

VALIDATE DATA AND DATABASE UPLOAD

4.

— Select **data file** type (location, time series). User defined templates are also supported.

— Select **MsExcel data file** and **template** (edd/app/ems/clean/template).

— **Validate input file vs. template** rules; if it fails ("File not OK") go to next step, otherwise skip.

— Explore **Data, Template** and **Result**; identify and fix errors (cell-by-cell), go back one step.

— **Upload to the database**; if it fails ("File not OK") go to next step, otherwise skip.

— Explore **Data, Template** and **Result**; identify and fix errors (record), go back one step.

💡 Huge files validation and database uploading can take time. Be patient! Focus on errors description; they generally share similar pattern, format issues, compulsory data, etc.

Project d'Appel à la gestion des données de terrain de la Région de Niakhar en matière d'agriculture dans le cadre du Plan National de Développement Agricole

Change language: en

Select data file type:

- Location
- Time series
- User defined

Select MsExcel data file:

- Browse... data_ceres2021_location-point_LEV1-0_VvIEr
- Upload complete

Select MsExcel template:

- Browse... template_location.xlsx
- Upload complete

Validate input file vs. template

Partial upload

Upload to the database

File is not OK!

Code	X	Y	Srid	Type	Note	Provider	
1	AR0401	797306	1633620	32628	Monitoring point	The code could already exist in the database	CERES
2	TEST02	797283	1633652	32628	Monitoring point		CERES
3	TEST03	797232	1633741	32628	Geophysical point		CERES
4	TEST04	797219	1633795	100000	Monitoring point		CERES
5	TEST05	797085	1633954	110000	Monitoring point		LAB1
6	797063	1633958	32628	Monitoring point	Lacking code	LAB2	
7	TEST07	797209	1633914	32628	Monitoring point		CERES
8	TEST08	797900	1633900	32628	Monitoring point	To check potential conflicts with existing coordinates	CERES
9	TEST09	797800	1633800	32628	Monitoring point	To check potential conflicts with existing coordinates	CERES
10	TEST10	797236	32628	Monitoring point	Lacking Y coordinate	CERES	

Showing 1 to 10 of 10 entries

Project d'Appel à la gestion des données de terrain de la Région de Niakhar en matière d'agriculture dans le cadre du Plan National de Développement Agricole

Change language: en

Select data file type:

- Location
- Time series
- User defined

Select MsExcel data file:

- Browse... data_ceres2021_location-point_LEV1-0_VvIEr
- Upload complete

Select MsExcel template:

- Browse... template_location.xlsx
- Upload complete

Validate input file vs. template

Partial upload

Upload to the database

File is not OK!

Row	Col	Val	Msg
1	6	1	[Error] Null attribute violates the not null constrain for this column
2	10	3	[Error] Null attribute violates the not null constrain for this column
3	4	4	[Error] Value 100000 violates the valid value list constrain (vvlvvl_srid.csv)
4	5	4	[Error] Value 110000 violates the valid value list constrain (vvlvvl_srid.csv)
5	3	5	[Error] Value Geophysical point violates the valid value list constrain (vvlvvl_type.csv)
6	5	7	[Error] Value LAB1 violates the valid value list constrain (vvlvvl_provider.csv)
7	6	7	[Error] Value LAB2 violates the valid value list constrain (vvlvvl_provider.csv)

Showing 1 to 7 of 7 entries



VISUALIZE AND ANALYZE DATA

5.

— **Analyze parameter values**; select parameter, symbol size and explore data through the map, table or graph; views being interlinked and any selection being reflected on all of them.

— **Analyze Law/EQS** (Environmental Quality Standard) **limit exceedance**; select data provider(s), media, law(s) and EQS(s), only exceeding parameters, standardized symbol size at law limit and date interval. A small arrow at the bottom starts animation over time.

Dashboard

Map of concentrations

Filter data by provider: CERES

Filter data by media: Water

Filter by law/EQS & use:

- 98/83/EC (DrinkingWater)
- CERES (DrinkingWater)
- GDWQ/2017/WHO (DrinkingWater)

Select measurement types:

- ALDRIN(µg/l) Water
- Bifenthrin(µg/l) Water
- CHLORPYRIFOS(µg/l) Water
- DIELDRIN(µg/l) Water
- ENDOSULFAN(µg/l) Water
- GAMMA BHC (LINDANE)(µg/l) Water

Above law/EQS limit only

Symbol radius at law limit (m): 1000

Date: 2021-03-20

code	param	unit	media	date	measure	provider
ML01	ALDRIN	µg/kg	Fish	2021-03-06T00:00:00Z	1	LCV
ML02	ALDRIN	µg/kg	Fish	2021-03-08T00:00:00Z	1	LCV
ML03	ALDRIN	µg/kg	Fish	2021-03-09T00:00:00Z	1540	LCV
ML04	ALDRIN	µg/kg	Fish	2021-03-09T00:00:00Z	1830	LCV
ML06	ALDRIN	µg/kg	Fish	2021-03-10T00:00:00Z	930	LCV
ML05	ALDRIN	µg/kg	Fish	2021-03-10T00:00:00Z	1	LCV
ML07	ALDRIN	µg/kg	Fish	2021-03-11T00:00:00Z	1	LCV

Showing 1 to 7 of 7 entries (filtered from 12 total entries)

💡 The dashboards seamlessly connect to the already setup database. Map, table and graph are interlinked. Menu selection filters out not relevant data.



AUTHORS

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Disclaimer

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Science for policy

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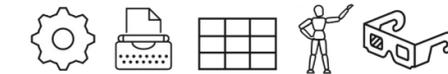


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ENVIRONMENTAL MONITORING SYSTEM

QUICK START GUIDE



Science for policy
Joint Research Centre

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Research
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STEP-BY-STEP

INSTALL AND CONFIGURE

1. INSTALL AND CONFIGURE

Locally install and configure the tool and the database.

2. EDIT DATABASE

Add, update, delete database content, both system (eg.parameters, laws, law limits) and application monitoring data.

3. PREPARE DATA

Prepare MsExcel data files of monitoring points and related time series for later massive data validation and transfer.

4. VALIDATE DATA AND DATABASE UPLOAD

Check for and report about inconsistencies/errors vs. standard rules (templates) and previous database content.

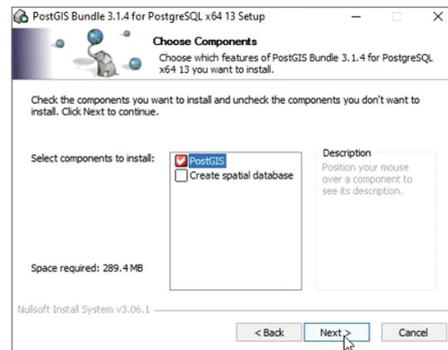
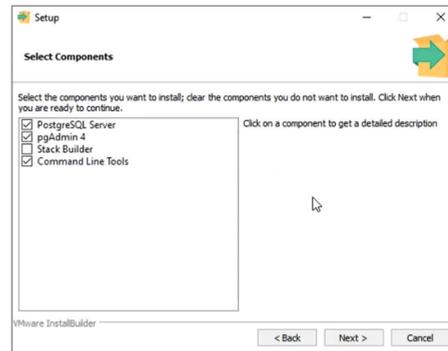
5. VISUALIZE AND ANALYZE DATA

Build dashboards for explorative spatiotemporal analysis of parameters trends and law/EQS (Environmental Quality Standard) exceedance.

Run the EMS MsWindows (v. 10 or higher) installer.

Install locally PostgreSQL database and PostGIS, its geographic extension, if not already available.

Leave the defaults, where possible; keep note of database password and port (default 5432, if not used). In case of access to remote database(s), skip database install and ask IT system administrator for credentials.



Run EMS through the desktop shortcut and main interface shows up.

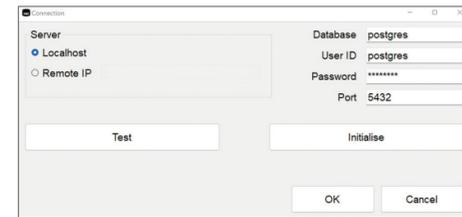
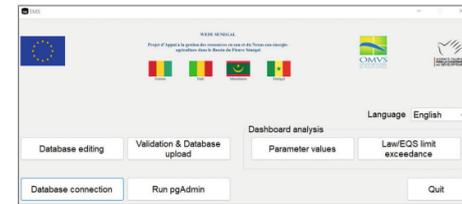
Select Language from dropdown list; translation.json file can be edited to extend language support.

Access Database connection window and configure parameters, as from the installation.

Test the database connection.

Initialize the database the first time only. Database objects are created and data copied.

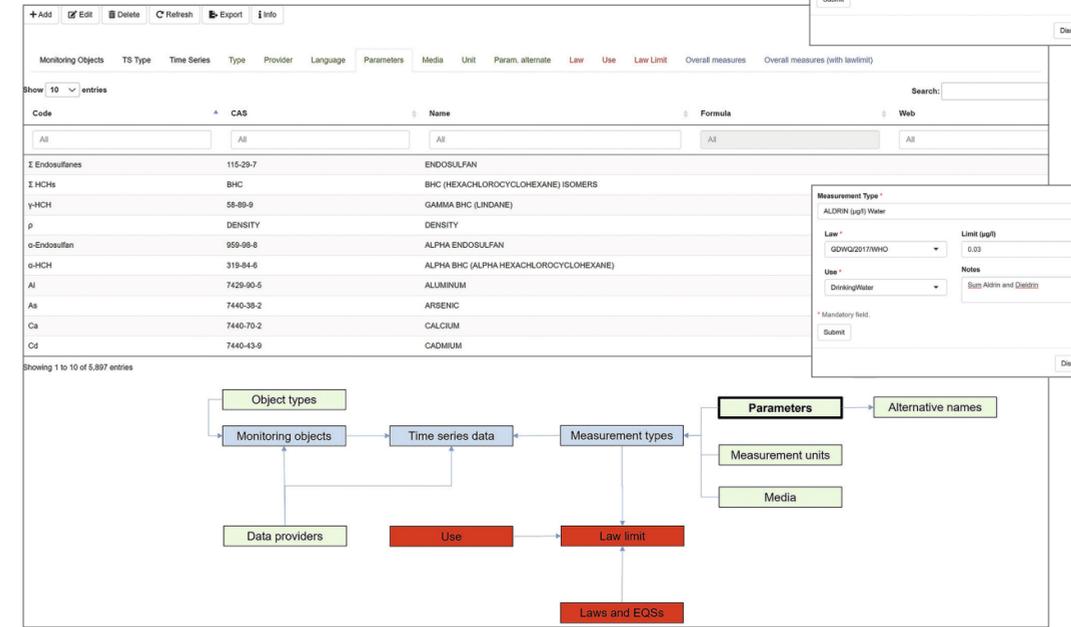
EMS is a web application and opens in your browser Main window provides access to all application features.



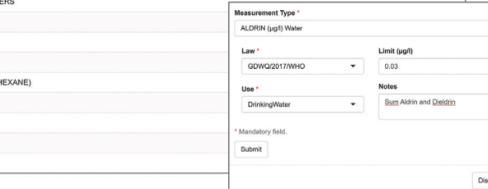
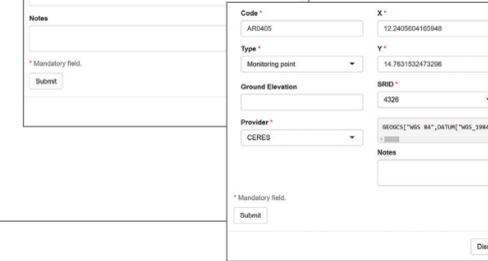
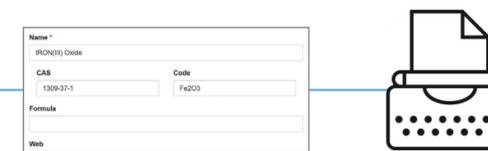
EDIT DATABASE

Edit database contents: select table of interest (eg. tab **Monitoring Objects**, **Time Series**), **Add**, **Edit** or **Delete** record(s), **Refresh** the view (if needed) and **Export** data.

Dynamically filter records by global **Search** or by columns' content, left mouse click for record selection.



Tabs to access database content are colored in: black (application-specific monitoring data), green (system data), red (legal limits) and blue (queries of general interest, combining data from distinct tables).



Error messages are issued if: no record has been selected on editing or deleting; more than one record has been selected on editing. Info provides a detailed overview of database architecture.

PREPARE DATA

Organize location and time series data in MsExcel files following the rules defined in the standard templates available at **edd/app/ems/clean/template**; (Re)name MsExcel data tab as "Data".

Check column names, their sequence, data types, compulsory attributes and (where stated) content being present in the VVL (Valid Values List). VVL files are updated regularly at application start based on the database content and they are available at **edd/app/ems/clean/vvl**.

Pos	Column name	Data type	Required	Description	Valid values list
1	Code	TEXT (100)	Y	Monitoring point code	
2	X	NUMERIC	Y	x coordinate	
3	Y	NUMERIC	Y	y coordinate	
4	Srid	INTEGER	Y	Spatial reference ID (as from EPSG)	vvl_srid.csv
5	Type	TEXT (100)	Y	Type of monitoring point	vvl_type.csv
6	Note	TEXT (255)	N	Descriptive note	
7	Provider	TEXT (100)	Y	Locational data provider	vvl_provider.csv

Clearly state in contracts with third parties what data format is expected to be used for data delivering and share standard templates. Alternatively, if not agreed upon, demand for consistent digital data formats reporting data as clean as possible.

For existing data or not compliant formats, transfer data to standard templates, manually or automatically (preferred option) and always keep a copy of the original deliverables.