

This is a kilometer scale (unit_length 125.0 m¹), very high resolution (very_high_res 1) simulation of a doubly vergent thrust wedge. Deformation is the result of shortening (displacement_sign 1.0) at a 15° subduction slot in the base of the model (faultdipdegrees 15.0, include_slot1 1). The model is 200 units wide (25 km), and the slot at the base is at the middle (fault_xloc 100.0; 12.5 km). The total fault displacement is ~4000 m which are accumulated over 2000 increments of 2 m displacement each. All the layers are frictional cohesive and have the same properties. The figure below shows the last increment.

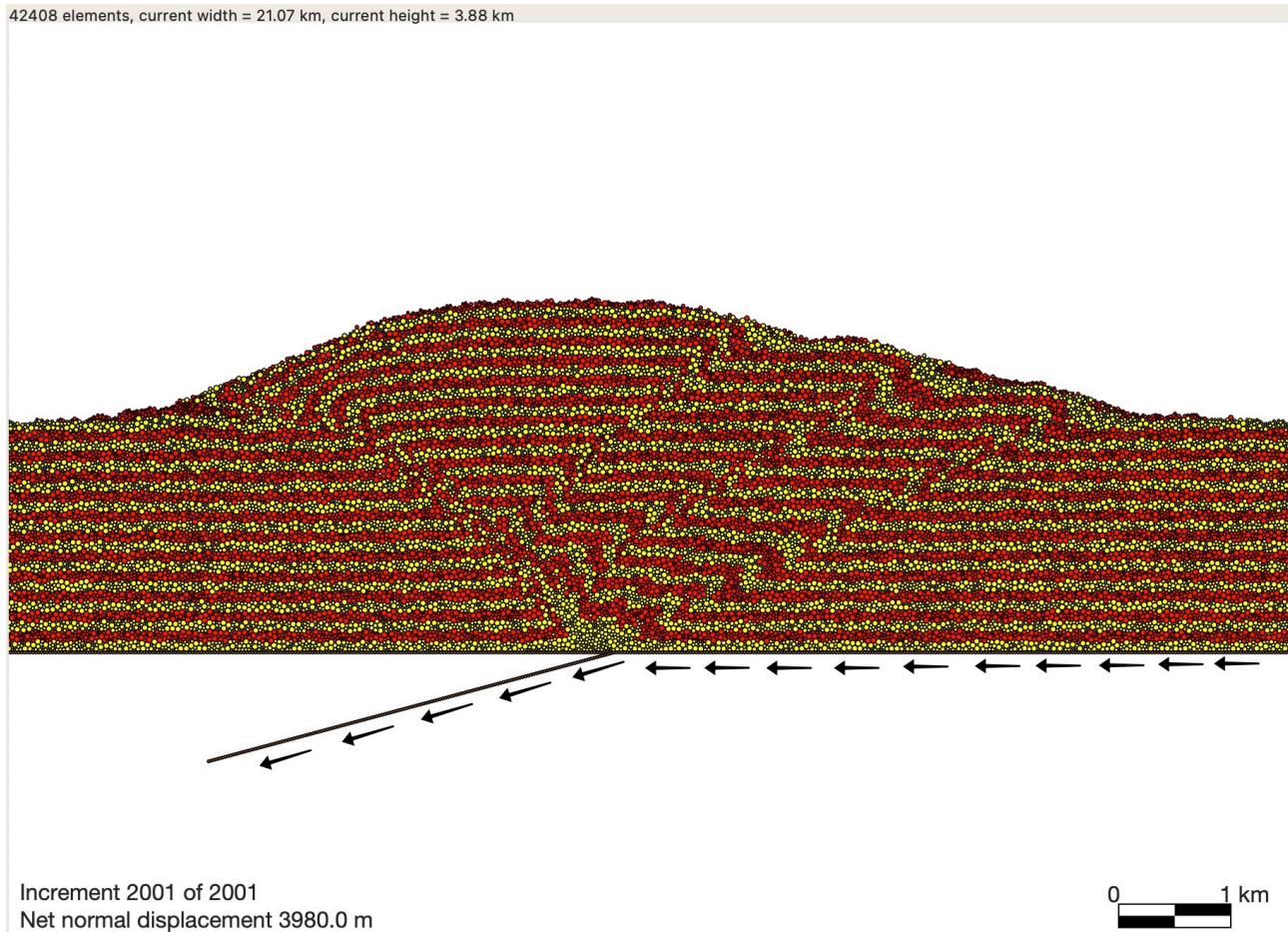


Figure 1. Last increment of bivergentwedge simulation as displayed in cdem. Notice that just the central part of the model is displayed. Arrows illustrate the displacement boundary conditions: The right side moves to the left and “subducts” below the slot. The slot and left wall are fixed. This configuration is frequently used in sandbox analogue models and it produces a dynamic backstop.

¹ Parameters mentioned here are those of the runtime.txt file.