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Interactive comment on “The mechanics of gravity-driven faulting” by L. Barrows and V. Barrows

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We want to thank the Anonymous Reviewers for their interest in this paper. The paper has been difficult for many reviewers, especially those with experience in Elastic Rebound.

The problem is not the mathematics, these are amply described in references, it is also not with the proposed gravity collapse mechanism.

There are only three parts to the gravity collapse mechanism; these are:

1. Tectonic stress originates from gravity acting on the Earth's topography and lateral density variations.

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2. The intensity of the gravitational tectonic stress that results from the regional topographic features and lateral density variations that actually exist is comparable to the stress drops that characterize tectonic earthquakes.

3. The simplest seismic mechanism is to let the fault fail and slip in direct response to the gravitational tectonic stress.

All we did was explore the consequences of this model. These seem to be consistent with observations and provide ready explanation of features which are not well explained by conventional elastic rebound.

The problem may have more to do with the introduction of a new paradigm (Kuhn 1970). We hope that the subject will receive more attention and review the future.

Thank you;

Larry Barrows and Vincent Barrows

Interactive comment on Solid Earth Discuss., 2, 105, 2010.

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