

KISTERS Australia News

August 2016

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From The GM's Desk

By Bill Steen, General Manager, KISTERS Pty Ltd

Over the past months I have caught up with many users of the KISTERS solutions and also the Hyquest Solutions products. It is always interesting to hear what you have to say, how you utilise our solutions and where you would like to see the product in the future.

The message that seemed to resonate throughout the industry was change, whether through changes in staff by natural attrition or unfortunately in some cases voluntary and involuntary redundancies, plus changes at senior executive levels.

These forced changes, along with budgetary restraints, are having impacts on the way the industry is viewing the necessity of data and data publication, although data publication was still high on the agenda for most users.

However through the changes there seems to be a resilient message and to coin a phrase by one person I met, "KISTERS solutions are seen as industrial strength for the professional user". This in my opinion was very positive feedback, especially when KISTERS solutions are the sum of its users in terms of innovation and improvement.

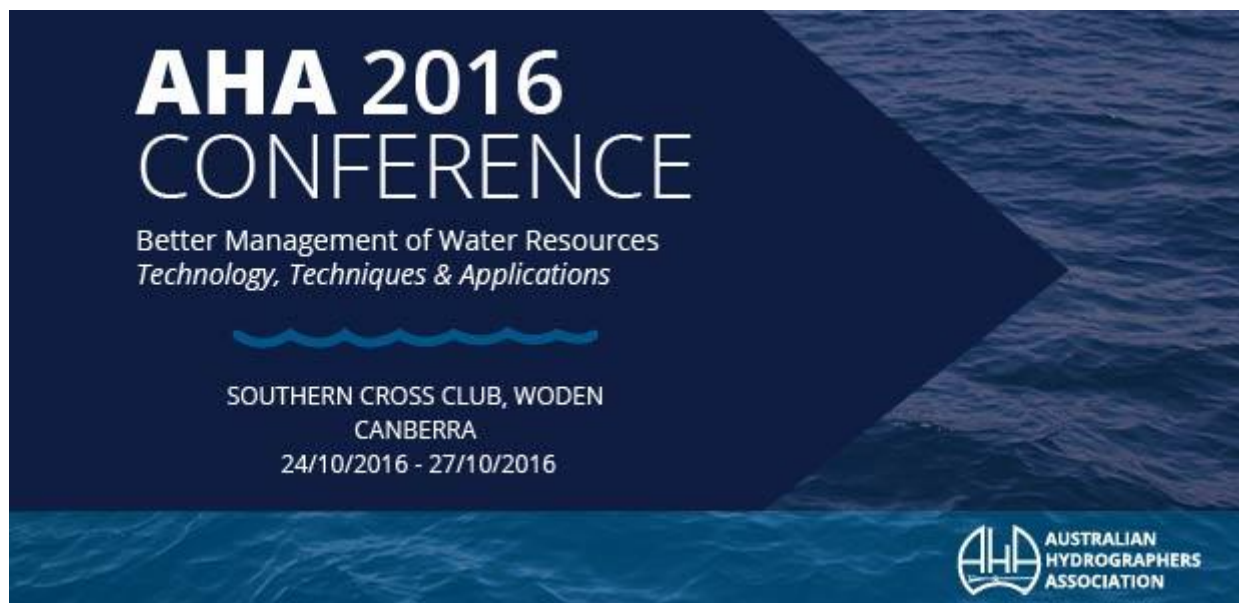
I look forward to catching up with you at the KISTERS User Group meeting in Canberra on Monday 24th October.

Bill Steen
General Manager
KISTERS Pty Ltd



KISTERS User Group Meetings 2016

Australian KISTERS User Group Meeting



The Australian KISTERS User Group meeting will be held this year on 24 October 2015 in Canberra at the Southern Cross Club in Woden in association with the AHA conference on October 25 and 26. Registration is done in conjunction with the AHA conference, and the registration is available from <http://aha.net.au/development/events/aha-2016-conference/registration/>. Once you start the registration process you will be able to select which components you want to attend. The cost of the KISTERS User Group day is \$490 inc GST.

Although the agenda is not yet finalised, the format of the KISTERS day will include user presentations, updates on the various KISTERS software products, and demonstrations of product integration on the web. Peter Heweston will present his traditional after-lunch technology talk. We will divide into two streams for part of the day, a WISKI stream and a Hydstra stream.

US KISTERS User Group Meeting

The 2016 KISTERS Users Group meeting will take place on September 12-13 at the tried and true Bahia Resort Hotel in San Diego. Please contact Jennifer Durda for more information at jennifer.durda@kisters.net.

New HYXL2BOM Published

A number of Australian water agencies use HYXL2BOM to transfer WDTF data to the Bureau of Meteorology from Excel spreadsheets. A new version of the program has been published on the BOM web site at <http://www.bom.gov.au/water/standards/wdtf/excelwdtf.shtml>. Please update your version if you use HYXL2BOM. A number of bugs have been fixed, and new supporting metadata has been published in the associated Excel spreadsheet.

If you run HYXL2BOM from within Hydstra then you need to install a patch dated 01/07/2016 or later.

It is worth noting that when HYXL2BOM expects a date and time in a column, it must be a true date/time type and not a text string. You can test in Excel whether you have it right, as changing the date formatting for date/time will switch to the new format, whereas changing the date formatting of a text string will do nothing.

Hydstra Product News

Hydstra V11 Release

Hydstra Version 11 is the current supported stable version of Hydstra, and is available for download from <http://kisters.com.au/downloads.html> . You will need to contact us at support@kisters.com.au for a V11 HYACCESS.INI before you upgrade to it. We suggest you do a trial upgrade on a copy of your 10.04 system first, before going live.

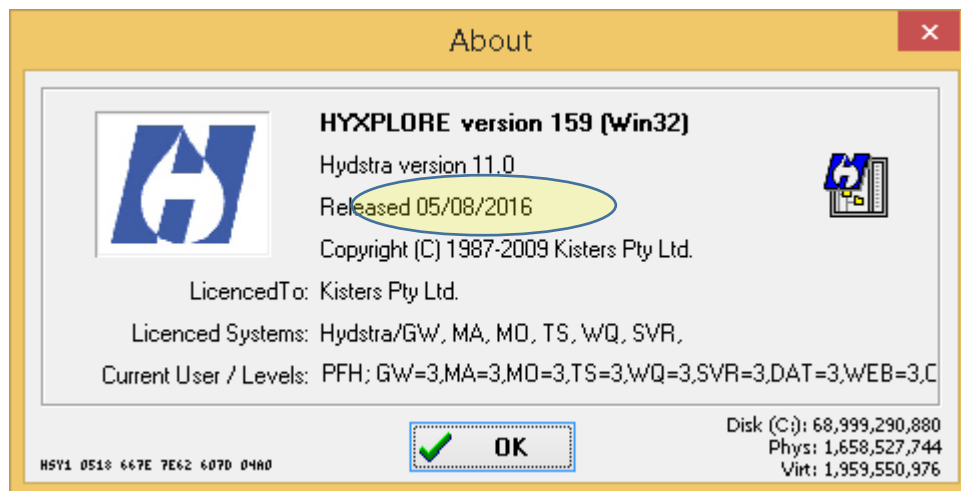
If you work closely with other agencies and trade Hydstra data with them you should liaise with them before upgrading. If you run Hydstra/WEB you should liaise with Denby Angus and set up a test V11 web server.

Patching Hydstra V11

A new patch is released every Friday, subject to release procedures completing successfully. An increasing amount of new development is now patched back to the current release, and is explicitly marked in the Change Log as having been patched.

As we slightly relax the rules about what we can and cannot patch it has become increasingly important that you run HYPATCHUP after installing a new patch. HYPATCHUP is configured to do whatever is necessary, but it may include restructuring and reindexing databases, and without running HYPATCHUP your system may be broken in some areas.

You can find out the date of your current patch by running Help/About from HYPXPLORE:



The Released date is the date the system was compiled, prior to being tested and packaged up into a patch.

HYPXPLORE will check if you have run HYPATCHUP and nag you about it if you haven't.

We recommend that you patch your system at least once every few months, as many new features are being continuously released through patches now.

Hydstra V12 Proposed Release

We have been working on the development of the next release of Hydstra for quite some time. The new version will be compiled with a more recent compiler which brings significant performance improvements, particularly for SQL Server users, as well as myriad of program enhancements that could not be patched due to changes in database structure or module interfaces.

We currently plan to release Hydstra V12 some time during the middle of 2017. At that stage Hydstra V10 will become unsupported. One of the findings we have already observed from early responses to the Hydstra User Survey is that some of you are still running Hydstra V10. Hydstra 10.04 was released in August 2012, some four years ago, and 10.3 was released in September 2010, some six years ago.

We strongly encourage you to plan an upgrade to V11 in the next 12 months or you risk being left behind.

Hydstra User Survey

Thanks very much to those of you who have completed and returned the Hydstra User Survey. The survey is of great assistance to us in finding out which components of Hydstra are most important to our user community, and conversely which programs are no longer used and have become candidates for retirement. As you would understand, there is a long and expensive tail of little used software that is expensive to maintain, and the more of it we can retire the easier our task is going forward, particularly when we embark on major changes such as implementing a new compiler, supporting new databases, or making widespread global enhancements.

We would appreciate it if every Hydstra agency could complete the survey and return it to peter.heweston@kisters.com.au. We will publish a summary of the findings at the forthcoming KISTERS User Group meetings, and in the next Newsletter.

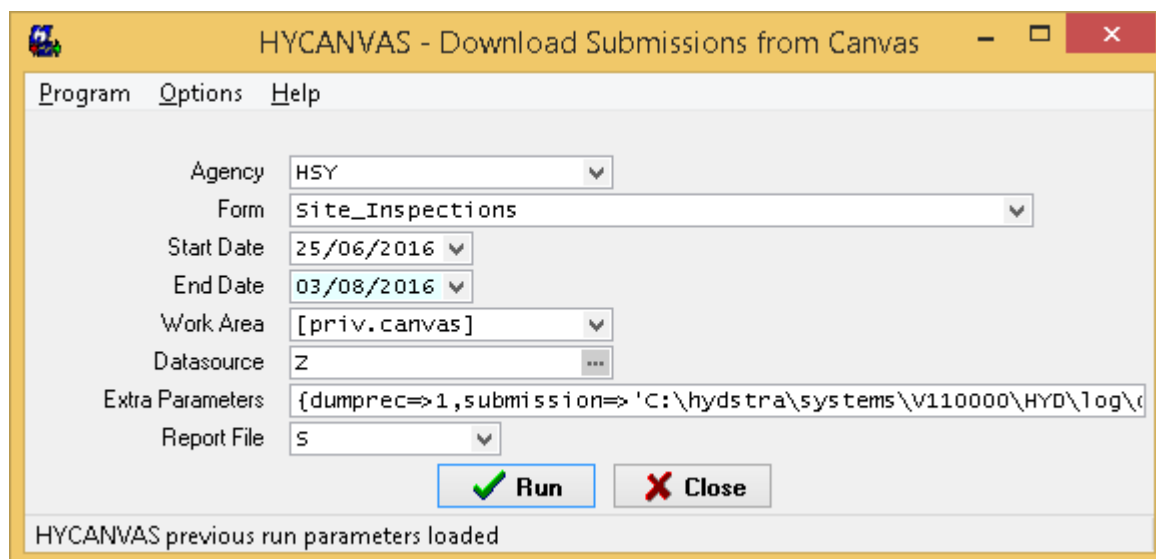
If you have not already done so, you can download a copy of the survey from <https://www.dropbox.com/s/wdie7tw9svk92kx/2016%20Hydstra%20Usage%20Survey.zip?dl=0> . There are two components: a manual questionnaire which should take no more than five minutes to complete, and an automated component that used HYDLOGEX to analyse your recent V11 log files and summarise program usage.

HYCANVAS Provides a Processing Framework for GoCanvas Data

Users can use the GoCanvas application (<https://www.gocanvas.com/content/home-1>) to develop data entry forms which can run on a variety of handheld devices, such as IOS and Android phones and tablets. The applications can be run offline, that is without phone or internet access, and then replicated up to the cloud once you get back in range of phone or Wi-Fi connectivity.

KISTERS can develop an application for you to download the data from the GoCanvas cloud and process it into Hydstra. Typical applications will perhaps create HISTORY records, time-series data, or perhaps instrument database records.

We have developed a framework program HYCANVAS.HSC which handles much of the routine work of downloading and saving data from the Canvas cloud, though client specific work is done via a Perl plugin module, and that needs to be developed either by yourself or by KISTERS.



Using a phone or tablet with GoCanvas you can take photos, scan barcodes, capture signatures, and produce PDF summaries of the task, as you guide users through structured data entry tasks of your own design.

Please come and talk to us before embarking on a GoCanvas based project, as we can give you a few pointers to smooth the way. In order to use the web service with HYCANVAS calls you will need a Professional subscription to Canvas, which runs to some \$US50 per user per month.

Standard Hydstra Extended

We have extended the definitions for Standard Hydstra to include a selection of water quality and groundwater variables and datasources. We have also provided a new Standard Hydstra call *get_std_datasource_list* to enumerate all available Standard Hydstra datasources, which now include *Waterquality* as well as *Groundwater*.

Given the availability of multiple datasources the use of the DEFAULT datasource in Standard Hydstra is deprecated, and we suggest you always explicitly specify the datasource you want, from the list *Validated*, *Provisional*, *Combined*, *Waterquality*, *Groundwater*.

Given that Standard Hydstra supports these new datasources it means that Hydstra water quality and groundwater data can be made available to KiWIS and other applications which sit on top of KiWIS such as the new prototype KISTERS Web Portal.

HYRATED Enhancements

HYRATED has been enhanced to enable the conversion of a tabular rating into an equation rating. You need to specify a couple of break-points, based on changes in the cross section. HYRATED will then fit a series of equations of the form $q = a(h-h_0)^b$, where the power b is chosen automatically to provide the best fit. You can also manually drag the equation control points around and see what power results in the best fit.

GWBOREPLOT – A New GW Bore Plot

GWBOREPLOT provides a new groundwater bore plot. It shows the basic lithology and aquifer outline, with the current water level displayed in the borehole. Via configurations in STNINI you can show additional key level information such as modelled projections, historical highs and lows, etc. You can show different axes on each side of the plot, such as depth below measuring point on one side, and elevation on the other. You can show the position of slotted intervals in the pipe.

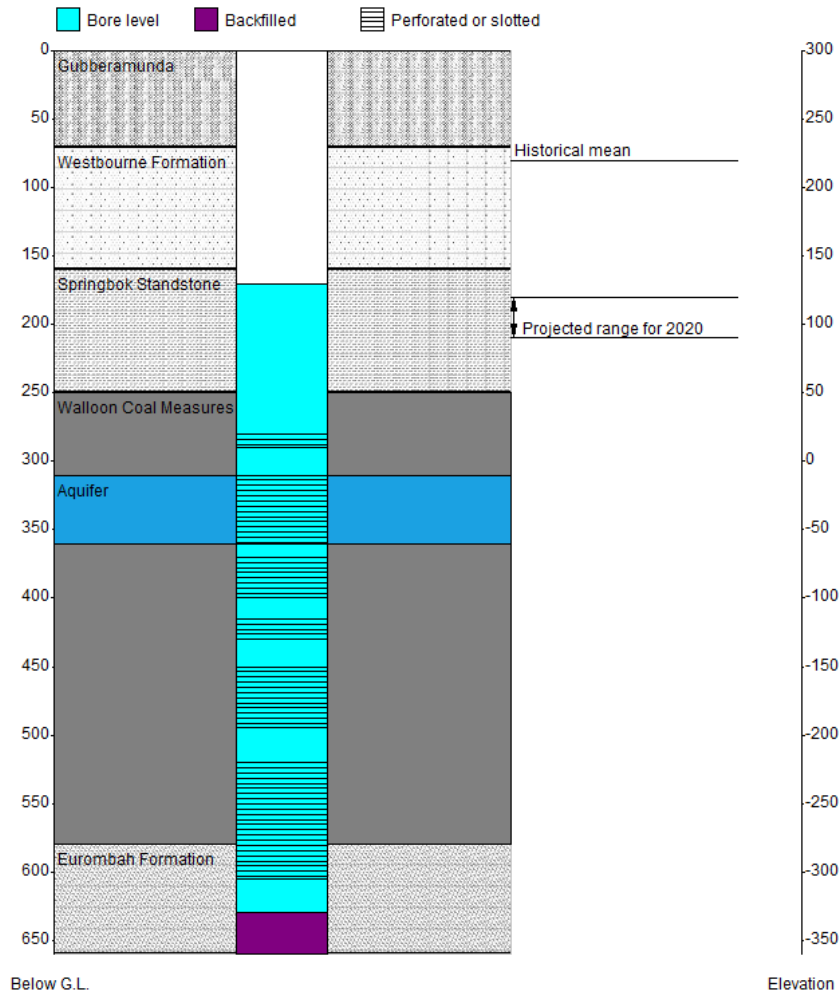
The INI file is quite complex and gives you a lot of control over colours and shading patterns used to show the various lithological units on show.

Once you have everything set up nicely you can produce some quite pretty pictures:

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GWBOREPLOT V1 Output 15/06/2016

Site HYDSYS09, hole 1, pipe 1 Hydstra Test Station - Groundwater data
 Time 12:30_15/06/2016 Latitude 35:20:07.0 S
 Bore level 170.0 Longitude 149:18:50.0 E Elevation 682.0



HYRATFLOWEXP – Compare and Export Flows from Different Ratings

Have you ever been in dispute over a rating, or wanted to know what difference a proposed rating change might make to computed flows? HYPATFLOWEXP computes flow using the standard rating, and then computes flow again using a different rating, from either a different table and release, or from a provisional new rating set stored in a work area. The result is plotted and exported in CSV format for further analysis.

HYRATFLOWEXP - Compare Flow from Different Ratings

Program Options Help

Site HYDSYS01 (unknown) ?

Data Source A (unknown)

VarFrom 100.00 (unknown)

VarTo 140 (unknown)

Comparison Total VarTo 150 (unknown)

Rating VarFrom 100.00 (unknown)

Rating VarTo 140 (unknown)

Work Area [ARCHIVE] (leave blank for explicit Table/Release)

OR

Table/Release 2 1

Start of First Interval 00:00_01/03/1975

Start of Last Interval 00:00_01/03/1976

Output Type BOTH

Plot Layout LAYERED

Plot Output SCR

Output File hycsv_details.pl (X)

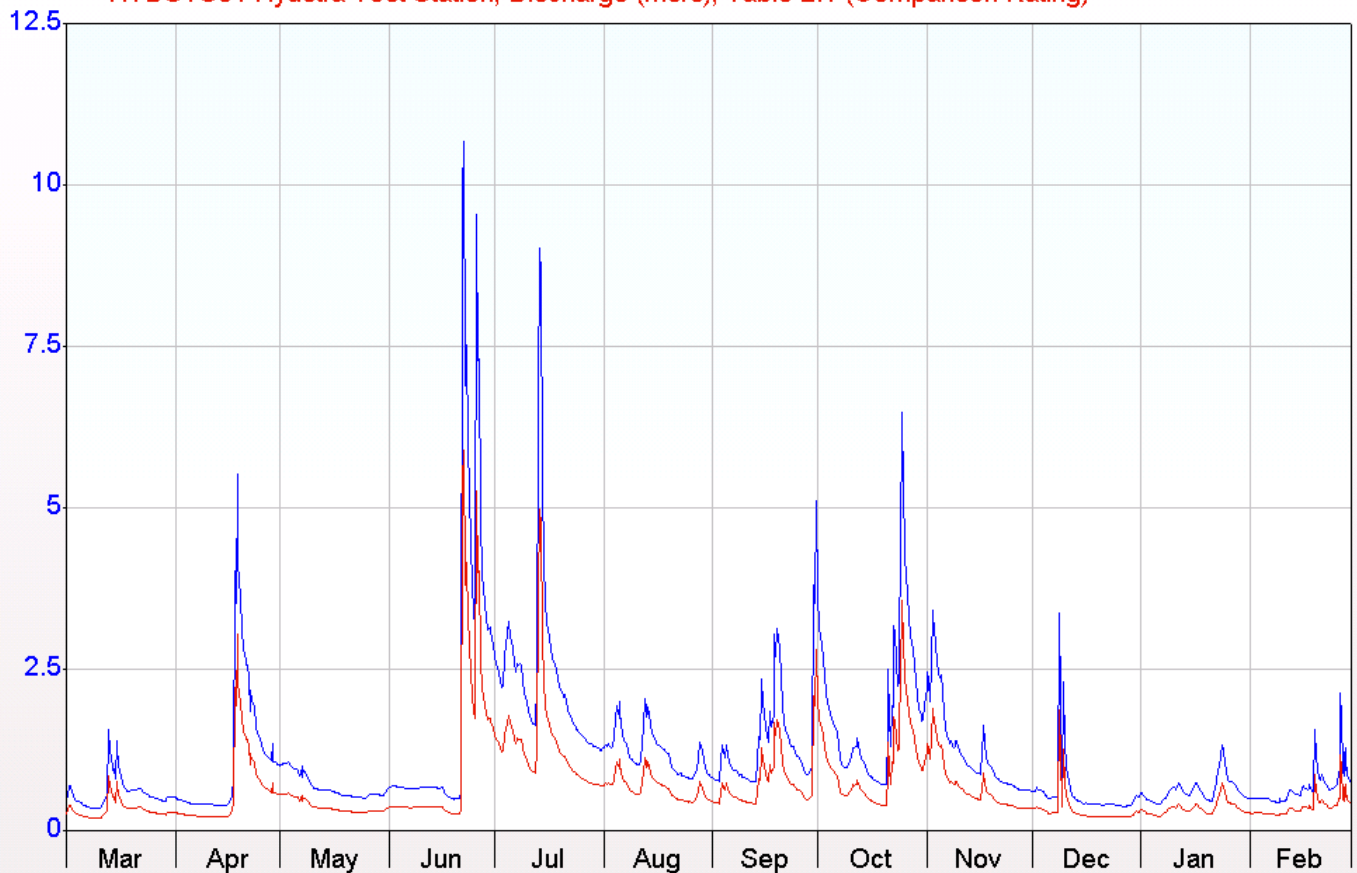
Run Close

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Period 12 Month 01/03/1975 to 01/03/1976

1975

- HYDSYS01 Hydstra Test Station, Discharge (m3/s), Table 3.3 (Actual Rating)
- HYDSYS01 Hydstra Test Station, Discharge (m3/s), Table 2.1 (Comparison Rating)



A Quick Tour around DATASRC.INI and HYDSWIZ

DATASRC.INI controls what datasources are presented to users when they start exploring data. It also controls quite a lot of the behaviour of time series files. If you are relying on the default DATASRC.INI in MISCPATH then perhaps it's time you copied it to INIPATH and started making a few decisions for yourself.

You should use the datasource wizard HYDSWIZ to manage DATASRC.INI unless you know what you are doing, in which case you can use a text editor, but either way please load the final result into HYDWSIZ for checking before using it.

A few things to consider for each datasource:

- If you don't need a datasource, delete it. This simplifies user choice when running programs.
 - For example if you don't use the rather complex Sewer datasource [S?] then remove it.
 - If you don't have the Hydstra/GW module then remove the corresponding datasources, which may be called something like GW, GWRLMP, GWABOVGND and GWHOLDEP.
 - Remove the WQ, WW and WS datasources if you don't have Hydstra/WQ.
 - Get rid of any WISKI datasources if you aren't interested in WISKI.
 - You probably don't want the LP datasource, which reads from the obsolete LOGPOLL table
- If you don't want to completely remove a datasource you can deprecate it used `Deprecated=Yes`. This will warn you every time it is used.

- Think about how many backup versions of a TS file you wish to keep. For archive files we suggest at least 3 backup copies, for telemetry files there's less point as they change exceedingly quickly.

BakFiles (blank or NO for none, otherwise folder + comma + maxtokeep)

- We suggest that all new real time-series data be kept in subdirectories under TSPATH. All Perl datasources should be under TSPATH\PERLDS and then the name of the datasource:

Path (location for files)

- You can tightly control who can read and write real time-series files. This enables you to keep sensitive data quite private:

ULevRead (eg: TS=0)

ULevWrite (eg: TS=1)

Of course you can use roles here also, so you might grant a very small number of users a role like SENSITIVE=3 in PASSWD, and then restrict a certain datasource to users who have SENSITIVE=3. In combination with folder permissions you can screw the data down quite tightly.

- You can control whether particular files are visible in the workbench, and whether they are editable in the workbench.

WBVisible ☒ (visible in workbench)

WBEdition ☒ (editable in workbench)

- When you delete a TS file through any Hydstra process, the backup file (if any) is saved before the file is removed so the last version is saved. For extra security you can ensure that the file is copied to a local drive before being deleted (if you indeed have a local drive in these virtual and cloudy days), and hence ends up in your private recycle bin:

RecycleBin ☐ (when deleting TS files)

Bear in mind that networked drives do not have a recycle bin, so the careless use of File Explorer can still wreak havoc.

- For extra protection you can ensure that archive files are kept in a read-only state by default. Hydstra will un-read-only the file before rewriting it. DOS processes will be prevented from accidentally deleting the file, but File Explorer will still blow it away.

ReadonlyFiles ☒ (mark TS files RO)

- A few flags on real TS files that we recommend you don't change unless advised include WBEditionPlace, HFShortcuts, Telemetrymode, Blocklimit.

- The generic database datasource can be useful for reading data from any table that has a station, a value and optionally a date and time. For example the new RATINGTABLE datasource returns the table number in use as a time series. It does this by reading the RATEPER table using the GENRITABLE datasource, filtering on 100 to 140:

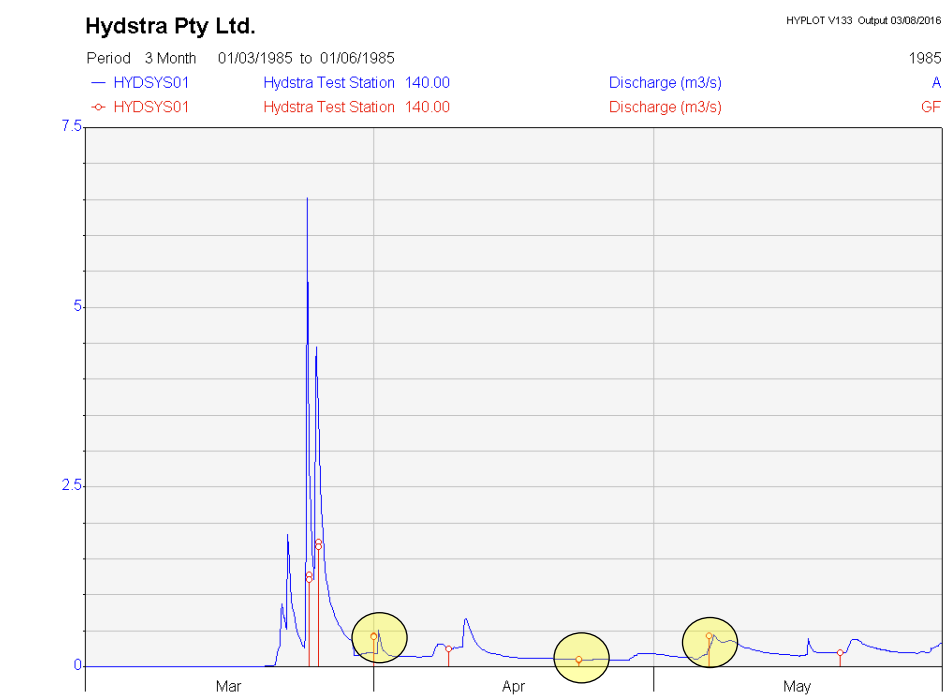
Desc	<input type="text" value="Rating table number"/>	(short description)
Table	<input type="text" value="RATEPER"/>	
DateField	<input type="text" value="SDATE"/>	
TimeField	<input type="text" value="STIME"/>	(blank if none)
ValueField	<input type="text" value="REFTAB"/>	
QualField	<input type="text"/>	(blank if none)
VarField	<input type="text"/>	(blank if none)
Variable	<input type="text" value="223"/>	(zero/blank if field/anonymous)
FilterFields	<input type="text" value="VARFROM,VARTO"/>	(if filtering required)
FilterValues	<input type="text" value="100,140"/>	("")
DataTrans	<input type="text" value="FMEAN"/>	(blank/zero for default)

- The STNINI datasource can read a single value from a nominated STNINI keyword as a constant datasource – e.g. spillway levels, cease to flow, control limits, historic maximum flood level, etc. For example the delivered [CL]

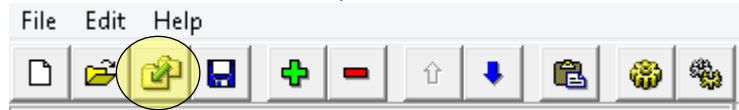
datasource returns the spillway level of a storage from STNINI:

Type	STNINI		
ExpressionType	NORMAL		
Items	<div></div> (comma-separated list)		
MaxParams	0	(for datasources that include bracketed parameters)	
PscEditor	0	(PSC file for editing parameters)	
Desc	Spillway Level		(short description)
Keyword	SPILLWAY	(in STNINI)	

- The inbuilt GAUGING datasources GH, GF and GD return the gauged height, flow, and deviation from rating as time-series. When used sensibly in HYPLOT with the right trace type you can produce a nice plot of recorded flow with the flow from gaugings highlighted using the COMBP plot type:



- HYDSWIZ can be used to import new datasources from the delivered MISCPATH version using a toolbar widget:



which leads to:

Import "Factory" Data Sources from MISC			
Import?	Data Source ID	Description	Details
<input checked="" type="checkbox"/>	A	Archive File	Examine
<input type="checkbox"/>	WORKFILES	Work Files	Examine
<input type="checkbox"/>	JUNKFILES	Temporary Files	Examine
<input type="checkbox"/>	CONST	Constant value as specified by parameter	Examine
<input type="checkbox"/>	VARCON_TT	Time based tables for use by VARCON	Examine
<input type="checkbox"/>	CM	Composite	Examine
<input type="checkbox"/>	CS	Composite Archive then LOGPOL	Examine

Simply check the ones you want to import and then configure them if necessary.

Writing a MODSYN Datasource

Following on from our discussion of datasources, one of the more powerful ways of generating complex time-series data is via a MODSYN model. Inside MODSYN you can develop whatever model you wish, and then invoke the result directly

from a Perl datasource that calls MODSYN. We provide a generic MODSYN wrapper datasource Perl script, all you need to do is write your MODSYN code and create a new DATSRC.INI setting for it.

This simple MODSYN example computes the square root of an input trace, assumed to be datatrans 1. The MODSYN code is as follows:

```
[SQRT]
// Example model computes the square root of the input variable
// Parameters are the input site, output datasource, input datasource and variable

string = insite,inds,outds
vector = invec,rawdata,output,rowtime
scalar = rawvar,junk

insite='&1'
outds='&2'
inds='&3'
rawvar=&4

time from earliest(insite, inds, rawvar) TO latest (insite, inds, rawvar) at insite, inds, rawvar

rawdata = hyread(insite, inds, rawvar, rawvar, 'inst')
output=sqrt(rawdata)
junk=hywrite(output,insite,outds,rawvar,1)
```

To wrap it for consumption in DATASRC.INI:

```
[SQRT]
Type           = PERL
ExpressionType = PARAMETERS
Items          = Sqrt(A,100)
MaxParams      = 2
PscEditor      =
Desc           = Sqrt Datasource in MODSYN
TSCClass       = tscAUX
ULevRead       = TS=0
ULevWrite      = TS=0
Path           = &hyd-tspath.perlds\sqrt
Extension      = Sqrt
IndexExt       = SQRTX
LockFileFolder = &hyd-tspath.perlds\sqrt\LOCKS\
WBVisible      = Yes
WBEEditable    = No
WBEEditInPlace = No
HFShortcuts    = No
Blocklimit     = 3000
RegionControl  = Yes
Perl           = &hyd-inipath.hydatasource.modsyn.pl %SITE% %DATASOURCE% &src-param(1). &src-param(2).
TelemetryMode  = No
LifeTime       = 0.1
DefVarFrom     =
DefVarTo       =
Deprecated     = No
```

And to use it:

HYPLOT - Plot Hydstra Data Files

Program Options Help

Code	Site	Data Source	VarFrom	VarTo	Type	Axis	Bottom	Top	Filled	Options
DATA	HYDSYS01	a	100.00	100	MAXMIN	LIN	AUTO	0.0	NO	NONE
DATA	=	SQRT(A,100)	100.00	100	MAXMIN	LIN	SAME	0.0	NO	NONE
DATA	0	A	100.00	140	MAXMIN	LIN	AUTO	0.0	NO	NONE
DATA	0	A	100.00	140	MAXMIN	LIN	AUTO	0.0	NO	NONE
DATA	0	A	100.00	140	MAXMIN	LIN	AUTO	0.0	NO	NONE

PLOT Each Page Spans: 1 PERIOD
 Divided Into: 1 DEFAULT
 Start Time: 00:00_01/01/2016
 Number of Pages: 1
 Plot Options: DEFAULT
 Plot Output: SCR

Run Close

HYPLOT complete

Which produces

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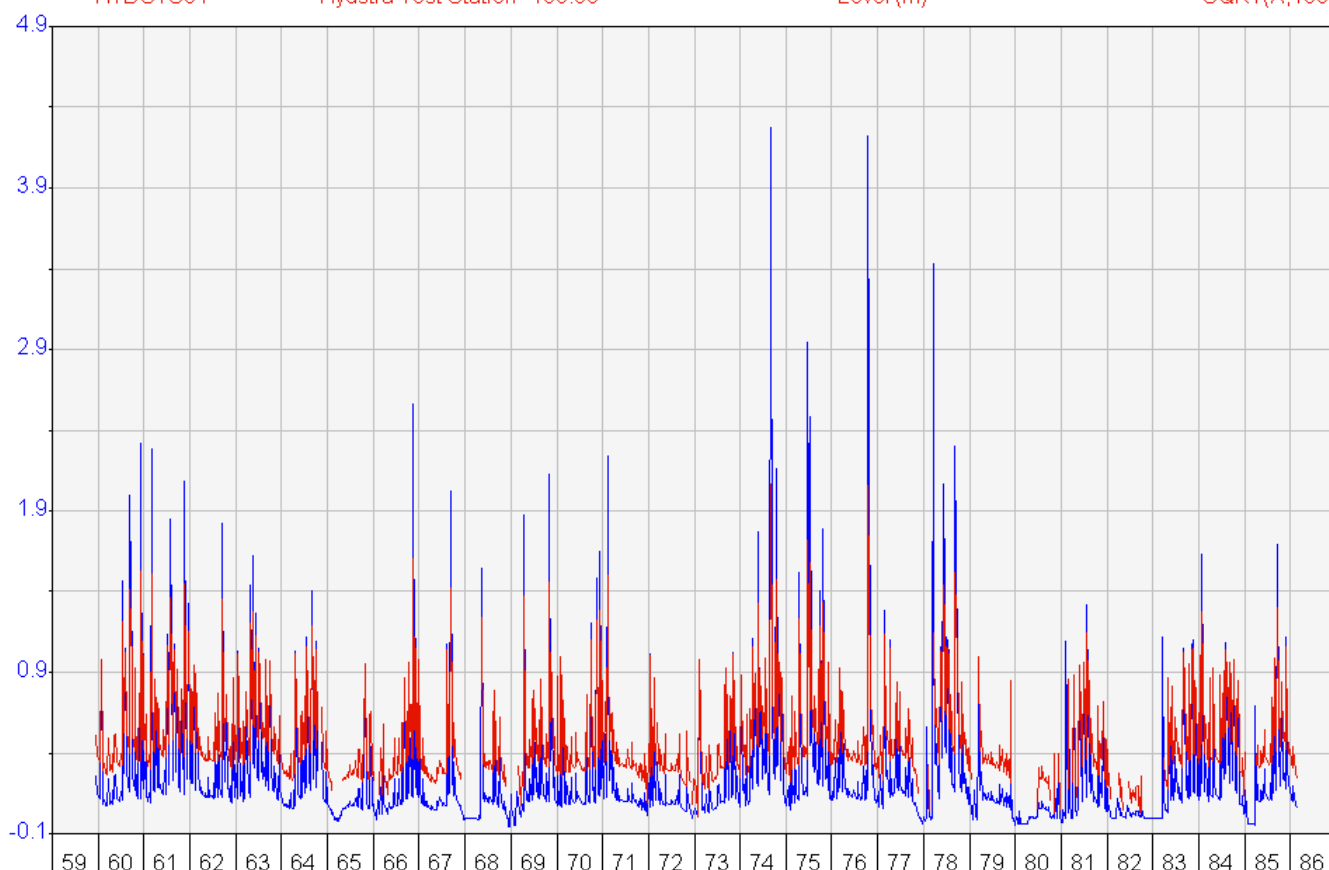
HYPLOT V133 Output 04/08/2016

Period 28 Year 01/01/1959 to 01/01/1987

1959-87

— HYDSYS01 Hydstra Test Station 100.00
 — HYDSYS01 Hydstra Test Station 100.00

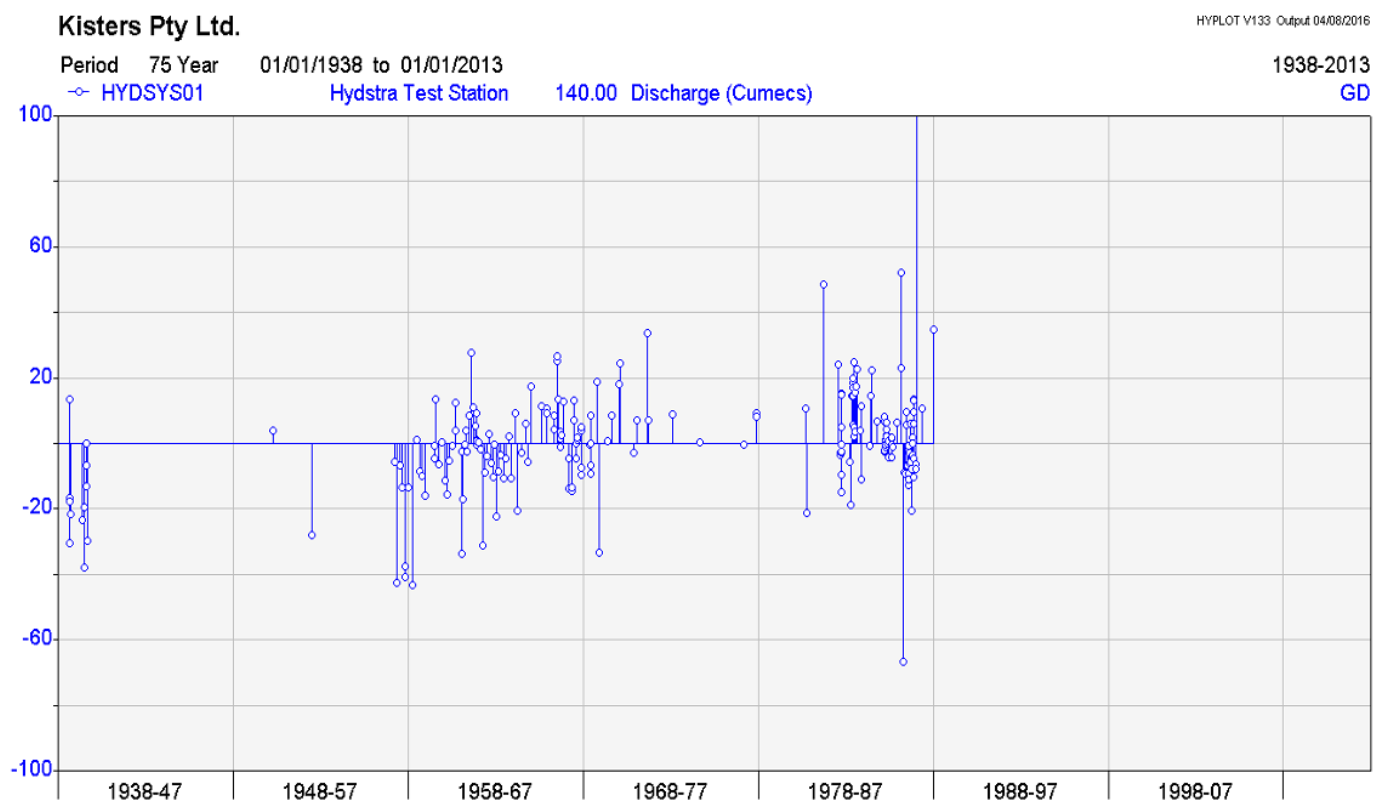
Level (m) A
 Level (m) SQRT(A,100)



MODSYN has many powerful features, including the ability to reach into STNINI to extract site specific model parameters for example. The world is your oyster once you master MODSYN.

New Trace Type COMBPZ in HYPLOT

We have recently added and patched to V11 a new plot type COMBPZ, which draws a COMPB plot with points marked, but down to the zero line instead of to the baseline of the plot. It also draws the zero line as part of the trace. The purpose of COMBPZ is to show deviations of any sort – for example gaugings deviations from the rating, as in the following example:



Incidentally if you want the circles on top of your stalks to be a little bolder in all plots, try editing WIP.INI in INIPATH as follows:

```
MediumSymbol = 20, TenthMM_A4, 10
```

Then you see

Period 75 Year 01/01/1938 to 01/01/2013

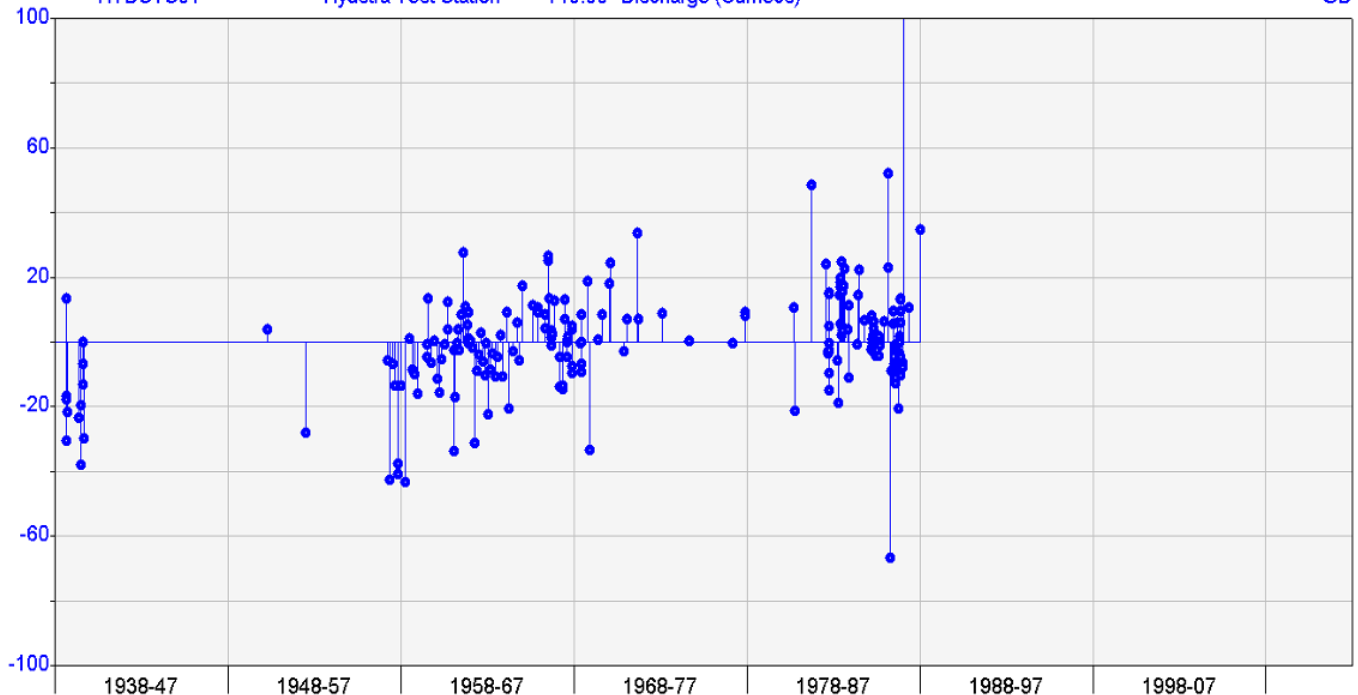
1938-2013

• HYDSYS01

Hydstra Test Station

140.00 Discharge (Cumecs)

GD



Backups Backups Backups

I know we keep harping on about backups, but that's because we keep hearing about disasters. There is an increasing prevalence of ransomware, which encrypts your files, then demands a ransom to decrypt them. Even paying the ransom is no guarantee you will get your files back.

The simplest and fastest way of making a backup is to use the Microsoft ROBOCOPY utility to a local USB drive. You can buy 2TB of USB disk for under \$200 so there's little excuse for not doing it. However ransomware if given time will encrypt or destroy data on any attached drive, so it's important not to leave your USB drive permanently attached to your computer.

We recently came across a handy little utility called RemoveDrive.exe (http://download.cnet.com/RemoveDrive/3000-2094_4-75936337.html). You can run it at the end of your backup script to detach the drive on completion, which keeps it away from the bad guys. The command is something like:

```
removedrive x: -L
```

Alternatively you can force a shutdown on your computer with the built-in shutdown command:

```
shutdown.exe /s /f /t 30
```

Recent New Hydstra Clients in the USA

In the last year we have welcomed a number of new agencies in the USA to the Hydstra fold. We offer a warm welcome to Monterey Peninsula Water Management District, East Bay Municipal Utility District and El Dorado Irrigation District.

In addition to irrigation and hydroelectric operations, the El Dorado Irrigation District provides drinking water and wastewater treatment services to residents and businesses near beautiful Lake Tahoe. Data managers look forward to faster, more efficient capabilities in data QA/QC and reporting.



WISKI Product News

Release Management

In the last newsletter we gave an initial introduction to WISKI 7.4.5. Since August 2016 it has been the main WISKI version and it has matured over the last month. The recent service releases are SR5 and SR6 which will be published end of September. Under the section WISKI 7.4.5 some useful examples and tips are given. The 7.4.5 versions include major functional developments on both client and server from finished migration projects in Europe like the Environmental Agency in England and includes many enhancements from the project with the Swiss Environmental Agency. Also in the SR5 and SR6 releases KiECO has become a mature ecology module which is of high interest for managing biological data across the world.

The KISTERS team is approaching all WISKI, KiWQM and KiECO customers in Australia, NZ and South-East Asia to organise the timeframes to update to 7.4.5 SR 5 or SR6. All updates are planned to be finished before our user conference in October so that our discussion can focus all round the 7.4.5 version.

Support Email, Help Desk and Bugzilla

Please contact the WISKI team at KISTERS Pty Ltd (Vicky, Chris, Markus and Callum for the web developments) for specialised support for the KISTERS products WISKI, KiWQM, KiECO, KiDSM, KiALM, WISKI Web and KiWIS. The phone number for support is +61 2 6154-5200, and the email address is wiski-support@kisters.com.au. If you are engaging in a particular dialog with Chris, Vicky, Markus or Callum please cc the support box so a central register of issues can be maintained.

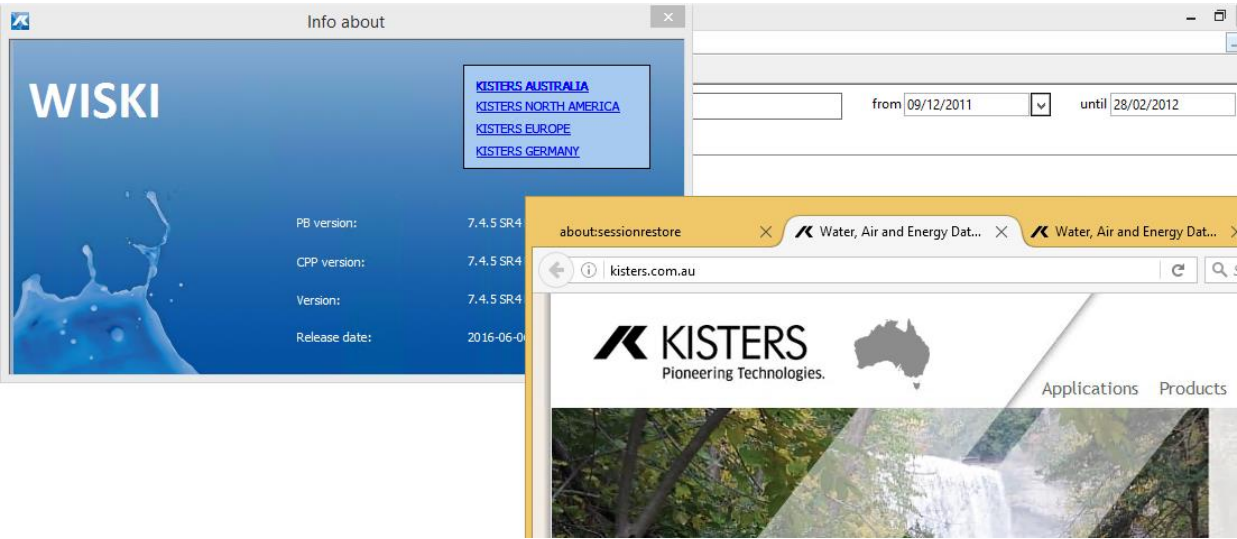
Clients can also formulate their own Bugzilla cases once it is agreed with WISKI support that the case is classified as a bug fix or enhancement. We can assist you to step through this process in the first instance. In addition Bugzilla can be a good way for customers to track the progress of all the outstanding and past cases of their organisation. Please contact us if you require a Bugzilla account to be created.

A new download portal has been created for WISKI software. This allows us to distribute new releases from one central location and will significantly enhance our customers' ability to access the latest releases quickly, when they are desired. The download portal can be found under <http://kisters.com.au/downloadswiski.html>, or can be accessed by navigating through to the support page from <http://kisters.com.au>. To acquire a username and password to access the download portal please contact the KISTERS support team over the phone at (02) 6154 5200 or email at Wiski-Support@kisters.com.au.

WISKI 7.4.5 – Enhancements and Things to Know

Link to KISTERS web sites in client

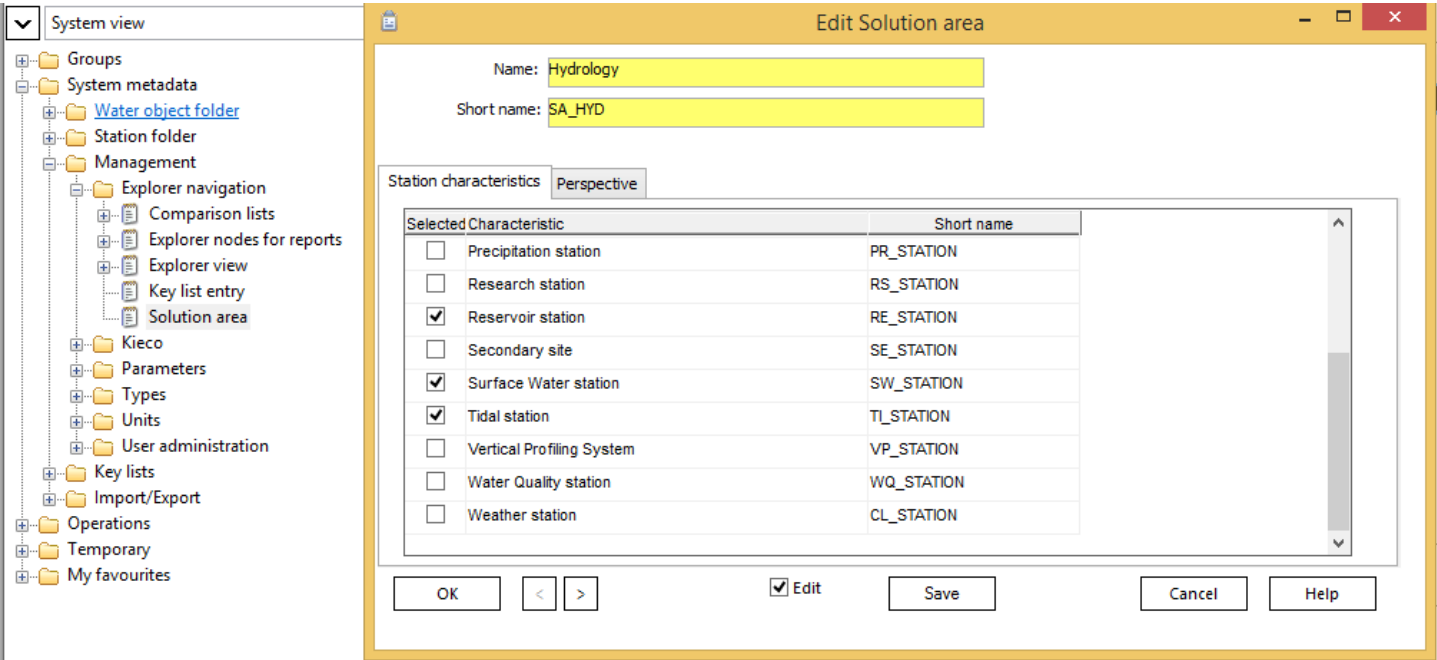
The WISKI logon screen now links directly to the web presentation of the KISTERS subsidiaries worldwide.

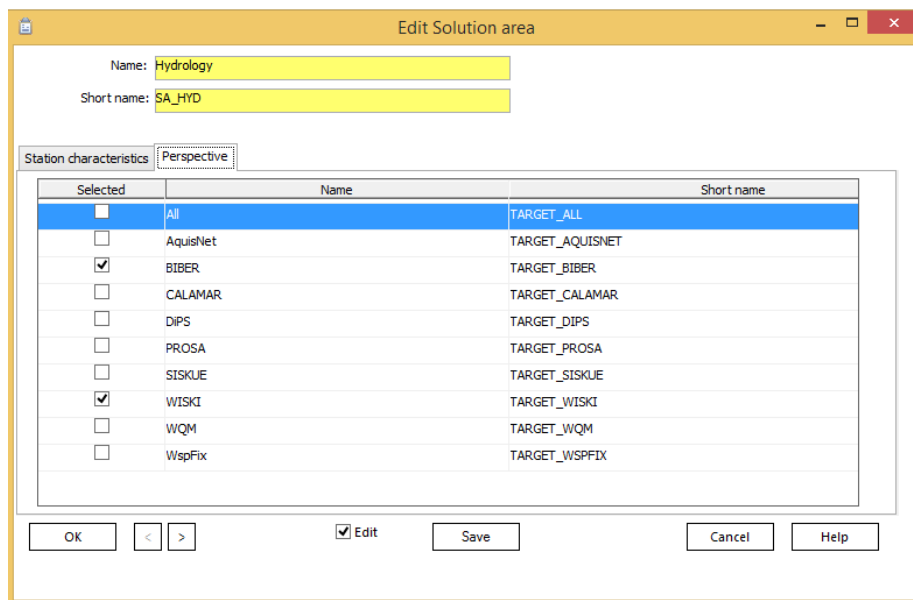


Solution areas to organise data

As the WISKI software (including all modules) is used to manage data in different water domains (like surface hydrology, groundwater, tidal regimes, water quality, etc.) and consists of different software module like WISKI, KiWQM, KiECO, BIBER, SKED, etc. the concept of solution areas is introduced in 7.4.5. A solution area groups stations based on characteristic and GUI perspective.

Solution areas are an additional instrument to structure data. They are available in the WISKI menu bar and limit the data shown in explorer views and the filter. In the example below for the solution area hydrology only stations of the characteristic 'Reservoir station', 'Surface water station' and 'Tidal station' will be used in explorer views and filter. Solution areas need to have a name and short name and can be defined under the system view as shown below.





New explorer views

In WISKI 7.4.5 several new explorer views are implemented to structure and sort WISKI stations. For the WISKI perspective two explorer views for station groups are available to sort stations by name and number:

- Station groups (station sorted by name), Object: `uo_tv_bafu_station_group_list`
- Station groups (station sorted by number), Object: `uo_tv_bafu_station_group_list[sta_no_s]`

In the WQM perspective two new explorer views are available for measuring programs to sort stations by name and number:

- Measuring program (stations sorted by name), Object: `uo_tv_wq_meas_prog_root[sta_name_s]`
- Measuring program (stations sorted by number), Object: `uo_tv_wq_meas_prog_root[sta_no_s]`

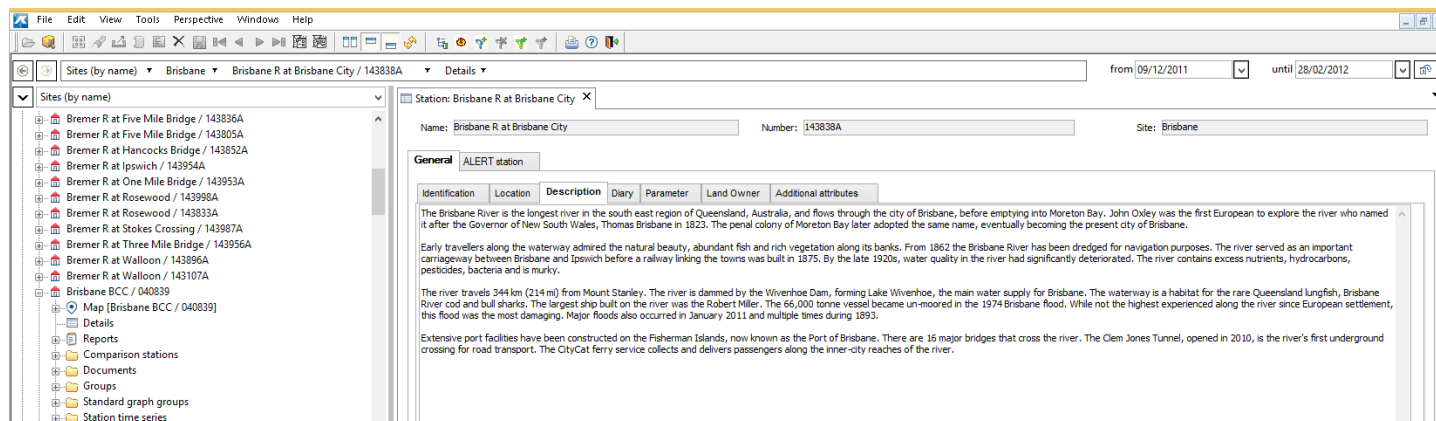
Explorer view 'station characteristics' offers a station meta data table

In the explorer view 'station characteristic' a new station meta data overview table has been implemented. This allows easy access to station meta data for a certain station type (like all groundwater stations). In the table the user has several possibilities to work with the data like filtering, sorting or exporting to Excel. The context menu possibilities are shown below.

Station	Site number	Northing (local)	Spatial reference	Method of geo	Scale of geo reference	Easting (local)	Site name	Station number	
Addington Ck at Even	141						Maroochy		
Bremer R. at Berry's L	143	6941962.000				474654.000	Brisbane	143117A	
Buaraba Ck at Atkinson Dam	143	6965505.000				446910.000	Brisbane	143234A	
Burnett Ck at Maroon L	145	6882337.000				466027.000	Logan-Albert	145021A	
Cabbage Tree Ck at L	143						Brisbane	143991A	
Cressbrook Ck at Cress	143						Brisbane	143803A	
Deep Ck at Cedar Pock	138	7100700.000				479200.000	Mary	138012A	
Enoggera Ck at Enoggera	143						Brisbane	143846A	
Gold Ck at Gold Ck Res	143						Brisbane	143992A	
Laidley Ck at Bill Gunn	143	6943434.000				438778.000	Brisbane	143228A	
Little Nerang Ck at Little	146	6886680.431				527962.912	South Coast	146907A	
Lockyer Ck at Lake Cla	143	6956292.000				436120.000	Brisbane	143235A	
Lockyer Ck at O'Reillys	143						Brisbane	143811A	
Logan R at Bromelton	145					495449.000	Logan-Albert	145929A	
Logan R at Bromelton	145					494047.000	Logan-Albert	145024A	
Nerang R at Hinze Dam	146					527683.433	South Coast	146906A	
Nindoorbah Dam	145						Logan-Albert	145930A	
Obi Obi Ck at Baroon P	138						Mary	138919A	
Reynolds Ck at Mooger	143					455767.000	Brisbane	143111A	
Rocky Ck at Cooloolabi	141						Maroochy	141801A	
Savages Crossing Chris	Training						Training	143001c_Chris	
Sideling Ck at Lake Kun	142						Pine	142803A	
Six Mile Ck at Lake Mac	138						Mary	138802A	
South Maroochy R at V	141						Maroochy	141928A	
Splityard Ck Dam	143						Brisbane	143867A	
Tingalpa Ck at Leslie H	145						Logan-Albert	145927A	
Unnamed Ck at Poona	141						Maroochy	141927A	
Warill Ck at Junction	V 143	6909583.000				460293.000	Brisbane	143117A	
Yabba Ck at Burumba	L 138	7067803.000				458336.000	Mary	138112A	

Handling of station meta data in long text boxes

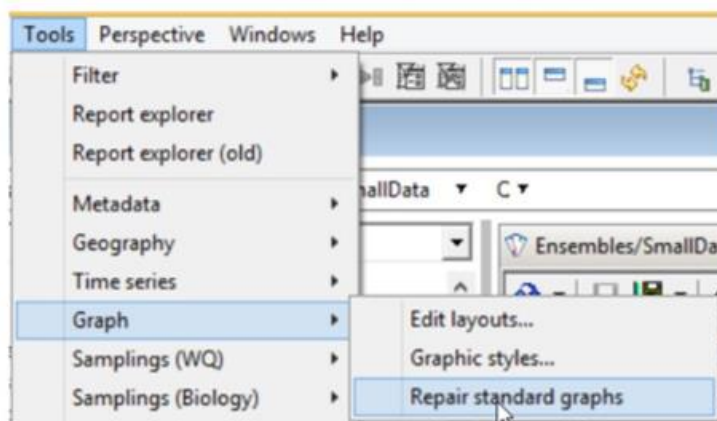
The handling of station meta data is optimised in multi-line text boxes. Long text will now be wrapped when the end of the box is reached. The horizontal scroll bar is thus not needed anymore and manually line breaks are exported (or could be imported) with the sign combination '~r~n'.



Standard graph repair tool

In the older WISKI versions standard graph font sizes were saved in mm or pixel which lead to problems with graph resolutions based on screen sizes. In WISKI 7.4.5 this can be converted to font sizes. Older WISKI versions use the time series path in standard graphs and not the time series ID to reference time series. This can also be changed in WISKI 7.4.5.

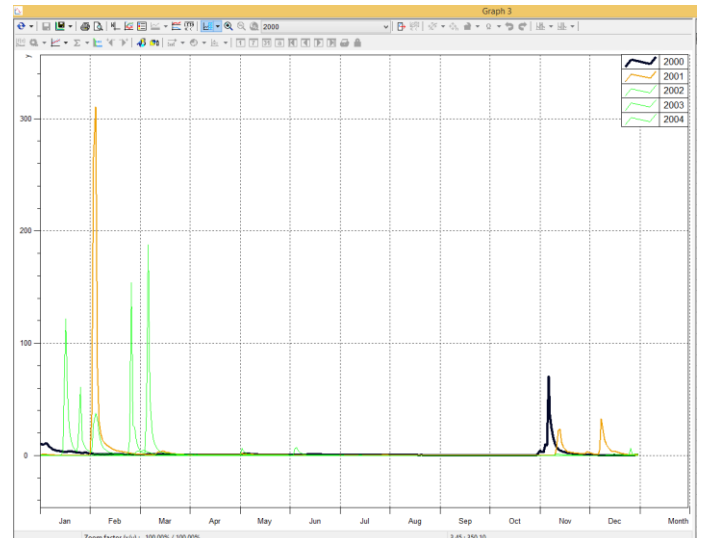
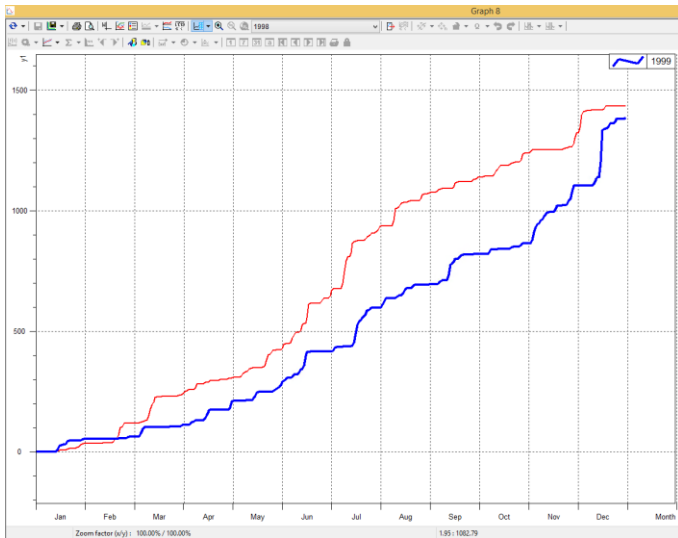
The changes can be done using the 'standard graph repair tool' which is available under Tools\Graphs. An example is given below.



Overlaid plots in graph and operation (Example operation: Statistics/ General Time Series Statistics/Overlaid Plot)

With the Overlaid Plot operation you can overlay recurring time sections of a time series (e.g. all January months within a time range of 10 years). This kind of display is suited for the comparison of current data (e.g. discharge) with the simultaneous data of past years. The period to be overlaid is either one year or two years. The resolution of the time series must be daily or lower for use with the Overlaid Plot operation. Graphs can also be set to compare accumulated data.

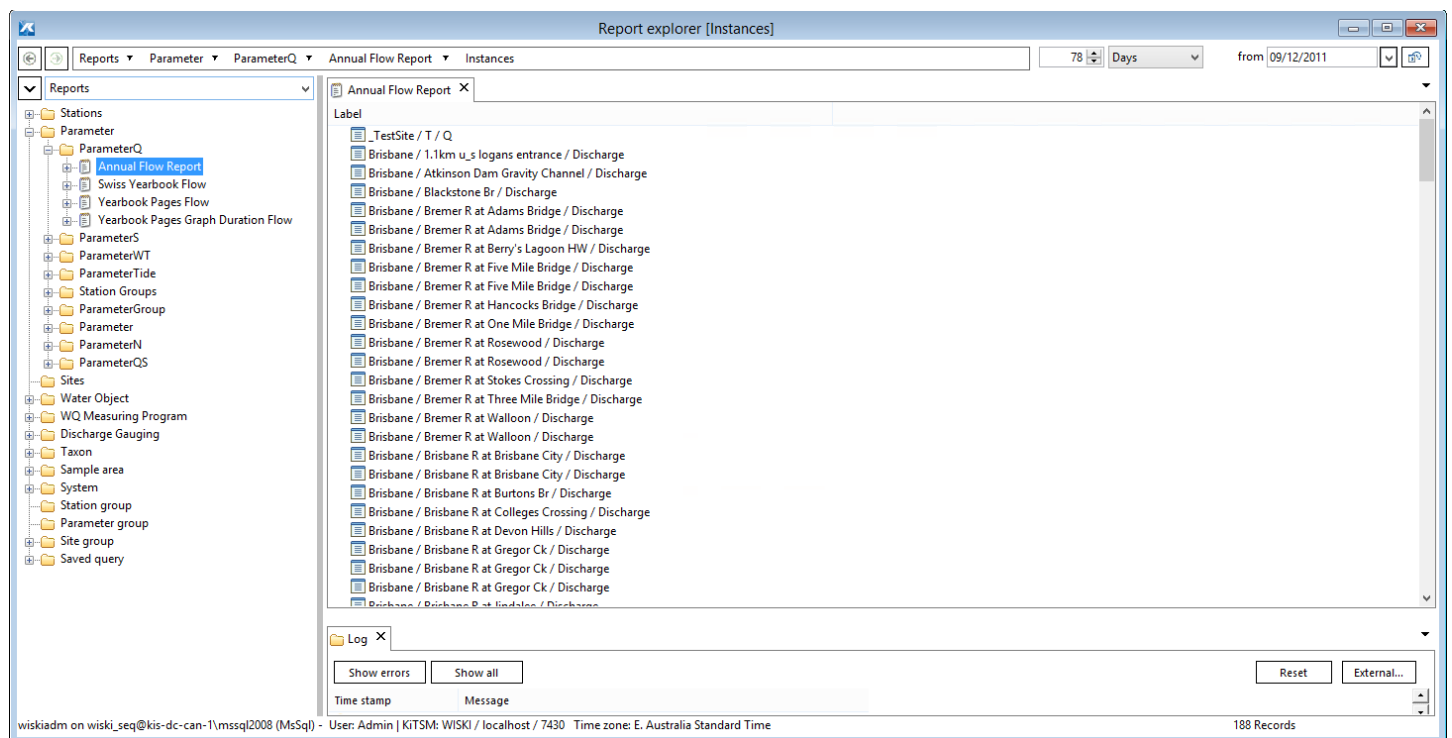
The two graphs below show the output of the overlaid plot. The first displays a comparison of cumulative rainfall between two years. The second is a comparison of River Discharge over multiple years. In this way the Overlaid Plot operation can be used to quickly and easily compare data from different years. The functionality is also available in the WISKI graph.



The Overlaid Plot operation can be found under Operations/Statistics and reports/General time series statistics/Overlaid plot. The configuration dialog should be familiar to WISKI users. It requires a time series path (accepts filters) and some basic configuration to define the output. More details on the operation and how to use it can be found in the WISKI manual or the help files.

Report explorer

In WISKI 7.4.5 the report explorer has been completely overhauled. The new report explorer is more user friendly and makes it easier to access report instances.



The overall look and organisation of the report explorer is similar to the WISKI explorer. Reports are grouped under their corresponding instance types, which can be expanded to reveal available reports. The main window of the report explorer then shows the available instances of that report, which can be run by right clicking on the instance and selecting “open”.

The reports are now in comparison to the version before created on the server. That has the advantage that no client side data visualisation software like Crystal reports runtime version is needed anymore. Also the report explorer can easily run reports over the group system.

KiWQM/KiWQM Statistics Wizard

With the KiWQM statistics wizard, the user can calculate statistics and export them in tabular formats. The first step requires the user to select the desired stations to be included in the analysis. Next the desired parameter types and then the analysis period have to be specified. The statistics type has to be chosen from one of the following options: Laboratory statistics, Categorised statistics, Parameter statistics, Raw data statistics or Stations statistics.

In the subsequent steps the user may define data selection settings, categorisation, statistical calculations, data classifications, data representations and arrangements, additional columns and rows as well as the data output.

The figure displays four sequential screenshots of the KiWQM statistics wizard, illustrating the steps for configuring a statistical analysis.

Step 1: Selected sampling parameters
This dialog shows a list of parameters to be analyzed. The list includes columns for Parameter type, Method, Unit, Code, Sub, Lower detection limit, Upper detection limit, and Post. Parameters are checked for selection, including various polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and organochlorine pesticides.

Step 2: Data output
This dialog shows the selected type of statistics (Parameter statistics) and the output format (HTML, CSV, or Table). It also includes a 'Save as template' button.

Step 3: Statistics type selection
This dialog shows the selection of the statistics type (Categorised statistics, Parameter statistics, Raw data statistics, Station statistics, Laboratory information, or Laboratory statistics). It also includes a 'Templates' section for saving and managing templates.

Step 4: Time range and general export settings
This dialog shows the analysis period (Absolute or Relative) and the general export settings (Export language: German, Decimal separator: . (dot)).

The exact format of the output will depend on the settings used, which are configured through multiple dialogs. An example result utilizing the “raw data statistics” option is shown below. The output produced by the KiWQM Statistics Wizard can be customized in a large number of ways, depending on the desired analyses.

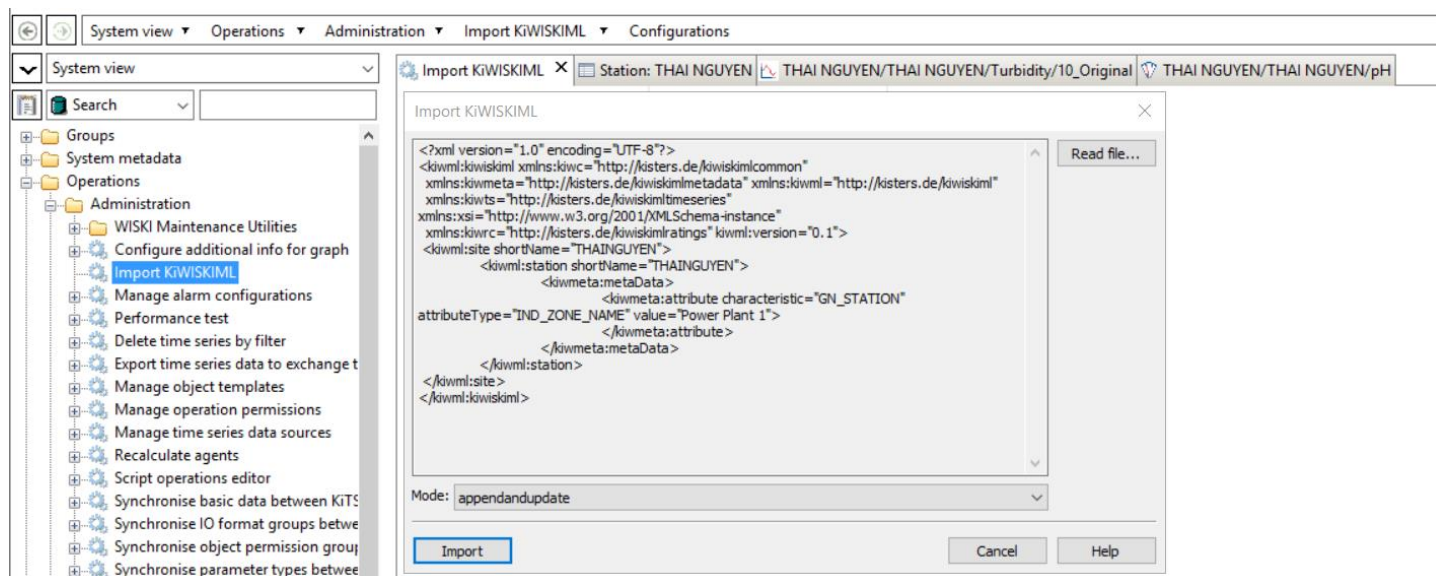
Station num	Station name	Date	Time	DO (%) / DO [mg/l]	DO/DO_sc [mg/l]	pH_n	ORP (mV)	SpCond/EC [µS/cm]	Turbidity_n [NTU]
				W-Quality	W-Quality	W-Quality	W-Quality	W-Quality	W-Quality
T14	Test	14.07.2011	10:57	106.7	10.77	8.14	127.67	394.67	18.4
T15	Test	11.08.2011	11:20	98.7	9.8	7.96	159	0.38	14.733
T16	Test	15.09.2011	10:48	119.5	11.15	8.35	198	0.38	9.7
T17	Test	13.10.2011	11:16	106.13	9.22	8.01	111.67	454	9.8
T18	Test	20.10.2011	11:02	96.67	8.55	7.87	109.53	423.67	10
T19	Test	10.11.2011	11:07	114.95	9.38	8.26	103.03	390	11.3
T20	Test	17.11.2011	11:19	98.07	7.86	8.01	119.87	387.33	11.567
T21	Test	30.11.2011	11:55	98.7	8.05	7.99	100.4	429	11.7
	Count	01.01.2002		8	8	8	8	8	8
	Mean	01.01.2002		104.93	9.35	8.07	128.64	309.93	12.15
	Standard c	01.01.2002		8.54	1.2	0.16	33.63	192.39	3.004
	Variance	01.01.2002		63.78	1.25	0.02	989.65	32386.84	7.894
	Maximum	01.01.2002		119.5	11.15	8.35	198	454	18.4
	Minimum	01.01.2002		96.67	7.86	7.87	100.4	0.38	9.7

Results can be shown in a table, exported as csv or exported as excel. The KiWQM Statistics Wizard can be found under Operations/KiWQM/ KiWQM Statistics Wizard.

Import KiWISKIML

KiWISKIML is a descriptive XML format which is used in several WISKI projects to create and populate WISKI objects. It is for example the XML format used in the BOM project to create all WISKI objects from WDTF data over the WADI interface (WISKI AWRIS Data Integration). KiWISKIML can in WISKI 7.4.5 directly be imported using the operation framework.

The operation is available under the system view as shown below.



Over 'read file' the KiWISKIML file is loaded. In the example below a KiWISKIML definition is used to create and populate an additional attribute for a station. The file is structured as follows:


```
<?xml version="1.0" encoding="UTF-8"?>
<kiwml:kiwiskiml xmlns:kiwc="http://kisters.de/kiwiskimlcommon"
  xmlns:kiwmeta="http://kisters.de/kiwiskimlmetadata" xmlns:kiwml="http://kisters.de/kiwiskiml"
  xmlns:kiwts="http://kisters.de/kiwiskimltimeseries" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:kiwrc="http://kisters.de/kiwiskimlratings" kiwml:version="0.1">
  <kiwml:site shortName="THAINGUYEN">
    <kiwml:station shortName="THAINGUYEN">
      <kiwmeta:metaData>
        <kiwmeta:attribute characteristic="GN_STATION" attributeType="IND_ZONE_NAME" value="Power Plant 1">
        </kiwmeta:attribute>
      </kiwmeta:metaData>
    </kiwml:station>
  </kiwml:site>
</kiwml:kiwiskiml>
```

In the file the short names for the site and station, the station characteristic and the name and the value of the additional attribute is specified. The example will add to the station ‘THAINGUYEN’ an additional attribute with the name ‘IND_ZONE_NAME’ and the value ‘Power Plant 1’. The result of the import in WISKI is shown below.

The screenshot shows the WISKI software interface. On the left is a tree view with a folder for 'THAI NGUYEN' containing 'Details', 'Reports', 'Documents', and 'Map'. The main window is titled 'Station: THAI NGUYEN' and has tabs for 'Import KiWISKIML', 'THAI NGUYEN/THAI NGUYEN/Turbidity/10_Original', and 'THAI NGUYEN/THAI NGUYEN/pH'. The 'General' tab is selected, showing a table of 'Additional attributes'.

Attribute	Value	Valid from
Industrial Zone	Power Plant 1	

The operation will also return a KiWISKIML response messaging the status of the action. In this case the message is that the station attribute was updated.

The screenshot shows two overlapping windows. The background window is 'Import KiWISKIML' with a text area containing XML code and an 'Import' button. The foreground window is 'KiWISKIML Response' showing an XML response.

```
<?xml version="1.0" encoding="UTF-8"?>
<kiwml:kiwiskimlResponse xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:kiwml="http://kisters.de/kiwiskiml" version="0.8" versionApi="unknown" versionImpl="unknown"
  xmlns:kiwrc="http://kisters.de/kiwiskimlratings" kiwml:version="0.1">
  <kiwml:site result="updated" shortName="THAINGUYEN" uuid="b9a682ba-9994-4dd2-24be-af4b1bef156d">
    <kiwml:station result="updated" shortName="THAINGUYEN" uuid="4a37d058-79de-8578-9843-4d79c7595f85">
      <kiwmeta:genericResponseObject xmlns:kiwc="http://kisters.de/kiwiskimlcommon" result="updated"
        type="kiwmeta:metaData"/>
    </kiwml:station>
  </kiwml:site>
</kiwml:kiwiskimlResponse>
```

in WISKI 7.4.5 KiWISKIML allows you create all WISKI attributes like sites, stations, parameters, time series and agents by importing KiWISKIML files. The KiWISKIML syntax includes all objects attributes like all agent parameters for agents or all station meta data.

It is a very effective tool to check KiWISKIML files which are imported over the DataAccessAPI or to enhance system attributes.

KISTERS Training

Training Courses

We are happy to provide training courses on any aspect of KISTERS software provided there are sufficient people interested in attending. Please contact us at support@kisters.com.au with expressions of interest for any training requirements you have. We can provide training at your office or here in Canberra. Training in Canberra is based on a per-person per-day cost, provided we have sufficient people attending (typically six), alternatively we charge our consulting rate divided by the number of attendees, allowing for preparation time and meal costs. Training at your office will be charged at our standard consulting rates per day for the trainer, plus preparation days, travel and accommodation at cost. Courses we can offer include:

- Basic Hydstra
- Basic WISKI
- Advanced Hydstra
- Advanced WISKI
- Hydstra Administration
- WISKI Administration
- Administering Hydstra/WEB
- Hydstra Modelling with MODSYN
- Hydstra/SVR Server
- Ratings and Gaugings with Hydstra
- Exporting data to the BOM using HYWDTF_OUT
- Using Perl with Hydstra
- Groundwater Data Management with Hydstra
- Water Quality Data Management with Hydstra
- KiWQM (WISKI Water Quality Module)
- KiECO (WISKI Biology Module)

Please contact us via support@kisters.com.au if you wish to attend. We will register your interest and notify you when the next course is planned.

At present we don't have any further courses scheduled this year. Please contact us if you have a specific training requirement.

Worldwide KISTERS News

You can keep up to date with all the news from KISTERS worldwide through the following links:

<http://www.kisters.eu/news.html>

<http://www.kisters.net/NA/news-and-events>

KISTERS On the Web

KISTERS technology is at the heart of an increasing number of customer web sites, whether they be based on Hydstra or WISKI web technology or their own web developers. You can visit a selection of client web sites via the link page at <http://kisters.com.au/webpublishing.html>.

If your web site uses KISTERS software please contact us with the URL and we'll add it to the list.

KISTERS Canberra Phone Numbers

We have been using a VOIP-based phone system based on open source Asterisk software in Canberra for some years now, and we have cancelled most of our analogue phone lines. The following numbers have been terminated: 02 62882288, 02 62882356, 02 62882756, 02 62882024. Please update your internal phone directories accordingly.

Please use the following phone numbers if you wish to contact someone in Canberra directly:

02 6154-5200	KISTERS Support
02 6154-5210	Bill Steen
02 6154-5211	Damian Skinner
02 6154-5212	Markus Bauerle
02 6154-5213	Denby Angus
02 6154-5214	Rob Smith
02 6154-5215	Alain Remont
02 6154-5216	Chris Michl
02 6154-5217	Debbie Cockburn
02 6154-5218	Peter Heweston
02 6154-5219	Song Guo

The VOIP system emails voice messages directly to the recipient if they are away from their desk.

The only analogue phone number that remains is the alternate support number 02 6288 2302. Our fax remains the same on 02 6288 9061.

Staff News

KISTERS Water Business Unit Restructure

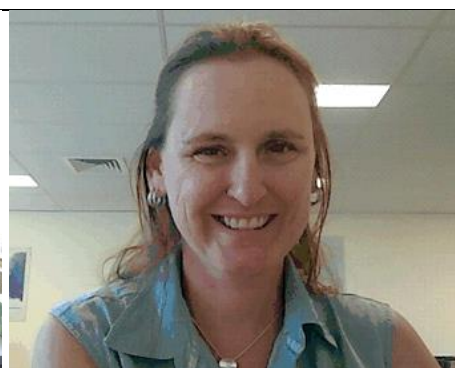
As part of a restructure of the KISTERS Water business units worldwide, a number of Australian staff have been selected to lead major areas of the KISTERS business. Chris Michl (Canberra) will lead the Hydrology solution area in conjunction with Uwe Hass (Karlsruhe). Damian Skinner (Canberra) will lead the Groundwater unit in conjunction with Matthias Egeling (Grobzell), and Frank Schlaeger (Aachen) will lead the Water quality unit in conjunction with Vicky Isaac (Hobart). These appointments confirm the important role played by Australia staff within KISTERS and improve the integration of KISTERS staff worldwide.



Chris Michl



Damian Skinner



Vicky Isaac

Denby Angus Returns to Canberra

Denby Angus has relocated back to Canberra and is working in the Canberra office full-time again. His direct number is 02 6154 5213. Denby supports the Hydstra/WEB product, and is involved with Callum Ramage in integrating Hydstra into the planned new KISTERS Web Portal that will deliver data from all KISTERS products, including Hydstra, WISKI, Aquisnet and others. Watch this space.

Information

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