

Simulation System WBalMo 2.2

WBalMo (**W**ater **B**alance **M**odel) is an interactive simulation system for river basin management. The user interface of WBalMo is an extension of ArcView GIS. Be sure ArcView GIS 3.2a or higher is installed on your computer.

There are three configurations possible:

- DEMO version of WBalMo
 - Learn more about WBalMo by viewing and editing the enclosed demo model. This model is editable and executable with this DEMO version of WBalMo.
 - The DEMO version is limited by the number of model objects. See the chapter “Limits of the DEMO version”
 - Only a few attributes of the sample model can be changed in this configuration. New models can't be created. For further information see chapter “Limits of Installation without Fortran compiler”.
- DEMO version of WBalMo with Fortran compiler
 - If you should possess Compaq Visual Fortran 6.6 you are able to use the DEMO version for building your own models considering some limitations listed in the chapter “Limits of the DEMO version”. Compaq Visual Fortran 6.6 isn't part of this package.
- Full version of WBalMo with Fortran compiler
 - The full version of WBalMo of course has no limitations. You can order a dongle, the key and a hardcopy of the manual directly from WASY (www.wasy.de). The steps of the installation of the full version are listed in the user manual.

Installation and configuration of the DEMO version

The installation starts via execution of setup.exe. The installation wizard will guide you through the installation.

The following configurations of the DEMO version be installed:

a) DEMO version of WBalMo

Please select the following components:

- Program Files
 - WBalMo
- Sample Files
 - This option will copy the files of the demo model on your computer. The WBalMo-help includes a description of this application in detail.

Please uncheck the components:

- Program Files
 - Fortran
 - Visual Fortran
- License Manager
 - This option is necessary for the full version of WBalMo.

After running the WBalMo setup automatically a setup is started to install the necessary Fortran runtime library of CVF 6.6b. Please follow this setup, it is necessary instead of installing full Fortran.

The setup will do some further configurations

- A new program group “WBalMo” is available to all (common) users.
- The environment variable WBalMo2 is entered as user-independent system variable.

b) DEMO version of WBalMo with Fortran compiler

Please select the following components:

- Program Files
 - WBalMo
- Program Files
 - Fortran

An installation with Fortran Compiler during set up the CD of the compiler Compaq Visual Fortran 6.6 is required. The files of the compiler (command line version) necessary for WBalMo are copied.

- Program Files
 - Visual Fortran

The Fortran command line compiler is licensed only with installed Compaq Visual Fortran. Otherwise some components cannot be used.

Especially for complex models / program routines Compaq Visual Fortran can be used as debugger.

- Sample Files

This option will copy the files of the demo model on your computer. You can do more changes within this model with the Fortran compiler. See the chapter "Limits of Installation without Fortran compiler".

Please uncheck the component:

- License Manager

This option is necessary for the full version of WBalMo.

The setup will do some further configurations

- The program group "WBalMo" is available to all (common) users.
- The environment variable WBalMo2 is entered as user-independent system variable.

Limits of the DEMO version

The number of model elements to be used in the DEMO version is limited:

- 15 balance profiles
- 3 SSA (Simulation Sub Areas)
- 2 reservoirs
- 3 reservoir releases
- 10 users
- 2 DYN elements
- 40 C field elements
- 10 registrations.

The limitation is effective for:

- the creation of new and for editing existing model elements
- the drawing up of ranking lists and reports
- the execution of variant calculations.

Limits of Installation without Fortran compiler

FORTRAN runtime libraries have to be available. These are contained in the Setup Package of WBalMo.

Data classes	Attributes, type of modification	Modification possible without compiler
Running waters	Number	X
	Name	X
Balance profile	Number (new, delete)	
	Name	X
	Code number	X
Simulation sub area	Number (new, delete)	
	Name	X
	Code number	X
	File name	X
	Unit	X
	Relative share of balance profiles	X
User	Number (new, delete)	
	Name	X
	Code number	X
	Group	X
	Type	
	Units for withdrawal and return flow	X
	Withdrawal profile, return flow profile	
	Annual cycle of rank	
	Rank	X
	Annual cycle of withdrawal	
Withdrawal	X	
Annual cycle of return flow		
Return flow	X	
Reservoir	Number (new, delete)	
	Name	X
	Code number	X

Data classes	Attributes, type of modification	Modification possible without compiler
	Storage capacity	X
	Initial storage level FSK	X
	Variable B4	X
	Annual cycle of the active storage capacity	
	Active storage capacity	X
	Annual cycle of rank	
	Rank	X
	Reservoir association	
	Annual cycle of limit value GR	
	Limit value GR for reservoir association	X
	Number of slices ING, IGR of modeling the association	X
Release element	Number (new, delete)	
	Reservoir	X
	Name	X
	Code number	X
	Annual cycle of rank	
	Rank	X
	Annual cycle of target storage level	
	Target storage level	X
	Annual cycle of BETA coefficient	
	BETA coefficient	X
C	Number	
	Values	X
	Comment	X
CC	Number	
	Comment	X
CTXT	Number	-
	Values	-
	Comment	-

Data classes	Attributes, type of modification	Modification possible without compiler
DYN	Number (new, delete)	
	Name	X
	Text	
	Annual cycle of rank	
	Rang	X
Reg1	Number (new, delete)	
	Name	X
	Term	
	Unit	X
	Decimal places	X
	Logarithmic or linear subdivision	X
	Lower and upper limits of the registration value	X
	Interval number	
	Registration of reliability according to frequency and duration	X
	Number of individual values	
	Individual values	X
Reg2	Number (new, delete)	
	Name	X
	Term	
	Number of classes	
Reg3	Number (new, delete)	
	Name	X
	Term	
	Unit	X
	Mean value, standard deviation, minimum, maximum	X
	Number of classes	
Units	Number (new, delete)	
	Name	X
	Factor	X

Data classes	Attributes, type of modification	Modification possible without compiler
	Comment	X
System variable	Number (new, delete)	
	Data class	
	Name	
	Type	
	Comment	X
Module / parameter	Number (new, delete)	
	Name	
	Text	
	Comment	X
DLL	Number (new, delete)	
	Name	
	External name	
	Type	
	File name	
	Interface	
	Comment	X
Periods	Number	
	Base year	X
	Length of each period	