MOTIVE Client Manual

What is MOTIVE Client

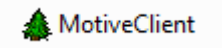
The MOTIVE client software package is a central tool of the MOTIVE toolbox. Its current main task is to service modeling groups by handling and transfering model output data to the MOTIVE database.

Currently MOTIVE Client can

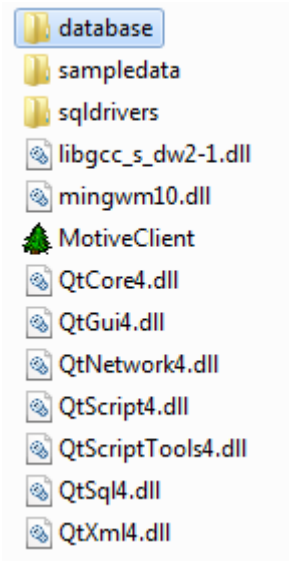
- Manage scripts (load, edit, save, execute)
- Browse data (case study data, scenarios, results, catalogs)
- Display charts
- Export database structure to sql
- Upload data to MOTIVE server

Installation

MOTIVE client is distributed as a single zip file MotiveClient.zip together with the necessary libraries and ini files. It does not require installation.
Unzip the zip file anywhere to your computer. The following file structure will be created:

- Motive executable
  

- Database directory: template database and database metadata
- Sampledata directory: sample data (picus)



Brief overview of the MOTIVE database structure

MOTIVE database is created as a relational database. Tables in this database can be logically organized into several groups:

- Case study data
  - SiteType
  - StandType
  - SimulationEntity
  - ClimateDriver
- Scenarios
  - Management
  - ManagementActivity
- Simulation Run and Results
  - SimulationRun
  - State
  - State_Species
  - State_DBHClasses
  - State_Assortments
  - Flow
  - Flow_Species
  - Flow_DBHClasses
  - Flow_Assortments
- Catalogs
  - Global tables (Global tables are common to all case studies and models in the MOTIVE project.)
    - CaseStudies
    - Models
    - Institutes
    - ContactPersons
    - ClimateScenarios
  - User catalogs (User catalogs represent lists of possible values for particular attributes; they are similar to enumeration types.)
    - Species
    - ScenarioType
    - SoilTexture
    - SoilType
    - InithialPhase
    - NutrientSupply
    - RegenerationSystem
    - ThinningType
    - WaterInfluence
    - WindDirection
    - SilviculturalSystem
    - Cloudiness
    - Country

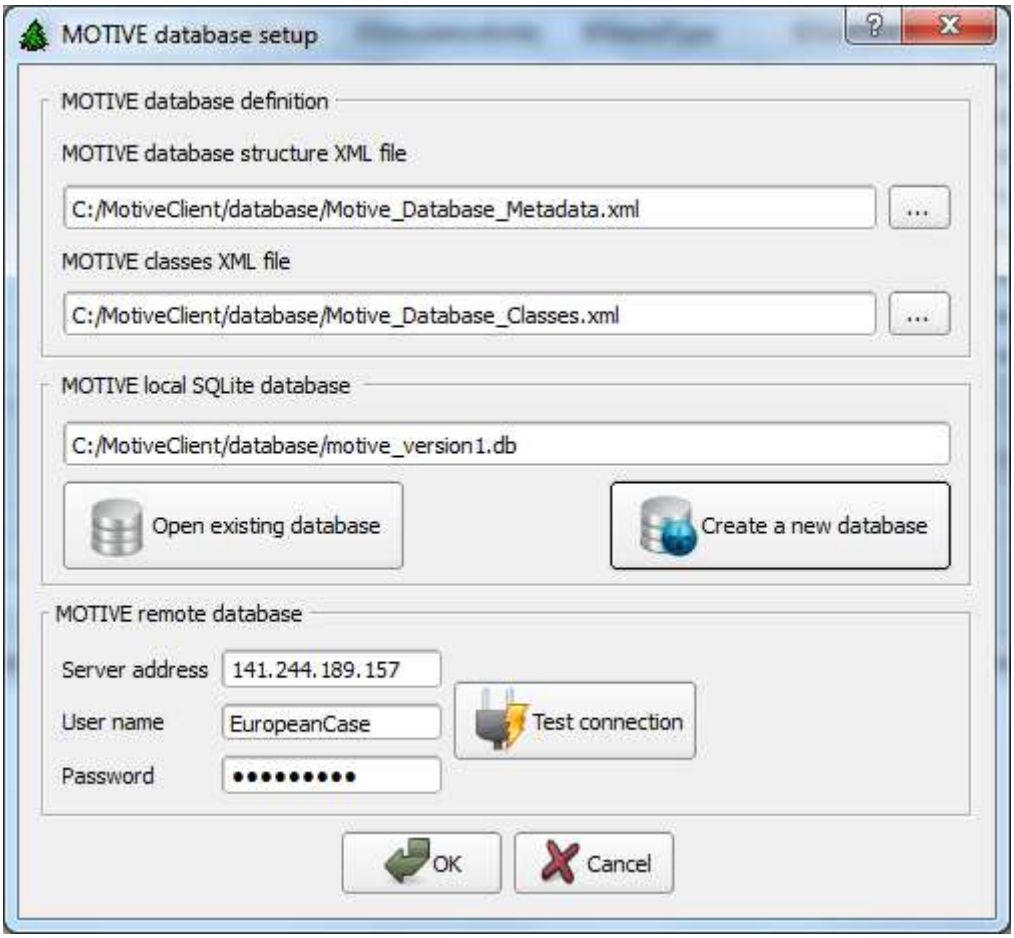
See the MOTIVE_Harmonized_Model_Outputs.doc for more details.

Settings

MOTIVE database settings

Use the MOTIVE database settings to set the working database.

MOTIVE database settings window pops up when running the client for the first time. Click File/ MOTIVE database settings to open the window manually.



MOTIVE database XML files

MOTIVE client uses xml files to load the database structure (Motive_Database_Metadata.xml) and the catalogs (Motive_Database_Classes.xml). Default location for these files is the "//MotiveClient/database" directory. There is no need to change these files unless a new version of a central database is released.

MOTIVE local SQLite database

MOTIVE client uses local SQLite database to store data. A SQLite database is a single file with the "db" extension.
There is a template database called "motive.db" delivered together with the MOTIVE client, default location for the file is the "//MotiveClient/database" directory. Do not use this template as a working database; create your own database instead.

Click the “Create a new database” 

button to create a new database. The new database has an empty data tables for case study data, scenarios and results; global tables and user catalogs are predefined.

Click the “Open an existing database” 

button to open an existing database.

MOTIVE remote database

MOTIVE remote database is the central MOTIVE database that stores outputs of models based on the “harmonized model output” defined by the Motive project.

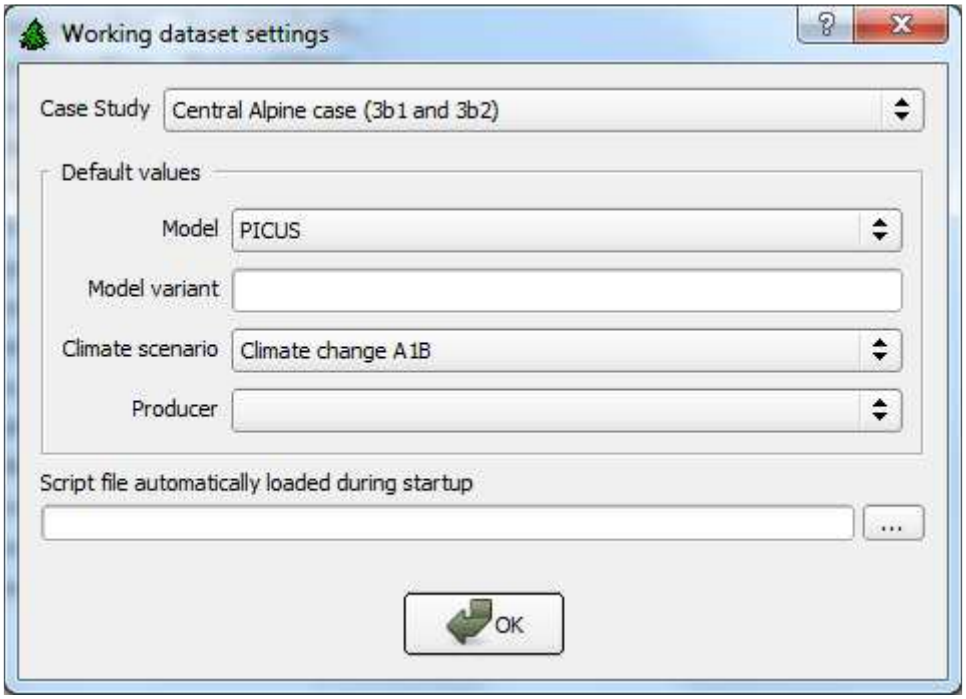
The connection parameters are:
Server address is 141.244.189.157
User name and password: generated for each case study.

The user name and password is also valid for the web-based browsing tool that makes accessible uploaded data of the uploading party at http://motive.boku.ac.at/viewer. (Or Click Tools / “MOTIVE database Web interface” to open the MOTIVE central database web-based browsing tool.)

Working dataset setting

Use the working dataset settings to set the case study for the current working session.

Working dataset settings window pops up when running the client for the first time.
Click “File/ Working dataset settings” to open the window manually.



Case Study:
Set the case study which all data should be related to. When working with scripts or browsing data, only values for the selected case study will be available.

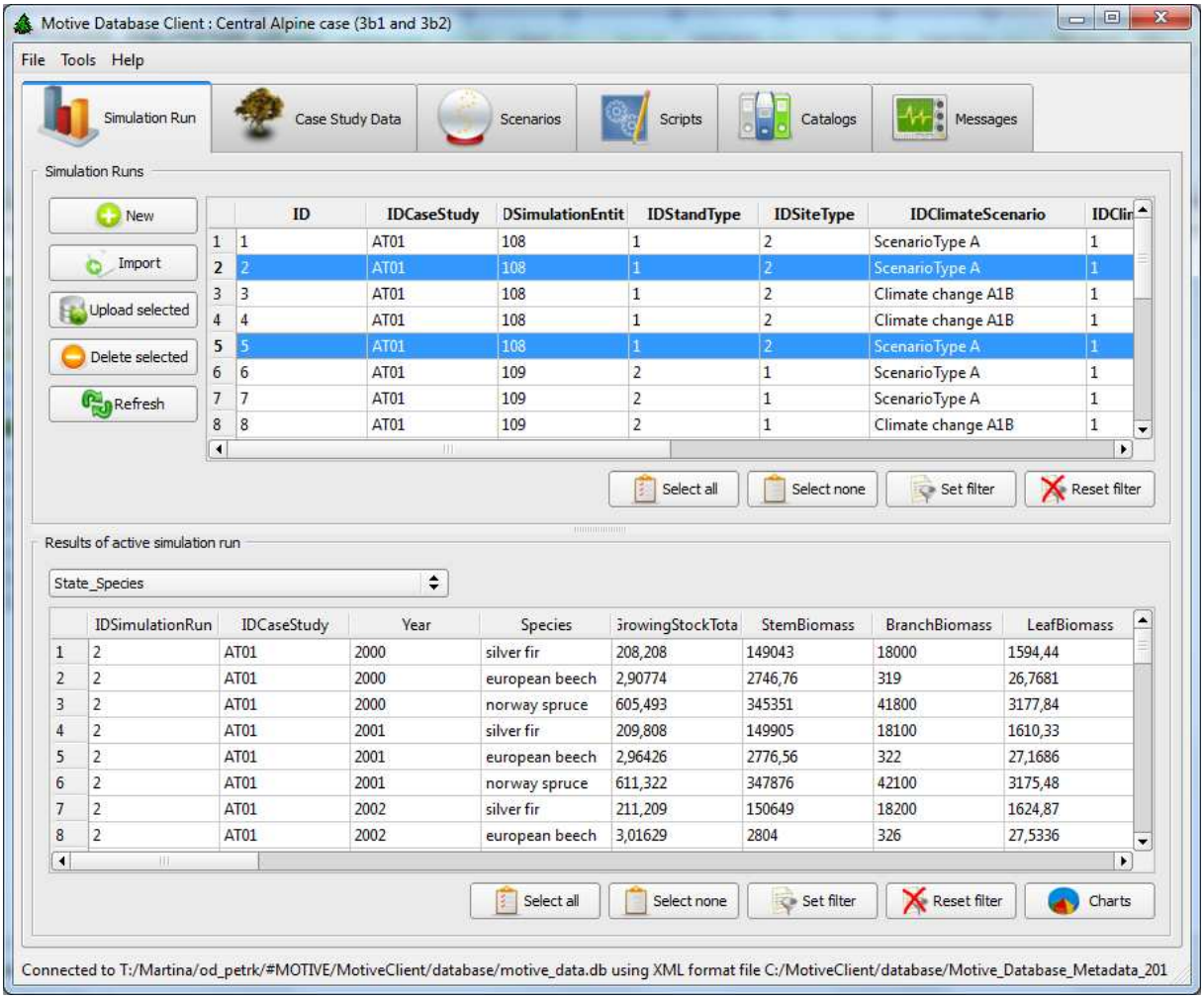
Default values:
Set default values for the scripting environment. All scripts in the current working session will use these settings.

You can set a script that will be automatically loaded during startup.

Main panes

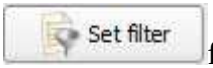
Simulation Run

Use the Simulation Run pane to handle the simulation runs and browse the results.
As described in the “Harmonized model output” document, the “simulation run” is a connection point between the model outputs and the meta data.

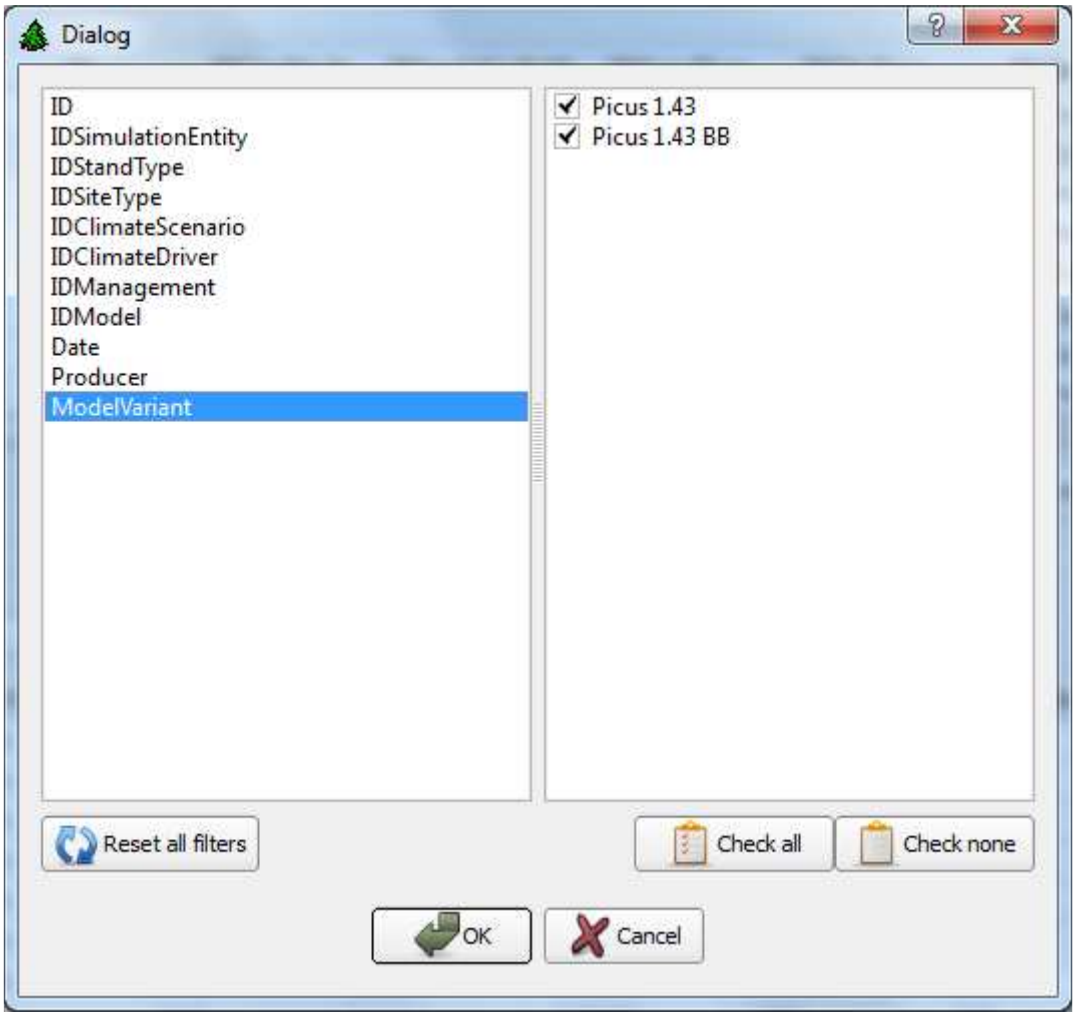


Available simulation runs are listed in the upper part of the window, relevant results for selected simulation runs are listed below.

Click a single row or select multiple rows in the simulation runs table to select the simulation runs you are interested in; the result tables are filtered accordingly.

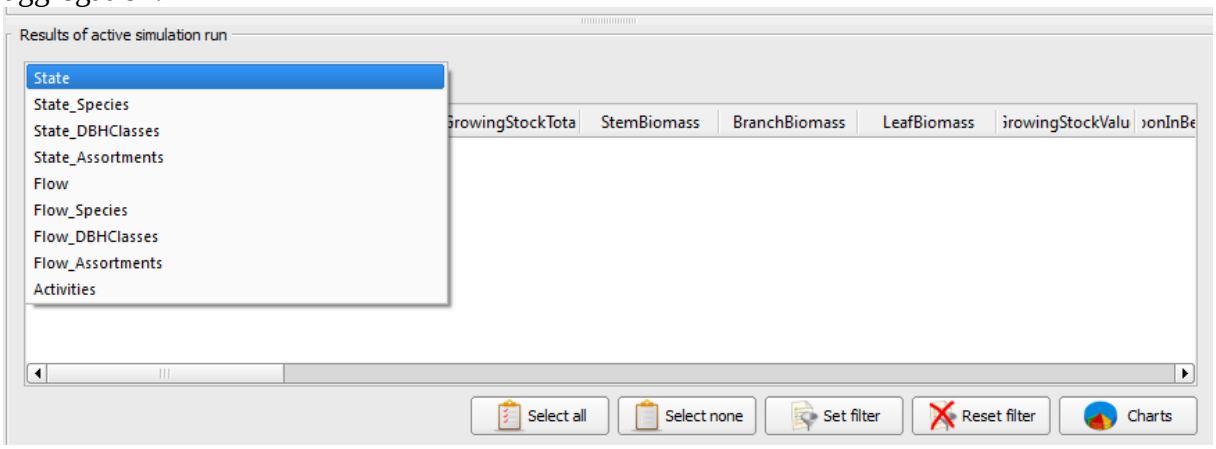
You can also use the “Set filter” 

function to limit the displayed data.



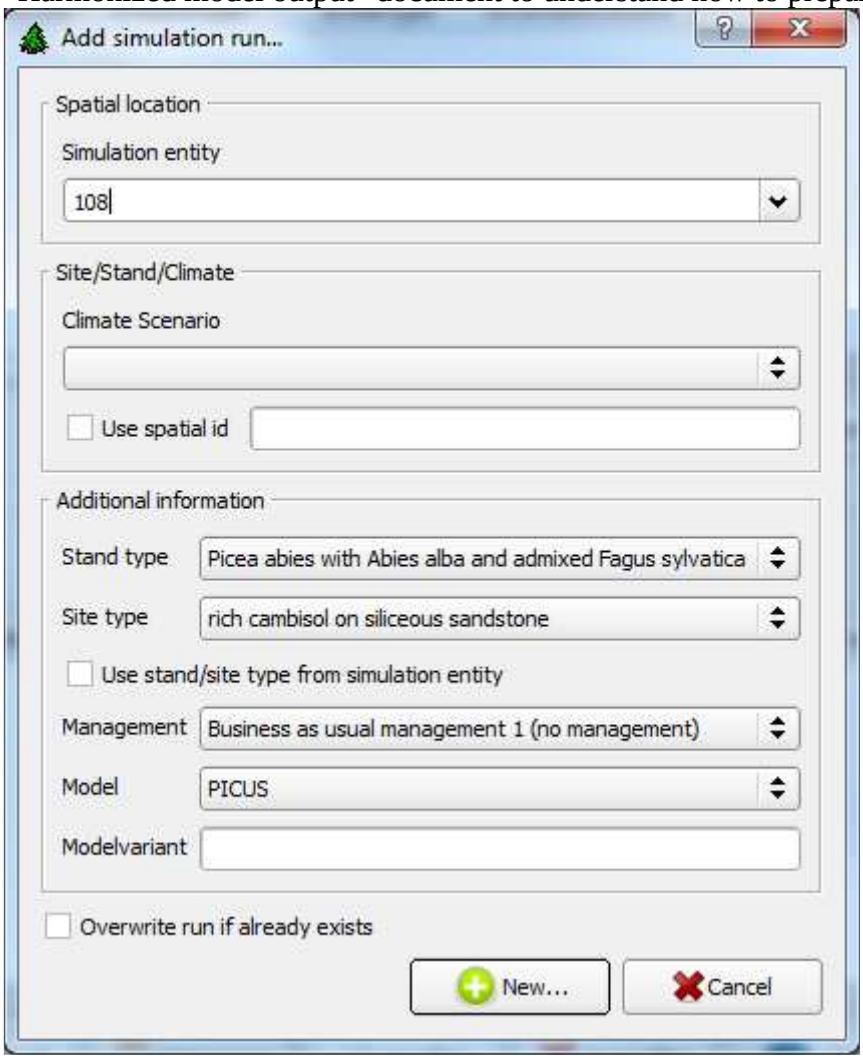
There is a list of available attributes on the left side of the window. There are available distinct values of the selected attribute listed on the right side of the window.

There are several results tables depending on the level of aggregation:



Click the “New” button 

to create a new simulation run. Read the “Harmonized model output” document to understand how to prepare the simulation run.



Click the “Import button” 

to import a text file (csv, txt, asc) into the working database. You can either import data or import values to the catalogs. You can decide how to handle existing values.

Click the “Delete button” 

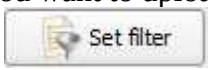
to delete the selected simulation run.

Click the “Refresh button” 

to refresh all table views. This might be helpful after executing some scripts.

Upload data to the MOTIVE remote database

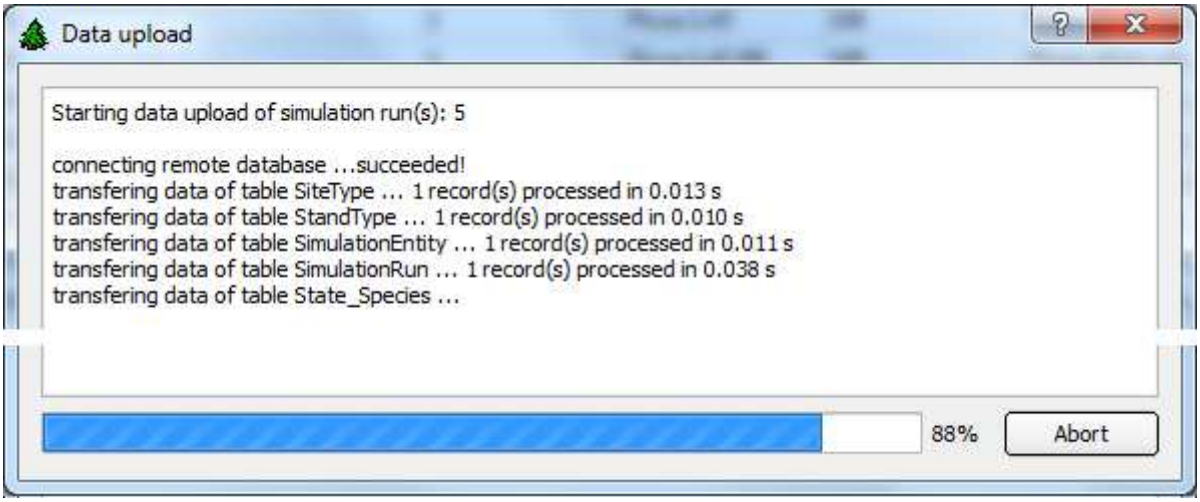
Use the “File / Motive database settings” function to set the MOTIVE remote database settings (see the MOTIVE remote database chapter for more details).

Click a single row or select multiple rows in the simulation runs table to select the simulation runs you want to upload; the result tables are filtered accordingly. You can also use the “Set filter” 

function to limit the uploaded data.

Click the “Upload selected” button 

to upload your simulation data to the MOTIVE server. The “Data upload” window appears.

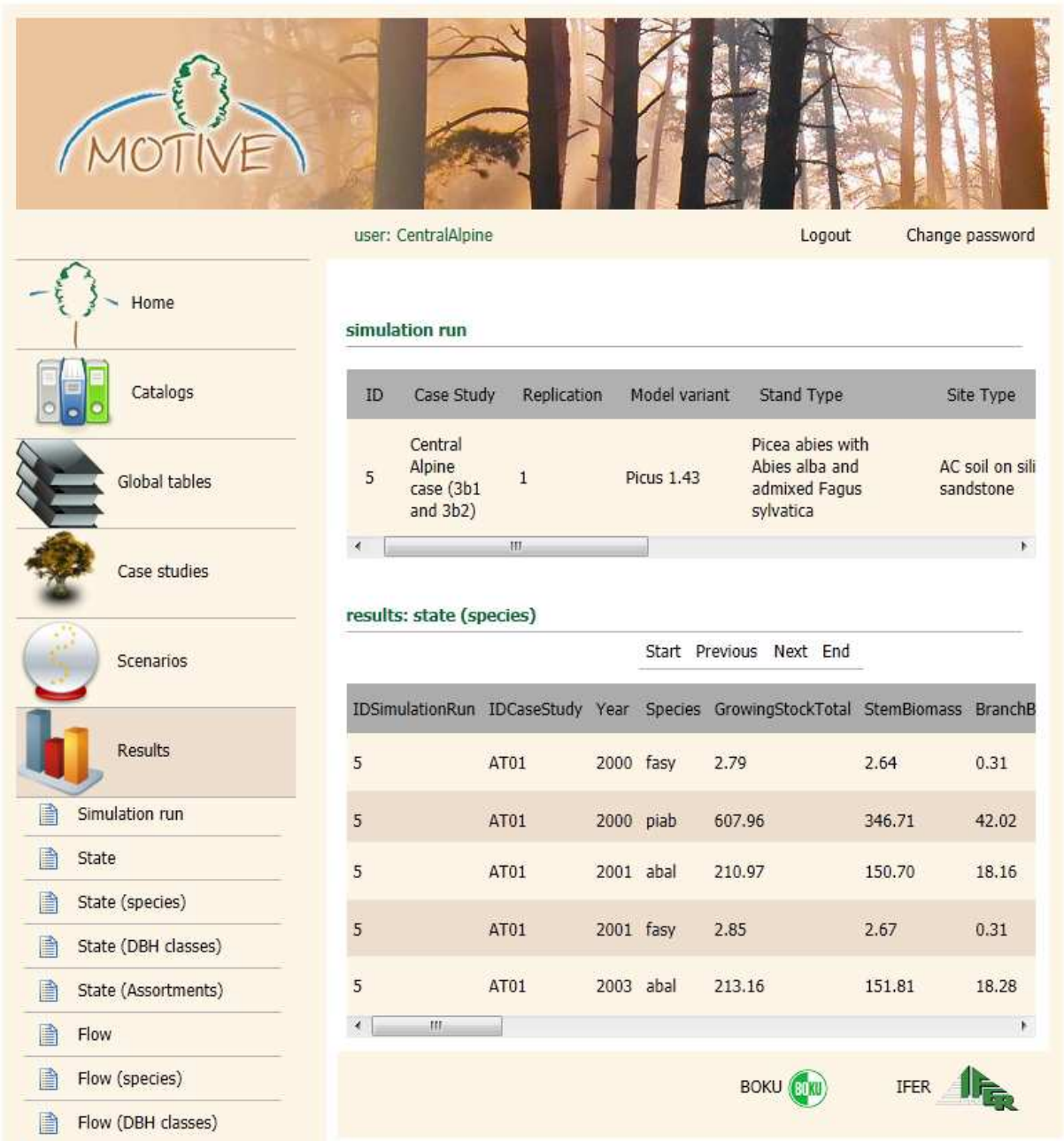


You can use the “Abort” button to abort the upload; the whole upload procedure is then aborted and no data is uploaded.

In case of a successful upload you get a “Data upload successfuly finished!“ message and „Upload time“ attribute is set.

	ID	IDCaseStudy	UploadTime	Replication	ModelVariant
1	1	AT01		1	Picus 1.43
2	2	AT01		1	Picus 1.43 BB
3	3	AT01		1	Picus 1.43
4	4	AT01		1	Picus 1.43 BB
5	5	AT01	2011-07-26 20:13:26	1	Picus 1.43
6	6	AT01		1	Picus 1.43
7	7	AT01		1	Picus 1.43 BB
8	8	AT01		1	Picus 1.43
9	9	AT01		1	Picus 1.43 BB

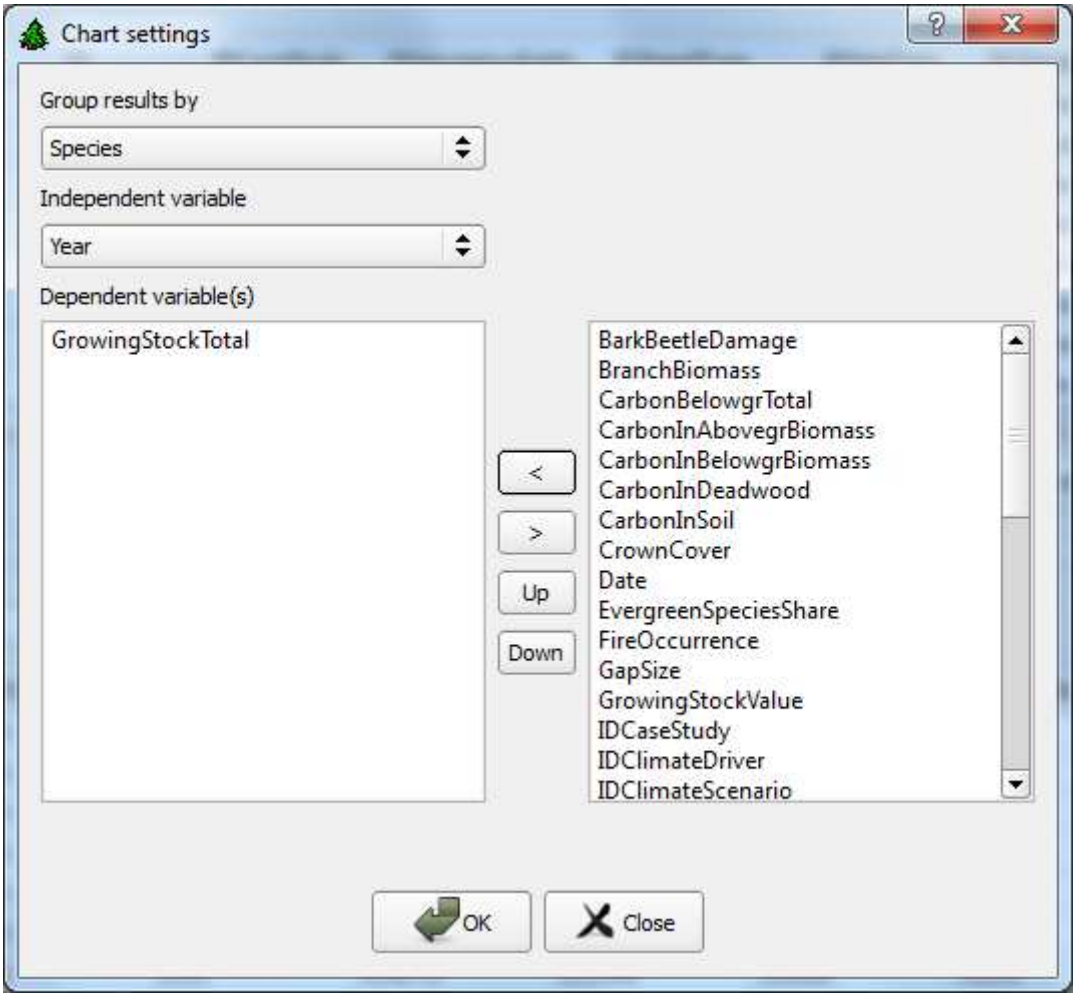
You can check the uploaded data at http://motive.boku.ac.at/viewer. (Or Click Tools / "MOTIVE database Web interface" to open the MOTIVE central database web-based browsing tool.)



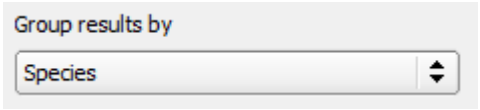
Charts

Click the “Charts button” 

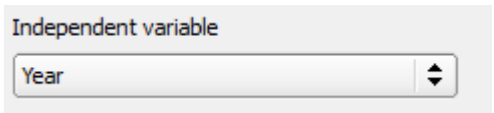
to open the “Charts settings dialog”.



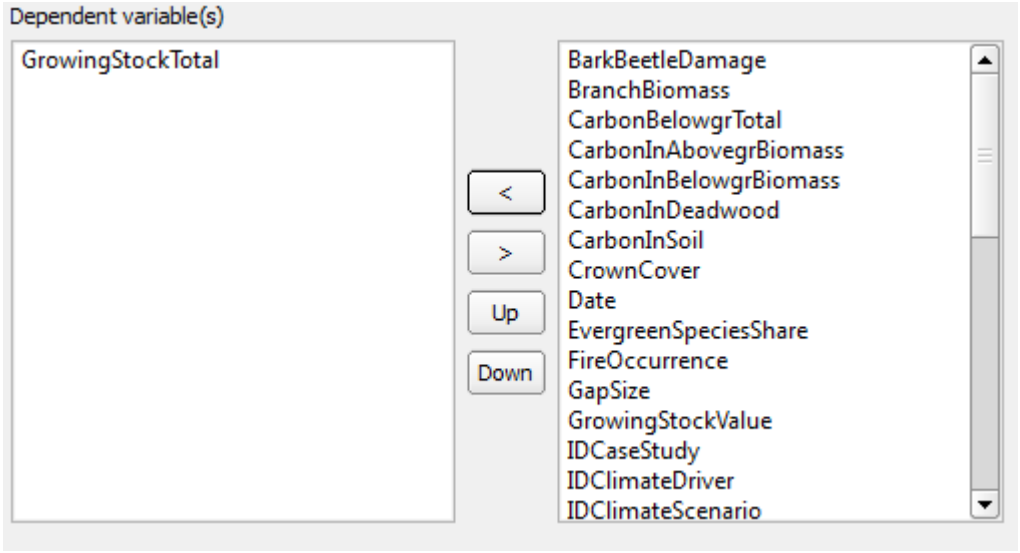
Choose the variable the chart will be grouped for (similar to series in MS Excel).



Choose the independent variable (y axis).



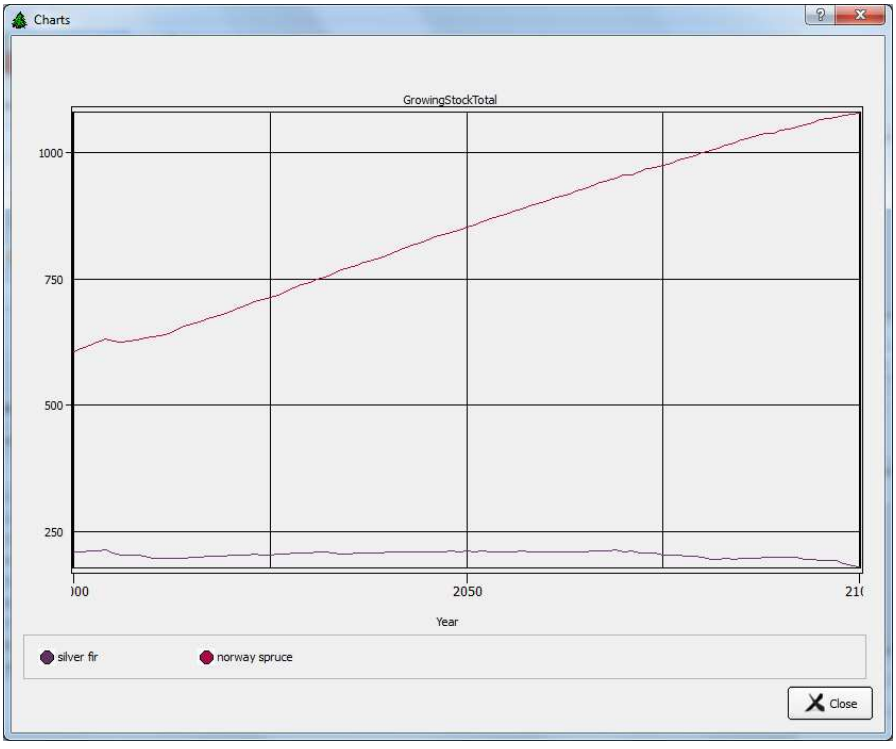
Choose the dependent variable(s) (x axis).



Use the arrows < > to move the variables from the list of available variables on the right side of the window to the list of selected variables on the left side of the window and vice versa.

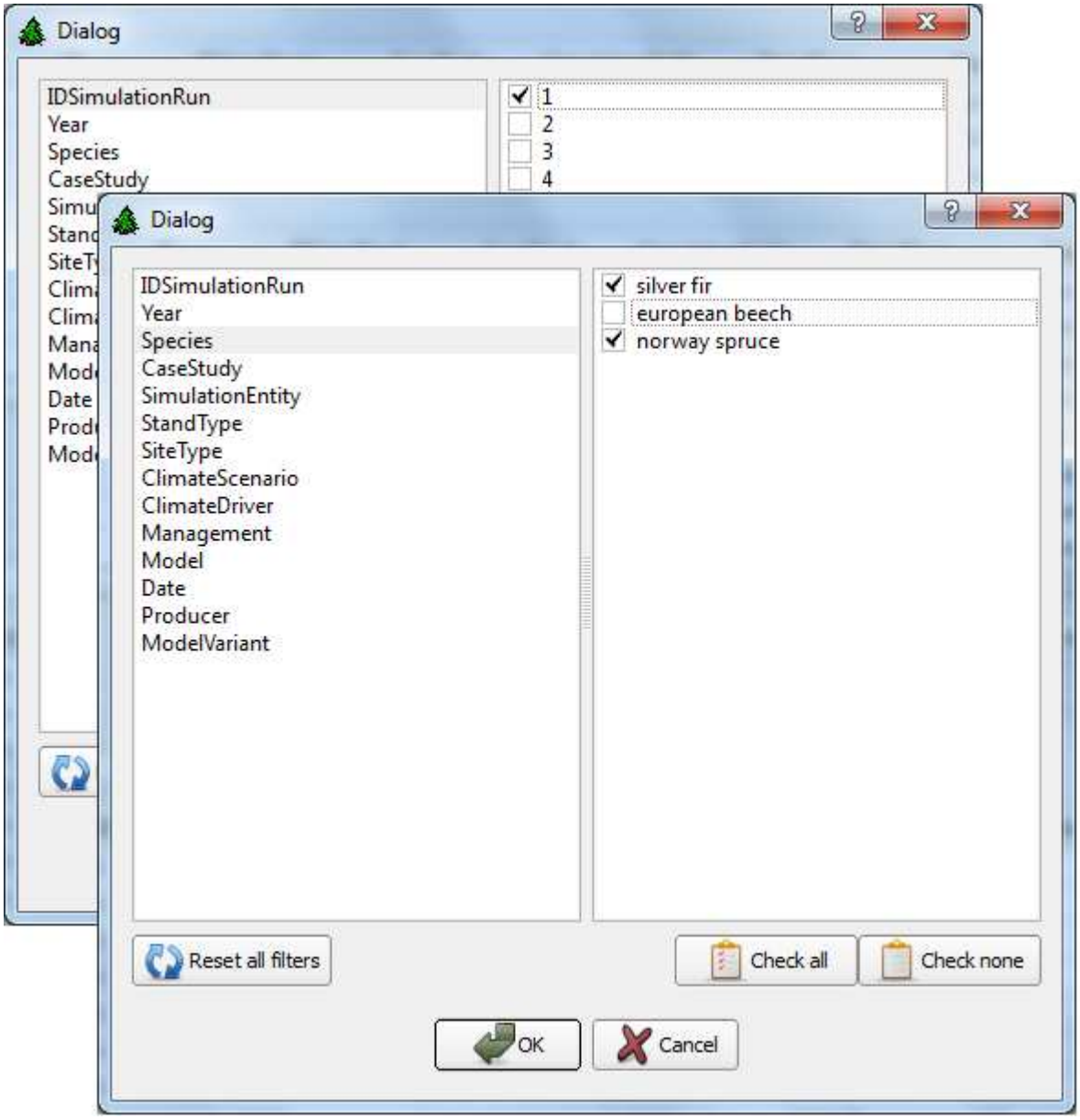
Use the “Up” Up and “Down” Down buttons to move the selected variables up and down within the list.

Click the “OK” button. The chart might then look like this:



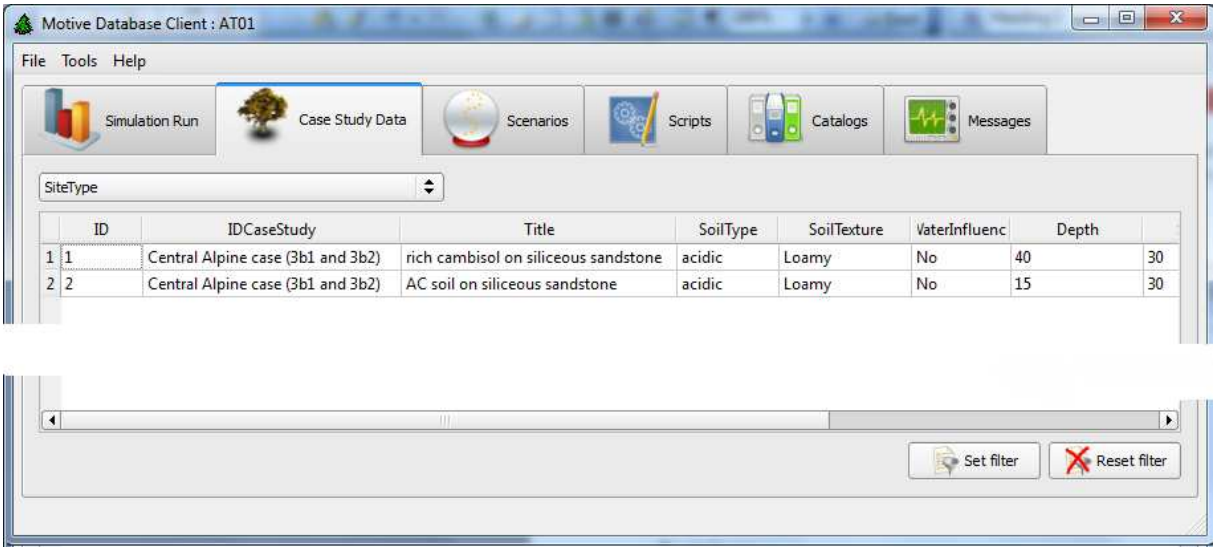
Note: Set proper filter to your results tables using the “Set filter” 

function prior to creating charts.
E.g. to display charts for one simulation run wit ID=1 and for two species “silver fir” and “norway spruce”, set the filter as follows:

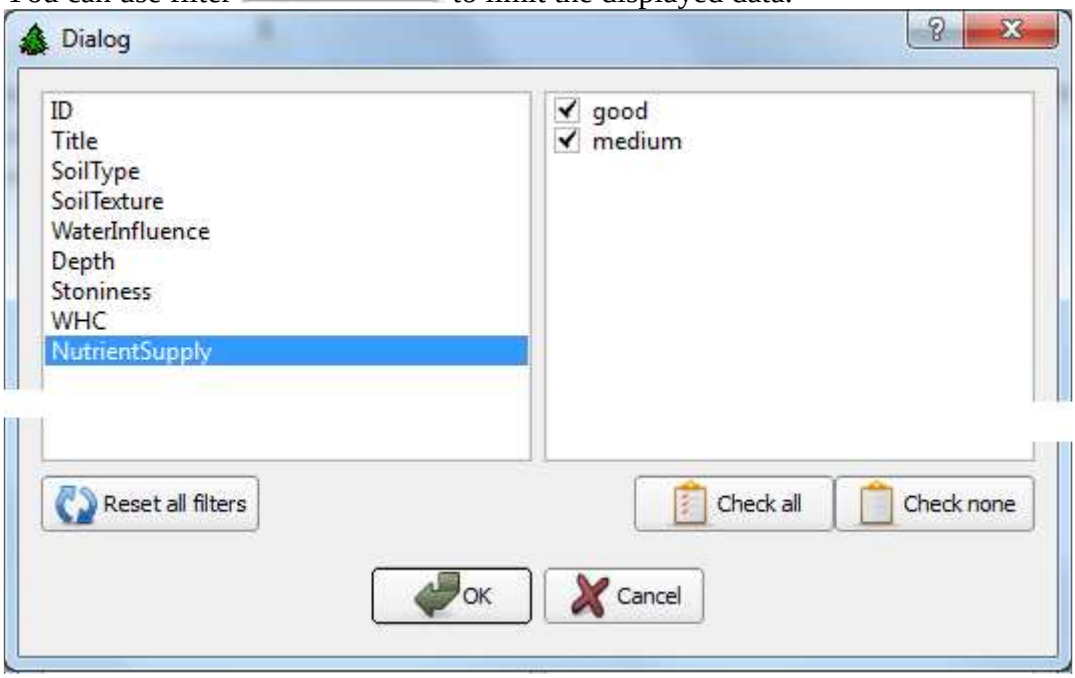


Case Study Data

Use the Case Study data pane to browse the case study related data tables SiteType, StandType, SimulationEntity or ClimateDriver.



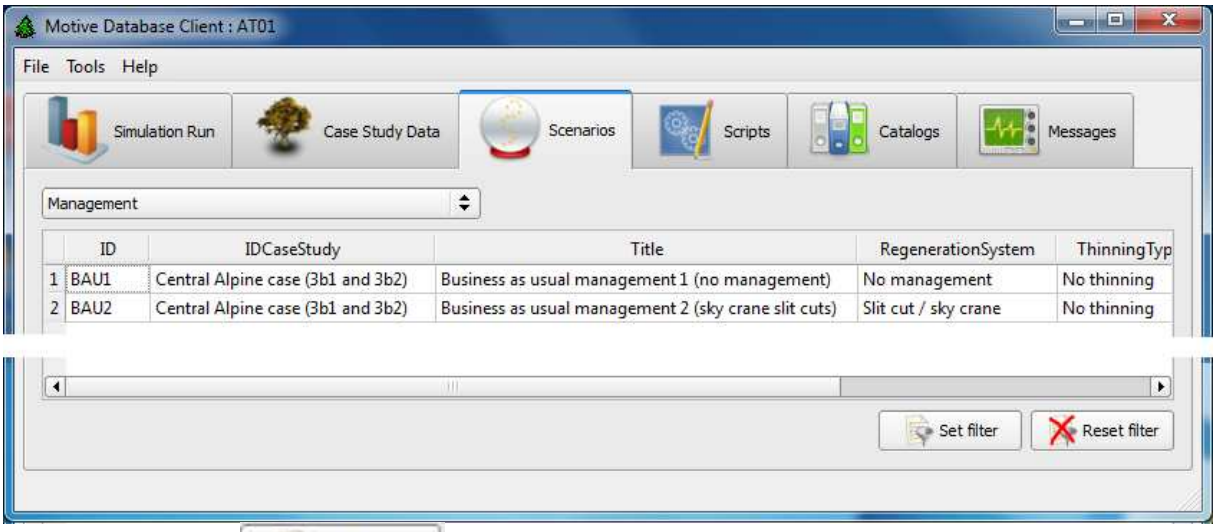
You can use filter  to limit the displayed data.

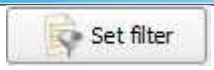


There is a list of available attributes on the left side of the window. There are available distinct values of the selected attribute listed on the right side of the window.

Scenarios

Use the Scenarios data pane to browse the scenarios related data tables Management and Management Activity.

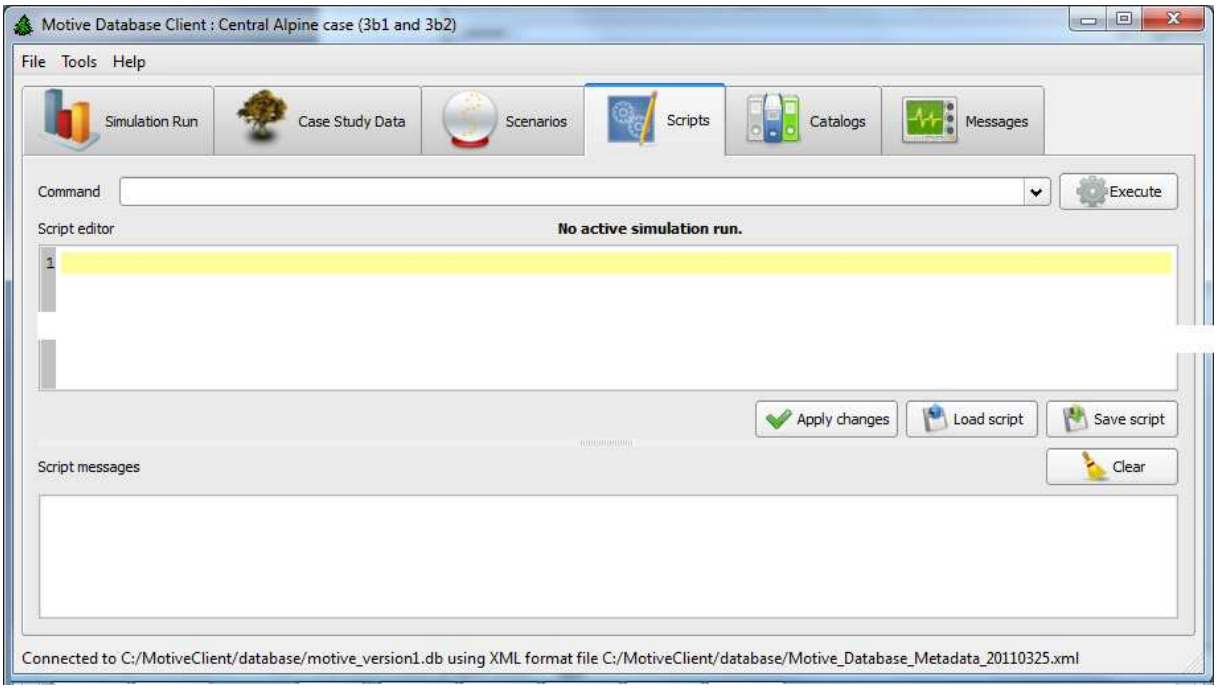


You can use filter 

to limit displayed data (see the previous chapter).

Scripts

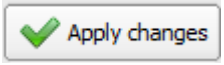
Use the Scripts pane to load, edit and execute scripts.



Use the command line to execute a single command in the script environment.

Click the “Load script” button 

to load an existing script.

Click the “Apply changes” button 

to apply changes made in the script.

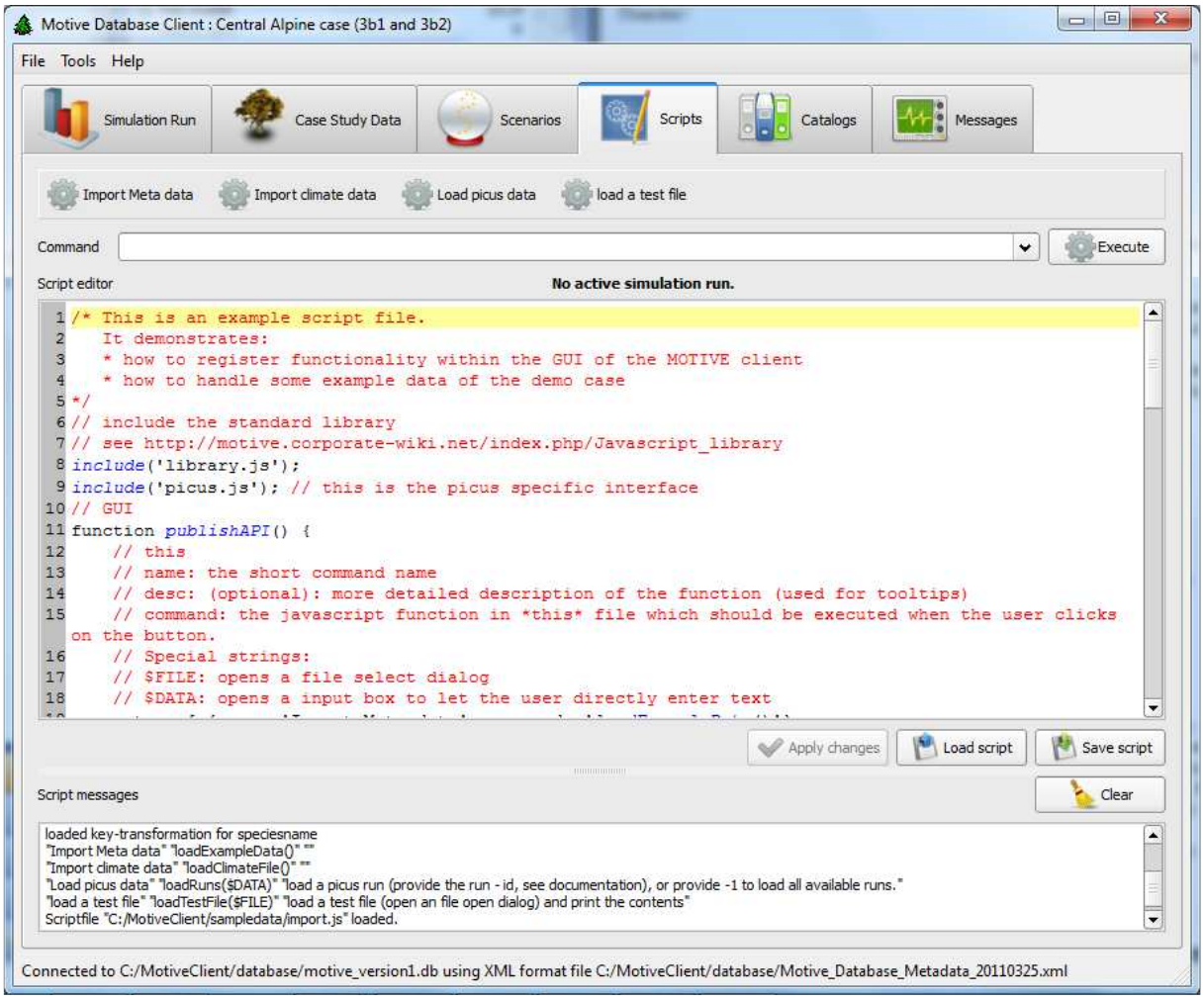
Click the “Save script” button 

to save the script.

Click the “Clear” button 

to clear the script messages window.

Some scripts can create a user toolbar:

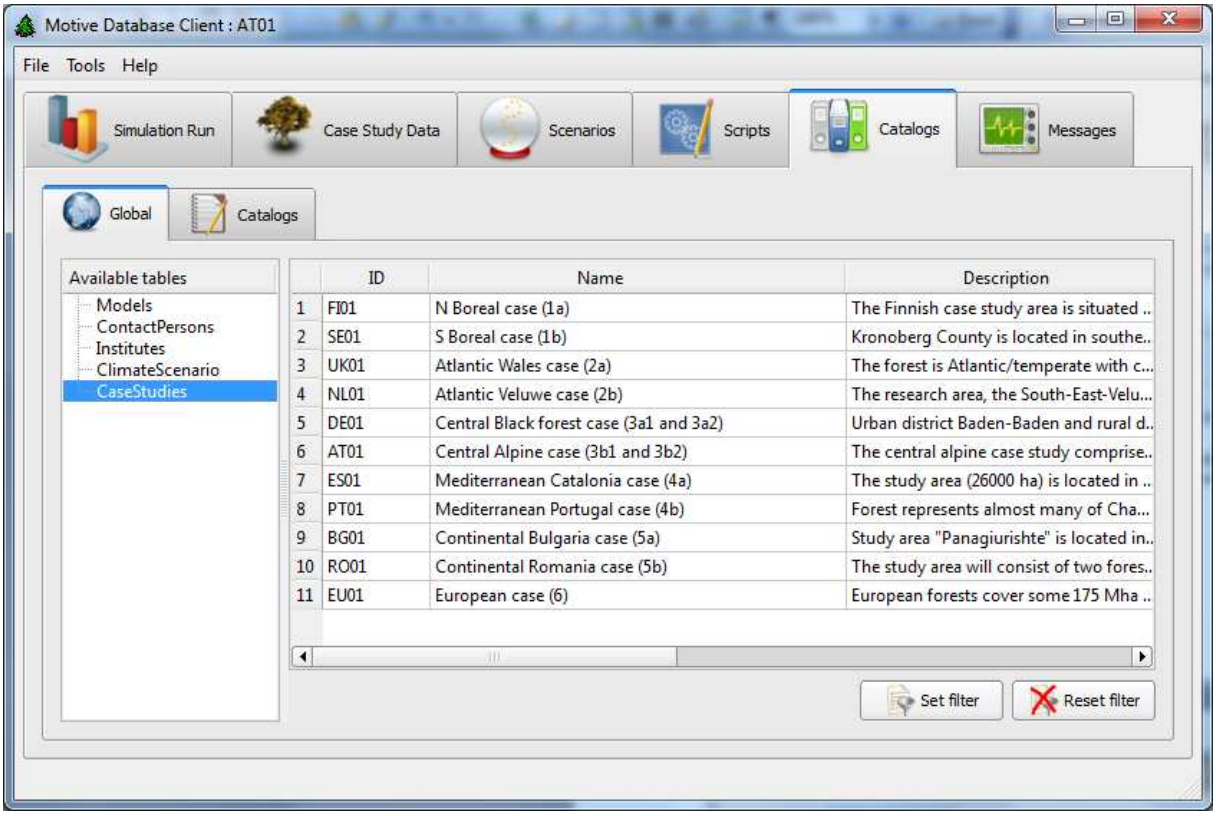


Catalogs

Catalogs are common to all case studies and models in the MOTIVE project. Catalogs ensure harmonization of the simulation data from different case studies and models. Therefore it is not possible to make changes to the catalogs in the MOTIVE Client. In case a new catalog value is necessary, please contact Werner Rammer (werner.rammer@boku.ac.at) or Martina Roubalová (martina.roubalova@IFER.cz).

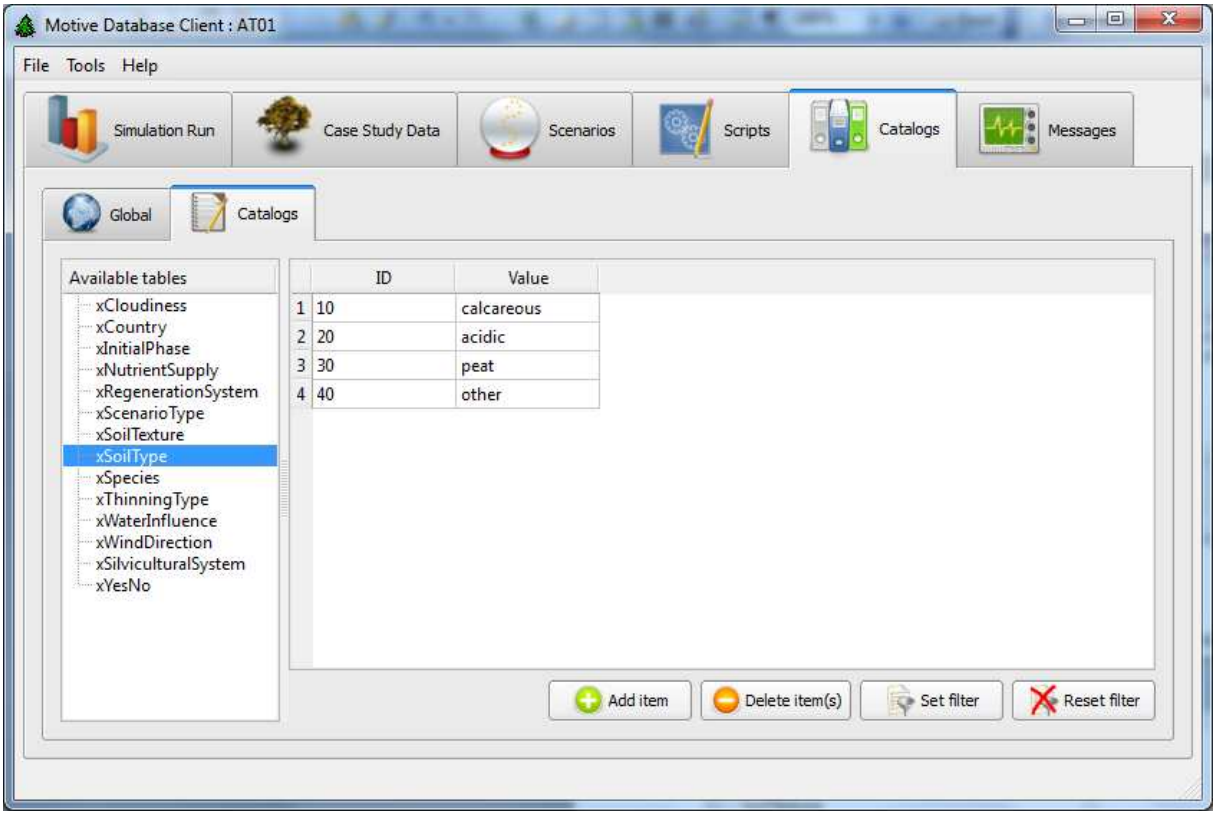
Global

Use the Catalogs/Global pane to browse the global tables.



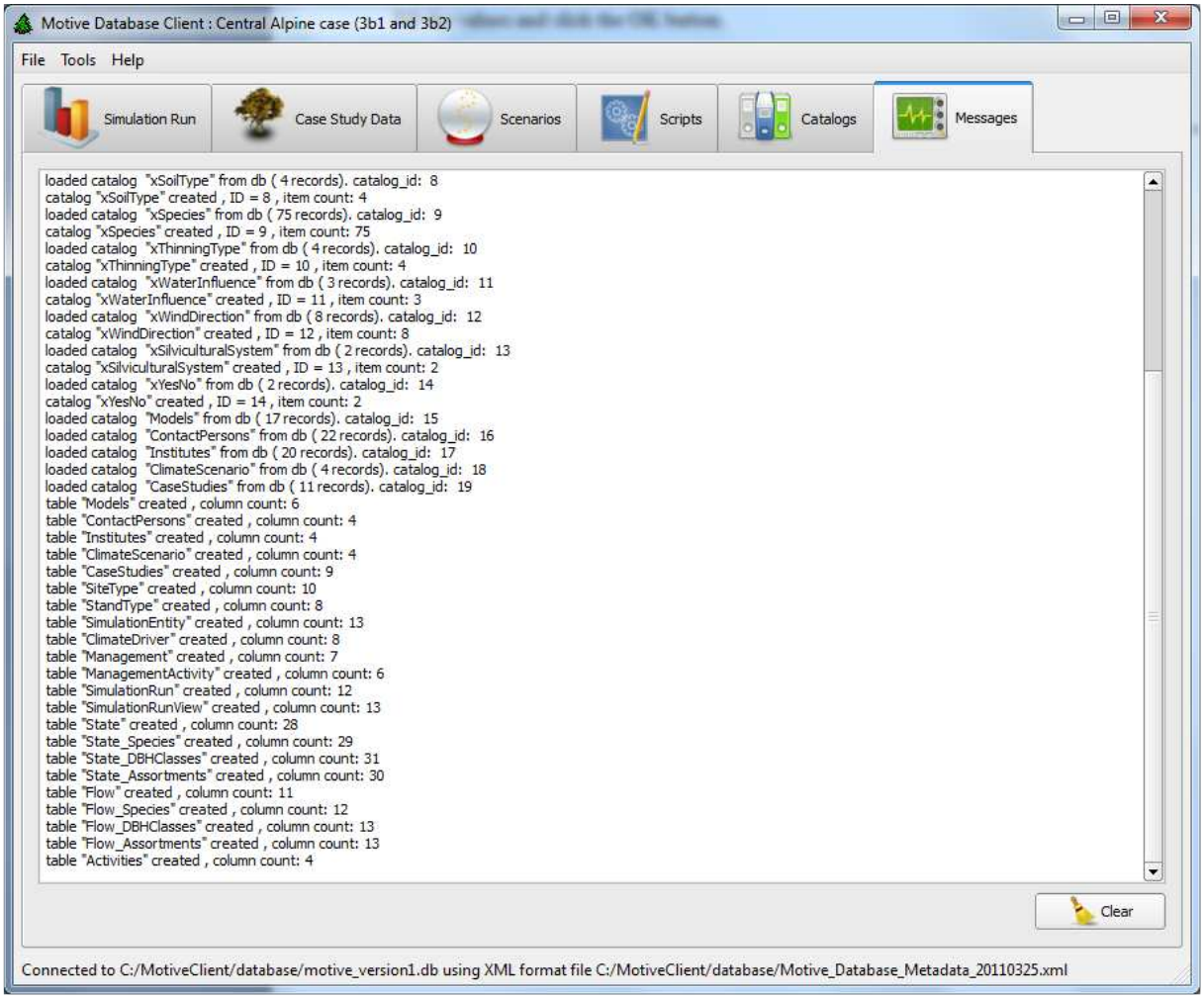
Catalogs

Catalogs represent lists of possible values for particular attributes; they are similar to enumeration types.



Messages

Use the Messages pane to view the system log.

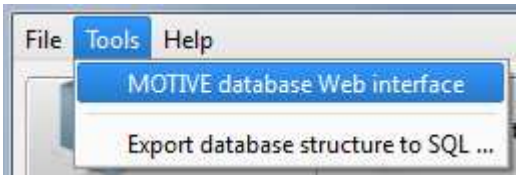


Click the “Clear button” 

to clear the window

Tools

MOTIVE database Web interface

Click Tools / “MOTIVE database Web interface” 

to open the MOTIVE central database web-based browsing tool.
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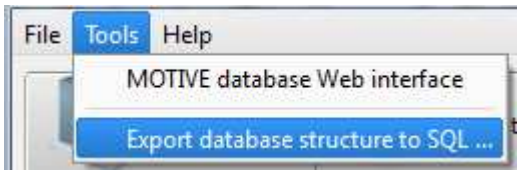
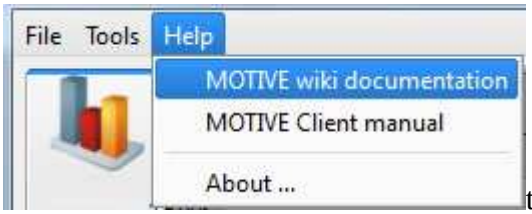
Export database structure to SQL

Click “Tools / Export database structure to SQL” 

to generate a sql file.

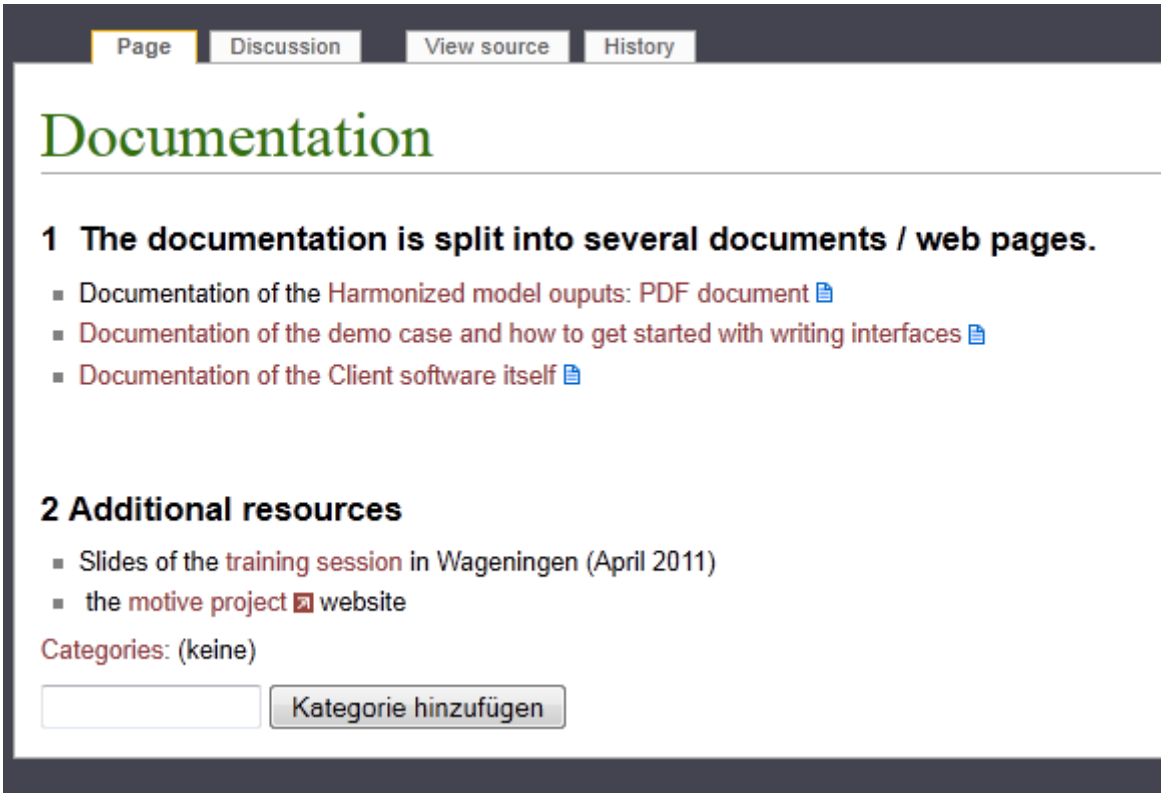
Help

MOTIVE wiki documentation

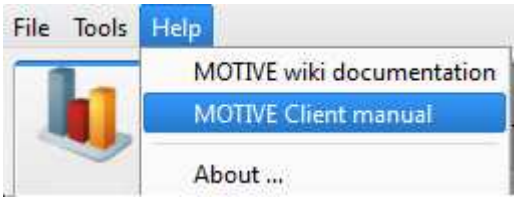
Click “Help/MOTIVE wiki documentation” 

to go to the MOTIVE wiki:

- Documentation of the Harmonized model ouputs: PDF document
- Documentation of the demo case and how to get started with writing interfaces
- Documentation of the Client software itself



MOTIVE Client manual

Click “Help/MOTIVE client manual” 

to open the MOTIVE client manual.