

Interactive comment on “Household water use and conservation models using Monte Carlo techniques” by R. Cahill et al.

Anonymous Referee #1

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Overall comment-Nice paper using innovative evaluation techniques and a realistic case study. I recommend that it be published after addressing some minor comments that are listed below.

Specific comments-

1. Study area is in a single family, affluent neighborhood with 151 houses in San Ramon, CA in eastern SF Bay area.
 - (a) Describe the water use data that are available. I only saw mention of the use of bi-monthly data.
 - (b) Source of population data for each house to calculate gpcd.
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 - (c) Ages of houses to estimate ages of end use fixtures.
 - (d) Prevalence of irrigation systems.
 - (e) Existing water rates.
 - (f) Six droughts are studied. Are they serious, mild?
 - (g) Show the time series of overall water use during the study period to give the reader an idea of the relative importance of indoor and outdoor water use.
 - (h) Was an end use tabulation done to estimate the total number of fixtures?
 - (i) Was outdoor irrigable area measured?
2. Authors calibrated to existing water use conditions using MC simulation. Did you split the data to test your calibration results? The calibration is a vital element of conservation studies that is seldom done. It was nice to see it in this paper.
3. I like the two stage optimization model.
4. Other studies have shown that irrigation controllers can increase water use for irrigators who under-irrigate at present. Thus, it is important to not encourage increasing irrigation application rates. It would be helpful to show how existing application rates compare to benchmark irrigation application rates for their area.