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## **RECENT FAULTING IN THE GULF OF SANTA CATALINA FROM SAN DIEGO TO DANA POINT, CALIFORNIA**

The inner continental borderland offshore of southern California is complexly deformed by a number of faults that generally trend in a northwest direction. We have analyzed multichannel (MCS) and high resolution seismic-reflection data recently acquired by the USGS, combined with JEBSCO and Western Geophysical industry MCS data, to compile a revised fault map for the area from offshore San Diego to Dana Point. The major fault zones we mapped include 1) the Coronado Bank fault zone and its northward extension and possible connection to the Palos Verdes Fault, 2) an unnamed fault zone at the base of the slope that extends discontinuously from La Jolla Canyon to near Dana Point, and 3) the offshore connection of the Rose Canyon fault zone (mapped onshore at La Jolla Canyon) with the Newport Inglewood fault zone, which trends offshore at Newport Beach. All of the fault zones we mapped are multi-stranded, discontinuous with respect to offset of the seafloor, and show significant along-strike variability. The number of fault strands, width of the fault zone and the sense of offset on an individual strand commonly change along strike. As imaged on the high-resolution data, there is a spatially coherent pattern of recent fault slip on parallel faults. The orientation, distribution, and style of deformation of the various fault splays that compose the major fault zones suggest that the faults may be interconnected, resulting in a complex pattern of slip transfer between individual strands.