KISTERS Australia News

July 2014

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From The GM's Desk

By Bill Steen, General Manager, Kisters Pty Ltd

It's that time of year again to think about attending a KISTERS User Group meeting. On offer are two locations, Sydney Australia and San Diego in the USA.

The Australian User Group meeting will be held on Tuesday 28th October at the ANZ Stadium, Sydney Olympic Park. Registrations are now open and you can register via the following link:

http://www.aha.net.au/events/aha-2014-conference/registration/

As per previous meetings, there will be various threads that users can attend. A more detailed agenda will be available closer to the meeting date.

The USA User Group will be held on the 15th – 16th September at the Bahia Resort Hotel, San Diego, California. Registrations can be submitted through:

http://www.kisters.net/docs/Registration_KUG2014.pdf

In the news there seem to be many agencies either wanting to do more with less or have a greater requirement to store and report on data that is not necessarily collected in-house. Which raises the issue of Australian data collection guidelines/ standards. Under the auspice of the Australian Bureau of Meteorology Business Forum, national data collection and field processing guidelines have been developed and adopted by lead water agencies. This is not necessarily the case for private industry, who under licence, are required to collect an array of environmental data parameters and report back to their licencing body.

There seems a fundamental disconnect between what we expect from government as opposed to what private industry delivers. Now with the slow demise of the Business Forum and no real government watchdog auditing and monitoring the volume and quality of data being collected by private industry, the spectre of unqualified data starts to haunt us all.

To solve a small part of the equation many of the lead water agencies are looking at quarantining this data and separating it from the in-house quality assured data that has been collected against an Australian guideline or standard. KISTERS products definitely handle this situation and we can advise on suitable solutions.

We look forward to see you all at the User Group meeting.

Bill Steen
General Manager
Kisters Pty Ltd

A Rolling Stone Changes AHA 2014 Conference Dates

You may recall that the Rolling Stones cancelled their Australian and New Zealand tour in March after the death of Mick Jagger's girlfriend, L'Wren Scott. (See abc.net.au/news/2014-03-19/rolling-stones-cancel-rest-of-australian-and-nz-tour/5330026).

The Stones have now rescheduled their Sydney concert to Wednesday 12 November at Sydney Olympic Park, the same week as the AHA had originally planned for their conference.

Problem: Accommodation within 5 km of Olympic Park is already heavily booked. Some hotels have no rooms left at all.

Solution: Reschedule.

Announcement: The AHA 2014 Conference will now run from Wednesday 29 to Friday 31 October 2014. The KISTERS User Group meeting will be on Tuesday 28 October 2014.

KISTERS User Group Meeting	Tuesday 28th
AHA Welcome drinks	Evening of Tuesday 28th
Day 1 AHA conference plus conference dinner	Wednesday 29th
Day 2 AHA conference	Thursday 30th
Day 3 Field trip - harbour cruise to places of hydrometric interest	Friday 31st

Full details on the AHA meeting can be found at aha.net.au . For more information on the KISTERS User Group meeting contact support@kisters.com.au.

KISTERS and International Standards

KISTERS have been involved in an experimental development aimed at providing interchange of Ratings, Gaugings and Sections between agencies and software packages. The experiment has investigated the potential exchange of data between the Bureau of Meteorology, Murray-Darling Basin Authority, NSW Office of Water, Department of Environment and Primary Industries in Victoria and the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) – the data holding agencies. These agencies make use of the KISTERS Hydstra product and the Aquatic Informatics Aquarius product.

The experiment is being carried out under the leadership of Peter Taylor at CSIRO and Paul Sheahan at the Bureau of Meteorology, and is aimed at making a proposal to the OGC via the Hydrology Domain Working Group about enhancements to WATERML2.

Figure 1 shows the basic structure of the scenario. The top layer shows the water agencies providing data through standard web services, with multiple consumers shown along the bottom.

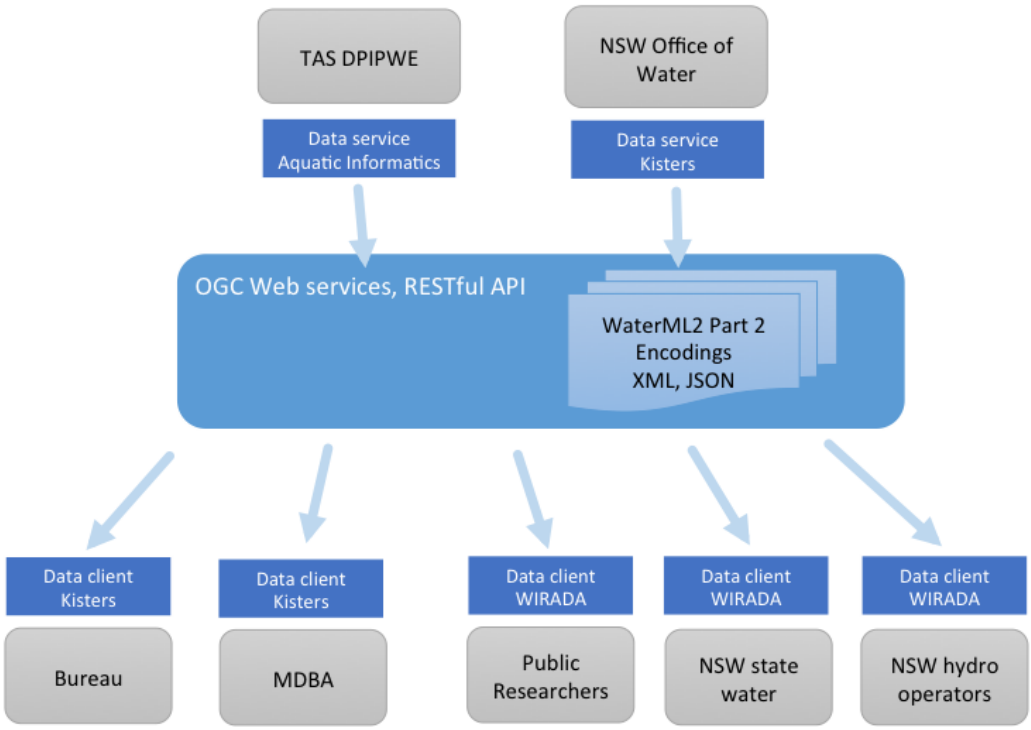

Figure 1 - basic exchange scenario

The web service uses an agreed interface that responds to requests for particular rating tables and metadata. This will encode documents that conform to a version of the WaterML2.0 part 2 information model. The final nature of the API and encoding format has not yet been agreed -- this is part of the experiment. However a first prototype has been completed, and you can see it in action at http://waterml2.csiro.au/rgs-api/v1/viz/ . The Hydstra implementation has been generously hosted on a test server at the Victorian Department of Environment and Primary Industries, and you can see a test page at http://203.12.195.133/rest.htm . You can find out more about the Hydrology Domain Working Group at http://external.opengis.org/twiki_public/HydrologyDWG/WebHome.

New Office for KISTERS AG

KISTERS has acquired spacious new offices in Aachen, and moved in over the weekend of June 28 and 29. The campus is about 9km out of Aachen to the south-east, and it provides comfortable modern accommodation with plenty of room for further expansion. The buildings includes an abundance conference and meeting rooms, and a canteen will operate to provide hot meals for employees.
You can see the new KISTERS complex on Google Maps at https://goo.gl/maps/Sb7YG.

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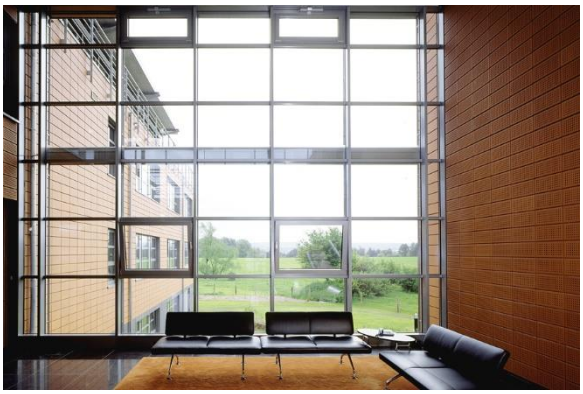
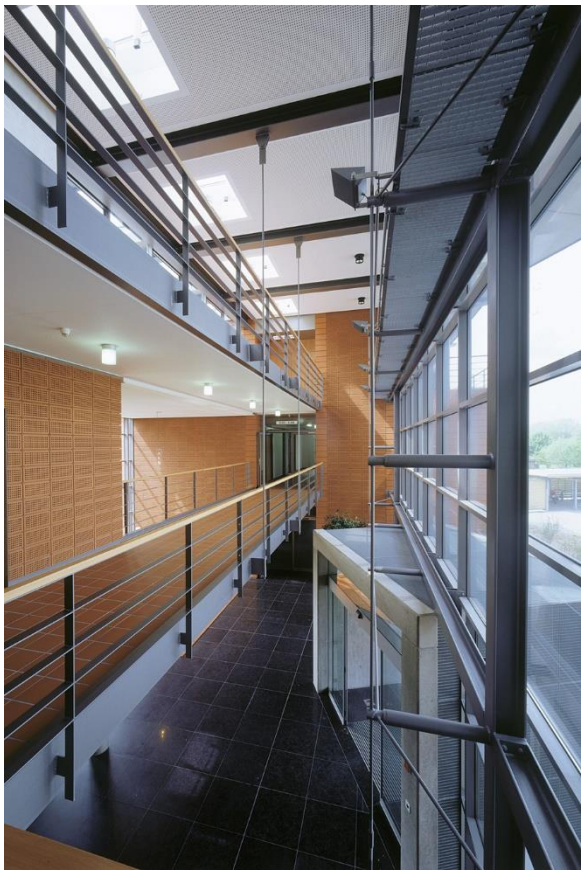




New KISTERS Offices in Aachen

Windows XP End of Life

Microsoft have announced that Windows XP is no longer supported. Everyone should be making an effort to get off it as soon as possible. Our experience with Windows 8.1 leads us to recommend it over Windows 7 in terms of performance and ease of use once you get used to it (which is also true of Office 2013 and SQL Server 2014). The improved performance of Windows 8.1 over XP breathes new life into old PCs and extends their life by years.

Although Windows Server 2003 R2 is nominally supported until 14 July 2015 we do not recommend it and suggest you upgrade to a more recent server product as quickly as possible.

The Hydstra/WEB product no longer supports Internet Explorer 7, an obsolete browser that has less than 1% of browser usage worldwide. We recommend you use more recent versions of IE, Chrome or Firefox.

From next year releases of Hydstra and WISKI will no longer be tested under XP, and will not run under that environment. Hydstra V11 will run under XP, but Hydstra V12 will not.

It is worth noting that Windows Server 2003 comes to the end of its extended support life in July next year.

Windows 8.1 - We Love It

We have had nothing but good experiences with Windows 8.1, and can recommend it to anyone contemplating an upgrade. If you are buying a new computer for yourself don't take the Windows 7 downgrade option, bite the bullet and go straight to Windows 8.1. There is a brief learning curve to familiarise yourself with Windows 8.1, but after that you will never look back.

For the Luddites Windows 8.1 has a Start button (sort of) but the ease with which you can find anything with a few keystrokes on the start screen makes a Start menu pretty much redundant anyway. If you wish you can have your computer boot to the familiar Windows 7 looking desktop, but all the Windows 8 facilities are only a press of the Windows key away.

The benefits of Windows 8 become clear in markedly improved startup and shutdown time, as well as general performance improvements everywhere. Don't be afraid to upgrade an older XP or Windows 7 computer to 8.1, as it will seem young and fresh again. If you really want to breathe new life into an old PC, try adding an SSD as the C: drive and really see it fly.

Microsoft pretty much guarantee that any program which runs under Windows 7 will run under Windows 8, and that has been our experience. Hydstra and WISKI run really well under Windows 8, even on a Microsoft Surface Pro which you can throw in your backpack to take out into the field.

Google is your friend during the short learning phase.

Hydstra V11 Released

Hydstra Version 11 has been released, and is available for download now 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 can use 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.

Hydstra V11 has many new features, enhancements and improvements:

- Every analysis program now includes a sophisticated Data Explorer that allows you to explore your data holdings in many ways, including via a map if you have a MAPHYD licence.
- Enhancements to the whole SVR infrastructure improve reliability and performance, allow you to run infrastructure remotely and monitor it via SVRMON.

- A complete redevelopment of the HYDLOG logging infrastructure brings all logs into the one place and format. We provide tools to assist in analysing and presenting the log data as well as integrating logs with WISKI and other KISTERS products.
- As more users start running SQL server we have added many SQL Server performance enhancements.
- We now have the ability to add new client-specific tables within a release (for project work) as well as the ability to change field lengths of existing fields within a release.
- There are many usability enhancements to HYXPLORE, HYMANAGE, HYDMWB etc.
- We now offer easy interoperability between HYRATED and HYRATSHF, as well as improvements to both programs.
- HYTEST allows you to build your own Hydstra test harness, and use it to assure yourself that new releases meet your requirements, particularly for your own code in INIPATH.
- The release includes two years of accumulated developments, enhancements and new programs.

Warning - because we include a lot of new KISTERS components as part of the HYDLOG rework, V11 requires 120MB more disk space than V10.04.

Hydstra V9 Unsupported

With the release of Hydstra Version 11, Version 9 has become unsupported. It is worth noting that Hydstra V9 will not run under Windows 7 or Windows 8, nor will it run under 64 bit Windows. If you are still running V9 (or earlier), please make every effort to upgrade soon. You will need to run the upgrade in two steps - V9 to V10, then V10 to V11. You will need two HYACCESS files from us to push through the process.

If you feel that the process is beyond you, we will for a flat fee of $1500 accept a USB memory stick containing your complete V9 or V10 running Hydstra system (with everything under the *\hyd* directory, including *\hyd\sys*, *\hyd\dat*, *\hyd\log* etc) and return you a running V11 system on the same USB stick by Express Post. You must be running Windows 7 or later to run Hydstra V11. You must refrain from using Hydstra while your system is with us.

If you are running even earlier versions of Hydstra contact us for a quote to upgrade them to V11.

Hydstra Patch News

A new Hydstra patch is released every Friday as a rule, and can be accessed via http://kisters.com.au/downloads.htm. You can read the Change Log document to see what patches have been made. You will need to contact us for the user login and password to the download page. Please include your HYACCESS.INI in your request email.

Enhanced Support via VPN

In recent years KISTERS has provided a higher level of support to certain users via VPN access to the client's corporate network. While this allows us to provides a much higher level of support from the client perspective, we are finding that battling with VPN adds a significantly higher level of cost to our support. In fact in-house we have a standing joke along the lines of '*Rule number 1 - VPN never works*'. The reasons for our problems are numerous, but basically can be reduced to a handful of common issues:

- Some agencies have a strict password-change requirement, and often the password change frequency exceeds the frequency with which we access the system. Typically we can't change our password via VPN, so need to ask someone in-house to make the change. This can waste half an hour just getting in.
- Some agencies give us a security key (we have about a dozen such keys which we need to manage and secure). Some agencies won't trust us with a security key and we need to call someone for the current number on the key. If the keyholder is away from their desk we can't get in.

- Some agencies send an SMS token which is required to complete a login
- Some agencies use an iPhone app to generate the secure ID key
- Some VPN gateways have tricky requirements such as a specific browser, sometimes IE, sometimes not, or a specific version of a browser (works in IE9, doesn't work in IE11), or requires compatibility mode in order to run.
- Some gateways require a specific version of Java which may differ from the one we have installed.
- Some gateways require a complex series of security certificate key registrations before we can get through
- Some gateways support some operating systems (Windows XP, windows 7) but not others (Windows 8.1).
- Some gateways handle multiple screens very badly, requiring us to unplug our second screen before logging in
- Some gateways handle screen sizing badly, and it becomes almost impossible to get a screen size on which everything fits without scrolling.
- Some gateways allow us to copy from local drives to remote drives, others are so locked down that we can't even access the web or FTP or run File Explorer or a CMD box from the remote computer. Under such circumstances it gets very difficult to copy up patches or new scripts or even edit existing ones.
- Some agencies provide us with a laptop which is secured to their standards, which is complex if there are many of them, limited to the number of laptops, and involves returning the laptop for upgrades etc.
- Sometimes the only way we can make the access work is to create a special virtual machine, as the VPN software conflicts with our other corporate software, and we are unable to receive email or access our own network while we are logged in somewhere else
- The login process can be extremely time-consuming, taking up to 30 minutes a day for a handful of logins.

We are finding ourselves wondering if there are ways of easing the pain we regularly encounter. At the very minimum we wonder if we should be asking for a fee for time spent trying to resolve access problems - in the course of the average working week it can sometimes amount to significant periods of time. Perhaps we need some sort of enhanced service level agreement for direct support?

We welcome your feedback on the subject.

The Hydstra Service Layer

As we move towards the wonderful world of the cloud and software as a service, Hydstra is increasingly required to integrate with other corporate software. There are many ways in which Hydstra can become a good corporate citizen and integrate with other applications in your organisation:

- Whether you are running your database over FoxPro or SQL Server you can access any metadata in-house directly from SQL calls. Please restrict yourself to read-only access. You will need the appropriate MSSQL or FoxPro clients installed. We distribute the FoxPro client in *\hyd\sys\setup\ado\vfpodbc.msi* and your IT department should distribute the SQL Server client. The documentation for HYDBSQL has some good tips in getting started with SQL over FoxPro.
- If you wish to access time-series data from SQL you will need to purchase the Hydstra/ODBC module, which provides SQL access to time series. Read the Help file for more information on Hydstra/ODBC.
- Applications running on the same network can access Hydstra data via the JSON call framework for calling HYDLLP. Any application can issue a JSON request and get back a JSON data structure with

Hydstra metadata, time-series or documents.

- It is possible for us to licence you a component that provides access to the DLL for completely separate in-house processes via a small server running in-house. You can then make JSON calls via either a SOAP or a REST interface.
- Users running Hydstra/WEB have automatic access to the SOAP and REST interface for external users. Contact us for more information.
- As mentioned above, we have an experimental REST interface to Ratings, Gaugings and Sections as part of our OGC experiment work. If you are a Hydstra/WEB user, contact us for more details.
- We have a framework for developing REST interfaces that now allows us to fairly easily develop new ones to your specification. Contact us if you have a specific requirement.

Hydstra Instruments and Canvas

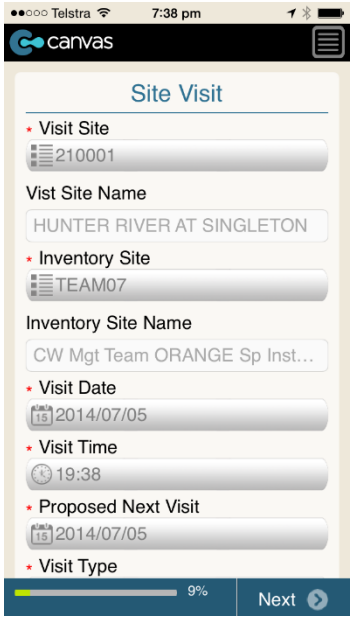
We have been developing a prototype of the Hydstra Instruments Workbench based on data entry using the Canvas system (see http://www.gocanvas.com/). So far our development has been very successful, and we expect that the system will be in a usable form for a demonstration by the time of the User Group meetings.

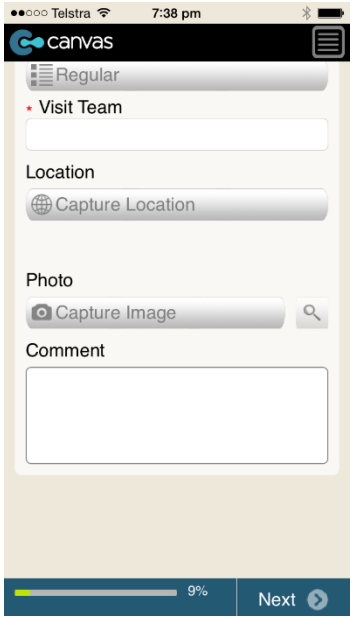
The basic idea is that all the capabilities of HYINSTWB, the instruments visit workbench will be implemented as Canvas screens. Metadata is uploaded to Canvas before you go out into the field for all the sites you plan to visit, plus all the instruments you have with you in your vehicle. In the field you interact with Canvas on your phone, tablet or laptop. Canvas apps are available for iPhone and iPad, Android, Blackberry, Windows Phone as well as Windows laptops.

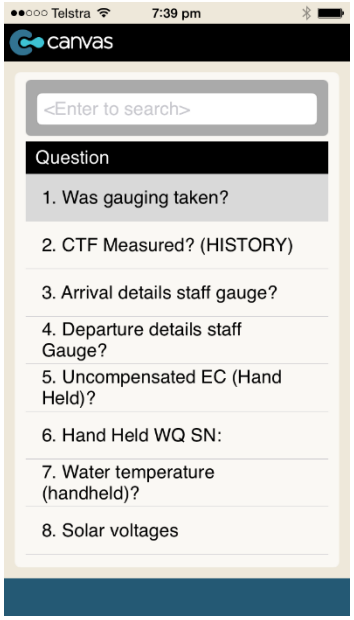
You can run the Canvas application on your device even when you are out of 3G range - it runs in standalone mode. Canvas gives you full access to the device capabilities including the camera, the GPS, the barcode reader etc.

After interacting in the field with the Canvas forms the data is replicated up to the Canvas server when you get back into Wifi or 3G range. Hydstra can then download the data using a web service and parse and apply the changes.

The following screens give some idea of what the application looks like on an iPhone. Come to the User Group meeting if you want to see more!







Hydstra Product News

New Date Time Format Supported in Perl

The Perl HYDTIM.PL library now supports ISO time formats, of the form *YYYY-MM-DDB<T>HH:II:EE+th:tm*, for example 2014-07-02T16:55:01+10:00. The library will convert between ISO times and all the other time formats it supports.

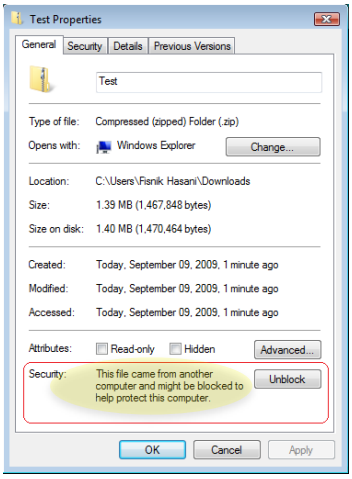
Backup Horror Stories

We have experienced a number of small clients losing staff members, and with that losing knowledge of where their Hydstra data was stored, and possibly even losing their whole Hydstra system. If you wish to send us a DVD or USB stick we will keep it for you indefinitely, and give it back to you when you need it again. For a fee we will also upgrade it and send it back to you. You must send us the whole of your *\hyd* tree, including system, data, logger files etc.

Blocked Files in Patch Downloads

Windows 7 and later have the concept of blocking files that have come from the internet for security reasons. The blocking property is carried along in the NTFS file system and can affect the Help files (.CHM), DLLs, executables etc.

If you right click on the properties of a blocked file you will see something like:



All you need to do is unblock the file and all will be well. The best thing to do is to unblock the patch download file before you unzip anything, as otherwise the unzipped contents will inherit the blocking.

For more information have a look at http://support.microsoft.com/kb/883260

Running Test and Production Hydstra Systems

We recommend that in any corporate environment you run separate test and production copies of Hydstra. Many agencies already do this - it allows you to test patches, try upgrades, and carry out risky work offline. The same advice applies to web servers outside the firewall - you need at least a Test and a Production web server.

In the simplest case of a FoxPro system all you need to do is copy the entire Hydstra tree somewhere else, adjust HYCONFIG.INI and set up a HYMULTI session so you can choose between Prod and Test. You might like to use HYCLONE to simplify the task if you need to refresh the Test system frequently.

If you are running under SQL Server you can either back up a Hydstra database and restore it elsewhere, or else use the wizard in SQL Server Management Studio - right click on a Hydstra database and choose the Tasks/Copy Database option. Note that this option is not available under SQL Server Express.

For Hydstra/WEB users you may need to address WEBHYD.INI, HYBATCH.INI and CONNECT.INI. Any AUTOJOB.BAT script may need checking for hard-wired paths, and any Syncovery replication profiles may need checking. You should also investigate Scheduled Tasks to make sure things are running correctly.

Finally nobody with multiple Hydstra systems should operate without Beyond Compare (http://www.scootersoftware.com/). It's the best $30 you'll ever spend. There's no point in having a separate Test environment if you can't see how it differs from the Production environment. Beyond Compare allows you to see what's different, and to push files or even lines within text files either way.

Windows Symbolic Links

For many years Windows has had the concept of Symbolic Links, or Symlinks. These are a powerful facility that allows you to make a directory or file redirect to somewhere else.

Unfortunately while the facility has been around for years (since Windows XP at least, though much better in Vista and beyond), the documentation and tools have been somewhat scrappy to say the last. There are tools around to provide a GUI interface to Symlinks (for example https://code.google.com/p/symlinker/ , http://sourceforge.net/projects/symlink-creator/ etc) but we will explore the command line here.

Start a CMD box and go to the root of your C: drive and run:

```
dir /a:l /s
```

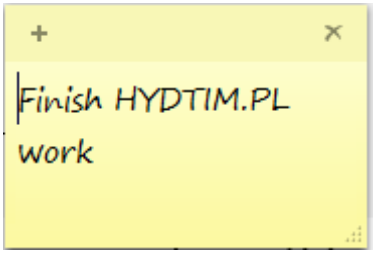
and you will see something like this:

```
Volume in drive C is OS
 Volume Serial Number is 204A-67F1

 Directory of C:\

23/08/2013  12:45 AM    <JUNCTION>     Documents and Settings [C:\Users]
               0 File(s)              0 bytes
```

This explains the curious behaviour in Windows Explorer that sometimes you put one thing into the Explorer destination, but end up at another place.

You can use this to your cunning advantage. For example you may wish to keep certain documents in Dropbox so that they get replicated between your various computers. However the software that opens the document requires it to be in a certain fixed place.

Let's take the example of Sticky Notes, a cool little application that comes with Windows 7 and later. It does only one simple thing - leaves little yellow notes on your screen to remind you to do things:



Unfortunately Sticky Notes has little in the way of configuration, and in Windows 8.1 its database lives in

```
%appdata%\Microsoft\Sticky Notes\StickyNotes.snt
```

However I can fool Sticky Notes into opening its database in my Dropbox folder. Close down Sticky Notes, save StickyNotes.snt to your Dropbox folder then delete it from its original location and run

```
mklink /H "%appdata%\Microsoft\Sticky Notes\StickyNotes.snt"
C:\Users\hewestonp\Dropbox\StickyNotes.snt"
```

You should see:

```
Hardlink created for C:\Users\hewestonp\AppData\Roaming\Microsoft\Sticky Notes\StickyNotes.snt
<<===>> C:\Users\hewestonp\Dropbox\StickyNotes.snt
```

When you restart Sticky Notes its database will be in your Dropbox folder. Do the same trick on another computer (at home for example) and you have shared Sticky Notes.

You could use the same trick in Hydstra for example to redirect individual documents or folders under DOCPATH to somewhere else.

WISKI Product News

Support Email and Help Desk

Commencing in April the WISKI team at Kisters Pty Ltd (Vicky, Bruce and Chris) have offered specialised support for the KISTERS products WISKI, KiWQM, WISKIWeb and KiWIS. The phone number for support on these products is +61 2 6154-5200, and the email address is wiski-support@kisters.com.au. If you are engaging in particular dialog with Chris, Vicky or Bruce please cc the support box so a central register of issues can be maintained.

WISKI Server Manager for standardisation of installation procedure

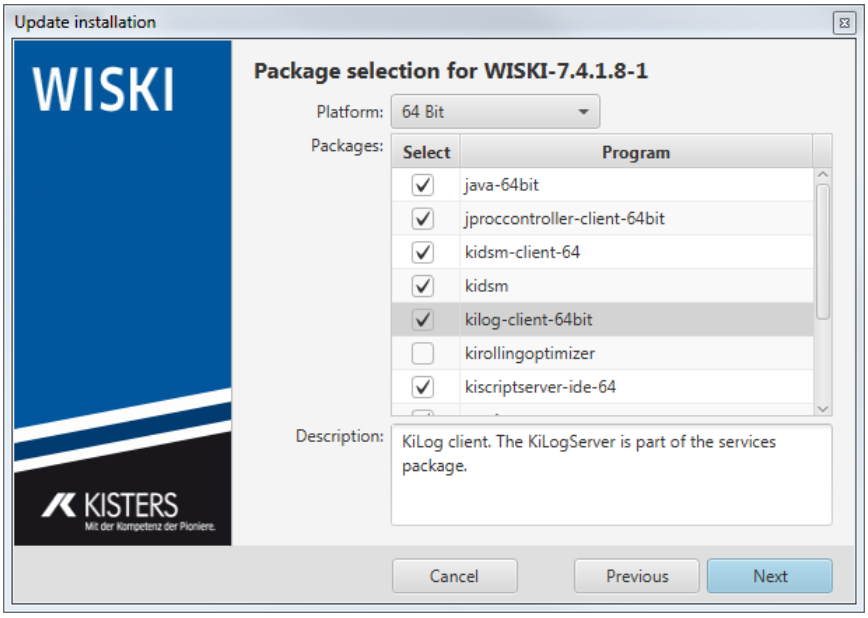
The release of WISKI 7.4 also sees the release of a new KISTERS product called the WISKI Server Manager. The Server Manager is designed as all in one System Administration tool to help perform the following tasks:

- Installations and upgrades of KISTERS products
- System management tasks
- System monitoring
- Run client software

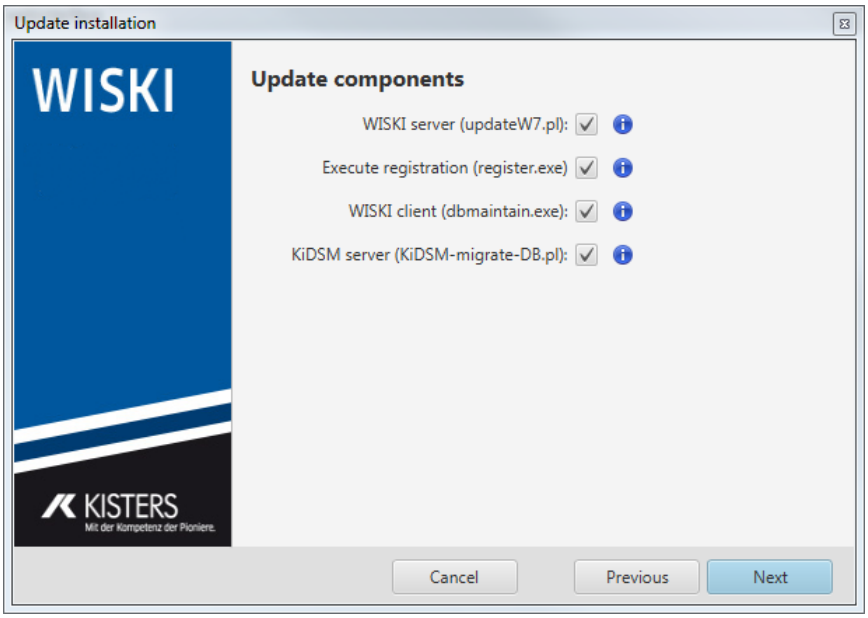
The installation and upgrade process covers the majority of WISKI based client and server components including: WISKI client, KiTSM, KiIOSys, KiDSM, KiLog viewer, KiScript IDE, Jproccontroller client, Java and 3rd Party tools. Installation packages will be placed on the Kisters Australia website as new releases become available. The packages will include release notes and upgrade instructions. The software installation files will appear as zip files named with the WISKI version and service release number. For example for WISKI 7.4.1.8.1 the packages appear as follows:

Name	Date modified	Type	Size
WISKIServerManager	10/07/2014 9:05	File folder	
KiLog_en.pdf	9/07/2014 9:27	Adobe Acrobat D...	4,146 KB
RN_7.4.1_EN.pdf	9/07/2014 9:25	Adobe Acrobat D...	107 KB
WISKI-7.4.1.8-1-java-64bit.zip	9/07/2014 16:49	WinRAR ZIP archive	110,872 KB
WISKI-7.4.1.8-1-jproccontroller-client-64bit.zip	9/07/2014 16:03	WinRAR ZIP archive	19,937 KB
WISKI-7.4.1.8-1-kidsm.zip	9/07/2014 17:38	WinRAR ZIP archive	86,059 KB
WISKI-7.4.1.8-1-kidsm-client-64.zip	9/07/2014 17:02	WinRAR ZIP archive	87,067 KB
WISKI-7.4.1.8-1-kilog-client-64bit.zip	9/07/2014 10:06	WinRAR ZIP archive	48,078 KB
WISKI-7.4.1.8-1-kirollingoptimizer.zip	9/07/2014 10:22	WinRAR ZIP archive	34,138 KB
WISKI-7.4.1.8-1-kiscriptserver-ide-64.zip	9/07/2014 11:57	WinRAR ZIP archive	191,648 KB
WISKI-7.4.1.8-1-services.zip	9/07/2014 15:07	WinRAR ZIP archive	484,633 KB
WISKI-7.4.1.8-1-wiski-client.zip	9/07/2014 14:05	WinRAR ZIP archive	104,770 KB
WISKI-7.4.1.8-1-wiski-client-help-en.zip	9/07/2014 13:36	WinRAR ZIP archive	182,251 KB
WISKI-7.4.1.8-1-wiski-perl.zip	11/07/2014 9:19	WinRAR ZIP archive	112,170 KB
WISKI-7.4.1.8-1-wiski-third_party_software.zip	11/07/2014 9:11	WinRAR ZIP archive	55,437 KB
WISKI7_Deployment_Guide_EN.pdf	9/07/2014 14:06	Adobe Acrobat D...	3,830 KB
WISKI7_Package_Structure.pdf	9/07/2014 14:06	Adobe Acrobat D...	938 KB
WISKIServerManager.exe	7/11/2013 21:41	Application	736 KB

The WISKI Server Manager installer is a wizard style tool that can pick up each of the software packages and install or upgrade into a given installation location.



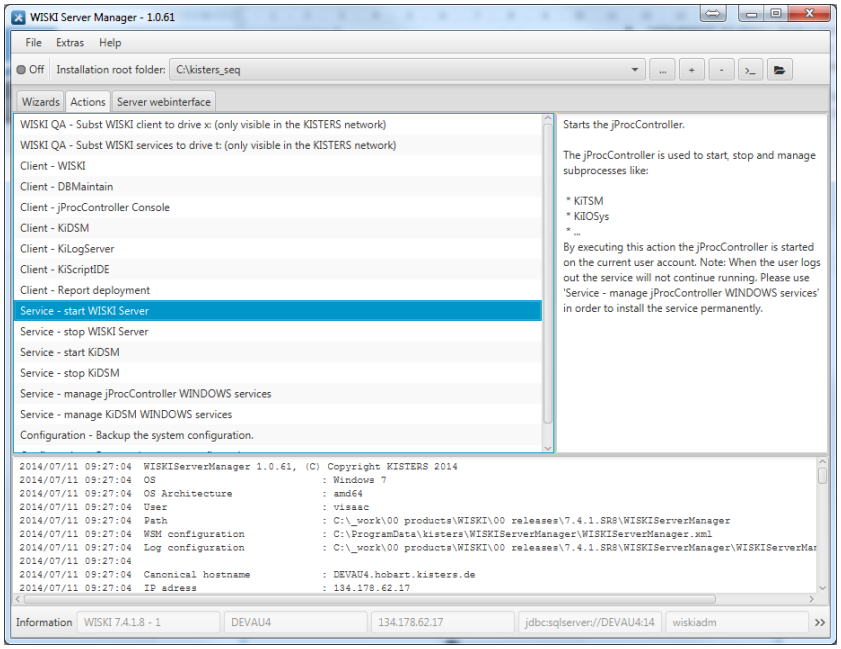
The server will prompt and test connection details, save and restore client configuration files, run all update scripts and take an automatic backup of your existing installation, clearing the logs files if required.

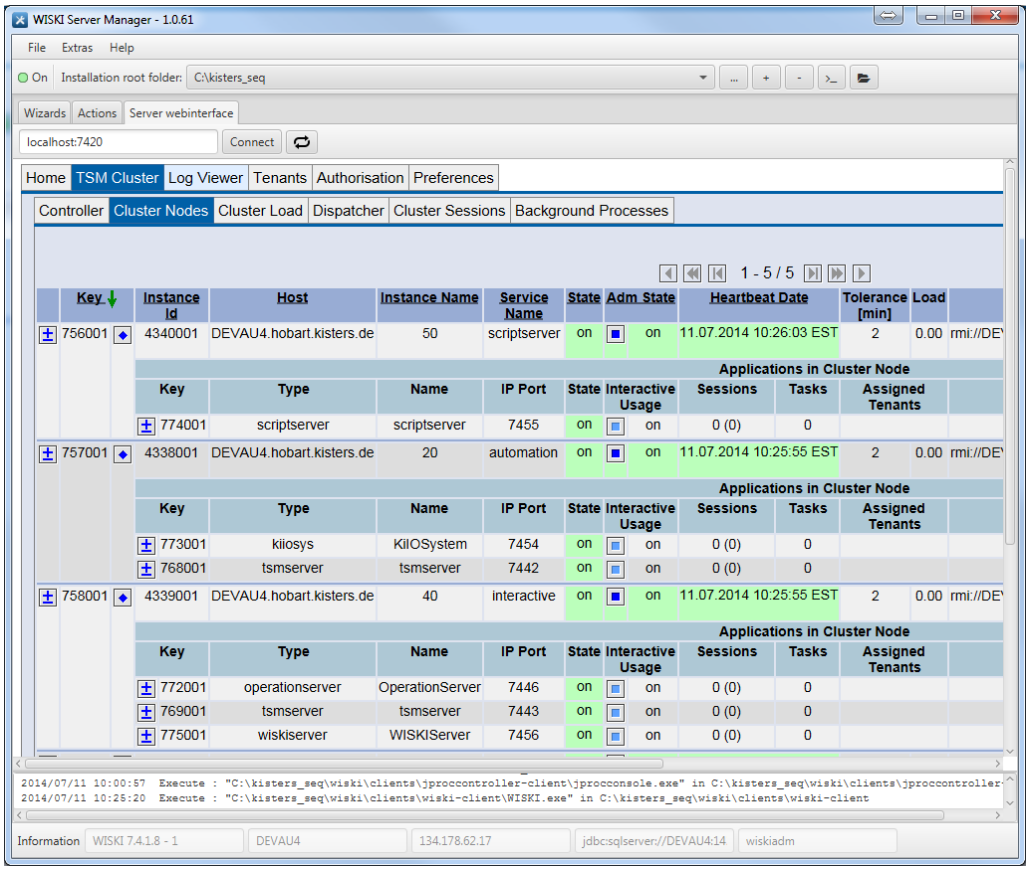


The installation directory structure is now also standardised as follows:

- <installation location> wiski\bin : backup, upgrade and restore scripts
- <installation location> wiski\clients : all installed clients
- <installation location> wiski\info : software version information
- <installation location> wiski\services : all installed services

The Server Manager can also be used as an everyday administration tool to run tasks at any time for example: stop and start WISKI services, report deployment and logging into the TSM Web server administration console.

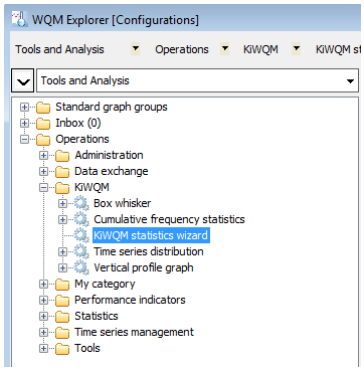




The WISKI server manager is currently designed for a standard installation where server components are installed on a single server. For systems running server components on different servers or in a mixed environment of operating systems (linux/windows) adjustments are required. KISTERS will discuss these needs with clients having these types of heterogenous environments.

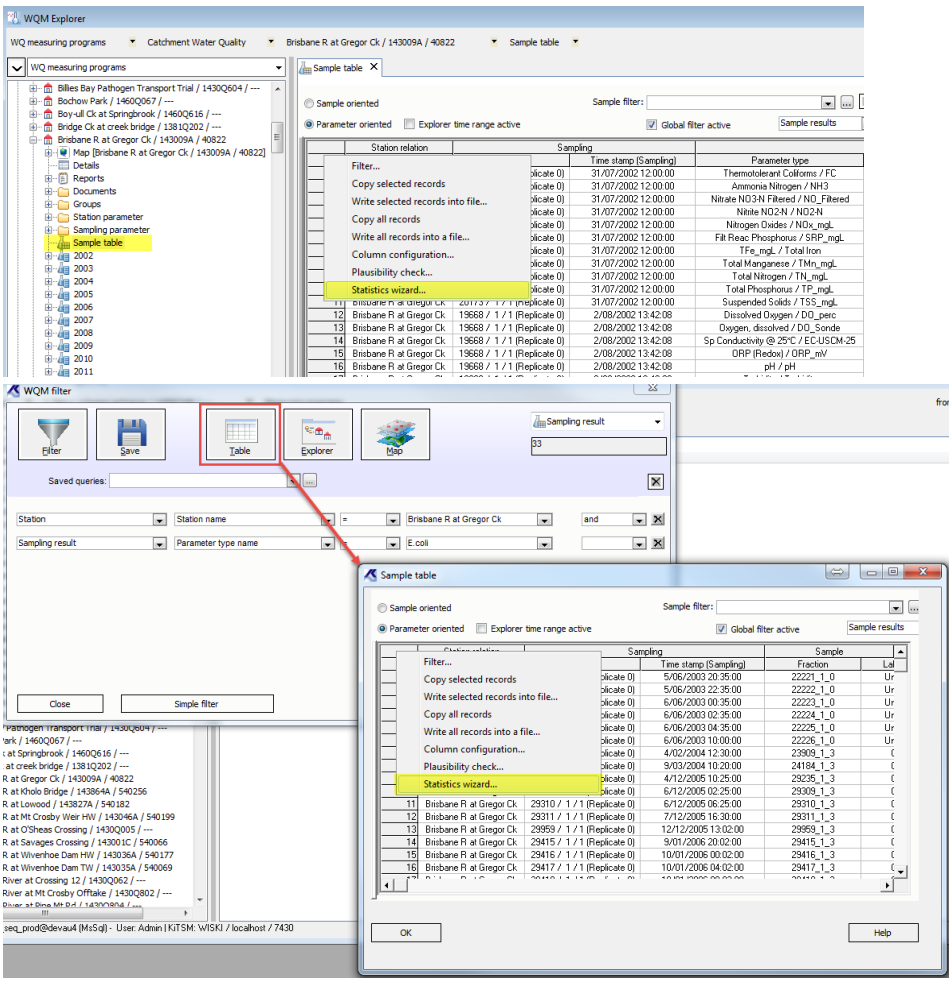
KiWQM Statistics Wizard

This great new feature for analysing water quality data has been introduced with the latest WISKI release. It combines the power of server operations with a simple wizard interface and saved templates to perform different types of statistical analysis on water quality sampling data with outputs that can be used for reporting purposes.

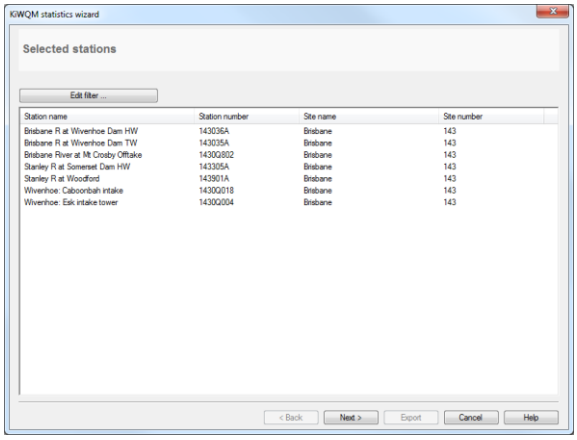


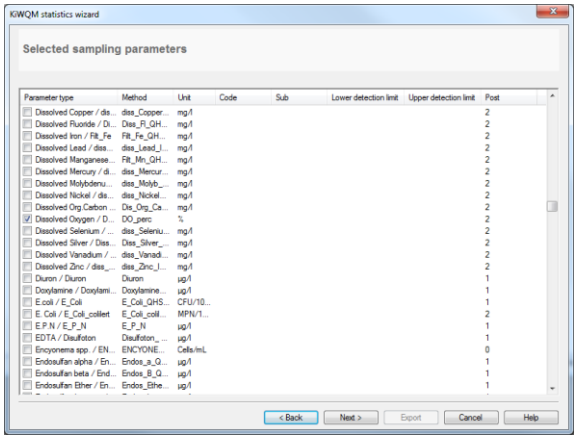
The wizard can be accessed from either

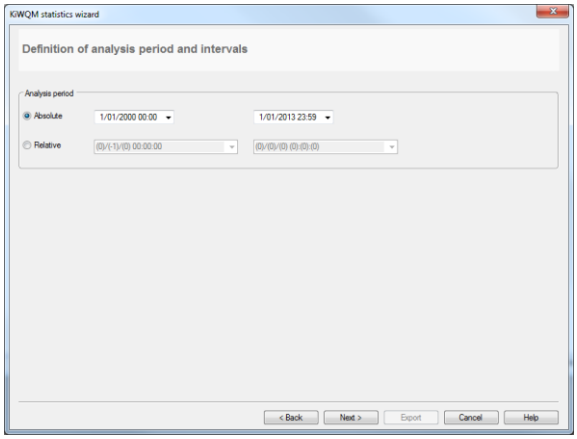
- Operations > KiWQM
- Any WQ Sample Table in the Explorer tree
- Any WQ Sample Table in the WQ Filter

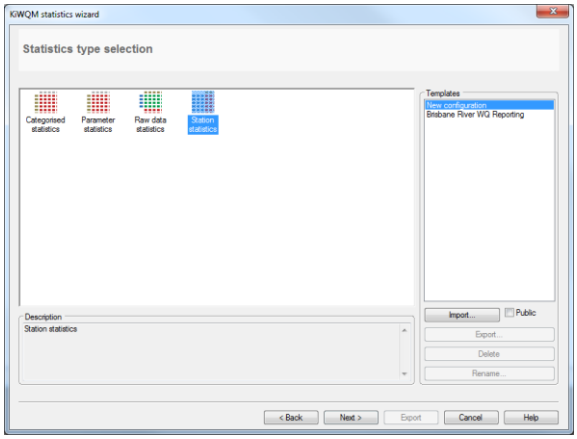


The wizard will then guide you through selection options for stations, parameters and time period (absolute or relative) and then allow you to select the desired statistic type









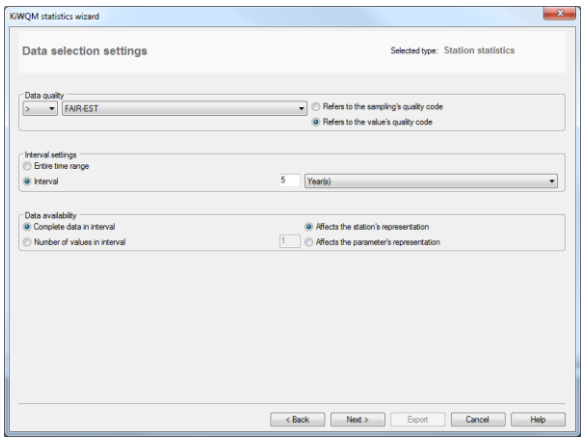
Available statistics types:

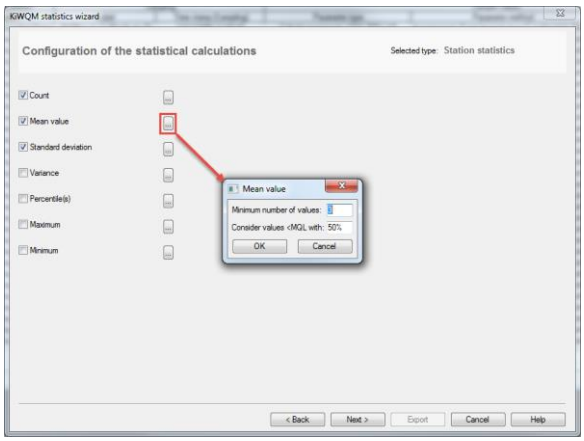
- Categorised statistics
- Parameter statistics
- Raw data statistics
- Station statistics

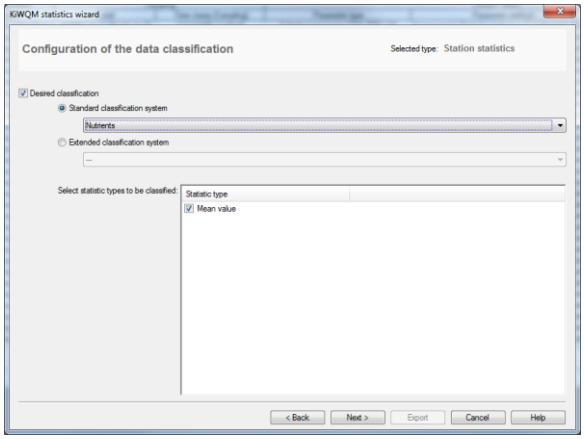
Example: Station Statistics - provides statistics of parameters and stations for 1-n stations.

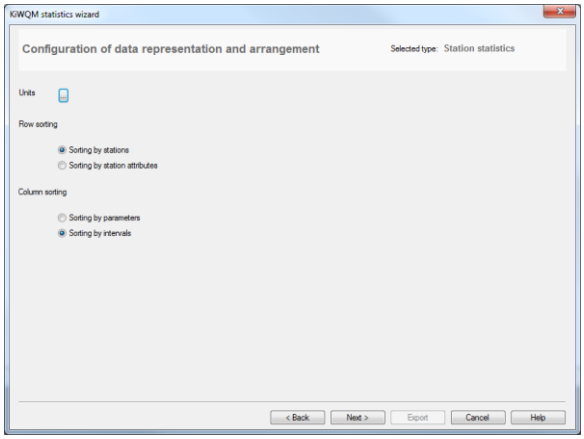
- Column 1 lists the station sorted as specified
- Columns 2 to x show any additional station metadata as requested
- Columns x+1 to x+y show the statistics of the first parameter.
- The subsequent columns show the statistics of further parameters

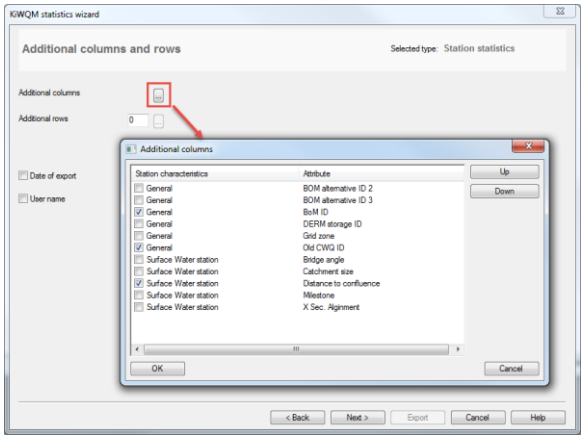
The next steps are dependent on the type of statistics you have selected:

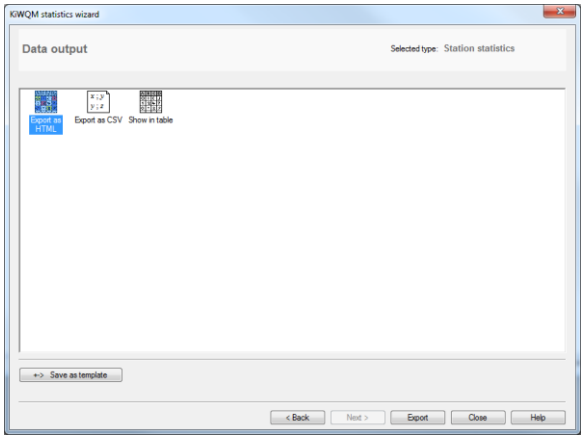












Selection options include

- Data quality
- Analysis time intervals
- Minimum data points in an interval

Available statistics:

- Count
- Mean
- Standard deviation
- Variance
- Percentile
- Maximum
- Minimum

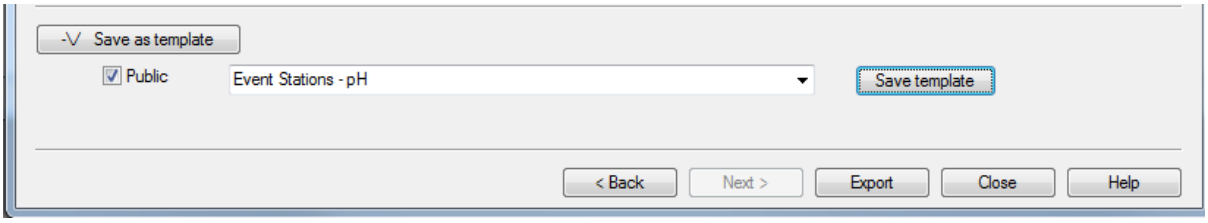
Representation options include:

- Classification systems
- Unit conversion
- Row and column sorting
- Metadata : Additional attributes, user, date/time of export etc

Data output options include:

- HTML
- CSV
- Table

You can then save your configuration as a template (either public or private) for future use:



The table below is an example of the output that can be achieved with the Station Statistics

	A	B	C	D	E	F	G	H	I	J
1	Date:	11.07.2014								
2	User:	Admin								
3										
4	Station number	Station name	BoM ID	Old CWQ ID	Substance	DO_perc/DO_perc	DO_perc/DO_perc	DO_perc/DO_perc	DO_perc/DO_perc	DO_perc/DO_perc
5					Unit		[%]	[%]	[%]	[%]
6					Statistics	Count	Mean	Std. deviation	Maximum	Minimum
7					Years	2000 - 2004	2000 - 2004	2000 - 2004	2000 - 2004	2000 - 2004
8	1430Q802	Brisbane River at Mt Crosby Offtake		40002		23	98.92	9.63	119.4	67
9	143305A	Stanley R at Somerset Dam HW	540159	20001		607	54.74	36.54	226	0.1
10	143901A	Stanley R at Woodford	540337	20101						
11	143036A	Brisbane R at Wivenhoe Dam HW	540177	30001		336	75.57	29.07	148.3	1.1
12	1430Q018	Wivenhoe: Caboonbah intake		30018		9	97.46	13.28	117.2	70.1
13	1430Q004	Wivenhoe: Esk intake tower		30004		18	102.57	7.48	122.6	90.8
14	143035A	Brisbane R at Wivenhoe Dam TW	540069			20	100.06	13.51	127.8	68

The available statistics types and selection options will be added to as additional customer requirements are received. Your feedback is also welcome.

Customised Reports

In WISKI/KIWQM/KIECO the KiScript language is used to develop customised reports which are run within the applications from any object node (site, station, parameter and time series), in the report explorer or scheduled using KiDSM.

KISTERS is offering the development of customised reports to clients. These reports then become part of the WISKI report library. The procedure is as follows:

- Development of a specification document between the client and KISTERS
- Development of a report prototype based on the specification
- Review of prototype by client
- Development of final version and installation at client site
- Integration of the report into the report repository of 7.4

In general basic reports can be specified and developed by KISTERS charging an effort of two consultant days. More complex reports need to be charged based on the effort required.

Recently KISTERS has developed the following reports:

MHL:

- Annual summary report (complex)
- Flood ranking report (basic)
- Forman analysis (complex)

Waikato Regional Council:

- QaQc report for water level and discharge (complex)
- QaQc report for rainfall (complex)

SEQ:

- Observer values (basic)
- Compare control time series (basic)

BOM:

- Customised csv export

These newly developed reports will be available for WISKI 7.4. A report description will follow in the next newsletter.

Agent/Operation/Transformation – Get to know me

Starting in this newsletter we will introduce agents, operations and transformations with detailed descriptions. We will always choose one agent, operation and transformation which are already used, new or have been changed in newer releases due to a conceptual rework.

In this newsletter we present detailed information of:

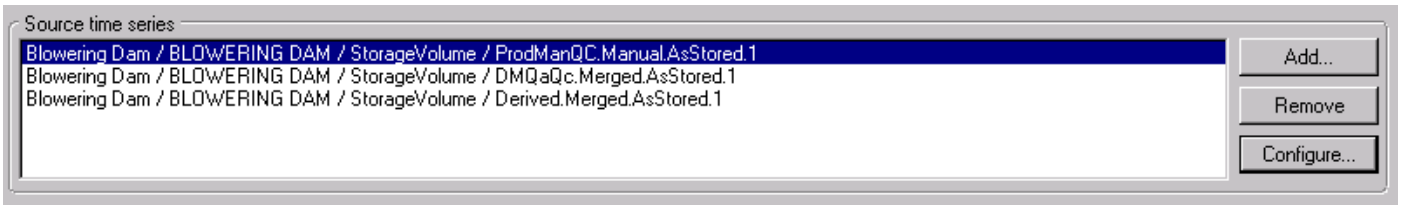
- Agent *Merger* including one new method developed for BOM
- Transformation *CheckThreshold* with included usage of a station attribute values
- Operation *Show time series values and threshold* which is new in 7.4

<u>Agent *merger*</u>

Description:

The merger agent allows you to calculate a time series based on several source time series. It consist of a priority list, an applied method and a configuration dialog for each source time series.

- Priority list: The order of the time series list defines in which order the source data is used.

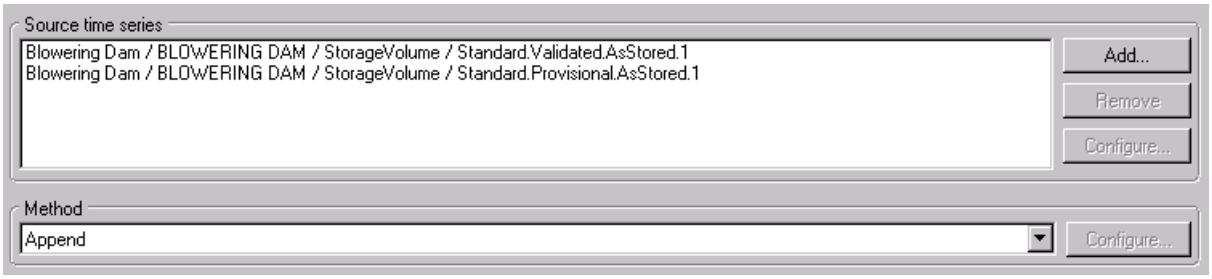


In the list above the time series *ProdManQC.Manual.AsStored.1* is used frist. How the target values are calculated from each of the three time series is determined by the method.

- Method: For the calculation rule, four implemented methods plus the usage of a KiScript is available. The four implemented methods are:
  - Use first valid value =for each time series value, uses the first valid value iterating through the priority list from time series 1 to time series n

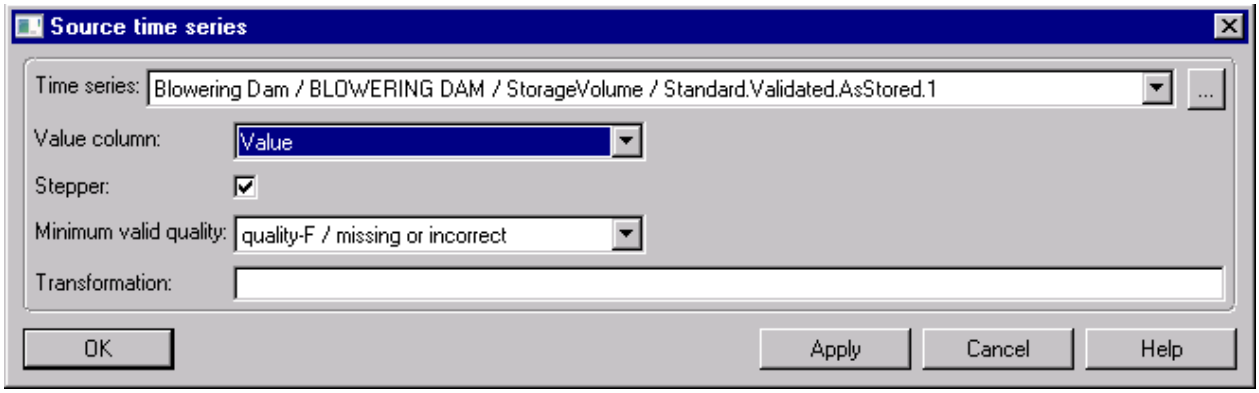
    (use case: data delivered from several field sensors with an established priority which data should be used first and without data quality information)
  - Use value with best quality =for each time series value from the priority list, uses the value which has the best data quality

    (use case: data delivered with quality information where it is expected that data delivered with a better data quality is used)
  - Append = use the data of the first time series and appends data from other time series based on priority if available (use case: data often is delivered unchecked as provisional data and later redelivered as validated data, see configuration below)



  - Use first ts which has data = use data only of one time series based on priority list
- Configuration: For each source time series and based on the method a configuration dialog is

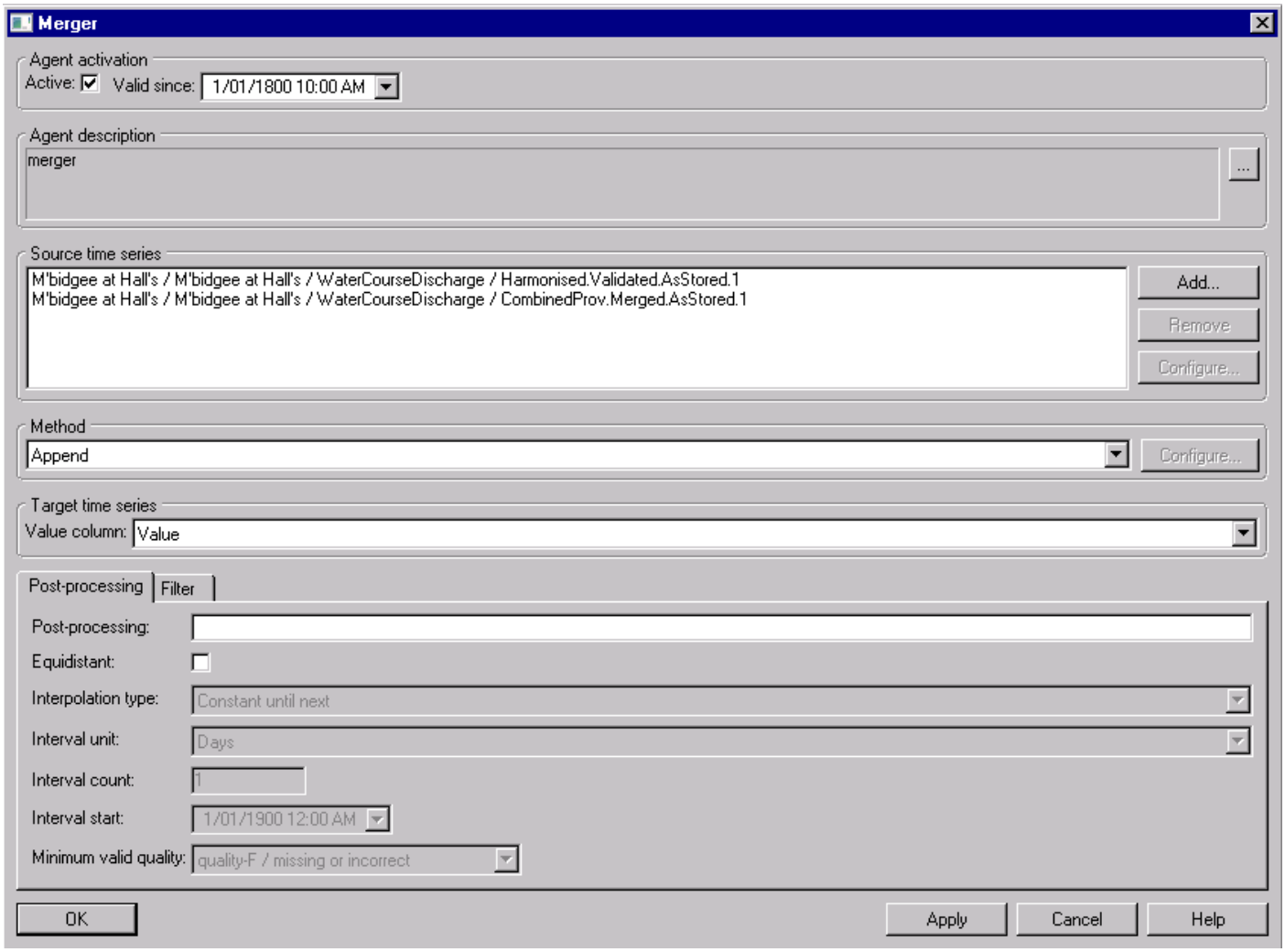
supplied. The dialog has the following components:



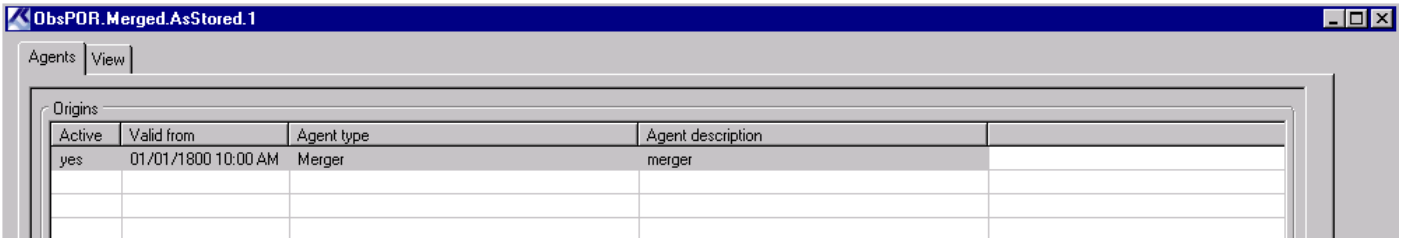
- Time series = selection of time series to be used
- Value column = column in which the data is stored
- Stepper = determines if the time stamps of the time series are used as input for the target time series
- Minimum valid quality = determines minimum quality of data which should be used to calculate the target time series
- Transformation = transformations can be used to pre-process the data before calculating the target

Example:

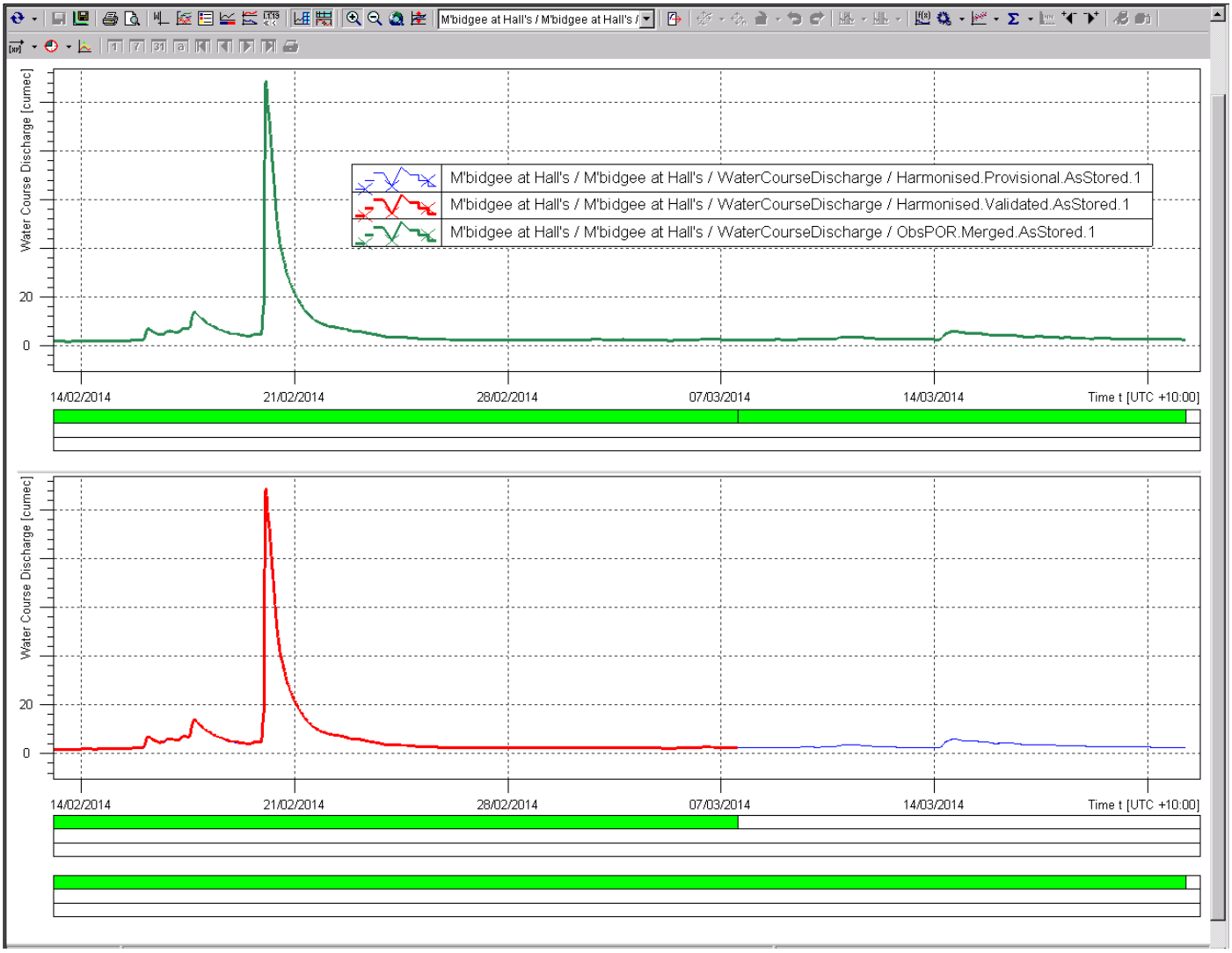
The example below shows a merger agent which is configured to use two source time series as input. The selected method is append as shown below.



The target time series *is ObsPOR.Merged.As.Stored.1* which uses the merger agent above to create a time series which first uses data which is validated and if that data is not available append any additional delivered data beyond the last value of the validated data.



The result is shown in the time series graph below were the green trace shown the result time series *ObsPOR.Merged.As.Stored.1,* the red trace shows the validated and the blue trace the provisional data.



Transformation *CheckThreshold*

Description:

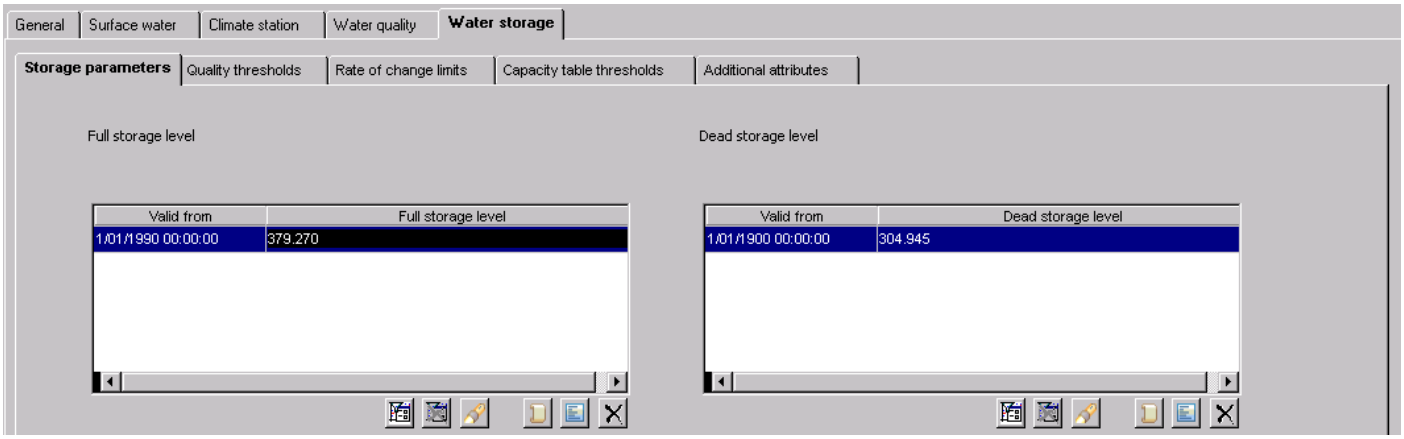
This transformation has the same core functionality as the validator agent *Threshold exceedance validator*. It checks for thresholds, assigns a new data quality to data not meeting the threshold and writes a free remark if required. Compared to the validator agent it has a limited functionality (no addition rules or triggering alarms) however it allows you to use the data of station attributes as thresholds.

The syntax is as follows:

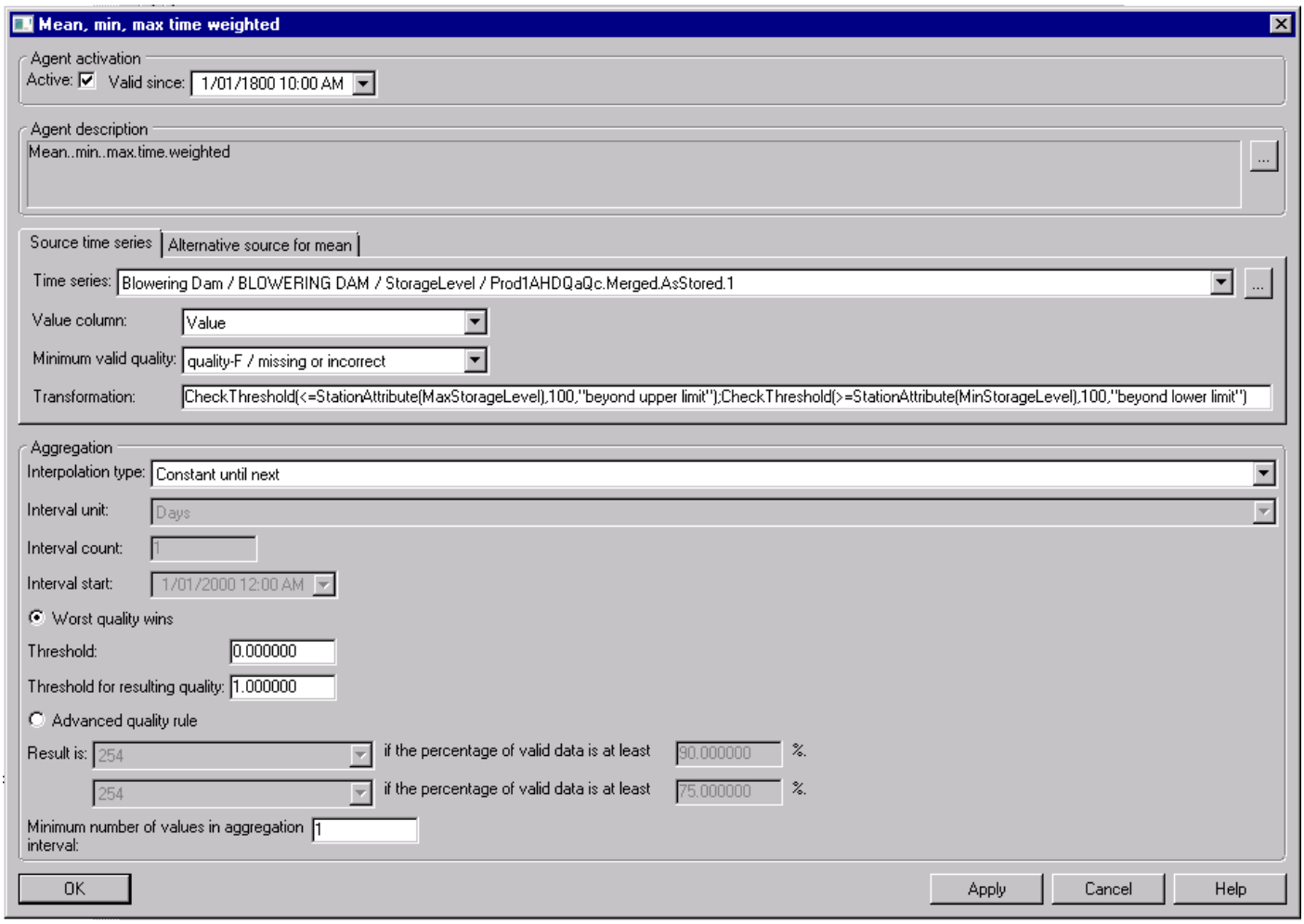
```
CheckThreshold(sign threshold, quality, comment)
```

Example:

In the example below the transformation is used to check a storage against a dead and full storage level.



Dead and full storage level are additional attributes of a water storage station. The transformation is applied as a validator check on the calculated daily storage levels as shown below.



The two checks applied in the agent are :

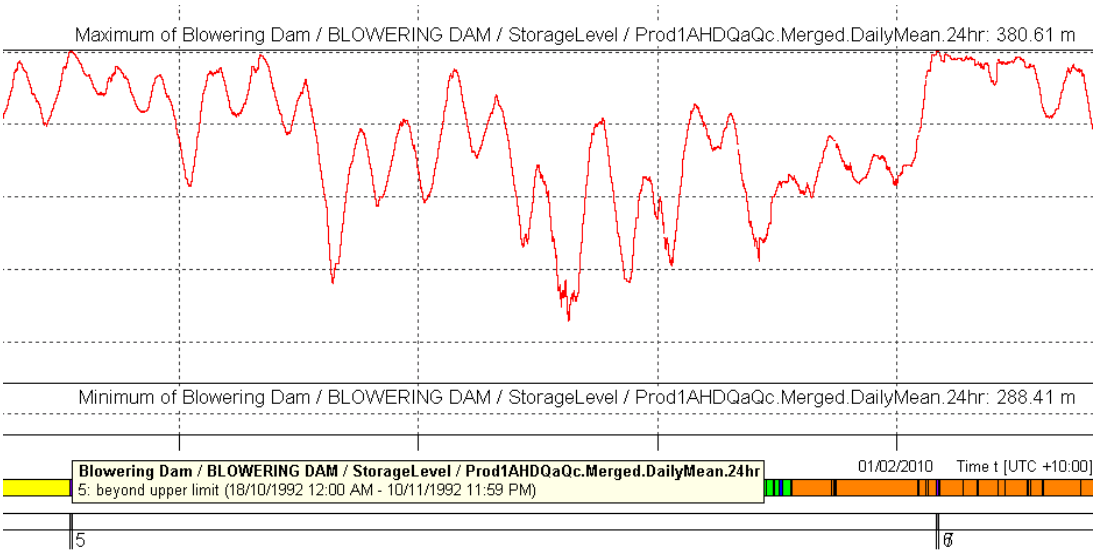
- CheckThreshold(<StationAttribute(MaxStorageLevel),210,"beyond upper limit ")
- CheckThreshold(<StationAttribute(MinStorageLevel),210,"beyond lower limit")

The results can be seen below. The first graph shows the time of the daily storage levels checked against the thresholds:

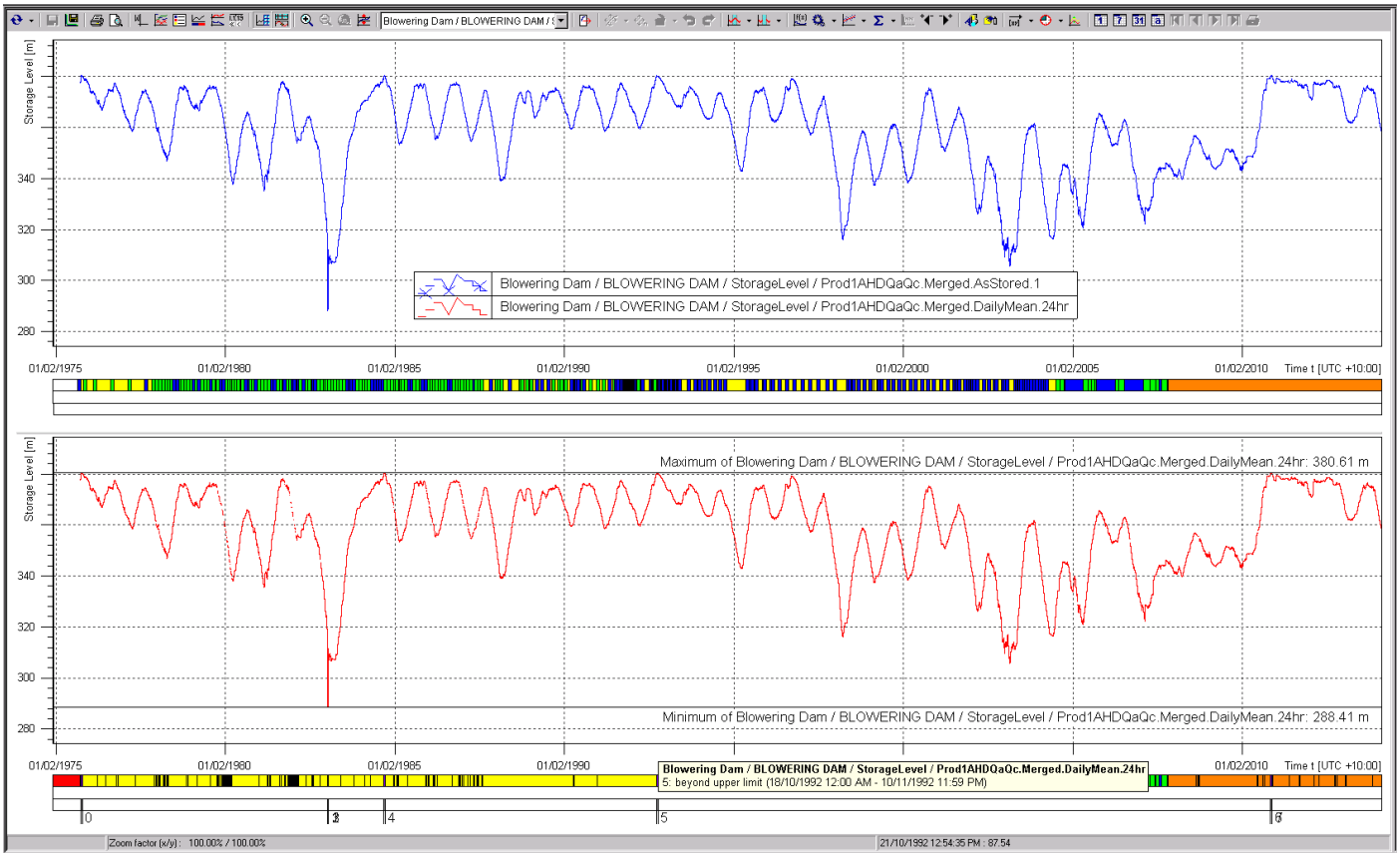
Dead storage level = 304.945 m

Full storage level = 379.270

The graph shows that between the 18th October and the 10th November 1992 the full storage level was exceeded reaching a maximum of 380.61 m.



The second graph shows as blue trace the continuous strorage level time series and in the red trace the calculated daily strorage levels with threshold check over the whole time period of data available in WISKI.



<u>Operation *Show time series values and threshold*</u>

Description:

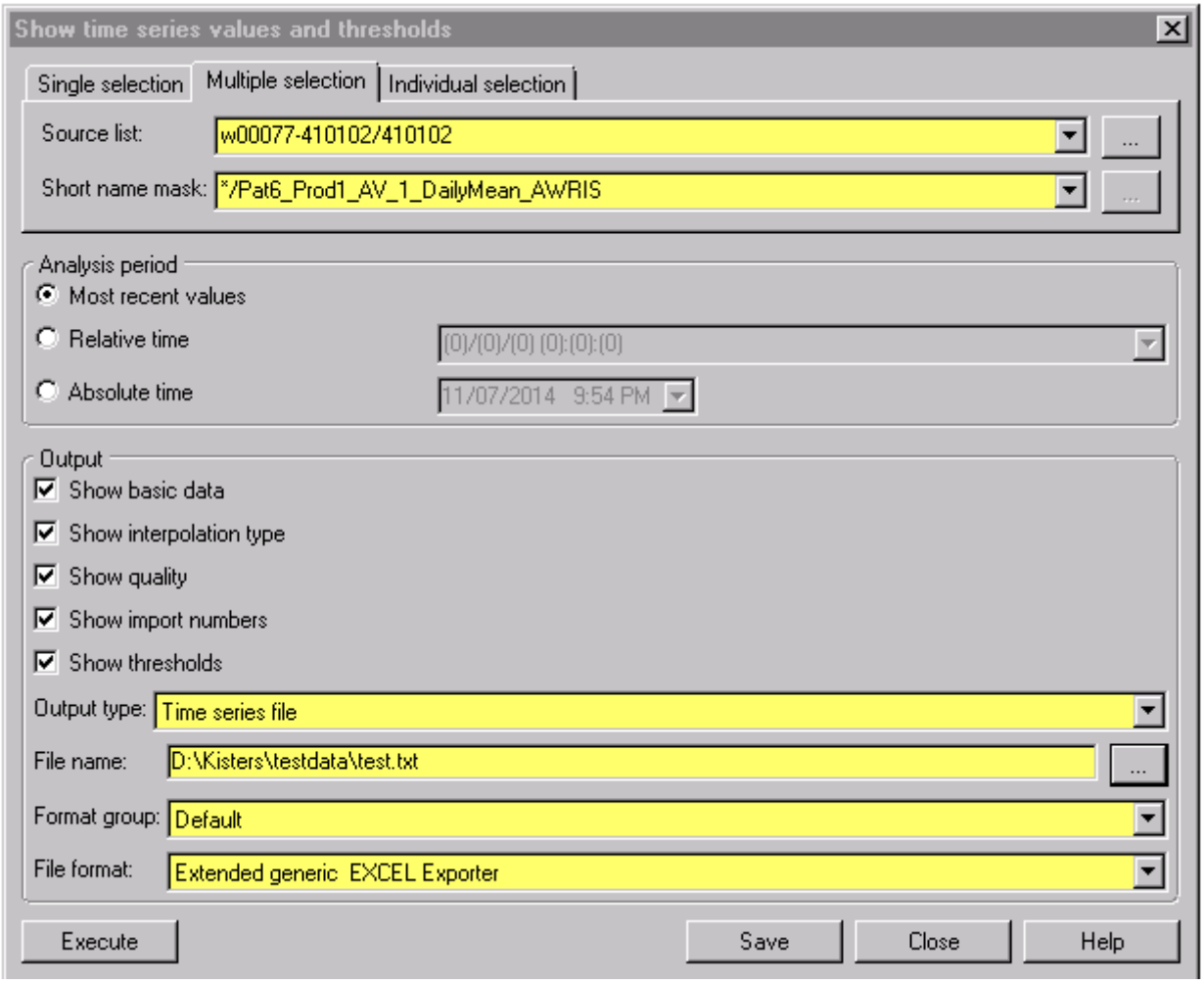
The operation is available in 7.4 under system view/Operations/Tools. The operation is designed to compare selected time series data to threshold values with some additional station meta data.

The output of the operation can be displayed in a table, exported as Excel file or saved as a time series file.

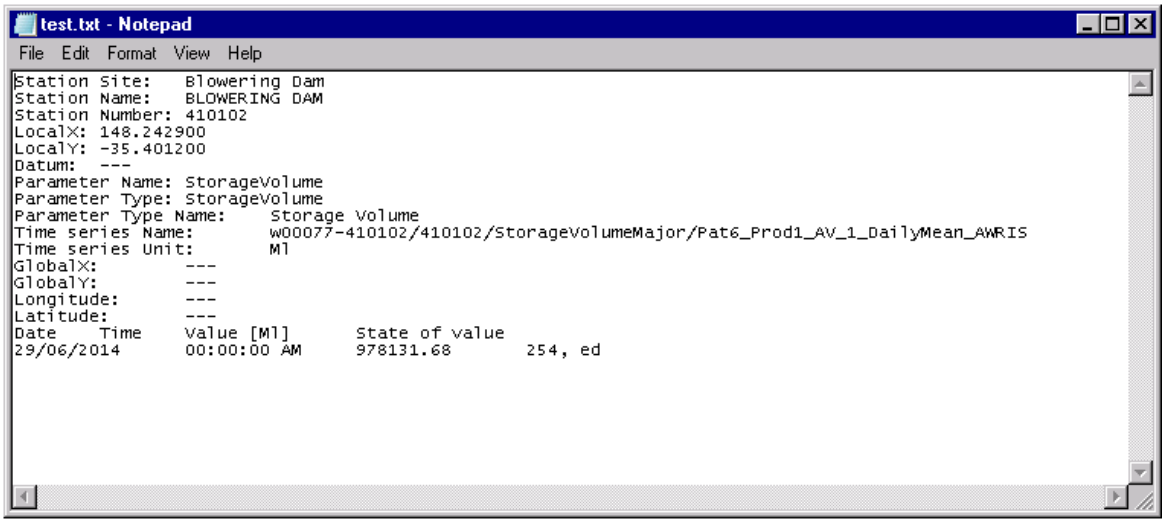
The example below shows the configuration for one time series with output options:

- Show basic data
- Show interpolation type
- Show quality
- Show import numbers
- Show thresholds

As output type a time series file is selected which uses the configured WISKI exporters to be used. In the example below the file format is the defined generic excel exporter. The configuration is shown below.



The output is saved as file and shown below.



KISTERS Australia Forum

One of the suggestions from the Australian User Group meeting last year was that we establish a forum to allow clients to exchange ideas. That forum is now live, and can be accessed at http://forum.kisters.com.au. It is a closed moderated forum and you need to register before you can access it. Please use a real name or recognisable email address when registering or we will have to contact you to find out who you are. Only registered Hydstra and WISKI client organisations will be granted access to the forum.

The forum is divided into two top headings, WISKI and Hydstra. As a registered user you can add new threads under these headings or contribute to existing threads.

We have in past months had problems with the forum being flooded by spammers trying to join, but we have taken various security measures which has reduced the flood to a trickle. However we have had to ban a number of commonly used domains, including gmail.com, hotmail.com, outlook.com etc. Please register with your corporate email address and use your correct name when registering so we recognise you.

Please don't use the forum to report bugs or problems, you should continue to use the approved support mechanisms for that as we make no guarantee as to how frequently the forum will be monitored by KISTERS staff. Please keep the topics KISTERS related, and the tone polite.

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.

Hydstra Training

Past Courses

In the past few months we have presented a number of training course, including five days of Using Perl with Hydstra, two days of Administering Hydstra, and several bespoke Basic and Administration courses run at client sites and tailored to their specific needs.

Training Schedule for 2014

Upcoming training courses will now be published on the KISTERS website at http://kisters.com.au/training.html.

The following training courses are scheduled for the rest of 2014:

Course	Duration	Dates
Advanced Hydstra	2 days	12/13 August, 2014
Basic WISKI	2 days	09/10 September, 2014
KiWQM	2 days	16/17 September, 2014
Hydstra Modelling with MODSYN	2 days	14/15 October, 2014
Basic Hydstra	2 days	4/5 November, 2014
Advanced WISKI	2 days	18/19 November, 2014

Courses will be held at the KISTERS Canberra office. If you are interested in attending a course please contact us via support@kisters.com.au. Training Courses may need to be withdrawn or postponed if there is not enough interest.

Training Courses

We are happy to provide training courses on any aspect of Hydstra 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. Training at your office will be charged at our standard consulting rates per day for the trainer, plus a preparation day, plus travel and accommodation at cost. Courses we can offer include:

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

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

Worldwide KISTERS News

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

http://www.kistersnews.com/au/index.html

http://www.kisters.net/news.html

Information

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