KISTERS Australia News

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From The GM's Desk

By Bill Steen, General Manager, KISTERS Pty Ltd

Welcome to another edition of the KISTERS newsletter.

The past few months since the last newsletter have been quite hectic with several new major projects, including new installations, plus the ongoing consulting. Watch this space over the coming newsletters for updates on the various projects as we are confident these will be of interest to the wider KISTERS community.

As discussed in the last newsletter the KISTERS biological product, KiEco seems to be one of the flavours of the year with more installations coming up and more interest shown in the product. If you would like further information please contact support@kisters.com.au

The KISTERS annual user group meeting will be held on the 12th November in Canberra. The meeting will coincide with the Australian Hydrographers Association conference. Registrations for the KISTERS User Group day can be made online at http://kisters.com.au/news.html, just follow the links. You can also book both events online at https://aha.net.au/development/aha-conferences/aha-2018-conference/ .

If you happen to be travelling in the USA in September then come along to the KISTERS North America User Group meeting to be held at the Bahia Resort Hotel, San Diego, California on September 10 and 11th. For further information please contact : becca.fong@kisters.net.

Bill Steen
General Manager

KISTERS Pty Ltd

KISTERS User Group and AHA Meeting

The KISTERS User Group meeting will be held in conjunction with the AHA conference in Canberra this year at the Southern Cross Club, 92 Corinna St, Woden ACT , the same venue we used two years ago. The KISTERS User Group meeting will be held on Monday 12 November, starting at 9am with registration and coffee from 8:30. Registration for the KISTERS User Group is a component of the AHA registration, which can be found at https://aha.net.au/event/kisters-users-group-2018/ and then select Register Online. Registration for our day is $490 inc GST.

You can if you wish just attend the KISTERS User Group and not the rest of the AHA conference:

Tickets required *

- [ ] Full conference inc. welcome reception, dinner
- [ ] Day registration Tuesday
- [ ] Day registration Wednesday
- [ ] Day registration Thursday
- [ ] Welcome reception Monday
- [ ] Conference dinner Tuesday
- [x] Kisters User Group Monday

It's too early to publish a complete agenda for the KUG meeting, but we can promise the usual mix of What's New in the various KISTERS products, along with Peter Heweston's technology talk. We will be discussing a major client Hydstra migration into the Amazon Cloud and Damian Skinner will be addressing the Do's and Dont's of a professional IT approach to such a migration. Chris Michl will be showcasing some of the recent KISTERS Web Portal based technologies.

Google Introduces Google Map API Usage Charges

The Google Maps API has until now been free until loads per API key exceed 25,000 per day which has effectively meant the service has been free for all Hydstra/WEB clients.

On 2 May 2018 Google announced changes to their business model for Google Maps, see https://mapsplatform.googleblog.com/2018/05/introducing-google-maps-platform.html

Some other relevant Google announcements include:

https://mapsplatform.googleblog.com/2018/06/new-plan-changes-going-into-effect-july.html

https://developers.google.com/maps/billing/important-updates

https://developers.google.com/maps/documentation/javascript/usage-and-billing

With effect from 16 July 2018, Google is introducing new pricing thresholds and billing arrangements, and Hydstra/WEB users will need to obtain and pay for their own API key.

The Hydstra/WEB portal uses Dynamic Google Maps which, under the new pricing, will include 28,000 calls per month for free, then the charge will be $7.00 per 1000 calls (0-100,000 calls) and $5.60 per 1000 calls (100,001 - 500,000). A call will be accumulated each time a user clicks on a site in Hydstra/WEB if the site has a map on the opening page.

Please contact Denby Angus at KISTERS for more information.

Sending Groundwater Data to BOM

HYWDTF_OUT Enhancements for Groundwater Data

The Bureau of Meteorology (BoM) is keen to receive groundwater data from all Hydstra clients who are measuring it, in particular water levels and conductivity data. Over the years Hydstra users have chosen how to store GW data depending on whether they had only Hydstra/TS, or also had Hydstra/GW and Hydstra/WQ licences.

- Manually read groundwater levels are typically stored in the HYDMEAS table of Hydstra/GW
- Continuously logged water levels are typically stored as time-series in Hydstra/TS
- If a user doesn't have Hydstra/GW then manual water levels are sometimes stored in Hydstra/TS as a sparse trace
- Water quality parameters such as conductivity, pH and temperature can also be stored in HYDMEAS, if the agency has a Hydstra/GW licence
- Or they can be stored in Hydstra/WQ tables such as SAMPLES, RESULTS and WREHOUSE if they have a Hydstra/WQ licence
- Or they can be stored in Hydstra/TS as time-series.

The BoM provides an excellent discussion of groundwater and WDTF in a PDF document that is distributed in the WDTF release. The release can be found at http://www.bom.gov.au/water/standards/wdtf/wdtfDownload.shtml and the document can be found in the 1.2 release at *release-wdtf-package-v1.2\doc-files\doc-handcrafted\GroundWaterObservation.pdf* once you have unzipped the package. An older version can be found in the 1.0.2 release at *wdtf-package-v1.0.2\documentation\wdtf implementation of groundwater data.pdf*.

New versions of HYWDTF_OUT and HYXL2BOM have been released in June 2018 which better describe groundwater data from Hydstra/GW. New keywords and values have been introduced in HYWDTF_OUT.INI for **gwdb** type entries including:

- time series status=**manualRead** (indicates manual readings vs logger data). This new status can be applied anywhere manually read data is being sent.
- **statusmap**=DR,dry,03,pumping (allows for dry readings or readings while pumping)
- **direction**=down (indicates direction of increasing positive readings)
- Additional information on measurement datum changes is sent in a file **HYDRLMP.CSV** as the WDTF specification was clumsy in this area

Please ensure you are running a V11 or V12 patch dated later than 21/06/2018 to activate the new features, and then update your HYWDTF_OUT.INI. We have added a new chapter to the Hydstra Help entitled *Sending Groundwater WDTF to BoM* with more detailed instructions and examples.

As groundwater levels can be logged and stored as TS files or manually read and stored in HYDMEAS you may need two sections in HYWDTF_OUT,.INI to distinguish these cases, as in the following example:

```
[BoM_Reg201205_s3_2a_discrete]
regulation=Reg201205.s3.2a
;Sampled Ground water level, expressed in metres
;type gwdb says data comes from Hydstra/GW database tables.
job type=gwdb
;data owner=w00nnn
time series status=manualRead
security=Unclassified
#source is groundwater level variable in HYDMEAS, just the integer part - no subvar
source=110
parameter=GroundWaterLevel_m
sites=hydsys01,hydsys02
```

```
[BoM_Reg201205_s3_2a_continuous]
regulation=Reg201205.s3.2a
; Logged Ground water level, expressed in metres
;type tsraw says the data comes from time-series files.
job type=tsraw
;data owner=w00nnn
time series status=validated
security=Unclassified
#source is datasource and variable, including subvar
source=a,110.00
parameter=GroundWaterLevel_m
sites=hydsys01,hydsys02
```

Hydstra Product News

Hydstra V12 Released August 2017

Hydstra V12 was released a year ago, and is available on the web site. We talked about V12 at the 2017 US and Australian User Group meetings, but the following points should outline some of the more important changes:

- New Delphi compiler XE6 with FireDAC Universal Data Access library should mean faster access to SQL Server data
- Support for HTML, PDF, CSV and XLSX outputs from many programs, such as HYDAY and HYFLOW
- Site id extended to 20 characters everywhere
- Time-series data in a single file, no index files any more
- Multiple log offsets in rating tables for US clients
- Help documentation distributed as HTML files
- Web services support CSV returns for some calls
- Synchronising datasource for accessing data from external web APIs
- HYCANVAS framework for processing GoCanvas field data submissions
- Reporting of site-based HYGIENE failures to region or site owners
- Significant refresh of the Hydstra/WEB look and feel.
- Hundreds of individual program enhancements

Please contact support for a V12 HYACCESS file, and plan to do an offline test upgrade first if at all possible. If you can't do a test upgrade we suggest you wait a few months before upgrading - remember the old adage about how you can tell the pioneers by the arrows in their backs.

Development of V11 Ceases

As of 16 August 2018 we propose to cease all further development work on V11, and will only be patching it in the case of major bugs. No new client development work will be done on V11. Please consider upgrading to V12 as soon as practicable if you have not already done so. Please contact KISTERS Pty Ltd for advice about upgrading, or commission us to assist in the practical issues of implementing the upgrade to V12.

Version 10 is Unsupported

It is worth noting that now Hydstra V12 has been released, support for Hydstra V10 has ceased. If you are still running V10 please plan to upgrade immediately. Hydstra 10.04 was released in August 2012, almost six years ago, and 10.03 was released in September 2010, over seven years ago. Much has changed since then, both in our world, but more importantly in the Windows hardware and software world.

Upgrading from Earlier Hydstra Versions

Hydstra V9 still continues to run (just), even though it is unsupported. You may have difficulties registering and running the old HYDLL COM object on later versions of Windows as it requires registration as an administrator, which is why we introduced HYDLLP, which links as a DLL and doesn't require registration.

More serious problems will arise when you have to upgrade to a 64 bit operating system as many old 16 bit utilities in V9 won't run at all.

However you can put the V9 system on a modern 64 bit Windows 10 machine, on which it won't run, but it doesn't need to run to be upgraded to V10 and then to V11 and V12 in turn. Note that you can only upgrade one version step at a time.

If you are really stuck in the past you may need to start thinking about creating a 32 bit virtual machine running Windows XP to preserve your favourite legacy apps into the indefinite future.

New DLL Call to Write Table Data

We have introduced a new DLL call in V12 *write_table_data* that allows you to directly write data to work area tables. We have also introduced a new Perl module HyDbDll.pm to simplify the process for Perl users. The new method is much faster in all circumstances than using the HyDB Perl library we have used historically to write database information.

External Access to Hydstra from HYDLLP, Web Services and Hydstra/ODB

Hydstra can integrate with other corporate systems in a number of ways, ranging from simple batch import/export scripts to more integrated solutions using the Hydstra DLL API or SQL methods.

Using the DLL you can read and write both time-series data and table data. You can find updated example code in recent releases of Hydstra V12 under \hyd\sys\perl\examples. Examples of interest include:

- HYDLLP Example Access.accdb
- HYDLLP Example Delphi.dpr
- HYDLLP Example Excel.xlsm
- HYDLLP Example Perl.pl
- HYDLLP Example Python.py
- HYDLLP Example VBA.xlsm
- HYDLLP Web Services Example Perl.pl
- HYDLLP Web Services Example Python.py
- HYDLLP Web Services Example R.r
- HYDLLP Web Services Example VBA.xlsm

We also document how to access time-series data via ODBC from other languages using the Hydstra/ODB module. You can always access Foxpro and SQL Server table data via ODBC for read access - see HYDBSQL for more details.

ODBC examples documented in the Help file show how you can access time-series data from:

- Excel
- Access
- SQL Server
- Pi ProcessBook
- Perl
- Python
- R

Note - we strongly recommend that you never alter Hydstra data via ODBC, as the Hydstra business rules and checks are not applied. Furthermore the Foxpro ODBC driver doesn't update indexes and may leave the tables in a broken state.

HYFILER Script Files

HYFILER has a scripting capability that allows you to run multiple HYFILER commands in one run of HYFILER. It includes looping construct over site lists, and it can be much more efficient to run HYFILER once than to instantiate hundreds or thousands of separate runs.

The follow example shows a HYFILER script that truncates telemetry files to contain the last 180 days, while keeping a long-term archive of telemetry data.

You can run a HYFILER script by specifying the script name on the command line:

```
hyfiler @myscript.txt
```

where the script might be something like:

```
LIST c:\temp\temp\hyfiler.txt
:: note that ? gets a random (and very temporary) datasource, and ^ refers to it
FOR TSFILES(TELEM) TELEM
  :: get out old data and write it to the telemetry archive
  subset * TELEM ? 0-9999 01/01/1900 N-180/N/N N +c:\temp\temp\hyfiler1.txt
  append * ^ TELEMARCH
  :: now trim off all but the last 180 days
  subset * TELEM ? 0-9999 N-180/N/N 1/1/n+1 N +c:\temp\temp\hyfiler1.txt
  :: delete the existing file
  delete * TELEM
  :: copy the shortened subset back
  copy * ^ TELEM
ENDFOR
```

Perl Tips and Techniques

We have recently developed two new Perl objects libraries for V12.

- HyDbDll.pm allows you to directly write database table information to a work area using the DLL.
- HyGauge.pm simplifies the development of importers to HYGAUGE.EXE

They are documented in the Perl Help system in HYXPLORE.

Writing database records - new DLL call, new HYDDLLP modules.

Sending Messages via Whatsapp

We recently develop a Perl to script send messages to groups of users via WhatsApp. Please contact Dylan Evans at Dylan.evans@kisters.net for more information.

The Dangers of Accepting Lollies from Strangers

Occasionally a user runs HYGIENE and encounters a large number of errors in their time-series files - errors including unknown variables, unknown quality codes, variables of the wrong datatrans and the like. Often these problems are caused by blindly dropping in Hydstra time-series files from another agency without considering the consequences. Time-series files are NOT interchangeable between agencies, as they contain encoded data such as site identifiers, variable numbers, quality codes and the like, and the agency from whom you received the files may not share your view of the world.

There are a number of ways in which you can avoid such problems, but they all require a modicum of care and negotiation:

- Arrange for direct feeds from other agencies' loggers. In these days of FTP and UDP loggers this can be relatively painless.
- Use web services to pull data from agencies who publish web services. The Synchronizing Datasource can be helpful here.
- Use text files to exchange data, taking care to map variables and quality codes on import

- Copy Hydstra/TS files to a holding area and use HYTRAN to translate variables and quality codes from the sender's standards to the receiver's standards. Use HYREP CHECK to ensure that all is clean before attempting to import the files.

Hydstra/ODBC Introductory Video

We recently recorded an introductory Camtasia presentation on Hydstra/ODBC, the ODBC driver that allows external programs to access time-series files as if they were a SQL database. Once Hydstra/ODBC has been installed and configured you can execute command such as

```
SELECT * FROM TSPOINT WHERE (SITE = 'HYDSYS01' AND DATASOURCE = 'A') AND (DATETIME >= '2010-01-01') AND
(DATETIME <= '2011-01-01')
```

Hydstra/ODBC presents four virtual tables which you can query:

- TSPOINT - raw time-series data points
- TSPERIOD - periodic data like 15 minute means, daily maxima, 1 day totals etc. TSPERIOD also includes variable conversions, so you can query flow from height etc.
- TSFILE - data about time-series files and datasources, including the date of last modification
- TSBLOCK - list of blocks in a file, including all audit information like date, time and user who last modified the block.

Hydstra/ODBC can be called by virtually any software that can call an ODBC datasource, and we have examples of calling it from Excel, Perl, R, Python, SQL Server Management Studio and Pi Process Book.

Using Hydstra/ODBC you can easily integrate your time-series data into various modelling frameworks that are SQL aware.

Please contact KISTERS support for details on how to access the introductory video, and if you wish, for pricing information.

Sending TLS Encrypted Emails from Amazon

It appears that in the Amazon AWS world the Amazon email service uses a secure email protocol called SMTP TLS. TLS stands for Transport Layer Security, and is a successor to the SSL protocol. SSL has so many vulnerabilities it has been deprecated and likely cause security warnings in your browser.

Unfortunately HYMAILER is unable to use SMTP TLS at this stage, however we have documented a workaround whereby an IIS server can act as a relay. Since most Hydstra Amazon users have a web server as well this technique seems to work well enough for now. See *Integrating IIS SMTP server with Amazon Simple Email Service* in the Help file for more details.

Preparing for GDA2020 and MGA2020

At the 2016 KISTERS User Group meetings we discussed the effects of continental drift on mapping, particularly in Australia but also elsewhere in the world. In Australia new geodetic datums called GDA2020 and MGA202 will come into effect soon. You can read about the changes at https://www.icsm.gov.au/datum/what-gda2020 . In the USA similar changes are foreshadowed in https://www.ngs.noaa.gov/web/news/Ten_Year_Plan_2013-2023.pdf .

In the very short term all you need to do is add appropriate codes to the MAPLL and MAPGRID codes.

We will in due course code the new datums into our existing code that checks for consistency between lat/long and grid references (In Australia only) and into HYDBUTIL MAPCONV.

Changes to how HYMANAGE restricts table modification based on user level

We have changed the way HYMANAGE behaves based on required minimum user level, specifically for linked manages. Previously, in order to modify a table, you needed to have a sufficient user level not only for that table, but for all of its child tables.

If you have write access to a table, but not all of its children, we now allow certain modification actions to occur, as long as they have no effect on child tables.

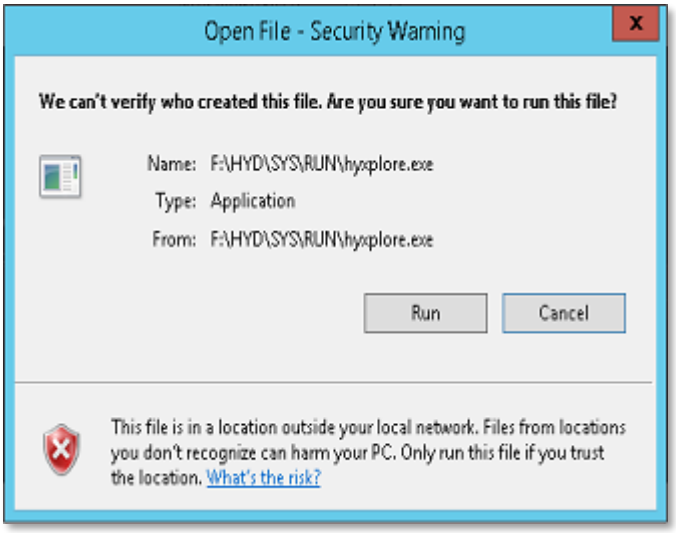
This means – if there is a child table you are not authorised to edit, but you will be able to add new records to the parent table, and perform modify, delete, and record-copy – but only for parent records with no corresponding child records in the disallowed table(s).

If there are child records that you are not allowed to modify, then you can still add records to the parent table, and even modify them (but not any key values). You will not be allowed to perform delete or copy-record operations.

This feature has been patched to v12.00 only

Annoying HYXPLORE Startup Message

Do you get an annoying dialog every time you start HYXPLORE of the form:



Despite the fact that we are now signing our EXEs this message can still pop up on some systems, particularly when running from a networked drive. It turns out to be easily solved, and this link explains how:

https://www.technipages.com/fix-we-cant-verify-who-created-this-file-error

Locating TEMPPATH via HYCONFIG

Our recommended approach to locating TEMPPATH and all the other temporary paths (PRIVPATH, PRMPATH, PRIVSLPPATH, JUNKPATH) is to specify a prefix in the [Path Prefixes] section of HYCONFIG.INI. We have often recommended something like

```
[Path Prefixes]
\HYD\=f:\hydstra\prod
\TEMP\=c:
```

Note that all paths prefixes MUST have a trailing slash on the left, and NO trailing slash on the right.

Never explicitly specify the TEMP folders in a [Temporary Paths] section, as you may well forget to do them all and find some of them going to a default place.

We have realised that having the string '\TEMP\' inside the path prefix can lead to messy recursion when SVRRUN start creating its own temporary paths under TEMPPATH, and so in V13 we will warn against using '\TEMP\' anywhere in the TEMP path prefix.

My personal practice is to use 'HT' (for Hydstra Temp) as the prefix.

```
[Path Prefixes]
\HYD\=f:\hydstra\prod
\TEMP\=c:\ht
```

There are a number of factors affecting where the Hydstra TEMP folders should be located. The most important thing is that read and write speed to the TEMP folders be as good as possible, as JUNKPATH is used extensively as a temporary location when updating time-series files in the workbench and with HYFILER. If you are running in a networked environment from your own PC there's an argument that your local drive should hold TEMP files:

```
\TEMP\=c:\ht
```

However in a cloud environment all users may see the same C: drive, in which case you need to include the user id to distinguish between users

```
\TEMP\=c:\ht\&env-username.
```

There is also an argument in a networked or cloud environment that the Hydstra administrator be able to see all temporary files, in which case perhaps the TEMP folders should be on the same networked drive as Hydstra:

```
\TEMP\=f:\hydstra\ht\&env-username.
```

The allows the administrator (and HYGIENE) to look for stray INI files, dead work areas, etc.

If you are in the habit of running different versions of Hydstra, for example you run V11 in production and V12 as a test, you should ensure that the TEMP folders are different between them, as some files are not compatible between versions. In this case you may wish to use something like

```
\TEMP\=f:\hydstra\ht\&env-username.\test
```

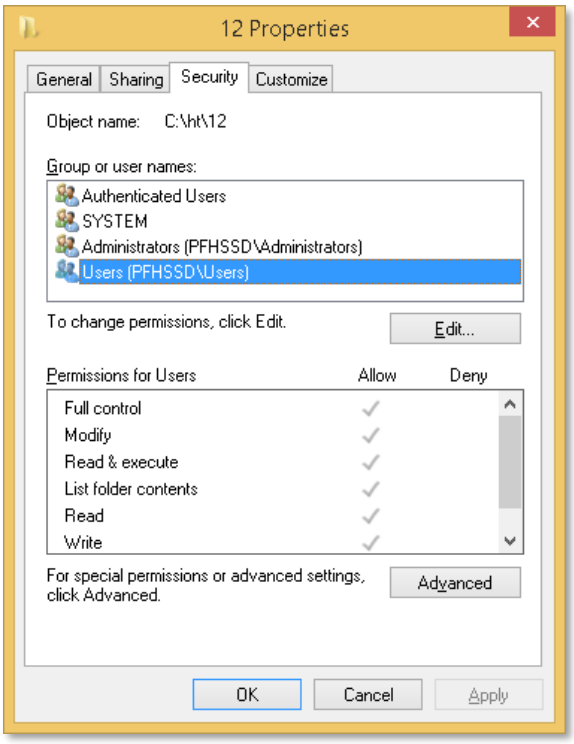
For your test system and

```
\TEMP\=f:\hydstra\ht\&env-username.\prod
```

For your production system.

One situation to avoid like the plague is to have Hydstra in the cloud somewhere and your TEMP folders on a local drive on your PC - that will be completely unworkable as the bandwidth between your PC and the cloud will be totally inadequate. Likewise you should ensure that the TEMP folders are in the same computer centre, and close to, the Hydstra drive, and not across town on a WAN or you'll have the same performance problems.

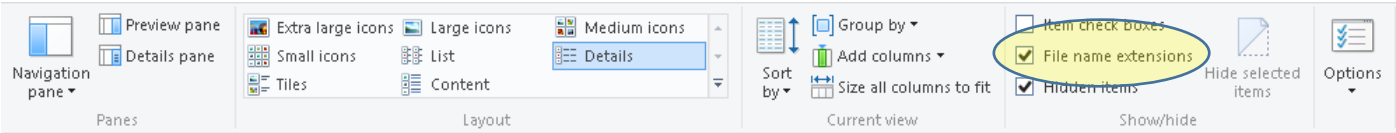
If you create a new folder on the root of a drive it will not by default have the correct permissions, and you need to right click, go into Security, and ensure that Users have full permission to the TEMP tree:



Show File Extensions in Explorer

Every new version of Windows Explorer comes with file extensions hidden by default, as if we are all idiots and knowing a file extension is too complex for us to understand. Unfortunately operating a system with file extensions hidden will eventually make an idiot of you, for example by saving a file as HYACCESS.INI.INI or HYACCESS.INI.TXT and swearing it was there, why couldn't Hydstra find it!

In recent versions of Windows it's quit simple - in File Explorer under the View menu there's a checkbox:



Change in Default Destination in HSC Scripts

We have slightly changed the behaviour of how HYSCRIPT jobs handles the report file specification in V12. One consequence is that if your script has a line in it of the form:

```
OUT = 16 +1 INPUT    CHAR        20   0   FALSE    TRUE    0.0 0.0 '#PRINT(P            )'
```

Then the default output will go to the printer unless you change it. Please look through all your .HSC files in INIPATH and change the default output to **#PRINT(SCREEN)** in V12. **We have fixed all delivered HYSCRIPT jobs in MISCPATH.**

WISKI Product News

Release Management and Client Base

The current software version is WISKI 7.4.7, which has many further functional developments for the water ecology package KiEco and performance improvements for WISKI server. WISKI 7.4.7 will be the recommended WISKI release for the rest of 2018. Most WISKI customers have recently upgraded to WISKI 7.4.7 or have upgrades pending.

WISKI Support Email and Help Desk

Contacts for the WISKI team at KISTERS in Australia:

Vicky, Chris, Markus and Callum (web developments) offer specialised support for the KISTERS products WISKI, KiWQM, KiEco, KiDSM, KiALM, Water Portal, WDO and KiWIS in Australia and New Zealand.

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, Markus or Callum please cc the support box so a central register of issues can be maintained.

The latest WISKI releases can be found on our download portal at http://kisters.com.au/downloadswiski.html, or can be accessed by navigating through to the support page from http://kisters.com.au.

To acquire a username and password to access the download portal please contact the KISTERS support team over the phone at (02) 6154 5200 or email at Wiski-Support@kisters.com.au.

New Python API over KiWIS

KISTERS is pleased to announce to our customers the release of the first version of a new Python API for use with Kisters Web Interoperability Solution (KiWIS). The API sits above KiWIS and is freely available for all customers with KiWIS licenses.

The API is available publically from PyPI and can be found at the following URL:

https://pypi.org/project/kisters.water.time-series/

The API can be installed into any Python 3 environment using pip or pip3 from the command line

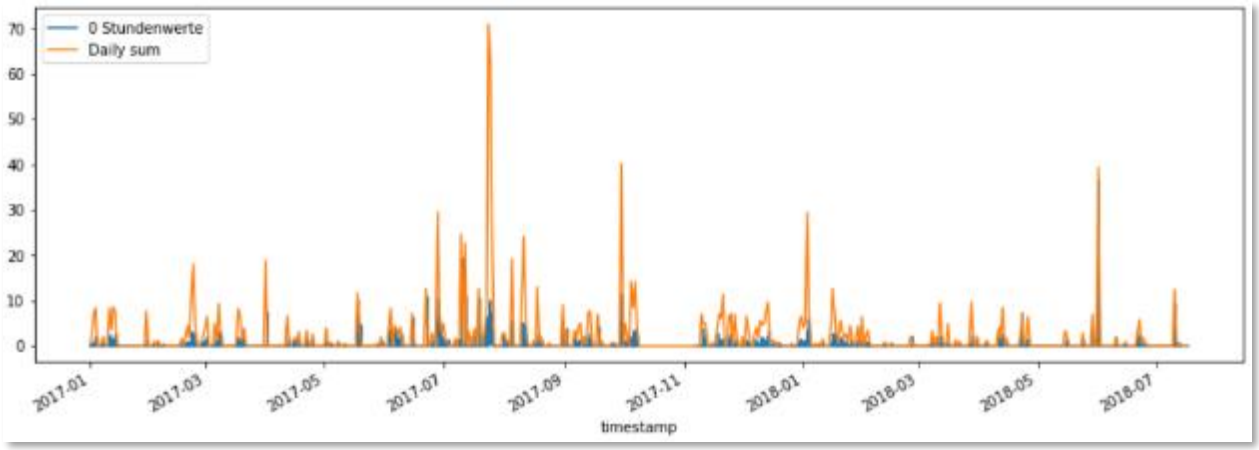
```
pip install kisters.water.time-series
```

So far the API can be used to read metadata and time series data, but not to write data.

An example of how to utilize the Python API is given below:

```
from datetime import datetime
import matplotlib.pyplot as plt
from kisters.water.time_series.kiwis import KiWISStore

#Initialize KiWISStore object with url to location
kiwis = KiWISStore("http://kiwis.kisters.de/KiWIS2/KiWIS")

# Get time series list by path filter
ts_list = kiwis.get_by_filter("123/*/Precip/MMonth.Total")

# Get time series by path
ts = kiwis.get_by_path("DWD/07367/Precip/CmdTotal.1h")

# We can access timeseries metadata as a dict using the metadata attribute
ts_metadata_dict = ts.metadata

# Which returns
{'from': datetime.datetime(2007, 12, 1, 0, 0, tzinfo=tzoffset(None, 3600)),
 'to': datetime.datetime(2018, 7, 16, 23, 0, tzinfo=tzoffset(None, 3600)),
 'tsPath': 'DWD/07367/Precip/CmdTotal.1h',
 'shortName': 'CmdTotal.1h',
 'id': 7411042,
 'name': '0 Stundenwerte',
 'dataCoverageFrom': datetime.datetime(2007, 12, 1, 0, 0, tzinfo=tzoffset(None, 3600)),
 'dataCoverageUntil': datetime.datetime(2018, 7, 16, 23, 0, tzinfo=tzoffset(None, 3600))}

# Access the time series data in the form of pandas DataFrame
df = ts.read_data_frame(datetime(2017, 1, 1), ts.coverage_until)

# Plot the data
plt.figure(figsize=(15, 5))
df["Value"].plot(label=ts.name, figsize=(15, 5))
df["Value"].resample("D").sum().plot(label="Daily sum", figsize=(15, 5))
plt.legend(loc=2)
plt.show()
```

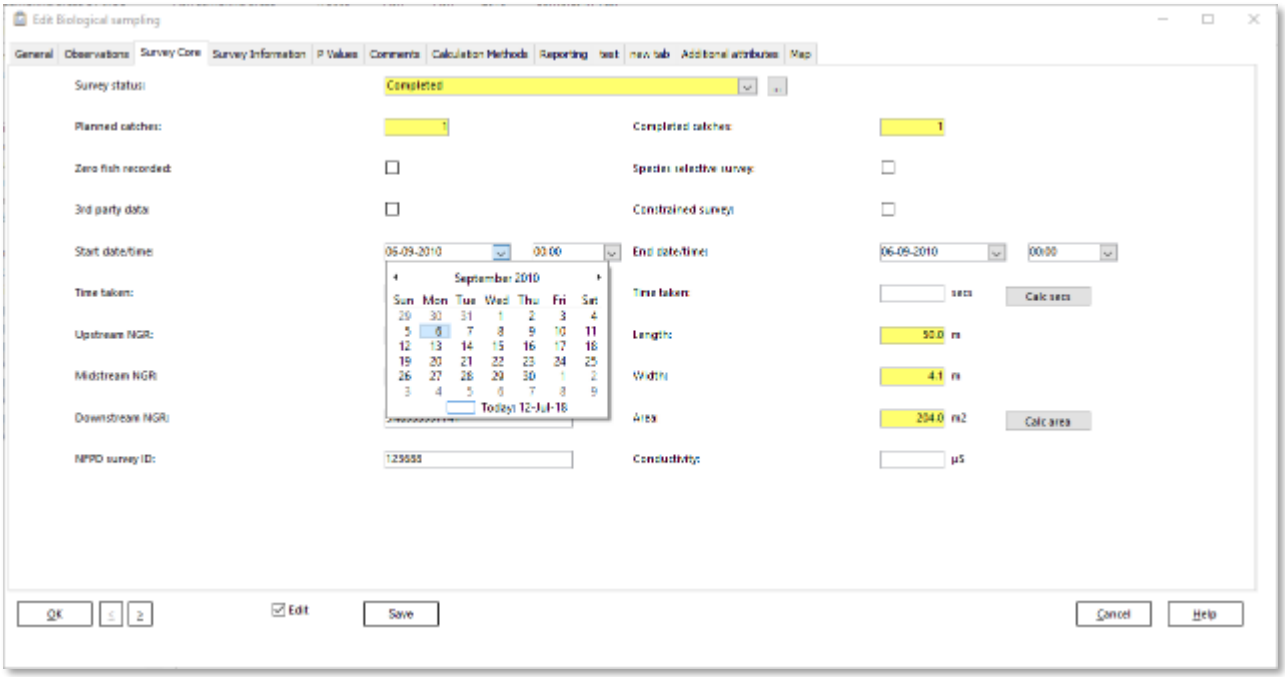
which produces:



New Features in Metadata Management 7.4.7

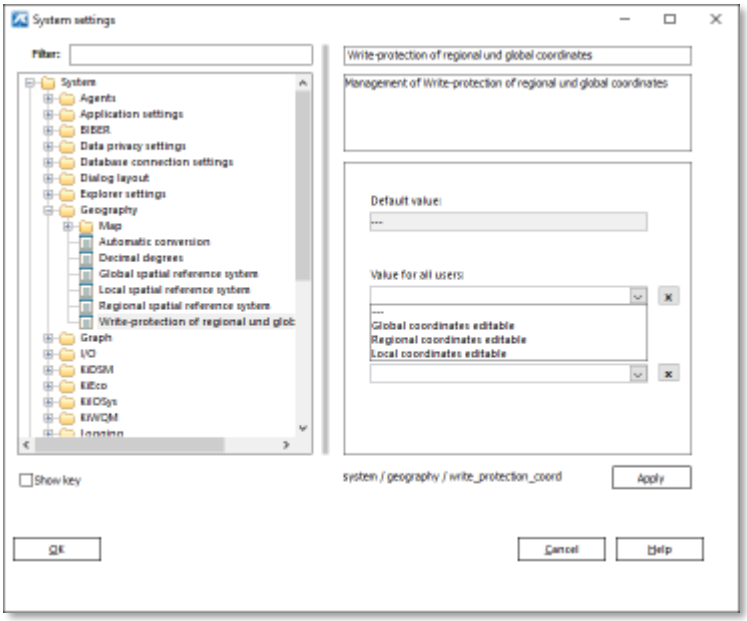
1. ***Calendar-control in metadata GUI for user-defined time-stamp attributes***

Now when you define an additional attribute as a timestamp a calendar control is used within the GUI



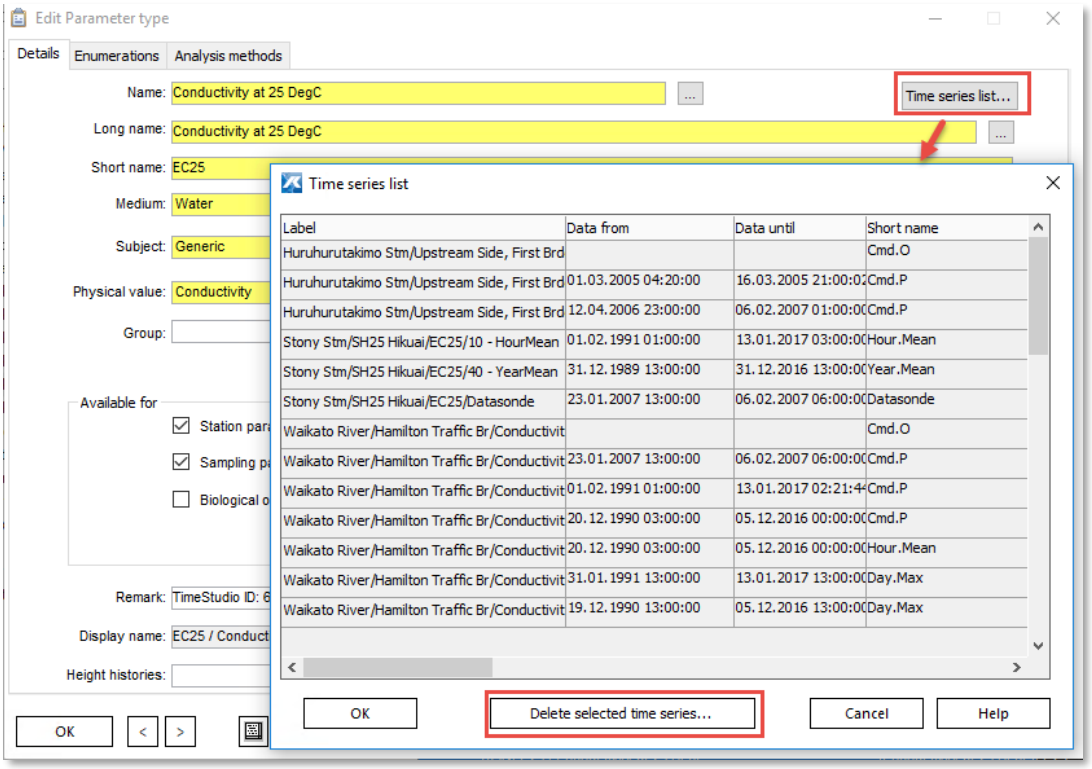
2. *System setting for write-protection of calculated coordinates*

A new system setting has been introduced to allow data entry into only one set of station coordinates i.e. either local, regional or global. This will allow you to control which field is used for data entry and write protect the other calculated fields. The system setting can be found under:
System > Geography > Write protection of geographical coordinates



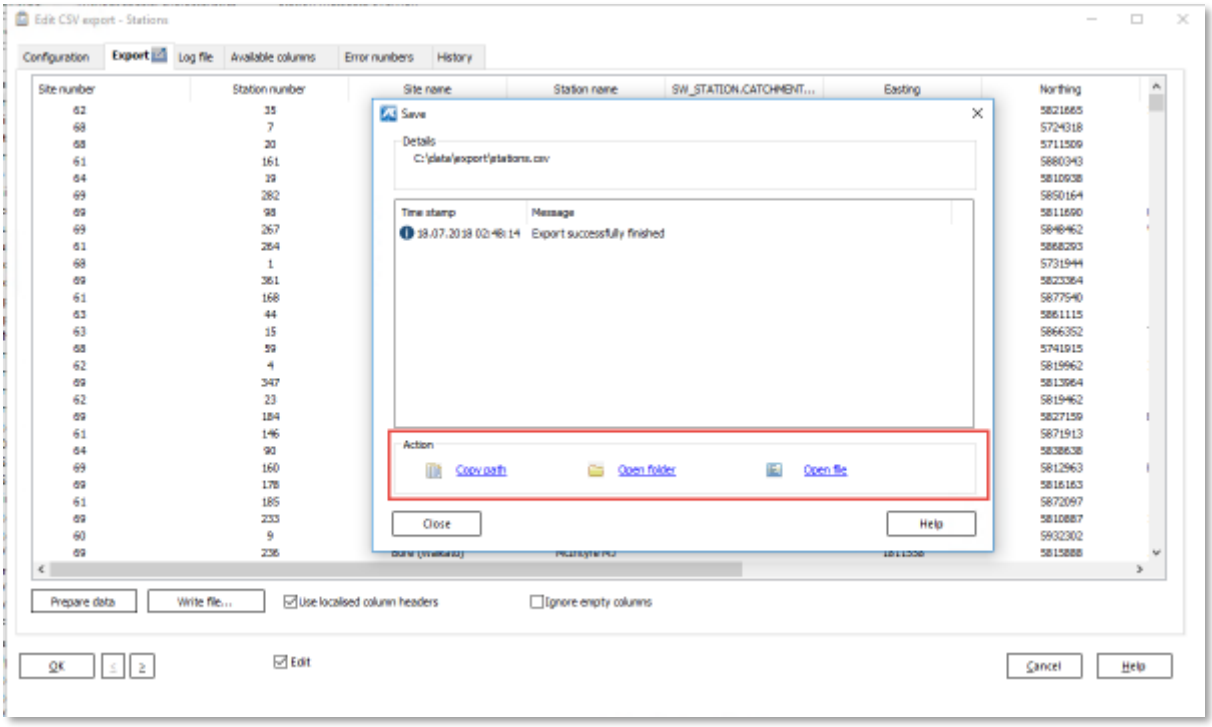
3. *Check for dependent time series of a parameter type*

Now when deleting a parameter type, the system will check for dependent time series and not allow the deletion to proceed. You can then check for and delete related time series by using the “Time series list..” button on the Parameter type form as shown below.



4. Meta data export: Introduction of export window with the possibility to view the export file and/or location

The export of metadata now comes with a final dialog that allows you to either view the exported file, open the file location or copy the path.



KiWQM and KiEco user forum

We are pleased to announce the launch of a new user forum for the KiWQM (Water Quality) and KiEco (Biology) modules. You can find the forum at https://forum.waterdata.online/ .

You can browse the forum as a guest or register to participate in the discussions. Simply click on **Register a new account** to sign up. You will find a news section for each module, where we will publish details regarding new features available within each release as well as the official release notes. This will help your system upgrade planning as well as keeping you informed about new developments. There is also a questions thread for each module where you can post about any topic whether it be an issue, suggested enhancement or just general feedback. The threads will be monitored and responded to by KISTERS staff, as well as hopefully over time, our world-wide community of users. We would love to have as many of our customers involved in this forum as possible, as we always welcome your feedback and involvement in our product development, so sign up today and start posting!

KiEco: Macroinvertebrate Community Index

The Macroinvertebrate Community Index (MCI) is a biotic index used in New Zealand to help monitor and report on stream health. It is used to represent ecological freshwater quality, based on the macroinvertebrates taxa that are found living in that stream. Macroinvertebrates (e.g. mayflies, caddisflies, true flies, snails) are ideal candidates for a biotic measure of stream health as the different organisms have different habitat preferences and tolerance levels for changes in their environment their presence or absence can be indicator of human induced or natural changes to the aquatic environment. The MCI uses this knowledge (in the form of tolerance values for taxa) and quantifies the stream condition with a single number based on the presence or absence of certain taxa.

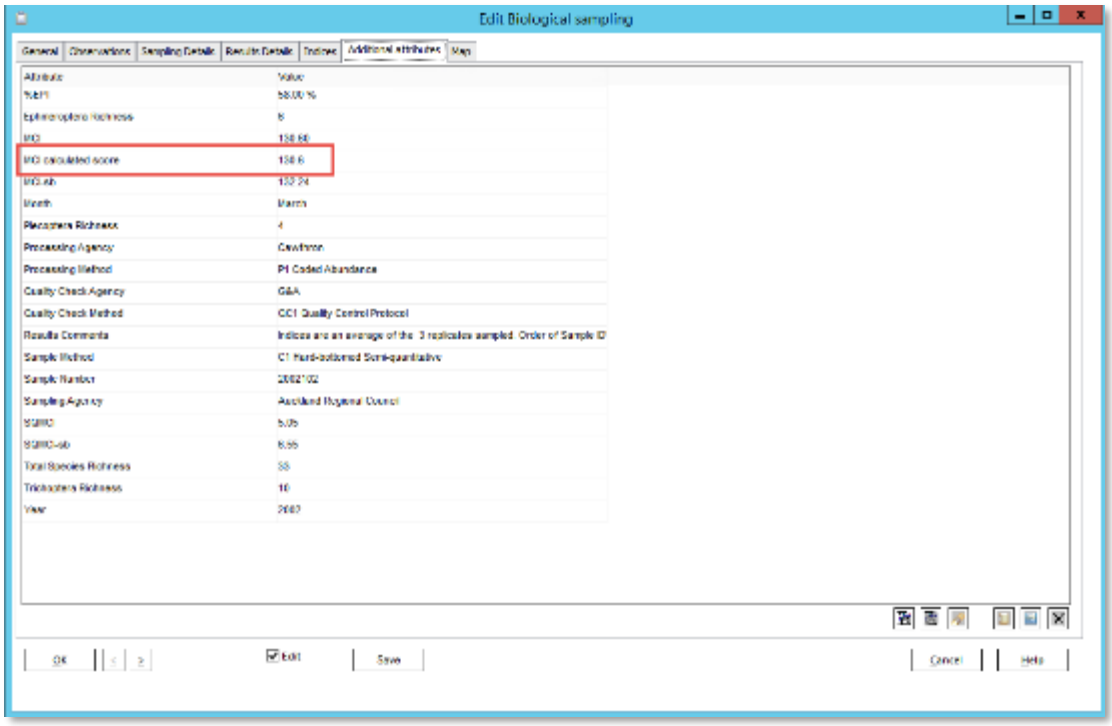
The MCI assigns a score (from 1 to 10) to a list of macroinvertebrate taxa that indicates its tolerance or sensitivity to organic pollution. For example a taxon with an MCI score of 10 will only live in the most pristine of environments, with no pollution impact, whereas a taxon with a score of 3 will live in environments with quite severe pollution issues. There is a different score assigned to taxa depending on whether they are found in hard or soft bottomed streams due to the different ecological requirements of the two stream types.

The MCI then calculates the average score of all taxa identified at a sample location using the formula:

$$\mathrm{MCI} = \frac{\sum_{i=1}^{i=S} a_i}{S} \times 20$$

where S = the total number of taxa in the sample, and a_i is the tolerance value for the ith taxon

This biotic index calculation has now been incorporated into KiEco. It simply requires 2 additional attributes to be set up against a taxa type to store the MCI taxa scores, an additional attribute for a sampling area to store the stream type and an additional sampling attribute to store the resultant calculation. This calculated index can then be incorporated into data exports and reports as required.



For more information on configuring the MCI within your KiEco system please contact Vicky Isaac (Vicky.Isaac@kisters.com.au)

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

https://water.kisters.de/en/news/

https://water.kisters.de/en/press-room/

https://www.kisters.net/NA/news/

KISTERS Technology 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

Training Courses

We are happy to provide training courses on any aspect of KISTERS software 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 (typically six), alternatively we charge our consulting rate divided by the number of attendees, allowing for preparation time and meal costs. Training at your office will be charged at our standard consulting rates per day for the trainer, plus preparation days, travel and accommodation at cost. Courses we can offer include:

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

Training Schedule for 2018

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 2018:

Course	Duration	Dates
Basic Hydstra	2 days	17 - 18 October, 2018
Advanced Hydstra	2 days	21 - 22 November, 2018

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

Videos from Training Courses and User Group meetings

The slides and video presentations from previous Australian KISTERS User Group meetings are available from our web site at http://kisters.com.au/user_groups_aus.html . KISTERS clients can request a login from support@kisters.com.au to view the material.

We have also recorded a few Hydstra training course in their entirety, available at http://kisters.com.au/trainingvideos.html and again you can request access from support@kisters.com.au. Topics include

- Advanced Hydstra
- Hydstra Administration
- MODSYN modelling
- Advancing Your Hydstra Skills

It's worth noting that these videos are recorded live during real training courses and may include discussions with the trainees, sometimes on organisation-specific topics.

US users can request a login from KNA to view the KNA User Group videos at http://www.kisters.net/NA/kisters-portal/login/.

Information

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Note - KNA will be moving in March 2018 to

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