Impoundment of the Zipingpu Reservoir, China, began in late 2004 and culminated in a water depth of almost 100 meters. This impoundment was followed four years later by the 2008 Mw7.9 Wenchuan Earthquake (WE), which ruptured the Longmen Shan Fault with an epicenter about 6 kilometers away from the Zipingpu Reservoir. The close proximity of reservoir impoundment and the WE in both space and time suggests that the events are coupled. We use 2D Finite Element Models (FEMs) to simulate the fully-coupled poroelastic evolution of Coulomb stress in the region due to reservoir impoundment. The FEMs predict that significant Coulomb stress changes due to the initial reservoir impoundment are restricted to a local region beneath the reservoir. However, following reservoir impoundment, the fluid load from the reservoir drives a pore-pressure front that slowly propagates through the crust with fluid diffusion and eventually intersects the hypocentral region of the Longmen Shan Fault. Coulomb stress along the Longmen Shan Fault is initially negative in response to the reservoir impoundment load, but recovers and becomes increasingly positive leading up to the initiation of the WE. The hypocentral region of the Longmen Shan Fault reaches a Coulomb Stress triggering threshold of 0.05 MPa a few years after reservoir impoundment. These results suggest that poroelastic coupling explains the proximity of the impoundment of the Zipingpu Reservoir and the triggering of the WE in both space and time.