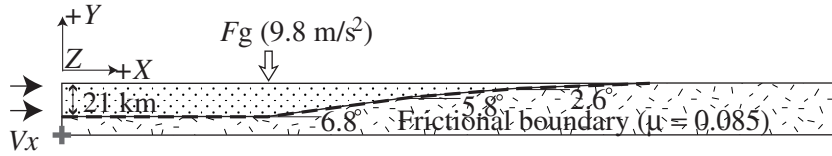
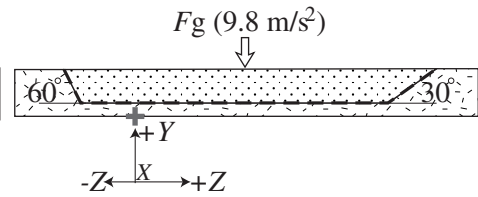


Data Repository Item

A. TRANSPORT PARALLEL CROSS SECTION



B. LATERAL CROSS SECTION



C. MAP VIEW

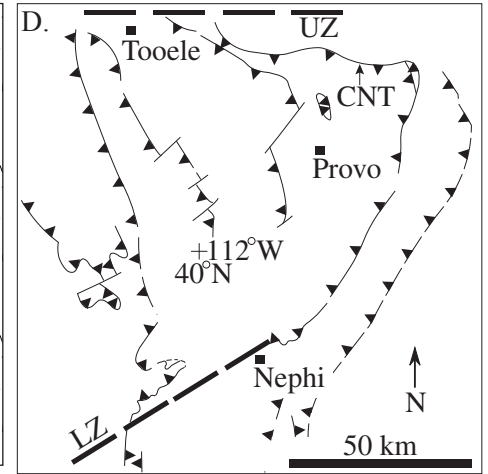
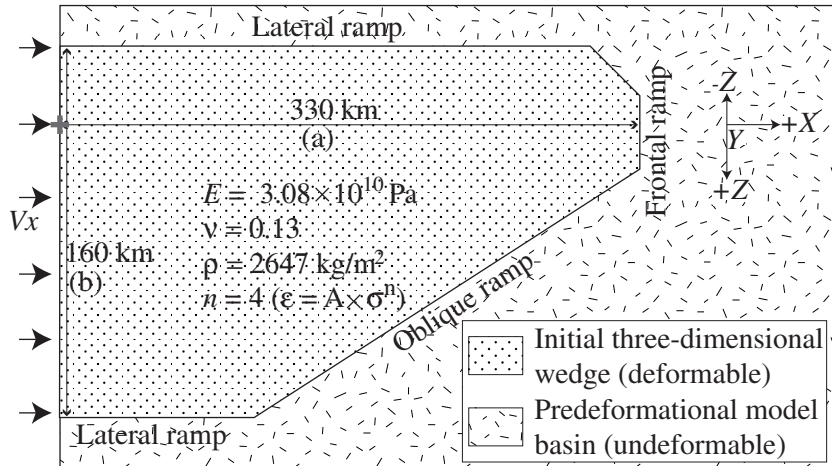
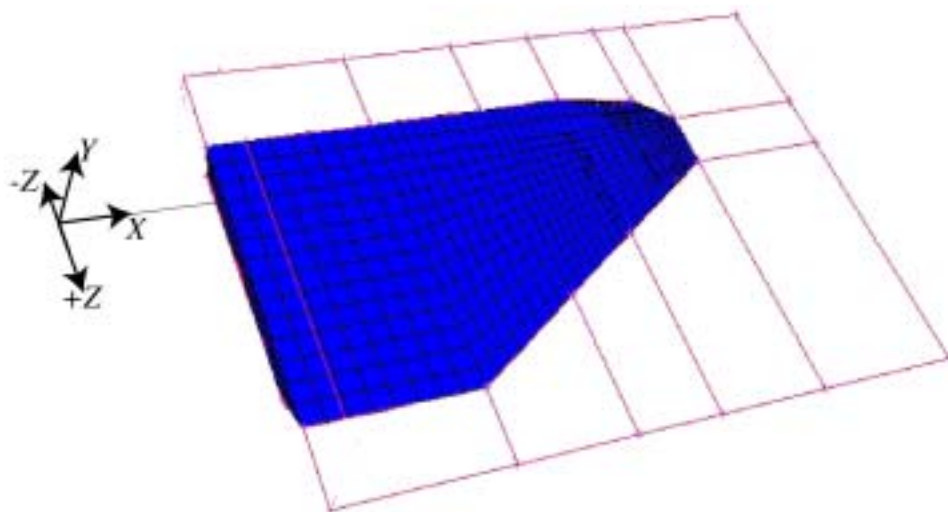


Figure DR1. Schematic illustrations showing geometry and initial, boundary, and loading of three-dimensional numerical model. A: Transport-parallel cross section. B: Lateral cross section. C: Map view. V_x = velocity along x-direction, F_g = gravitational force. D: General geologic map of Provo salient showing the major thrust faults and transverse zones. UZ-Uinta lateral zone, LZ-Leamington oblique zone, CNT-Charleston-Nebo thrust. Provo salient of Sevier fold-thrust belt is used as a basic geometric configuration of model. The locations of transport parallel (A) and lateral (B) cross-sections are shown on map-view (C). Cross (Gray) represents the origin of coordinates in each figure.

Data Repository Item

A.



B. Increment: 11
Unit: meter

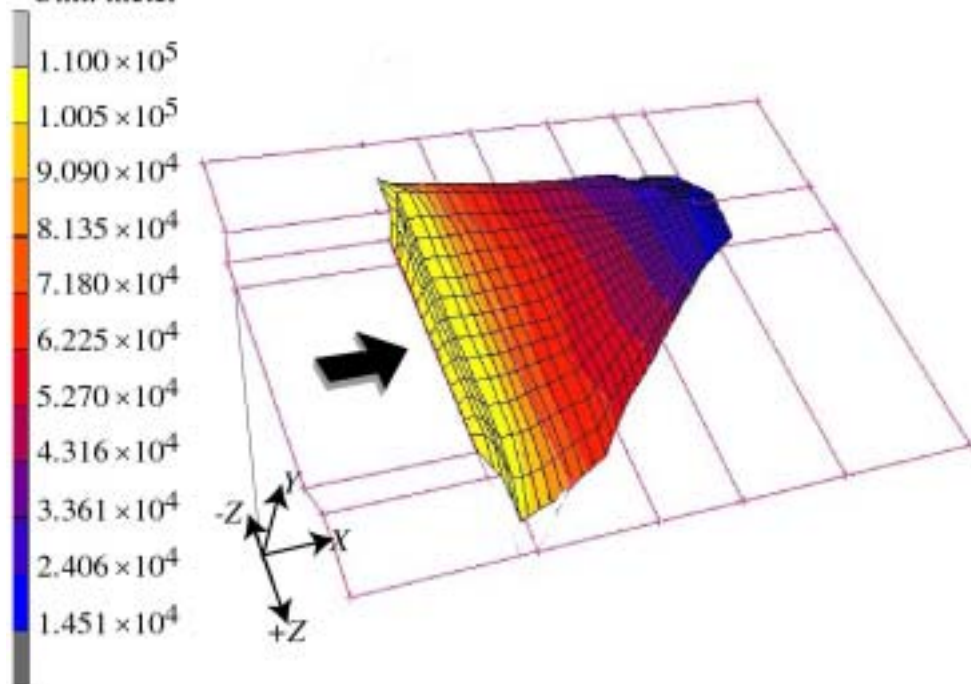


Figure DR2. Three-dimensional nonlinear finite element model with contact analysis. A: Initial geometry of the model fold-thrust belt wedge. B: Deformed geometry (with displacement contours) after 110 km displacement (~33% shortening) of the rear (left end) of the wedge. Color legend represents amounts of displacement in different parts of the model wedge.