

KISTERS Australia News

December 2013

Contents

Contents	1
From The GM's Desk	1
Water Act November 2013 Amendments	2
2013 KISTERS User Group Meetings	3
Kisters Australia Forum	4
Kisters and Standards	5
KISTERS Australia Website	5
New Hydstra/WEB features	6
Hydstra Product News	8
WISKI Product News	11
Optimisation and Efficiency for Water and Mining	18
Kisters On the Web	19
Worldwide KISTERS News	19
WMO Publications Online	19
Training Courses	20
Staff News	20
Information	22

From The GM's Desk

By Bill Steen, General Manager, KISTERS Pty Ltd

Another year has flown past as we head towards 2014. Over the last 12 months Kisters has seen multiple new local and international clients join the Kisters community. Along with new clients, Kisters undertook a variety of client driven projects whilst investing in the continual improvement of the Kisters product suite.

One of the emerging trends that is gathering momentum around the world is the bringing together of geospatial and temporal water information, such as the Texas Hub [<http://www.centraltexashub.org/>] and World Water Online [<http://www.worldwateronline.org/>]. In 2013 New Zealand added to the global interest in interoperability of data via web services. Earlier this year Peter Heweston and Chris Michl represented Kisters at a New Zealand forum on interoperability of data, as reported in an earlier newsletter.

In November 2013 New Zealand hosted a second workshop to discuss progress on interoperability of data. I was fortunate to attend and present at this forum. Kisters have made a large impact on New Zealand's push with high praise from users and competitive companies regarding the Kisters Web Interoperability Solution (KiWIS). Mark Rodgers from Hilltop mentioned that "KiWIS simply works, you install the product and everything just happens". New Zealand has also made the decision to adopt the Open Geospatial Consortium (OGC) standard for hydrological time series encoding. WaterML2.

The main objective of the KiWIS web service solution is to provide API options via HTTP to be used by client programs. Next to KISTERS query services it provides OGC services as well as CUAHSI WaterOneFlow or ArcGIS-readable formats - all based on one publishing mechanism and user based access.

There is definitely momentum in the ability to interchange data and Kisters is happy to discuss with you the benefits of KiWIS.

Whilst in New Zealand I attended the New Zealand Hydrological Society and the Meteorological Society of New Zealand joint conference in Palmerston North where I was keynote speaker. The theme of the conference was "Water and Weather: Solutions for health, wealth and environment". The underlying

message from both scientific worlds was that of good quality data and the ability to interchange data freely between agencies.

It was an interesting experiment to combine the two sciences, and it proved to be highly successful with some extremely interesting, and thought provoking papers. Over 220 people participated from across New Zealand including several international guests.

The Kisters office in Canberra will be unattended on the 27th, 30th and 31st of December. Please contact Debbie on 0418 115 925 in case of an emergency during that period.

As we move closer to 2014, Kisters would like to wish you all a Merry Christmas and a safe and healthy New Year.

Bill Steen
General
Manager
KISTERS Pty Ltd



Water Act November 2013 Amendments

The Water Act was recently amended, as described below. The main impact on Kisters clients is that WDTF will become the mandated format for delivering data to BOM, unless you have other agreements with them. If you are still using HYBOMEXP you should plan to move to HYWDTF_OUT soon. See <http://www.bom.gov.au/water/regulations/amendments/amendments2013.shtml> for more detail.

November 2013 amendment

The Governor-General made this amendment on 21 November 2013. It takes effect (commences) on 28 February 2014

The 2013 amendment allows for the Regulations to specify the format in which water information must be given:

- water information must be given to the Bureau in a form approved by the Director of Meteorology
- an online Administrative Instrument sets out requirements for organisations to provide water information in specified formats eg Water Transfer Data Transfer Format (WDTF)
- lead water agencies (Category A) and providers of National Groundwater Information System (NGIS) and Aquifer Framework information (Category K) are the first groups affected from 28 February 2014
- over time, the Administrative Instrument will specify formats for additional Person Categories. A planned schedule for introducing format requirements for Person Categories and Water Information Categories/Subcategories is available. The Bureau will notify affected organisations in advance of changes or additions to the requirements set out in the Administrative Instrument.

Adding new format requirements will depend on the following:

- the Bureau's need to service products
- our capacity to ingest and publish the particular data
- our ability to provide support to affected data providers

The amendment also adds requirements for the provision of National Groundwater Information System (NGIS) information

New subcategories of water information added in Category 2 (ground water resource information) are:

- State aquifer framework information (subcategory 2d)
- State NGIS information (subcategory 2e)

A new Category of Persons (Category K) is required to give subcategories 2d and 2e to the Bureau.

This new Category of Persons will be added to the Persons and Classes of Persons document when the amendment takes effect on 28 February 2014. The organisations to be included in Category K [14Kb] are eight lead water agencies and one water utility.

2013 KISTERS User Group Meetings

Canberra 28-29 August, 2013

The Australian User Group meeting was held on August 28 and 29 at the Hellenic Club in Canberra. The meeting was well attended in the end, after everyone battled through budgetary constraints to get there. The Hellenic Club proved to be a great venue, and much fun was had by all.



In Session



Emma, Louise, Luisa and Damian



John and Debbie



Radhika, Liping, Denby and Emma

San Diego 9-10 September, 2013

Again we convened at the Bahia on beautiful Mission Bay for a couple of days of fruitful exchange. The cruise on Mission Bay for the conference dinner is always a highlight, and the weather was delightful as usual.



Bill, Ron and Frank



Coffee break



Lunch by Mission Bay



The Bahia Belle

User Group Presentations

We recorded many of the sessions using Camtasia, and all the recordings and Powerpoint presentations from both meetings are available on our web site at <http://kisters.com.au/support.html#usergroups> - contact us for access details if you don't have them already.

2014 Meetings

Start planning for next year's User Group meetings early! The US meeting will be in San Diego on September 15 and 16, 2014, and the Australian meeting will be a one-day event in conjunction with the Australian Hydrographers Association conference, possibly on Nov 10, 2014 in Sydney though the date and location have not yet been confirmed.

Kisters Australia Forum

One of the suggestions from the Australian User Group meeting 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.

Please don't use the forum to report bugs or problems, you should continue to use the approved 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.

The screenshot shows the Kisters Australia Forum interface. At the top, there's a navigation bar with links like 'Welcome Peter Hewesdon', 'Logout', 'Edit Profile', 'Private Messages', 'Favorites (1)', 'Moderation', and 'Administration'. Below this is the Kisters logo and a search bar. The main heading is 'Hydstra & WISKI'. Underneath, there's a 'Hydstra' sub-heading. A 'New thread' button is visible. The 'Threads' section lists several topics with columns for Topic, Rating, Replies, Views, and Last post. The topics listed are: 'Hydstra V1.1', 'Hydstra Perl', 'Hydstra Administration', 'Instruments', and 'Hydstra V1.0'. Each topic has a rating, number of replies, and views. At the bottom, there's a 'Show' section with filters for 'Sort by', 'In period', and 'Status'. It also lists moderators (Damian Skinner, Peter Hewesdon) and statistics (9 threads, 15 posts, 0.19 posts per day). There are links for 'Add forum to favorites' and 'Mark forum as read'. The footer includes links for 'Home', 'Link Notice', 'Terms of use', 'Change style', and the date 'Friday, November 22nd 2013, 2:27pm'. The forum software is identified as 'Burning Board® 3.1.8, developed by WollLab GmbH'.

Topic	Rating	Replies	Views	Last post
Hydstra V1.1 By Peter Hewesdon (Oct 24th 2013, 10:15am)	5/5	2	35	By Peter Hewesdon (Today, 2:26pm)
Hydstra Perl By Peter Hewesdon (Oct 17th 2013, 5:11pm)	5/5	4	62	By Peter Hewesdon (Nov 13th 2013, 10:12am)
Hydstra Administration By Peter Hewesdon (Nov 1st 2013, 1:20pm)	5/5	2	27	By Peter Hewesdon (Nov 5th 2013, 1:41pm)
Instruments By Peter Hewesdon (Oct 24th 2013, 10:12am)	5/5	2	38	By Peter Hewesdon (Oct 28th 2013, 10:28am)
Hydstra V1.0 By Peter Hewesdon (Oct 17th 2013, 5:11pm)	5/5	0	25	No reply

Kisters and Standards

As usual Kisters has been busy in the standards world. Bill Steen visited Palmerston North, New Zealand recently where he took part in a one day workshop on data interchange in New Zealand.

Peter Heweston has been participating in an interoperability experiment with the Bureau of Meteorology and CSIRO which is looking at the exchange of ratings, gaugings and sections in WaterML2. The work is a joint development with Water Information Research and Development Alliance ([WIRADA](#)) and the Open Geospatial Consortium ([OGC](#)) [Hydrology Domain Working Group](#). More will be announced when there is something concrete to show.

In another guise Peter Heweston recently attended Meeting 5 of the Water Information Standards Business Forum hosted by the Bureau of Meteorology. Amongst the many topics discussed was the proposed path for WDTF over the next year or so.

We have been pushing on with an experimental REST interface for Hydstra, and in conjunction with our evolving Standard Hydstra specification we hope that users will be able to publish data from Hydstra in a uniform way with meaning as well as formats standardised.

Both WISKI and Hydstra link to KiWIS, which publishes a number of international standard formats including WaterML2.

Kisters Germany has been involved in developing the SOS 2.0 Profile for the Hydrology Domain Version 1.1. Kisters and 52 North have been cooperating as part of the [GEOWOW](#) project. The project is addressing technical vs. semantic interoperability - the problems of transferring meaning rather than simply data.

KISTERS Australia Website

By Denby Angus

The Kisters Australia website at <http://kisters.com.au> has recently acquired lots of new content including:

Web Publishing

We have compiled a comprehensive collection of links to sites that use Hydstra\WEB, WISKIWEB or custom solutions publishing Hydstra or WISKI data at <http://kisters.com.au/webpublishing.html>

Please inform us of any relevant websites you would like added to the list.

Support

The page at <http://kisters.com.au/support.html> is your central point for links to:

- Software downloads
- Phone and Email Support
- Forum
- Newsletters
- User Groups

Software Downloads

This page gives you access to previous and current Hydstra releases at <http://kisters.com.au/downloads.html>.

To download the files you will need a username/password which is supplied by KISTERS support when you provide a copy of your HYACCESS licence file.

The Forum

Our new forum is a meeting place for sharing and discussing Hydstra and WISKI software. Visit <http://forum.kisters.com.au/> to view and contribute to the forum. You must register first, and the administrator will manually confirm your membership. The forum is NOT for support: please contact us by phone (02 61545200) or email (support@kisters.com.au) for all your support requirements.

Newsletters

You can view the latest newsletter at http://kisters.com.au/nl/NL_latest.pdf. We also provide access to previous newsletters at <http://kisters.com.au/newsletters.html>

User Groups

Australian User Group meeting presentations are available at http://kisters.com.au/user_groups_austr.html, while USA User Group presentations are available at http://kisters.com.au/user_groups_usa.html.

To download the PowerPoint or Camtasia files you will need a username/password which is supplied by KISTERS support when you provide a copy of your HYACCESS licence file.

New Hydstra/WEB features

By Denby Angus

We continue to add new features to the Hydstra web portal under projects for Hydstra clients including: New South Wales Department of Primary Industries, Office of Water (NOW) - <http://realtime.data.water.nsw.gov.au/water.stm>

Northern Territory Department of Land Resource Management (DLRM) - <http://www.lrm.nt.gov.au/water/water-data-portal>

Victorian Department of Environment and Primary Industries (DEPI) - <http://data.water.vic.gov.au/monitoring.htm>

Data Download Interface

In addition to existing data access and download facilities, we have added a new multiple site data download interface.

The current working example can be found at the DEPI portal. This is demonstrated by clicking the 'download sites' link under the Surface Water or Groundwater categories in the left hand side menu frame. This interface offers site selection via a site list upload file or spatial selection from the map by radius or rectangle. The configuration of data offerings and delivery has been custom built for DEPI and a development framework exists to enable us to deliver a bespoke data download package for other Hydstra clients if required.

Download Groundwater sites ⓘ

Create a list of sites

- ☐ Upload site list No file selected. ⓘ
- ☒ Select by radius from map **32**
- ☐ Select by rectangle from map

Data to be downloaded

What type of data do you want to download?

- ☒ Site Details
- ☒ Water Level data
- ☐ Water Quality data
- ☐ Additional site data (construction, lithology and pump test)

Do you want all available data or a particular period?

Email address

Enter email address to send data

ⓘ

close

☐ navigate ☐ by rectangle ☒ by radius

Legend:

- Active SOBN
- Inactive SOBN
- Licensed
- Domestic and Stock
- Monitoring and Observation
- Dewatering
- Other

Map data ©2013 Google | Terms of Use | Report a map error

Scale = 1 : 3M 145.651, -35.369 377453, 6085200, 55 145.629, -35.306 n42.076m

OpenLayers / Mapserver

To enable map navigation (and site selection) for portals with tens or hundreds of thousands of sites, we have developed OpenLayers (OL) mapping pages utilising Mapserver.

These mapping pages are far more scalable than the Google Maps API pages (which we will continue to support but not develop further). The OL maps will become the default mapping solution for the Hydstra web portal.

The DEPI portal is the first to use OL maps. The requirement to display over 220,000 sites was beyond the capabilities of Google Maps.

Sites overlays are generated on demand by the Mapserver open source application running on the web

Grouped Custom Outputs variables

The Custom Outputs page can now display variables in configured groups (optionally using different datasources). The DEPI portal demonstrates this new feature:

Rivers and Streams > Surface Water Sites > 223-Tambo Basin

223212 TIMBARRA RIVER @ D/S OF WILKINSON CREEK

Details Reports **Data**

Field Time Series Data

- ☒ Stream Water Level (m) Available for release 06/05/1982 to 10/10/2013
- ☐ Stream Discharge (ML/d) Available for release 06/05/1982 to 10/10/2013

Spot Field Data

- ☒ Acidity/Alkalinity (pH) 10/01/1990 to 21/10/1998 (106 readings)
- ☐ Dissolved Oxygen (ppm) 10/01/1990 to 21/10/1998 (106 readings)
- ☐ Water Temperature (°C) 10/01/1990 to 21/10/1998 (106 readings)
- ☐ Turbidity (NTU) 10/01/1990 to 21/10/1998 (106 readings)
- ☐ Conductivity (µS/cm) 10/01/1990 to 21/10/1998 (106 readings)

Laboratory Data

- ☐ Colour (True Filtered) (PCU) 21/08/1990 to 09/09/1998 (98 readings)
- ☒ Total Suspended Solids (mg/l) 21/08/1990 to 09/09/1998 (97 readings)
- ☒ Nitrate + nitrite as N - total (mg/l) 21/08/1990 to 09/09/1998 (98 readings)
- ☐ Kjeldahl Nitrogen (mg/l) 21/08/1990 to 09/09/1998 (98 readings)
- ☐ Total Phosphorus as P (mg/l) 21/08/1990 to 09/09/1998 (98 readings)
- ☐ Filtered Reactive Phosphorus (mg/l) 21/08/1990 to 09/09/1998 (97 readings)

Hydstra Product News

Hydstra V11 Release Schedule

We are coming towards the end of the Hydstra V11 development cycle and we are thinking about starting the release process in the first or second quarter of next year. Before we lock the system down we want to give you all the opportunity to propose any new database fields and tables, so speak now or forever hold your peace.

There are a number of major new features in V11 that are worth noting, as well as a myriad of smaller changes.

- The most important innovation is a new data discovery wizard that will appear on any Parameter Screen program, and will allow even a naïve user to navigate their way through what data is available to them
- The HYDLOG logging framework has been significantly overhauled. All logging is sent to a central location in an easily parsed (but less easily read by humans) format. We provide a couple of datasources to show interesting information from the log files.
- We will be able to be more flexible within a version with respect to table changes. We will be able to add new tables to the system without updating the version, and we will be able to make minor changes in length and type to existing fields if necessary. Unfortunately we won't be able to add new fields within a version of Hydstra.
- SVRMON has been enhanced to monitor both SVRIMP and SVRRUN from another machine. This

simplifies starting the SVR programs from a Windows Service and makes the whole process more robust.

- HYRATED and HYRATSHF have been significantly enhanced to interoperate better, and many new features have been added following user suggestions. An improved gauging selector has been implemented in both programs, and more flexible colour controls offered.
- We have introduced WIP styles, so you can for example use one set of fonts, spacings and background colours for internal publishing, and another for web content.
- Multi-screen support for HYPLORE and HYVIEW

If anyone is interested in obtaining a pre-release beta version of Hydstra V11 please contact us and we will arrange to give you access - on the strict understanding that you mustn't use it in production yet, and that non-upgradeable changes may yet occur.

Proposed Program Deletions in Hydstra V11

Does anyone still use any of the following programs? As part of our regular clean-up for a new version we would like to remove them if they are obsolete.

HYDTPRE.EXE	Prepro for DataTaker data
HYM2000.EXE	Unload and Process Mace 2000 Loggers
HYMIN.EXE	Unload and Process a Mindata 3500 Logger
HYRRDPRE.EXE	Prepro for RRDL data
HYSIGMA.EXE	Workbench app, Import SigmaData logger data
NZGAGALL.BAT	Convert all gauging data from Tideda to Text
NZRATALL.BAT	Convert all ratings in a Tideda file to text
NZTSALL.BAT	Convert all TS data in a Tideda file to Hydstra
NZGAG.BAT	Convert one station from Tideda data file to LIST format
NZRAT.BAT	Convert one station's ratings to list format
NZTS.BAT	Convert one station from Tideda data file to LIST format
NZTAUPO.EXE	Convert Taupo logger data to Hydstra

Please let us know soon if you use these programs. If we remove all specific Mace and Mindata specific programs we will delete their associated database tables as well:

MACECHAN.DBF
MACEGAUG.DBF
MACEREG.DBF
MINLOG.DBF
MINVAR.DBF

Actual Program Deletions in Hydstra V11

We have already removed the following obsolete programs:

HYBOMEXP	Export to BOM in legacy Hydstra XML format
HYCHECK	Plot Logger Traces for Month
HYCHECKL	Plot LOGPOL database Check Plots
HYLOGPLO	Plot LOGPOL Database
HYMODEL	Produce Data for BOUGHTON or HYDROLOG Modelling Programs
HYDBBAT	Generate a Batch File from a Database Table
HYDBTOHY	Generate a Hydstra data file from a dBase III+ Database
HYMACEMC	Process MACE Monkey Creek Logger Data
HYMACE	Read a MACE Data Logger File
HYMETCLI	Create a Hydstra file from Met Bureau Climate Data File
HYMETDAY	Create a Hydstra file from Met Bureau Climate Daily File
HYMETPLU	Create a Hydstra file from Met Bureau Climate Pluvio File
HYPROADS	Process ADS Data to Hydstra File
HYDMPADS	Dump ADS Data to Text File
HYPROWES	Process WESDATA Logger File
HYRRDUNL	Unload a Hydrological Services RRDL-3 Data Logger
HYRRDPOR	Unload a Hydrological Services RRDL3 to Time Series File
HYSERMAC	Service a HYDRO-MACE TRS Logger
HYWINPIC	We use the default picture viewer that comes with Windows)
HYWINVID	We use the default video driver that come with Windows
NZTIDTS	Import TIDEDA Time-Series Data
NZTIDRAT	Import TIDEDA Ratings
NZTIDGAG	Convert TIDEDA Gaugings to Hydstra

HYDLLP Enhancements

Since the release of Hydstra 10.04 there have been numerous additional JSON calls added to HYDLLP. The new features are all documented in the Help file, particularly if you download the latest patch.

get_decoded_value retrieves a field's decoded value if one exists for the provided value. This is handy for looking up codes, for example.

get_effective_rating creates a table that as accurately as possible represents the requested rating table at a given point in time. The table is enumerated at a fine interval so you don't need to worry about P25 or

LOG interpolation, and it is interpolated in time so it accounts for phased changes between tables.
get_site_geojson returns GeoJSON formatted field data from the SITE table for the provided site list.
get_std_site_geojson provides the same function as *get_site_geojson* but does it through the Standard Hydstra interface.
get_subvar_details retrieves the functional and descriptive details of a variable and subvar.
hyfiler_command gives you convenient access to the HYFILER program through the HYDLLP interface.
write_ts_traces provides a way to write modest amounts of time-series data directly through the HYDLLP interface. Large quantities of data should still be handled with HYCREATE.

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. Please include your HYACCESS.INI in your request email.

If you are planning to migrate your instruments system to 10.04 you should pick up a system dated after 1 Mar 2013 as the instrument migration scripts have had some serious work done on them recently. It is worth noting that all web programs are excluded from the patch set, so you can safely patch a system without disturbing your Hydstra/WEB site.

Hydstra 10.04 Current Release

Hydstra 10.04 was released on August 16, 2012 and now in production in most agencies. The main areas of change are a SQL Server version (at a cost), the instruments system and the groundwater system, but there are hundreds of enhancements and features that should make 10.04 attractive to everyone.

We strongly recommend that you copy your production system to a test location, get it running there, and then do a trial upgrade. Only when you are happy that your local extensions and enhancements are working fine should you go ahead with a production system upgrade.

If you work closely with other agencies and trade Hydstra data with them you should liaise with them before upgrading. Time-series files have not change between 10.03 and 10.04, but every database table has changed because they now carry additional auditing fields (DATECREATE, TIMECREATE, USERCREATE).

It is possible with care to downgrade most tables from 10.04 back to 10.03 using HYDBUTIL UPGRADE, but if you use instruments or groundwater there have been enough changes that HYDBUTIL UPGRADE cannot do the job.

If you use Hydstra/WEB you will need to liaise with Denby Angus about your 10.04 upgrade as he will need to be involved.

Hydstra V9 Unsupported Soon

If you are still running Hydstra Version 9 please redouble your efforts to upgrade to V10.04, as V9 will become unsupported when V11 is released. It is worth noting that Hydstra V9 will not run under Windows 7 or Windows 8, nor will it run on 64 bit Windows.

Mail Your Outputs with Mailto

In recent patches of V10.04 we provide a handy Perl script *mailto.pl* which allows you to email any program output directly from the parameter screen. You need to have access to an SMTP gateway, and configure in it HYMAILER.INI, then you can use *mailto.pl*:

When running from a text producing program like HYDAY the command line would be something like:

```
hyday hydsys01 a 100.00 140.00 1 1980 1980 end 2400 "mailto.pl(S,peter.heweston@kisters.com.au,Output from HYDAY)"
```

If the topic has any special characters in it, including commas, surround the subject with *single* quotes:

```
hyday hydsys01 a 100.00 140.00 1 1980 1980 end 2400 "mailto.pl(S,peter.heweston@kisters.com.au,'Output from HYDAY, as at 01/12/2001')"
```

If you want to send to multiple addresses, quote them with single quotes and join with commas:

```
'you@youraddress.com,me@myaddress.com'
```

You can of course use all the addressing forms provided by HYMAILER - see the documentation of HYMAILER.HSC for details.

Hydstra and Pi Interoperability

A number of agencies use Pi from OSIsoft as a repository for SCADA and operational data. Over the years we have developed a number of ways of interacting between Hydstra and Pi. Although the links tend to be organisation-specific, it is worth enumerating the different ways in which Hydstra and Pi can interact:

1. Hydstra can import data from Pi using the Pi ODBC driver. We use an Excel spreadsheet to configure the relationship between Pi tags and Hydstra site, variable and datatrans, and make calls to the Pi ODBC driver to retrieve the data. There are some limitations in the amount of data the Pi ODBC driver can retrieve in one call, so the interface design needs a little care.
2. We could develop a Pi datasource for Hydstra, though the limitations on Pi retrievals make it messy.
3. Pi can read Hydstra data using the Hydstra/ODBC. This allows Pi to import computed flows from Hydstra for example. This requires a very recently patched version of Hydstra, as we needed to implement some more features in our ODBC driver to support the way Pi makes ODBC calls.
4. One agency has developed a bespoke Pi import script to receive data from HYGENEXP on a regular basis, thus keeping Pi synchronised with Hydstra for sites where Hydstra was the primary source of the data.

None of these projects has been entirely standard, so some of the code has not been released as a part of Standard Hydstra, and it may require some consulting assistance to get a Pi - Hydstra link going, but please contact us if you are interested.

WISKI Product News

The main product news for WISKI, KiWQM and KiECO was presented at the yearly user group meeting in August this year in Canberra. The major focus was on new functionality and the new server architecture in Version 7.3. All presentations and videos from the user meeting can be downloaded from our website.

A key achievement from the user group meeting (suggested by users) was the establishment of a WISKI forum to allow to exchange ideas between clients and moderated by us. That forum is now live, and can be accessed at <http://forum.kisters.com.au> (see KISTERS Australia Forum). The KiScript Forum (<http://forum.kiscript.org>) launched after the KiScript workshops in Australia in 2012 in Canberra and at MHL is already well received and used by our users across the world.

The release updates of our WISKI/KiWQM clients are proceeding and by the end of 2013 the systems at DWR, SEQ Water, Waikato Regional Council and MHL will be running under 7.3. The migration of the BOM and Sun Water systems will take place before April 2014 using the 7.4 distribution. Regarding functionality, WISKI/KiWQM 7.3 and 7.4 are very similar. It is planned to have all systems updated to WISKI 7.4 in 2014.

The following pages will outline a few key enhancements available in WISKI/KiWQM V7.3 or 7.4.

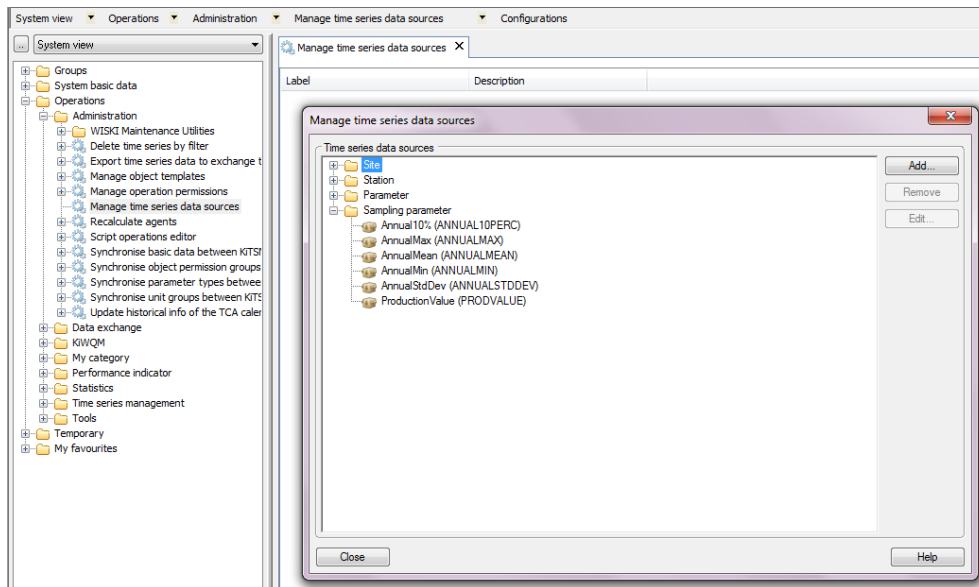
Time series representation via Data Sources

Traditionally WISKI uses a time series concept of calculation rules which are coded in WISKI7 in agents. The time series can have saved persistence in the database or stored as virtual time series that are calculated on the fly. In addition pre- and post-processing is possible using transformations.

With the creation of the data source concept, the time series model of WISKI has become more flexible, allowing any values with time stamps to be defined as a time series. This allows not only access to internal time series data, but also to integrate other internal and external data via a simple standardised interface. Time series data sources are configured with a time series data source name and configuration parameters that include paths to time series and parameters as well as short names of stations, parameter types, etc. Examples include: Hydstra time series data, water quality sampling results, dated station metadata. The data sources can be combined with transformations such as max, min, mean etc.

Data Sources for water quality sampling results

Data Sources provide an alternative option to creating KiTSM time series with the sample results agent.

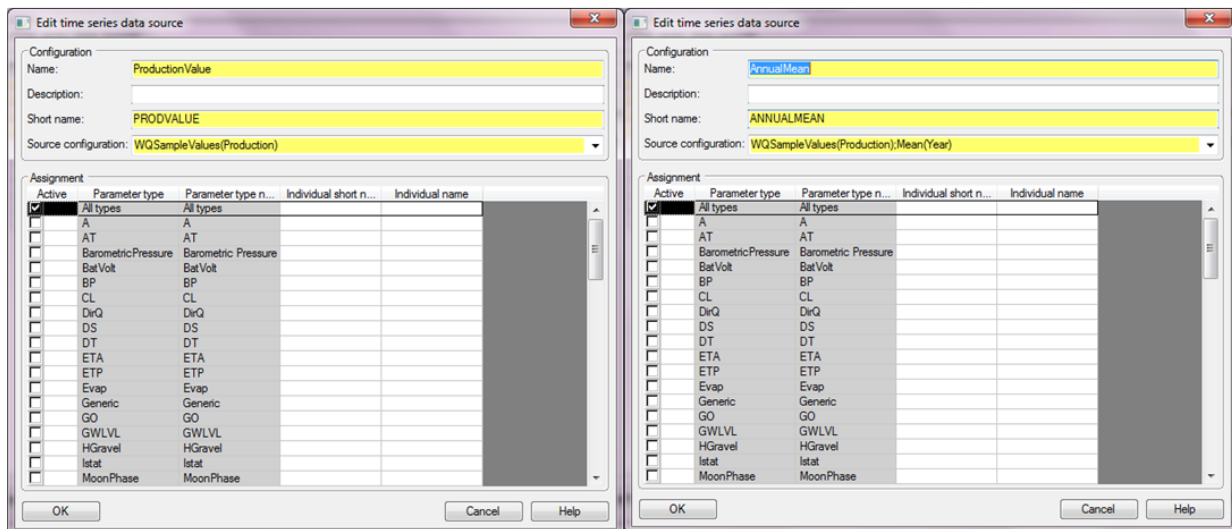


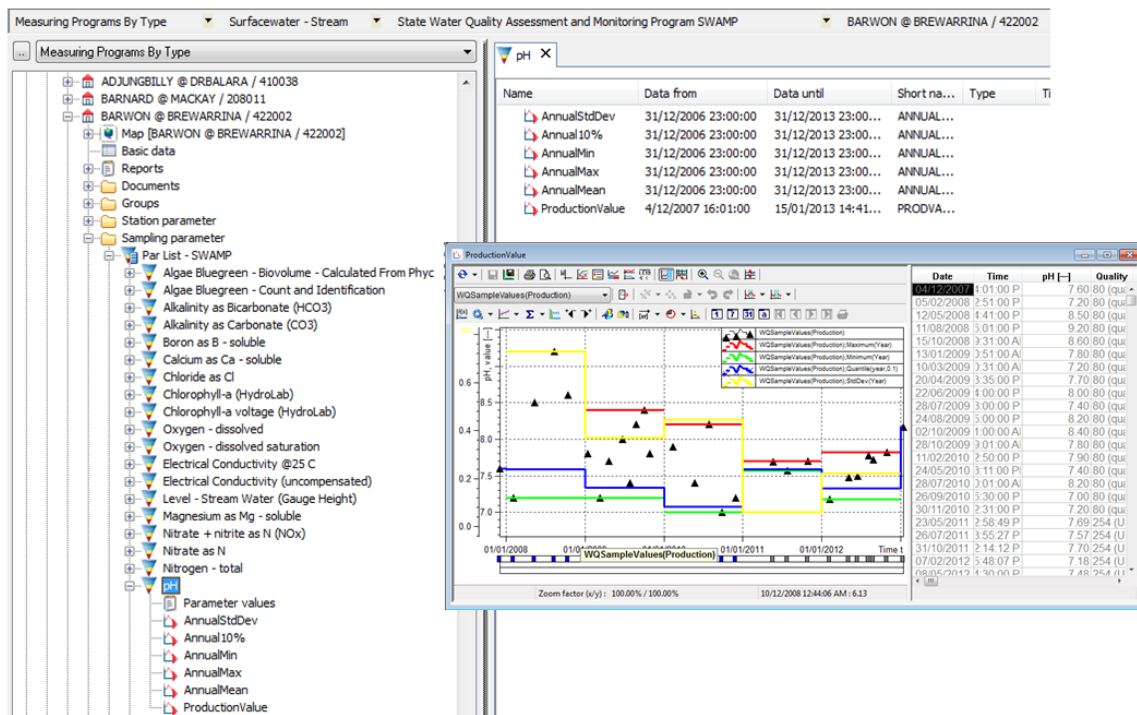
Configuration of a Water Quality Data Source :

WQSampleValues(all,[site/station short name],<parameter Type shortname>,<method shortname>,original|production)

Can be used in combination with transformations e.g.:

WQSampleValues(Production);Mean(year)





Data Sources for Hydstra time series

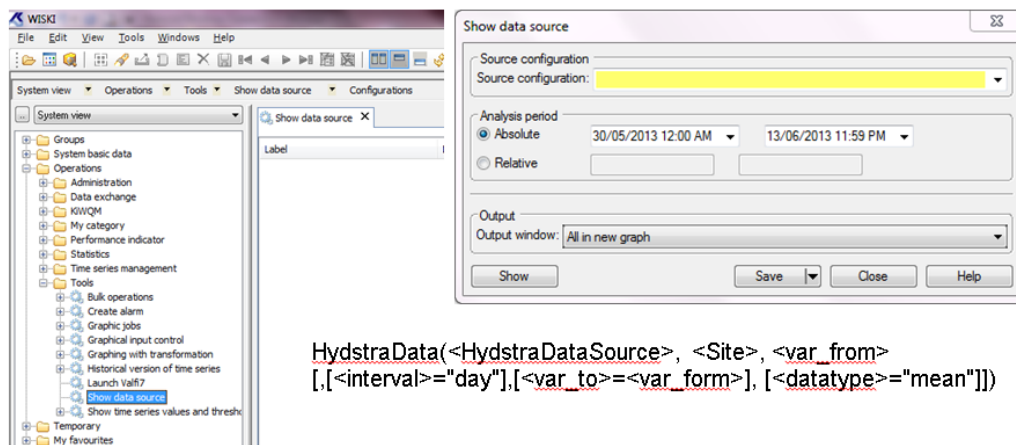
Create a file called `tsdatasource-hydstra.properties` with the following connection information:

```
user=<user>
pw=<password>
accesspath=<Hydstra access path>
configurationpath=<Hydstra configuration path>
```

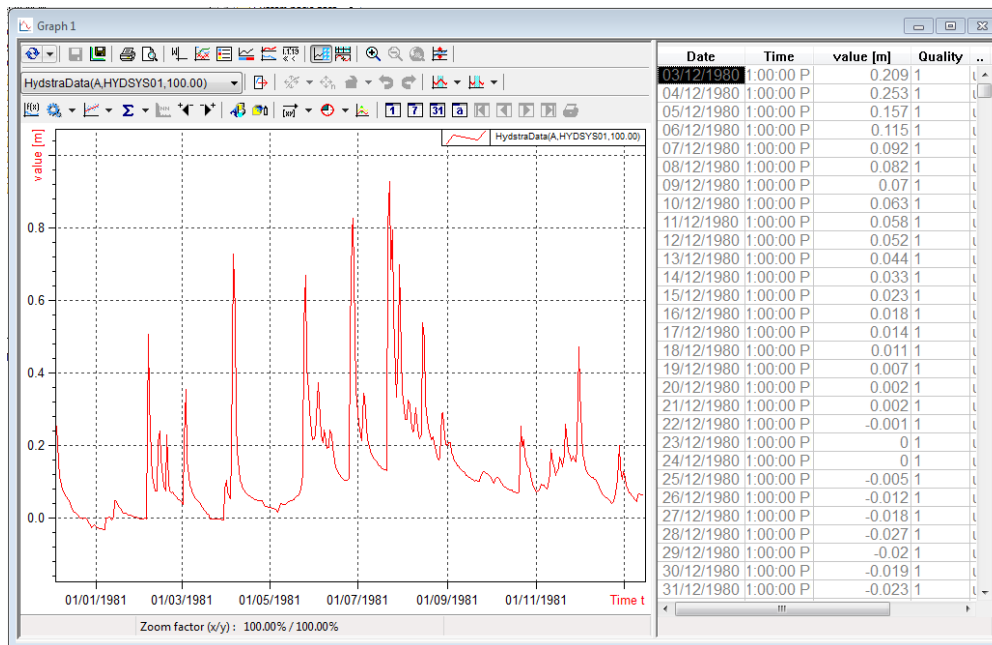
Place file in the `<jproc.config.dir>` directory

Add the location of the Hydstra run path to the system path on the client PC

Open the WISKI Client. Goto System View > Operations > Tools > Show Data Source

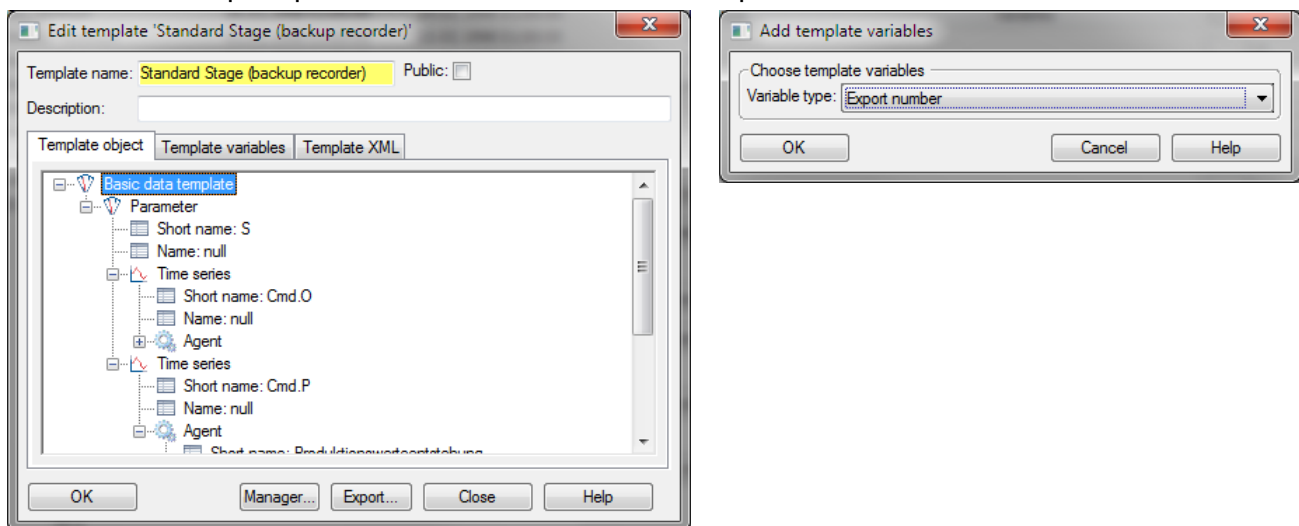


```
HydstraData(<HydstraDataSource>, <Site>, <var_from>
[,<interval>=<day>],[<var_to>=<var_form>], [<datatype>=<mean>]])
```

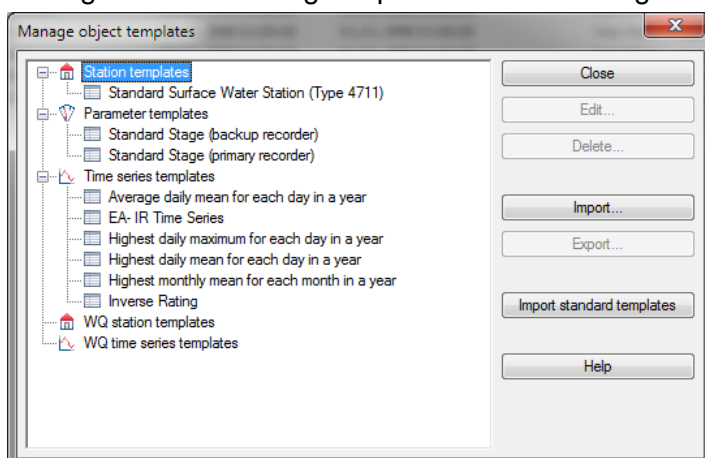


Station, Parameters and Time Series Templates

Existing Stations, Parameter and Time Series can now be saved as templates in the database. Variables can be set up for any part of the template that will change when being applied e.g. Export number. The user will then be prompted for these variables in the template wizard.



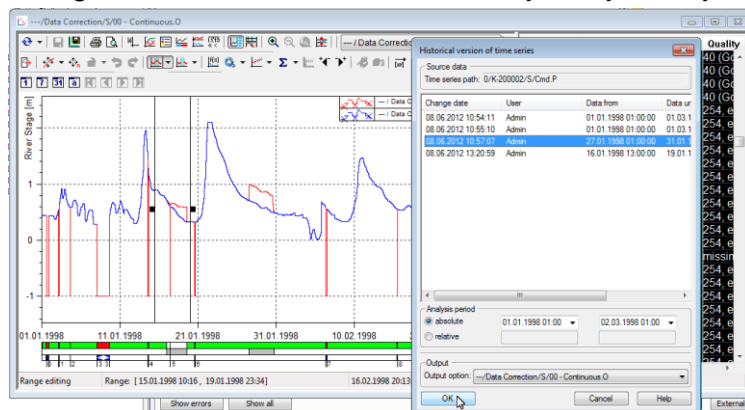
Management of existing templates is done through an intuitive user interface (shown below)



Time Series Versioning

It is now possible to store a history of changes to time series. This can be activated during creation of the time series by selecting Storage Configuration: Persistent – Database (Compressed with Data history). All

changes are then recorded automatically and you may search and browse for previous versions.



You may then plot and overlay different time series versions for comparison and check the state of data at any point in time.

New Features in KiWQM

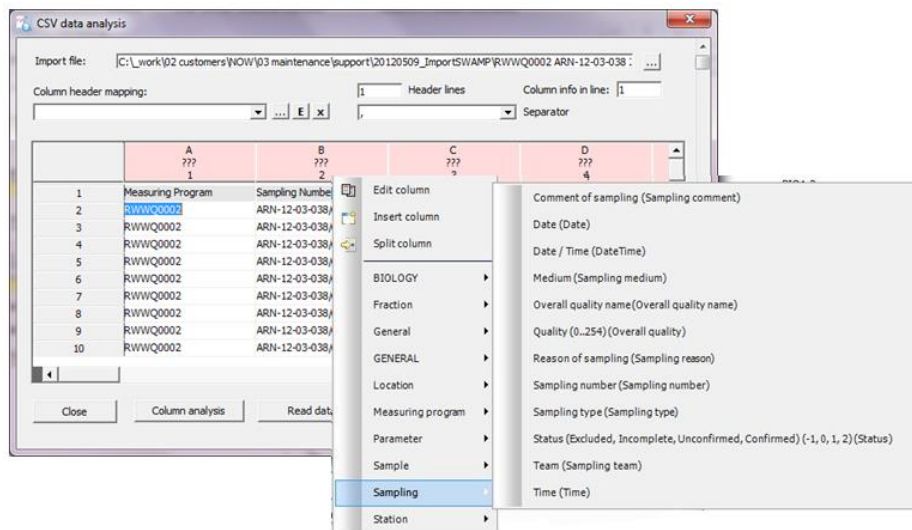
The take up of the Kisters Water Quality Module within Australian and overseas markets continued to gain momentum in 2013 which has in turn has driven the development of many new features. Along with the consolidation of the base features, the year has seen an emphasis on developing more targeted data importing, data review and validation, analysis and export tools. Some of these new features are outlined below.

CSV Importer

Existing csv import configurations can now be saved as a new configuration to save time when creating new configurations. The configurations can be saved within groups allowing for better organisation and management for larger organisations. Rows and individual cells can now be mapped as well as columns (see example below).

	A	B	C	D	E	F	G
1	Measuring Program	SWAMP					
2	Station Number	Date	Time	pH	EC25C	DO	
3				SCAL	MISC	MGL	
4				ARN	ARN	ARN	
5	210009	5/03/2012	7:00	6.7	198	9.99	
6	210001	5/03/2012	13:00	6.8	210	11.21	
7	208011	6/03/2012	7:00	6.9	255	13.46	
8	219025	6/03/2012	13:00	7.1	278	15.55	
9							

An improved wizard dialog allows grouped column identification for an easy mapping of csv file columns (see below).



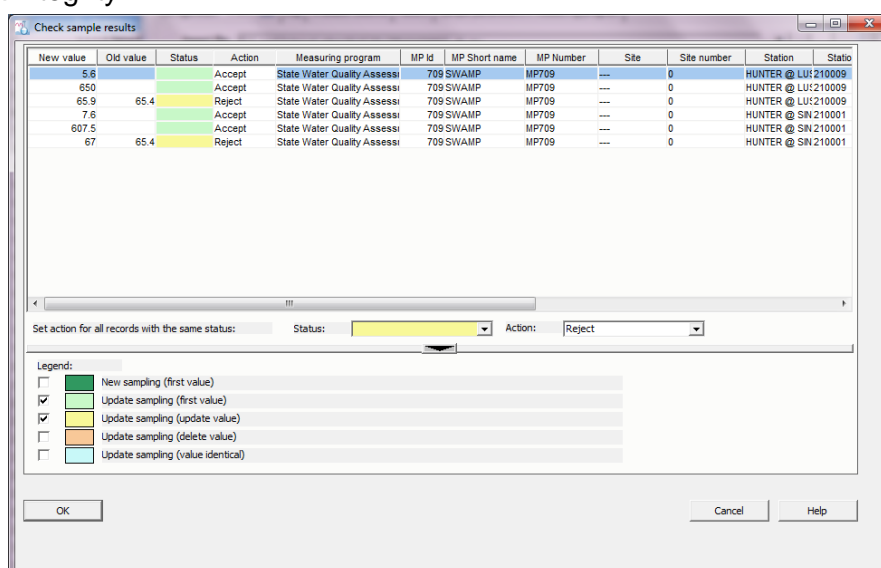
Also a simplified csv import option is available where a WQ import configuration can be set up and then certain users can be given access to that configuration only within a cut down import interface to reduce complexity. The simplified csv importer is available over an explorer view for an improved workflow and easy user access.

Extended Data Validation

In addition to the standard data validation of water quality data during csv import (e.g. correct data types, compulsory fields etc.) a new feature exists that gives a more detailed analysis of what the import will do – especially when updating existing data and what subsequent actions to take. The analysis will show whether importing the data would:

- Creating a new sample – with the first value of a result
- Updating a sample – with the first value of a result
- Updating a sample – updating the result
- Updating a sample – deleting a result
- Updating a sample – result identical

The feature then allows you to set a rule to either *accept* or *reject* the import of data dependent on each of these scenarios. In addition each individual record can be accepted or rejected. This gives better data protection and data integrity.

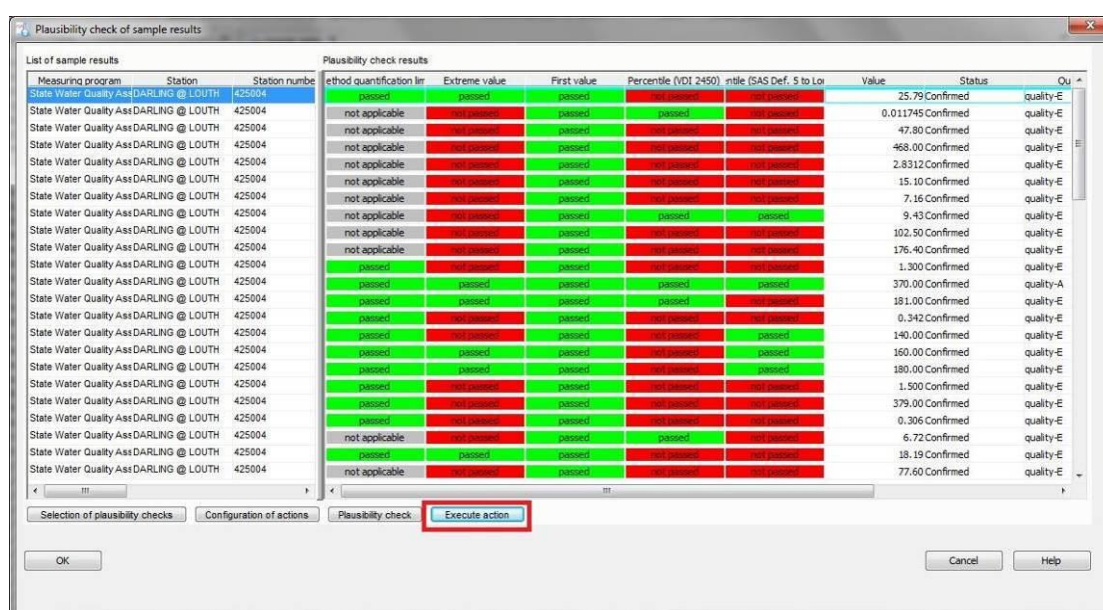


Plausibility Checks

These data validation checks are designed to form part of an organisation's quality assurance and quality control process. They allow the user to select from a variety of data analysis procedures, which can be configured within the system settings, to assist with making assessments as to the veracity of any given set of WQ data. Available plausibility checks include:

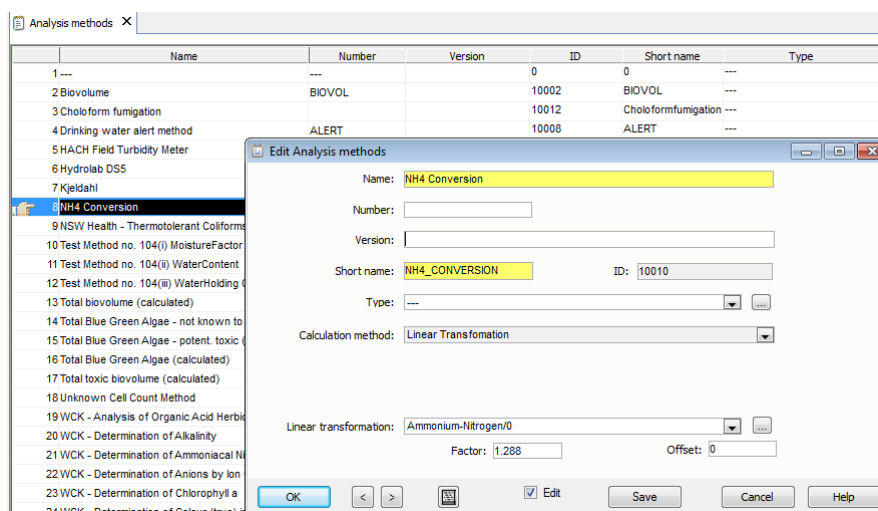
- **Extreme Value** – check if the sample result is between the maximum and minimum values that were recorded within a specified time range for that parameter
- **First Value** – check if the sample result is the first record value for that parameter
- **Method Quantification Limits** – check if the sample result is higher or lower than the analysis method's quantification limits
- **Percentiles (VDI, Excel, Hazen etc)** – check if the sample result is between the minimum and the maximum percentile, using the defined system settings
- **Comparison List** – checks if the sample result is within a given comparison list

Based on the results of these analyses, actions can be defined such as setting quality codes or comments on the data.



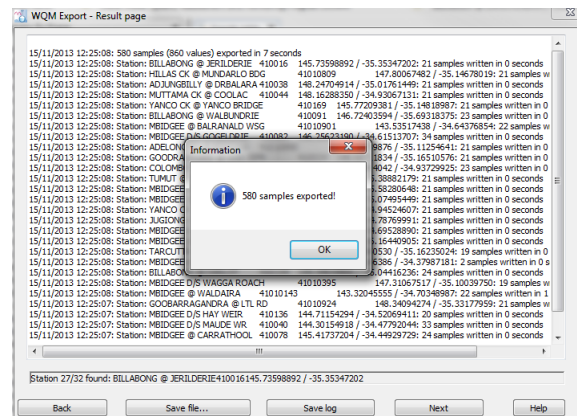
Calculation Methods

It is now possible for the analysis method of a parameter to be set to a linear transformation from a source parameter with a factor and an offset. Examples include – nitrogen conversion, conductivity conversion, dissolved oxygen saturation etc.



Raw Data Export

A new export has been introduced to provide another quick and easy method to export water quality results in csv or txt format using a wizard interface. Access this export via the File > Export > WQM menu and uses a number of simple pick boxes and the standard WQM filter.



Optimisation and Efficiency for Water and Mining

By Massimo Antinarelli

The Kisters solution offering has always been focussed on powerful water and energy management solutions. During 2013 the Kisters platform has proven its interoperability with a variety of successful worldwide implementations dealing with the integration of cross-linked water and energy systems. We have selected three project highlights with different application environment, worldwide locations and business objectives:

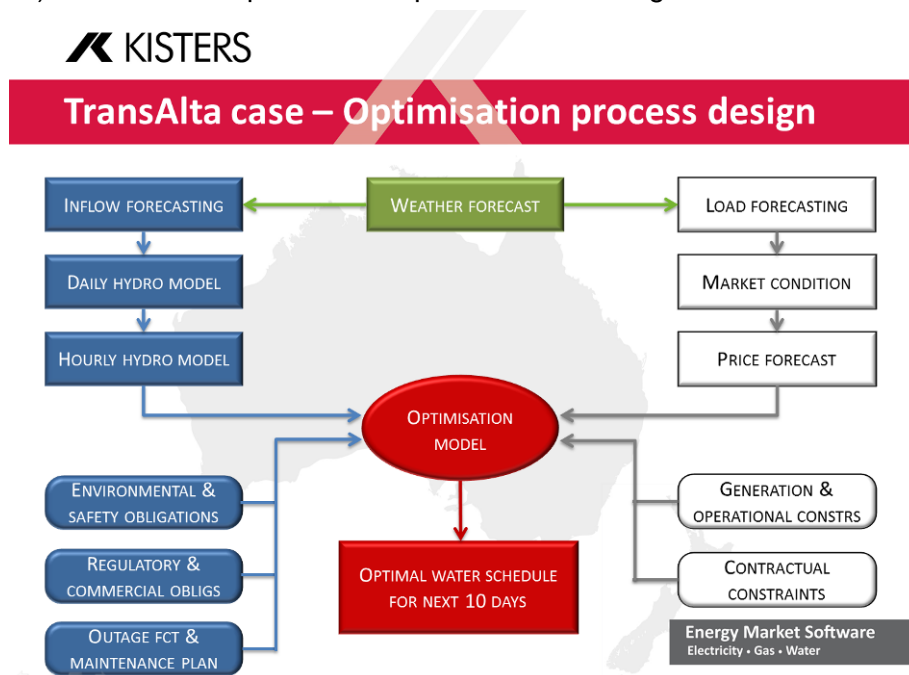
VALE (Brazil)

Vale, the second-largest mining company in the world, has chosen the Kisters' ResOpt solution for the optimal planning of the water cycle management in 13 mining sites. The primary objective of this project is the combination of the technical, environmental and regulatory constraints whilst providing the most cost-effective water planning in a complex environment. The modelling encompassed the best water flow scheduling for dams, pumps, complex demands, factories, sumps, water treatments, rivers, reservoirs, hydrants, water trucks and industrial and human consumption. The solution has been integrated with a GIS for internal and public visualization.



TransAlta (Canada)

TransAlta is the largest power generator in Alberta with over 8,000 MW of net capacity. The primary objective of this project is profit maximisation for 800 MW of hydropower capacity consisting of two water systems with a total 11 storage and run-of-river power units. The main challenge was combining the water environmental constraints, electricity market complexity, and energy demand with flood management. The project has been successfully completed and won an award at the HydroVision International conference (Nashville, July 2013). The business process is represented in the figure.



Ayesa (Spain)

Ayesa is a global consultancy company implementing management system worldwide with its 2,800 employees workforce. The project objective is the delivery of a decision support system for the water supply systems of the Commonwealth of Taibilla Channels (MCT) in south east Spain. The water systems encompasses the water-flow planning for 3 main channels, 3 desalination plants, 1 water treatment plant, 16 pumping stations, 39 water storages and 16 regulation gauges. The main challenge was modelling of delay time among system components and of pressure levels in pipes and storages.

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.

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>

WMO Publications Online

The World Meteorological Organisation (WMO) publishes a valuable library of free publications relating to data collection standards. You can see the collection at:

http://library.wmo.int/opac/index.php?lvl=etagere_see&id=39 .

Of particular relevance to the water industry are:

[Guide to Hydrological Practices, Volume I : Hydrology – From Measurement to Hydrological Information](#)

[Guide to Hydrological Practices, Volume II : Management of Water Resources and Applications of Hydrological Practices](#)

[Guidelines for the education and training of personnel in meteorology and operational hydrology - Vol.1 Meteorology](#)

[Guidelines for the education and training of personnel in meteorology and operational hydrology - Volume II: Hydrology](#)

[Manual on Stream Gauging, Vol. I: Fieldwork](#)

[Manual on Stream Gauging, Vol. II: Computation of discharge](#)

[Manual on estimation of Probable Maximum Precipitation \(PMP\)](#)

Load them up on your Kindle or iPad and you'll have reading for a month!

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
- Advanced Hydstra
- Administering Hydstra
- Administering Hydstra/WEB
- Hydstra Modelling with MODSYN
- Hydstra/SVR Server
- Ratings and Gaugings
- HYWDTF_OUT
- Using Perl with Hydstra

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.

Staff News

PRINCE2 Project Management

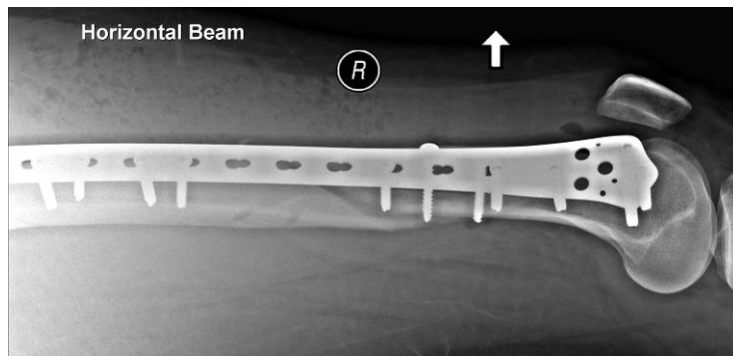
Damian Skinner recently completed a week of training in the PRINCE2 project management methodology. He is now a Registered PRINCE2 Practitioner, which sounds very impressive! His opinion of the course is that it was worthwhile in terms of understanding how major agencies manage large projects, but possibly a tad overblown for many of the smaller projects we are often involved with.



Damian Skinner

Hockey Misfortune

No, not the Treasurer, but Vicky Isaac from our Hobart office had the misfortune to damage her leg badly in a hockey accident, resulting in a very nasty fracture which has had her laid up at home for months, with some months on crutches still to go. We wish her a full recovery - eventually!



Vicky Isaac

Work Experience Students from Germany

We recently hosted two work experience students from Germany for a few weeks in November and December. Danilo Rahe and Malte Visse have completed their high school education and are spending a year travelling in Australia before knuckling down to further study. While they were with us they carried out such useful tasks as data cleansing with Excel, and office cleansing with plastic bags. The boys were excellent and enthusiastic workers, and we wish them well for the rest of their travels in Australia and their subsequent careers.



Malte Visse



Danilo Rahe

Kisters Staff Christmas Party

On Dec 12 we gathered at the German Club (how appropriate) for a festive meal that included pork knuckles and plenty of fine German beer. The usual array of tasteful presents (limit \$5) provided much merriment after dinner.



Santa Bruce



Going in for the kill



Who stole the cookies?



Rudolph and friend

Information

This newsletter is published by KISTERS Pty Ltd and edited by Peter Heweston. It is distributed using MailChimp (www.mailchimp.com)

Homepage: <http://www.kisters.com.au>

All personal KISTERS Pty Ltd email addresses in Australia are of the form *firstname.lastname@kisters.com.au*, but all general support and accounting emails should be addressed to support@kisters.com.au.

Canberra

Unit 4A, 24 Mahony Court
Weston ACT 2611
PO Box 3476
Weston Creek ACT 2611, Australia
Phone +61 2 6154-5200, Fax +61 2 6288 9061,
Email support@kisters.com.au

Hobart

Level 4, 2 Kirksway Place,
Battery Point, Tas 7004
GPO Box 1390
Hobart, Tas. 7001
Phone +61 3 6224 8252, Fax +61 3 6224 8414

Sacramento

7777 Greenback Lane, suite 209
Citrus Heights, CA 95610
Phone +1 916 723 1441, Fax: +1 916 723 1626

Aachen

Charlottenburger Allee 5
52068 Aachen, Nordrhein-Westfalen, Germany
Phone +49 241 9671-0, Fax +49 241 9671-555

France

RHEA SAS
Green Park
11, rue du Vieux Pont
92000 Nanterre, France
Phone +33 1 30 71 62 54

Italy

Temistocle Li Vigni, General Manager
GEOSPHERA Hi-Tech Supplies
85 Via Panoramica
Ercolano (NA) 80056 - ITALY
<http://www.geosphaera.com>
Phone +39 081 777 9541,
Fax +39 081 739 2596
Mobile +39 335 601 3998

Spain

C / Gabilondo Nº15 Principal
E-47007 Valladolid, Spain
Phone +34 983-228134, Fax +34 983-276876

Shanghai

KISTERS Shanghai Software Development Co., Ltd.
Pudong nan Road 1271
6. Level. Office Nr: 606
200122 Shanghai
China

iQuest (NZ) Ltd

PO Box 15 169
Dinsdale
Hamilton 3243 New Zealand
Core Facilities Building
Waikato Innovation Park
Ruakura Lane
Hamilton 3214 New Zealand
Phone +64 7 857 0812 (DDI), Fax +64 7 857 0811,
Mobile +64 21 489 617