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Brian Hopkins* (bhopkins@spc.edu). *Sand Piles and Related Partition Dynamics*.

The Sand Pile Model is perhaps the smallest operation on partitions: in terms of the Ferrers diagram, a single dot moves from one part to the next if the result is still non-increasing. E.g., $(4,1)$ maps to $(3,2)$. It was introduced in the computer science literature in 1993, inspired by “self-organized criticality” in physics. In this talk, I will review what is known about fixed points under the operation, number of components in the state diagram, and present new results on “Garden of Eden” states with no predecessor. These classes of partitions will also be considered under a family of related operations, known as the Ice Pile Model and θ maps. (Received December 22, 2009)