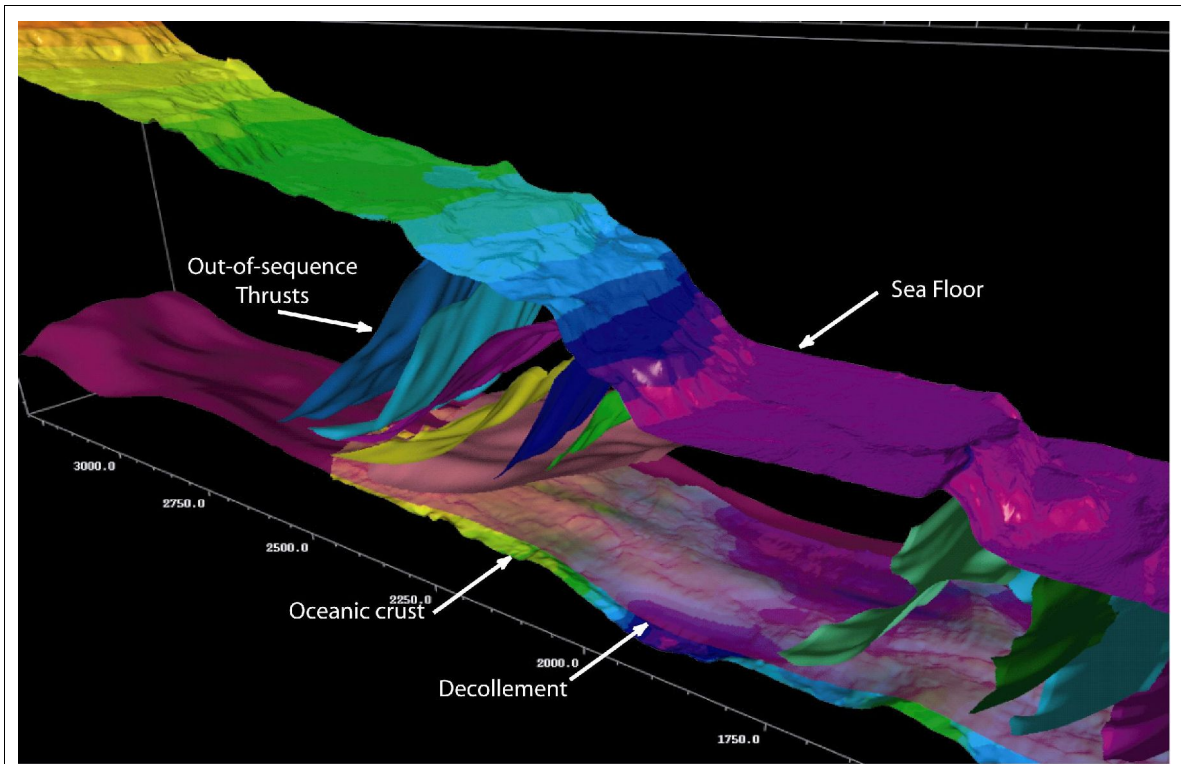


<b>SF</b>	Collaborative Research: Seismic Velocity, Compaction, and Pore Pressure in Underthrust Sediments, Nankai Subduction Zone	
	G. F. Moore, U. of Hawaii	
	8/15/2003 – 7/31/2006	OCE 02-41380
<ul style="list-style-type: none"> <li>• Collaboration between: U. of Texas Institute for Geophysics; U. of Hawaii, SOEST; U. of California, Santa Cruz, Earth Sciences; U. of Tokyo, Ocean Research Institute; Japan Marine Science and Technology Center (JAMSTEC).</li> <li>• Collected largest academic 3D seismic reflection survey.</li> <li>• First “true 3D” processing, including 3D prestack migration.</li> <li>• Defined large-scale structural subdivisions of the Nankai accretionary prism.</li> <li>• Detailed the initiation of thrust faulting seaward of the prism toe.</li> <li>• Quantified dewatering of subducting Shikoku Basin sediment section.</li> <li>• Documented variability of frontal thrust faults.</li> <li>• Mapped décollement amplitude across the aseismic-to-seismic transition.</li> <li>• Explored implications of prism geometry in the aseismic to seismic transition.</li> <li>• 3D image led to major modification of drilling plans for Legs 190 and 196 and served as the basis for interpretation of resulting drilling data.</li> <li>• International cooperation: <ul style="list-style-type: none"> <li>○ Major financial contribution from Japan for acquisition costs.</li> <li>○ Participation by Japanese scientists in planning, acquisition, processing and interpretation.</li> <li>○ Japanese colleagues conducted several cruises to our 3D seismic area, including a 100-OBS refraction experiment, two OBS deployments for mapping microseismicity, closely-spaced heat flow measurements and submersible diving.</li> </ul> </li> </ul>		



**Figure 1.** Interpretation of 3D seismic volume showing structural relations in the area where the décollement steps down to near the top of oceanic crust. This coincides with major out-of-sequence thrusting.