

Severe storm reports of the 17th century: Examples from the UK and France

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(Dated: May 1, 2013)

I. INTRODUCTION

In this work we survey reports on selected severe storms of the 17th century. Specifically, we investigate a severe storm which was accompanied by a ball lightning phenomenon in Cornwall (UK) in 1640. The “fiery Ball”, which reportedly made a “ter[r]ible sound”, entered the church, broke stones and smashed windows. It made holes in stone walls and injured about 14 people. Furthermore, we report on a 1672 storm in Bedford (UK) that tore down houses, blew down stone walls and uprooted trees. We also examine two severe thunderstorms that tore off roofs and uprooted trees in Oxfordshire (UK) and Blois (F) in 1680. In Oxfordshire, hailstone killed farm animals, and later lightning caused a fire, which damaged houses and burned down barns. In Blois, houses were torn down by the wind, eight parishes were ruined by hail (hailstone were the size of a “man’s fist”). Furthermore, houses were damaged and glass windows were shattered. Based on various primary sources, we discuss the impact of these severe storms on society. Moreover, we briefly discuss how people perceived atmospheric phenomena like storms, tornadoes, and hail. Finally, we discuss selected key issues of investigating historical severe storms.

II. THE SEVERE STORM AT ANTHONY (CORNWALL) IN 1640

Carew and Bache (1640) describe a severe storm and a ball lightning which raged over Anthony (Cornwall) on Whitsunday[1] in 1640. The focus of the tract is on a “fiery ball”. It reportedly occurred in the church of Anthony during the holy mass which about 200 people attended. The report states that some people were hit by the ball lightning and got burned. A few lost their senses and speech, but they recovered soon thereafter (Carew and Bache, 1640, p. 10). The ball lightning broke into pieces with a horrible noise that sounded like “divers Canons shot off at an instant to make one single terrible report” (Carew and Bache, 1640, p. 8f); it was not perceived “till the Ball of Fire was seene to break in pieces” (p. 9). It is reported that the church “seemed to shake”. “Lyme” fell on the people and covered them with white dust. No person was severely injured.

Carew and Bache (1640, p. 9) draw a parallel of the 1640 storm to another ball lightning phenomenon in Widecombe in the Moor (Devonshire) which had occurred two years earlier in 1638 (see Pfeifer and Pfeifer, 2011). Many people remembered the uprooting of the church of “Whiticombe”, and feared that such an event would happen again (p. 9).

One person was allegedly even healed by the lightning:

“William Sargent [...] was stricken on the chine, as seemed to him with a bullet: the blow was so grievous, as that hee thought his body had beeene cut in two peeces; yea such was the violence of the blow, that it caused his water forthwith to issue from his body; and for a time lost his sight and sen[s]es, but soone recovered them again; which *Sargeant* for two or three yeares before feeling oftentimes a great paine in his chine, was hereby so cured, as that hee felt no paine there since.” (Carew and Bache, 1640, p. 4f)

There was only a little damage outside the church, including some churned up ground and dead horses (“for the space of three or foure foot” it was “turned as with a Plough”; Carew and Bache, 1640, p. 11). Moreover, some buildings were damaged: “seven or eight holes and rents in the walls of our Tower; some on the inside, some on the outside, and made impressions on the stones thereof in divers places” (p. 11).

Vicars (1643, p. 49) mentions the storm of 1640: “thunder and lightning, and most violent winds” laid waste to three churches in the county of Kent (Mitcham, Greenhith, and Stone; see Figure 1). However, he does not give further details. The illustration most likely depicts the three Kent churches, but probably does not show the St. Anthony church.

The occurrence of the calamity was seen as a sign of God’s benevolence, which—so Carew and Bache claim—should be remembered in the future: “And withall more particularly, that it may be an everlasting memorall of Gods goodnesse to the people of the place and Parish where it hapned; because therein God did so mingle terrour with Mercy, as that wee must ever acknowledge our selves infinitely bound to our most gracious God” (Carew and Bache, 1640, p. 19).

III. SEVERE STORM AT BEDFORD IN 1672

According to a tract, which is based on reports of “several Ey-witnesses”[2], a severe thunderstorm occurred in Bedford on August 19 in 1672 around one o’clock in the afternoon and lasted for about half an hour (Mithnal et al, 1672, p. 3f). It began with “a great Darkness” and was “accompanied with extraordinary Claps of Thunder and Lightning” (p. 8).

The tract describes severe impacts on the vegetation: A “great tree” was carried through the air “as if it had been a bundle of Feathers” (p. 4). Moreover, “[i]n one of our Gardens it rent up the Onion and Reddish Beds by the Roots with an incredible violence carrying them almost two Miles” (p. 4). A large apricot tree was plucked up by the roots: it was taken from a “wall to which it was nailed, and [the tree was] carried [...] away] almost a quarter of a Mile” (p. 4). Much of

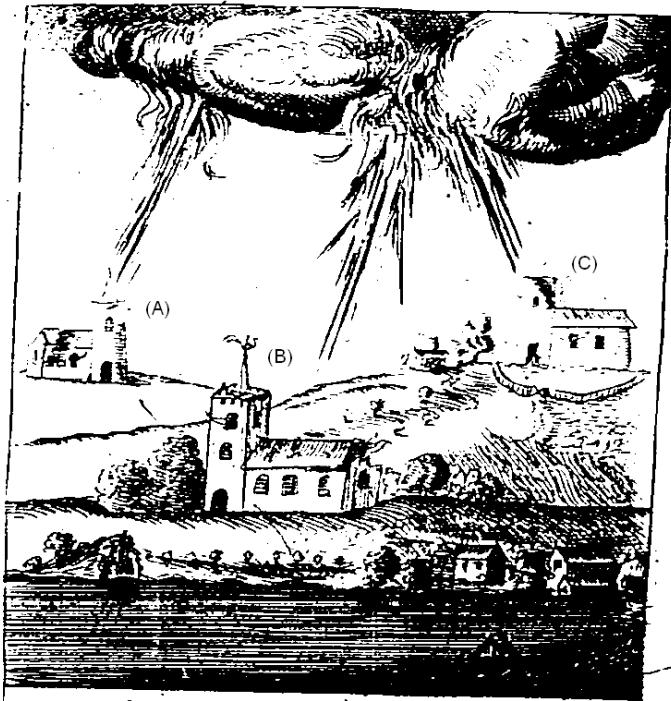


FIG. 1: Illustration of the storm that hit churches (A, B, C) described by Vicars. “*Mitcam and Greenhith in Kent also Stone church, all fearefully defaced with lightning and thunder, the January following And S^t Anthonies Church in Cornwall, Anno Dom: 1640*”. (Adapted from Vicars (1643, p. 40)).

the fruit of many fruit trees was “blown into a Meadow on the other side of the River Owse” (p. 7). Several great trees were “plucked up [...] by the Roots” (p. 4). Many branches of trees were broken and blown away (p. 5): as trees were also uprooted, we assume that not only weak but also healthy and strong branches were broken.

Damages on buildings include the break down “much of a great Stone Wall” (p. 4). Another stone wall was “blown down, and [made] such breaches [...] that two Cards a breast might go thorow” (p. 7). Many roof tiles were blown down (p. 6). Moreover, two houses were destroyed “in an instant” (p. 4). Gates of several inns were thrown off the hinges (p. 4f). The churches of Saint Peter and Saint John were “much damnified” (p. 5). The storm clapped the door and the furnace door of a brewery together with great force. The tract discusses the risk of fire being whirled “from under the Furnace” to set fire on the roof of the brewery (p. 6). Such a fire—according to the tract—could set “many more Houses of the Neighborhood” on fire as well (p. 6). However, people managed to quench the fire speedily with water.

“Sieves, Pales and other Wooden Ware” were driven up and down the streets, causing a lot of noise (p. 5). Five miles away, in the town of “Liddlington [...] two Hay-Cocks [...] were] turned upside down and carried away”. In the town of “Wooburne [...] some Houses [...] were] levelled with the Ground” by the storm (p. 6).

People did not know where to hide and were aware of the great danger (p. 6). The tract points out in a postscript,

that—apart from one man who “was hurt with a piece of a Timber”—the storm “did not much harm upon any person” (p. 7).

IV. SEVERE STORMS AT LONDON, OXFORDSHIRE, AND BLOISE IN 1680

An anonymous tract of 1680 reports on a severe storm that raged over a town in Oxfordshire. It was so severe contemporaries “seldom or never heard of [anything comparable] in England” (Anonymous, 1680, p. 3). About eleven o’clock in the morning an “incredible Storm of Hail [...] started] by assistance of a strong East-wind” (p. 3). The hailstone “rebounded Three Foot high from the Ground” (p. 4). The hail was followed with a “terrible shower of Rain” (p. 4). During the rain, the inhabitants tried to save their sheep, lambs and cattle (p. 4). “Huge and frequent” flashes of lightning struck from the sky and burnt down several barns. Houses were also set on fire but could be “quenched without doing any considerable damage” (p. 4). A frightened teenager tried to find shelter in a mill. Instead of letting him enter the mill, the miller mocked the teenager because he feared the storm. Suddenly, a bolt of lightning struck the teenager half dead. The miller went to rescue him and got struck as well (p. 4).

Anonymous (1680) mentions another tract on a severe storm that raged over Blois in France. Blois was hit around one o’clock in the morning. It damaged two churches and two houses (p. 4). The residents ran into their arched cellars and were buried when the houses collapsed. After the storm, the “Rubbish” was removed and the residents were “drawn out alive” (p. 5).

The severe storm in Blois was accompanied by a severe hail storm. Hailstone were “found as [being] as big as a Mans Fist” (p. 5). The hail destroyed “Glass Windows all over the Town as if they had been beaten in a Mortar” (p. 5). Apart from Blois, eight whole parishes were demolished by the hail. It “seemed as if no Corn had been sown, or Vines planted there” (p. 5.).

A Protestant church was preserved (even the glass was not broken), which was attributed to God’s mercy (p. 5). Moreover, the tract points out that no person was harmed. This is explained in the tract by the fact that the contemporaries remained safely in their houses, as the storm occurred during the night (Anonymous, 1680, p. 5).

The tract also describes a severe storm that hit London on May 18 about two o’clock in the morning. It began with “very large Hail, and extraordinary violent and hasty Show[e]rs of Rain” (p. 6). About ten o’clock in the morning “a strange and unusual darkness” overspread the sky (p. 6). Immediately after this darkness, hailstone of between four and six inches in perimeter, some of them measuring even up to nine inches in perimeter were found on the ground (p. 6f). The hailstorm “continued not above a quarter of an hour”, otherwise much more damage would have been expected (p. 7). Some hailstone were found to be as “big as Pullets Eggs, and some larger”. The shape was mostly round, but also “square and flat with very sharp Edges” (p. 7).

V. CONCLUDING REMARKS

We have described historical severe storms in England and France. Modern tornado scales are often hard to apply to measure the intensity of historical tornadoes. Historical sources provide sparse damage indicators. Moreover, although intensity indicators based on vegetation damages may be adapted, the scale needs to be modified with respect to the damage indicators based on buildings. Strip malls, automobile showrooms, or transmission lines are 20th-century rather than early modern structures.

Naturally, severe storms caused fear in early modern times. How did contemporaries cope with the calamity? In a nutshell, the tracts describe the following coping strategies: extinguishing fire, saving their sheep, lambs and cattle and finding shelter in cellars.

VI. ACKNOWLEDGMENTS

Niki Pfeifer is supported by the Alexander von Humboldt Foundation.

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[1] Whitsunday is the seventh Sunday after Easter. According to Maclean (1882) this was May, 24 in 1640.

[2] Seven persons are listed with their names at the end of the tract.