steven@golovin.co.nz
www.golovin-nz.com

Questions to Ask When

Considering Water Modelling Software

General Features

1 Brand name
2 Dimensions (1D, 2D, 2D, coupled 1D-2D, coupled 2D-3D)
3 Free version available
4 Node or cell limitations of free version
5 Starting price of unlimited version
6 Internet based software
7 PC based software
8 Network enabled
9 Can be operated remotely using a server key
10 Can clients examine outputs with free software
11 Can clients examine outputs without purchasing full-version

Functionality

12 Can data be imported from GIS
13 If yes, do you need to be a GIS novice, experienced, expert
14 Does software require GIS platform attachment?
15 User can easily descritize cell or branch lengths
16 Other products it can be linked with
17 Advection-dispersion modelling built-in or added-on
18 Percentage of data that can be input by copy-paste from spreadsheets
19 As an Initial cold-start facility
20 Hyperlinked help menu

Quality Control

21 Auto-check reporting for mass conservation
22 Default parameters built in
23 Calibration test tools
24
Stability warnings (advices in advance if or when model becomes unstable)
25 Track and trace model changes
26 Auto sensitivity analysis tool (Can set up parameter ranges and run the model to show range of answers)
27 Warning system for poor Courant numbers

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Outputs

28 Tabulated maximums and minimums
29 Long term mass balances
30 Duration of structure operation
31 Time varying parameter results
32 Contours
33 2D plains and flow maps

Solutions

34 Solution type (momentum, energy, mass balance etc)
35 Dynamic / Transient solutions
36 Governing equations (St Venant, Navier-Stokes, Poisson)

37 Minimum boundary data requirement (for example water levels, flows, concentrations etc)
38 Solves dendritic networks
39 Solves looped networks

Of course there are many others in terms of what problem you are trying to solve but these are generic questions most engineers and scientist may not think to consider

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