Ancient records shed light on Italian earthquakes (Aquila area)

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When a damaging earthquake struck the area of L'Aquila in central Italy in 2009, it was the latest in the region's long history of strong and persistent quakes. The rich recorded history of settlement in the area, along with oral traditions, archaeological excavations, inscriptions and medieval texts, and offer insight into how often the region might expect destructive earthquakes. But according to a new study by Emanuela Guidoboni and colleagues, the historical record on ancient and medieval earthquakes comes with its own shortcomings that must be addressed before the seismic history of L'Aquila can be useful in assessing the current seismic hazard in this area.

To illustrate some of these potential gaps in knowledge, the researchers combed through written records and information from archaeological excavations, covering the period from ancient Roman occupation in the first century A.D. to the late Middle Ages of the 15th century A.D. The authors say, researchers must piece together information ranging from collapsed roofs within an ancient Roman city, to the evidences of rebuilding damaged baths and cisterns. In later years, better written records offer more detail on the specific location and size of earthquakes occurring in 1349, 1456, and 1461 (a long seismic sequence).

The authors say that the early to middle Middle Ages, in particular, have a dearth of information that needs to be addressed to have a more complete picture of the region's seismic history. Overall, the records confirm that the region appears to have been host to a high number of strong earthquakes. The authors also point out a tendency in the area to produce multiple and nearly simultaneous seismic events that vary considerably in their impact.

As Guidoboni and her colleagues note, the earthquakes have had a strong influence in the region's economy and culture. It is a impact that can be seen clearly in the historical records, such as a written account of a large earthquake in 1315. During that quake, warring factions in the town came together after they "were struck with fear at the strong shaking when a frightening earthquake soon afterwards struck that place in a terrible way," the official account says, "and they abandoned their wrongdoing and returned to the narrow path of their conscience."


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