

## **Panama Canal Authority (ACP)**

### **Panama Canal Watershed Water Quality Monitoring Data**

Since 2003, the Panama Canal Authority (Autoridad del Canal de Panamá - ACP), currently operates a water quality monitoring program throughout the Panama Canal Watershed (see Figure 1 and Table 1 for location of stations). The ACP samples water quality once per month.

The ACP published the results of this monitoring program in yearly reports that are available online here: <https://micanaldepanama.com/nosotros/cuenca-hidrografica/>. These reports are available in PDF format only.

The quality of the PDF's varies year-by-year. The reports for some years are particularly poor and, as a result, the process of converting the documents to text was difficult. Every effort was made to ensure the accuracy of the scans, but a small number of errors are likely.

STRI has digitized the contents of these reports and converted them into numeric databases. Each variable is stored in its own separate table. Table 2 lists all available files and their definitions. Unfortunately, the quality of the 2011 report was very poor and it was not possible to do automatic character conversion. The data for this report are not yet available in database format.

These data are provided by STRI via a collaborative agreement with the Panama Canal Authority. STRI makes no claim about the accuracy or completeness of the data – they are provided on an 'as is' basis and STRI accepts no responsibility for errors and/or inaccuracies.

Any use or publication of these data should cite the *The Panama Canal Authority*

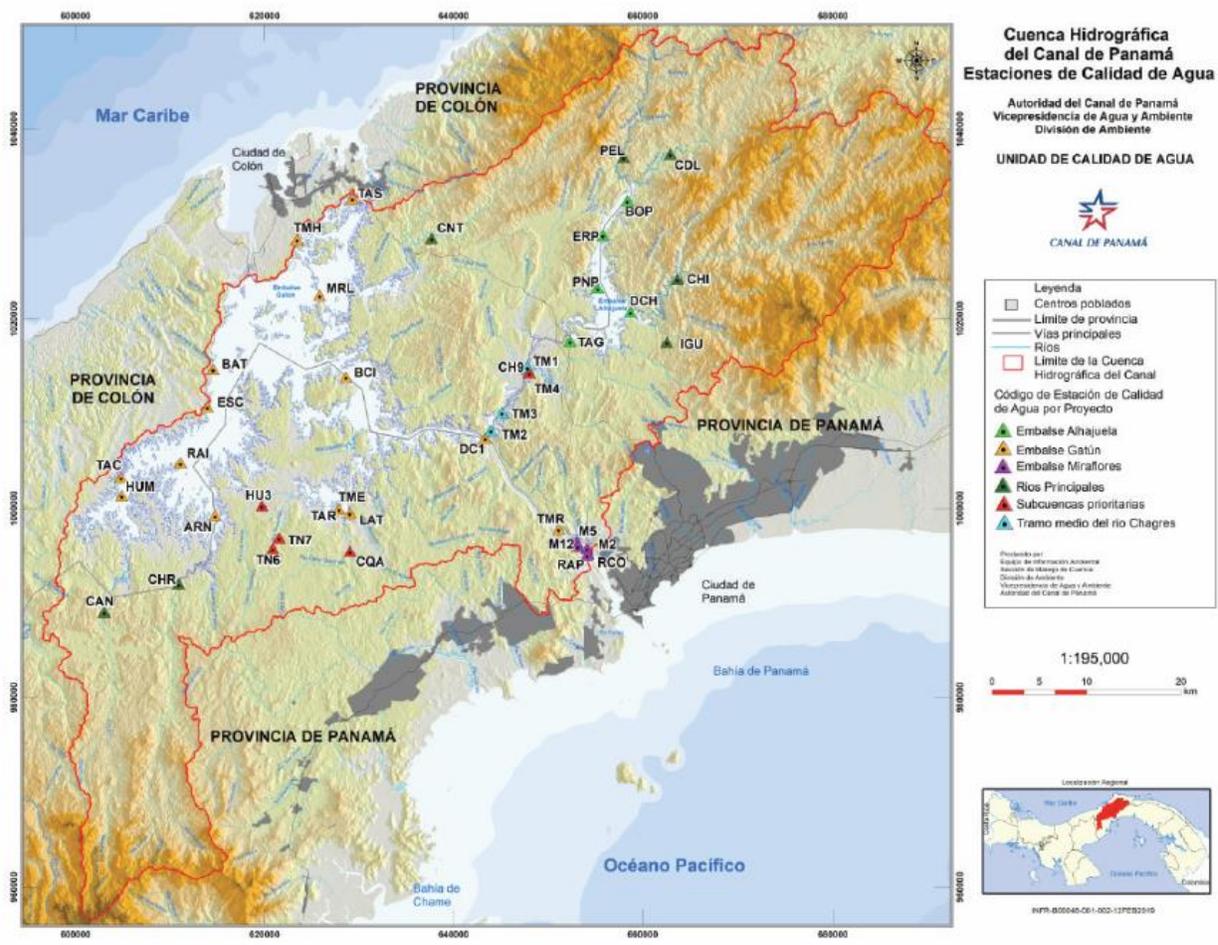


Figure 1. Location of monitoring stations

Tabla 1. Estaciones de calidad de agua en la Cuenca Hidrográfica del Canal de Panamá

No.	Componente	Nombre de la estación	Código de la estación	Ubicación	Coordenadas UTM	
					X	Y
1	Embalses	Chagres-Alhajuela	DCH	Embalse Alhajuela	658718	1020796
2	Embalses	Boquerón-Pequení	BOP	Embalse Alhajuela	658385	1032536
3	Embalses	Estrecho Reporte	ERP	Embalse Alhajuela	655796	1028887
4	Embalses	Punta del Ñopo	PNP	Embalse Alhajuela	655234	1023298
5	Embalses	Toma de Agua IDAAN	TAG	Embalse Alhajuela	652327	1017708
6	Embalses	Toma de Agua Mendoza	TME	Embalse Gatún	627847	999982
7	Embalses	Batería 35	BAT	Embalse Gatún	614566	1014757
8	Embalses	Barro Colorado	BCI	Embalse Gatún	628595	1013929
9	Embalses	Escobal	ESC	Embalse Gatún	613957	1010765
10	Embalses	Arenosa	ARN	Embalse Gatún	614791	999313
11	Embalses	Gamboa	DC1	Embalse Gatún	643343	1007468
12	Embalses	Las Raíces	RAI	Embalse Gatún	611124	1004849
13	Embalses	Laguna Alta	LAT	Embalse Gatún	629016	999569
14	Embalses	Humedad	HUM	Embalse Gatún	604887	1001400
15	Embalses	Toma de Agua de Monte Esperanza	TMH	Embalse Gatún	623442	1028418
16	Embalses	Toma de Agua Paraiso	TMR	Embalse Gatún	651144	997879
17	Embalses	Monte Lirio	MLR	Embalse Gatún	625836	1022563
18	Embalses	Toma de Agua Cuipo	TAC	Embalse Gatún	604811	1003283
19	Embalses	Toma de Agua Sabanitas	TAS	Embalse Gatún	629298	1032673
20	Embalses	Boya M12	M12	Embalse Miraflores	653047	996463
21	Embalses	Boya Raidroad Pond	RAP	Embalse Miraflores	654114	995833
22	Embalses	Boya M2	M2	Embalse Miraflores	654260	995296
23	Embalses	Boya Río Cocolí	RCO	Embalse Miraflores	654108	995112
24	Embalses	Boya M5	M5	Embalse Miraflores	653110	996075
25	Ríos Principales	Chico	CHI	Río Chagres	663701	1024274
26	Ríos Principales	Ciento	CNT	Río Gatún	637665	1028568
27	Ríos Principales	Peluca	PEL	Río Boquerón	658003	1037122
28	Ríos Principales	El Chorro	CHR	Río Trinidad	610919	992099
29	Ríos Principales	Los Cañones	CAN	Río Ciri Grande	603045	989130
30	Ríos Principales	Gamboa Hotel	TM4	Río Chagres	643964	1008277
31	Ríos Principales	Jujulupá	TM3	Río Chagres	645120	1010163
32	Ríos Principales	Santa Rosa	TM2	Río Chagres	647821	1014774
33	Ríos Principales	Guayabalito	TM1	Río Chagres	647816	1014963
34	Ríos Principales	Candelaria	CDL	Río Pequení	662913	1037450
35	Ríos Principales	Guarumal	IGU	Río Indio	662560	1017600
36	Subcuencas prioritarias	Chilibre salida al Chagres	CH9	Río Chilibre	647983	1014333
37	Subcuencas prioritarias	Caño Quebrado Abajo	CQA	Río Caño Quebrado	629035	995518
38	Subcuencas prioritarias	Toma de Agua de Cerro Cama	TN6	Río Tinajones	620876	995813
39	Subcuencas prioritarias	Tinajones 1	TN7	Río Tinajones	621539	996930
40	Subcuencas prioritarias	Hules 3	HU3	Río Los Hules	619744	1000341

Table 2. List of Water Quality Files with Definitions

<b>File</b>	<b>Variable</b>	<b>Variable Name</b>	<b>Units</b>
wqm_ale.csv	Ale. total	Total Alkalinity	mg/l CaCO <sub>3</sub>
wqm_ca.csv	Ca <sup>++</sup>	Calcium	mg/l
wqm_cl.csv	Cl	Chlorides	mg/l
wqm_cond.csv	Cond.	Conductivity	μS/cm
wqm_hard.csv	Hardness	Hardness	mg/l
wqm_k.csv	K <sup>+</sup>	Potassium	mg/l
wqm_mg.csv	Mg <sup>++</sup>	Magnesium	mg/l
wqm_na.csv	Na <sup>+</sup>	Sodium	mg/l
wqm_sal.csv	S	Salinity	ppt
wqm_so4.csv	SO <sub>4</sub>	Sulfates	mg/l
wqm_tsd.csv	TSD	Total Dissolved Solids	mg/l
wqm_chloro.csv	Chlorophyll	Chlorophyll	μg/l
wqm_ctot.csv	C. total	Total Carbon	NMP/100ml
wqm_dbo.csv	DBO	Biological Oxygen Demand	mg/l
wqm_ecoli.csv	E. coli	E. coli	NMP/100ml
wqm_mc.csv	MC	Microcystins	μg/l
wqm_tot.csv	TOC	Total organic carbon	mg/l
wqm_no2.csv	NO <sub>2</sub>	Nitrates	mg/l
wqm_no3.csv	NO <sub>3</sub>	Nitrites	mg/l
wqm_po4.csv	PO <sub>4</sub>	Phosphates	mg/l
wqm_domg.csv	OD	Dissolved Oxygen	mg/l
wqm_doperc.csv	% OD	% Saturation Dissolved Oxygen	%
wqm_ph.csv	PH	pH	
wqm_wt.csv	Temp	Temperature	C
wqm_tss.csv	TSS	Total Suspended Solids	mg/l
wqm_vis.csv	Visibility	Visibility	m
wqm_turb.csv	Turb.	Turbidity	NTU
wqm_ica.csv	ICA	Water Quality Index	