

Coulomb Stress Models for the M 6.5 May 15, 2020 Monte Cristo Range, Nevada Earthquake

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On May 15, 2020, a M 6.5 earthquake occurred on Monte Cristo Range, Nevada. We modeled the Coulomb failure stress changes produced by this earthquake in order to understanding how this earthquake has affected the surrounding faults. We estimate the shear and normal stress changes by applying the Coulomb stress model and assuming the seismologically-determined rupture model for the earthquake. The fault rupture model is a steeply-dipping (78°) east-west oriented left-lateral fault with the hypocenter at 11.5 km depth and an average fault slip of 0.8 m on a 22.5 km long fault plane. We find that the Monte Cristo earthquake increased the stress to the east in the Candelaria Hills region by 0.3 MPa (3 bars). There is also a slightly positive stress change to the north of Monte Cristo Range.