIO MAIPO EN EL MANZANO



Q. 2005-2006 Q.Promedio Q.Mín.98/99

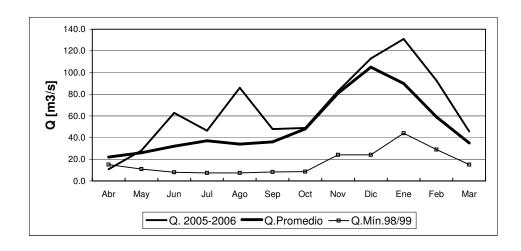
Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
55	50	105	87	114	126	162	249	396	453	302	166
69	60	57	59	59	68	96	156	207	200	141	99
51	45	25	32	23	28	34	51	44	68	63	52

## **RIO CLARO EN EL VALLE 2**

	60.0 -												
	50.0 -			$\wedge$		Λ							
[s/	40.0 -			$/\!$		$/ \setminus$	\						
Q [m3/s]	30.0 -			<u> </u>	$\vee$		ackslash		^				
0	20.0 -		-	_	~		$\rightarrow$	<b>/</b>	$\rightleftharpoons$				
	10.0 -		//										
	0.0	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
				_	<b>-</b> Q. 20	05-200	6 —	Q.Pror	nedio -	Q.l	Mín.98/	/99	

	Abr	way	Jun	Jui	Ago	Sep	Oct	NOV	DIC	⊨ne	reb	war
Q. 2005-2006	1.1	9.5	53.4	25.2	49.9	20.2	18.6	24.9	15.5	6.6	2.8	1.4
Q.Promedio	2.6	7.2	17.3	18.6	13.4	15.5	17.9	17.2	11.1	3.9	2.7	2.1
Q.Mín.98/99	0.7	0.0	1.5	0.8	0.0	1.5	1.0	0.0	0.0	0.0	0.1	0.3

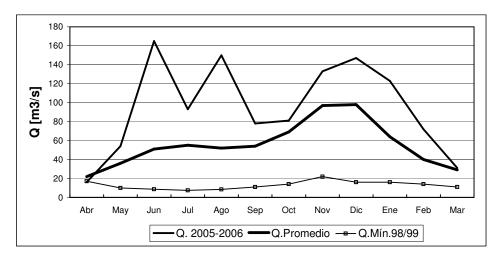
## **RIO TINGUIRIRICA BAJO BRIONES**



Q. 2005-2006 Q.Promedio Q.Mín.98/99

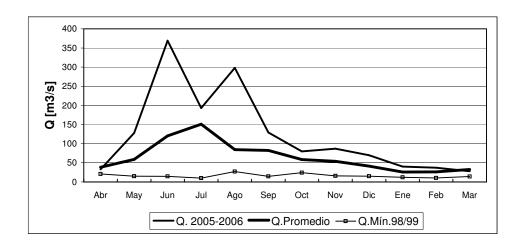
Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
10.8	28.1	62.8	46.3	86.0	47.9	48.9	82.8	113.0	131.0	92.7	45.7
22.0	26.0	32.0	37.0	34.0	36.0	48.0	81.0	105.0	90.0	59.0	35.0
15.0	11.0	8.0	7.4	7.4	8.2	8.5	24.0	24.0	44.0	29.0	15.0

#### RIO TENO DESPUES DE JUNTA



	Abr	way	Jun	Jui	Ago	Sep	Oct	NOV	DIC	⊨ne	reb	war
Q. 2005-2006	16	54	165	93	150	78	81	133	147	123	72	31
Q.Promedio	22	36	51	55	52	54	69	97	98	64	40	29
Q.Mín.98/99	17	10	8.6	7.4	8.4	11	14	22	16	16	14	11

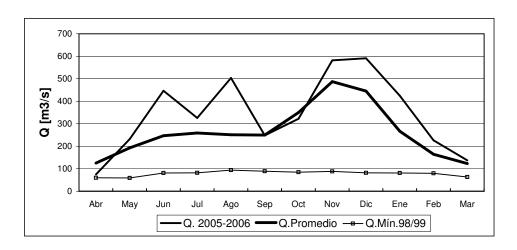
#### RIO CLARO EN RAUQUEN



Q. 2005-2006 Q.Promedio Q.Mín.98/99

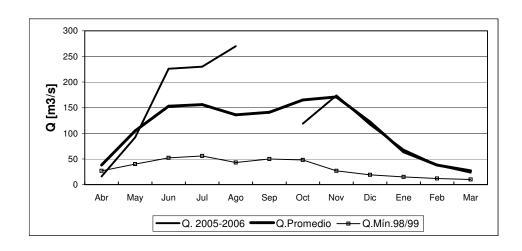
Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
33	128	369	193	298	129	80	87	70	40	37	28
39	59	121	151	84	82	58	54	41	26	26	33
21	15	15	10	27	15	24	16	15	12	10	14

#### RIO MAULE EN ARMERILLO



	Abr	мау	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
Q. 2005-2006	75	232	447	326	504	248	322	582	591	425	226	137
Q.Promedio	125	193	247	259	251	250	350	487	445	267	164	123
Q.Mín.98/99	60	59	81	82	94	89	85	88	82	81	80	63

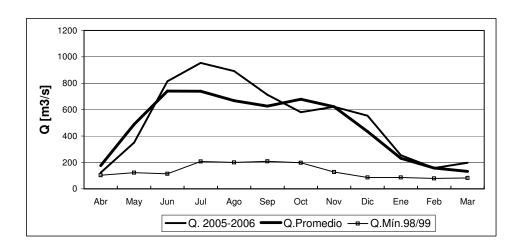
RIO ÑUBLE EN SAN FABIAN



Q. 2005-2006 Q.Promedio Q.Mín.98/99

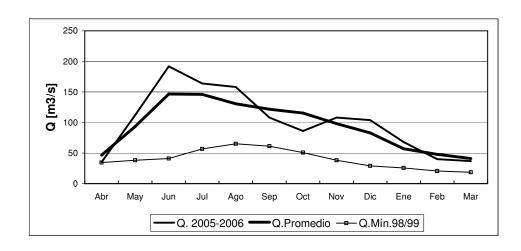
Abr	мау	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
16	92	226	230	270		119	174	117	68	38	23
38	105	153	156	136	141	165	171	122	64	38	27
27	40	52	56	43	50	48	27	19	15	12	10

## RIO BIO-BIO EN RUCALHUE



	ADI	iviay	Jun	Jui	Ago	Sep	OCI	NOV	DIC	⊏ne	reb	war
Q. 2005-2006	123	350	815	954	892	713	581	622	554	255	157	198
Q.Promedio	176	489	741	740	668	627	679	622	434	231	158	132
Q.Mín.98/99	103	122	114	207	200	208	197	127	86	86	79	82

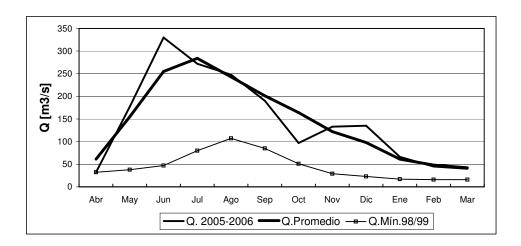
## RIO CAUTIN EN RARI-RUCA



Q. 2005-2006 Q.Promedio Q.Mín.98/99

Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
35	112	192	164	158	108	86	108	104	68	40	37
47	93	147	146	131	122	116	98	83	57	48	41
35	38	41	57	65	61	51	38	29	26	21	19

## **RIO CAUTIN EN CAJON**

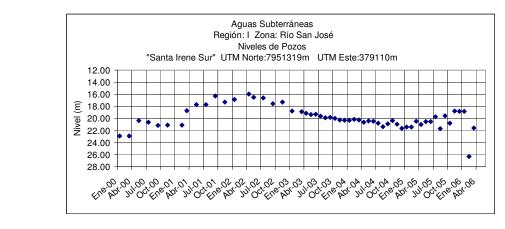


	Abr	мау	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	⊦eb	Mar
Q. 2005-2006	32	177	330	272	248	190	97	133	135	66	45	40
Q.Promedio	61	155	255	284	243	201	164	122	98	61	48	42
Q.Mín.98/99	32	38	47	80	107	85	51	29	23	17	16	16

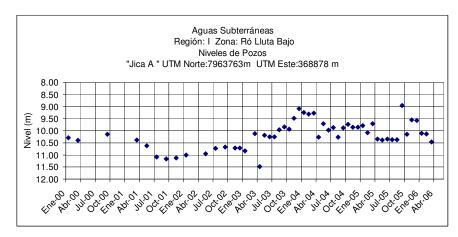
#### Informe de Aguas Subterráneas

Niveles de Pozos en metros

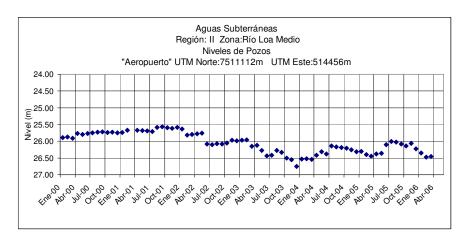
\*Gráficos de últimos cinco años.



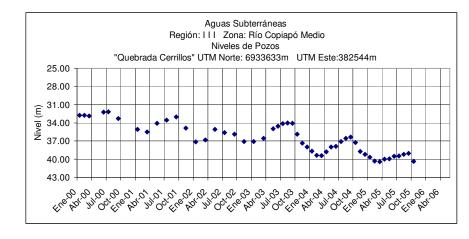
	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	21.00	20.52	20.54	19.75	21.67	19.60	20.82	18.78	18.86	18.84	26.30	21.59



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	10.34	10.39	10.35	10.37	10.37	8.95	10.15	9.55	9.58	10.11	10.13	10.46

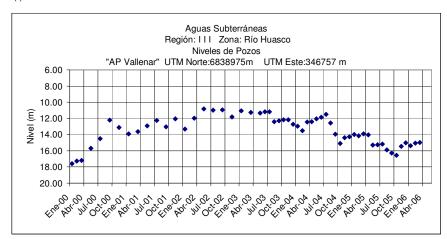


	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	26.38	26.36	26.10	26.01	26.03	26.08	26.14	26.06	26.23	26.35	26.47	26.46

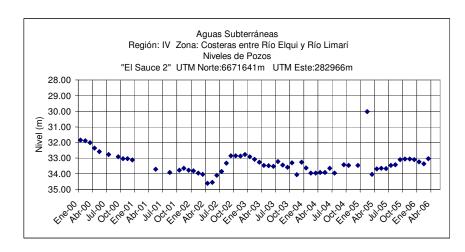


Abr May Jun Jul Ago Sep Oct Nov Dic Ene Feb Mar 2005-2006 39.98 39.92 39.51 39.46 39.19 39.06 40.36 . . . . . . . . .

(.) Embancado

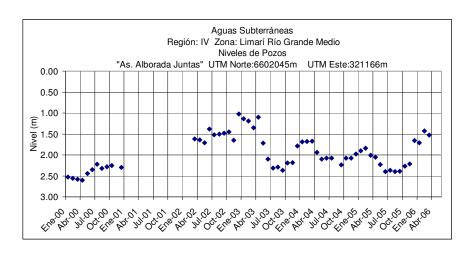


	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	14.02	15.28	15.26	15.17	15.87	16.29	16.56	15.45	15.03	15.37	15.07	14.97



 Abr
 May
 Jun
 Jul
 Ago
 Sep
 Oct
 Nov
 Dic
 Ene
 Feb
 Mar

 2005-2006
 33.68
 33.64
 33.66
 33.46
 32.56
 33.10
 33.06
 33.10
 33.23
 33.36
 33.04

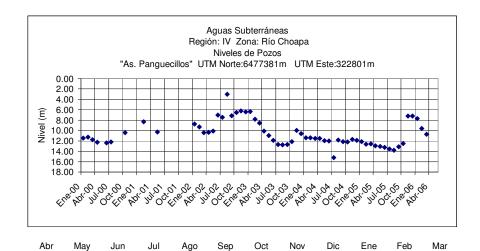


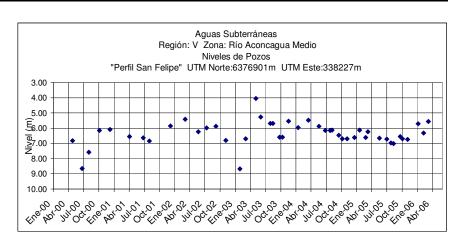
	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	2.05	2.23	2.40	2.37	2.40	2.39	2.27	2.21	1.66	1.71	1.43	1.53

Ago

12.96 | 13.08 | 13.27 | 13.55 | 13.78 | 13.16 | 12.49

2005-2006



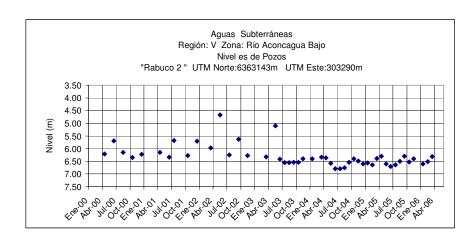


7.24 7.21

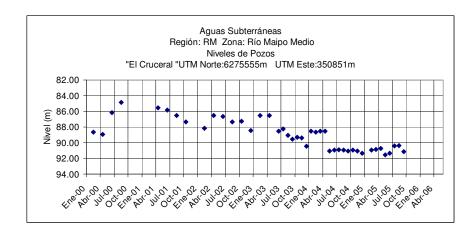
7.68

9.61 10.72

	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006		6.65	6.72	6.97	7.02	6.55	6.70	6.75		5.71	6.33	5.57

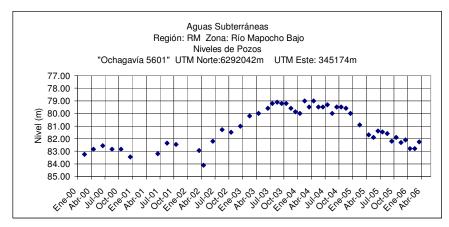


	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	6.30	6.61	6.70	6.64	6.50	6.30	6.53	6.40		6.61	6.52	6.32

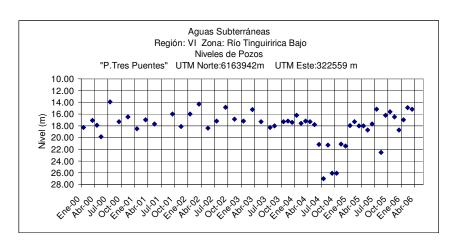


	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	90.75	91.55	91.35	90.40	90.35	91.15						

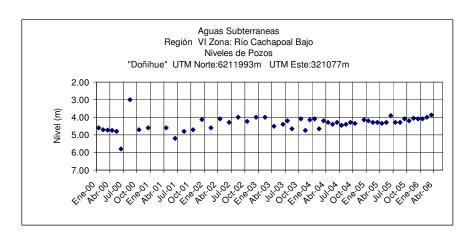
(.) Embancado



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	81.70	81.90	81.40	81.47	81.60	82.20	81.90	82.30	82.10	82.80	82.80	82.25



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	18.00	18.75	17.70	15.20	22.55	16.20	15.60	16.50	18.75	17.00	14.90	15.20



	Abr	May	Jun	Jul	Ago	Sep	Oct	Nov	Dic	Ene	Feb	Mar
2005-2006	4.35	4.30	3.90	4.30	4.30	4.10	4.20	4.05	4.10	4.10	4.00	3.88