Table 3 The input file GENERAL.INP: simulation and output options

Description of variable	Unit	Range	R	DT	Mnemonic
Label for section with simulation options	-	**>simopt:**	*	C8	LABEL
Switch for type of hydrological model which has been run prior to ANIMO IWA = 1: data from two layer model (e.g. WATBAL) IWA = 2: data from detailed model (e.g. SWAP)	-	[1 ... 2]	*	I	IWA
Switch for optional simulation of P-cycle IPO = 0: only carbon and nitrogen cycle IPO = 1: carbon, nitrogen and phosphorus cycle	-	[0 ... 1]	-	I	IPO
Switch for aeration option to be used ioptAE = 0: original aeration module (ANIMO3.5) ioptAE = 1: moisture respons accordging to SONICG	-	[0 ... 1]	-	I	ioptAE
Switch for crop uptake ioptCU = 0: crop uptake simulated by ANIMO ioptCU = 1: crop uptake read from file (generated by external crop model)	-	[0 ... 1]	-	I	ioptCU
Switch for transport simulation through macro pores ioptMP = 0: simulation without macro pores ioptMP = 1: simulation with macro pores **Should be set to 0, since this option is not fully operational in ANIMO version 4.0**		[0 ... 1]	-	I	ioptMP
Label for section with time options	-	**>simtim:**	*	C8	LABEL
Start year of simulation	-	[0 ... YRMAAN]	*	I	YRMIAN
Start time of simulation	-	[0.0 ... 365.0]	-	R	TIMIAN
End year of simulation	-	[YRMIAN ... 3000]	-	I	YRMAAN
End time of simulation	-	[1.0 ... 366.0]	-	R	TIMAAN
Label for section type of output to screen	-	**>outscr:**	*	C8	LABEL
Output of simulation-stage to screen OUTSC = 0: no output to screen OUTSC = 1: output of years and daynrs OUTSC = 2: output of percentage-bar OUTSC = 3: output of percentages	-	[0 ... 3]	-	I	OUTSC

Table 3 The input file GENERAL.INP: simulation and output options

Description of variable	Unit	Range	R	DT	Mnemonic	
Label for section describing output of balances	-	**>outbal:**	*	C8	LABEL	
Number of balance sets; a balance set is characterized by the number of compartments of balance profile (maximum number of balance profiles is 10)	-	[0 ... MABA]	*	I	NUBASE	
Identifier of balance set. A character string of 2 positions between quotes must be given. The character string CHBA will added to the filename given below at the position //	-	-	*	C2	CHBA	**Should be repeated NUBASE times**
Array with selections of kind of balances (1 = output) OUTBA(1) = waterbalance BAWA//.OUT OUTBA(2) = organic matter balance BAOM//.OUT OUTBA(3) = N balance BAN//.OUT OUTBA(4) = P balance BAP//.OUT	-	[0 … 1]	*	I	OUTBA(i) i=1..4	
Compartment number of upper boundary of balance	-	[0 ... BALNMA]	*	I	BALNMI	
Compartment number of lower boundary of balance [1]	-	[BALNMI... NL]	-	I	BALNMA	
Number of time periods per year the balance should be written to file and updated afterwards NUBATI = -1 at each time-interval NUBATI = [1 ... 100]: at time-intervals of array TIBA(i), i=1… NUBATI	-	[-1]; [1 ... 100]	*	I	NUBATI	
Array with last day per time period for which the balance should be written and updated	-	[1.0 ... 365.0]	*	R	TIBA(i), i=1… NUBATI	**Only if NUBATI ≠ -1**

[1]) NL is the maximum number of compartments simulated by the hydrological model and defined in the file SWATRE.UNF

Table 3 The input file GENERAL.INP: simulation and output options

Description of variable	Unit	Range	R	DT	Mnemonic
Label for selection of results (state and rate variables per compartment) to be written every timestep	-	**>outsel:**	*	C8	LABEL
Array with switches for selection of output-files to be writen for each time interval and for each model compartment OUTSE(i) =0: no output OUTSE(i) =1: output to file OUTSE(1) : NO_3-N (NITRATE.OUT) OUTSE(2) : NH_4-N (AMMONIUM.OUT) OUTSE(3) : dissolved organic N (SOLU-NOR.OUT) OUTSE(4) : PO_4-P (PHOSPHAT.OUT) OUTSE(5) : dissolved organic P (SOLU-POR.OUT) OUTSE(6) : moisture content (MOISTURE.OUT) OUTSE(7) : adsorbed NH_4-N (SORBED-N.OUT) OUTSE(8) : mineral N (MINER-N.OUT) OUTSE(9) : organic N in solid matter (SOLID-N.OUT) OUTSE(10) : total N (TOTAL-N.OUT) OUTSE(11) : adsorbed P (SORBED-P.OUT) OUTSE(12) : mineral P (MINER-P.OUT) OUTSE(13) : precipitated P (PRECIP-P.OUT) OUTSE(14) : organic P in solid matter (SOLID-P.OUT) OUTSE(15) : total P (TOTAL-P.OUT) OUTSE(16) : Pw (PW-P.OUT) OUTSE(17) : P-Al (PAL-P.OUT) OUTSE(18) : C/N organic matter (ORQCN-P.OUT) OUTSE(19) : C/P organic matter (ORQCP-P.OUT) OUTSE(20) : oxalaat extractable (OX-P.OUT) OUTSE(21) : sorbed P1 fast (CXF1-P.OUT) OUTSE(22) : sorbed P2 fast (CXF2-P.OUT) OUTSE(23) : sorbed P3 fast (CXF3-P.OUT) OUTSE(24) : sorbed P1 slow (CXS1-P.OUT) OUTSE(25) : sorbed P2 slow (CXS2-P.OUT) OUTSE(26) : sorbed P3 slow (CXS3-P.OUT) OUTSE(27) : sorbed P3 total (CXST-P.OUT) OUTSE(28) : P-discharge 3_{rd} drain (COMP-G-P.OUT) OUTSE(29) : P-discharge 2_{nd} drain (COMP-S-P.OUT) OUTSE(30) : P-discharge 1_{st} drain (COMP-K-P.OUT) OUTSE(31) : water disch. 3_{rd} drain (COMP-G-F.OUT) OUTSE(32) : water disch. 2_{nd} drain (COMP-S-F.OUT) OUTSE(33) : water disch. 1_{st} drain (COMP-K-F.OUT) OUTSE(34) : oxygen concentration (OXYGEN.OUT) OUTSE(35) : aerated fraction (AERAT_FR.OUT) OUTSE(36) : denitrification (DENITRIF.OUT) OUTSE(37) : time series of water and solute discharge to surface water per hydrological pathway (Discharge.OUT) OUTSE(38) : average total N concentration in solution (AVCONC_N.OUT) OUTSE(39) : average total P concentration in solution (AVCONC_P.OUT)	[2]	-	[0 ... 1]	*	I	OUTSE(i), i=1..39

[2]) Data by OUTSE(1:5) in kg N of P per m^3 water
Data by OUTSE(6) in m^3 water per m^3 soil
Data by OUTSE(7:15) in kg N of P per m^2 soil
Data by OUTSE(16) in mg P_2O_5 per liter soil solution
Data by OUTSE(17) in mg P_2O_5 per 100 g soil
Data by OUTSE(18:19) in kg C per kg N or P
Data by OUTSE(20:30) in kg P per m^2 soil
Data by OUTSE(31:33) in m^3 water per m^2 soil per day
Data by OUTSE(34) in $m^3.m^{-3}$
Data by OUTSE(35) (-)
Data by OUTSE(36) in $kg.m^{-3}.d^{-1}$
Data by OUTSE(37) in mm and kg per ha
Data by OUTSE(38:39) in kg N of P per m^3 water

Table 3 The input file GENERAL.INP: simulation and output options

Description of variable	Unit	Range	R	DT	Mnemonic
Switch for shoot-, root-development, harvest-, grazing- and root-losses. OUTGR =0: no output; OUTGR =1: output to file. (*only relevant for grassland applications)*	-	[0 ... 1]	*	I	OUTGR
Switch for detailed output of organic transformations OUTTRANSFOM=0: no output; OUTTRANSFOM=1: output to file	-	[0 ... 1]	-	I	OUTTRANSFOM
Label for specifying echo of input and detailled intermediate output of subroutines to the files AnimoInputs.out and AnimoIntermediate.out	-	**>outtot:**	*	C8	LABEL
Option-parameter for output per time step OUTTO = 0: time steps indicated by NUOUT, OUT(..) OUTTO = 1: each time step	-	[0 ... 1]	*	I	OUTTO
Number of time-intervals for which output is asked for (specify dummy when OUTTO=1)	-	[1 ... 52]	-	I	NUOUT
Array with time-interval(s) (daynumber) with detailled output, with length NUOUT. Daynumbers are cumulative from start of simulation and should correspond with daynumbers generated by hydrological model; maximum is also defined by hydrological model: max=amount of years to simulate*number of days in years to simulate. (The value must be exactly a day number which is being sumalated)	d	[1 ... max]	-	I	OUT(I), I=1..NUOUT