



H+ Database

Enigma KOM, Paris 31/01/2017

Purposes

- Enables long-term knowledge preservation
- Provides a consolidated view of data
 - Different sites, providers
 - « One stop shopping » acces point
- Data extraction : availability for the scientific community

Uses

- Integration
- Extraction
- Visualization
- Web site and Web portal



Database : data types

- Initiated in 2004
- Heterogeneous data :
 - chronic or one-time experience with hydrogeological measures from 1990 to now ~ 500 millions of data
- Platform-based database : well, logs, core, ...
- Metadata and data



1. How to insert data into the database

Use one of the 50 defined models on 8 thematics :

- <http://hplus.ore.fr/en/database/terms-of-use/file-templates>

hplus.ore.fr/en/database/terms-of-use/file-templates

Rechercher

Network of hydrogeological research sites

Home Ploemeur Poitiers LSBB Majorca Larzac India Database Reports

Terms of use

Glossary

FILE TEMPLATES

Models are given in CSV file format (text separated by ;) or Excel file format. But they can also be in XML format when they are put in FTP site or upload by web application.

File templates

Project monitoring

Access to the database

Puits

- arrivee eau [csv, xls, xml]
- boite de carotte [csv, xls, xml, example]
- carotte [csv, xls, xml, example]
- coupe technique [csv, xls, xml, example]
- geometrie des puits [csv, xls, xml]
- log geologique [csv, xls, xml, example]
- mesure carotte [csv, xls, xml, example]
- outil etalonnage [csv, xls, xml]
- prelevement carotte [csv, xls, xml, example]
- puits [csv, xls, xml, example]

Mesures

- acoustique [csv, xls, xml]
- diametre_3_bras [csv, xls, xml, example]
- multiparametres [csv, xls, xml, example] (anciennement hydrogeochimie)
- porosite [csv, xls, xml]
- radioactivite_gamma_spectrale [csv, xls, xml, example]
- radioactivite_gamma_naturelle [csv, xls, xml]
- resistivite_electrique_focalisee [csv, xls, xml, example]
- resistivite_electrique_normale [csv, xls, xml, example]
- resistivite_induction [csv, xls, xml, example]
- imagerie_optique [csv, xls, xml, example]
- imagerie_acoustique [csv, xls, xml, example]
- fibre_en_forage [csv, xls, xml]

Données de site

- chronique_debits_surface [csv, xls, xml]
- meteo [csv, xls, xml, example]
- ecoulement [csv, xls, xml, example]

Chimie

- chronique_analyse_chimique [csv, xls, xml, example]
- echantillon [csv, xls, xml, example]
- mesures_tracage [csv, xls, xml, example]

Géodésie


Hydraulique

1. How to insert data into the database

! Conditions of access to log in : Charter



- Upload of the data file
- Test
- Technical validation
- Insertion
- Scientific validation
- ⇒ data available Day+1



Network of hydrogeological research

[Home](#)[Ploemeur](#)[Poitiers](#)[LSBB](#)[Majorca](#)[Larzac](#)[India](#)[Database](#)[Reports](#)

ACCESS TO THE DATABASE

Identification

Please be identified

Login:

Password:

Open session

[Create an account](#)

	A	B	C	D	E	F	G	H	I	J	K	L	
1	email address												
2													
3	site name	Borehole name	experience	date	time	z_definition	z_definition reference	z	pumping rate	temperature	upper	lower	
4	appartient à la liste des sites (obligatoire)	appartient à la liste des puits (obligatoire)	appartient à la liste des experiences (obligatoire)	jj/mm/aaaa (obligatoire)	hh:mm:ss (optionnel)	texte libre précisant quel point de référence a été pris pour calculer la profondeur enregistrée dans la colonne z_relatif	altitude NGF (par rapport au niveau de la mer) en mètres du point qui sert de définition des profondeurs décrit dans la colonne definition z_relatif	profondeur en mètres calculée par rapport au point de définition (optionnel)	en m3/s (obligatoire)	en °C (optionnel)	limite supérieure de la chambre d'imposition du débit (optionnel)	limite inférieure de la chambre d'imposition du débit (optionnel)	
5													



2. Data Extraction

2 methods :

Easy Interface or full query

Requests : background SQL
(Standard Query Language)

- Connect
- Choose univers (Point, Spatial)
- Choose column result
- Select line filter
- How to export

⇒ result send by email

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ACCESS TO THE DATABASE

Objects selection (1/3) "choice columns"

Choice of a universe :
Point Data

Available objects

- Basic data
- Borehole location
- Technical/Geological log
- Geophysical log
- Cores / Cuttings
- Water or core sampling
- Location of stations (weather, GPS, tiltmeter, seismic,...)
- Experiment
- Information on packers and geophysical sources
- Information on measurement
- Information on the insertion of the data into the database

Selected objects


Sorted by

Ignore doubles ☒



2. Data Extraction (1) : complete

ACCESS TO THE DATABASE

[Help](#)  

Filtres selection (2/3) "choice lines"

Manage data

- [Upload files](#)
- [Check the file data format](#)
- [Validate technically the file data format](#)
- [Insert the file data](#)
- [Validate scientifically the file data](#)
- [List the files](#)

View data

- [Predefined Requests](#)
- [Avanced research](#)
- [Help](#)

Upload filtres

- [Upload filter](#)
- [Filters list](#)



Available objects

- ☐ **Basic data**
- ☐ **Borehole location**
- ☐ **Cores / Cuttings**
- ☐ **Water or core sampling**
- ☐ **Location of stations (weather, GPS, tiltimer, seismic,...)**
- ☐ **Experiment**
- ☐ **Information on measurement**
- ☐ **Information on the insertion of the data into the database**



Selected filters

Name of parameter	Equals	temperature	<input type="checkbox"/>
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[<< Objects page](#)

[Options d'exportation >>](#)



ACCESS TO THE DATABASE

[Help](#)

Results (3/3)

Manage data

- [Upload files](#)
- [Check the file data format](#)
- [Validate technically the file data format](#)
- [Insert the file data](#)
- [Validate scientifically the file data](#)
- [List the files](#)

View data

[Summarization](#)[Preview](#)[Export](#)[Save request](#)

Format :

csv



Name of the file :

.html

Compression ?



yes



no

Your e-mail address :

[Export](#)

ACCESS TO THE DATABASE

[Help](#)

Results (3/3)

Manage data

- [Upload files](#)
- [Check the file data format](#)
- [Validate technically the file data format](#)
- [Insert the file data](#)
- [Validate scientifically the file data](#)
- [List the files](#)

View data

- [Predefined Requests](#)
- [Advanced research](#)
- [Help](#)

Upload filters

- [Upload filter](#)
- [Filters list](#)

Your query is executing now. In function of the size of the database, it may take a while. You will receive an e-mail when the results are available.

[Summarization](#)[Preview](#)[Export](#)[Save request](#)

Objects :

- Name of parameter
- Value
- Name of borehole
- Name of the site associated to the borehole

Filters :

- Name of borehole Equals b1
- Et Name of the site associated to the borehole Equals ploemeur
- Et Name of parameter Equals nitrate



2. Data Extraction (2)

The work is already done : request already exists => just choose

- <http://hplus.ore.fr/en/database/access-database>
- Log in
- Predefined requests (author/site)
- Export to an email address



hplus.ore.fr/connexion

Les plus visités nss-pam-idapd: How t... Samba standalone + ... Icinga Web 2 Login Aides en ligne table - MySQL: Show c... Microsoft Word - Doc... Proxmox

Réseau National de sites Hydrogéologiques

Accueil Ploemeur Poitiers LSBB Majorque Larzac Inde Base de données Connexion Rapports

Aide à la consultation

Gérer les données

Auteur : - Site : hyderabad_choutuppal

- Déposer un fichier
- Tester le format du fichier
- Valider techniquement le format du fichier
- Insérer le fichier de données
- Valider scientifiquement le fichier des données
- Lister les fichiers

Consulter les données

- Requête prédéfinies
- Recherche avancée
- Aide à la consultation

Dépôt des filtres

Liste des requêtes disponibles

Auteur	Site	Titre
gerard	hyderabad_choutuppal	Choutuppal_injection_tests_t
gerard	hyderabad_choutuppal	Choutuppal_piezo_t
gerard	hyderabad_choutuppal	Choutuppal_slug_t
gerard	hyderabad_choutuppal	Choutuppal_rainfall_t
gerard	hyderabad_choutuppal	Choutuppal_hydraulic-parameter_t
battais	hyderabad_choutuppal	Choutuppal_localization_wells
gerard	hyderabad_choutuppal	Choutuppal_air_temperature_t
battais	hyderabad_choutuppal	Choutuppal_geological_view
battais	hyderabad_choutuppal	Choutuppal_experience
battais	hyderabad_choutuppal	Choutuppal_technical_cut
gerard	hyderabad_choutuppal	Hyderabad_Choutuppal_multiparameter_log
battais	hyderabad_choutuppal	Choutuppal_stations
gerard	hyderabad_choutuppal	Choutuppal_wind_t
gerard	hyderabad_choutuppal	Choutuppal_radiation_t

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2. Data Extraction

Some predefined requests available through the website <http://hplus.ore.fr/en/>

Available data on the Ploemeur site	
All the data in the H+ database can be extracted with request in the page dedicated to the database . For some data pre-requests have been defined for these pre-requests can be downloaded through the links in the table below. The text in green indicates the data available on the site but which are still to be included into the database.	
Chemistry	Deformation
<ul style="list-style-type: none">• Chemical Ion concentration• Chemistry of ground• Tracer Tests• Gaz concentration (CFC, SF6)	<ul style="list-style-type: none">• Tiltmeter (2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014)• GPS
Mesures in situ	Spatialized data
<ul style="list-style-type: none">• Acoustical data log• Optical data log• Caliper data• Multiparameter logs (conductivity, dissolved oxygen, pH, potentiel redox, temperature)• Radioactivité gamma spectrale et natural gamma radioactivity• Focalized electric resistivity• Normal electric resistivity• Induction resistivity	<ul style="list-style-type: none">• Waterlevel 01-04-2008• Waterlevel 18-05-2006 (legend)• Waterlevel 30-11-2006 (legend)• Gravimetry map (legend)• Magnetic map (legend)• VLF map (legend)• Structural scheme (old, new) (legend [old], new)• Geological map 1969 (legend)
Hydraulic	Borehole
<ul style="list-style-type: none">• Pumping• Flow (Flowmeter experiment data)• Water level (2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014)• Data on slug experience• Data on push-pull experience• Data on dilution experience	<ul style="list-style-type: none">• Geological log (Pictures)• Boreholes Forages (Localization)• Optical et diagraphic log
Stations	Experiments
<ul style="list-style-type: none">• Stations	All experiments Tracer test GPR June 2014 (flow, conductivity, fluorimetry)



3. Visualization :

Upload KMZ of each site and local visualization on google Earth

Google Earth interface showing a data window for 'Well Name : b1'.

Well Name : b1

Coordinates			
Latitude	Longitude	Altitude	
47.739964	-3.4745786	8.9875	

Properties of water		Number of measures	First measure :	Last measure :
Piezometry	2891283		2005-09-23 00:00:00.0	2012-10-23 00:00:00.0
Chemical	176		2004-02-24 00:00:00.0	2006-10-11 00:00:00.0

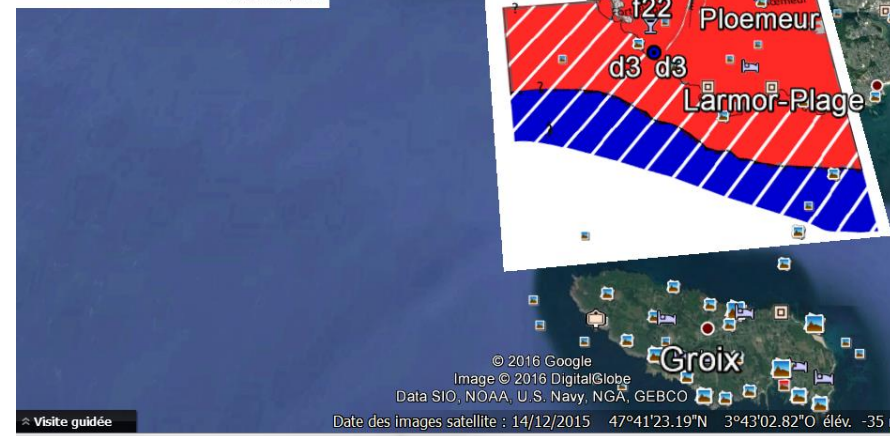
Properties of flowmetry		Number of measures	First measure :	Last measure :
Flowmetry	96271		2005-03-10 00:00:00.0	2014-06-27 00:00:00.0
Multiparameter probe	171353		2003-07-05 00:00:00.0	2014-06-27 00:00:00.0

Geophysical properties		Number of measures	First measure :	Last measure :
Gamma Ray	6413		2003-07-05 00:00:00.0	2006-10-11 00:00:00.0
Electricity	91694		2003-07-05 00:00:00.0	2003-10-30 00:00:00.0
Optical	19644		2003-07-05 00:00:00.0	2003-11-03 00:00:00.0
Acoustic	42268		2003-07-06 00:00:00.0	2003-07-19 00:00:00.0

Experiment data				
Name	Type	Begin	End	File
fipdm-1_uranine_b1_4_06062012	dilution	2012-06-06 11:26:00	2012-06-06 18:20:00	fipdm_1 fluo. b1.4_06062012.pdf
pdm-1_uranine_b1_4_06062012	dilution	2012-06-06 11:26:00	2012-06-06 18:20:00	fipdm_1 fluo. b1.4_06062012.pdf
fipdm-2_uranine_b1_4_07062012	dilution	2012-06-07 07:27:00	2012-06-07 13:12:00	fipdm_2 fluo. b1.4_07062012.pdf
pdm-2_uranine_b1_4_07062012	dilution	2012-06-07 07:27:00	2012-06-07 13:12:00	fipdm_2 fluo. b1.4_07062012.pdf
pdm-3_uranine_b1_4_07062012	dilution	2012-06-07 13:34:00	2012-06-07 22:12:00	fipdm_3 fluo. b1.4_07062012.pdf
fipdm-3_uranine_b1_4_07062012	dilution	2012-06-07 13:34:00	2012-06-07 22:12:00	fipdm_3 fluo. b1.4_07062012.pdf

Legend for geological features:

- Guidel granite
- Ploemur granite
- Micaschists
- Ploemur granite offshore
- Micaschists offshore
- recent superficial deposits
- Prasinites
- Quartz
- Submeridian fault
- Outcrop figure 2

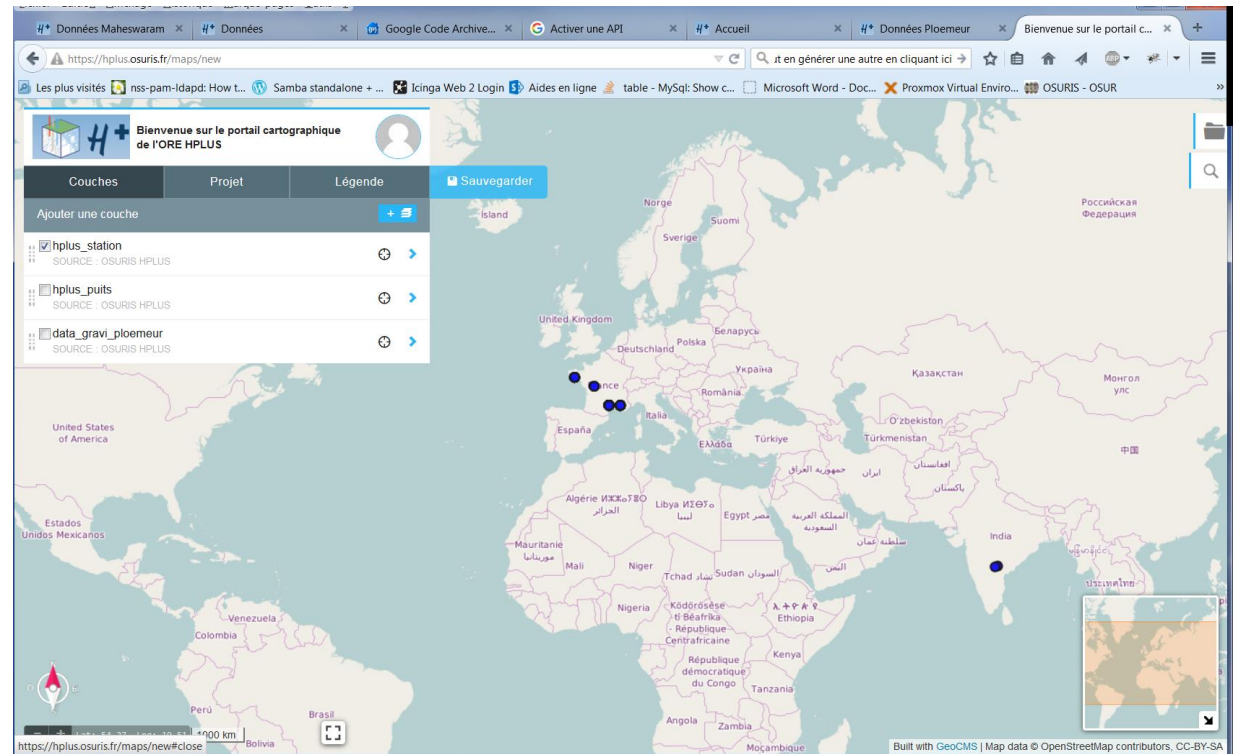




Spatialized data visualization

Portal : hplus.osuris.fr

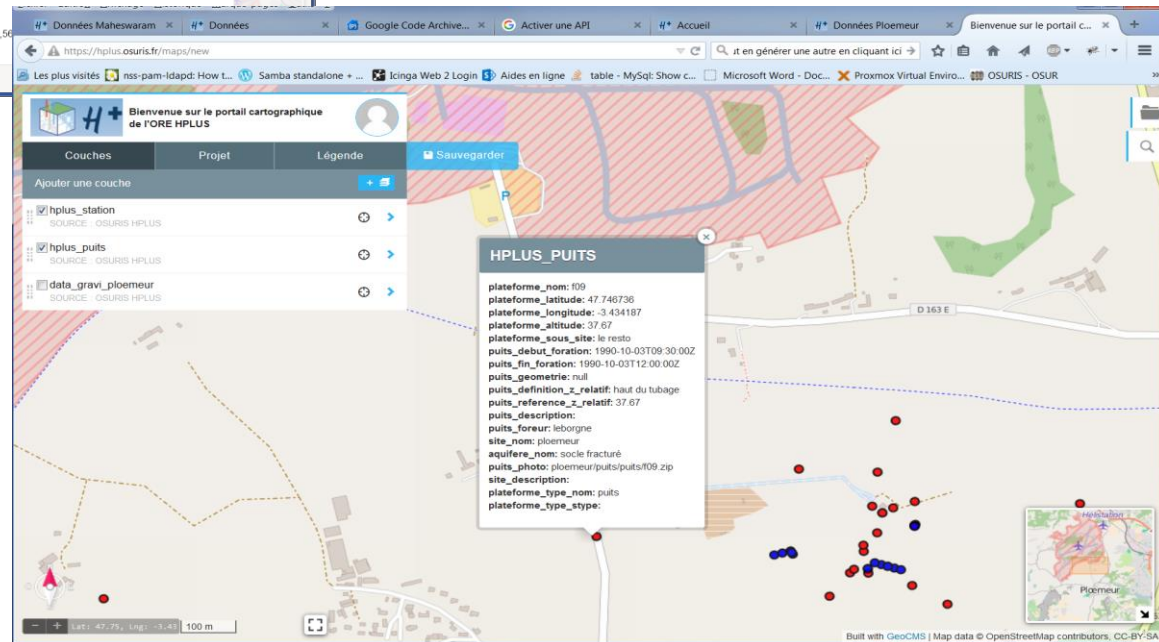
- Webservices : web mapping service, web file service ...
- Interoperable
- Various Shapes (BRGM, IGN ...) from database or build
- 3 softwares :
 - metadata inventory
 - data inventory
 - access portal





Spatialized data visualization

Portal : hplus.osuris.fr





Spatialized data infrastructure

www.osuris.fr/geonetwork

- projects/
- sites/
- Data type

The screenshot shows the OSURIS-OSUR Geonetwork catalog search results page. The browser tabs include "Données Maheswaram", "Bienvenue sur le portail...", "Google Code Archive...", "Activer une API", "Accueil", "Données Ploemur", and "OSURIS - OSUR". The address bar shows the URL: <https://www.osuris.fr/geonetwork/srv/fire/catalog.search#/search?resultType=details&sortBy=relevance&from=1&to=20&fast=index&>. The search bar contains "H+" and the results are sorted by "pertinence" (relevance). The left sidebar shows filters for "TYPE DE RESSOURCE" (Jeu de données (9), Catalogue... (3)), "THÈMES" (Informations... (9)), "MOTS-CLÉS" (Informations... (9), Surface water (9), Ploemur, Poitiers,... (9)), "CONTACT DE LA RESSOURCE" (INSU-CNRS (9), Geosciences... (9), Geosciences... (2), Hydrasa (FRE 3114) (1), LSBB (1)), and "FOURNI PAR" (B43ee3c8-397d-45f2-8... (12)). The main content area displays three search results:

- ORE H+ : OBSERVATOIRE DE RECHERCHE EN ENVIRONNEMENT en HYDROGÉOLOGIE**
Le service d'observation H+ a été créé en 2002, avec trois missions principales : La mission première de l'observatoire H+ est de maintenir et de coordonner un réseau de sites expérimentaux capables de fournir des données pertinentes – y compris des chroniques ou expériences long terme – pour la
Tanguy Leborgne
Annick Rattais
- ORE H+ : Site de Poitiers**
Le Site Expérimental Hydrogéologique (SEH) de Poitiers a été développé par l'équipe Hydrasa (FRE 3114), dans le cadre du Réseau National de Sites Hydrogéologiques (SNO H+) et du programme "EAUX" de la région Poitou-Charentes (CPER 2002-2006). Situé 2 km à l'Est du Campus Sciences de l'Université de
Gilles Porel
Annick Rattais
- ORE H+ : Localisation des Puits**
La couche puits représente la position géographique des puits sur lesquels sont effectuées des mesures chimiques, in situ (nappes, imagerie, hydrauliques, etc.)
Mis à jour continue
- ORE H+ : Localisation des stations**
La couche station représente la position géographique des stations sur lesquelles peuvent être effectuées des mesures de déformation (arvimétrie, inclinométrie) des
Mis à jour continue



In progress : Integration of geophysical data

- Inventory of the different types geophysical data acquired or considered on the H⁺ experimental sites
- Classification of the data types
- Reflection on the way to integrate the geophysical data
- First test of integration in the H⁺ data base



Thank you for your attention !