

Is Jesus' Crucifixion Reflected in Soil Deposition?

A geological study may indicate Earthquake described by Matthew

Biblical Archaeology Society Staff August 05, 2025

According to the Gospel of Matthew, an earthquake shook Jerusalem on the day of Jesus' crucifixion. A study of cores of soil deposition and seismic activity near the Dead Sea in the Volume 54, Issue 10 of *International Geology Review* may provide scientific data relating to the event described in Matthew 27.

Moreover, a recent report by Discovery News suggested² that the new research on sediment disturbances can be combined with Biblical, astronomical and calendrical information to give a precise date of the crucifixion: Friday, April 3rd, 33 C.E.

Matthew 27:50-54 reads:

"Then Jesus cried again with a loud voice and breathed his last. At that moment the curtain of the temple was torn in two, from top to bottom. The earth shook, and the rocks were split. The tombs also were opened, and many bodies of the saints who had fallen asleep were raised. After his resurrection they came out of the tombs and entered the holy city and appeared to many. Now when the centurion and those with him, who were keeping watch over Jesus, saw the earthquake and what took place, they were terrified and said, 'Truly this man was God's Son!'"

Geologists Jefferson B. Williams, Markus J. Schwab and A. Brauer examined disturbances in sediment depositions to identify two earthquakes: one large earthquake in 31 B.C.E., and another, smaller quake between 26 and 36 C.E. In the abstract of their paper, the authors write, "Plausible candidates include the earthquake reported in the Gospel of Matthew, an earthquake that occurred sometime before or after the crucifixion and was in effect 'borrowed'

by the author of the Gospel of Matthew, and a local earthquake between 26 and 36 AD that was sufficiently energetic to deform the sediments at [Ein Gedi](#) but not energetic enough to produce a still extant and extra-biblical historical record. If the last possibility is true, this would mean that the report of an earthquake in the Gospel of Matthew is a type of allegory.”

The geologists compared their findings with Biblical information, including the chronology of the reign of [Pontius Pilate](#), the Gospels’ accounts of the crucifixion occurring on a Friday evening, and the Synoptic Gospel account that Jesus died just before Passover on the 15th day of Nisan. Using this Biblical information in conjunction with the geological report, the author of the Discovery News story reasoned that Friday April 3, 33 C.E. is the most likely date of the crucifixion.^{***} While there are no direct extant archaeological artifacts relating to Jesus’ crucifixion, the disturbances in soil deposition may reflect the earthquake described by Matthew. This quake, occurring during Jesus’ crucifixion, would have been too minor to be described by non-Biblical histories, but major enough to terrify the surrounding centurions.

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