

WMS in a nutshell



WMS

File Master List Water Network Management Stakeholder Management Results Information Management Help

A “quick & easy” guide to using WMS



WATER MANAGEMENT SYSTEM
WATER RESOURCE MANAGEMENT

User: wmsread

Database: wmsdb@inf_05_iwqs

WMS in a nutshell

1. How to log on
2. How to select Monitoring Points
3. How to select Variables
4. How to produce a Report
5. How to produce a Graph

1. HOW TO LOG ON

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Water
Resource
Management



**Double-click the
Water Resource
Management icon to
start WMS**



WUA



BudSys



674 GP



S&T claims

Select your database name, type in your login code & password, select start Arcview to start ArcView and press OK

WMS - Database Login

Database Name: wms_headq

Login Code: geert

Password: *****

Start ArcView

Load minimum graphics on menu

OK Cancel

Type in your Organisation ID, press Tab on the keyboard, type in Pin Code, press enter on the keyboard or click on the login

Organisation Login

Organisation Id: 12767

Organisation Name: NAT DEPT: WATER AFFAIRS & FORESTRY, WATER QUALITY PLANNING, PRETORIA

Pin Code: xxxxx

User :geert Database :wmsdb@inf_08_headq OrganisationalLogin.dll (28.3.3.3) Query INS

OPENING ARCVIEW

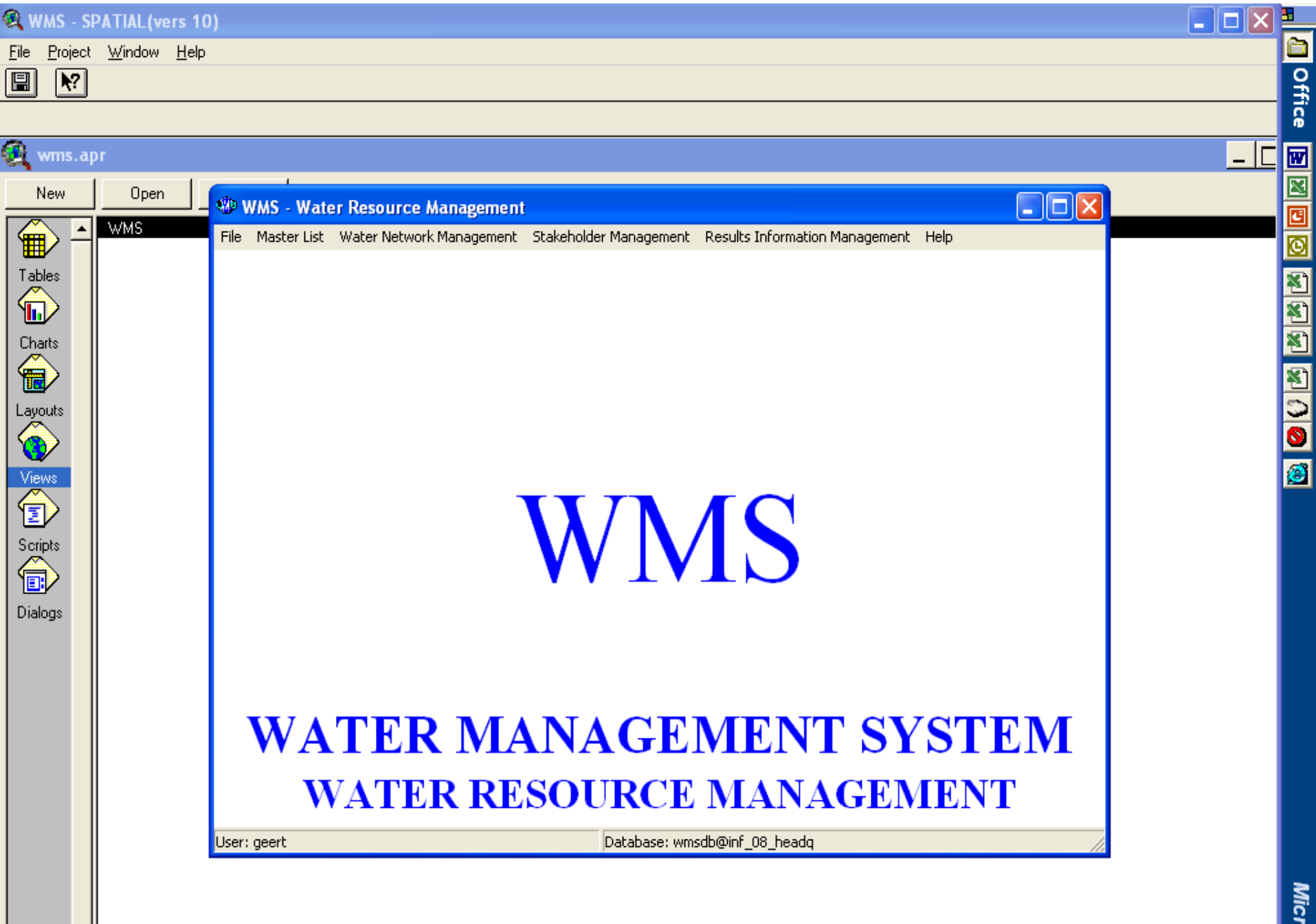
The screenshot displays the ArcView GIS 3.2a interface. The main window is titled "WMS - Water Resource Management" and contains a menu bar with "File", "Master List", "Water Network Management", "Stakeholder Management", "Results Information Management", and "Help". The main content area is currently blank. A small "Information" dialog box is open in the center, displaying the message: "ArcView Opened Successfully! Logon to project in progress. Please wait." with an "OK" button. The status bar at the bottom of the WMS window shows "User: geert" and "Database: wmsdb@inf_08_headq". The ArcView interface includes a menu bar (File, Project, Window, Help), a toolbar, and a left-hand pane with icons for Tables, Charts, Layouts, Views, Scripts, and Dialogs. A vertical toolbar on the right side of the screen contains various icons, including the Microsoft Office logo.

WATER MANAGEMENT SYSTEM
WATER RESOURCE MANAGEMENT

User: geert Database: wmsdb@inf_08_headq

ArcView opens first, wait for few minutes and WMS will also open automatically

OPENING WMS



2. HOW TO SELECT MONITORING POINTS

1. Click on Water Quality Results Reporting
2. From Water Quality Results Report Options select Parameters then select prepare results extractions parameters and select monitoring point groups.
3. In the Monitoring Point Groups for Selection box click on Management Area then, option1: if you know the ID for the type, type it and press Tab on the keyboard to populate information on the other filters, or option2: click on the down arrow next to the ID filter a geographical Area selection box will appear type the type or the name if u know it and click on filter or if you don't know the type or name scroll down on the list and select the name or type you want and press on select at the bottom of the screen.
4. Click on Programs & Stakeholders, click on the Monitoring Programmes drop down arrow and select the Monitoring Programme you want (either you scroll down the list till to the Monitoring Programme you want or type the first two letters of the Monitoring programme if you know it and it will be highlighted)
5. Click on Range to extract the information or monitoring points for the monitoring programmes
6. Click on the double arrow next to the information (if the monitoring points are more than 1 or if there is one monitoring point click the first arrow) to take the monitoring points to the request list. Click on yes from the confirmation box. Click OK

- Water Quality Results Reporting
- Reporting
- Multimedia Management
- Compliance Management



WATER MANAGEMENT SYSTEM

WMS - Water Resource Management [Minimize] [Maximize] [Close]
File Master List Water Network Management Stakeholder Management Results Information Management Help

Water Quality Results Report Options [Minimize] [Maximize] [Close]

File Parameters Reports Graphs Help

- Prepare Results Extraction Parameters
 - Monitoring Point Groups
 - Monitoring Variable Groups

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM

WATER RESOURCE MANAGEMENT



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Monitoring Point Group Maintenance for Selection [frmMonitoringPointSelect]



File Find Gis Help

Form Help

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Standard filter | User defined | Management Area | Programs & Stakeholders | Sample Number

Coordinates

	Decimal	Deg	Min	Sec
Latitude (North)	<input type="text"/>	.	<input type="text"/>	<input type="text"/>
Latitude (South)	<input type="text"/>	.	<input type="text"/>	<input type="text"/>
Longitude (West)	<input type="text"/>		<input type="text"/>	<input type="text"/>
Longitude (East)	<input type="text"/>		<input type="text"/>	<input type="text"/>

Monitoring Type Indicator

- Resource Status
- Meteorological
- Flow
- Water Use Site

Monitoring Types

 ...

Source providing Data :

Clear Filter

Numbering Convention :

Monitoring Points

Feature Id	Reference Code	Feature Name

Request List

Save as Group

Clear All

OK

Cancel



Filter Criteria

High Level Geographical Area Types

All
 WMA
 Sub Catchment
 Drainage Region
 Other Geographical Types
 DWAF Water Resource Officer Area

Type Man Auth Belong to WMA Data Owner

Name * Code *

Id	Name	Code	Type Id	Type
2045	C3	C3	190	Secondary Drainage Region
2046	C2	C2	190	Secondary Drainage Region
2047	W6	W6	190	Secondary Drainage Region
2048	W5	W5	190	Secondary Drainage Region
2049	C1	C1	190	Secondary Drainage Region
2050	C8	C8	190	Secondary Drainage Region
2051	W4	W4	190	Secondary Drainage Region
2052	W7	W7	190	Secondary Drainage Region
2053	C7	C7	190	Secondary Drainage Region
2054	C9	C9	190	Secondary Drainage Region
2055	W3	W3	190	Secondary Drainage Region
2056	V3	V3	190	Secondary Drainage Region
2057	C6	C6	190	Secondary Drainage Region
2058	D8	D8	190	Secondary Drainage Region
2059	C4	C4	190	Secondary Drainage Region
2060	W2	W2	190	Secondary Drainage Region
2061	D7	D7	190	Secondary Drainage Region
2062	V6	V6	190	Secondary Drainage Region
2063	V1	V1	190	Secondary Drainage Region
2064	W1	W1	190	Secondary Drainage Region
2065	V4	V4	190	Secondary Drainage Region
2066	D2	D2	190	Secondary Drainage Region
2067	C5	C5	190	Secondary Drainage Region
2068	F1	F1	190	Secondary Drainage Region
2069	D1	D1	190	Secondary Drainage Region
2070	D5	D5	190	Secondary Drainage Region
2071	V7	V7	190	Secondary Drainage Region
2072	V2	V2	190	Secondary Drainage Region
2073	V5	V5	190	Secondary Drainage Region
2074	F2	F2	190	Secondary Drainage Region
2075	U4	U4	190	Secondary Drainage Region

Description

Man Authority

Belong to WMA

Data Owner NAT DEPT: WATER AFFAIRS & FORESTRY, RESOURCE QUALITY SERVICES, PRETORIA

Database Type Geographical Area QA Date Close Date



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Monitoring Point Group Maintenance for Selection [frmMonitoringPointSelect]



File Find Gis Help

Form Help

50 000 scale

Standard filter
 User defined
 Management Area
 Programs & Stakeholders
 Sample Number

Management Area

Type Secondary Drainage Region

Name W1 Spatial

Code W1

Id 2064 Drainage Region

Located on Feature

Water Feature
 Transfer Feature

Type *

Name *

Id Spatial ?

Source providing Data: None

Numbering Convention: No Numbering Convention

Feature Id	Reference Code	Feature Name

Request List

Monitoring Point Group Maintenance for Selection [frmMonitoringPointSelect]

File Find Gis Help

50 000 scale
 Form Help

Standard filter |
 User defined |
 Management Area |
 Programs & Stakeholders |
 Sample Number

LE/Stakeholder

Monitoring Programmes

Source providing Data : Clear Filter

Numbering Convention :

Feature Id	Reference Code	Feature Name

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Request List

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Save as Group
Clear All

OK
Cancel

Monitoring Point Group Maintenance for Selection [frmMonitoringPointSelect]

File Find Gis Help

50 000 scale

Form Help

Standard filter
 User defined
 Management Area
 Programs & Stakeholders
 Sample Number

LE/Stakeholder

Monitoring Programmes

Source providing Data :

Clear Filter

Numbering Convention :

Request List

- 102806 - ·W1H004Q01 MLALAZI RIVER AT ESHO
- 102807 - ·W1H005Q01 MFULAZANE RIVER AT GI
- 102809 - ·W1H009Q01 MHLATUZE RIVER AT RIV
- 177769 - ·W1H032Q01 UMHLATUZE VALLEY PUI
- 102825 - ·W1R001Q01 GOEDERTROU DAM ON M
- 102830 - ·W1R002Q01 ESHOWE DAM ON MLALA
- 102831 - ·W1R003Q01 LAKE NSEZI AT EMPANG
- 102832 - ·W1R004Q01 LAKE UMSINGAZI AT ARB

Feature Id	Reference Code	Feature Name
102807		W1H005Q01 MFULAZANE RIVE
102809		W1H009Q01 MHLATUZE RIVEF
177769		W1H032Q01 UMHLATUZE VALI
102825		W1R001Q01 GOEDERTROU DA
102830		W1R002Q01 ESHOWE DAM ON
102831		W1R003Q01 LAKE NSEZI AT E
102832		W1R004Q01 LAKE UMSINGAZI

3. HOW TO SELECT VARIABLES

1. From Water Quality Results Report Options select Parameters then select prepare results extractions parameters and select monitoring variable groups.
2. Click on Monitoring Programmes, click on the drop down arrow of the monitoring programmes to select the programme you want, click on the Monitoring Programmes drop down arrow and select the Monitoring Programme you want (either you scroll down the list till to the Monitoring Programme you want or type the first two letters of the Monitoring programme if you know it and it will be highlighted)
3. Click on Range to extract the information or monitoring points for the monitoring programmes
4. Click on the double arrow next to the information (if the variables are more than 1 or if there is one variable click the first arrow) to take the variables to the selected variables column.
5. Click on yes from the confirmation box. Click OK

WMS - Water Resource Management [Minimize] [Maximize] [Close]

File Master List Water Network Management Stakeholder Management Results Information Management Help

Water Quality Results Report Options [Minimize] [Maximize] [Close]

File Parameters Reports Graphs Help

- Prepare Results Extraction Parameters
 - Monitoring Point Groups
 - Monitoring Variable Groups

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM

WATER RESOURCE MANAGEMENT



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Select Monitoring Variables

File Find Help

Form Help

Extraction Groups	Monitoring Groups	Monitoring Programmes
Variable Type	Variable Class	Monitoring Type
EcoCompartment :		
Variable Type :		

All Monitoring Variables with data Clear Filter

Variables

- ACIDITY-Diss-Water - 544
- ALG ID-Susp-Water - 78
- ALG n-Susp-Water - 79
- ASAR-Diss-Water - 65
- Ac 227 -Diss-Water - 454
- Ac 228 -Diss-Water - 455
- Ag-Diss-Water - 463
- Al-AExt-Water - 383
- Al-ASol-Water - 125
- Al-Diss-Water - 123
- Al-Leach-Solids - 421
- Al-Tot-Solids - 130
- As-AExt-Water - 395
- As-ASol-Water - 245
- As-Diss-Water - 241
- As-Tot-Solids - 252
- Au-AExt-Water - 401
- B-AExt-Water - 385
- B-ASol-Water - 114

Selected Variables

Save as Group Clear All

User: geert Database: wmsdb@inf_08_headq State: Browse



Select Monitoring Variables

File Find Help

Form Help

Variable Type	Variable Class	Monitoring Type
Extraction Groups	Monitoring Groups	Monitoring Programmes

NATIONAL CHEMICAL WATER QUALITY MONITORING NETWORK

All Monitoring Variables with data Clear Filter

Variables

Selected Variables

Save as Group Clear All

OK Cancel

User: geert Database: wmsdb@inf_08_headq State: Browse





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Select Monitoring Variables

File Find Help

Form Help

Variable Type	Variable Class	Monitoring Type
Extraction Groups	Monitoring Groups	Monitoring Programmes

NATIONAL CHEMICAL WATER QUALITY MONITORING NETWORK

All Monitoring Variables with data Clear Filter

Variables

- Ca-Diss-Water - 52
- Cl-Diss-Water - 46
- EC-Phys-Water - 56
- F-Diss-Water - 24
- K-Diss-Water - 50
- Mg-Diss-Water - 32
- NH4-N-Diss-Water - 13
- NO3+NO2-N-Diss-Water - 11
- Na-Diss-Water - 30
- PO4-P-Diss-Water - 39
- SO4-Diss-Water - 42
- Si-Diss-Water - 34
- TAL-Diss-Water - 27
- TURB-Phys-Water - 66
- pH-Diss-Water - 3

Selected Variables

- Ca-Diss-Water - 52
- Cl-Diss-Water - 46
- EC-Phys-Water - 56
- F-Diss-Water - 24
- K-Diss-Water - 50
- Mg-Diss-Water - 32
- NH4-N-Diss-Water - 13
- NO3+NO2-N-Diss-Water - 11
- Na-Diss-Water - 30
- PO4-P-Diss-Water - 39
- SO4-Diss-Water - 42
- Si-Diss-Water - 34
- TAL-Diss-Water - 27
- TURB-Phys-Water - 66
- pH-Diss-Water - 3

Save as Group Clear All

OK Cancel

User: geert Database: wmsdb@inf_08_headq State: Browse

4. HOW TO PRODUCE A REPORT

4.1 HOW TO PRODUCE AN INVENTORY OF SAMPLES REPORT

1. Click on reports, then select inventory from the types of reports.
2. From the Sample or Analyses Inventory Report box click on report (bottom of the box).
3. From report and export option box select export to CSV Comma-delimited file (*.csv), then press ok.
4. Save it at the place of your choice.
5. From the file size selection box select unlimited and press ok.
6. You can look for the CSV document from where you have saved it to view it.

WMS - Water Resource Management

File Master List Water Network Management Stakeholder Management Results Information Management Help

Water Quality Results Report Options

File Parameters Reports Graphs Help

- Single Sample Result
- Descriptive Statistics
- Standard Result
- Inventory**
- Sample Status

User: geert Database: wmsdb@inf_08_headq State: Inac

**WATER MANAGEMENT SYSTEM
WATER RESOURCE MANAGEMENT**

User: geert Database: wmsdb@inf_08_headq

Sample or Analyses Inventory Report [frmRRInventory]

File Parameters Help

Form Help

Selected Monitoring Points

- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
- 102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
- 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
- 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

Inventory

- Samples taken
- Variables analysed

Feature Reference Code Display Options

Source providing Data

Numbering Convention

Report



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Sample or Analyses Inventory Report [frmRRInventory]



File Parameters Help

Form Help

Selected Monitoring Points

- 102806 - ·W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - ·W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - ·W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - ·W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
- 102825 - ·W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
- 102830 - ·W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
- 102831 - ·W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - ·W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

Report and Export Options

Report Options

- Display results on Screen
- Export Inventory of Samples to Word Document (*.doc)
- Export to CSV Comma-delimited file (*.csv)
- Export to DBF4 dBase IV file (*.dbf)

OK Cancel

Inventory

Samples taken

Variables analysed

Feature Reference Code Display Options

Source providing Data

Numbering Convention

Report

User: geert Database: wmsdb@inf_08_headq State: Inactive



WMS

Selected Monitor

102806	-	-	W1H
102807	-	-	W1H
102809	-	-	W1H
177769	-	-	W1H
102825	-	-	W1R
102830	-	-	W1R
102831	-	-	W1R
102832	-	-	W1R

Inventory

Samples tak
Variables analyse

Save As

Save in: 2Eastern Cluster

- ISP info
- Liaison meetings
- Projects

- My Recent Documents
- Desktop
- My Documents
- My Computer
- My Network Places

File name: Mhlatuze Inventory of Samples

Save as type: CSV Files

Save Cancel

Feature Reference Code Display Options

Source providing Data None

Numbering Convention No Numbering Convention

Report



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Sample or A

File Parameters

Selected Monitor

102806 - -W1H00
102807 - -W1H00
102809 - -W1H00
177769 - -W1H00
102825 - -W1R00
102830 - -W1R00
102831 - -W1R00
102832 - -W1R00

Inventory]



Form Help

File Size Selection

Maximum File Size

- Unlimited
- Stiffy (1.44 MB)
- CD-RW (550MB)
- CD-R (650 MB)
- Other

OK

Inventory

Samples taken

Variables analysed

Feature Reference Code Display Options

Source providing Data

Numbering Convention

Report

User: geert Database: wmsdb@inf_08_headq State: Inactive Update tmp_featid



B-WQP
5 year monitoring
A1 SubDir WaterQuality Planning
1- CLUSTERS
1Central Cluster
2Eastern Cluster
ISP info
Liaison meetings
Projects
3Northern Cluster
4Southern Cluster
ADMINISTRATION
Allocationplanning
Artificial recharge
Budget & Businessplan
Climate Change
Compulsory Licensing
Director Performance Agreement(F
Employment Equity
Functions
Info systems,Monitoring & Reporti
Meeting Programme for IWRP
Meetings
Personell
POLICY
POSTER
Presentations
Research and Related Documents
SEA
SFRA
Sister Directorates & Sub-directora
Skills Develop ment
Strategic Planning

Name	Size	Type	Date Modified
ISP info		File Folder	2003/12/10 03:16 PM
Liaison meetings		File Folder	2003/12/10 03:16 PM
Projects		File Folder	2003/12/10 03:16 PM
3. INKOMATI ISP Appendices.doc.doc	566 KB	Microsoft Word Doc...	2003/09/10 02:27 PM
Comment on the Mvoti to Mzimkulu ISP.rtf	114 KB	Rich Text Format	2004/04/30 09:53 AM
Eastern Cluster mon points.ppt	326 KB	Microsoft PowerPoi...	2005/08/15 11:56 AM
InkomatiISP comment Sept2003.doc	92 KB	Microsoft Word Doc...	2003/09/23 02:29 PM
ISP for Inkomati August2003.doc	9,016 KB	Microsoft Word Doc...	2003/09/10 02:28 PM
kzn monitoring points.wmf	367 KB	WMF Image	2005/08/15 11:54 AM
map5.jpg	440 KB	JPEG Image	2005/07/20 11:57 AM
map6.jpg	486 KB	JPEG Image	2005/07/20 11:58 AM
map7.jpg	431 KB	JPEG Image	2005/07/20 11:58 AM
map11.jpg	473 KB	JPEG Image	2005/07/20 11:58 AM
Mhlatuze Inventory of Samples.CSV	2 KB	Microsoft Excel Com...	2005/08/22 12:22 PM
Mhlatuze Inventory of Samples.TXT	1 KB	Text Document	2005/08/22 12:22 PM
Microbial points.ppt	74 KB	Microsoft PowerPoi...	2005/08/08 01:22 PM
mpm monitoring points.wmf	269 KB	WMF Image	2005/08/15 11:53 AM
Mvoti ISP CommentApr04.doc	36 KB	Microsoft Word Doc...	2004/04/22 03:18 PM
ThukelaISP comment Oct2003.doc	90 KB	Microsoft Word Doc...	2003/10/16 09:41 AM
Umhlatuze points.ppt	318 KB	Microsoft PowerPoi...	2005/08/08 09:55 AM
Usuthu-MhlatuzeISP.pdf	3,632 KB	Adobe Acrobat Doc...	2003/09/08 10:05 AM
Usutu MhlatuzeISP comment Sept 2003.doc	108 KB	Microsoft Word Doc...	2003/09/10 01:40 PM
Westoe Dam to Swaziland.rtf	331 KB	Rich Text Format	2003/08/26 08:37 AM

File Edit View Insert Format Tools Data Window Help

Type a question for help

100%

Close

Exit

A1 Monitoring Point ID

A	B	C	D	E	F	G	H	I	J	K	
Monitoring	Feature	Monitoring Point Name	Located on Featu	Located or	Latitude	Longitude	Drainage	F	Number of	First Sample Date	Last Sample Date
102806	W1H004Q01	MLALAZI RIVE	MLALAZI	Rivers	-28.8725	31.4575	W13		343	1977/02/16	2005/04/19
102807	W1H005Q01	MFULAZANE R	MFULAZANE RIV	Rivers	-28.5717	31.39278	W12		538	1971/11/16	2005/05/03
102809	W1H009Q01	MHLATUZE RIV	MHLATUZE RIVE	Rivers	-28.7478	31.74583	W12		1231	1967/12/07	2005/04/20
102825	W1R001Q01	GOEDERTROU	GOEDERTROU	[Dam / Res	-28.7725	31.46667	W12		649	1982/05/11	2005/05/02
102830	W1R002Q01	ESHOWE DAM	ESHOWE DAM	(Dam / Res	-28.8719	31.45	W13		250	1981/05/26	2005/04/22
102831	W1R003Q01	LAKE NSEZI A	NSEZI LAKE (W1	Lake	-28.7567	31.95611	W12		295	1982/08/12	2005/04/20
102832	W1R004Q01	LAKE UMSING	MSINGAZI LAKE	Lake	-28.7678	32.07917	W12		547	1983/05/12	2005/04/20
177769	W1H032Q01	UMHLATUZE V	MHLATUZE RIVE	Rivers	-28.8383	31.90806	W12		136	1999/09/22	2005/04/20

Mhlatuze Inventory of Samples

NUM

4.2 HOW TO PRODUCE AN INVENTORY OF VARIABLES REPORT

1. Click on reports, then select inventory from the types of reports.
2. From the Sample or Analyses Inventory Report box select variables analysis. Change the date to the dates of your choose (leave other fills as they are) and click on report (bottom of the box).
3. From report and export option box select export inventory of analysis to display on screen then press ok.
4. Click on the top right x to Close the report after viewing it, and close the Sample or Analyses Inventory Report box

Sample or Analyses Inventory Report [frmRRInventory]

File Parameters Help

Form Help

Selected Monitoring Points

- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
- 102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
- 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
- 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

Selected Variables

- 52 - Ca-Diss-Water
- 46 - Cl-Diss-Water
- 56 - EC-Phys-Water
- 24 - F-Diss-Water
- 50 - K-Diss-Water
- 32 - Mg-Diss-Water
- 13 - NH4-N-Diss-Water
- 11 - NO3+NO2-N-Diss-Water
- 30 - Na-Diss-Water
- 39 - PO4-P-Diss-Water
- 42 - SO4-Diss-Water
- 34 - Si-Diss-Water

<p>Inventory</p> <p>Samples taken <input type="radio"/></p> <p>Variables analysed <input checked="" type="radio"/></p>	<p>Sampling Dates</p> <p>From <input type="text" value="2000-01-01"/></p> <p>To <input type="text" value="2005-08-22"/></p>	<p>Sampling Depth</p> <p>From <input type="text"/></p> <p>To <input type="text"/></p>	<p>Type of Results</p> <p>Time Interval <input checked="" type="checkbox"/> Single <input checked="" type="checkbox"/></p> <p>Depth Profile <input checked="" type="checkbox"/> Multiple <input checked="" type="checkbox"/></p>	<p>Seasons Selection</p> <p>No Seasonal Filter <input checked="" type="radio"/></p> <p>Summer <input type="radio"/></p> <p>Winter <input type="radio"/></p>
<p>Feature Reference Code</p> <p>Source providing Data <input type="text" value="None"/></p>		<p>Display Options</p> <p>Numbering Convention <input type="text" value="No Numbering Convention"/></p>		

Report

wms.apr

Sample or Analyses Inventory Report [frmRRInventory]



File Parameters Help

Form Help

Selected Monitoring Points

- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
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- 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

Selected Variables

- 52 - Ca-Diss-Water
- 46 - Cl-Diss-Water
- 56 - EC-Phys-Water
- 24 - F-Diss-Water
- 50 - K-Diss-Water
- 32 - Mg-Diss-Water
- 13 - NH4-N-Diss-Water
- 11 - NO3+NO2-N-Diss-Water
- 30 - Na-Diss-Water
- 39 - PO4-P-Diss-Water
- 42 - SO4-Diss-Water
- 34 - Si-Diss-Water

Report and Export Options

Report Options

- Display results on Screen
- Export Inventory of Analysis to Word Document (*.doc)
- Export to CSV Comma-delimited file (*.csv)
- Export to DBF4 dBase IV file (*.dbf)

Inventory Samples taken <input type="radio"/> Variables analysed <input checked="" type="radio"/>	Sampling Dates From: 2000-01-01 To: 2005-08-22	Sampling Depth From: <input type="text"/> To: <input type="text"/>	Type of Results Time Interval <input checked="" type="checkbox"/> Single <input checked="" type="checkbox"/> Depth Profile <input checked="" type="checkbox"/> Multiple <input checked="" type="checkbox"/>
Feature Reference Code Source providing Data: None		Display Options Numbering Convention: No Numbering Convention	
Seasons Selection No Seasonal Filter <input checked="" type="radio"/> Summer <input type="radio"/> Winter <input type="radio"/>			

Report

User: geert Database: wmsdb@inf_08_headq State: Inactive Update tmp_featid

Inventory of Analyses [frmRRInventoryAnalyses]

Form Help

Monitoring Point ID	Feature Reference Code	Monitoring Point Name	Located on Feature Name	Location
102806		W1H004Q01 MLALAZI RIVER AT ESHOWE	MLALAZI	River
102807		W1H005Q01 MFULAZANE RIVER AT GOLDEN RIVER	MFULAZANE RIVER (w1)	River
102809		W1H009Q01 MHLATUZE RIVER AT RIVERVIEW	MHLATUZE RIVER (w1)	River
102825		W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER	GOEDERTROU DAM (w1)	Dam
102830		W1R002Q01 ESHOWE DAM ON MLALAZI RIVER	ESHOWE DAM (w1)	Dam
102831		W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMI	NSEZI LAKE (w1)	Lake
102832		W1R004Q01 LAKE UMSINGAZI AT ARBORETUM	MSINGAZI LAKE (w1)	Lake
177769		W1H032Q01 UMHLATUZE VALLEY PUMP STATION	MHLATUZE RIVER (w1)	River

	Number of Samples	First Date	Last Date
Samples for specified variables and period	45	2000-01-10	2005-04-19
Total number of samples for specified period	45	2000-01-10	2005-04-19
Total number of samples available	343	1977-02-16	2005-04-19

Monitoring Variable	Measuring Unit	# Analyses	Date of First Analyses	Date of Last Analyses
Ca-Diss-Water	mg/L	45	2000-01-10	2005-04-19
Cl-Diss-Water	mg/L	45	2000-01-10	2005-04-19
EC-Phys-Water	mS/m	45	2000-01-10	2005-04-19
F-Diss-Water	mg/L	45	2000-01-10	2005-04-19
K-Diss-Water	mg/L	45	2000-01-10	2005-04-19
Mg-Diss-Water	mg/L	45	2000-01-10	2005-04-19
NH4-N-Diss-Water	mg/L	45	2000-01-10	2005-04-19
NO3+NO2-N-Diss-Water	mg/L	45	2000-01-10	2005-04-19

User: geert Database: wmsdb@inf_08_headq State: Inactive

4.3 HOW TO PRODUCE A STATISTICS REPORT

1. Click on reports, then select descriptive statistics from the types of reports.
2. From the Water Quality Summary Statistics Report box click on report (bottom of the box).
3. From report and export option box select export standard statistics to word documents then press ok.
4. Click on the top right x to Close the report after viewing it, and close the Sample or Analyses Inventory Report box

WMS - Water Resource Management

File Master List Water Network Management Stakeholder Management Results Information Management Help

Water Quality Results Report Options

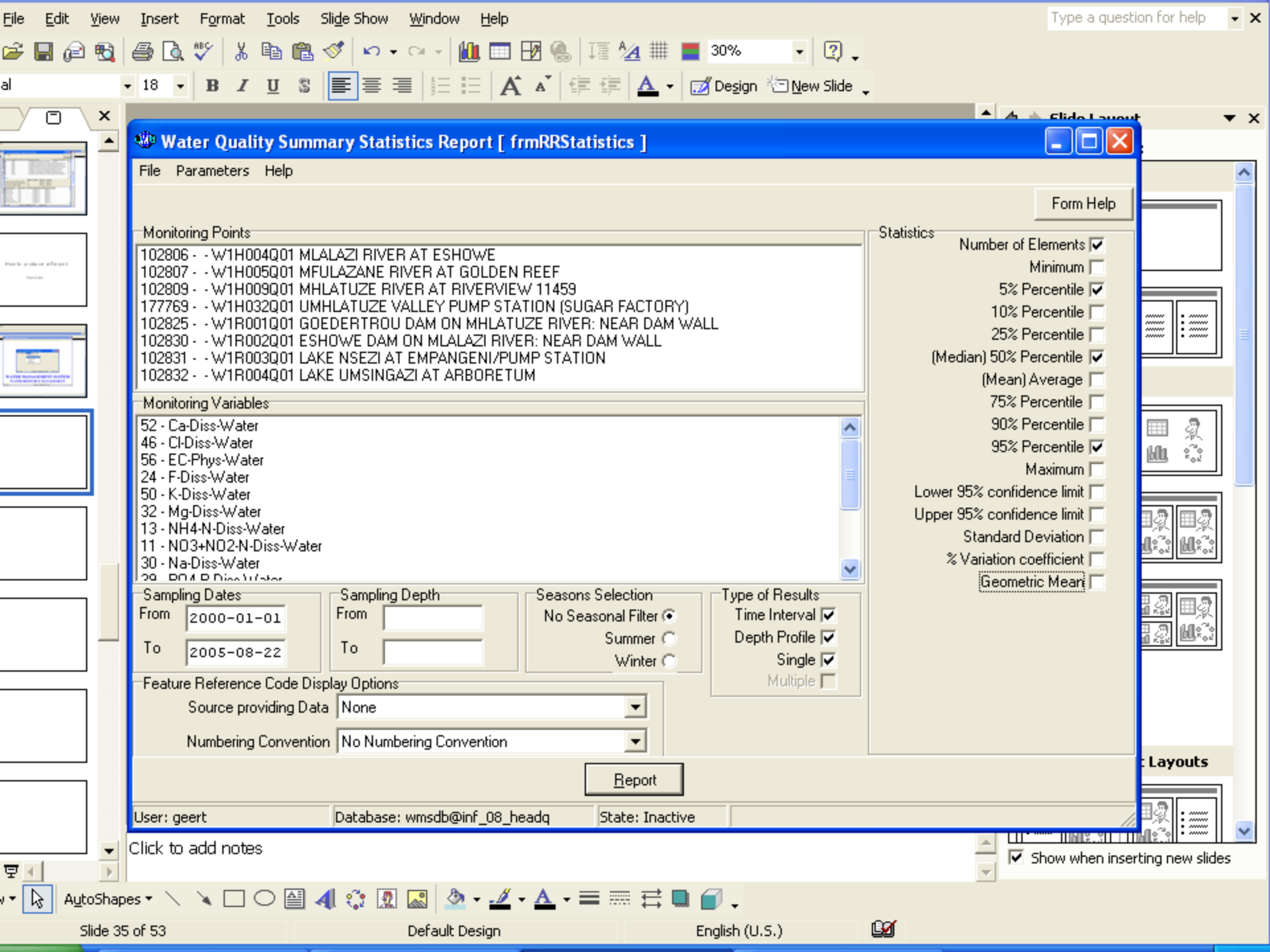
File Parameters Reports Graphs Help

- Single Sample Result
- Descriptive Statistics**
- Standard Result
- Inventory
- Sample Status

User: geert Database: wmsdb@inf_08_headq State: Inac

**WATER MANAGEMENT SYSTEM
WATER RESOURCE MANAGEMENT**

User: geert Database: wmsdb@inf_08_headq



Navigation and formatting toolbar including icons for undo, redo, copy, paste, and zoom (30%).

Water Quality Summary Statistics Report [frmRRStatistics]

File Parameters Help

Form Help

Monitoring Points

102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
 102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
 102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

Statistics

- Number of Elements
- Minimum
- 5% Percentile
- 10% Percentile
- 25% Percentile
- (Median) 50% Percentile
- (Mean) Average
- 75% Percentile
- 90% Percentile
- 95% Percentile
- Maximum
- Lower 95% confidence limit
- Upper 95% confidence limit
- Standard Deviation
- % Variation coefficient
- Geometric Mean

Monitoring Variables

52 - Ca-Diss-Water
 46 - Cl-Diss-Water
 56 - EC-Phys-Water
 24 - F-Diss-Water
 50 - K-Diss-Water
 32 - Mg-Diss-Water
 13 - NH4-N-Diss-Water
 11 - NO3+NO2-N-Diss-Water
 30 - Na-Diss-Water
 29 - P-Diss-Water

Sampling Dates

From: 2000-01-01
 To: 2005-08-22

Sampling Depth

From:
 To:

Seasons Selection

No Seasonal Filter
 Summer
 Winter

Type of Results

Time Interval
 Depth Profile
 Single
 Multiple

Feature Reference Code Display Options

Source providing Data: None
 Numbering Convention: No Numbering Convention

Report

User: geert Database: wmsdb@inf_08_headq State: Inactive

Click to add notes

Show when inserting new slides

Bottom toolbar with icons for drawing shapes and navigation.

Water Quality Summary Statistics Report [frmRRStatistics]

File Parameters Help

Form Help

Monitoring Points

- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
- 102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
- 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
- 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - W1R004Q01 LAKE UMSINGAZI AT EMPANGENI/PUMP STATION

Monitoring Variables

- 52 - Ca-Diss-Water
- 46 - Cl-Diss-Water
- 56 - EC-Phys-Water
- 24 - F-Diss-Water
- 50 - K-Diss-Water
- 32 - Mg-Diss-Water
- 13 - NH4-N-Diss-Water
- 11 - NO3+NO2-N-Diss-Water
- 30 - Na-Diss-Water
- 29 - PO4-P-Diss-Water

Statistics

- Number of Elements
- Minimum
- 5% Percentile
- 10% Percentile
- 25% Percentile
- (Median) 50% Percentile
- (Mean) Average
- 75% Percentile
- 90% Percentile
- 95% Percentile
- Maximum
- Lower 95% confidence limit
- Upper 95% confidence limit
- Standard Deviation
- % Variation coefficient
- Geometric Mean

Report and Export Options

Report Options

- Display results on Screen
- Export Standard Statistics to Word Document (*.doc)
- Export to CSV Comma-delimited file (*.csv)
- Export to DBF4 dBase IV file (*.dbf)

Sampling Dates From: 2000-01-01 To: 2005-08-22

Sampling Depth From: To:

Seasons Selection No Seasonal Filter Summer Winter

Type of Results Time Interval Depth Profile Single Multiple

Feature Reference Code Display Options

Source providing Data: None

Numbering Convention: No Numbering Convention

User: geert Database: wmsdb@inf_08_headq State: Inactive

Normal + Cent Arial 8 B I U [Table Icons] 100% [Help Icon] [Print Icon] [Save Icon] [Exit Icon]



Standard Statistics per Monitoring Point

Department:
Water Affairs and Forestry

2005-08-31
1 of 1
Wmsfdb@inf_08_hear
Geo

Period from 2000-01-01 to 2005-08-22	Season No Seasonal Filter	Result Type Logger_Depth_Single	Depth from N/A to N/A
--------------------------------------	---------------------------	---------------------------------	-----------------------

Monitoring Point ID	102806	Monitoring Point Name	W1H004Q01 MLALAZI RIVER AT ESHOWE
Feature Reference Code		Drainage Region	W13
Latitude	-28.8725	Longitude	31.4575
Located on Type	Rivers	Located on	MLALAZI

Samples for specified Variables and period	45	First Date	2000-01-10	Last Date	2005-04-19
Total number of samples for specified period	45	First Date	2000-01-10	Last Date	2005-04-19
Total number of samples available	343	First Date	1977-02-16	Last Date	2005-04-19

Monitoring Point	102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE				Start Depth	0	End Depth
Monitoring Variable	II	5% P	Med	95% P			
pH-Diss-Water(pH units)	45	7.101	7.493	7.898			
NO3+NO2-N-Diss-Water(mg/L)	45	0.02	0.118	0.623			
NH4-N-Diss-Water(mg/L)	45	0.016	0.05	0.476			
F-Diss-Water(mg/L)	45	0.05	0.117	0.163			
TAL-Diss-Water(mg/L)	45	14.932	23.218	38.315			
Na-Diss-Water(mg/L)	45	13.645	17.689	22.643			
Mg-Diss-Water(mg/L)	45	3.652	4.825	6.474			
Si-Diss-Water(mg/L)	45	0.426	2.464	6.295			
PO4-P-Diss-Water(mg/L)	45	0.006	0.019	0.104			
SO4-Diss-Water(mg/L)	45	2	7.423	14.211			
Cl-Diss-Water(mg/L)	45	28.133	35.988	40.518			
K-Diss-Water(mg/L)	45	1.784	2.261	3.253			
Ca-Diss-Water(mg/L)	45	4.643	6.212	9.845			
EC-Phys-Water(mS/m)	45	16.02	20.2	23.36			

Monitoring Point ID	102807	Monitoring Point Name	W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
Feature Reference Code		Drainage Region	W12
Latitude	-28.571667	Longitude	31.392778

5. HOW TO PRODUCE A GRAPH

5.1 HOW TO PRODUCE A TIME SERIES GRAPH

1. From Water Quality Results Report Options box select time series graph.
2. Click on graph and view the graph, click select.
3. select compare variables for reports, select the variables you want to be compared with the monitoring point. Click on graph to view the graph.
4. Select compare points for variables. Click on graph to view it
5. Select single point, single variable and choose the variable you want. Click on graph to view the graph. Trend & Tendency Graph
6. Close the time series graph report

Water Quality Results Report Options

File Parameters Reports **Graphs** Help

- Time Series Graph
- Water Quality Frequency Histogram
- Box & Whisker Plot
- Downstream Impact Over Distance Graph
- Depth Profile Graph
- Trend & Tendency Graph
- Percentage Exceedance Plot
- Animated Change Graph

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM

WATER RESOURCE MANAGEMENT

Time Series Graph [frmTimeSeries]

File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph

- Monitoring Points**
- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOV
 - 102807 - W1H005Q01 MFULAZANE RIVER AT GC
 - 102809 - W1H009Q01 MHLATUZE RIVER AT RIVI
 - 177769 - W1H032Q01 UMHLATUZE VALLEY PUM
 - 102825 - W1R001Q01 GOEDERTROU DAM ON M
 - 102830 - W1R002Q01 ESHOWE DAM ON MLALAZ
 - 102831 - W1R003Q01 LAKE NSEZI AT EMPANGE
 - 102832 - W1R004Q01 LAKE UMSINGAZI AT ARB

- WQ variables**
- Ca-Diss-Water
 - Cl-Diss-Water
 - EC-Phys-Water
 - F-Diss-Water
 - K-Diss-Water
 - Mg-Diss-Water
 - NH4-N-Diss-Water
 - NO3+NO2-N-Diss-Water
 - Na-Diss-Water
 - PO4-P-Diss-Water
 - SO4-Diss-Water
 - Si-Diss-Water
 - TAL-Diss-Water
 - TURB-Phys-Water
 - pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

- Single point, single variable
- Compare variables for point
- Compare points for variable
- Compare Monitors/Laboratories

Objectives/Standards

- Point objective
- Ad hoc limits
- Point standard
- No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

Enable Filtering

Liason Entities

- Monitor
- Laboratory

List of Monitors / Laboratories

User: geert Database: wmsdb@inf_08_headq State: Inactive

Adequate Search Criteria



Time Series Graph [frmTimeSeries]

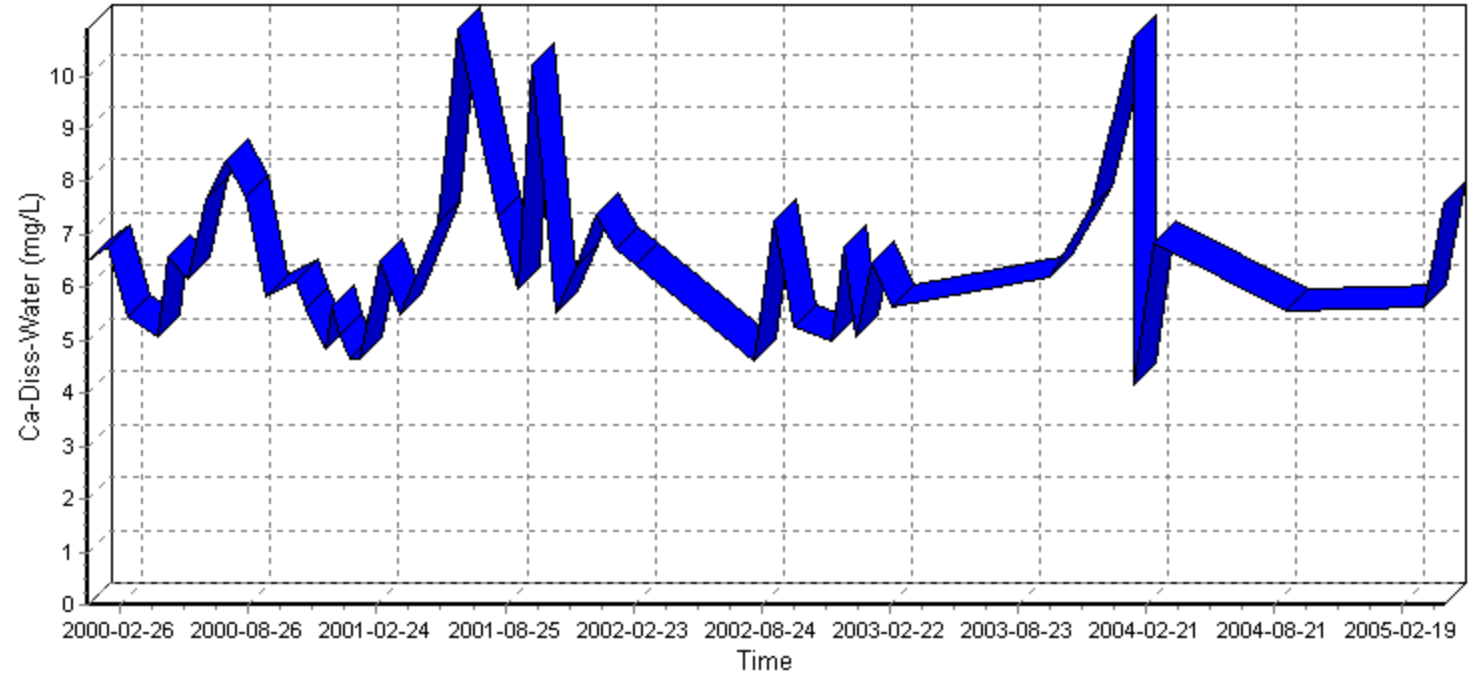
File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select 2. Data 3. Graph

102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
CALCIUM
2000-01-10 to 2005-04-19



User: geert Database: wmsdb@inf_08_headq State: Inactive

45 records Aug-26 14:22, -1.93 Descriptive data retrieved

Time Series Graph [frmTimeSeries]

File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph

Monitoring Points

102806 - W1H004Q01 MLALAZI RIVER AT ESHO
102807 - W1H005Q01 MFULAZANE RIVER AT GC
102809 - W1H009Q01 MHLATUZE RIVER AT RIVI
177769 - W1H032Q01 UMHLATUZE VALLEY PUM
102825 - W1R001Q01 GOEDERTROU DAM ON M
102830 - W1R002Q01 ESHOWE DAM ON MLALAZ
102831 - W1R003Q01 LAKE NSEZI AT EMPANGE
102832 - W1R004Q01 LAKE UMSINGAZI AT ARB

WQ variables

Ca-Diss-Water
Cl-Diss-Water
EC-Phys-Water
F-Diss-Water
K-Diss-Water
Mg-Diss-Water
NH4-N-Diss-Water
NO3+NO2-N-Diss-Water
Na-Diss-Water
PO4-P-Diss-Water
SO4-Diss-Water
Si-Diss-Water
TAL-Diss-Water
TURB-Phys-Water
pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

Single point, single variable

Compare variables for point

Compare points for variable

Compare Monitors/Laboratories

Objectives/Standards

Point objective Ad hoc limits

Point standard No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

Enable Filtering

Liason Entities

Monitor Laboratory

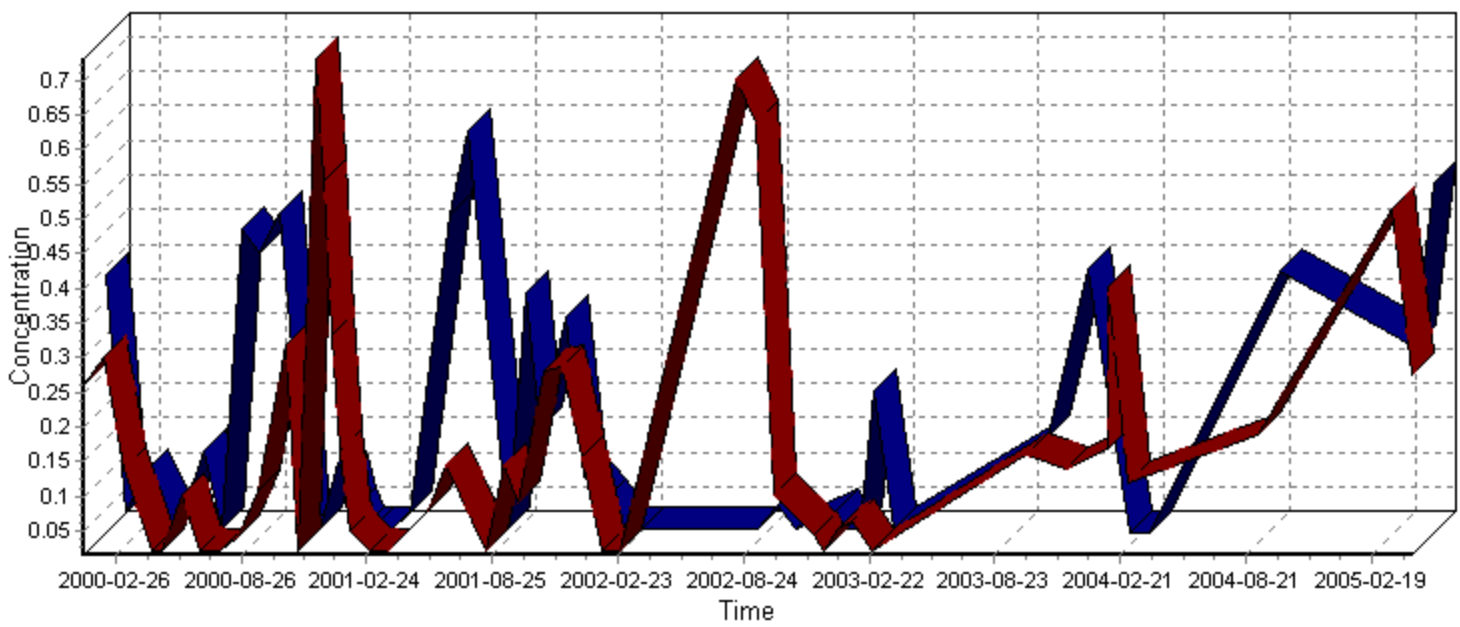
- List of Monitors**
- KZN-DWAF HOWICK



1. Select 2. Data 3. Graph

102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
Selected Variables
2000-01-10 to 2005-04-19

NH4-N-Diss-Water NO3+NO2-N-Diss-Water



User: geert Database: wmsdb@inf_08_headq State: Inactive

90 records May-27 00:45, 0.84 Descriptive data retrieved

Time Series Graph [frmTimeSeries]

File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph

Monitoring Points

102806 - W1H004Q01 MLALAZI RIVER AT ESHOV
102807 - W1H005Q01 MFULAZANE RIVER AT GO
102809 - W1H009Q01 MHLATUZE RIVER AT RIV
177769 - W1H032Q01 UMHLATUZE VALLEY PUM
102825 - W1R001Q01 GOEDERTROU DAM ON M
102830 - W1R002Q01 ESHOWE DAM ON MLALAZ
102831 - W1R003Q01 LAKE NSEZI AT EMPANGE
102832 - W1R004Q01 LAKE UMSINGAZI AT ARBO

WQ variables

Ca-Diss-Water
Cl-Diss-Water
EC-Phys-Water
F-Diss-Water
K-Diss-Water
Mg-Diss-Water
NH4-N-Diss-Water
NO3+NO2-N-Diss-Water
Na-Diss-Water
PO4-P-Diss-Water
SO4-Diss-Water
Si-Diss-Water
TAL-Diss-Water
TURB-Phys-Water
pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

- Single point, single variable
- Compare variables for point
- Compare points for variable
- Compare Monitors/Laboratories

Objectives/Standards

- Point objective
- Ad hoc limits
- Point standard
- No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

Enable Filtering

Liason Entities

- Monitor
- Laboratory

- List of Monitors**
- KZN-DWAF HOWICK









User: geert Database: wmsdb@inf_08_headq State: Inactive

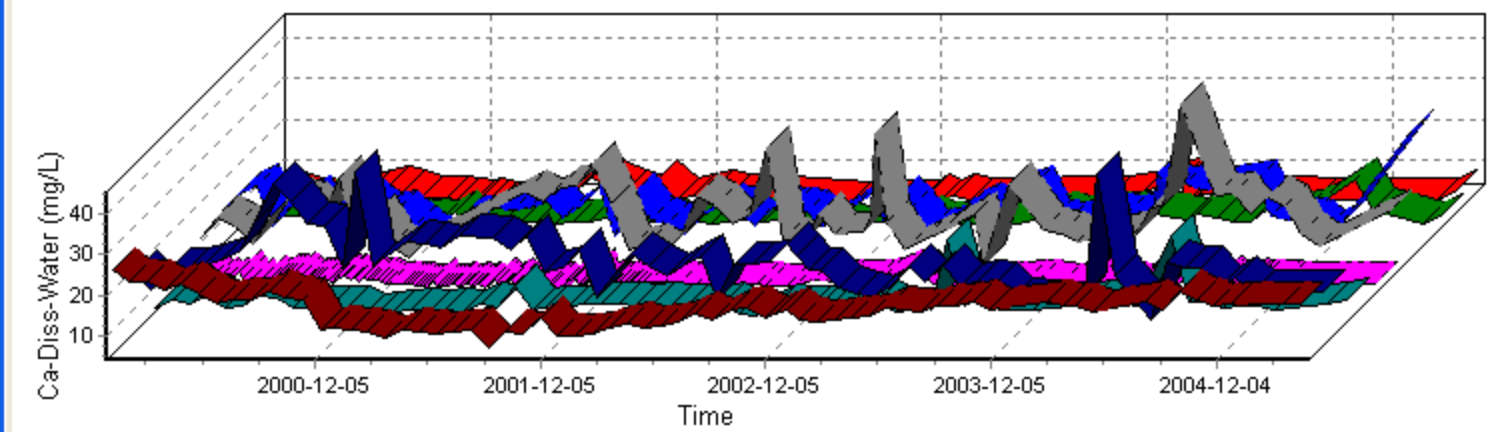
588 records Mar-01 15:36, 181.52 Adequate Search Criteria



1. Select 2. Data 3. Graph

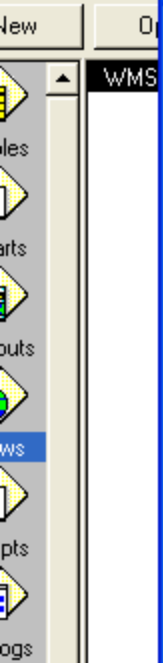
CALCIUM
Selected Monitoring Points
2000-01-10 to 2005-04-20

-  102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
-  102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
-  102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
-  177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
-  102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
-  102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
-  102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
-  102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM



User: geert Database: wmsdb@inf_08_headq State: Inactive

588 records Oct-04 21:21, -20.92 Descriptive data retrieved



Time Series Graph [frmTimeSeries]

File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph

Monitoring Points

102806 - W1H004Q01 MLALAZI RIVER AT ESHO
102807 - W1H005Q01 MFULAZANE RIVER AT GC
102809 - W1H009Q01 MHLATUZE RIVER AT RIVI
177769 - W1H032Q01 UMHLATUZE VALLEY PUM
102825 - W1R001Q01 GOEDERTROU DAM ON M
102830 - W1R002Q01 ESHOWE DAM ON MLALAZ
102831 - W1R003Q01 LAKE NSEZI AT EMPANGE
102832 - W1R004Q01 LAKE UMSINGAZI AT ARB

WQ variables

Ca-Diss-Water
Cl-Diss-Water
EC-Phys-Water
F-Diss-Water
K-Diss-Water
Mg-Diss-Water
NH4-N-Diss-Water
NO3+NO2-N-Diss-Water
Na-Diss-Water
PO4-P-Diss-Water
SO4-Diss-Water
Si-Diss-Water
TAL-Diss-Water
TURB-Phys-Water
pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

- Single point, single variable
- Compare variables for point
- Compare points for variable
- Compare Monitors/Laboratories

Objectives/Standards

- Point objective
- Ad hoc limits
- Point standard
- No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

Enable Filtering

Liason Entities

- Monitor
- Laboratory

- List of Monitors**
- KZN-DWAF HOWICK

User: geert Database: wmsdb@inf_08_headq State: Inactive

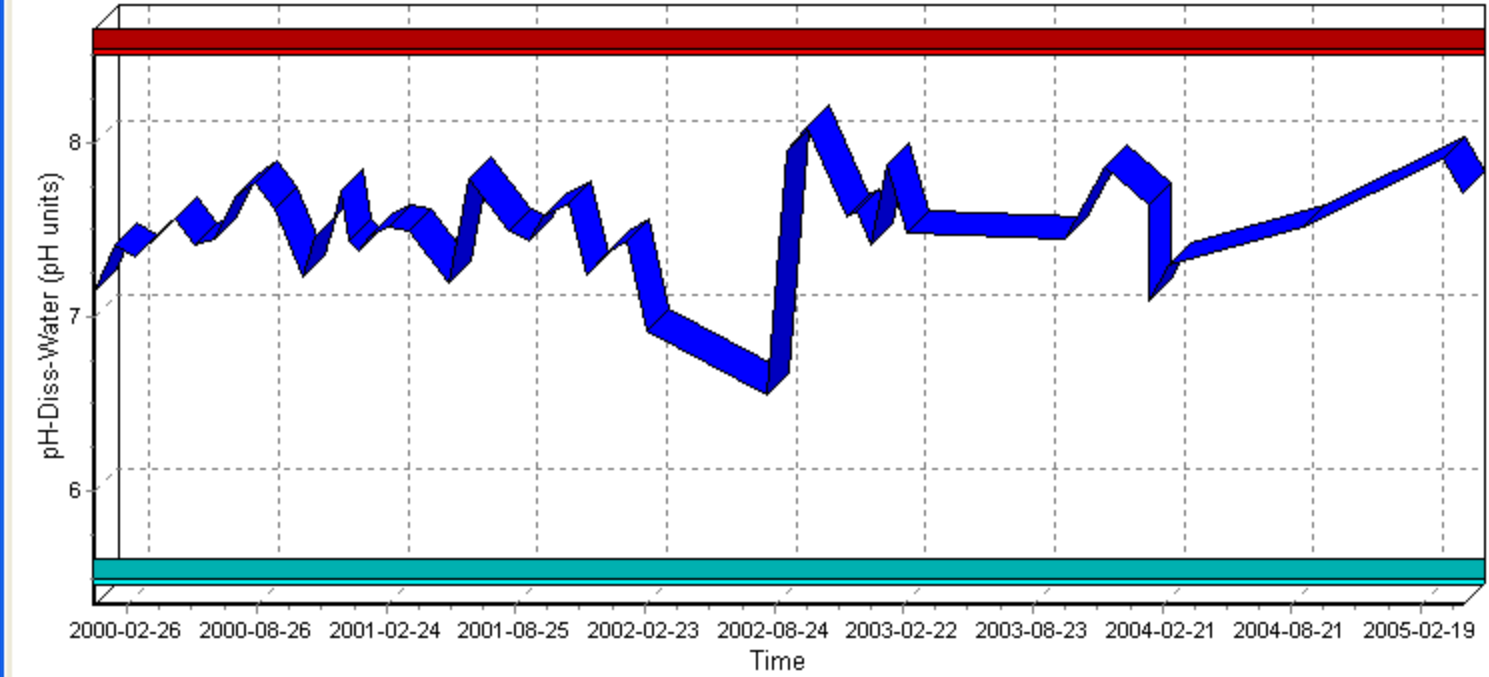
45 records Feb-07 20:39, 9.50 Adequate Search Criteria



Form Help

1. Select 2. Data 3. Graph

102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
PH
2000-01-10 to 2005-04-19



User: geert Database: wmsdb@inf_08_headq State: Inactive

45 records Jul-18 10:03, 7.77 Adequate Search Criteria



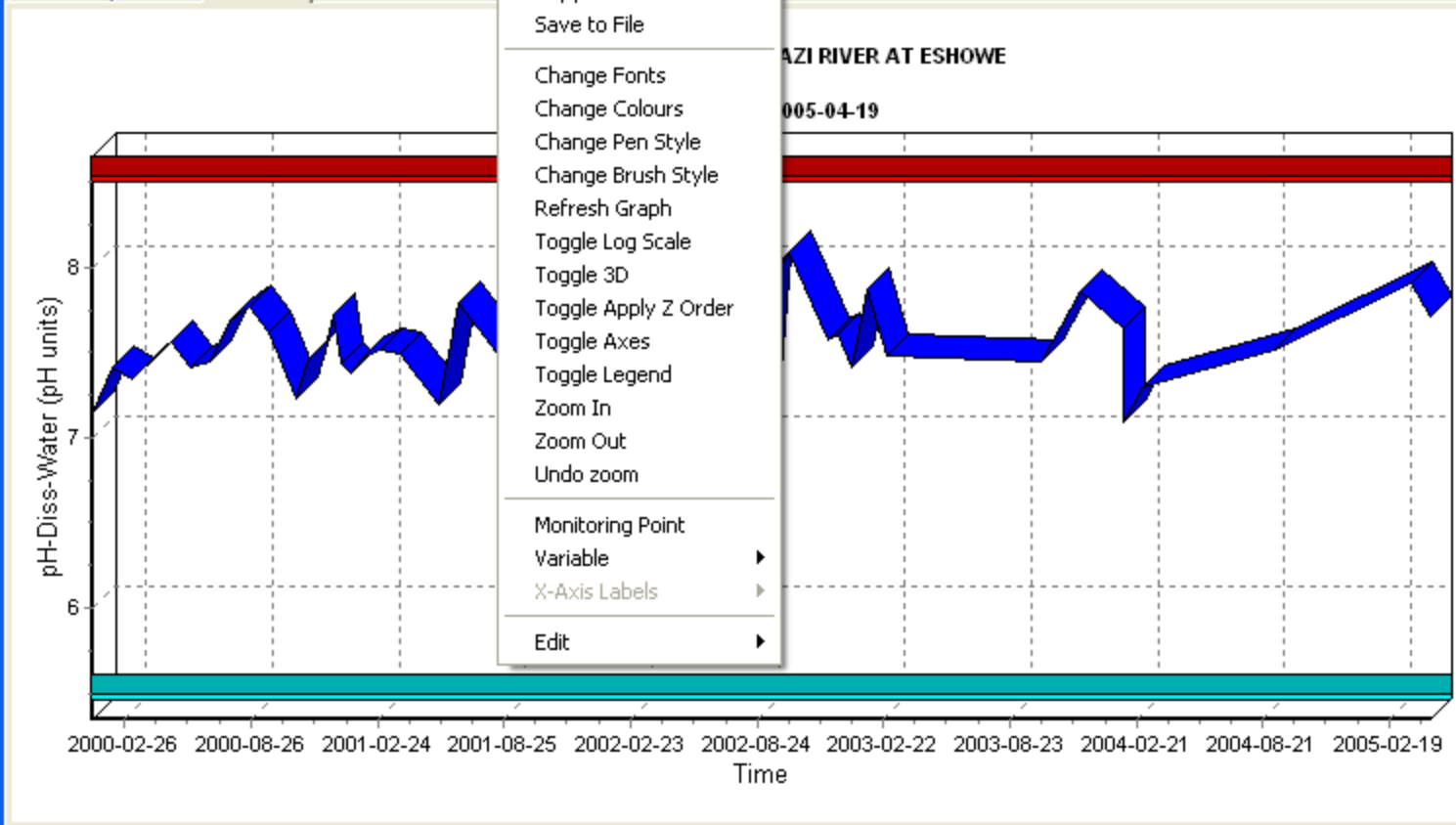
wms.apr

Time Series Graph [frmTimeSeries]

- File
- Edit
- Navigation
- Find
- Links
- GIS
- Data
- Graph
- Help



1. Select 2. Data 3. Graph



- Navigate
- Print
- Copy chart
- Save to File
- Change Fonts
- Change Colours
- Change Pen Style
- Change Brush Style
- Refresh Graph
- Toggle Log Scale
- Toggle 3D
- Toggle Apply Z Order
- Toggle Axes
- Toggle Legend
- Zoom In
- Zoom Out
- Undo zoom
- Monitoring Point
- Variable
- X-Axis Labels
- Edit

Form Help



User: geert Database: wmsdb@inf_08_headq State: Inactive

45 records Jun-06 01:57, 9.44 Adequate Search Criteria

5.2 HOW TO PRODUCE A BOX & WHISKER PLOT GRAPH

1. From Water Quality Results Report Options box select box & whisker plot graph.
2. Click on graph and view the graph, click select.
3. Select the graph types one at a time to view the different graphs.
4. Close the box and whisker plot box.

Water Quality Results Report Options

File Parameters Reports **Graphs** Help

- Time Series Graph
- Water Quality Frequency Histogram
- Box & Whisker Plot**
- Downstream Impact Over Distance Graph
- Depth Profile Graph
- Trend & Tendency Graph
- Percentage Exceedance Plot
- Animated Change Graph

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM

WATER RESOURCE MANAGEMENT

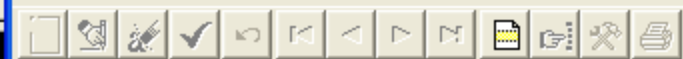


wms.apr

Box and Whisker Plot [frmBoxPlot]



File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph | 4. Key to Boxplot

Monitoring Points

- 102806 - W1H004Q01 MLALAZI RIVER A
- 102807 - W1H005Q01 MFULAZANE RIVI
- 102809 - W1H009Q01 MHLATUZE RIVE
- 177769 - W1H032Q01 UMHLATUZE VAL
- 102825 - W1R001Q01 GOEDERTROU D
- 102830 - W1R002Q01 ESHOWE DAM OI
- 102831 - W1R003Q01 LAKE NSEZI AT E
- 102832 - W1R004Q01 LAKE UMSINGAZ

WQ variables

- Ca-Diss-Water
- Cl-Diss-Water
- EC-Phys-Water
- F-Diss-Water
- K-Diss-Water
- Mg-Diss-Water
- NH4-N-Diss-Water
- NO3+NO2-N-Diss-Water
- Na-Diss-Water
- PO4-P-Diss-Water
- SO4-Diss-Water
- Si-Diss-Water
- TAL-Diss-Water
- TURB-Phys-Water
- pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

- Yearly
- Seasonal
- Monthly Aggregate
- Compare Monitoring Points
- Compare Monitor/Laboratory

Objectives/Standards

- Point objective
- Ad hoc limits
- Point standard
- No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

Enable Filtering

Liason Entities

- Monitor
- Laboratory

List of Monitors / Laboratories

User: geert Database: wmsdb@inf_08_headq State: Inactive

Adequate Search Criteria



wms.apr

Box and Whisker Plot [frmBoxPlot]



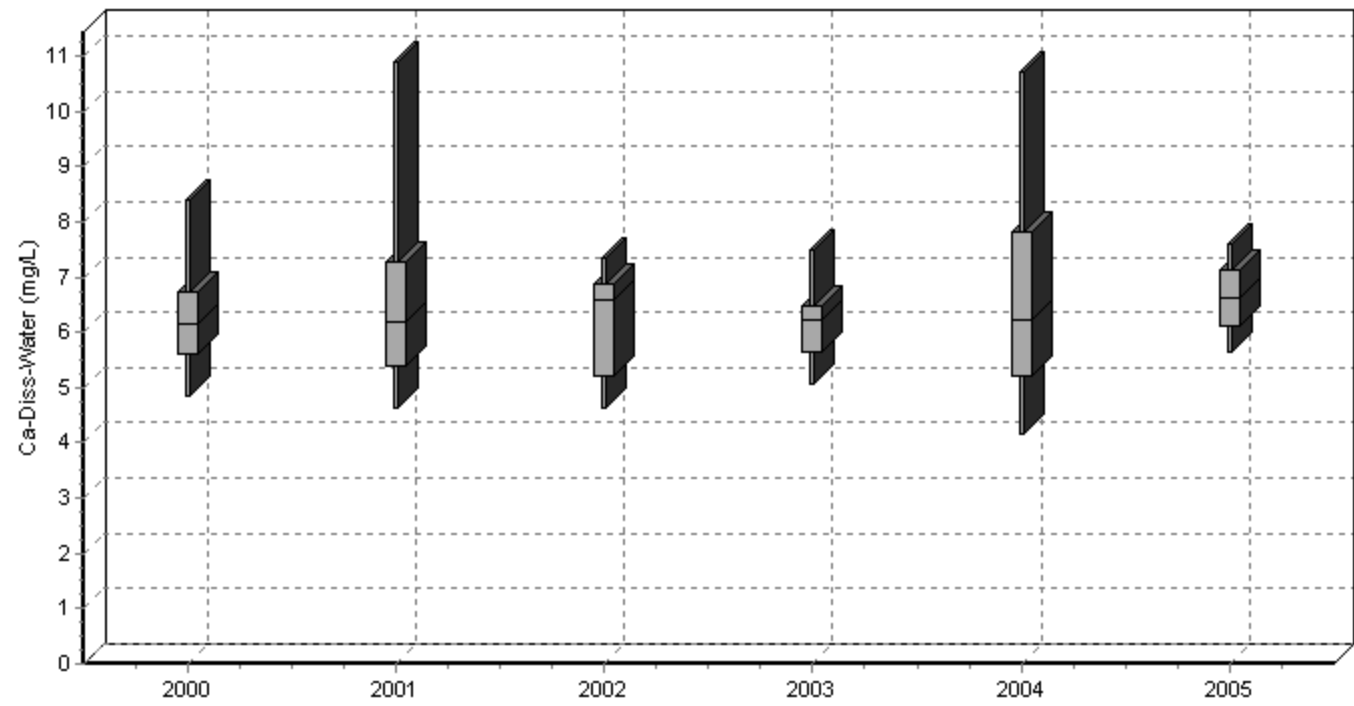
File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select | 2. Data | 3. Graph | 4. Key to Boxplot

Ca-Diss-Water at 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
Yearly behaviour
2000-01-10 to 2005-04-19



User: geert Database: wmsdb@inf_08_headq State: Inactive
45 records Apr-07 15:45, 0.83 Descriptive data retrieved

5.3 HOW TO PRODUCE A DOWNSTREAM IMPACT OVER DISTANCE GRAPH

1. From Water Quality Results Report Options box click on graphs then Downstream Impact over Distance Graph.
2. Click on graph and view the graph, click select.
3. Select the graph types one at a time to view the different graphs.
4. Close the Downstream Impact over Distance Graph box.

Water Quality Results Report Options

File Parameters Reports **Graphs** Help

- Time Series Graph
- Water Quality Frequency Histogram
- Box & Whisker Plot
- Downstream Impact Over Distance Graph**
- Depth Profile Graph
- Trend & Tendency Graph
- Percentage Exceedance Plot
- Animated Change Graph

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM WATER RESOURCE MANAGEMENT



Downstream Impact Over Distance - Graph [frmDistancePlot]

File Edit Navigation Find Links GIS Data Graph Help

Form Help

1. Select | 2. Data | 3. Graph

Monitoring Points	WQ variables	Graph Type
102806 - W1H004Q01 MLALAZI RIVER A	Ca-Diss-Water	<input checked="" type="radio"/> As Boxplot
102807 - W1H005Q01 MFULAZANE RIV	Cl-Diss-Water	<input type="radio"/> As Line / Bar Plot
102809 - W1H009Q01 MHLATUZE RIVE	EC-Phys-Water	
177769 - W1H032Q01 UMHLATUZE VAL	F-Diss-Water	
102825 - W1R001Q01 GOEDERTROU D	K-Diss-Water	
102830 - W1R002Q01 ESHOWE DAM O	Mg-Diss-Water	
102831 - W1R003Q01 LAKE NSEZI AT B	NH4-N-Diss-Water	
102832 - W1R004Q01 LAKE UMSINGAZ	NO3+NO2-N-Diss-Water	
	Na-Diss-Water	
	PO4-P-Diss-Water	
	SO4-Diss-Water	
	Si-Diss-Water	
	TAL-Diss-Water	
	TURB-Phys-Water	
	pH-Diss-Water	

Start date: 2000-01-01

End date: 2005-08-22

Select Statistic:
 average perc 25 median perc 75

Objectives/Standards:
 Point objective Ad hoc limits
 Point standard No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory:
 Enable Filtering Liason Entities: Monitor Laboratory

List of Monitors / Laboratories:

Downstream Impact Over Distance - Graph [frmDistancePlot]

File Edit Navigation Find Links GIS Data Graph Help

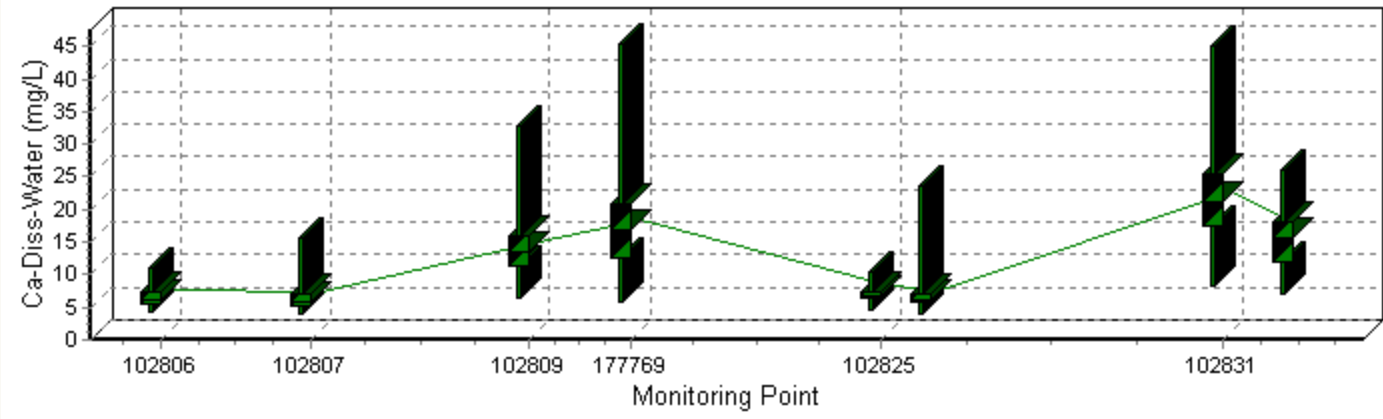
1. Select 2. Data 3. Graph

Form Help

Spatial variation in CALCIUM
Site- and Status-related monitoring points
2000-01-10 to 2005-04-20

- 102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
- 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF
- 102809 - W1H009Q01 MHLATUZE RIVER AT RIVERVIEW 11459
- 177769 - W1H032Q01 UMHLATUZE VALLEY PUMP STATION (SUGAR FACTORY)
- 102825 - W1R001Q01 GOEDERTROU DAM ON MHLATUZE RIVER: NEAR DAM WALL
- 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI RIVER: NEAR DAM WALL
- 102831 - W1R003Q01 LAKE NSEZI AT EMPANGENI/PUMP STATION
- 102832 - W1R004Q01 LAKE UMSINGAZI AT ARBORETUM

— Status-Related
 — Site-Related



User: geert Database: wmsdb@inf_08_headq State: Inactive
 588 records 25.01, 116.81 102807 - W1H005Q01 MFULAZANE RIVER AT GOLDEN REEF

5.4 HOW TO PRODUCE A TREND & TENDENCY GRAPH

1. From Water Quality Results Report Options box click on graphs then select Trend & Tendency Graph
2. Click on graph and view the graph, click select.
3. select the graph types one at a time to view the different graphs. Trend & Tendency Graph
4. Close the Trend & Tendency Graph box.

Water Quality Results Report Options

File Parameters Reports **Graphs** Help

- Time Series Graph
- Water Quality Frequency Histogram
- Box & Whisker Plot
- Downstream Impact Over Distance Graph
- Depth Profile Graph
- Trend & Tendency Graph**
- Percentage Exceedance Plot
- Animated Change Graph

User: geert Database: wmsdb@inf_08_headq State: Inac

WATER MANAGEMENT SYSTEM

WATER RESOURCE MANAGEMENT

Trend and Tendency Graph [frmPolyfit]

File Edit Navigation Find Links GIS Data Graph Help



Form Help

1. Select 2. Data 3. Graph Report

- Monitoring Points**
- 102806 - W1H004Q01 MLALAZI RIVER AT ESHO...
 - 102807 - W1H005Q01 MFULAZANE RIVER AT G...
 - 102809 - W1H009Q01 MHLATUZE RIVER AT RIM...
 - 177769 - W1H032Q01 UMHLATUZE VALLEY PU...
 - 102825 - W1R001Q01 GOEDERTROU DAM ON I...
 - 102830 - W1R002Q01 ESHOWE DAM ON MLALAZI...
 - 102831 - W1R003Q01 LAKE NSEZI AT EMPANG...
 - 102832 - W1R004Q01 LAKE UMSINGAZI AT ARE...

- WQ variables**
- Ca-Diss-Water
 - Cl-Diss-Water
 - EC-Phys-Water
 - F-Diss-Water
 - K-Diss-Water
 - Mg-Diss-Water
 - NH4-N-Diss-Water
 - NO3+NO2-N-Diss-Water
 - Na-Diss-Water
 - PO4-P-Diss-Water
 - SO4-Diss-Water
 - Si-Diss-Water
 - TAL-Diss-Water
 - TURB-Phys-Water
 - pH-Diss-Water

Start date: 2000-01-01

End date: 2005-08-22

Graph Type

- Tendency
- Seasonal

What to Plot

- Actual Data
- Modelled Data
- Residual

Order: 2

Objectives/Standards

- Point objective
- Ad hoc limits
- Point standard
- No objective

Objective reason:

Lower limit:

Upper limit:

Filter by Monitor or Laboratory

- Enable Filtering

Liason Entities

- Monitor
- Laboratory

- List of Monitors
- KZN-DWAF HOWICK



wms.apr

Trend and Tendency Graph [frmPolyfit]



File Edit Navigation Find Links GIS Data Graph Help

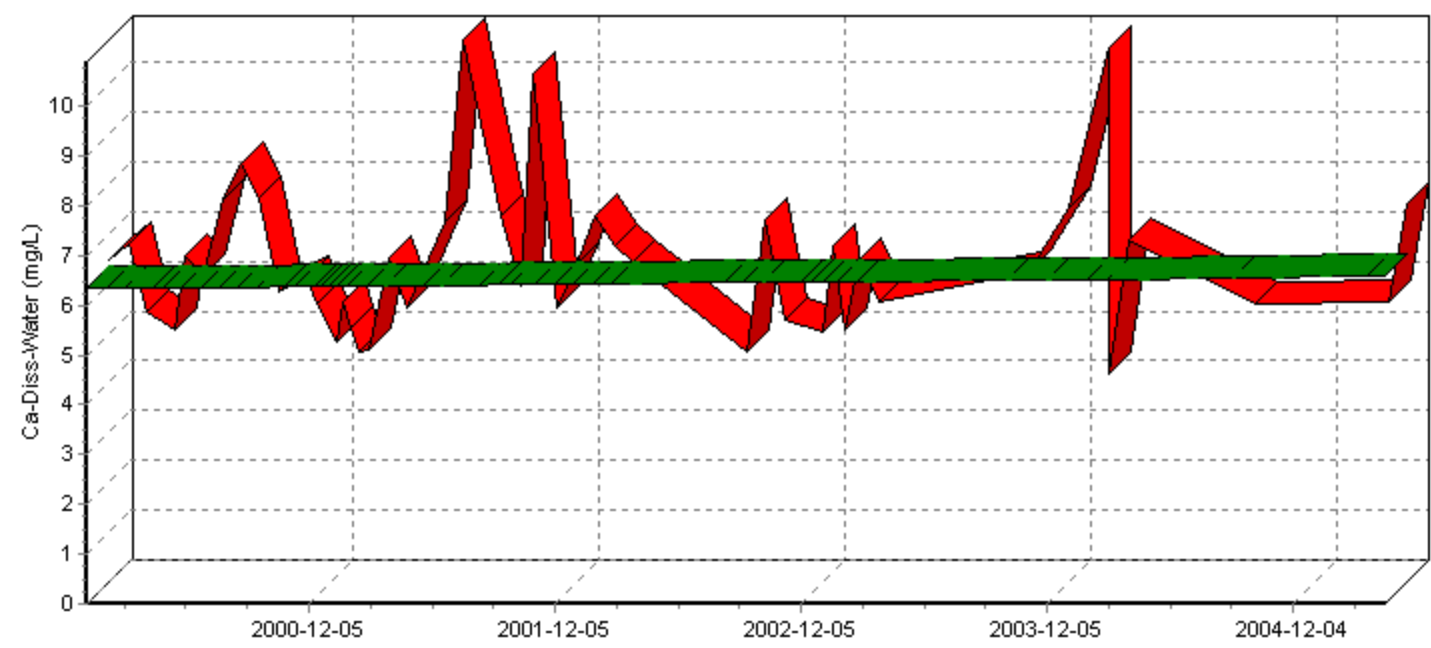


Form Help

1. Select 2. Data 3. Graph Report

102806 - W1H004Q01 MLALAZI RIVER AT ESHOWE
CALCIUM
2000-01-10 to 2005-04-19

Real Data Trend (order=2)



User: geert Database: wmsdb@inf_08_headq State: Inactive
45 records Mar-02 21:49, 15.51 Descriptive data retrieved