

KISTERS Australia News

December 2010

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From The GM's Desk

By Bill Steen, General Manager, Kisters Pty Ltd

Season's greetings to everyone.

I know I say this every newsletter but where has the time gone? When looking back on 2010 it seems a blur. What did we accomplish and where are we headed?

Our accomplishments have been both at a technical level and through growth. Technically the team have made key enhancements and undertaken major development projects, whilst researching and developing new tools such as a Hydstra SOAP web service, an ODBC driver for Hydstra, document management and supporting tables in Microsoft SQL Server.

Some key projects in 2010 included ongoing work with the Australian Bureau of Meteorology especially after being awarded the BOM Time Series Data Management System (TSDMS) contract and the Hydstra and generic WDTF development. Kisters were also awarded contracts to undertake the redevelopment of the New South Wales Office of Waters groundwater and water quality databases. These projects will provide new features which will be released in 2011. Both the ground water and water quality tables will be running over SQL.

The support team have been fully occupied with over 3000 emails coming directly through the support email address [support@kisters.com.au] let alone email correspondence straight to Kisters staff members. Many of these support emails were addressed immediately and approximately 1200 logged in the Kisters support system database. Included in this figure are internally raised Kisters system reports.

With the increase in new clients, projects and support Kisters have employed additional staff in 2010 with two new additional employees commencing in early 2011. This demonstrates Kisters ongoing commitment to the long term sustainability of the Kisters Hydstra suite of products.

Several Kisters staff travelled to Perth to host the annual Hydstra user group meeting in October and to participate in the Australian Hydrographers Association conference. Both functions were well attended and provided an ideal forum to catch up with everybody.

From all the staff at Kisters we wish you, family and friends, all the best for the festive season and have a safe and happy Christmas and New Year.

Bill Steen

General Manager
Kisters Pty Ltd



2010 User Groups

By Peter Heweston

The 2010 round of user group meetings was completed in October. We held meetings in the US in Ventura and Orlando, and in Australia in Perth. Users contributed a range of interesting papers, and the feedback from the meetings was positive. Thanks to all who contributed their organisational skills as well as to those who presented papers. The list of papers presented includes:

- Welcome and Year In Review - Bill Steen - Kisters
- Welcome and Year In Review - Klaus Kisters - Kisters
- What's New in Hydstra V10 - Peter Heweston - Kisters
- Water Information Past and Future - John Hayes - NSW Office of Water
- Hydstra Web Services - Peter Heweston - Kisters
- Software for Hydstra Users - Peter Heweston - Kisters
- Computer Industry Trends - Peter Heweston - Kisters
- MODSYN in the Real World - Peter Heweston - Kisters
- Semi-Automating Validation of Time Series Data - Glen Terlick - Glen Terlick Consulting
- Hydstra WEB Update - Peter Heweston - Kisters
- Hydstra Integration - Tom Mirti - St. John's River Water Management District
- Computer Industry Trends - Peter Heweston - Kisters
- V10 upgrade with WSIS output - Fay Baird - St. John's River Water Management District
- GW Percentiles - Jackie Hardin - St. John's River Water Management District
- The Use of Hydstra to Meet District and Public Needs - Scott Holder - Ventura County
- MODSYN Application for the Colusa Basin Drain - Pat Huckabay - California Department of Water Resources
- MODSYN to Compute The Unimpaired Flows Within The Subbasins - Grant Winslow - SMUD
- Newport Bay Sediment TMDL Program - Using Hydstra for Fluvial Sediment Computations, Jamie Habben - Orange County
- PG&E Server Consolidation Update And Using Hyscript To Write Custom Modules With Perl - Matt McPheeters - Pacific Gas and Electric
- Water Information Past and Future - John Hayes - NSW Office of Water
- Semi-Automating Validation of Time Series Data - Glen Terlick - Glen Terlick Consulting

The complete set of presentations is available on our web site at <http://hydstra.kisters.com.au>.



Ventura



Orlando



Orlando



Perth

2010 AHA Conference

The Australian Kisters User Group meeting was held in Perth this year, the day before the start of the AHA conference. A number of us stayed on to attend the AHA conference, which was excellent in every respect - the Burswood Casino was an ideal venue, and the organisation was flawless. Congratulations to the AHA Committee members in WA who organised and ran the event, it was superb.

Hydstra and Water Data Transfer Format

WDTF_OUT Requirements

HYWDTF_OUT will soon be released as a patch to Hydstra 10.2 and 10.3 and will be distributed with 10.4 and beyond. It will never be patched back to 10.1, so please consider upgrading when you can. The WDTF project has been funded by the NSW Office of Water using BOM funds from the Modernisation and Extension of Hydrologic Monitoring Systems Program. HYWDTF_OUT will export TS, WQ and GW data from Hydstra in the appropriate WDTF formats, as well as sites, gaugings, ratings and sections.

HYBOMEXP will continue to be supported for the indefinite future, and in fact the BOM has requested that users do not start using HYWDTF_OUT until they are requested to change by BOM.

HYWDTF_OUT will not support HCS format, so you will need to continue to run HYBOMEXP to produce HCS format data (flood warning) if you need to send HCS data to BOM.

HYWDTF_OUT is predicated on your data being in good order and condition, as it has some fairly tight validation in a number of areas. We suggest you start running HYGIENE and paying particular attention to the integrity of your ratings system, and the validity of the Lat/Long fields in SITE. HYWDTF_OUT does not use the grid reference fields, only the Lat/Long.

The Bureau have started testing HYWDTF_OUT with a couple of major organisations, and once it has been given the all clear they will announce when it should go into production. It is likely that a workshop will be held next year to introduce major players to HYWDTF_OUT. Stand by for further information.

Hydstra Product News

Hydstra Version 10 Status

The current release of Hydstra is version 10.03.02. It may be downloaded from the Kisters FTP site as hydstra.10.03.02.20101124.install.zip, or contact us to have a CD posted to you.

A patch consolidation that will bring any earlier 10.03 up to the latest status is available in hydstra.10.03.02.20101124.update.zip on the FTP site.

The upgrade from version 9 to version 10 may require some care for larger users, particularly those with lots of custom scripts. Read the V10 Help file from the release CD for more information.

Please notify us when you go live with V10, as it is important that we keep accurate records of which version everyone is running.

Change Log

All significant changes to Hydstra are mentioned in the Change Log section of the Hydstra Help file.

Whenever your system is upgraded you should look through What's New/Change Log section of the Help file to discover what's new that might be of interest.

Guidelines for Hydstra Patching

Our guidelines on patching bugs and enhancements are roughly as follows:

- New development work is usually done only on the internal development version of Hydstra (currently 10.4). It will become available when the current development system is moved to productions status. This typically occurs every few months.
- Paid project work will, if specified at project time, and if technically possible, be developed on the development system and then patched back to an earlier system. There will always be additional costs associated with patching to an earlier version, and it may not always be technically possible.
- Bugs are always fixed in the development system.
- Critical bugs will be patched back to the previous version, if at all possible.
- Bugs in older system that are non-critical, or for which there is a work-around will not as a rule be patched.
- Suggestions and annoyances will be addressed in the development system as and when priorities allow.

Compatibility Issues

We are sometimes asked about compatibility of tables and time series between versions of Hydstra. The basic rules are as follows:

- A Hydstra system has three parts to its identity, of the form, 10.02.00, being *version.release.patch*.
- If only the patch numbers differ (e.g. 10.2.0 and 10.2.2) they are completely data compatible and for the most part EXE file compatible (though some patched EXE files require a correspondingly patched HYDSYS.BPL)
- If the release numbers differ (e.g. between 10.1 and 10.2, then the tables should be regarded as incompatible, and programs certainly are. Time series files are usually compatible.
- If the version numbers differ (e.g. 9.6.0 and 10.2.0) then time-series files may not be backward compatible, and across V9 to V10 they are not. Time-series files from older versions can always be read by new versions, but not vice versa. For example a V9 time-series file can be read by V10, but a V10 file cannot be read by V9.

Specifying HYCONFIG Temp Directories in V10

In V10 you can specify a path prefix for all your TEMP directories (TEMPPATH, JUNKPATH, PRIVPATH, PRMPATH) in a single line in the [Path Prefixes] section of HYCONFIG.INI, using a syntax of the form

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

If you are running under Citrix or Terminal services you should ensure that the temporary paths are all local to the user, either by pointing them to a user drive which is already mounted, like s:\temp\ or else by embedding the username into the path using an environment variable:

```
[Path Prefixes]
\hyd\=h:\hydstra\prod\
\temp\=h:\temp\&env-username.\
```

Be careful to include the trailing slash in the path prefixes both in the keyword and the value, and if you use this notation, you can get rid of the [Temporary Paths] section from HYCONFIG altogether.

On the subject of HYCONFIG.INI, it is one of the few INI files where you only need to specify the differences from the delivered default in MISCPATH. Please don't copy the entire copy of the MISCPATH version and use it, as you risk getting in to trouble as keywords and sections change over versions. A typical HYCONFIG.INI should have only a handful of lines in it. An example for an organisation with a significant number of changes from the defaults might be:

```

[Version]
version = 1

;*****
[Path Prefixes]
\hyd=h:\hydstra\prod\
\temp=h:\temp\&env-username.\

;*****
[Parameter Screen Defaults]
DISCH = 141
DSTOT = 151
GOODQ = 130
DSUFF = F

;*****
[Time Series]
DEFGOODQ = 130
DEFWRITEQ = 130
DEFBADQ = 201
MAXGAP = 30
RATEOVQ = 202
RATEUNQ = 202
ABRTNCTF = no
COMPRESSTS = no

;*****
[System]
TRIGGERS = yes
CONTACT = Please contact John Smith
SYSTEMID = Version 10 Prod

```

Document Management

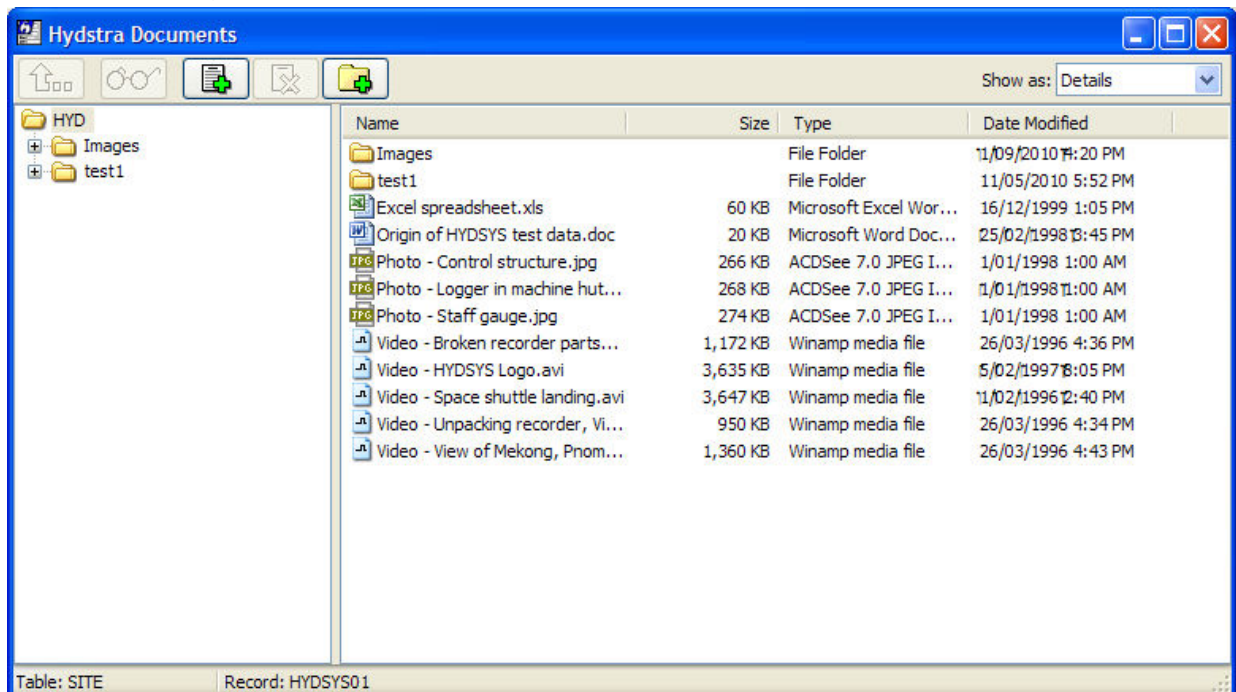
In Hydstra 10.3 we have extended the site document management system considerably. Previously you could associate documents with a site by storing them in DOCPATH\site, from where you could view them in a number of ways via HYMANAGE, the Workbench, MAPHYD, and even Hydstra/WEB.

We have extended and generalized the notion of documents to include the ability to store documents against any record from any table in Hydstra. This allows you to store documents against INSTREG for example (manuals and schematics), QUALITY (guidelines on how to use a specified quality code), PASSWD (photos of registered users) and much more.

Documents are imported and viewed via a new document viewing widget that shows up in HYMANAGE as



or depending on whether documents already exist. You can view, add and delete documents via a new documents dialog:



Velocity Methods in Hydstra

There is an increasing interest in using permanent ultrasonic velocity sensors in streams and rivers to measure flow. The Hydstra variable conversion system can be set up to compute flow from velocity using a multi-step conversion that goes roughly along the lines of:

- Convert stream depth to cross-sectional area by looking up a table relating depth to area.
- Multiply the velocity by a time-table constant which represents the ratio of measured velocity to index velocity
- Multiply index velocity by area to compute flow

Because the variable conversion system can have only one pathway from a varfrom to a varto we typically express this conversion as a VARCON path from velocity to flow.

Hydstra can import gaugings from a number of ultrasonic devices that replicate the manual gauging process, i.e. dividing the river up into sections and measuring velocity at fixed depths like 0.2 and 0.6. HYGAUGE presently imports files from the STIL Gauging Logger, the Aquacalc, and the Sontek Flow Tracker. For these devices we import all the details of the gauging, compute flow, and display the gauging graphically. Developing an importer for a new point based gauging device will generally involve a day or two's consulting work.

There is a different type of gauging device that involves a moving platform and continuous ultrasonic measurement across the profile. These devices don't fit the HYGAUGE paradigm as they generally use their own proprietary analysis software. The Sontek River Surveyors are example of this technology. The best Hydstra can do here is read the output report and extract the flow and create a single GAUGINGS record - and even then the height usually has to be entered manually as the technology doesn't usually know the gauge height. We recommend that you save the files in a standard place under the \hydlog directory, perhaps something like \hydlog\rivsurv. Because there is no standard XML or CSV output from these devices we have not released generic importers, though we have done one-off importers for some clients based on text parsing the report output - which unfortunately varies from country to country, and sometimes even depends on how the machines are set up.

Netviewer for Live Support

Kisters has a corporate licence for a product call Netviewer. Netviewer enables us (with your permission) to log into your PC and watch your screen. We can even take control if you let us, and run applications, edit files, etc.

We are just gaining experience with Netviewer in Australia, though Kisters in Germany has used it for some years. If we think that having access to your PC could help us diagnose or solve a problem for you we will send you an email with information on how to start the Netviewer client, which you can download from a link we will provide.

Experience indicates it can run across a variety of firewalls and links - though some security systems lock it out.

You can read more about Netviewer at www.netviewer.com.

HYVPROF - Plot Vertical Profile Data

We have developed a new application in Hydstra 10.4 HYVPROF, which produces pretty profile plots of temperature and other variables that are recorded at different depths in a dam or lake. HYVPROF will be distributed with Hydstra 10.4 when it is released, but it is available as part of the latest 10.03.02 patch on the FTP site if you really can't wait. Contact us for pre-release documentation.

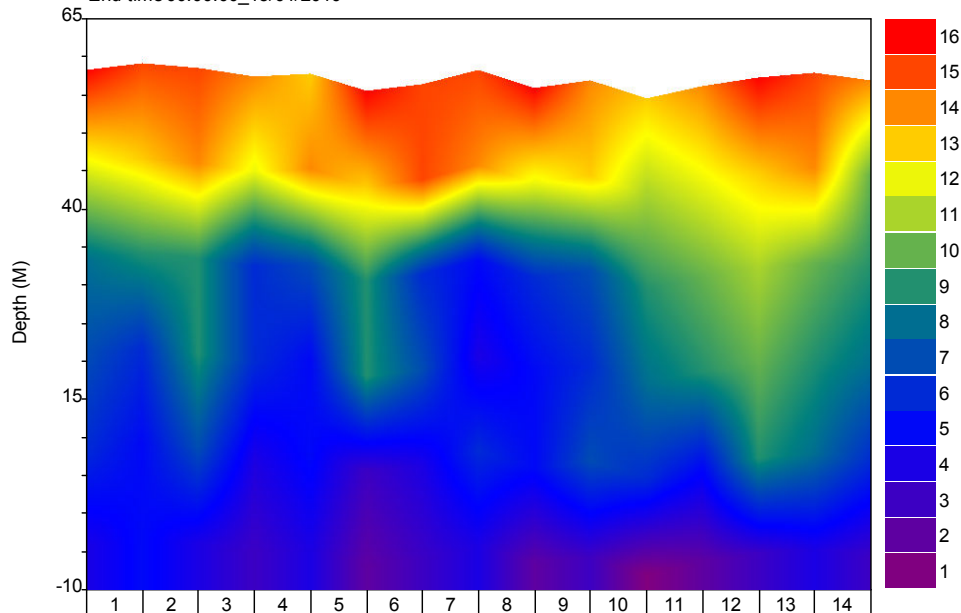
Hydstra Pty Ltd.

HYVPROF V1 Output 16/10/2010

Water Temperature at Hydstra Test Station - Composite data

Start time 00:00:00_01/01/2010

End time 00:00:00_15/01/2010



HYDDE Deprecated

HYDDE was the very first Hydstra program that could transfer data between Hydstra and other programs. It uses Microsoft's DDE technology, which has been deprecated by Microsoft for many years. We have managed to keep HYDDE alive over the years, more by good luck than good management, but we can make no guarantees. It seems that DDE is still more or less supported in Windows 7, though people's experiences are mixed, and security may be an issue. We can't guarantee that HYDDE will continue to work into the future, and we strongly recommend that you consider redeveloping any applications that depend on HYDDE to use HYDLLP instead. We can provide you with examples of how to call HYDLLP from Perl, Excel, VB and C#. Other languages should be equally easy.

We have also prototyped a Hydstra SOAP Web Service and an ODBC driver for Hydstra time-series. If you think these technologies might be useful to you please contact us to discuss your requirements.

Named Roles

The user levels system in Hydstra has been expanded in Hydstra 10.3 to introduce the concept of "named roles".

- A "role" can be used to RELAX restrictions that would otherwise apply based on the user level.
- There is no all-governing "ROLES" table, roles are defined and accessed in an ad-hoc manner.
- A role can be any string EXCEPT a Hydstra system string:
TS,WQ,GW,MA,MO,SVR,DAT,WEB,TSM,TEL,MOD,COM
- Levels/Permissions are granted against roles, just as they are for Hydstra systems.

For example, consider:

- An entry in PASSWD has a USERLEV of TS=1,GW=1,WQ=1,HYDROGRAPHER=2
- An entry in USERMAST for SITE has a MINLEV of TS=2,GW=3,WQ=3,HYDROGRAPHER=2
- Such a user would be able to edit SITE records, where previously they could not.
- They would remain unable to edit any other table that required TS=2 access, unless it too was "relaxed" for HYDROGRAPHER roles.

Named-role user levels will enable access in the following parts of Hydstra:

- HYMANAGE/USERMAST - editing of tables
- HYDBUTIL.INI - user levels that allow/disallow hydbutil/hydbui commands
- DATASRC.INI - user levels that allow access (both write AND read!!!) to TS data files on a datasource-by-datasource basis
- HYIMPEXP.INI - user levels permitting export / import via hyimpexp
- HYLOGIN - the special features that set errorlevel based on acquiring a passed-in "required" user level command line option)
- HYXPLORE/USRMENUS/LOCMENUS - user levels specified against menu items in the XML

Training Courses

We will run two basic Hydstra courses in Canberra in September and we are planning our next round of Hydstra training for next year, and would welcome expressions of interest on potential topics. Some ideas include:

- Basic Hydstra - using the HYXPLORE, Workbench, HYMANAGE, running reports, extracting data
- Intermediate Hydstra - more advanced Hydstra without going into system administration. Ratings and gaugings, saved jobs, relative dates, HYSTNS expressions, advanced HYMANAGE, etc.
- Advanced Hydstra - HYBATCH, HYAUDIT, job automation
- System administration - managing a Hydstra system
- Hydstra/SVR - configuring and running the Hydstra server.
- Hydstra/MO - performing calculations on time series data with MODSYN, including water balances, dam balances, rainfall runoff models, etc
- Water Data Transfer Format and HYWDTF_OUT.

If you register interest for a course now you will be guaranteed a place in order of registration should we put a course on.

Staff News

Christmas Party

Kisters Pty Ltd staff enjoyed an early Christmas party on Nov 30 so that Klaus Kisters could join us while he was in Australia. As usual the Secret Santa gifts caused a good deal of merriment, and a fine time was had by all.



Trevor and Peter



Bruce flipping the bird

New Skinner Family Member

Damian and Marisa Skinner recently welcomed Alice Kaye to their family. Damian will be limiting his travel away from Canberra for a while to enjoy his new role as a dad, and to help out at home. Who needs sleep anyway.



Alice Skinner



Damian and Alice

Office Hours over Christmas and New Year

The Kisters office in Canberra will be unattended from the close of business on Fri 24 Dec, reopening on Mon 4 Jan. If a really serious problem arises please contact someone on their mobile.

Aachen in Winter

In early February next year Trevor Magnusson, Peter Heweston, Bill Steen, Uwe Hass and Sholto Maud will travel to Aachen to participate in the annual Kisters round of marketing and technical development meetings. We can only hope the big freeze over Europe is over by then - it was cold enough last year!

Contact Information

This newsletter is published by Kisters Pty Ltd and edited by Peter Heweston

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All support and accounts questions should be directed to support@hydstra.com.

All personal Kisters email addresses in Australia are of the form

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