

Options Yemen IIP - Flood simulation model

Existing parameter sets

ID
TB810
TB811
ZD500
ZD507
ZD700
ZD708
ZD720
ZD721
ZD763
ZD764
ZD765
ZD766
ZD767
ZD768
ZD769
ZD800
ZD801
ZD902
ZD903
ZD905
ZD906
ZD998
ZD999

Program control

Simulation identifier: **ZD 700**

Wadi name: **Wadi Zabid**

Date of simulation: **26-02-03**

Random number seed: **8888888**

Status of parameter set: **locked**

Description of simulation: **Calibration - 4 Version 1 - 26 Feb 03 - rerun**

Prepare a new simulation

Model version: Version 1 Version 2

Number of years: length of synthetic record: **200** years

Derive a 15-minute hydrograph?: Yes No

number of years: **0**

start year: **0**

See the file browser

Text files for output can be found in this folder: **D:\FloodSim\Working**

Program units:
 Flood and baseflow volume - thousand m3 (tcm)
 Rainfall - mm
 Area - km2
 All parameters must be consistent with these units

Parameters for floods

Mean and coefficient of variation of monthly flood events based on: number of events volume

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
mean	0.11	0.06	0.94	4.56	6.33	4.39	7.33	12.22	7.06	1.83	0.39	0.17
CV	4.24	4.24	1.52	0.81	0.7	0.91	0.6	0.45	0.73	1.42	3.2	2.3

Derivation of flood duration from volume

$= a + b \cdot x$
 $= a * x^b$

a: **13**
 b: **1**

Definition of exceptional flood events

Frequency (% of years)

1 March
3 April
7 May

Distribution of population of flood volumes

mean: **656** tcm standard deviation: **848** tcm

Selection of flood days

random within month (non-repeating)
 random within month (repeating)

Parameters for baseflow

Parameters for baseflow estimation

Monthly threshold rainfall for baseflow: **90** mm/month

Percentage of rainfall forming baseflow: **4** %

Percentage of flood runoff forming baseflow: **120** %

Persistent baseflow: **1800** tcm/yr

Baseflow routing delay: **20** days

Catchment area: **4632** km2

Added noise: **0**

Ceiling: **10000**

Mean and coefficient of variation of catchment rainfall (mm)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
mean	5	16	57	95	110	74	110	115	64	29	14	8
CV	1.92	1.22	0.71	0.37	0.36	0.49	0.39	0.31	0.35	1.45	1.75	1.86

2: toggle between baseflow and hydrograph parameters

3: click to see previous output files

4: click to prepare for a new simulation

5: close the program at any time

Close Flood Simulation

See hydrograph parameters

Picture 1 Reviewing existing parameters and results

Yemen IIP - Flood simulation model

1: enter a new identifier if required

2: enter a different seed

3: make a note of the purpose of the simulation

4: edit the control information

5: review and edit all or any parameter values

6: save the parameter data at any time

7: run the simulation program

8: review the output files

Program control

Simulation identifier: **ZD 700**

Wadi name: **Wadi Zabid**

Random number seed: **8888888**

Description of simulation:

Save the data

Model version: Version 1 Version 2

Number of years: years

length of synthetic record: years

Derive a 15-minute hydrograph?
 Yes No

number of years:
start year:

Run the program

See the file browser

Text files for output can be found in this folder:

Program units:
Flood and baseflow volume - tcm
Rainfall - mm
Area - km²
All parameters must be consistent with these units

Parameters for floods

Mean and coefficient of variation of monthly flood events based on: number of events volume

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
mean	0.11	0.06	0.94	4.56	6.33	4.39	7.33	12.22	7.06	1.83	0.39	0.17
CV	4.24	4.24	1.52	0.81	0.7	0.91	0.6	0.45	0.73	1.42	3.2	2.3

Derivation of flood duration from volume
 linear $y = a + b \cdot x$
 non-linear $y = a \cdot x^b$

a:
b:

mean volume: tcm
standard deviation: tcm

Distribution of population of flood volumes
mean: tcm
standard deviation: tcm

Selection of flood days
 random within month (non-repeating)
 random within month (repeating)

Parameters for hydrograph shape

Parameters for hydrograph description

Threshold volume for multi-component flood: tcm

Maximum number of components:

	minimum	maximum	hours	minimum	maximum	hours
Rise time (hours)	<input type="text" value="1"/>	<input type="text" value="1"/>	hours	<input type="text" value="1"/>	<input type="text" value="4"/>	hours
Delay (component 2)	<input type="text" value="0.25"/>	<input type="text" value="2"/>	hours	<input type="text" value="4"/>	<input type="text" value="14"/>	hours
Delay (component 3)	<input type="text" value="2"/>	<input type="text" value="4.5"/>	hours	<input type="text" value="6"/>	<input type="text" value="24"/>	hours

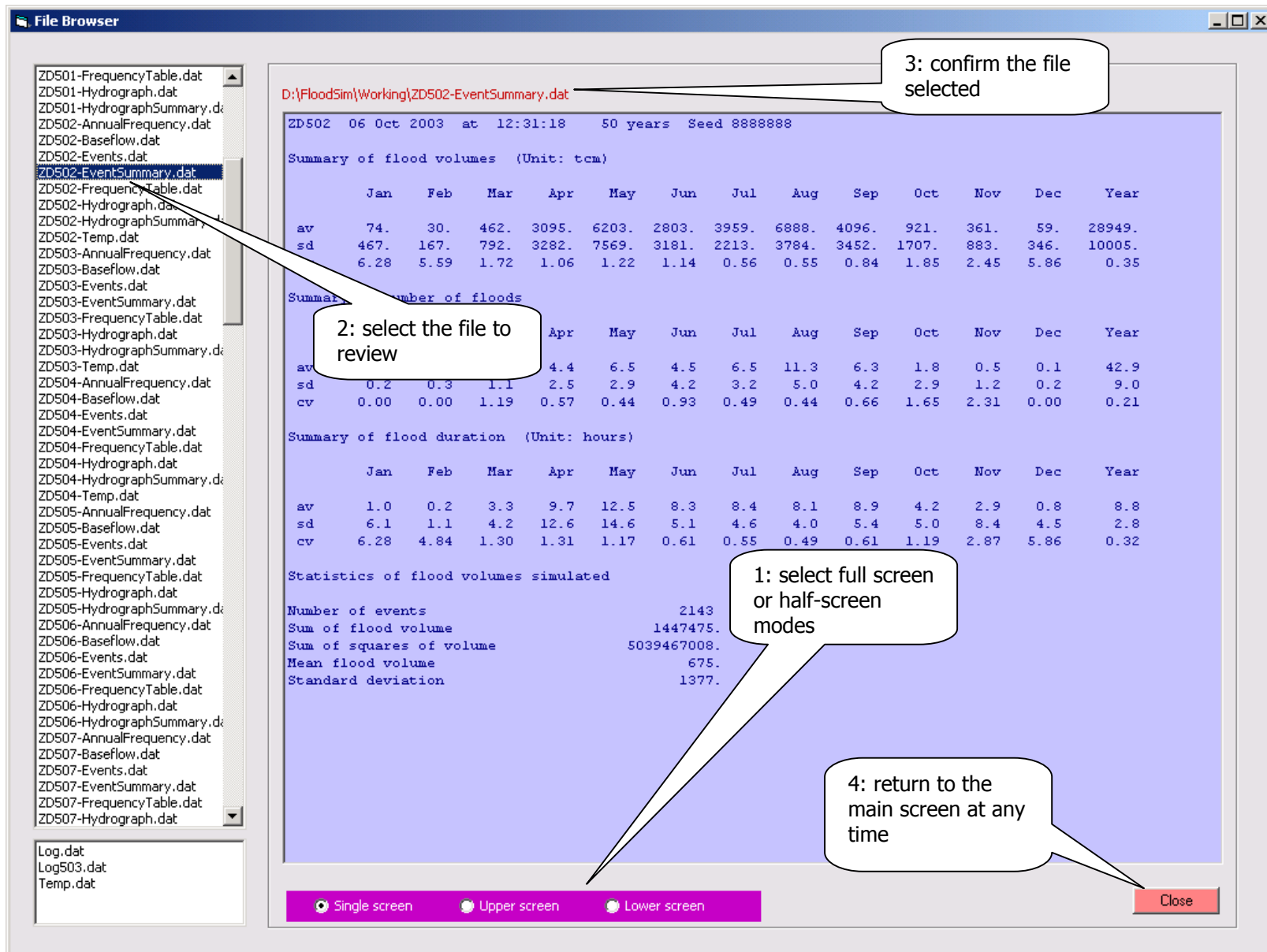
Percentage of floods starting in the following 3-hour periods (%)

	00-03	03-06	06-09	09-12	12-15	15-18	18-21	21-24
	<input type="text" value="25"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="25"/>	<input type="text" value="25"/>	<input type="text" value="25"/>

Close Flood Simulation

See baseflow parameters

Picture 2 Carrying out a new simulation



Picture 3

Reviewing the existing or new output files