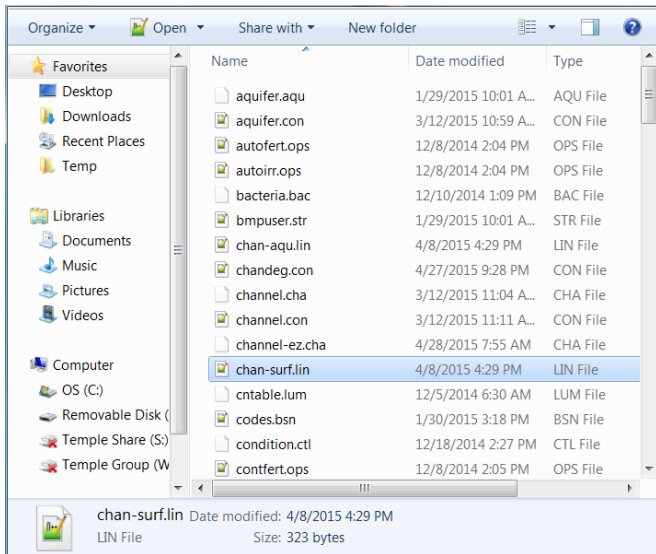


An Editor for the SWAT modular code

J. Osorio, J. Arnold, M. White, J. Jeong,
N. Sammons, G. Mitchel, M. Hrebik



2015 International SWAT Conference
Hotel Flamingo Resort Santa Margherita di Pula (CA), Sardinia - IT.
June 24 - 26, 2015



subbasin.con

1	subbasin.con - miguel Watershed						
2	NUMB	NAME	PROPS	SRC_TOT	OBTYPE_OUT	OBTYPE_NO_OUT	HTYPE_OUT
3	1	sub001	1	2	cha	1	tot
4	2	sub002	2	2	cha	2	tot
5	3	sub003	3	2	cha	3	tot
6	4	sub004	4	2	cha	4	tot
7	5	sub005	5	2	cha	5	tot
8	6	sub006	6	2	cha	6	tot
9	7	sub007	7	2	cha	7	tot
10	8	sub008	8	2	cha	8	tot
11	9	sub009	9	2	cha	9	tot
12							



SWAT Editor v.1.1

SWAT Folder: C:\Desktop\Example_Data

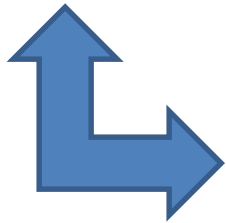
Note: file.cio (control input/output)

SIMULATION	time.sim	object.cnt	object.prt	print.prt	new.new	
CLIMATE	weather-sta.ci	weather-wgn.ci	wind-dir.ci	pcp.ci	tmp.ci	slr.ci
CONNECT	hru.con	hru-ez.con	subbasin.con	aquifer.con	channel.con	reservoir.con
CHANNEL	channel.cha	waterqual.cha	channel-ez.cha			
RESERVOIR	initial.res	reservoir.res	hydrology.res	nutrient.res	pesticide.res	sediment.res
SUBBASIN	define.sub	element.sub	subbasin.sub	subbasin.del		
HRU	hru-data.hru	field.fid				
DR	delratio.del					
AQUIFER	aquifer.aqu					
LINK	chan-surf.lin	chan-aqu.lin				
BASIN	codes.bsn	parameters.bsn				
HYDROLOGY	hydrology.hyd	topography.top				
EXCO	exco.exc					
BACTERIA	initial.bac	bacteria.bac				
STRUCTURAL	septic.str	bmpuser.str	contour.str	filterstip.str	fire.str	grassedww.str
PARM_DB	plant.plt	fertilizer.frt	tillage.til	pesticide.pst	urban.urb	septic.sep
OPS	autofert.ops	autoirr.ops	confert.ops	contpest.ops	fert.ops	graze.ops
SCH	management.sch					
LUM	cntable.lum	landuse.lum				
CHG	parameters.chg	scenarios.chg				
INIT	initial.pst	initial.plt				
SOILS	soils.sol	nutrients.sol				
CONDITION	condition.ctl					

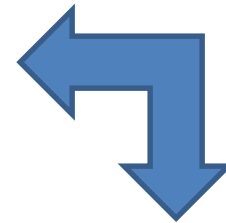
Shortcuts: Shift + Ctrl + G Goes to selected input file (Active cell)
Shift + Ctrl + B Comes Back home page (This Tab) from any other tab

```
'Clears cells before reading
With ActiveSheet
    .Range("B4").ClearContents
    lLastRow = .Cells(Rows.Count, "A").End(xlUp).Row
    If .Cells(lLastRow, 1).Value = "Note:" Then lLastRow = lLastRow + 1
    .Range(.Cells(5, 1), .Cells(lLastRow, 15)).ClearContents
End With
'
'Reads the file content
Close #1
Open sCurrDir & "\" & sFileName For Input Access Read As #1
    i = 1
    j = 1
    While Not EOF(1)
        Line Input #1, sWholeline
        If i = 1 Then
            ActiveSheet.Cells(4, 2).Value = sWholeline
        Else:
            vVector = Split(sWholeline, " ")
            For k = 0 To UBound(vVector)
                If vVector(k) <> "" Then
                    ActiveSheet.Cells(i + 3, j).Value = vVector(k)
                    j = j + 1
                End If
            Next k
            j = 1
        End If
        i = i + 1
    Wend
Close #1
'
```

1	subbasin.con - miguel Watershed						
2	NUMB	NAME	PROPS	SRC_TOT	OBTP_OUT	OBTPNO_OUT	HTYP_OUT
3	1	sub001	1	2	cha	1	tot
4	2	sub002	2	2	cha	2	tot
5	3	sub003	3	2	cha	3	tot
6	4	sub004	4	2	cha	4	tot
7	5	sub005	5	2	cha	5	tot
8	6	sub006	6	2	cha	6	tot
9	7	sub007	7	2	cha	7	tot
10	8	sub008	8	2	cha	8	tot
11	9	sub009	9	2	cha	9	tot
12							



SWAT Editor v.1.1		Read	Write	Run		
SWAT Folder: C:\Desktop\Example_Data						
Note: file.cio (control input/output)						
SIMULATION	time.sim	object.cnt	object.prt	print.prt	new.new	
CLIMATE	weather-sta.cli	weather-wgn.cli	wind-dir.cli	pcp.cli	tmp.cli	slr.cli
CONNECT	hru.con	hru-ez.con	subbasin.con	aquifer.con	channel.con	reservoir.con
CHANNEL	channel.cha	waterqual.cha	channel-ez.cha			
RESERVOIR	initial.res	reservoir.res	hydrology.res	nutrient.res	pesticide.res	sediment.res
SUBBASIN	define.sub	element.sub	subbasin.sub	subbasin.del		
HURU	hru-data.hru	field.fld				
DR	delratio.del					
AQUIFER	aquifer.aqu					
LINK	chan-surf.lin	chan-aqu.lin				
BASIN	codes.bsn	parameters.bsn				
HYDROLOGY	hydrology.hyd	topography.top				
EXCO	exco.exc					
BACTERIA	initial.bac	bacteria.bac				
STRUCTURAL	septic.str	bmpuser.str	contour.str	filtertip.str	fire.str	grassedww.str
PARAM_DB	plant.plt	fertilizer.frt	tillage.til	pesticide.pst	urban.urb	septic.sep
OPS	autofert.ops	autoirr.ops	contfert.ops	contpest.ops	fert.ops	graze.ops
SCH	management.sch					
LUM	cntable.lum	landuse.lum				
CHG	parameters.chg	scenarios.chg				
INIT	initial.pst	initial.plt				
SOILS	soils.sol	nutrients.sol				
CONDITION	condition.ctl					
Shortcuts:		Shift + Ctrl + G	Goes to selected input file (Active cell)			
		Shift + Ctrl + B	Comes Back home page (This Tab) from any other tab			



OBJECT.CNT		Read	Write	Run
New name:				
Note: object.cnt: Spatial object counts - Little River Experimental Watershed				
Variable	#	Description		
OBJ	155	number of objects		
HURU	128	number of hru's		
LTE	0	number of hru_lte's		
SUB	9	number of sub's		
GRU	0	number of gru's		
AQU	9	number of aquifer's		
CH	9	number of chan's		
RES	0	number of res's		
DAY	0	number of recdays's		
MON	0	number of recmon's		
YR	0	number of recyr's		
EXCO	0	number of exco's o		
DR	0	number of dr's or		
CANAL	0	number of canal's		
PUMP	0	number of pump's		
OUT	0	number of outlet's		



SWAT Editor v.1.1

Read
Write
Run

SWAT Folder: C:\Desktop\Example_Data

Note: file.cio (control input/output)

SIMULATION	time.sim	object.cnt	object.prt	print.prt	new.new	
CLIMATE	weather-sta.cli	weather-wgn.cli	wind-dir.cli	pcp.cli	tmp.cli	slr.cli
CONNECT	hru.con	hru-ez.con	subbasin.con	aquifer.con	channel.con	reservoir.con
CHANNEL	channel.cha	waterqual.cha	channel-ez.cha			
RESERVOIR	initial.res	reservoir.res	hydrology.res	nutrient.res	pesticide.res	sediment.res
SUBBASIN	define.sub	element.sub	subbasin.sub	subbasin.del		
HRU	hru-data.hru	field.fld				
DR	delratio.del					
AQUIFER	aquifer.aqu					
LINK	chan-surf.lin	chan-aqu.lin				
BASIN	codes.bsn	parameters.bsn				
HYDROLOGY	hydrology.hyd	topography.top				
EXCO	exco.exc					
BACTERIA	initial.bac	bacteria.bac				
STRUCTURAL	septic.str	bmpuser.str	contour.str	filterstip.str	fire.str	grassedww.str
PARM_DB	plant.plt	fertilizer.frt	tillage.til	pesticide.pst	urban.urb	septic.sep
OPS	autofert.ops	autoirr.ops	confert.ops	contpest.ops	fert.ops	graze.ops
SCH	management.sch					
LUM	cntable.lum	landuse.lum				
CHG	parameters.chg	scenarios.chg				
INIT	initial.pst	initial.plt				
SOILS	soils.sol	nutrients.sol				
CONDITION	condition.ctl					

Shortcuts:

	Shift + Ctrl + G	Goes to selected input file (Active cell)
	Shift + Ctrl + B	Comes B ack home page (This Tab) from any other tab

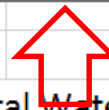
OBJECT.CNT

Read

Write

Run

New name:



Note: object.cnt: Spatial object counts - Little River Experimental Watershed

<i>Variable</i>	<i>#</i>	<i>Description</i>
OBJ	155	number of objects
HRU	128	number of hru's
LTE	0	number of hru_lte's
SUB	9	number of sub's
GRU	0	number of gru's
AQU	9	number of aquifer's
CH	9	number of chan's
RES	0	number of res's
DAY	0	number of recdays's
MON	0	number of recmon's
YR	0	number of recyr's
EXCO	0	number of exco's o
DR	0	number of dr's or
CANAL	0	number of canal's
PUMP	0	number of pump's
OUT	0	number of outlet's



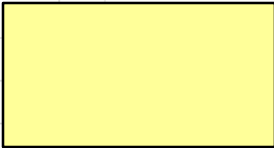
SUBBASIN.CON

Read

Write

Run

New name:



Note: subbasin.con - miguel Watershed

NUMB	NAME	PROPS	SRC_TOT	OBTP_OUT	OBTPNO_OUT	HTYP_OUT	FRAC_OUT	OBTP_OUT	OBTPNO_OUT	HTYP_OUT
1	sub001	1	2	cha	1	tot	1	aqu	1	rhg
2	sub002	2	2	cha	2	tot	1	aqu	2	rhg
3	sub003	3	2	cha	3	tot	1	aqu	3	rhg
4	sub004	4	2	cha	4	tot	1	aqu	4	rhg
5	sub005	5	2	cha	5	tot	1	aqu	5	rhg
6	sub006	6	2	cha	6	tot	1	aqu	6	rhg
7	sub007	7	2	cha	7	tot	1	aqu	7	rhg
8	sub008	8	2	cha	8	tot	1	aqu	8	rhg
9	sub009	9	2	cha	9	tot	1	aqu	9	rhg

soils.sol

1 soils.sol - soil parameters for miguel Watershed

2	NUMB	SNAM	NLAYERS	HYDGRP	SOL_ZMX	ANION_EXCL	SOL_CRK	TEXTURE	SOL_Z1
3	1	CX	5	B	1830	0.5	1.0	L-C	0070.
4	2	PA	7	A	1500	0.5	1.0	LS-L	0100.
5	3	PV	4	A	1870	0.5	1.0	C	0230.
6	4	PVA	6	A	2000	0.5	1.0	LS-LC-C	0040.
7	5	SX	6	B	1670	0.5	1.0	LS-LC-S	0100.
8									

SOL_CBN1	CLAY1	SILT1	SAND1	ROCK1	SOL_ALB1	USLE_K1	SOL_EC1	SOL_CAL1	SC
3.07	12.0	26.00	62.00	0.00	3.34	0.04	0.00	0.00	0.00
1.20	8.0	21.00	71.00	1.00	1.96	0.03	0.00	0.00	0.00
1.45	35.0	17.00	48.00	0.00	2.65	0.02	0.00	0.00	0.00
2.96	20.0	23.00	57.00	0.00	3.34	0.05	0.00	0.00	0.00
3.44	8.0	31.00	60.00	0.00	2.65	0.08	0.00	0.00	0.00

SOILS.SOL



Soil Name: 4



Description: soils.sol - soil parameters for miguel Watershed

General soil properties (Common to all horizons)

NUMB:	4	
SNAM:	PVA	Soil name
NLAYERS:	6	Number of soil horizons
HYDGRP:	A	Soil hydrologic group (A, B, C, or D)
SOL_ZMX:	2000	Maximum rooting depth of soil profile (mm)
ANION_EXCL:	0.5	Fraction of porosity (void space) from which anions are excluded
SOL_CRK:	1	Potential or maximum crack volume of the soil profile expressed as a fraction of the total soil volume
TEXTURE:	LS-LC-C	Texture of soil layer. Not used, the line may be left blank

Onward, one column of data per soil layer (up to 10 layers)

# LAYER:	1	2	3	4	5	6	7	8	9	10	Description:
SOL_Z1:	40	160	270	430	1170	2000	0	0	0	0	Depth from the soil surface to the botto
SOL_BD1:	1.28	1.49	1.4	1.38	1.49	1.39	0	0	0	0	Moist Bulk Density (Mg/m3 or g/cm3) pb
SOL_AWC1:	0.15	0.135	0.23	0.158	0.21	0.222	0	0	0	0	Available water capacity of the soil layer
SOL_K1:	2392.08	302.2	77.35	50.23	10.55	104.6	0	0	0	0	Saturated hydraulic conductivity (mm/hr
SOL_CBN1:	2.96	0.87	1.16	0.7	0.17	0.06	0	0	0	0	Organic carbon content (% soil weight)
CLAY1:	20	26	44	34	45	40	0	0	0	0	Clay content (% soil weight).The percent
SILT1:	23	21	18	30	29	32	0	0	0	0	Silt content (% soil weight). The percenta
SAND1:	57	53	38	36	26	28	0	0	0	0	Sand content (% soil weight). The percen
ROCK1:	0	0	0	0	0	0	0	0	0	0	Rock fragment content (% total weight).
SOL_ALB1:	3.34	4.03	1.96	2.65	3.34	3.34	0	0	0	0	Moist soil albedo (Fraction)
USLE_K1:	0.05	0.02	0.02	0.02	0.01	0.01	0	0	0	0	USLE equation soil erodibility (K) factor (
SOL_EC1:	0	0	0	0	0	0	0	0	0	0	Electrical conductivity (dS/m)
SOL_CAL1:	0	0	0	0	0	0	0	0	0	0	Soil CaCo3 (%). (0 – 50%)
SOL_PH1:	4.4	4.7	4.9	4.9	5.2	5.4	0	0	0	0	Soil Ph (3-10)



J. Osorio, J. Arnold, M. White, J. Jeong, N. Sammons, G. Mitchel, M. Hrebik



Javier M. Osorio Leyton
josorio@brc.tamus.edu

Blackland Research & Extension Center
720 East Blackland Road | Temple, TX 76502-9622
<http://www.blackland.tamu.edu>