

RECONNECT

ICT Platform

Deliverable 3.8



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Abstract (for dissemination, 100 words)	An ICT Platform (RECONNECT Services Platform) for storing data and monitoring demo sites has been setup. For this purpose, the existing SaaS TeleControlNet has been configured as central nucleus of the platform. It will support co-creation activities for modelling and evaluation tools. Storing large volumes of data has been started by collecting data from the demo sites. There is continuously feedback with demonstrators for advice on monitoring and communication with the central platform. The platform will be optimized for the project and new functionalities are fine-tuned in co-creation with demonstrators.			
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1 Introduction

Deliverable 3.8 is the implementation of RECONNECT ICT Platform. This document describes briefly the ICT concept and the implementation work that has been carried out so far.

The ICT Platform combines a network of distributed data, intelligent tools and standardized web-services, accessible through a centralized catalogue of network services. The platform consists of three types of distributed services:

1. data access services,
2. generic NBS network services
3. tools for analysis and feedback.

The aim of the chosen topology is flexibility for project partners (NBS Demonstration and Collaboration Clusters) and later on, other users to connect to the available services with their own data sources and tools. This approach has shown to be very useful in co-creation activities and all basics of the platform technologies are already available from the TeleControlNet SaaS of project partner Inter Act.

The Platform uses a blend of applications, technologies and solutions produced by the consortium partners with new functionalities that have been configured/developed and added to support RECONNECT NBS activities.

The process of co-creation inevitably requires evaluation of different scenarios and combinations of different NBS technologies. For this purpose, chapter 3 Adding Services to the ICT platform, gives a peak view of a newly developed NBS Measures Selector. The Selector guides users through a wide variety of filters, leading towards a selective number of NBS measures.

This (outsider) NBS measures guide needs further fine tuning before it will be linked to the general RECONNECT website.

2 RECONNECT ICT Platform

The RECONNECT ICT Platform is the backbone for ICT services through which data from all data-suppliers and partners are accessible for all authenticated and authorized users based on their access levels. Partners who manage their own have been provided with a variety of data-exchange services, standards and protocols (e.g., REST API, OGC, INSPIRE, HTTP(s), etc.) to make their data accessible within the RECONNECT project. Those who are not in position of own data storage and management facilities can use managed services of TeleControlNet to collect, store and manage their data.

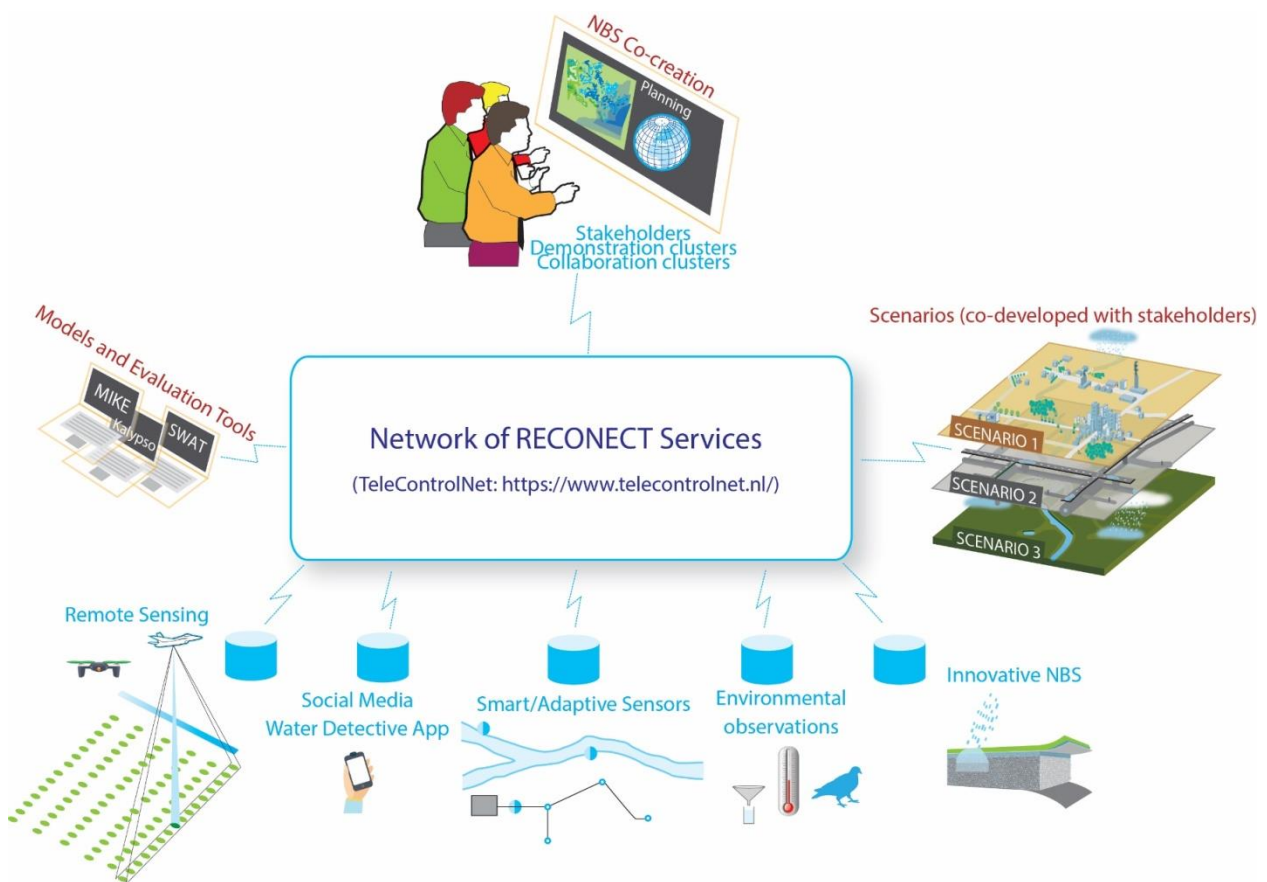


Figure 1 Overview of the RECONNECT ICT platform

The RECONNECT ICT Platform has a decentralized architecture and is able to use existing local servers (located in Europe) and private data centers to ensure both the desired service levels and the required Cyber Security measures. The architecture shows layers of network isolation creating segments of internal and edge (or public) components are established through logical and in part physical isolation. Modules in these layers have restricted access in between and to other layers. This prohibits external direct access to internal components. Locations require to be linked with a site-to-site encrypted strong VPN, enabling transport of several layers between sites. Edge protocols for transport, should require strong ciphers in PKI infrastructure (certificates) for communication, although not always feasible between demo sites and TeleControlNet.

In the development of the RECONNECT ICT Platform Inter Act explicitly dealt with security issues from a technical perspective. Security and privacy issues are addressed from the management perspective. An important aspect is data security when related to personal data. In RECONNECT, the following categories of data may be generated (e.g., by use of questionnaires):

1. personal status (e.g., age, gender),
2. socio-economic data (e.g., city of residence, social status, marital status, and income category),
3. social network data, and
4. domain related data.

Such data will be stored in a project database managed by the project Coordinator. Each project participant has secured web access to data.

TeleControlNet successfully passed TÜV TRUST IT tests for certification. Initially only the TeleControlNet edge technology was certified in October 2020, but recently also the SaaS has passed all tests and will be certified. Part of the certification process was a GDPR / DPIA check that covers risks on data involving people. Particularly (bystanders) that could be filmed by surveillance cameras, and when that data is stored needs appropriate attention in order to follow the European legislation.

TeleControlNet is the nucleus of the RECONNECT ICT Platform. It is an existing industrial Internet of Things SaaS (Software as a Service), being used by many organizations as the central monitoring and control system with a large number of pre-defined functions for data monitoring, data analysis and rule-based control of remote installations.

2.1 Implementation of the RECONNECT ICT platform

Eventually the RECONNECT Services Platform will become also accessible through the general RECONNECT website, with the presentation of demonstration cases outlining the use of the platform. The implementation of the platform is shown in Figure 2 Implementation of the platform.

The platform is closed to outsiders and can only be accessed via a login procedure. Partners and authorized users can access the platform based on their access levels. The platform can be accessed by Login to page <https://www.telecontrolnet.nl>

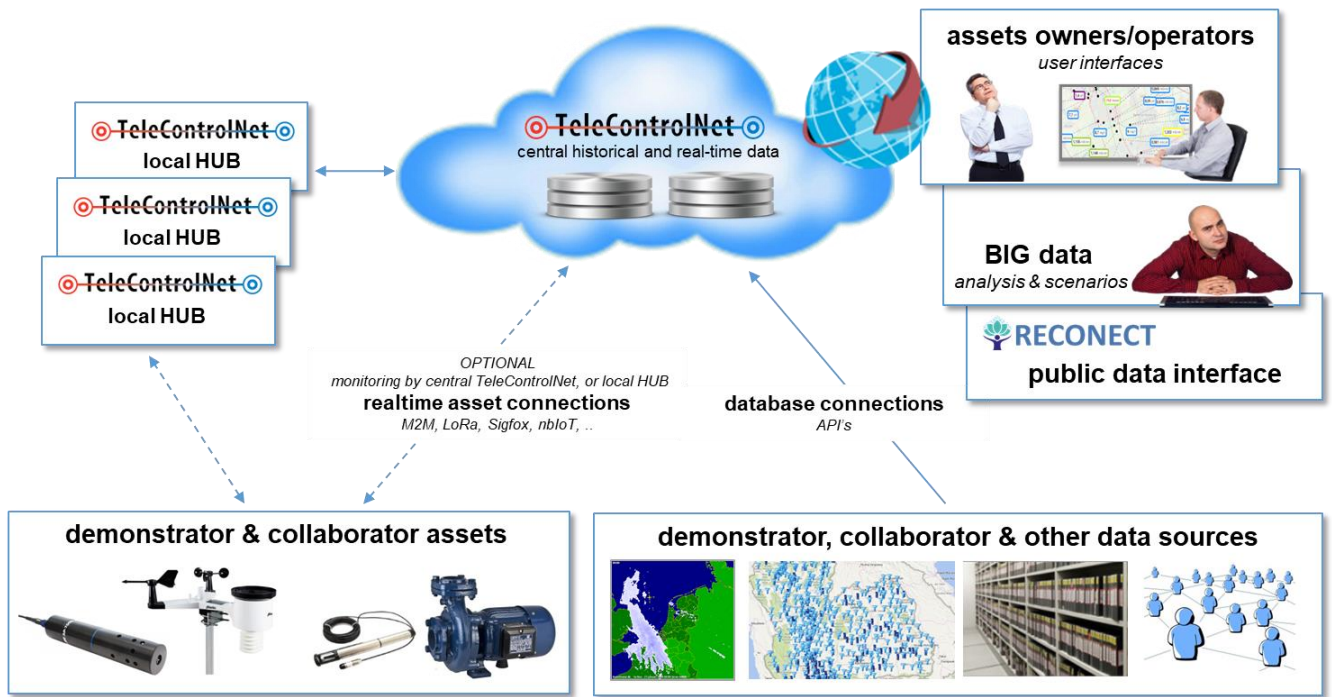


Figure 2 Implementation of the platform

The first objective for the platform is collecting data and monitoring of large-scale NBS in demonstration A and B sites in relation to WATER, NATURE, and PEOPLE.

Deliverable D3.2 “Procurement and Installation of Monitoring Equipment Demonstrators A and B” gives an overview of equipment that has been installed so far and that is directly or indirectly connected to the RECONNECT ICT Platform. The data transferred to the platform up to now is: precipitation, relative humidity, temperature, wind direction, wind speed, soil moisture, water level and discharge.

2.2 Background of TeleControlNet

TeleControlNet is ‘Software as a Service’ for remote management of technical installations and measuring locations, with standard functions such as: Web based SCADA, Web based GIS presentation, Smart (management) dashboards, Smart reporting tools, Big Data analyses, Asset management, etc.

Using Inter Act’s High-End industrial Internet of Things – IoT – technology, existing technical installations, sensors and other sources of data where ever in the world – regardless of their brand - can be connected to one central monitoring and control platform, where real-time data together with historic data and other relevant information – like documents and reports- can be stored and managed.



Figure 3 Central control room using TeleControlNet for control of waste water treatment plants

TeleControlNet offers its users secure web-access to the cloud-based platform regardless of location or device. Installations and sensors are connected using a variety of TeleControllers, while other systems and databases can be connected through secure Internet connections.

TeleControllers are edge devices that collect data in small time intervals and without any interruption; inline data validation can be performed to enhance data quality and accuracy.

All collected data is validated and processed into operational information for engineers, analysts, experts and managers. BIG data analysis tools provide the necessary means for experts and scientists to convert information into intelligence.



Figure 4 The TeleControlNet concept with edge controllers

TeleControlNet offers a variety of simulation, visualization and modeling tools. Thanks to open architecture, third party applications can be integrated into the same platform. It is widely used by authorities that are responsible for environment in terms of soil, water, air and risk management & safety. Applying our industrial IoT technology, existing infrastructural assets turn smart, as a result of which cities and environment gradually become smart.

The information can be displayed in real-time and/or as historical data. Moreover, the data can be shown in different formats such as graphs or bar charts. In addition, photos and videos can be saved and viewed.

Some typical RECONNECT ICT Platform screens are displayed in Figures 5, 6, and 7.

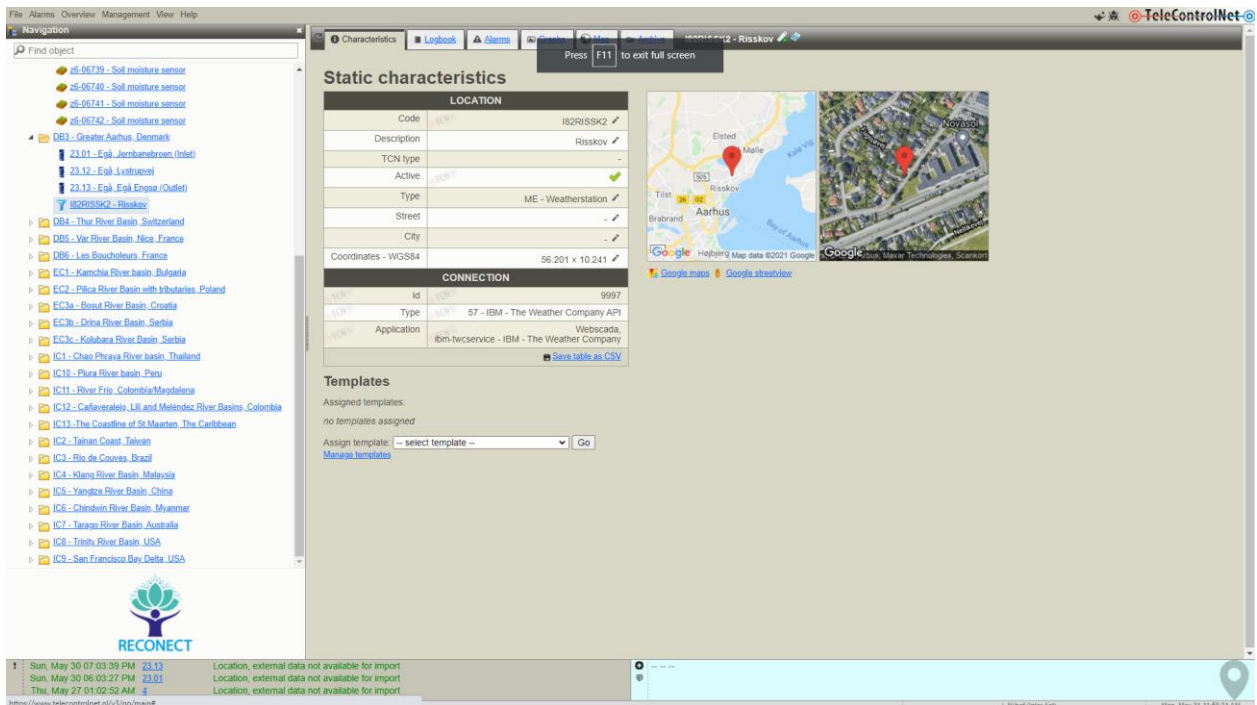


Figure 5 Navigation screen demo site: Greater Aarhus Denmark

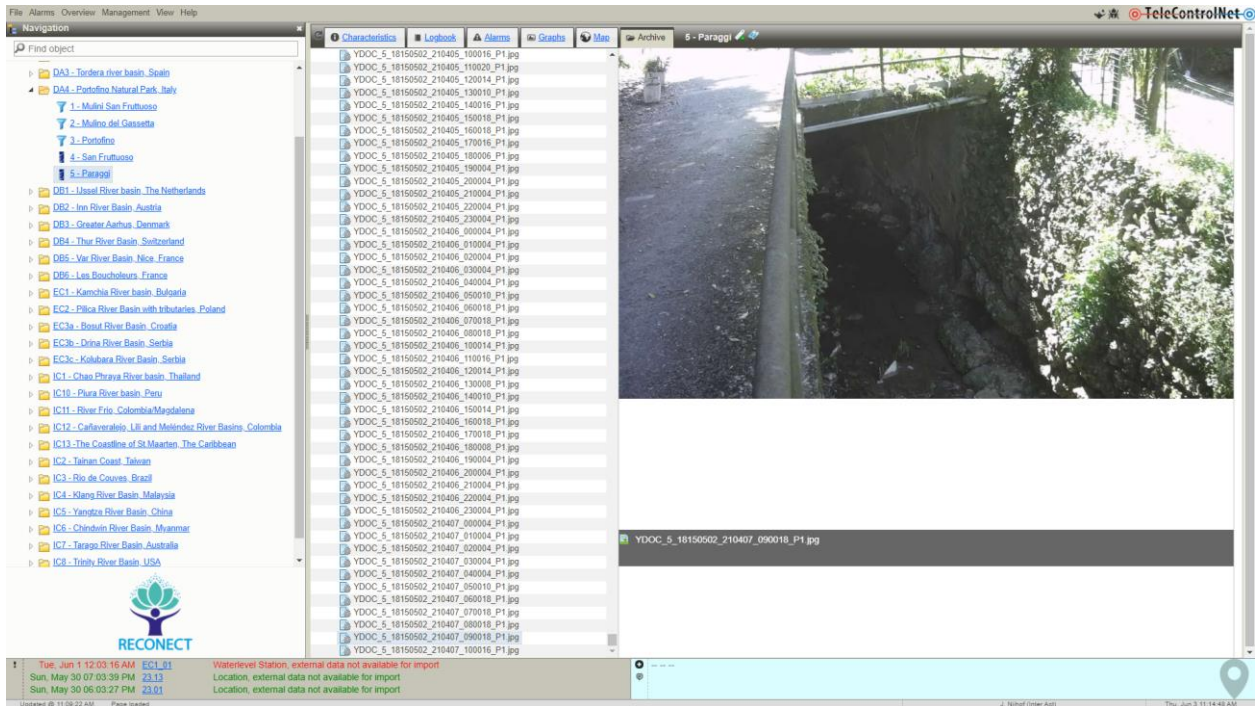


Figure 6 Storage of pictures demo site: Portofino Natural Park Italy

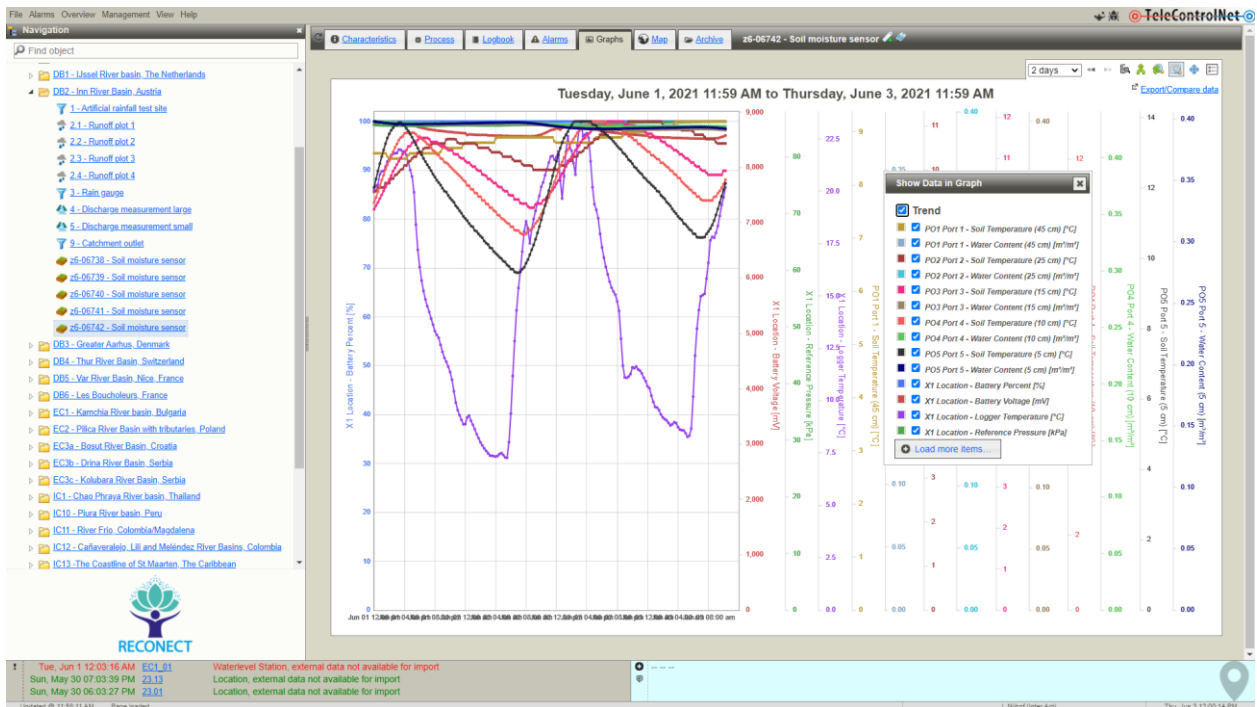


Figure 7 Soil moisture trend demo site: Inn River Basin Austria

2.3 Connected sites

Data is to be collected from all demonstrator sites. As of October 2023, there are 8 demonstrator sites connected, and 1 still to be connected. In addition, there is 1 European collaborator and 1 International collaborator connected.

2.3.1 Demonstrators

Site	Sensor Data	Status ICT connection
DA-1 Elbe Estuary, Germany	-	-
DA-2 Odense Coastal Area, Denmark	Webcams	2 sensor connections
DA-4 Portofino Regional Natural Park, Italy	Weather stations Water level stations	5 sensor connections
DB-1 IJssel River Basin, the Netherlands	Water level stations	7 sensor connections
DB-2 Inn River Basin, Austria	Weather stations Soil moisture stations	12 sensor connections
DB-3 Greater Aarhus, Denmark	Water level stations Weather stations	4 sensor connections
DB-4 Thur River Basin, Switzerland	Soil moisture stations Pumping stations	1-time import of historical data 16 stations imported
DB-5 Var Éco-Vallée, France	Water level station	1 sensor connected
DB-6 Les Boucholeurs, France	Water level station	1 sensor connected

2.3.2 Collaborators

Site	Sensor Data	Status ICT connection
EC-1 Kamchia River basin, Bulgaria	Water level stations Webcam	3 sensor connections
IC-1 Chao Phraya River basin, Thailand	Water level stations Weather stations	10 sensor connections

See 4.1 for an extensive list of sensor details.

2.3.3 Sensor data stored

The amount of sensor data stored in TeleControlNet is displayed in Figure 8. A distinction is made between number of devices connected, and number of logrecords.

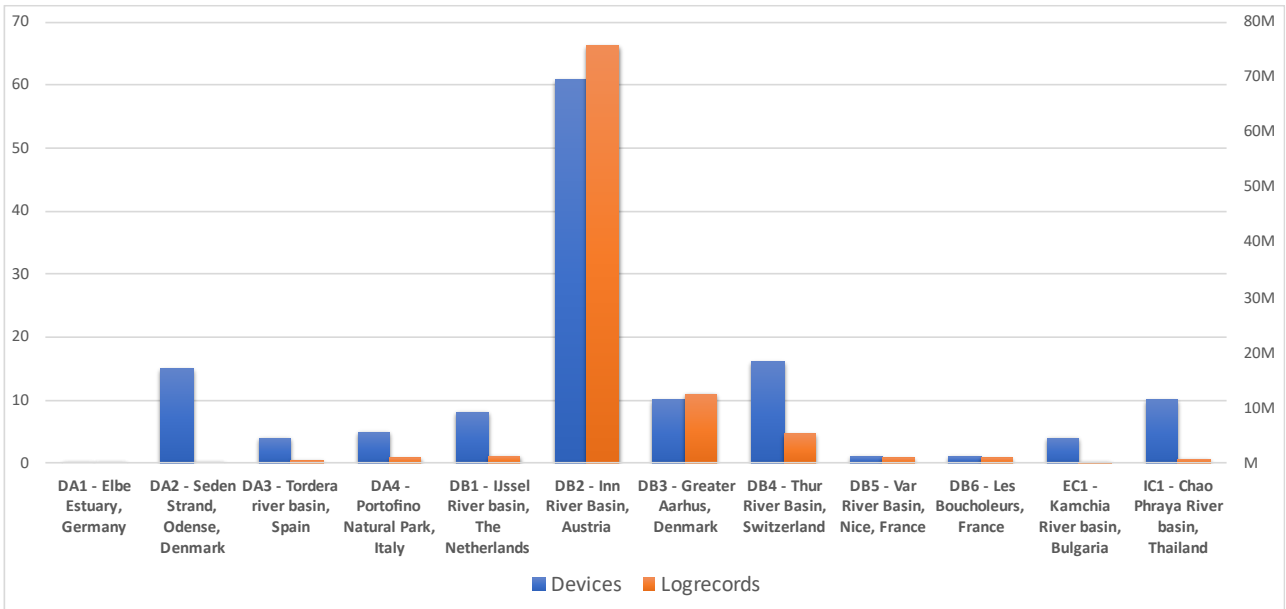


Figure 8 Graph showing Number of devices and logrecords per demonstrator/collaborator

2.3.4 Sensor data growth over time

The graph in Figure 9 denotes the growth of data over time, including the connection of the various partners.

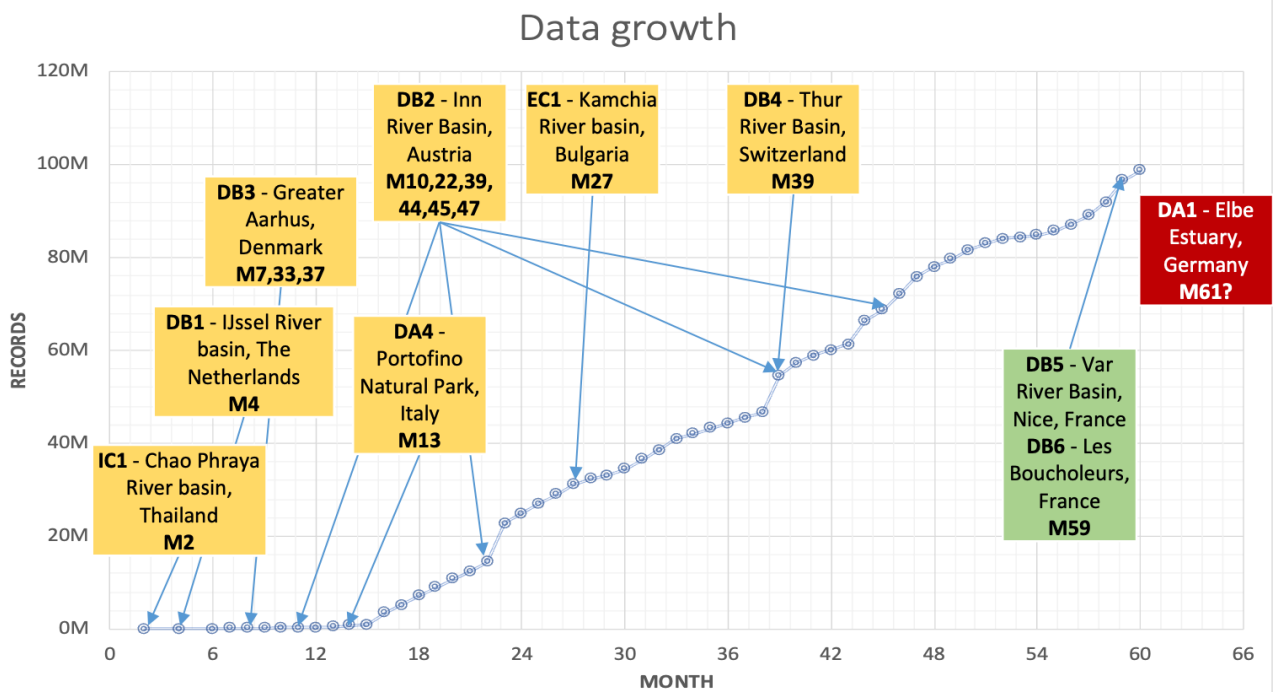


Figure 9 Amount of sensor data records set on a timeline

2.4 Enhancing the platform

Deliverable D2.6 “Co-monitoring and evaluation plans for Demonstrators A and B”, depicts that most of the monitoring data will be displayed at the RECONNECT ICT Platform that combines a network distributed data, intelligent tools and standardized web-services. The platform acts as the backbone for ICT services for data coming from NBS sites. The platform enables to receive both real-time and historical data, their storage, management and display (i.e., analytics). The platform consists of three types of distributed services:

- 1) data access services,
- 2) generic NBS network services,
- 3) tools for analysis feedback.

The work that has been carried out on the ICT platform so far is in accordance with the contours described D2.6.

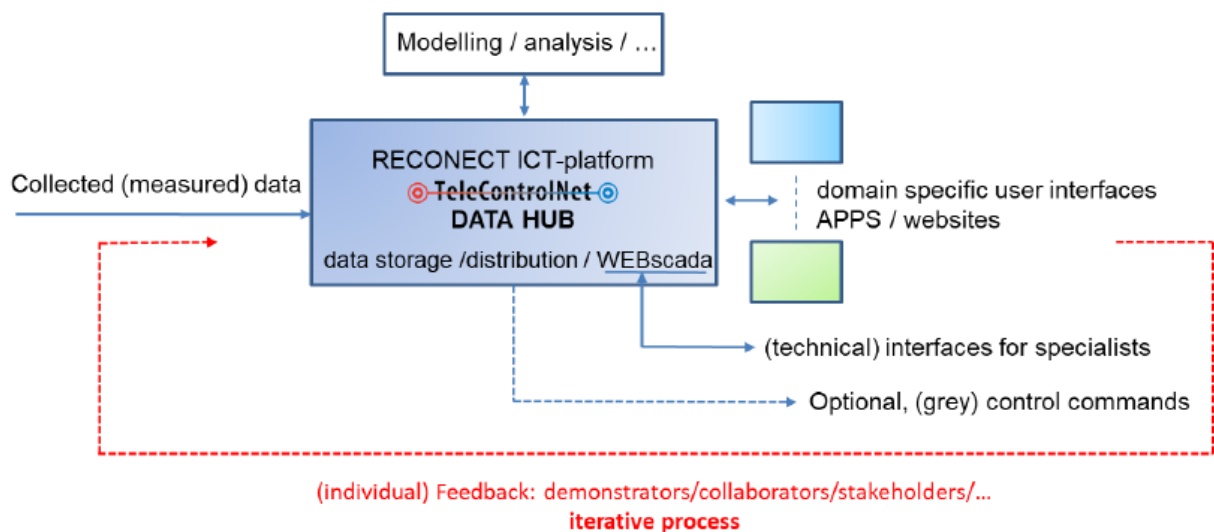


Figure 10 The platform as CenterPoint of co-creation

Tools provided by RECONNECT partners or other parties (e.g., numerical models, serious gaming tools, intelligent evaluation tools, tools for data dissemination, etc.) use the data and generic services for analysis purposes and to generate new data sets that will be accessible through the same platform, depending on the needs of Demonstrators. These tools can either access RECONNECT ICT platform for data exchange or be hosted internally by TeleControlNet.

All partners from demonstration and collaboration sites are being trained to use the full functionality of the tools available on the RECONNECT ICT Platform. They have been instructed to setup and evaluate various scenarios and produce vital information for co-creation of NBS-based land master plans.

3 Adding Services to the ICT platform

The RECONNECT configuration in TeleControlNet covers segments 3. and 4. “MONITOR, MAINTAIN & OPERATE” in the OVERALL co-creation workflow, as shown in figure 9.

Some work, in the form of a Measures Selector tool, as described in 3.1, has been carried out for segment 1.

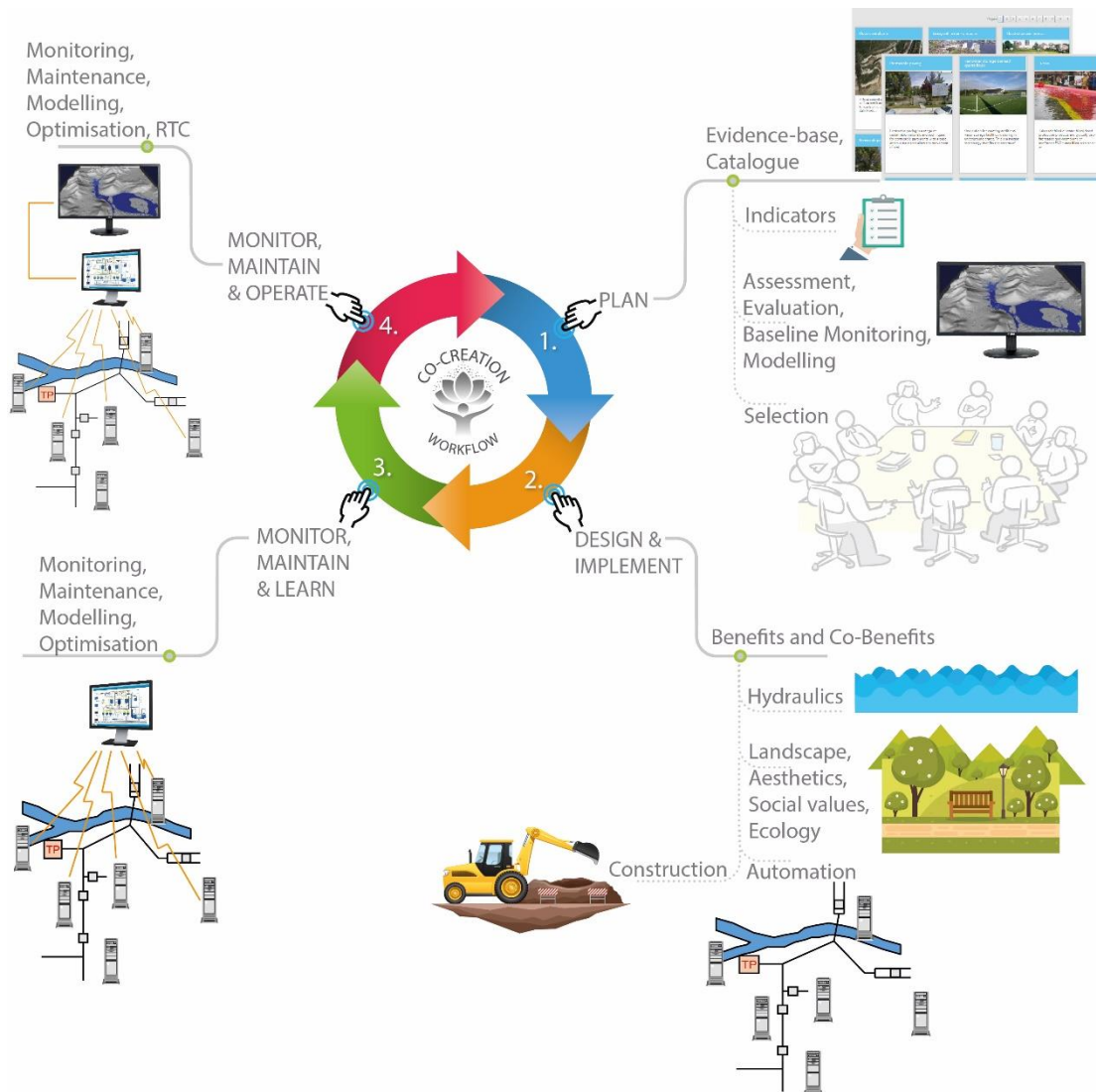


Figure 11 Co-creation workflow

3.1 Measure Selector Tool

The Measure Selector Tool guides users through a wide variety of filters, leading towards a selective number of NBS measures. This (outsider) NBS measures guide is linked from the general RECONNECT website and available on <https://www.webscada.nl/reconnect/measures-and-tools/>

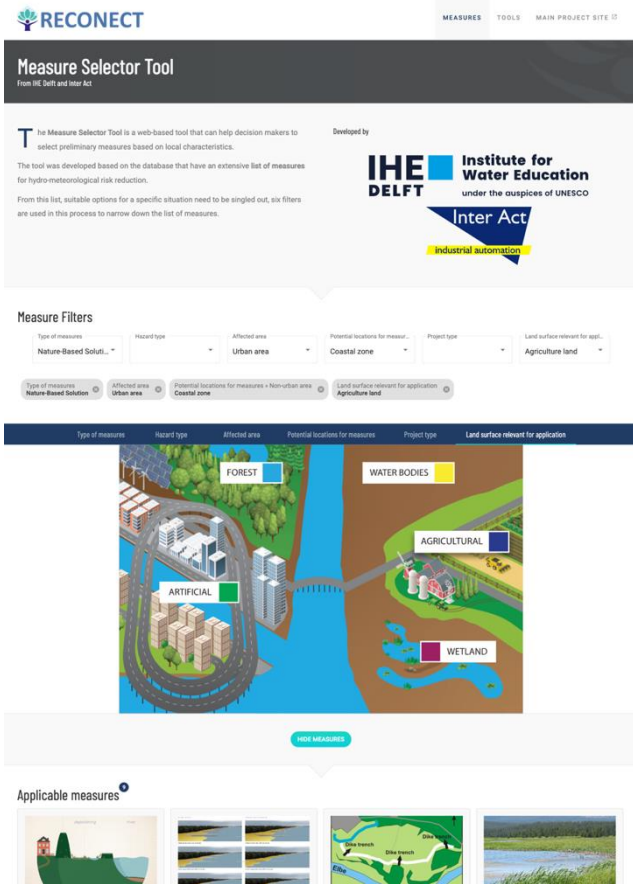


Figure 13 Measure Selection Tool main screen. A user can filter based on his or her requirements.

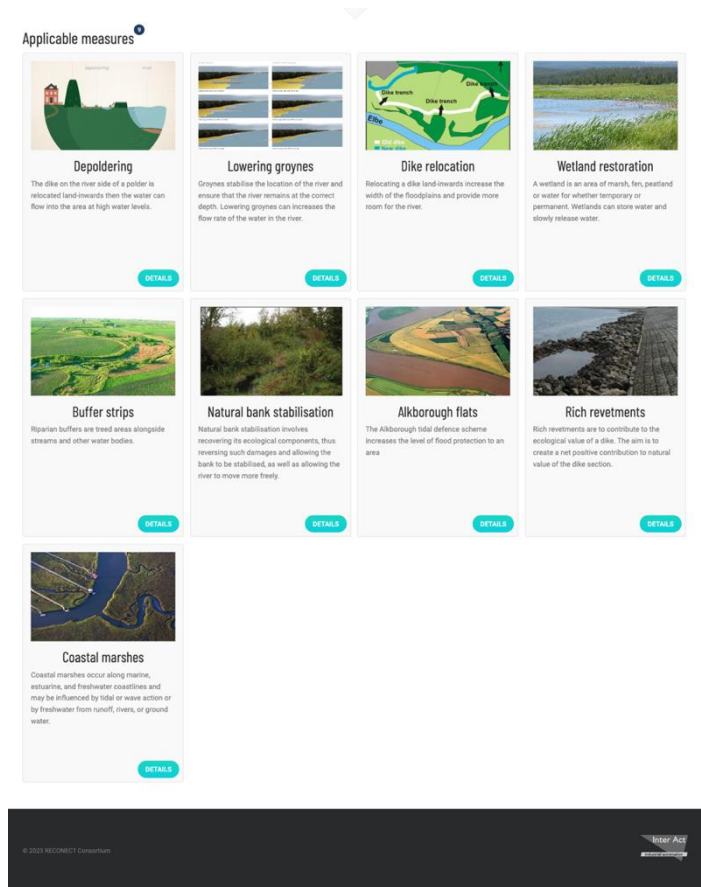


Figure 12 Measure Selection Tool result screen.

3.1.1 Tools integration

As of the release in August 2023 we have also added a list of usable tools and added links to applicable ones to each measure.

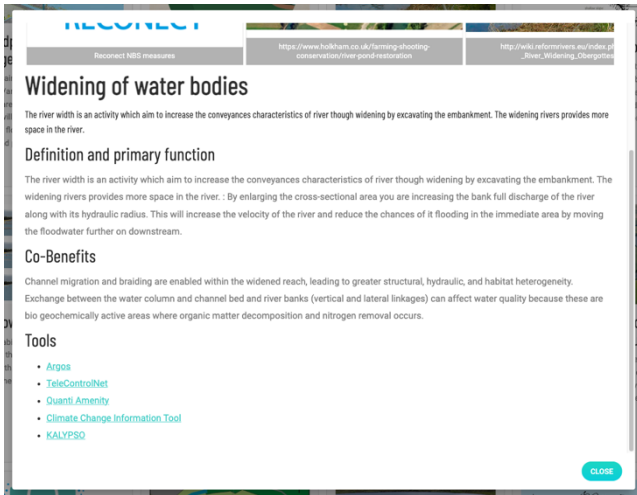


Figure 14 Tools section in the measures with link to the tools.

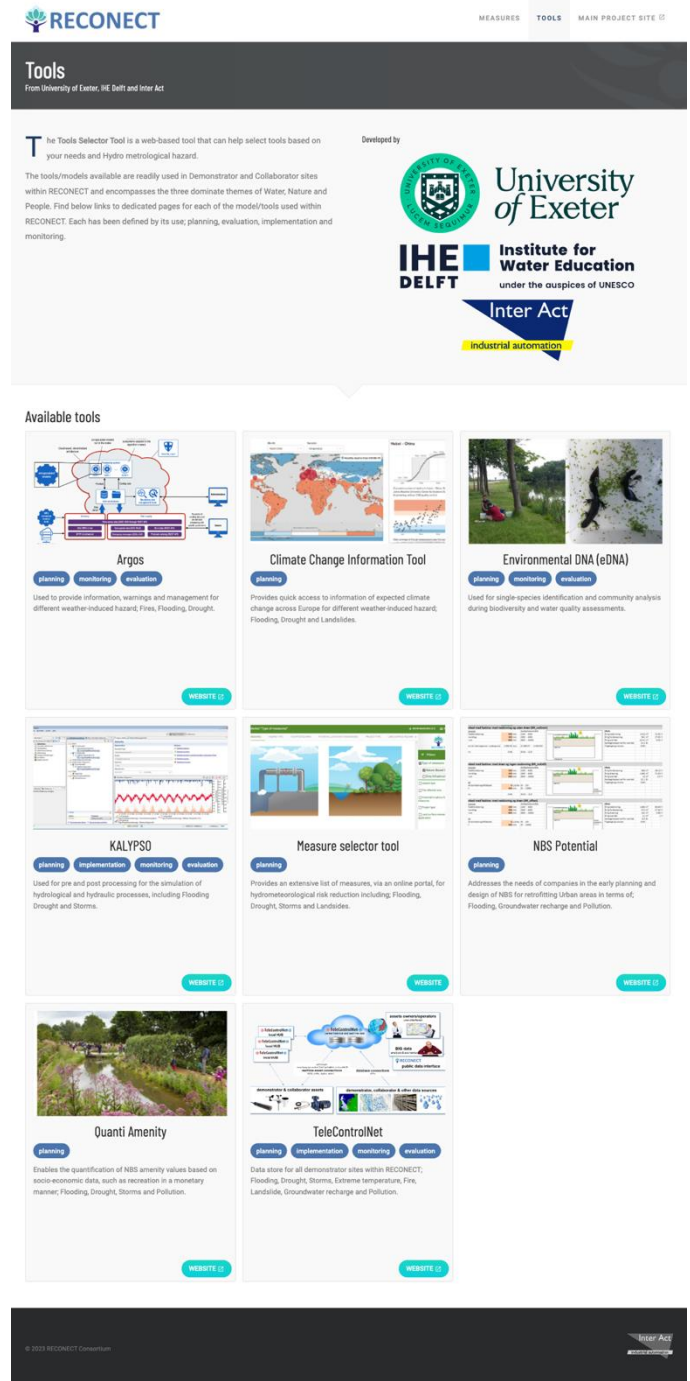


Figure 15 List of usable tools.

3.2 Public access to the measured data

The existing TeleControlNet user interface of the platform is technical and SCADA oriented. This is intended for a technically oriented target group. There are various other presentation options that are better suited to reach a wider audience (without a login procedure). This will be further investigated at a later stage in collaboration with partners Hyds and Hydrologic. For that purpose, API connections to their ICT systems have been established already.

In the following chapters these visualizations will be further explained.

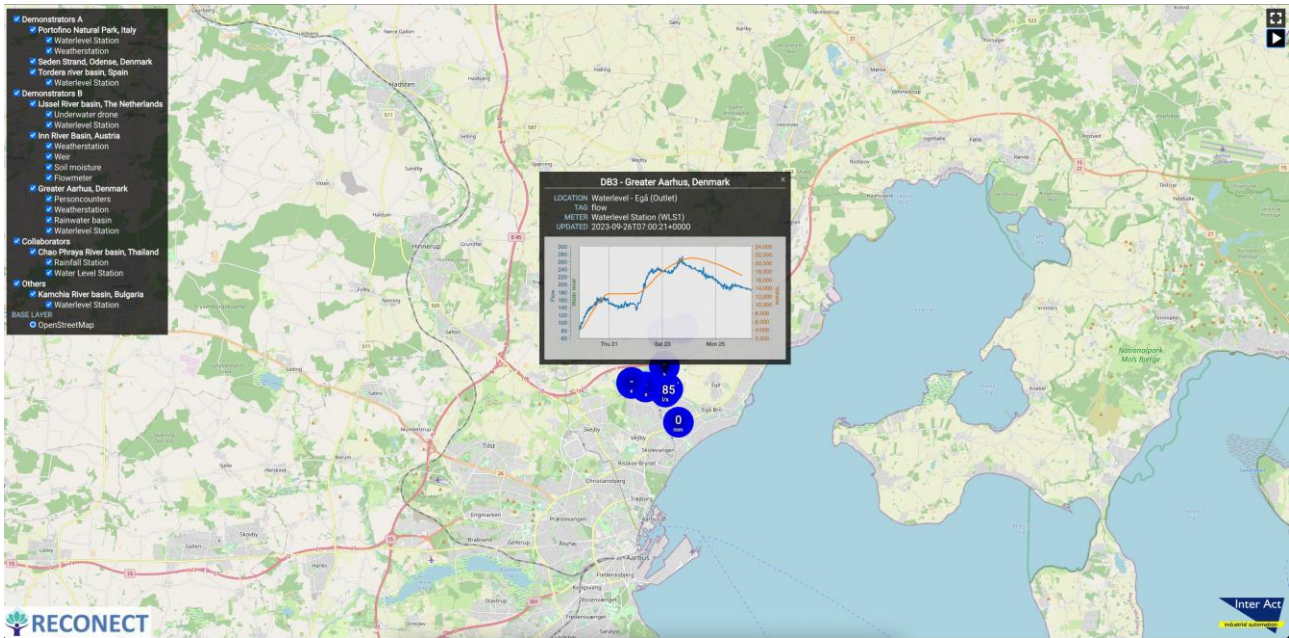


Figure 16 A publicly accessible interface for demonstration purposes, available at <https://www.webscada.nl/reconnect/flyover/>

3.3 Provincial Water Information Centre

One example from an international collaborator is the district real-time information of the Pathum Thani Province (The Chao Phraya River basin, Thailand) developed by HII <http://pathumthani.thaiwater.net/>. This public website is open for local operators and communities to access necessary information such as hydro-meteorological monitoring and forecasting, GIS layers and related statistics in order to minimize the flood and drought risks.



Figure 17 Example of dashboard district real-time information

3.4 HydroNET

The central TCN platform is linked via APIs to the Argos NBS Viewer from HYDS and the HydroNET platform of HR. The Argos NBS Viewer is the main visualization platform for all of the data. This platform can be used to select data through all 3 of the indicators (nature, water, people). Relevant datasets of a case study area can be viewed via a selection of the indicator, including the in-situ sensor data coming from the TCN platform.

The HydroNET platform is an expert platform for weather and water data specifically aimed at water professionals, which is only available via log-in. The HydroNET platform provides several visualization and analyses tools for weather and water data. For example water levels and flows can be compared to known thresholds such that the output can be visualized using traffic light colors. The platform is aimed at waterprofessionals (i.e. operational water management teams at water boards) by providing personalized dashboards with relevant information. Within the RECONCT project dashboards have been created for the Ijssel demonstrator case. A link between the central TeleControlNet and HydroNET platform has been established such that in-situ from TCN is available. These in-situ measurements of water levels and flows are combined with

weather forecast data in order to provide dashboards for the water indicator of the IJssel case.

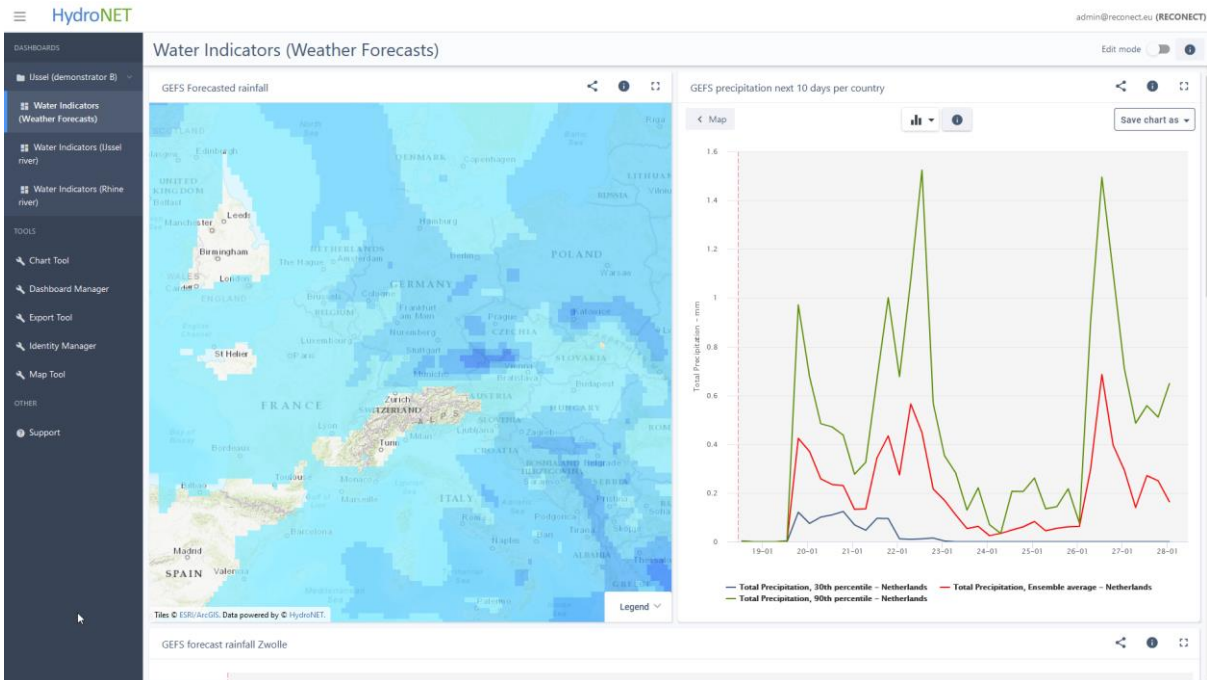


Figure 18 HydroNET platform dashboard for water managers in the IJssel demonstrator site. Dashboard shows the probabilistic precipitation forecast both in a map and in a chart



Figure 19 HydroNET platform dashboard for water managers in the IJssel demonstrator site. Dashboard shows the water level at multiple locations in the IJssel river. Each location is color coded, giving the water managers of the IJssel case a direct overview of the state of the river.



Figure 20 HydroNET platform dashboard for water managers in the IJssel demonstrator site. Dashboard shows the water level of the Rhine as it enters The Netherlands. The waterlevels are compared to 100-year statistics.

3.5 Crowdsourcing web-application

Monitoring of NBS can be done with sensors, but also with the help of crowdsourcing (citizen science). In order to facilitate the collection of information by citizens, a simple crowdsourcing application has been developed by HydroLogic Research. Any person can send in a report. A report can have a photo a description and a location. This allows any person to log relevant information.

After a short market survey it was found that the willingness of people to install a mobile application on their smartphone is limited. However, more people were willing to send in reports if this process requires little effort. For this reason a web-based crowdsourcing application has been developed by HR. This web-page is designed to work both on regular computes and on smartphones. The website can be saved to the home screen of smartphones. This approach ensures that any person can use the application without any installation, and the application does not collect any personal information.

Any user can create a new report. For example a visitor in a national park might spot a leak or overflowing channel. This person can open the website to enter a new report in which he can enter the location (via GPS or manually on map), a description and even add a photo. The report will be logged into the system. These reports can than later be integrated into the IT platform, for example the HYDS platform such that the reports can be viewed together with all other data.

CREATE A NEW EVENT

VISIT RECONNECT WEBSITE

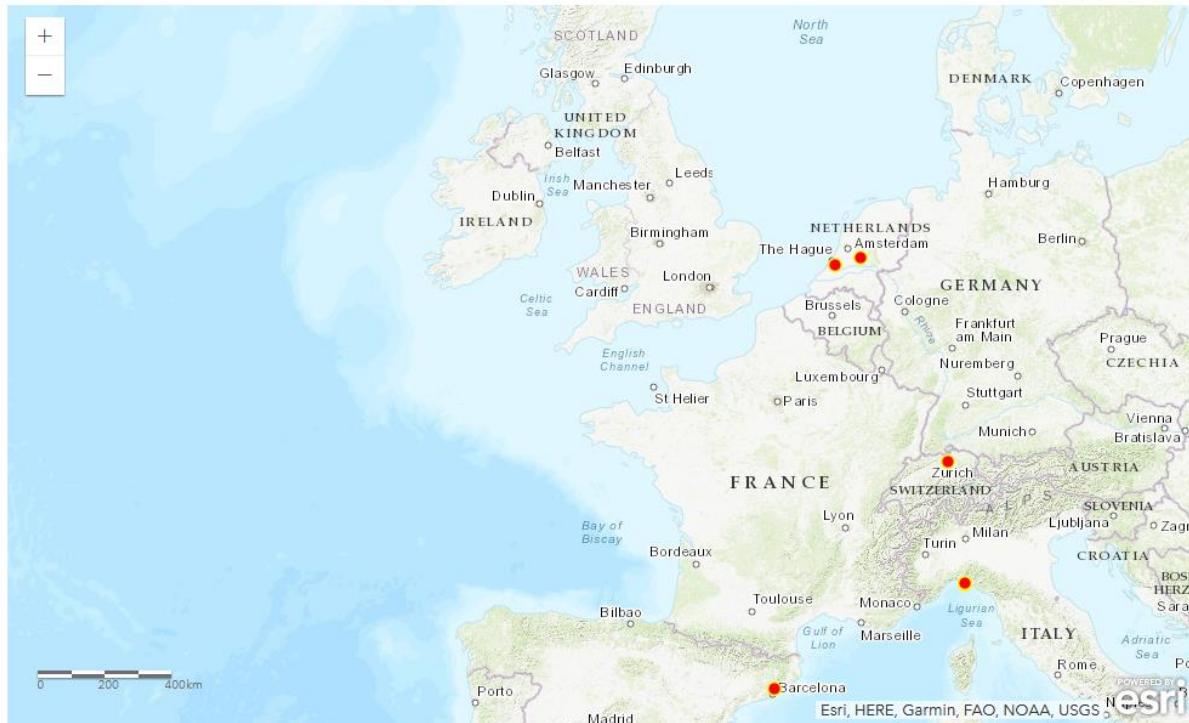


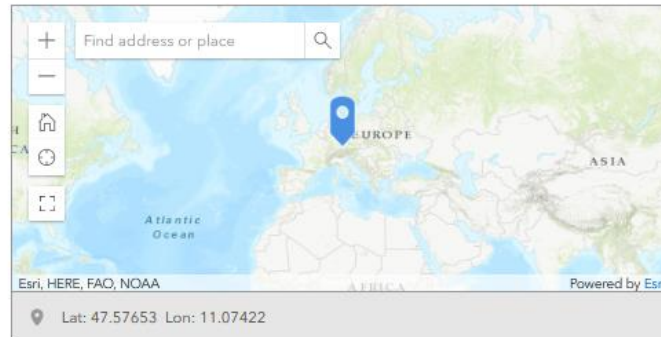
Figure 21 Overview of the crowdsourcing home screen. A map shows all previously made reports. These reports can be integrated into HYDS platform.

RECONNECT Crowd Sourcing

Gather data by crowd sourcing for the RECONNECT project

Choose your location*

Please insert the location of the event.



Date and time*

 8/25/21	 10:30 AM
---	--

Remarks

Please add relevant information about your event.

1000

Figure 22 Dialog for entering a new report. The location can be set manually using the map, or via GPS coordinates of a smartphone. The text field can be used for a description, and a photo can be added.

3.6 Argos-NBS: Expanding to other data typologies

The Argos System (<https://www.hyds.es/services/>), which has been developed by HYDS, is a platform that can integrate huge amount of historical and real-time data such as time series, raster maps, vector data and forecasts. It is able to display processed data in a responsive web-based viewer that automatically adapts to the device used – desktop, tablet and smart phone – and allow interaction with the data.

For RECONNECT, a new version of the Argos system that is called Argos-NBS has been developed. Argos-NBS focuses on exploring Demonstrators' NBS in relation to the WATER, PEOPLE and NATURE challenges, goals, sub-goals and indicators following the structure used along the project.

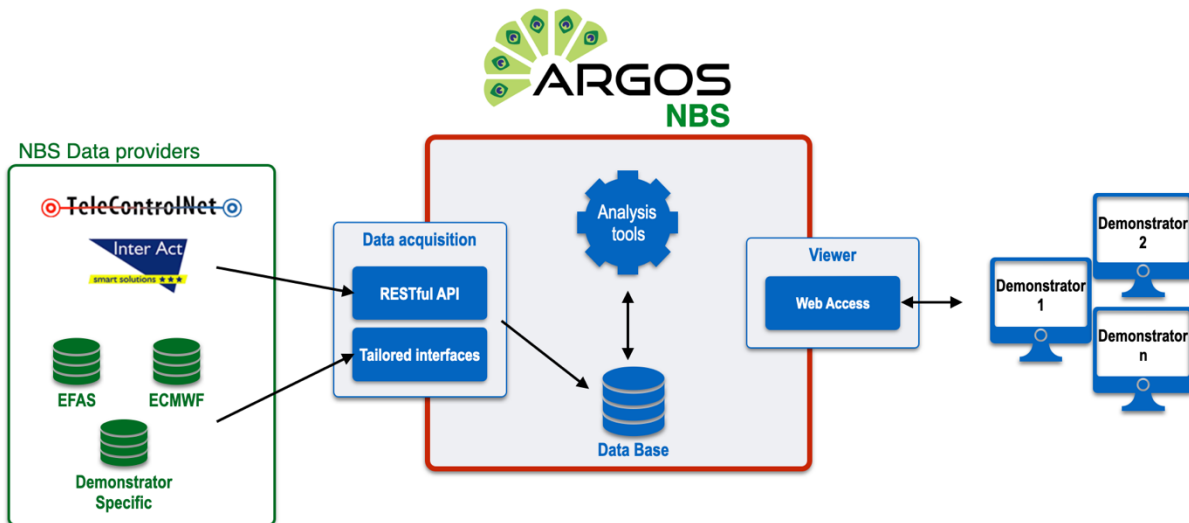


Figure 23 Argos connection schema

As shown in the previous figure, the Argos-NBS system has been connected to a set of data sources. Argos-NBS has been connected to the TeleControlNet to gather in real-time all the available data collected/generated at the Demonstrator sites and display it in Argos viewer together with other NBS-related data. TeleControlNet is the primary source of information for the Argos-NBS.

The Argos-NBS also includes flood risk indicators generated by the European EFAS (European Flood Awareness System). The objective of EFAS is to provide complementary and value-added information to national and regional authorities to contribute to flood preparedness. EFAS has:

- Indicators of rapid floods: with horizons of hours or a few days for small basins, based directly on the forecast of rainfall over those basins.
- Medium-term flood forecasts: for large basins, using the LISFLOOD hydrological model fed by rain forecasts up to 10 days.

Some of those indicators have been selected and incorporated into the system (for example, see Figure 24 showing the LISFLOOD reporting points with the observations in real time and probabilistic forecast in the main European rivers).

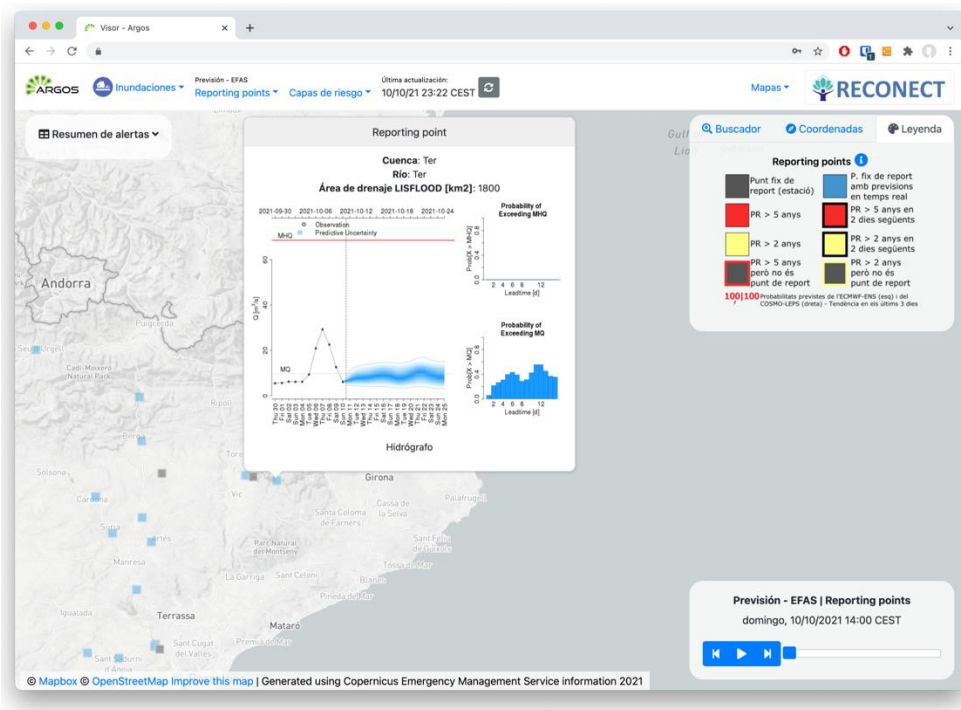


Figure 24 Example of the EFAS data integration in Argos-NBS showing LISFLOOD Reporting points

In addition, the Argos-NBS integrates products from the European Centre for Medium range Weather Forecast (ECMWF) such as the Integrated forecasting System (IFS) model and the Extreme Forecast Index (EFI) model based on the probabilistic ensemble (ENS). Currently implemented for the Tordera Demonstrator due to license limitations as shown in Figure 255, but the system is completely ready to incorporate the information from other demonstrators.

The Numerical Weather Prediction (NWP) models provide useful forecasting information to anticipate and manage extreme weather events like floods.

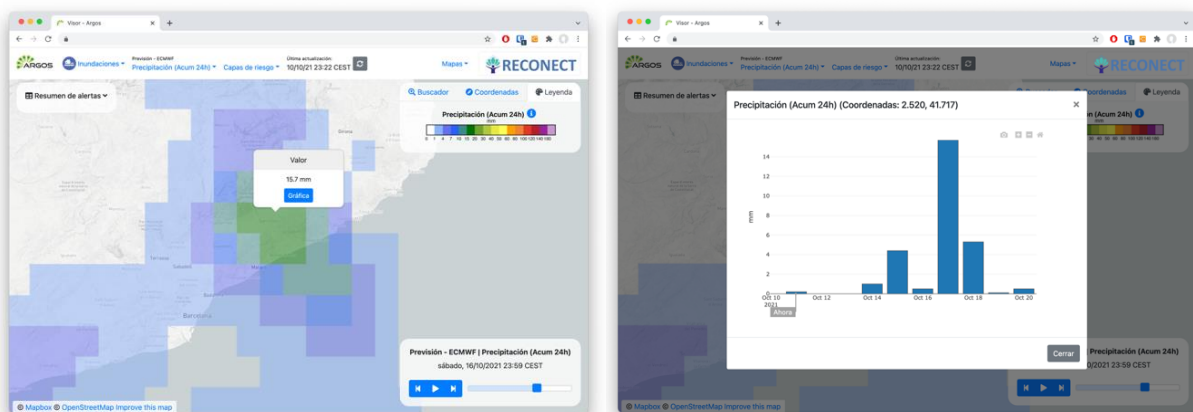


Figure 25. Example of ECMWF data integration in Argos-NBS. The left panel shows forecasted rainfall in 24h, and the right panel shows forecasted evolution of the 24h rainfall accumulation for a given place.

Argos-NBS has been connected to other sources of information in the three pillars (Water, Nature and People) besides the temporal data series on TeleControlNet and the Copernicus platforms. Those are weather radar precipitation estimates, InSAR land deformation measurements, birds and other animal observations variations over time, static layers about economic impact, nature areas, etc. Figure 26 shows an example of radar weather data implemented in Tordera demonstrator..

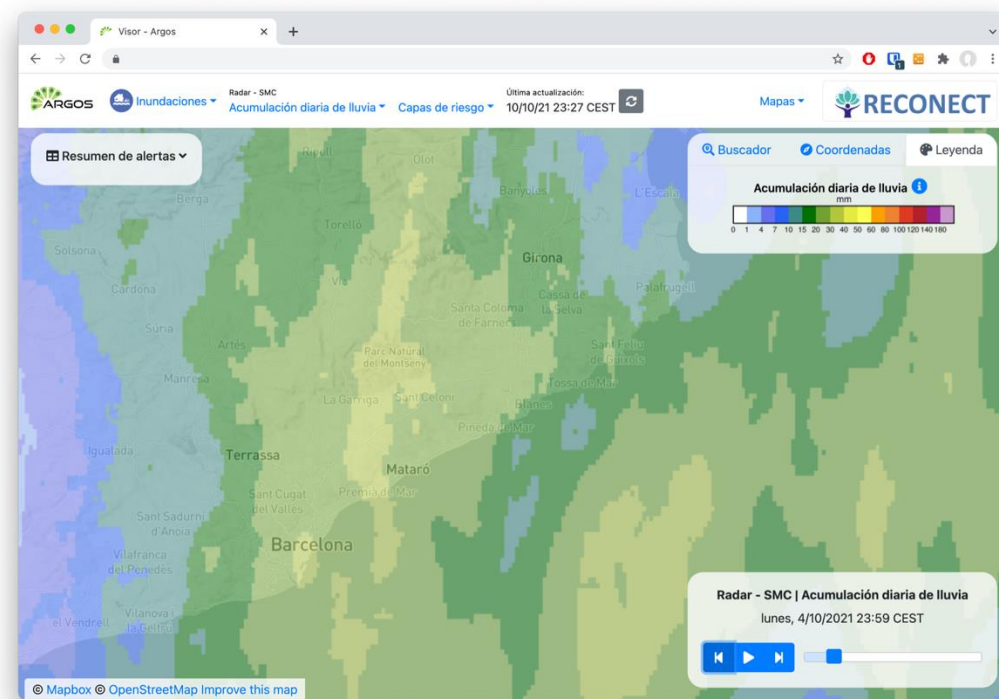


Figure 26. Example of Radar precipitation observations showing daily rainfall maps integrated in the Argos-NBS for the Tordera Demonstrator.

Finally, the Argos-NBS system is able to incorporate and show complementary layers together with the dynamic information. Complementary layers also have a time stamp such that the platform allows to see the evolution of those parameters with time (before and after NBS implementation or other changes, for example).

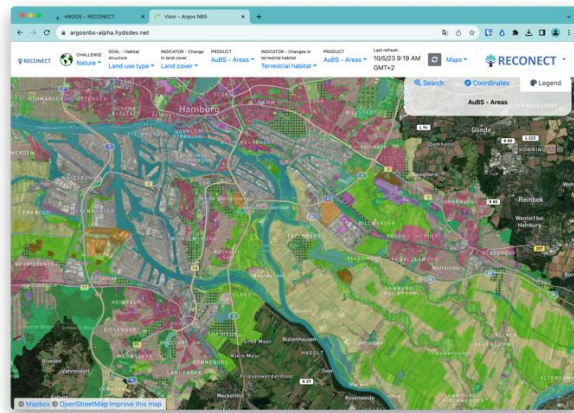
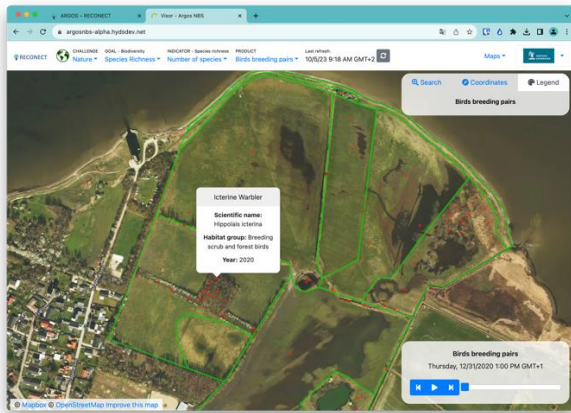


Figure 27. Example of bird species evolution in Odense Demonstrator (left) and Natural habitats in Hamburg demonstrator (Right).

4 Annexes

4.1 Connected sensors to TeleControlNet

Site	Location	Description	Unit	Measure start
DA3	080826-002 Fogars de la Selva (Can Simó)	Flow	m ³ /s	2019-08-31 18:00:00
DA3	080826-002 Fogars de la Selva (Can Simó)	Precipitation	mm/h	2019-08-31 18:00:00
DA3	080826-002 Fogars de la Selva (Can Simó)	Water level	cm	2019-08-31 18:00:00
DA3	082845-001 Fogars de la Selva (Pont Eiffel)	Flow	m ³ /s	2019-08-31 18:00:00
DA3	082845-001 Fogars de la Selva (Pont Eiffel)	Water level	cm	2019-08-31 18:00:00
DA3	081379-001 Montseny (la Llavina)	Flow	m ³ /s	2019-08-31 18:00:01
DA3	081379-001 Montseny (la Llavina)	Water level	cm	2019-08-31 18:00:01
DA3	082021-001 Sant Celoni	Flow	m ³ /s	2019-08-31 18:00:00
DA3	082021-001 Sant Celoni	Precipitation	mm/h	2019-08-31 18:00:00
DA3	082021-001 Sant Celoni	Water level	cm	2019-08-31 18:00:00
DA4	1 Mulini San Fruttuoso	precipitation	mm	2019-10-30 14:00:00
DA4	1 Mulini San Fruttuoso	relative humidity	%	2013-05-01 02:15:00
DA4	1 Mulini San Fruttuoso	temperature	°C	2019-10-30 14:00:00
DA4	1 Mulini San Fruttuoso	wind direction	°	2019-10-30 14:00:00
DA4	1 Mulini San Fruttuoso	wind speed	km/h	2019-10-30 14:00:00
DA4	2 Mulino del Gassetta	precipitation	mm	2020-01-14 13:14:00
DA4	2 Mulino del Gassetta	relative humidity	%	2020-01-14 13:14:00
DA4	2 Mulino del Gassetta	temperature	°C	2020-01-14 13:14:00
DA4	2 Mulino del Gassetta	wind direction	°	2020-01-14 13:14:00
DA4	2 Mulino del Gassetta	wind speed	km/h	2020-01-14 13:14:00
DA4	5 Paraggi	waterlevel	cmMSL	2020-01-14 12:57:00
DA4	3 Portofino	precipitation	mm	2019-12-16 09:00:00
DA4	3 Portofino	relative humidity	%	2019-12-16 09:00:00
DA4	3 Portofino	temperature	°C	2019-12-16 09:00:00
DA4	3 Portofino	wind direction	°	2019-12-16 09:00:00
DA4	3 Portofino	wind speed	km/h	2019-12-16 09:00:00
DA4	4 San Fruttuoso	waterlevel	cmMSL	2019-11-05 13:00:00
DB1	DEVE Deventer	Water level	cmNAP	2018-12-31 23:00:00
DB1	DOES Doesburg brug	Water level	cmNAP	2018-12-31 23:00:00
DB1	IJSSEL IJssel Marle	Depth	cm	-
DB1	IJSSEL IJssel Marle	Electrical Conductivity	mS/cm	-
DB1	IJSSEL IJssel Marle	Pressure	hPa	-
DB1	IJSSEL IJssel Marle	Rugged Dissolved Oxygen	mg/l	-
DB1	IJSSEL IJssel Marle	Rugged Dissolved Oxygen Saturation	%	-
DB1	IJSSEL IJssel Marle	Temperature	°C	-
DB1	IJSSEL IJssel Marle	Turbidity	NTU	-
DB1	IJSSEL IJssel Marle	Surfacewater Level (Wijhe)	cmNAP	2018-11-30 23:00:00
DB1	KAMP Kampen	Water level	cmNAP	2018-12-31 23:00:00
DB1	KETD Keteldiep	Water level	cmNAP	2018-12-31 23:00:00
DB1	OLST Olst	Discharge	m ³ /s	2018-12-31 23:00:00

DB1	OLST Olst	Volume	m ³	2018-12-31 23:00:00
DB1	OLST Olst	Water level	cmNAP	2018-12-31 23:00:00
DB1	WIJH Wijhe	Water level	cmNAP	2018-12-31 23:00:00
DB1	ZUTP Zutphen	Water level	cmNAP	2018-12-31 23:00:00
DB2	F1 Flowmeter 1	IDM flow	V	2022-07-17 21:38:14
DB2	F2 Flowmeter 2	IDM flow	V	2022-07-17 21:38:14
DB2	P1.01 Soil moisture logger	Soil Temperature (5 cm)	°C	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Water Content (5 cm)	%	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Soil Temperature (10 cm)	°C	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Water Content (10 cm)	%	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Soil Temperature (20 cm)	°C	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Water Content (20 cm)	%	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Soil Temperature (40 cm)	°C	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Water Content (40 cm)	%	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Soil Temperature (80 cm)	°C	2021-11-29 03:26:41
DB2	P1.01 Soil moisture logger	Water Content (80 cm)	%	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Soil Temperature (5 cm)	°C	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Water Content (5 cm)	%	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Soil Temperature (10 cm)	°C	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Water Content (10 cm)	%	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Soil Temperature (20 cm)	°C	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Water Content (20 cm)	%	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Soil Temperature (40 cm)	°C	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Water Content (40 cm)	%	2021-11-29 03:26:41
DB2	P1.02 Soil moisture logger	Soil Temperature (80 cm)	°C	2021-12-15 11:30:09
DB2	P1.02 Soil moisture logger	Water Content (80 cm)	%	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Soil Temperature (5 cm)	°C	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Water Content (5 cm)	%	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Soil Temperature (10 cm)	°C	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Water Content (10 cm)	%	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Soil Temperature (20 cm)	°C	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Water Content (20 cm)	%	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Soil Temperature (40 cm)	°C	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Water Content (40 cm)	%	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Soil Temperature (80 cm)	°C	2021-11-29 03:26:41
DB2	P1.03 Soil moisture logger	Water Content (80 cm)	%	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Soil Temperature (5 cm)	°C	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Water Content (5 cm)	%	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Soil Temperature (10 cm)	°C	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Water Content (10 cm)	%	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Soil Temperature (20 cm)	°C	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Water Content (20 cm)	%	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Soil Temperature (40 cm)	°C	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Water Content (40 cm)	%	2021-11-29 03:26:41
DB2	P1.04 Soil moisture logger	Soil Temperature (80 cm)	°C	2021-11-29 03:26:41

DB2	P4.05 Soil moisture logger	Water Content (80 cm)	%	2022-06-02 08:01:31
DB2	z6-06738 Soil moisture sensor	Battery Percent	%	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Battery Voltage	mV	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Soil Temperature (40 cm)	°C	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Water Content (40 cm)	m ³ /m ³	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Soil Temperature (25 cm)	°C	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Water Content (25 cm)	m ³ /m ³	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Soil Temperature (15 cm)	°C	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Water Content (15 cm)	m ³ /m ³	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Soil Temperature (10 cm)	°C	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Water Content (10 cm)	m ³ /m ³	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Soil Temperature (5 cm)	°C	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Water Content (5 cm)	m ³ /m ³	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Reference Pressure	kPa	2020-08-05 12:45:00
DB2	z6-06738 Soil moisture sensor	Logger Temperature	°C	2020-08-05 12:45:00
DB2	z6-06739 Soil moisture sensor	Battery Percent	%	2020-08-05 10:45:00
DB2	z6-06739 Soil moisture sensor	Battery Voltage	mV	2020-08-05 10:45:00
DB2	z6-06739 Soil moisture sensor	Soil Temperature (40 cm)	°C	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Water Content (40 cm)	m ³ /m ³	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Soil Temperature (25 cm)	°C	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Water Content (25 cm)	m ³ /m ³	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Soil Temperature (15 cm)	°C	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Water Content (15 cm)	m ³ /m ³	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Soil Temperature (10 cm)	°C	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Water Content (10 cm)	m ³ /m ³	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Soil Temperature (5 cm)	°C	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Water Content (5 cm)	m ³ /m ³	2020-08-05 12:00:00
DB2	z6-06739 Soil moisture sensor	Reference Pressure	kPa	2020-08-05 10:45:00
DB2	z6-06739 Soil moisture sensor	Logger Temperature	°C	2020-08-05 10:45:00
DB2	z6-06740 Soil moisture sensor	Battery Percent	%	2020-08-05 10:45:00
DB2	z6-06740 Soil moisture sensor	Battery Voltage	mV	2020-08-05 10:45:00
DB2	z6-06740 Soil moisture sensor	Soil Temperature (25 cm)	°C	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Water Content (25 cm)	m ³ /m ³	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Soil Temperature (20 cm)	°C	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Water Content (20 cm)	m ³ /m ³	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Soil Temperature (15 cm)	°C	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Water Content (15 cm)	m ³ /m ³	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Soil Temperature (10 cm)	°C	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Water Content (10 cm)	m ³ /m ³	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Soil Temperature (5 cm)	°C	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Water Content (5 cm)	m ³ /m ³	2020-08-05 11:00:00
DB2	z6-06740 Soil moisture sensor	Reference Pressure	kPa	2020-08-05 10:45:00
DB2	z6-06740 Soil moisture sensor	Logger Temperature	°C	2020-08-05 10:45:00
DB2	z6-06741 Soil moisture sensor	Battery Percent	%	2020-07-09 09:45:00
DB2	z6-06741 Soil moisture sensor	Battery Voltage	mV	2020-07-09 09:45:00

DB2	z6-06741 Soil moisture sensor	Soil Temperature (5 cm)	°C	2020-07-09 09:45:00
DB2	z6-06741 Soil moisture sensor	Water Content (5 cm)	m ³ /m ³	2020-07-09 09:45:00
DB2	z6-06741 Soil moisture sensor	Soil Temperature (10 cm)	°C	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Water Content (10 cm)	m ³ /m ³	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Soil Temperature (20 cm)	°C	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Water Content (20 cm)	m ³ /m ³	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Soil Temperature (40 cm)	°C	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Water Content (40 cm)	m ³ /m ³	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Soil Temperature (60 cm)	°C	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Water Content (60 cm)	m ³ /m ³	2020-09-10 10:10:00
DB2	z6-06741 Soil moisture sensor	Reference Pressure	kPa	2020-07-09 09:45:00
DB2	z6-06741 Soil moisture sensor	Logger Temperature	°C	2020-07-09 09:45:00
DB2	z6-06742 Soil moisture sensor	Battery Percent	%	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Battery Voltage	mV	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Soil Temperature (45 cm)	°C	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Water Content (45 cm)	m ³ /m ³	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Soil Temperature (25 cm)	°C	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Water Content (25 cm)	m ³ /m ³	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Soil Temperature (15 cm)	°C	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Water Content (15 cm)	m ³ /m ³	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Soil Temperature (10 cm)	°C	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Water Content (10 cm)	m ³ /m ³	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Soil Temperature (5 cm)	°C	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Water Content (5 cm)	m ³ /m ³	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Reference Pressure	kPa	2020-08-05 10:15:00
DB2	z6-06742 Soil moisture sensor	Logger Temperature	°C	2020-08-05 10:15:00
DB2	WS Weather Station	Precipitation	mm/5min	2022-06-02 08:01:31
DB2	WS Weather Station	Pressure	hPa	2022-06-02 08:01:31
DB2	WS Weather Station	Humidity	%	2022-06-02 08:01:31
DB2	WS Weather Station	Temperature	°C	2022-06-02 08:01:31
DB2	WR1 Weir 1	surface runoff	ppm	2022-07-17 21:38:14
DB2	WR2 Weir 2	surface runoff	ppm	2022-07-17 21:38:14
DB2	WR3 Weir 3	surface runoff	ppm	2022-07-17 21:38:14
DB2	WR4 Weir 4	surface runoff	ppm	2022-07-17 21:38:14
DB3	I82RISSK2 Precipitation - Risskov	Precipitation (Forecast)	mm	2019-04-11 07:00:00
DB3	I82RISSK2 Precipitation - Risskov	Air Pressure	hPa	2019-04-10 21:50:00
DB3	I82RISSK2 Precipitation - Risskov	Air Pressure (Forecast)	hPa	2019-04-11 07:00:00
DB3	I82RISSK2 Precipitation - Risskov	Air Temperature	°C	2019-04-10 01:20:00
DB3	I82RISSK2 Precipitation - Risskov	Air Temperature (Forecast)	°C	2019-04-10 14:00:00
DB3	23.01 Waterlevel - Egå (Inlet)	Flow	l/s	2019-02-28 23:00:00
DB3	23.01 Waterlevel - Egå (Inlet)	Volume	m ³	2019-02-28 23:00:00
DB3	23.01 Waterlevel - Egå (Inlet)	Water level	mDVR90	2019-02-28 23:00:00
DB3	23.13 Waterlevel - Egå (Outlet)	Flow	l/s	2019-02-28 23:00:00
DB3	23.13 Waterlevel - Egå (Outlet)	Volume	m ³	2019-02-28 23:00:00
DB3	23.13 Waterlevel - Egå (Outlet)	Water level	mDVR90	2019-02-28 23:00:00

DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Udløb bassin - Flow	l/s	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bassin - Oxygen Concentration	mg/l	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bassin - Oxygen Saturation	%	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bassin - Water level	mDVR90	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bassin - Water Temperature	°C	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Logger - Voltage	V	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bassin - Manhole Air Temperature	°C	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Manhole - Water level	mDVR90	2021-04-30 23:00:00
DB3	23.20 Waterlevel, Oxygen, Temp. - Hovmarksparken	Bremse - Manhole Water Temperature	°C	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Udløb bassin - Flow	l/s	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bassin - Oxygen Concentration	mg/l	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bassin - Oxygen Saturation	%	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bassin - Water level	mDVR90	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bassin - Water Temperature	°C	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Logger - Voltage	V	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bassin - Manhole Air Temperature	°C	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Manhole - Water level	mDVR90	2021-04-30 23:00:00
DB3	23.21 Waterlevel, Oxygen, Temp. - Lystrup Centervej	Bremse - Manhole Water Temperature	°C	2021-04-30 23:00:00
DB4	R018 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-07-20 09:15:00
DB4	R018 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-07-20 09:15:00
DB4	R018 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-07-20 09:15:00
DB4	R023 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-05-04 08:30:00
DB4	R023 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-05-04 08:30:00
DB4	R023 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-05-04 08:30:00
DB4	R026 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-05-04 08:45:00
DB4	R026 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-05-04 08:45:00
DB4	R026 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-05-04 08:45:00
DB4	R050 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-04-19 22:00:00
DB4	R050 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-04-19 22:00:00
DB4	R050 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-04-19 22:00:00
DB4	R051 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-04-19 22:00:00
DB4	R051 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-04-19 22:00:00
DB4	R051 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-04-19 22:00:00
DB4	R056 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-05-04 08:15:00
DB4	R056 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-05-04 08:15:00
DB4	R056 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-05-04 08:15:00
DB4	R059 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-05-04 07:45:00
DB4	R059 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-05-04 07:45:00
DB4	R059 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-05-04 07:45:00
DB4	R073 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2010-04-19 22:00:00
DB4	R073 Alluvial forest Schaffäuli, TG	Temperature	°C	2010-04-19 22:00:00
DB4	R073 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2010-04-19 22:00:00
DB4	R097 Alluvial forest Schaffäuli, TG	Electrical Conductivity	µS/cm	2015-12-09 15:00:00
DB4	R097 Alluvial forest Schaffäuli, TG	Temperature	°C	2015-12-09 15:00:00
DB4	R097 Alluvial forest Schaffäuli, TG	Waterlevel	masl	2015-12-09 15:00:00

DB4	PW Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	-
DB4	PW Pumpingstation Inseli, TG	Temperature	°C	-
DB4	PW Pumpingstation Inseli, TG	Waterlevel	masl	-
DB4	Ro01 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2011-08-22 15:30:00
DB4	Ro01 Pumpingstation Inseli, TG	Temperature	°C	2011-08-22 15:30:00
DB4	Ro01 Pumpingstation Inseli, TG	Waterlevel	masl	2011-08-22 15:30:00
DB4	Ro02 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2010-05-04 10:00:00
DB4	Ro02 Pumpingstation Inseli, TG	Temperature	°C	2010-05-04 10:00:00
DB4	Ro02 Pumpingstation Inseli, TG	Waterlevel	masl	2010-05-04 10:00:00
DB4	Ro05 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2014-02-11 14:00:00
DB4	Ro05 Pumpingstation Inseli, TG	Temperature	°C	2014-02-11 14:00:00
DB4	Ro05 Pumpingstation Inseli, TG	Waterlevel	masl	2014-02-11 14:00:00
DB4	Ro06 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2010-04-19 22:00:00
DB4	Ro06 Pumpingstation Inseli, TG	Temperature	°C	2010-04-19 22:00:00
DB4	Ro06 Pumpingstation Inseli, TG	Waterlevel	masl	2010-04-19 22:00:00
DB4	Ro09 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2014-02-11 14:00:00
DB4	Ro09 Pumpingstation Inseli, TG	Temperature	°C	2014-02-11 14:00:00
DB4	Ro09 Pumpingstation Inseli, TG	Waterlevel	masl	2014-02-11 14:00:00
DB4	Ro12 Pumpingstation Inseli, TG	Electrical Conductivity	µS/cm	2010-04-21 13:45:00
DB4	Ro12 Pumpingstation Inseli, TG	Temperature	°C	2010-04-21 13:45:00
DB4	Ro12 Pumpingstation Inseli, TG	Waterlevel	masl	2010-04-21 13:45:00
DB5	339 Marégraphe Nice	Tide gauge validated data	m	2021-12-31 23:00:00
DB5	339 Marégraphe Nice	Tide gauge raw data	m	2021-12-31 23:00:20
DB6	189 Marégraphe Île d'Aix	Tide gauge validated data	m	2021-12-31 23:00:00
DB6	189 Marégraphe Île d'Aix	Tide gauge raw data	m	2021-12-31 23:00:00
EC1	EC1_03 Dalgopol town	Waterlevel	mMSL	2020-12-16 05:15:00
EC1	EC1_01 Poda/Kamchia	Waterlevel	mMSL	2020-12-15 14:15:00
EC1	EC1_02 Velichkovo/Kamchia	Waterlevel	mMSL	2020-12-16 05:15:00
IC1	ATG101 ATG101	Water level	mMSL	2018-11-23 14:40:00
IC1	ATGo82 Dhammaraja Gate	Water level	mMSL	1999-11-30 00:00:00
IC1	FROCo1 Future Park Rangsit	Water level	mMSL	2018-11-25 16:30:00
IC1	BKK002 Krung Thep 2	Water level	mMSL	2018-11-25 09:10:00
IC1	BKK015 Lam Luk Ka Klong8	Water level	mMSL	2018-11-25 09:00:00
IC1	LK13 Liab Khlong 13	Humidity	%	2018-11-23 14:00:00
IC1	LK13 Liab Khlong 13	Barometric Pressure	hPa	2018-11-25 16:00:00
IC1	LK13 Liab Khlong 13	Precipitation 10 minutes	mm	2018-11-27 03:00:00
IC1	LK13 Liab Khlong 13	Precipitation 1 hour	mm	2018-11-25 16:00:00
IC1	LK13 Liab Khlong 13	Precipitation last 24 hour	mm	2018-11-25 16:00:00
IC1	LK13 Liab Khlong 13	Precipitation day	mm	2018-11-25 16:00:00
IC1	LK13 Liab Khlong 13	Solar Radiation	W/m ²	2018-11-25 16:00:00
IC1	LK13 Liab Khlong 13	Air Temperature	°C	2018-11-25 16:00:00
IC1	BKK013 Rabibadhana Nong Suea	Water level	mMSL	2018-11-25 09:10:00
IC1	CAN001 Rabibadhana West Section	Water level	mMSL	2018-11-25 16:30:00
IC1	RSK7 Rangsit Khlong 7	Humidity	%	2018-11-25 16:00:00
IC1	RSK7 Rangsit Khlong 7	Barometric Pressure	hPa	2018-11-25 16:00:00

IC1	RSK7 Rangsit Khlong 7	Precipitation 10 minutes	mm	2018-11-27 03:00:00
IC1	RSK7 Rangsit Khlong 7	Precipitation 1 hour	mm	2018-11-25 16:00:00
IC1	RSK7 Rangsit Khlong 7	Precipitation last 24 hour	mm	2018-11-25 16:00:00
IC1	RSK7 Rangsit Khlong 7	Precipitation day	mm	2018-11-25 16:00:00
IC1	RSK7 Rangsit Khlong 7	Solar Radiation	W/m ²	2018-11-25 16:00:00
IC1	RSK7 Rangsit Khlong 7	Air Temperature	°C	2018-11-25 16:00:00
IC1	ATGo81 Upper Dhammaraja Gate	Water level	mMSL	1999-11-30 00:30:00