

Interactive comment on “Impact of grain size and rock composition on simulated rock weathering” by Yoni Israeli and Simon Emmanuel

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I'm excited by the type of work described in this paper and it's a topic that needs much more attention in our field. The model that the authors present predicts that "as grain size increases, the weathering rate initially decreases" seems to contradict some of my observations in the Sierra Nevada (CA). The Sierras are a patchwork of different plutonic rocks and, oftentimes, the differential erosion between the fine-grained rocks and adjacent coarse-grained rocks is striking, with the latter seeming to resist weathering and erosion much better than the former. To be fair, these observations have not controlled for mineralogy. Have the authors found field examples that support their model's results? If not, what aspect of weathering might the model be missing?

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