KISTERS Australia News

December 2014

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From The GM's Desk

By Bill Steen, General Manager, KISTERS Pty Ltd

Another year has flown past in the blink of an eye and what a busy year it was and still is!

Besides the annual KISTERS North America and Australian user group meeting we also participated in the Australian Hydrographers Association conference, which was a huge success. It was interesting hearing the challenges that the industry is facing, both financially and technically.

I personally found the paper on coal seam gas mining interesting. It exposed some of the myths and technical dilemmas facing government and the private sector in the way they need to monitor and report on groundwater monitoring.

On the KISTERS front we received a lot of valuable feedback on the use of various third party products, such as Canvas, to capture data and feed into KISTERS products. Also the KISTERS Water Quality Module, KiWQM, also gained a lot of interest and traction, not only in Australia but globally.

Hand in hand with the KISTERS water resources management portfolio, we are pleased to announce that KISTERS Pty Ltd have been successful on several energy tenders with KISTERS Energy Market Systems. These include the utilisation of KISTERS optimisation tools, ResOpt, which is now being used across water resources and energy clients.

Over the Christmas/New Year period many KISTERS staff will be on leave. We suggest you don't plan for any major KISTERS related activities over this period as we may not be able to adequately support you. Most staff will be back by the third week of January, but then many of us head off on our annual pilgrimage to Aachen in early February for a week or two.

On behalf of everyone in KISTERS we wish you and your families a wonderful Christmas and a safe and happy New Year

Bill Steen
General Manager
KISTERS Pty Ltd

KISTERS User Group Meetings

In September we concluded a round of KISTERS User Group meetings in the USA and Australia. The USA meeting was held in San Diego, and the Australian one in Sydney at Olympic Park Homebush in conjunction with the Australian Hydrographers Association meeting. Thanks to all participants for their time and effort in contributing to the meetings.

Most of the Australian meeting was recorded using Camtasia, and the videos and presentations are available online for KISTERS clients. Powerpoints are available for the US meeting. Please contact support@hydstra.com for details of how to download and view them.

The meeting agendas were as follows:

San Diego Day 1 (Combined Wiski/Hydstra)	
KISTERS Update	Klaus KISTERS
Hydstra Review & News	William Steen
WISKI Review & News	Stan Malinky
National Flood Interoperability Experiment	David Maidment
Canvas and Offline Data Entry	Dylan Evans
Precision Weather Solutions	Guy Ash
Update on OGC ratings curve work	Peter Heweston
Computer Industry Trends	Peter Heweston
KiWQM Water Quality Module	Matt Ables, Peter Heweston
Airborne Snow Observatory: Year 2 Results, Modeling Challenges, and Future Plans	Brian McGurk
Dust on Snow Effects on Runoff Timing: Colorado Case Study	Brian McGurk

San Diego Day 2 (Hydstra Stream)	
What's New in Hydstra v11	Peter Heweston
PG&E Update	Matt McPheeters
Instruments in Hydstra	Peter Heweston & Dylan Evans
A Look into the Hydrology System of Ventura	Ron Marotto
Hydstra on the Web	Peter Heweston
Using Hydstra JSON	Greg Smith

San Diego Day 2 (WISKI Stream)	
WISKI Time Zones	Mark McKinnon
Snow Data Management in WISKI	Mark Helsten
Alberta Update	David Watson
Visualization of San Joaquin River salinity loading	Nigel Quinn

for TMDL compliance using WISKI-Web Pro	
Campbell Scientific	Victoria Meszaros
Eastern Ontario CA Hub Update	Lynette Lambert
Mobile Canal Control	Noah Walker
WISKI Web & REST API	Brandon Azvedo

Sydney (Hydstra Stream)	
Introduction	Bill Steen - KISTERS
What's New in Hydstra 11	Peter Heweston - KISTERS
Where to in V12	Peter Heweston - KISTERS
Update on OGC Ratings Experiment	Peter Heweston - KISTERS
NSW Office of Water Data Dissemination	John Hayes - NSW Office of Water
Using Canvas with Hydstra Instruments	Peter Heweston - KISTERS
Computer Industry Trends	Peter Heweston - KISTERS
SQL Server Implementation of Hydstra	Aidan Smith - NTP
WDTF Is My Data	Peter Heweston - KISTERS
Hydstra on the Web	Peter Heweston - KISTERS

Sydney (WISKI Stream)	
What's New In WISKI 7.4	Chris Michl - KISTERS
Field Visits/Launchpad	Vicky Isaac - KISTERS
WISKI Administration	Chris Michl - KISTERS
WIRED - WISKI Interactive REport Designer	Vicky Isaac/ Chris Michl - KISTERS
WISKI Training & Support - open discussion	Vicky Isaac/ Chris Michl - KISTERS

Photos from the KISTERS User Group and AHA Meeting

Bill Steen at ANZ Stadium

Peter Heweston and Sholto Maud

Ron Marotto and Todd Lovell

Outside ANZ Stadium

Linton Johnston, David Malone, Ray Boyton

Michael Armstrong, Andy Kaar

Scott Butler and Liping Ma

General Session

Hydstra WDTF Transfers to BOM

Australian agencies are obliged under the Water Act to transfer their data to the BOM, and the preferred Hydstra program for doing this is HYWDTF_OUT.HSC. With the imminent roll-out of AWRIS2 at the BOM transfers using HYBOMEXP are difficult to process, and users are strongly encouraged to move to HYWDTF_OUT.

There have been many patches to HYWDTF_OUT over the years as both KISTERS and the BOM have gained experience with the WDTF standard. In order for you to be sending correct WDTF data to BOM you should be using HYWDTF_OUT version 43 or later. You can find out which version you are running in one of two ways - you can look at an XML file produced by HYWDTF_OUT, it will have encoded in it something like

```
<wdtf:generationSystem>
  Hydstra program HYWDTF_OUT version Version 43  17-Mar-14,15:16:20
</wdtf:generationSystem>
```

Alternatively you can look at the source code of HYWDTF_OUT.HSC in MISCPATH and toward the top you will see something like

```
#***keyword-flag***     "Version %v  %f"
my $hywdtf_out_version="Version 43  17-Mar-14,15:16:20";
```

The latest version of HYWDTF_OUT is version 43. Please ensure you are sending Version 43 data to BOM. If you are not, please upgrade your Hydstra system to Version 11.00 or at least a recently patched Version 10.04. If you are running Hydstra 10.03 you should upgrade as soon as possible to V11.00.

It is worth noting that HYBOMEXP has been withdrawn from Hydstra V11 except for the purposes of transferring flood information to BOM in HCS format. Please contact us if you need a copy for this purpose.

If you are having difficulty migrating from HYBOMEXP to HYWDTF_OUT please contact Todd Lovell at the BOM in the first instance, he may be able to provide some assistance.

Hydstra Product News

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 V10.04 Support

Hydstra Version 11.00 is the official release version of Hydstra, and is fully supported, with bugs fixed as soon as they are identified and weekly patches put to the KISTERS web site. We are continuing to support Version 10.04 on a best-efforts basis. Major 10.04 bugs with no workaround will be addressed if possible, but minor inconveniences, cosmetic problems, and problems with workarounds, will not in general be patched. Version 10.04 patches are put to the web only on an as-needed basis and not on a weekly schedule. Hydstra 10.03 is only supported for catastrophic bugs.

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.

HYPATCHUP after Patch Installation

After installing a patch from the web you should run HYPATCHUP.BAT to rebuild various system tables. This allows us to deliver new messages, code groups and other system data in a patch. The following tables are rebuilt from XML in DBIPATH after a patch:

```
CODEGRPS HYDMENU MAINMENU MASTDICT MASTDOC MESSAGES MNGMENU SYSCODES UNITCODE
```

HYPATCHUP is available in recent patches for 10.04 and 11.00, and the procedure for running it is documented in the Help file in recent patches.

Setting Temporary Paths in HYCONFIG.INI

We strongly recommend that you set temporary paths in HYCONFIG.INI using the [Path Prefixes] section and NOT explicitly in the [Temporary Paths] section.

To set the root of your temporary paths in HYCONFIG you should use something like:

```
[Path Prefixes]
\hyd\=h:\hydstra\prod
\temp\=c:
```

rather than the more verbose (and probably incomplete in your HYCONFIG):

```
[Path Prefixes]
\HYD\=h:\hydstra\prod
[Temporary Paths]
temppath=c:\temp\
junkpath=c:\temp\temp\
privpath=c:\temp\private\
prmpath=c:\temp\prm\
privslppath=c:\temp\privslp\
```

More than likely you haven't included PRIVSLPPATH, which was introduced in 10.04, and which will be pointing by default to c:\temp\privslp when maybe you didn't intend it to.

HYDBSQL Supports SQLite

We have enhanced HYDBSQL.HSC and HYDBSQL.PM to support the SQLite database. SQLite comes bundled with Perl, which makes it ideal for jobs which need the power of a database internally. You can see a rather complex example of SQLite in use in HYWDTF_IN.HSC. The connect string for a SQLite database in HYDBSQL is of the form

```
dbi:SQLite:dbname=c:\temp\mydb.db;
```

Hydstra/ODBC and PI and SQL Placeholders

The Hydstra ODBC driver has been enhanced so that it can now accept SQL queries which contain placeholders. Placeholders are represented by question marks (?). In general terms, placeholders are used when executing multiple queries that only differ in their literal values. Instead of preparing and executing each query separately, you prepare a single query where the literal values have been replaced with placeholders, then you supply the literal values when the query is to be executed.

Specifically, this enhancement was done so that PI ProcessBook could use the ODBC driver to display time series data from Hydstra. When configuring a trend graph, choose the ODBC option:

Create a new data set, select the HydstraODBC data source, and enter the appropriate query. The start and end times will typically be replaced with placeholders:

Next, press the Placeholders... button to define what will be passed in to each of the placeholders. In this example, the first placeholder will be replaced with the start time and the second placeholder will be replaced with the end time:

The Hydstra ODBC driver will prepare the query and return a list of available columns. Select the appropriate column (in this case, VALUE) and press OK:

Now you can define the time range for the trend data set. The following example shows a 7 day window:

As the time is adjusted forwards or backwards, ProcessBook substitutes the appropriate values for the two placeholders. The fully qualified query is then evaluated by the Hydstra ODBC driver, which returns the results to ProcessBook. For example:

```
select * from tspoint where (site = 'hydsys01') and (datasource = 'a') and (variable = 100.00) and
(datetime >= '2014-11-11 22:35:14') and (datetime <= '2014-11-18 22:35:14')
```

WISKI Product News

User group meeting

The WISKI team presented at this year's user conference the following topics:

- KISTERS web development
- KISTERS support review
- Administration tools (especially usage of log viewer)
- WISKI customisation with Launchpad
- Interactive reporting tool (WiRED)
- FieldVisits to enhance WISKI for offline data entry

Support Email, Help Desk and Bugzilla

The feed-back regarding the usage of the WISKI support inbox was quite positive. The support will be further streamlined and improved by the KISTERS team to be as responsive and effective as possible. In addition, it was agreed that clients can formulate their own Bugzilla cases once it is agreed with WISKI support that the case is classified as a bugfix or enhancement. We can assist you to step through this process in the first instance. In addition Bugzilla can be a good way for customers to track the progress of all the outstanding and past cases of their organisation. Please contact us if you require a Bugzilla account to be created.

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

KISTERS Web Development

KISTERS web development for the WISKI product was driven in 2014 by two key projects. One was done in Australia for the Bureau of Meteorology (BOM) and one in Europe for the Flemish water managers and knowledge institute.

Both projects use as core software the WISKI server and KIWIS as data access layer. KiWIS integrates KISTERS time series products like WISKI with web applications based on JavaScript. The difference in the two projects are that in the case of BOM a static landing page is designed using the WISKI Web public software. The dynamically generated reports are developed as widgets and grouped in a station page (Page/Widget Concept). In case of the Flemish development the widgets are also grouped in a station page but also available as application in a free portal framework (App/Widget Concept). The two projects as they customise REST and KiWIS are the key driver to KISTERS new web development building a tool-box for future web projects (see below in **bold** the key activities for 2015)

Product	Purpose
WISKI Web Public	Framework for customizable public web solutions
WISKI Web Mobile	Mobile web access to public WISKI information
WISKI Web Widgets	**JavaScript based widgets for 3rd party developer**
WISKI Web Portal	**New Product based on Waterinfo.be, provides typical portal characteristics like user defined dashboards and editable web content for administrators**
KIWIS (API)	**Supports new Lucence cache for rapid filtering on metadata; fully implements the "OGC Sensor Observation Service 2.0 Hydrology Profile"**
WISKI Web Pro	Wide access to WISKI information mostly for internal purposes
WISKI Web Input	Re-engineering into JavaScript based solution in early 2015

	Product	Plans for 2014/2015
Browser	WW Pro	Facelifting, integration of new widgets, inherit dashboard from BelVis, connection WISKI Server
	WW Input	No major activity planned (see FieldVisits)
	WW Public	New projects / migrations based on centraltexashub (KiWIS and REST)
	WW Mobile	Further development in line with WW Public
	WW Widgets	Further custom KISTERS widget development, consolidation based on Waterinfo and BOM
	WW Portal	**(*) new product based on Waterinfo, BOM, etc.**
API	KIWIS	SOS2 integration
Desktop	WISKI Map	No major enhancements planned / calamar raster series
	Premium Map	No major enhancements planned
	WISKI FieldVisits	Connect to WISKI Server, Operates on tablets/mobiles
	WISKI Extension for ArcGIS	Good status in terms of WQM and will be enhanced with new visualization types

The internet presentation of the two projects can be accessed using the two links below with a short project description.

- http://www.bom.gov.au/water

- http://www.waterinfo.be/

Launchpad an effective way to customise WISKI complexity

The WISKI Launchpad was introduced at the user group meeting and it simplifies workflows for certain types of users e.g. beginners, users with set tasks, etc. within an organisation. The Launchpad can be configured with a large range of data sets and system functions allowing system administrators to customise and limit access to a discrete set of tasks (an example to generate the Launchpad is shown in the graphic below).

The Launchpad can be used as explorer view within WISKI or started as an individual application – allowing access to WISKI via the Launchpad only.

The WISKI group will offer in 2015 specialised training to customise the Launchpad by customers themselves. Alternatively customisation projects can be undertaken by KISTERS. If you are interested in either of these options please contact Chris or Vicky from the WISKI team.

WISKI FieldVisits (2015 available as a product)

WISKI FieldVisits is a new product in the KISTERS portfolio allowing offline collection of field data via notebook, tablet or smartphone. The application is device independent and can be used as one application on the devices above. The application allows to collect several types of data such as:

- readings and measurements
- samplings
- observations
- maintenance, repair, calibration

The planning and analysis of field visits (e.g. connection between equipment and data quality) is done within the WISKI/KiWQM workbench. The transfer to the FieldVisits application is a simple file-based XML interface which allows to include logger data. The file transfer is bidirectional allowing to transfer configured maintenance tours from WISKI to FieldVisits and to upload the gathered data after a visit from FieldVisits to WISKI/KiWQM. An example of the FieldVisits GUI with a configured maintenance tour is shown below.

The FieldVisits application is platform independent (java development) and comes as a small installation package.

If you are interested in a FieldVisits demonstration to integrate the module into your workflows please contact Chris and Vicky.

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 was established soon after, though it doesn't seem to be getting much use recently.

The forum 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 try to 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.

KISTERS 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, KiWQM Basic Training, and several bespoke Basic and Administration courses and product demonstrations run at client sites and tailored to their specific needs.

Training Schedule for 2015

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

The following training courses are currently scheduled for 2015:

Course	Duration	Dates
Basic Hydstra	2 days	17-18 March, 2015
Basic WISKI	2 days	25-26 March, 2015
Hydstra Modelling with MODSYN	2 days	12-13 May, 2015
KiWQM (WISKI Water Quality Module)	2 days	20-21 May, 2015
Advanced WISKI	2 days	17-18 June, 2015
Advanced Hydstra	2 days	28-29 July, 2015
Basic Hydstra	2 days	15-16 September, 2015

If you are interested in other training or other dates, please email your interest to support@kisters.com.au.

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.kisters.eu/news.html

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

Information

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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 3, 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

KISTERS AG
Pascalstrasse 8+10 52076 Aachen
Nordrhein-Westfalen, Germany
Phone:+49 (0)2408 9385 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.geosphera.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