

From slow slip to mega-earthquakes

What is the state of the science?

Most major convergent margins are currently monitored by dense onshore arrays

Refining models (on all scales) of the subducting plate interface

Links between slow and fast slip

Are precursors confined to only larger events? How does slow slip correlate with smaller magnitude seismicity?

Reconciling models of fault geometry, pore pressure, and locking/ creeping behavior

Is elevated pore pressure a viable triggering mechanism?

Linking stress state, fault strength, and slip mode

Role of sedimentary structures in plate coupling

Expanding the framework that we use to examine slow slip

Is slow slip a phenomenon confined to subducting margins? What other analogues are there?

Where does it need to go?

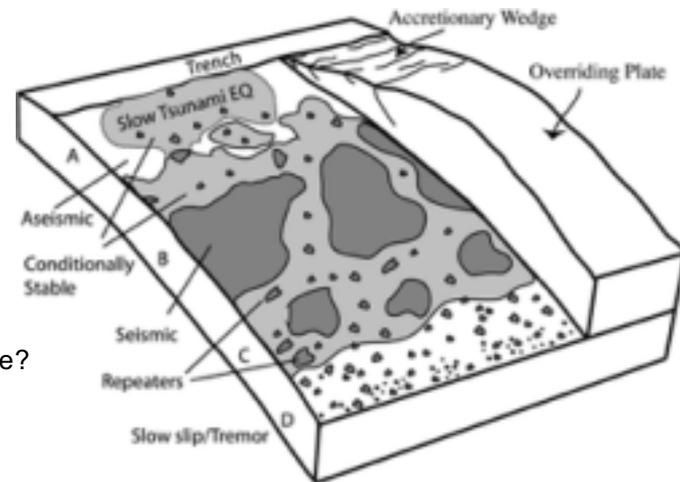
Work across disciplines to tie our models to realistic boundary conditions

Develop infrastructure to support dense offshore networks

Need to communicate across communities in order to broaden the footprint

Integrate results of laboratory frictional studies in order to address scaling issues and examine the effects of heterogeneities on systems

Establish multidisciplinary collaborative week-plus long workshop environments for early career scientists to address relevant problems



Lay et al. 2012

How much of this do we actually know?

How much of this model applies to all subduction zones?