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Interactive comment on "Evaluating sensitivity of silicate mineral dissolution rates to physical weathering using a soil evolution model (SoilGen2.25)" *by* E. Opolot and P. A. Finke

Anonymous Referee #1

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This is a model study regarding silicate mineral dissolution rate controlled by physical, chemical weathering and other factors. Certainly this is an important process that acted as the backbone of nutrient cycle on earth over geological time (CaSiO3+CO2+H2O –> Ca2+ +HCO3- +SiO2; Ca2+ + 2 HCO3- – > CaCO3+H2CO3; CaCO3+SiO2 –> CaSiO3+CO2). However, I am not quite clear what is the major hypothesis or what is the primary issues in either laboratory or modeling research field that need to address regarding silicate dissolutions. Rather, the current study showed the model is designed to test what they have in hand. To me, a compelling hypothesis should be identified first of all and then a reorganization and presentation may be necessary then. Overall, the current study is acceptable for publication after some major or minor revisions.

Interactive comment on Biogeosciences Discuss., 12, 13887, 2015.