KISTERS Australia News

March 2015

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From The GM's Desk

By Bill Steen, General Manager, KISTERS Pty Ltd

2015 has started off with annual combination of management and technical meetings at the new KISTERS head office in Aachen Germany. As you will see in this newsletter the new office for KISTERS is very impressive and from the comments made by staff it has been a huge success.

The global meetings incorporate KISTERS staff from around the globe, and although we all work for the same company the experiences, and to some extent the clients vary from region to region. It therefore makes it an informative gathering to explore new opportunities and hear about the success stories from other regions.

How does this relate to our region? Understanding global trends helps KISTERS Pty Ltd offer clients new technologies and solutions that have been proven in other regions. From a personal prospective it also provides insight into the operation of leading water and energy authorities around the world. This type of insight helps us understand and assist agencies with “world best practise” procedures.

A good example of this actually came from Australia with both the Australian Bureau of Meteorology Water Data Online (WDO) http://www.bom.gov.au/waterdata/ project and the New South Wales Office of Water KISTERS Water Quality Module [KiWQM] project proving to be showcase projects on a global basis. Outside of KISTERS, the BoM AWRIS and WDO projects are seen as leading best practise with other global authorities wanting to implement similar projects.

For instance the NSW Office of Water project has stimulated other global agencies to look at both KiWQM and KiECO [biological observation database] products with a view to implementing and enhancing their own business rules.

So all in all working in Germany for a week proved to be of great interest.

On a sadder note, KISTERS lost one of its employees, and a personal friend, Phil Stefanoff, from our

Canadian office. Phil was one of those guys you just loved hanging around with. He had a good sense of humour, a people's person, a great work colleague, a good friend, and a very loving father to his two sons. He will be missed.

Bill Steen
General Manager
KISTERS Pty Ltd

Annual Meetings in Aachen

By Peter Heweston

In February a number of KISTERS Australia staff made their way to Aachen for the traditional midwinter week of meetings. The company runs three concurrent streams, relating to technical development, marketing and consultant training. As always the meetings provided fertile ground for an interchange of ideas, and everyone came back invigorated and buzzing with ideas, if a tad exhausted by the inevitable round of social events that accompany the week! The technical buzzword is REST - a web-based architecture for loosely coupling software modules. We will see a lot more of it in coming years in the KISTERS stable. The other buzzword to follow is the cloud, and NOSQL databases. Stay tuned for more news on this front.

The meetings were held in the new KISTERS offices on the outskirts of Aachen. The offices are truly impressive, and provide comfortable meeting rooms of all sizes, as well as an excellent canteen for meals. The weather was a bit of a shock for the Australian and NZ contingent, with snow on the ground the whole time.

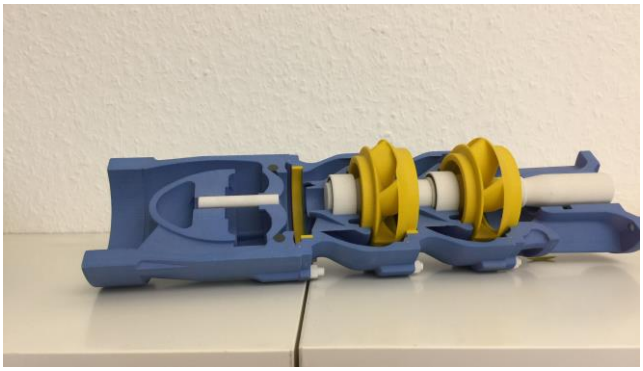
New KISTERS office

Workshop dinner in the canteen

Mamoun, Bill, Olivier ,Damien

Chris Michl, Michael Natschke

Peter Heweston after his technology talk



Sample from the KISTERS 3D printing unit

KISTERS Australia User Group Meeting 2015

The Australian KISTERS User Group meeting will be held this year on 8/9 September 2015 in Canberra at the Hellenic Club, 13 Moore St, Canberra City 2600. This is the same venue we used two years ago.

The KISTERS Users Group meeting provides users with an opportunity to:

- Learn about the latest products and services
- Listen to informative user presentations on a wide range of products
- Participate in a question and answer session with our industry experts

Registration

The cost for the two days will be $650 inc GST. Please contact Debbie Cockburn for more information, or to register, at Debbie.cockburn@kisters.com.au.

The Hellenic Club does not offer accommodation, but there are plenty of hotels within walking distance in and around Civic. Please do not confuse the City Hellenic Club with the Woden Hellenic Club, which is a completely different location. The club is in the middle of the city on a busy street with little parking, but there are several pay parking stations nearby.

Participation

To make this meeting a success, we need the participation of current WISKI and Hydstra users. If you would like to give a presentation on the product you are using or a related project, we would love to hear about it. Please contact Peter Heweston or Chris Michl to discuss proposals for presentations. Perhaps someone might like to talk about how to run a network with no money and no staff?

US KISTERS User Group Meeting 2015

The KISTERS US meeting this year will be held on September 14/15 at the picturesque Lake Natoma Inn in Folsom California just outside Sacramento (yes, that's the Folsom of Johnny Cash fame). Please contact Jennifer Durda (jennifer.durda@kisters.net) for more information.

International WISKI User Conference 2015

We are pleased to invite you to the 13th International WISKI User Conference in collaboration with The Office of Public Works of the Republic of Ireland. The Conference will be held from the **6th to 7th of May 2015** in the modern conference rooms of the historic Dublin Castle in the very heart of **Dublin** City, Ireland.
On the evening of the first day we will go on a thrilling tour around the main sights of Dublin by land and by water. After the tour of Dublin KISTERS will holding a dinner at ODEON Nite Bar to which you are all invited.

Dublin Castle

Hydstra Product News

Hydstra Version 11 has been released, and is available for download from http://kisters.com.au/downloads.html . You will need to contact us at support@kisters.com.au for a V11 HYACCESS.INI before you 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 Web Services

A number of web service layers are able to run on top of Hydstra. The services can be run in-house for business processes, or externally from outside the firewall. Please contact us if you are interested in providing Hydstra information to other business consumers.

We support REST (Representational State Transfer), SOAP (originally Simple Object Access Protocol), and KiWIS (KISTERS Web Interoperability Solution).

- HYDLLP can be directly linked as a DLL library into any process that can directly see the network drive where Hydstra is installed. There is no additional licensing required for internal processes to call HYDLLP. We provide examples of how to call HYDLLP from Perl, JavaScript. Delphi, C++ and other languages.
- You can run REST and SOAP web services in-house which can be called by other service based products. You will need a Hydstra/WSI licence (WSI stands for Web Services Internal), and you will need to configure a Microsoft Internet Information Services (IIS) server to provide the service. Using Hydstra/WSI you can call either low level Hydstra HYDLLP calls or the higher level Public Hydstra abstraction that provides standard parameter names, units and quality codes.
- If you need to provide the REST and SOAP services on a public facing web site you will need to replicate your Hydstra system through the firewall using a product such as Syncovery. As well as a Hydstra/WSI licence you will need additional Hydstra/TS licences to support the external service. If everyone configures Public Hydstra for public consumption then data consumers across the world should be able

to access data from any Hydstra publisher in a standard way.

- The KISTERS Web Interoperability Solution (KiWIS) runs over Hydstra/WSI, and can be purchased in addition to publish a variety of international standard services including WFS (Web Feature Service) , WMS (Web Map Service), WOF (Water One Flow from CUAHSI), SOS2 (Sensor Observation Service) and KiQS (Kisters Query Service). KiWIS allows your data to be displayed on World Water Online and to be consumed by other products which require WaterML2.
  Note that much of Australia's water data is already available on World Water Online via the BOM's web site Water Data Online.
- If you already have a Hydstra/WEB licence then Hydstra/WSI is already bundled with it.

It is worth noting in passing that for in-house business systems that need direct access to Hydstra time-series and metadata, another approach is to use SQL to access data from Hydstra metadata tables, and the Hydstra/ODBC product to make SQL calls over Hydstra time-series files.

Please contact KISTERS Australia for pricing on the various options and products we have discussed above.

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.

Speed up SVRIMP and SVRRUN with a RAM Disk

Both SVRIMP and SVRRUN flog the Hydstra temporary folders quite hard. You may gain significant performance improvements by allocating a bit of system memory to a RAM Disk and pointing your TEMP folder tree to that disk for SVRRUN and SVRIMP. We have used ImDisk for this purpose with some success (http://www.softpedia.com/get/CD-DVD-Tools/CD-DVD-Images-Utils/ImDisk-Virtual-Disk-Driver.shtml)

Because RAM Disk contents are lost on power down it is important that it is only used for transient storage such as the TEMP folders for SVRIMP and SVRRUN.

It is worth noting that SVRIMP seems much faster in Hydstra V11, due to a number of improvements, including reducing chatter to the screen, as well as internal refactoring.

ODBC Drivers for SQL Server

Hydstra systems running over SQL Server use an ODBC Driver (specified in CONNECT.INI) to connect to the database. Recent testing of the various drivers has prompted us to suggest you use the SQLOLEDB.1 driver. Other ODBC drivers (such as MSDASQL.1 or SQLNCLI10.1) have weaknesses in performance and the inability to access details from 'memo' type fields using ODBC. If you are running Hydstra over SQL Server then please review your CONNECT.INI to confirm that you are using SQLOLEDB.1.

HYQUICKWEB Updated

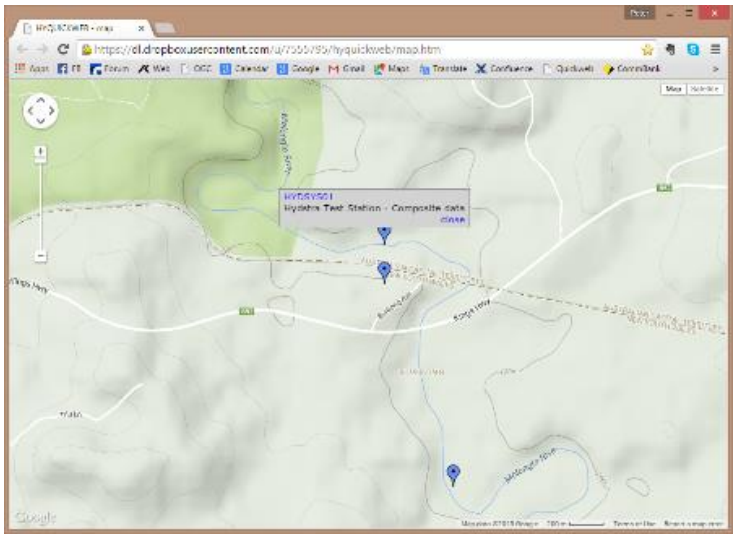
HYQUICKWEB is an easy method of creating a simple free server-less static web site using HYBATCH and DropBox. It provides you with a Google Maps interface to reports generated by HYBATCH.

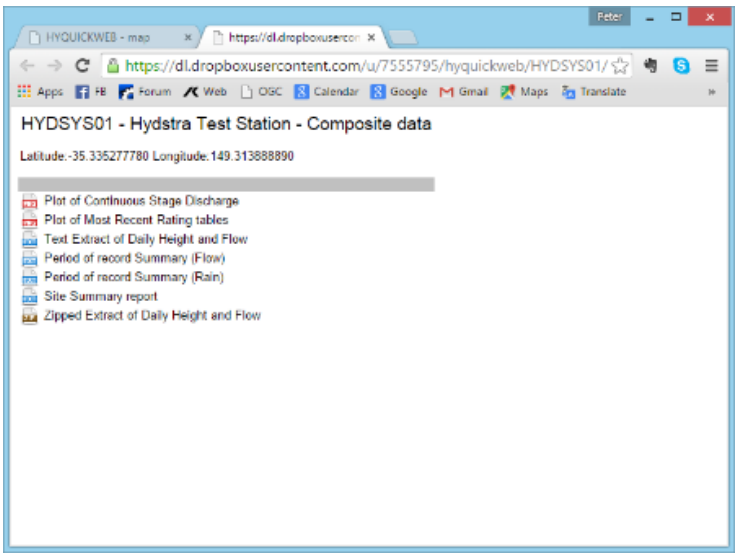
We had to revise HYQUICKWEB recently because Google changed the way that KML files could be accessed. We no longer use KML, but create the map points directly in JavaScript.

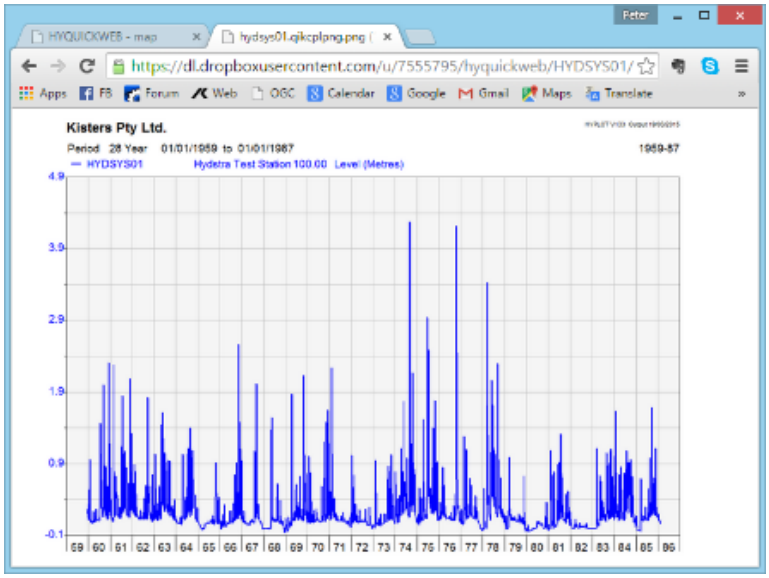
You can see HYQUICKWEB in operation at:

https://dl.dropboxusercontent.com/u/7555795/hyquickweb/map.htm

You will need a recently patched V11 to use HYQUICKWEB.



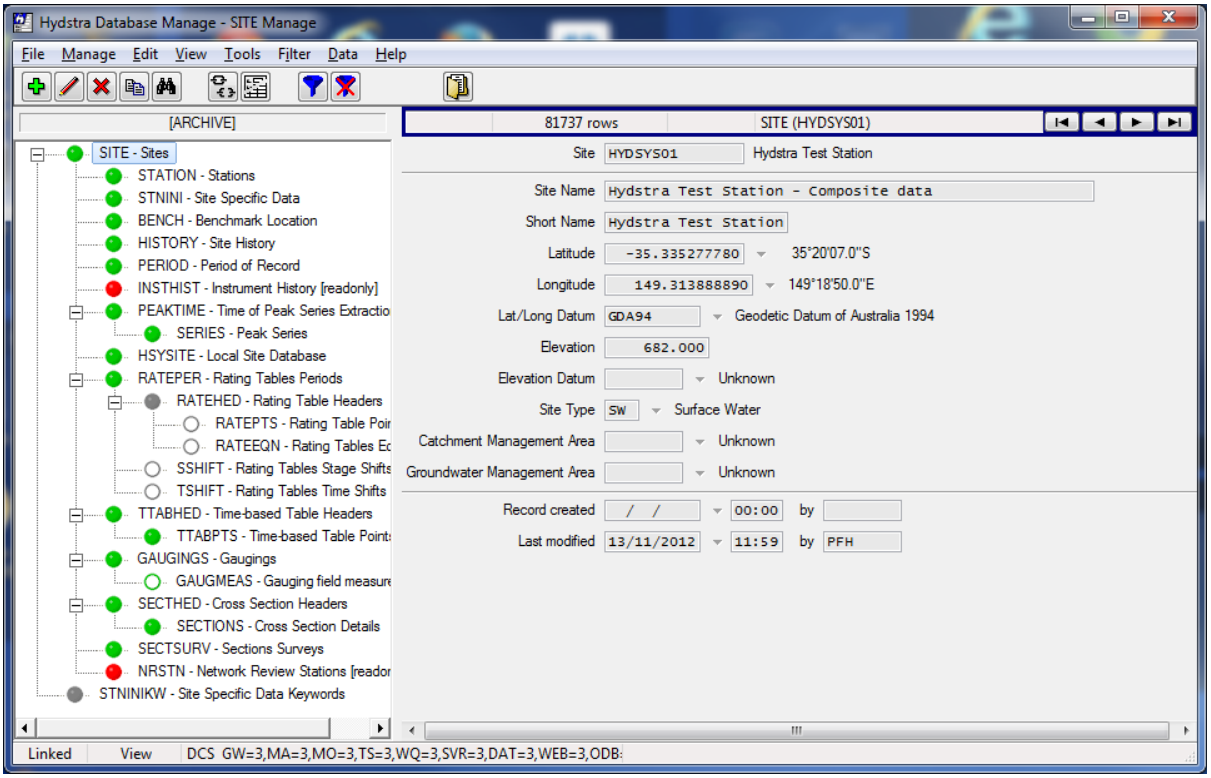




Selective Field Activation in HYMANAGE

A little-known feature of HYMANAGE allows you to enable/disable fields in a table based on the value of another field. For example, each record in the SITE table might be assigned to a Site Type, such as 'GW' for Groundwater or 'SW' for Surface Water. This feature would allow you to enter certain details for Groundwater sites and other details for Surface Water sites.

In the following example you might want to allow 'Catchment Management Area' to only be defined for Surface Water sites (where STNTYPE='SW'). You might also want to allow 'Groundwater Management Area to only be defined for Groundwater Sites (where STNTYPE='GW').

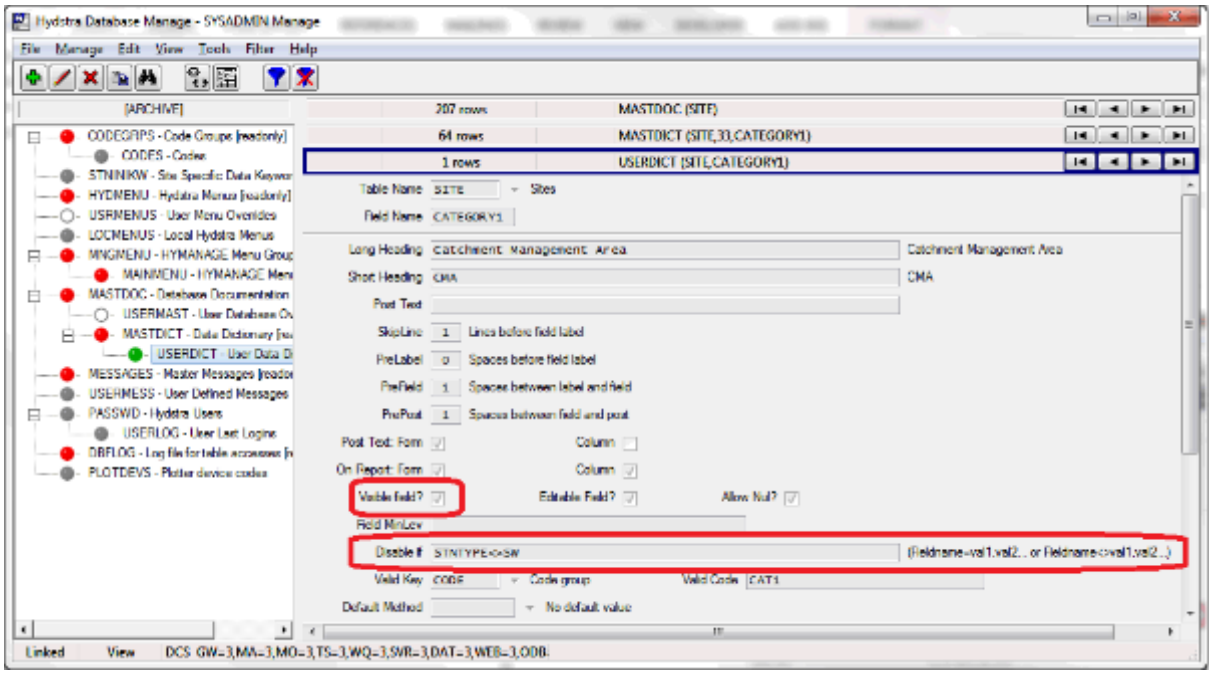


The MASTDICT and USERDICT tables are used to define how individual fields are displayed in HYMANAGE. These tables can be accessed through the SYSADMIN Manage.

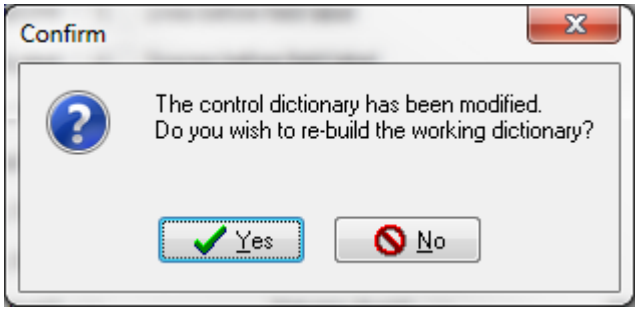
To configure the 'Catchment Management Area' field:

1. Log into Hydstra with a TS=3 user level
2. Start HYMANAGE SYSADMIN
3. Switch to the MASTDOC table and find the table of interest, in this case SITE

4. Switch to the MASTDICT table to see configuration settings for all fields in the SITE table
5. Find the field of interest. In this case the 'Catchment Management Area' field is implemented using the CATEGORY1 field. You can see all default settings for this field in the MASTDICT table.
6. Switch to the USERDICT and add a record to override settings for the CATEGORY1 field. Make sure the field is set to 'Visible' and set the 'Disable If' field to STNTYPE<>'SW'. This will make the field read-only when the STNTYPE is not set to 'SW'.

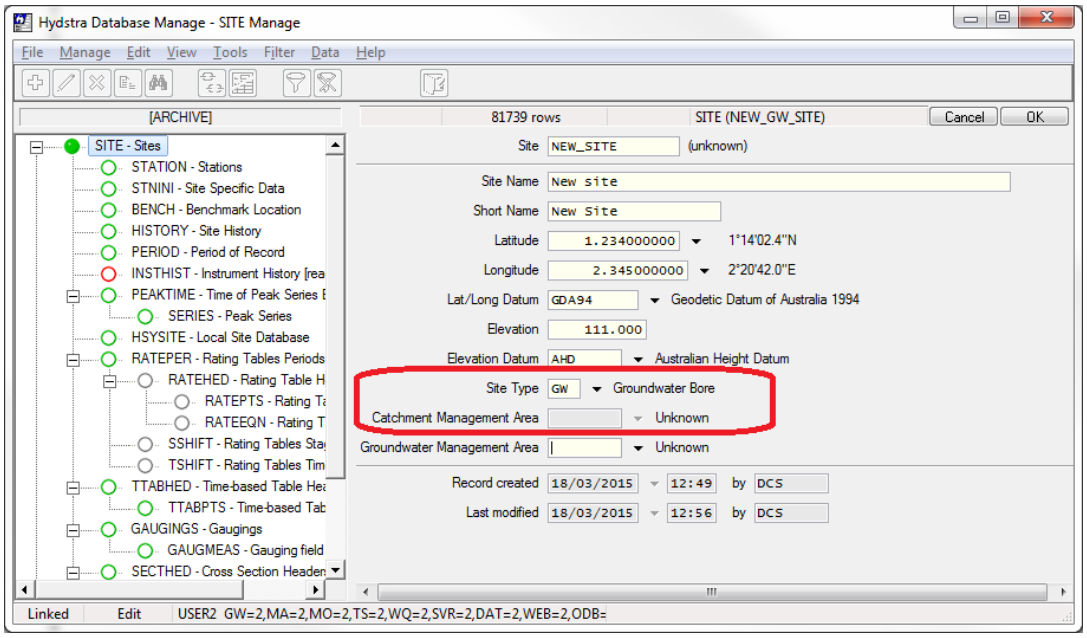


7. Commit the USERDICT record and exit from HYMANAGE. You will prompted to rebuild the working data dictionary (DATADICT) which is a combination of the default MASTDICT settings and the USERDICT overrides.

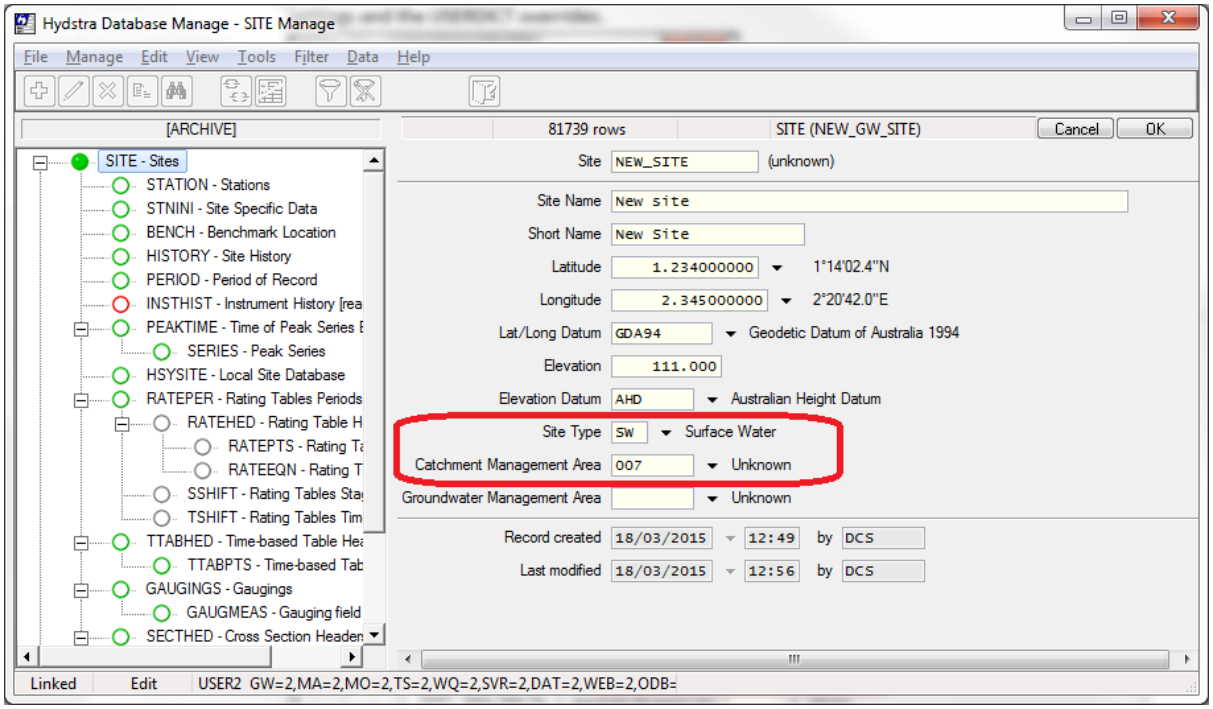


8. Start HYMANAGE SITE with a user level of TS=2 or below. The selective activation feature is not applied for administrators (TS=3).

9. Add a new SITE record with a Site Type of 'GW'. Note that the 'Catchment Management Area' field (CATEGORY1) is disabled.



10. Change the Site Type to 'SW'. Note that the 'Catchment Management Area' field (CATEGORY1) becomes editable.



MODSYN Training Course

We plan to run a 2 day MODSYN training course in Canberra on May 12 and 13. Advanced Hydstra users who need to compute things with time-series will find MODSYN training to be valuable. The suggested topic list for the course is given below. If you have any requirements you think are not covered, or if you want to solve a particular problem, please notify us in advance, preferably with a HYHELPME to deliver enough data to run your problem.

MODSYN Overview
- What is MODSYN?
- MODSYN Interface
- Running a Model
- Identifying Syntax Errors

Modelling language
- Model Format
- TIME Declaration

Data Types
Variable Declarations
Operators
Comments

Functions
Arithmetic Functions
Trigonometry Functions
Column Functions
Date/Time Functions
Accumulation Functions
Quality Functions
Text Input/Output Functions
Miscellaneous Functions
Hydstra Input/Output Functions
Range Functions
Prompting for Parameters
Statistical Functions
Regression Functions
String Function
Rainfall/Runoff Functions

Integration with Hydstra/TS
Passing Parameters on the Command-line
Computing Traces via AUTOJOB
Datasources
TSCALC
Reading and Writing Time-series files

Modelling
Incremental models
Optimisation
Exploring models

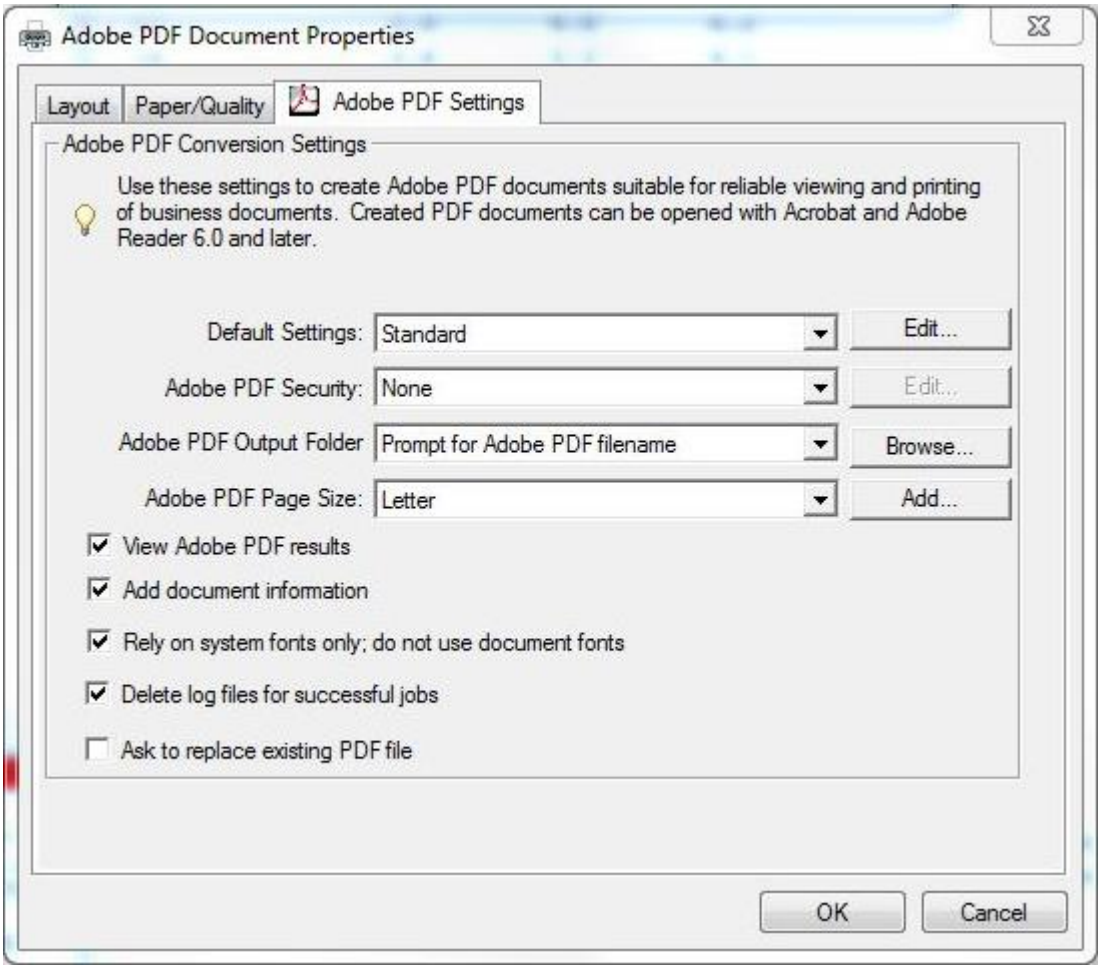
Examples
Calculating Water Quality Loads
(Very) Simple Dam Balance
The Australian Water Balance Model
Dry Day Separation
Peak Extraction

Saving wide reports to PDF

When saving reports wider than 130 characters to PDF using the Adobe PDF printer driver, you may find a vertical gap in the report:

```
 JUL        AUG        SE        P
-----------------------         ----
  34         29         1        1
  36         28         1        0
  37         30         1        0
  41         35         1        0
  43         36        9.        8

  41         37        9.        3
  40         36        8.        9
  38         36        9.        7
  38         35         1        1
  37         32         1        1

  37         28         1        0
  36         28        9.        6
  36         27        9.        2
  35         25        9.        1
  32         23         1        0
```

To prevent this from happening, you should open the printer driver options dialog and uncheck the "Rely on system fonts only; do not use document fonts" checkbox.



Unfortunately, the printer driver does not remember this setting, so you must uncheck it each time you want to save a wide report to PDF.

JUL	AUG	SEP
34	29	11
36	28	10
37	30	10
41	35	10
43	36	9.8
41	37	9.3
40	36	8.9
38	36	9.7
38	35	11
37	32	11
37	28	10
36	28	9.6
36	27	9.2
35	25	9.1
32	23	10

WISKI Product News

Release Management

All WISKI and KiWQM customers in Australia and NZ have been migrated to the WISKI version 7.4.1. In 2015 the following service releases are planned for WISKI 7.4.1 (always the date of the most recent version is confirmed in the newsletter, here SR16):

- 10th April: SR16 (end of development was 13th March)
- Beginning June: SR 17 (end of development beginning May)
- Beginning November: SR 18 (end of development beginning October)

All planned enhancement for 2015 need to be scheduled for the version above based on the end of development date.

New KiWIS 1.5.3 Released

The new KiWIS 1.5.3 release is available. The major changes to 1.5.2 are:

- In general:
    - KiWIS runs over Standard HYDSTRA and Hydstra/WSI.
    - Disclaimer text can now also be stored as file and the file name in zip downloads can be set in config.xml
    - Lucene based caching added for station and timeseries lists for optimal performance and additional filters
- KiQS:
    - All period parameters now support the full ISO format
    - All station_no filter parameters now support * as wildcard in requests
    - getStationList now supports parameter flatten=true to force returning one result per station_id by concatenating parameter fields
    - getCatchmentList and getRiverList added for WDP datasources
- SOS2:
    - SOS2 now properly applies the KiWIS time zone setting for time series values
    - SOS2 now properly responds to getObservation requests with filters that return more time series than supported in one database request (500+)
    - SOS2 now also supports direct XML POST additionally to SOAP
- Bugfixing as reported by clients

Support Email, Help Desk and Bugzilla … just a reminder

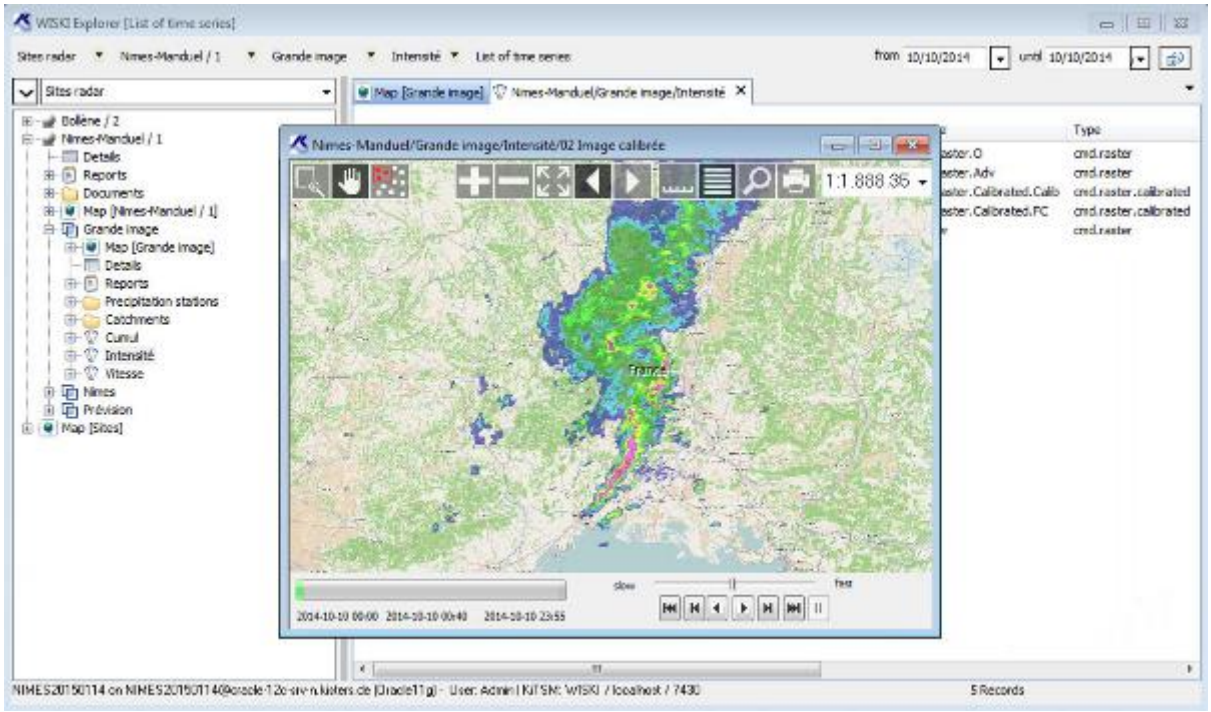
The WISKI team at KISTERS Pty Ltd (Vicky, Bruce and Chris) offers specialised support for the KISTERS products WISKI, KiWQM, KiECO, KiDSM, KiALM, WISKI Web and KiWIS. The phone number for support is +61 2 6154-5200, and the email address is wiski-support@kisters.com.au. If you are engaging in a particular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

Clients can also 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.

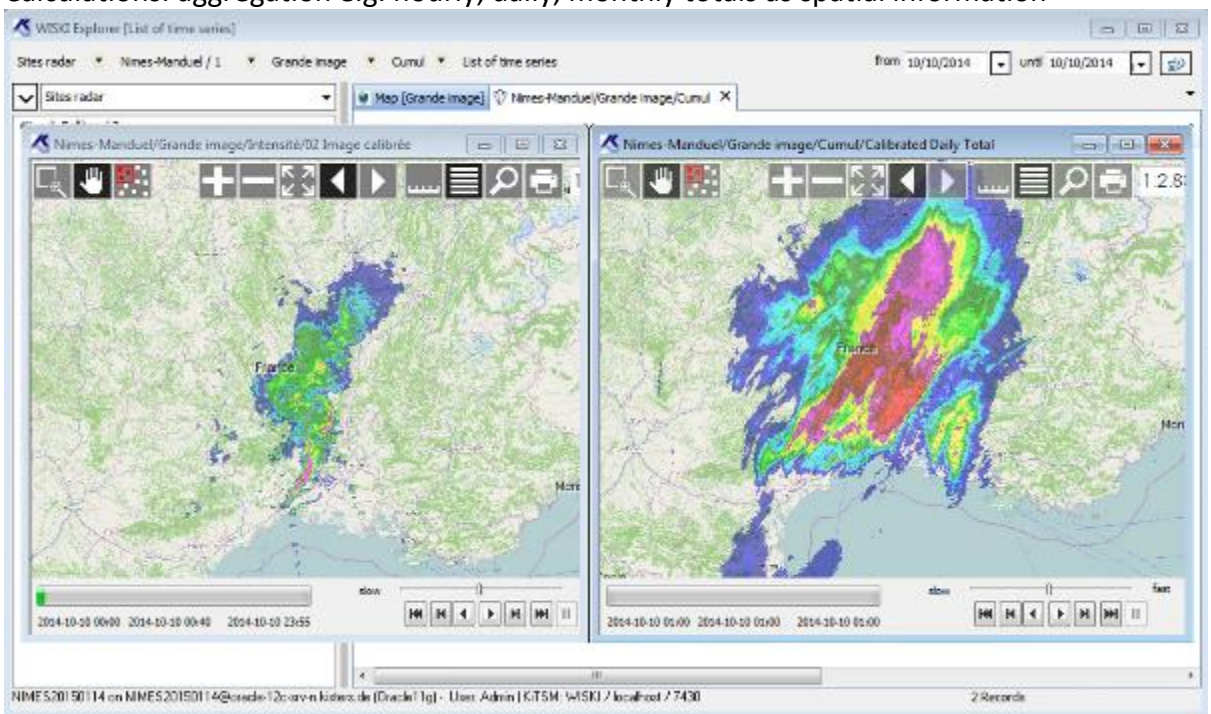
CALAMAR and WISKI Raster Data Format

CALAMAR ("CAlcul de la LAMe d'eau à l'Aide d'un Radar" – "Calculation of rainfall totals with the help of a radar") has been a long term KISTERS' standalone application to manage, process and analyse raw radar data. A large project was undertaken in 2014 to incorporate raster data and CALAMAR functionality into WISKI. Raster data is now a new time series data type and the CALAMAR module can handle raster rainfall data from any meteorological source. WISKI will then allow full visualisation, calculation, analysis and reporting, including:

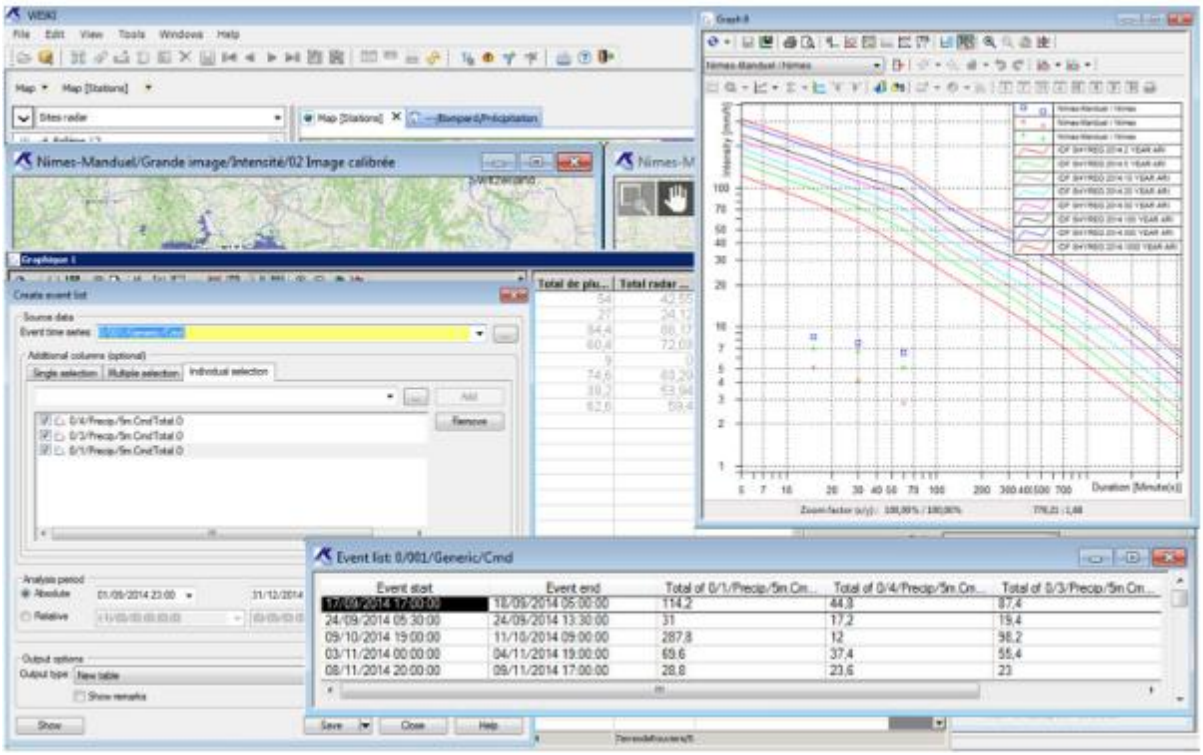
- Visualising raster data with animations



- Statistics per pixel and per catchment
- Calculations: aggregation e.g. hourly, daily, monthly totals as spatial information

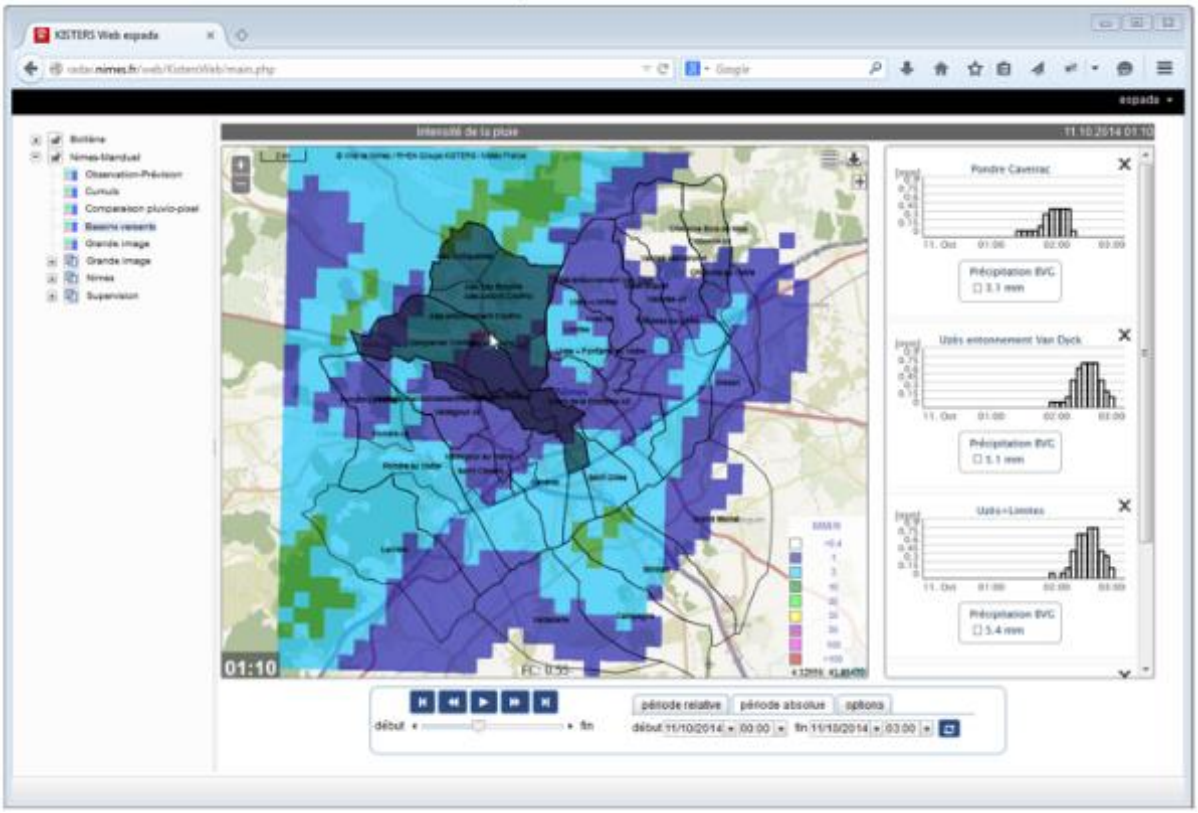


- Assessing the quality of radar data comparing it to rain gauge data
- Rain event analysis: Calculate return periods, create tables with totals by catchment and rain event



CALAMAR is available for web, tablets and smart phones, as well as a service for data feeds and third party applications. CALAMAR web has the following features:

- A dashboard (shown below) for operation centre monitoring
- Click on a pixel and get the corresponding time series graph
- Calculate totals on the fly and look into the region of interest
- Choose a catchment and get the corresponding 5 minute graphs of raster data extracted per catchment including totals per period



Advanced features planned for 2015 include forecasting and further calibration techniques. The WISKI

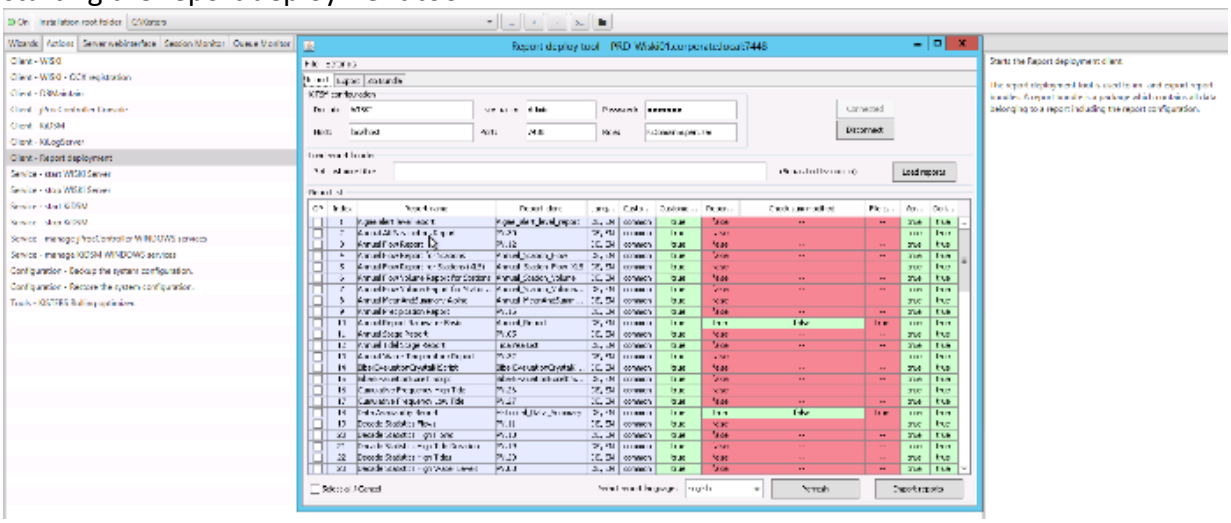
raster data format also has many potential future uses including satellite remote sensing data e.g. ocean surface temperatures, land humidity. Watch this space!

Monitoring WISKI server – some examples from WISKI server manager

The WISKI server manager allows besides the standard tasks to install and update a complete WISKI system several additional options to administrate and monitor a WISKI systems.

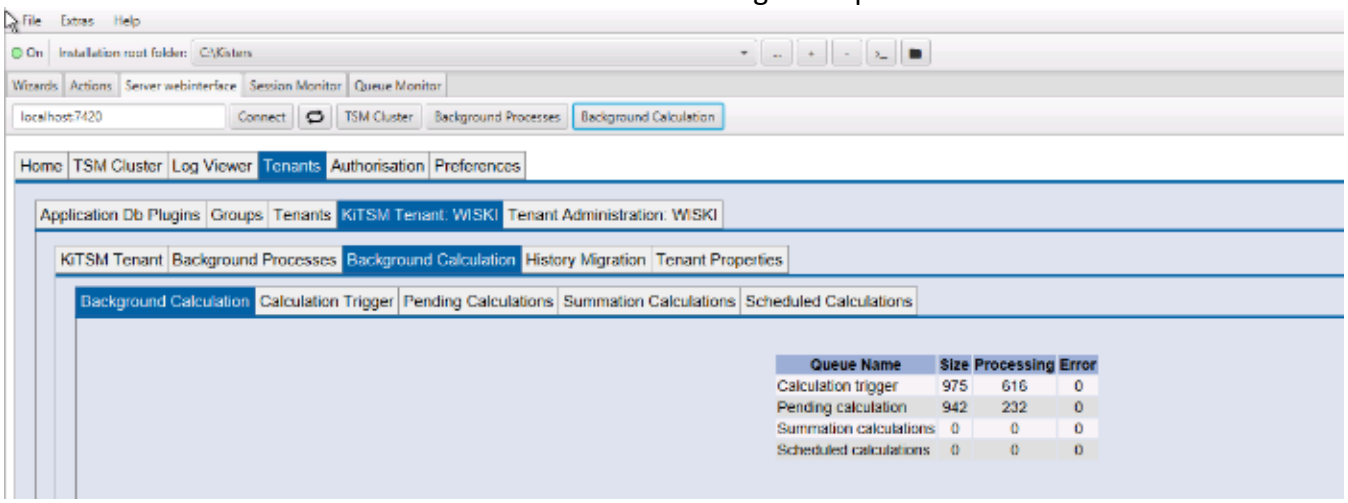
Some helpful functions and examples are described in the following:

1. The “Actions” tab integrates links to start client applications (like the logviewer or the jproccontroller), allows to start and stop the installed services (like WISKI server and KIDSM) and integrates tools like the rolling optimiser. A complete list of the actions is show in the screen shot below with the example of starting the report deployment tool.



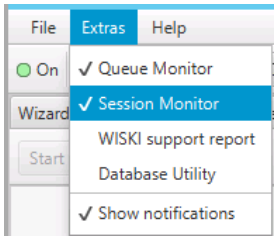
If you use the WISKI server manager for the actions above it integrates all your client applications and allows you to perform all tasks out of one application.

2. The server manager integrates the WISKI server web interface and gives you direct tabs to connect, check the TSM cluster nodes and check the available background processes and their status.

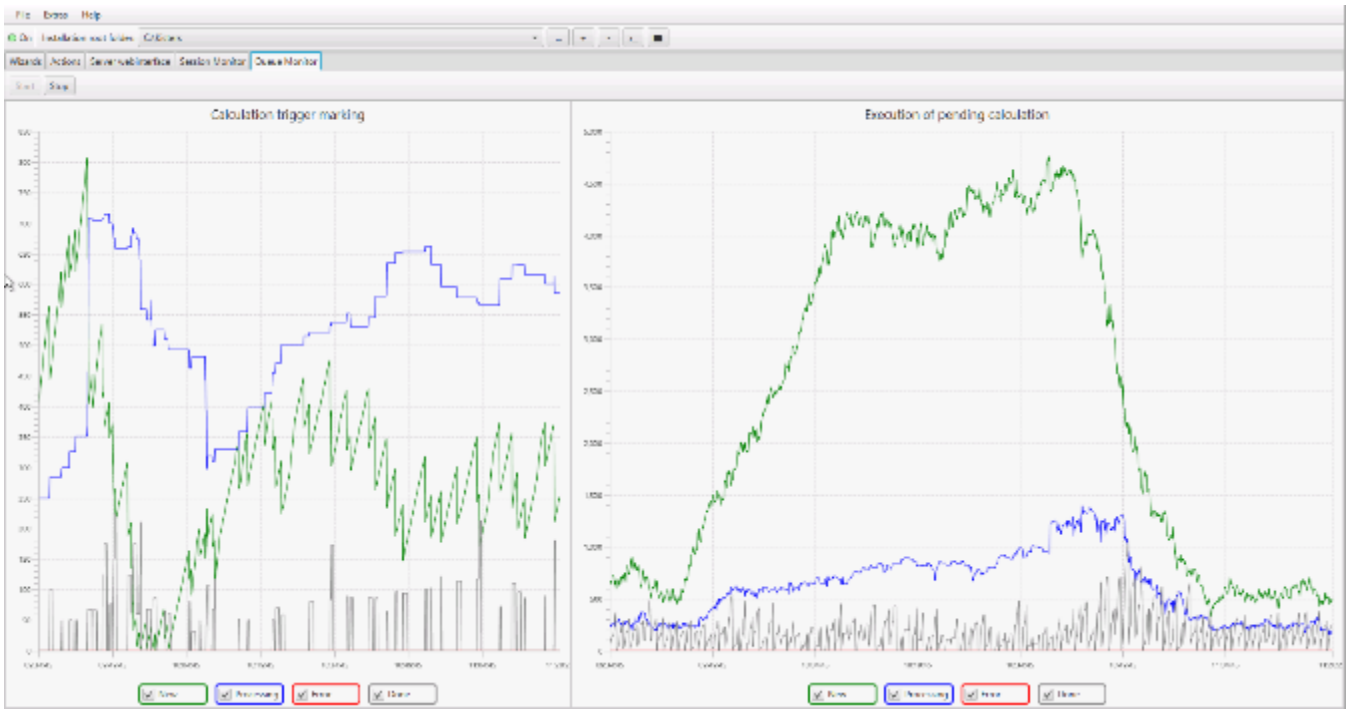


In the example above you need to select the tab “Server webinterface”, then select the “Connect” tab to connect to the webinterface and then choose the tab “Background calculation”.

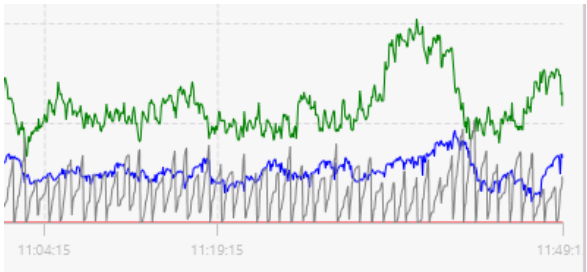
3. The “Extra” tab integrates quick health checks tools to monitor WISKI server performance in perspective to data import and a WISKI support report to generate basic statistics of a WISKI system.



Below an example of the queue monitor is shown. The graph shows the data processing of WISKI server over the last two hours for the calculation trigger marking (marking the dependent time series which need to be recalculated based on the imported values, left part of the graph) and the actual calculation of the marked time series (execution of pending calculation, right part of the graph).



In both graphs the green trace shows the new data coming in, the blue trace shows the time series which are in the state of processing and the grey trace shows the time series which were marked and calculated. As rule of thumb a healthy (balanced) system should show for the incoming data that all data is processed continuously and finished within the time increment before new data comes in. A graph would look like the following where any build-up of a backlog is avoided.

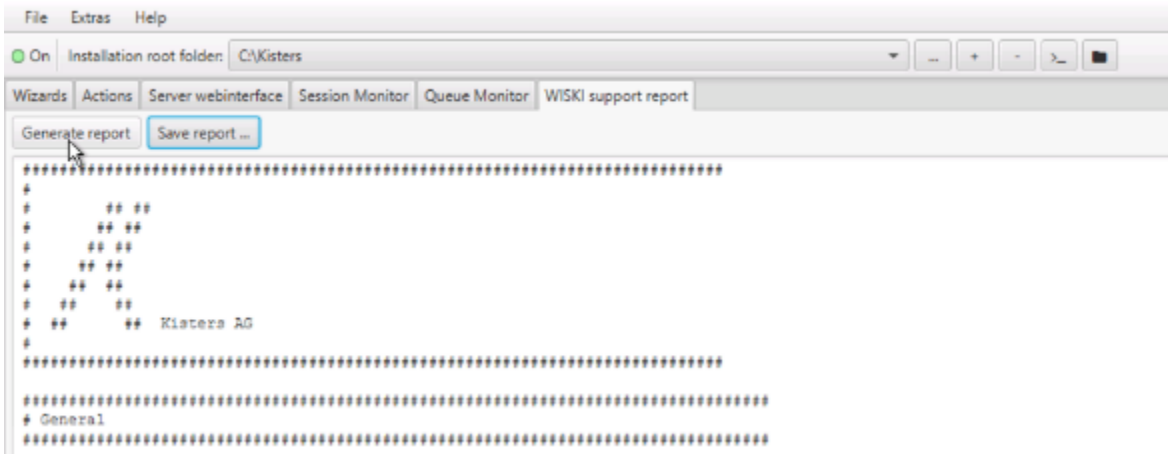


Normally, a system would be configured based on the planned and known data imports. This is done in selecting the right amount of background processes for marking and calculating and how many parallel threads each process (worker) can have. That analysis is based on your individual data imports and also has to take into account what the specifications of the server (memory and

CPUs) are and how many other applications are running on the system.

Coming back to the example above. In that scenario it happened that suddenly or planned (case can be a system failure over a period of some hours or additional data imports of historical data) more data needed to be imported in a certain time interval. The graph of the calculations suddenly showed a steep increase of new data coming while the processed and done trace picked up no more data jobs. The marking of the time series over that period of time seemed to be not affected and was still processing sufficiently. In that case the number of background processes for the execution of pending calculations were doubled (which the set-up of the server allowed) and also the number of threads for each process was increased. That change allowed more workers (threads of background process) to pick-up the calculations and the result is a drastic reduction of the back-up within about 30 minutes. The example shows a simple monitoring case where the change in the settings can be directly analysed in the queue monitor.

4. The option “WISKI support report” generates a comprehensive report of the WISKI system integrating server specification, WISKI version and statistics and data base statistics. The report can be accessed as shown below and should be included in the future to any major support cases.



In detail the report summarises:

- Server specifications
- WISKI client information
- General statistics

```
################################################################################
# General statistics
################################################################################


Number of sites                          : 111
Number of station                        : 2946
Number of parameter                      : 5195
Number of time series                    : 37964
Number of agents                         : 38194
Number DB users                          : 1
Data availability min                    : 1899/12/31 14:00:00
Data availability max                    : 4169/08/20 02:31:50
Years with data                          : 161199
```

- KiTSM statistics
- Cluster node information
- Storage in formation
- Session information
- Parameter statistics

```
################################################################################
# Parameter
################################################################################

-------------------------
 part_shortname_s
-------------------------
 S                  1029
 Precip             440
 WT                 392
 P_KP               291
 Depth_M            278
 Q                  228
```

- Time series statistics

```
################################################################################
# Time series
################################################################################

-------------------------------------------------------------
 ts_shortname_s
-------------------------------------------------------------
 Cmd.O                                                  2443
 Cmd.P                                                  2373
 Cmd                                                    1309
 CmdObs.O                                               1010
 Month.Mean                                             949
 Month.Min                                              920
```

- Agent statistics

```
################################################################################
# Agents
################################################################################

--------------------------------------
 agt_shortname_s
--------------------------------------
 mean, min, max time weighted  14749
 copy time series data         7909
 import time series data       6684
 KiBasic script                4748
 total, time based             2287
```

- Update history
- Exchange keys for which no time series could be found (from KiIOSys app log)
- Errors found in log files
- Build dependencies
- Check MSSQL server or ORACLE index fragmentation

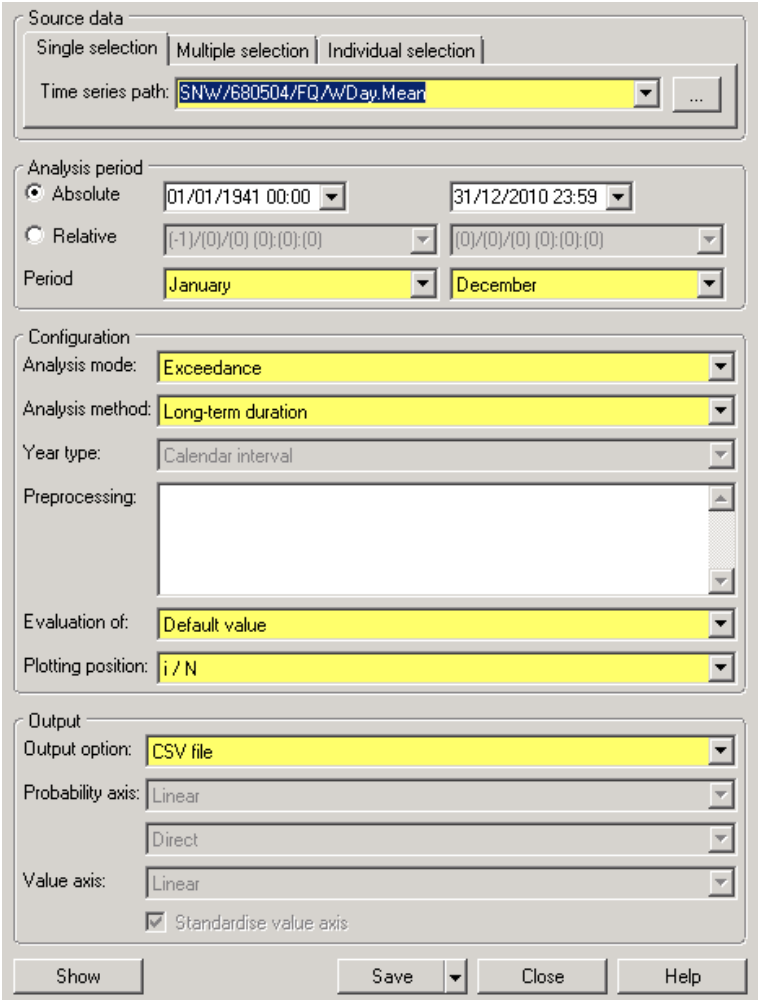
```
################################################################################
# Check MSSQL server index fracmentation.
################################################################################

-------------------------------------------------------------------------------------------------------------------------
 Schema  Table                          Index                          avg_fragmentation_in_percent  page_count
-------------------------------------------------------------------------------------------------------------------------
 dbo     ts_invalid_data                tsid_idx4                      99.72826086956522             368
 dbo     ts_invalid_data                tsid_idx7                      99.23830250272034             2757
 dbo     tdis_clnode_data               dccl_pk                        99.23076923076923             130
 dbo     ts_invalid_data                tsid_idx2                      98.37662337662337             308
 dbo     ts_state                       tsst_ak1                       98.0392156862745              51
```

Agent/Operation/Transformation – Get to know me

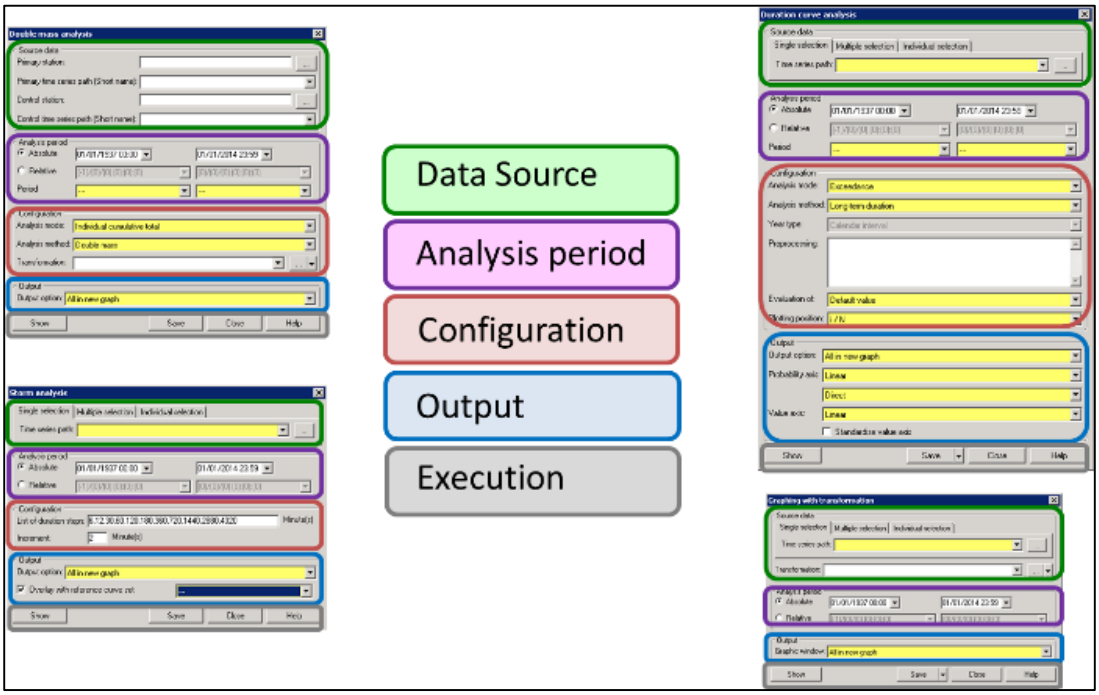
In this newsletter a general overview of how to use the operation framework is given.

In general an operation GUI is composed of the following elements (also shown in the screen shot below):

- Specifying source data
- Defining operation time range
- Configuring operation / calculation
- Configuring results / outputs
- Save configuration



The workflow above is in the following applied to some standard operations where the green marked elements refer to the data source, the pink marked elements refer to the analysis period, the red marked elements to the configuration, the blue marked elements to the output and the grey marked elements to the execution.



This concept is applied to all operations.

KISTERS Energy Products in South East Asia

In December 2014 KISTERS together with its partner INDRA finalised their first energy product sale in the Philippines market.

In the first half of 2015 KISTERS and INDRA will jointly deliver the BelVis platform for energy forecasting to MPOWER. MPOWER is the electricity retailer arm of MERALCO, the Philippines largest distributor of electricity with over 5 million customers and an important player in the entire South East Asian region.

The demand forecasts will be produced for both short and long term using calendar, meteorological, macro-economic and several other explanatory variables. The predicted demand load will be used for Energy Planning, Energy Trading, Retail Pricing, Product Development, Market Research and Analytics, Financial Simulations and the like.

The offer includes the two modules of the KISTERS energy platform:

- BelVis EDM – The KISTERS scalable and high performance time series management system for reliable and secure time series handling.
- BelVis PRO – The KISTERS forecast engine that opens up the entire world of algorithmic processes for the generation of high quality forecasts for use in the energy sector.

MPOWER will start benefitting from BelVis from June 2015, when the solution will go live.

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 the rest of 2015:

Course	Duration	Dates
Hydstra Modelling with MODSYN	2 days	12-13 May, 2015
Advanced WISKI	2 days	17-18 June, 2015
Administering Hydstra	2 days	23-24 June, 2015
Advanced Hydstra	2 days	28-29 July, 2015
KiWQM (WISKI Water Quality Module)	2 days	04-05 August, 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

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.

Information

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

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