Testing the Role of Rift Obliquity in Formation of the Gulf of California

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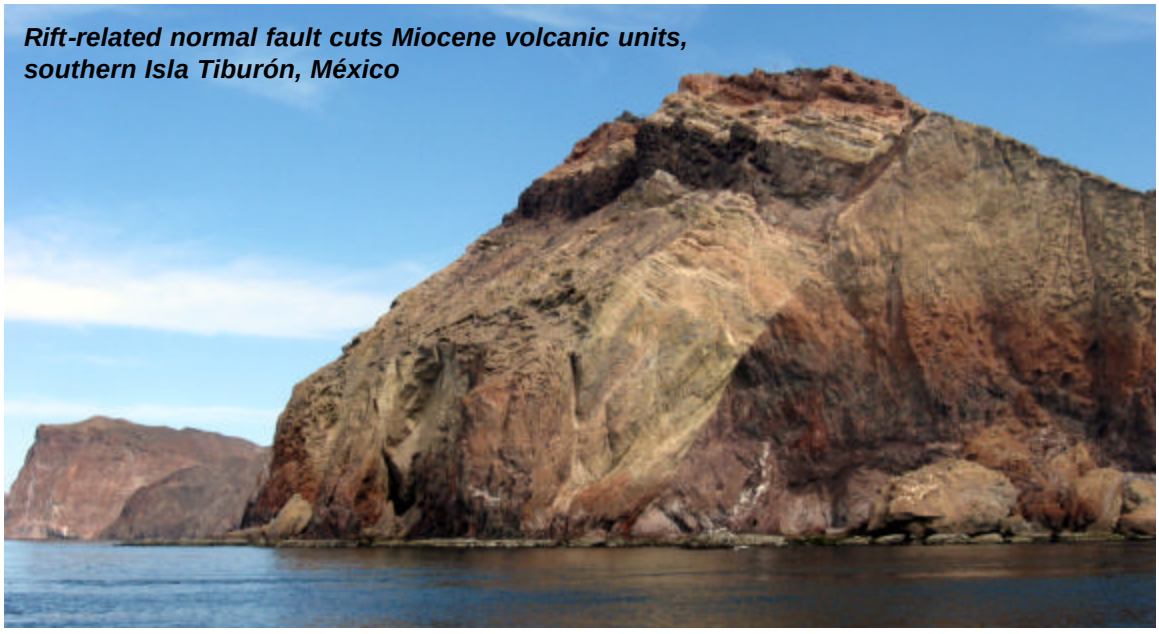
Mr. Bennett will present the results of his M.S. and Ph.D. research in the Gulf of California, México. The Gulf of California is a highly oblique rift formed by the ongoing dextral-oblique separation of the Pacific and North America plates. Plate boundary strain localized along this transtensional portion of the plate boundary broadly coincident with marine incursion of the Gulf of California seaway, during late Miocene time. Scott will share the results of his research in Baja California, Sonora, and from large islands within the Gulf of California, where he has constrained the timing and location of transtensional faulting and earliest marine strata. The majority of timing information is derived from detailed geologic mapping and geochronology along transform fault zones that come onshore across Isla Tiburón and onto coastal Sonora and were active during the earliest opening of the Gulf of California. These findings are coupled with a paleomagnetic transect of regionally extensive Miocene ignimbrite deposits that spanned across the incipient Pacific-North America plate boundary, now located on conjugate rift margins, separated >250 km by subsequent oblique rifting. Scott will also share preliminary results of map-view reconstructions of the Gulf of California rift from middle Miocene time to the present.

Biography: Scott received his B.S. in Geology from California State University, Northridge in 2004, studying Paleozoic pendant rocks and cryptic faults in the southern Sierra Nevada. During his undergraduate years and after graduation, he worked as an engineering geologist for consulting companies in the Los Angeles and Santa Cruz areas, providing slope stability and fault rupture recommendations for clients. He returned to academia, and received his M.S. in Geology from the University of North Carolina, Chapel Hill in 2009, where he began his field research in the Gulf of California. Scott plans to graduate in March 2013 with a Ph.D. in Geology from the University of California, Davis. Scott has received multiple awards for his presentations at conferences and grants for his research during his time at UC Davis, including the 2011-2012 NCGS Richard Chambers Memorial Scholarship. He was also a team-leader for the 1st-place UC Davis team in the inaugural 2011 National Student Geothermal Competition (DOE). This March, he plans to start a Mendenhall postdoctoral fellowship with the USGS in Golden, CO, conducting paleoseismic investigations along the Wasatch fault zone in central Utah.



Rift-related normal fault cuts Miocene volcanic units, southern Isla Tiburón, México