

# INVESTIGATING THE STRUCTURAL ARCHITECTURE OF THE GREATER CAUCASUS, GEORGIA AND AZERBAIJAN

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The Greater Caucasus Mountains, located between the Black and Caspian Seas, define the northern margin of the Arabia-Eurasia collision zone. The Greater Caucasus accommodate nearly all orogen-perpendicular shortening in the collision zone, yet the specific structures are not well understood. Structurally, the Greater Caucasus appear broadly analogous to the Himalaya, where an active fold/thrust belt south of the range accommodates active shortening, primarily through major (magnitude 8+) earthquakes along this shallow detachment connecting the fold/thrust belt to the main range. Prior work in the eastern Greater Caucasus shows that shortening is not accommodated in a major structure at the topographic range front, but instead is localized in a shallow detachment that projects southward from the range and surfaces in an active fold/thrust belt 20+ kilometers south of the main range. In Azerbaijan, this foreland fold/thrust belt has been identified as a significant source of petroleum. My fieldwork in summer 2013 confirms that this structural style continues into the western Greater Caucasus. However, data such as GPS-derived convergence rates and deep seismicity suggest marked differences in orogen-scale structure between the western and eastern Greater Caucasus. Through remote analysis and structural and neotectonic mapping, I propose to investigate the structure of the Greater Caucasus foreland fold/thrust belt in three locations along strike of the range (western Georgia, central Georgia, and central Azerbaijan) to investigate changes in structural geometry along the orogen.

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