

= 1755 Cape Ann earthquake =

The 1755 Cape Ann earthquake took place off the coast of the British Province of Massachusetts Bay ( present @-@ day Massachusetts ) on November 18 . At between 6 @.@ 0 and 6 @.@ 3 on the Richter scale , it remains the largest earthquake in the history of Massachusetts . No one was killed , but it damaged hundreds of buildings in Boston and was felt as far north as Nova Scotia and as far south as South Carolina . Sailors on a ship more than 200 miles ( 320 km ) offshore felt the quake , and mistook it at first for their ship running aground . Many residents of Boston and the surrounding areas attributed the quake to God , and it occasioned a brief increase in religious fervor in the city . Modern studies estimate that if a similar quake shook Boston today , it would result in as much as \$ 5 billion in damage and hundreds of deaths .

It is possible that the Cape Ann earthquake may have been remotely triggered by a larger earthquake in Lisbon , Portugal , a few weeks prior , although there is not enough evidence to prove that they are linked .

= = Epicenter = =

The earthquake took place on November 18 , 1755 , at approximately 4 : 30 AM . Its epicenter is believed to have been offshore , approximately 24 miles ( 39 km ) east of Cape Ann . The quake was felt as far north as Halifax , Nova Scotia , south to the Chesapeake Bay and South Carolina , and from Lake George and Lake Champlain in the northwest to a ship 200 miles ( 320 km ) off the east coast . Sailors on the ship reported that the quake was so strong , they had feared that they had run aground . The region experienced several aftershocks , the first of which was a little more than an hour after the quake . Most of these aftershocks could not be felt in Boston , affecting only the northeastern coast of the colony .

Modern research has estimated that the quake was between 6 @.@ 0 and 6 @.@ 3 on the Richter scale , and the United States Geological Survey lists it as the largest earthquake in the history of Massachusetts . Scientists are unclear on the causes of this and other quakes in the northeastern United States . There are a number of old faults in the region , but none of them are known to still be active . It is possible that the Cape Ann earthquake may have been remotely triggered by a larger earthquake in Lisbon , Portugal , a few weeks prior , although there is not enough evidence to prove that they are linked .

= = Damage = =

Boston and Cape Ann were the most heavily damaged . In Boston , damage was concentrated in areas of infill near the harbor ; infill is less sturdy in earthquakes than solid land . From 1 @,@ 300 to 1 @,@ 600 chimneys in the city were damaged in some way , the gable ends of some houses collapsed , and a number of roofs were damaged by falling chimneys . Stone chimneys and buildings were damaged in Falmouth ( present @-@ day Portland , Maine ) , Springfield , Massachusetts , and New Haven , Connecticut , as well . Some church steeples in Boston were damaged , ending up tilted from vertical . Stone fencing in rural areas was damaged . Observers also reported that several springs dried up , new ones were created , and cracks appeared in the ground near Scituate , Lancaster , and Pembroke . In this last town , observers noted water and fine sand coming from the crack . Non @-@ structural damage was minor ; residents reported damage to china and glassware , and a distiller lost some of his product after a cistern was damaged . The Cape Ann earthquake may also have created the first recorded tsunami in U.S. history . Observers in the Leeward Islands nearly 1 @,@ 000 miles ( 1 @,@ 600 km ) south of Cape Ann , reported a receding of water followed by a large wave that lifted several boats ashore and left fish floundering on the beach .

= = Legacy = =

Many Massachusetts residents of the time perceived the quake as punishment from God for immoral behavior . In the days after the earthquake , special prayer services were held and civic authorities declared fast days . A number of sermons and other writings were published as a consequence , including Jeremiah Newland 's Verses Occasioned by the Earthquakes in the Month of November , 1755 and Thomas Prince 's Earthquakes the Works of God and Tokens of his Just Displeasure . Not all explanations of the event were theological ; John Winthrop , a Harvard professor , proposed an alternate explanation having to do with heat and chemical vapors inside the surface of the earth .

Since the 1755 earthquake , Boston and its surrounding towns have become a major metropolitan area . Much new construction has been built on infill , especially in the Back Bay area , which may be prone to greater shaking and to compaction of the sand and gravel used as fill . Many older buildings in the Boston area are built from stone and brick , and are likely to collapse completely during a major earthquake . Given this , modern observers have expressed concern about the effects of another quake in such a major city . A 1990 study by the Massachusetts Emergency Management Agency estimated potential financial losses at between \$ 4 billion and \$ 5 billion , and potential loss of life in the hundreds . As a consequence , the state has updated building codes and zoning laws to require that new construction and additions in vulnerable areas be built to resist earthquakes .

Opposition to the Seabrook Station Nuclear Power Plant , about 15 miles off Cape Ann on the New Hampshire shoreline , highlighted the earthquake risk of the area . The plant was built regardless .