SEIZE (MARGINS-related)	Modeling Of Coseismic Pore Pressure Changes In Subduction Zones: Implications For Fluid Flow And Planning For Drilling And Long-Term Observatories	
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Accomplishments:

- Modeling as part of a PhD Dissertation by Paula Cutillo (Univ. of Colorado) demonstrates general patterns of head change due to subduction zone fault slip (see Fig).
- Results suggest that changes in fault zone permeability due to fault movement may have greater impact on fluid flow and heat transport than the strain-related head changes.
- Presentations by Shemin Ge: 'Seismically Induced Hydrodynamic Response in the Earth's Crust' at the BP Institute for Multiphase Flow, Univ. of Cambridge, 9/19/2003) and the Centre Européen de Recherche et d'Enseignement des Géosciences de l'Environnement, France (10/24/2003).

Figures and Captions

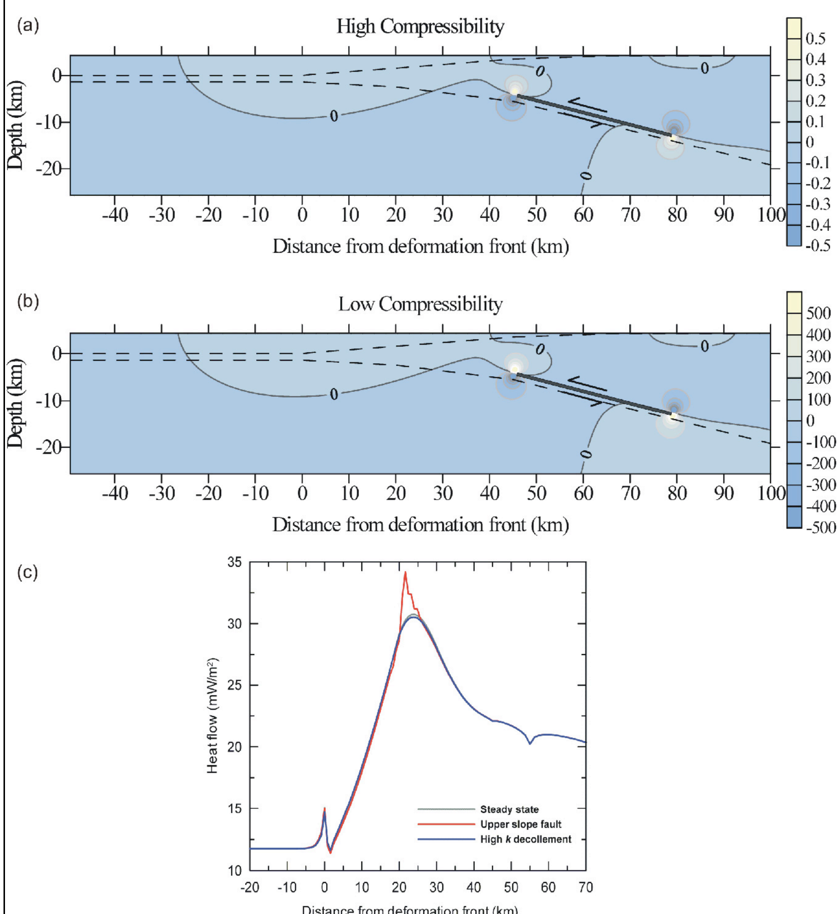

Figure 1: Coseismic change in hydraulic head from a 4.25m slip event along the décollement, with compressibility equal to (a) $5\times10^{-8}Pa^{-1}$ (contour interval = 0.1m) and (b) $5\times10^{-11}Pa^{-1}$ (contour interval = 100m) calculated from the output of the earthquake strain model of Okada (1990). (c) Graph of surface heat flow approximately 10,000 years following the 4.25m slip event, as a function of distance from the deformation front. Permeability in the upper-slope fault zone was raised by a factor of 10. In the high *k* décollement simulation, permeability was raised two orders of magnitude in a segment of the décollement zone.