Fall 2016

Water Resources Systems Analysis Reading Assignments

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Read the articles referenced below and answer the following questions:

A. Linear Programming: Needham et al. 2000
B. Linear Programming and Sensititity Analysis: Lund 1990
C. Dynamic Programming: Allen and Bridgeman 1986
D. Non-Linear Programming: Stafford et al. 2015
E. Genetic Algorithm: Perez-Pedini et al. 2005

1) Describe in your own words what is the problem that is being addressed? Why is it important?
2) What system is being modeled? Identify the system boundaries, processes, inputs and outputs.
3) How the system is being modeled? Identify the main state variables, parameters, initial conditions and boundary conditions.
4) What is the optimization method used to solve the problem. Describe the method.
5) What are the objective functions, constrasts and decision variables?
6) What are the main conclusions and insights generated by the use of optimization? Analyze critically the methodology, identifying limitations and weaknesses and provide suggestions to better address the problem.

References


