Hydrology and Earth System Sciences Discussions

Interactive comment on "A multi-objective optimization tool for the selection and placement of BMPs for pesticide control" *by* C. Maringanti et al.

Anonymous Referee #2

Received and published: 19 August 2008

I think your paper describes a very interesting application of MOEAs, but there are several areas in which may be strengthened. The follows are some initial suggestions:

- It will be good to differentiate between simple GA and MOEAs.

- It is not clear why you selected the NSGA-II algorithm and not the SPEA-II for your work. And It will be good to include a brief description of the NSGA algorithm and how it works. Also you may include a formal definition about what makes a Pareto optimal solution (change the place of information in section 2.1.5.)

- In the discussion about the coding of the solutions it is not explained what is

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

represented by each 0 and 1 in the representation (used/not used?) you choose and why this representation was selected.

- In the explanation about the mutation operator there is not need to explain in detail the mutation procedure for real coding, since you don't use it.

- In the explanation about the crossover operator there is not need to explain in detail the mutation procedure for the real coding.

- It is not explained how NSGA-II uses the elitism concept and how it is used in your work.

- It is not clear what means [Pesticide] in equation (12)

- I think that the contents about the computational platform presented in section 4.2 may be presented before 4.1

Figures:

- Fig. 2: it is not clear what is shown.

- Fig. 3: try to improve the figure, may be changing the orientation. The flow chart is of a simple GA, I suggest to put the flow chart of the NSGA-II.

Others:

- Pag. 1822. Line 26. pareto-optimal -> Pareto optimal

- Pag. 1823 Line 4. in USA -> Considers REMOVE

- pag. 1826 Line 24 (NSGA-II;(-> (NSGA-II; Line 26 Use the same convention in naming the MOEAs, i.e. capitalize the first letter in Non-dominated sorted

genetic algorithm. I think that it is not necessary to repeat the acronym, and the references to the NSGA-II in this line, since it is done two lines before

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 1821, 2008.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper