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THE IMPACT OF CLIMATE CHANGE ON WITCH TRIALS: MYTH OR REALITY? THE EXAMPLE OF ROYAL PRUSSIA IN THE SIXTEENTH–EIGHTEENTH CENTURIES

Abstract: The early modern period was also a period of a ‘little ice age’. The sudden fluctuations in climatic conditions that occurred at the time greatly impacted the everyday living conditions of all people of Europe. They also affected, though not to the same degree in all European regions, the perception of the activities of alleged witches.

Key words: little ice age, early modern period, witch hunt, Royal Prussia, daily life.

The early modern period (sixteenth–seventeenth centuries) was a period of extremely long and cold winters, springs with flooding and frost, rainy summers, and windy autumns. However, there would also be, unexpectedly, hot summers and thunderstorms. Today, the era of substantial fluctuations in climatic conditions¹ occurring in that period is described as a ‘little ice age’.² The term was proposed in the late 1930s by the American scholar François E. Matthes (1875–1949). As he researched American glaciers, Matthes noticed that between the late thirteenth and mid-nineteenth century, the glaciers expanded considerably and, consequently, began to influence climate. He called this period of intensified activity of glaciers the ‘little ice age’ to distinguish it from the ‘big ice age’ during the Holocene.³ The latest research indicates that

¹ I use the term ‘fluctuations of climatic conditions’ after Adam Izdebski, ‘Wahania warunków klimatycznych jako katalizator zmiany społecznej w społeczeństwach historycznych’, *Studia Geohistorica*, 7, 2019, pp. 7–16 (p. 8).

² The term ‘little ice age’ (Polish: *mała epoka lodowcowa*) also appears in Polish literature on the subject. See: Rajmund Przybylak, ‘Zmiany klimatu Polski i Europy w ostatnich stuleciach’, *Kosmos: Problemy nauk biologicznych*, 57, 2008, 3–4, pp. 195–208 (p. 196).

³ Wolfgang Behringer, *Kulturgeschichte des Klimas: Von der Eiszeit bis zur globalen Erwärmung*, 4th edn, Munich, 2014, p. 119. Holocene = younger post-glacial epoch, which began approximately ten thousand years ago and still continues.

it began before 1500, with its first stage lasting until the turn of the eighteenth century and the second occurring in the nineteenth and early twentieth century.⁴

The term ‘little ice age’ was introduced into scholarship in the mid-1950s on a broader scale by Gustaf Utterström (1911–85), a Swedish historian researching economic history. He suggested that the economic and demographic problems occurring in Europe in the sixteenth and seventeenth centuries might be explained by the worsening of the climatic conditions at the time. He added, however, that it was not his intention to suggest that climate could be a universal explanation for all the ills of that era.⁵ His article (published in 1955) was also one of the first texts, the title of which featured the terms early modern history and climatic fluctuations. The term early modern history had just been coined — it emerged in the 1940s in the United States to denote a period between the late Middle Ages and the modern period, that is, the end of the fifteenth and end of the eighteenth century.⁶

Utterström’s proposal was not well received. One of its critics was the renowned French historian Emmanuel Le Roy Ladurie, who rejected his Swedish colleague’s idea to explain the crisis of the seventeenth century by referring to climate-related reasons. However, Ladurie soon began to use this explanation in his own studies.⁷ With time more and more historians studying the early modern period came to take into consideration the role of climatic fluctuations in their research, with some believing them to have been the most essential factor in the political, economic and cultural changes taking place at the time, primarily in the seventeenth century.⁸

Historical climatologists agree that the coldest stage of the little ice age occurred in 1560–1630. This stemmed from the fact that the years 1568, 1569 and 1573 were marked by increased volcanic activity, which affected climatic fluctuations,⁹ with cold winters in Central Europe being caused by the fact that a strong high-pressure system over Scandinavia

⁴ Przybylak, ‘Zmiany klimatu Polski’, p. 199.

⁵ Gustaf Utterström, ‘Climatic Fluctuations and Population Problems in Early Modern History’, *Scandinavian Economic History Review*, 3, 1955, 1, pp. 3–47 (p. 5).

⁶ Krzysztof Mikulski and Jacek Wijaczka, *Historia powszechna: Wiek XVI–XVIII*, Warsaw, 2012, p. 12.

⁷ Emmanuel Le Roy Ladurie, ‘Histoire et climat’, *Annales ESC*, 14, 1959, pp. 3–34 (pp. 3–4); idem, *Times of Feast, Times of Famine*, New York, 1971.

⁸ See: for example Geoffrey Parker, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century*, New Haven and London, 2013.

⁹ Hubert H. Lamb, ‘Volcanic Dust in the Atmosphere; with a Chronology and Assessment of its Meteorological Significance’, *Philosophical Transactions of the Royal Society of London, Series A: Mathematical and Physical Sciences*, 266, 1970, 1178, pp. 425–533 (pp. 500–01).

for several weeks blocked the Atlantic atmospheric low-pressure system, thus causing the inflow of masses of cold Arctic air.¹⁰

The fact that in the mid-sixteenth century, something began to change in nature was evident to the contemporaries, all the more so given that the changes had been 'foretold'. The year 1560 was marked by frequent appearances of 'fiery rays' or polar lights in the sky in Central Europe. They were seen seven times in Switzerland that year and sixteen more over the following two decades.¹¹ In the winter of 1570/71, Zurich newspapers reported heavy snowfalls (many people froze to death at the time) accompanied by low temperatures, which caused Alpine lakes to freeze. Hermann Weinsberg (1518–97), a Cologne councillor, noted in his memoirs that snow had been falling so heavily since Christmas 1570 that he had never seen so much snow in his life. The snowbanks were almost of human height. Some streets in the city remained impassable even shortly before the beginning of Lent. In others, the snow formed an embankment from behind, which could not be seen on the other side of the street. In 1590, the Rhine froze over near Cologne for the first time in a century. The unprecedented low temperatures led to lifestyle changes. Because of a fuel shortage, meals would be eaten in small rooms, not in large ones as before. Weinsberg had to get used to sleeping in fur-lined woollen clothes and a nightcap.¹²

The cold was felt in Southern Europe as well. On 18 May 1590, Marco Antonio Martinengo, the owner of Villachiarà, situated south-west of Brescia, wrote to the alchemist Marco Bragadino, a resident of Padua, in which he reported that 'God revealed to us his wrath, sending an eternal winter onto us so that we have to suffer from cold even in our homes and have to wear furs indoors'.¹³

Sometimes the sun would only sporadically peek from behind the clouds. Consequently, in 1569 Johannes Garaceus, a student of Philip Melancthon, observed reflectively that the sun had lost much of its earlier power, like an older man who lost his strength towards the end of his life. Thus the world was plunged into a bitterly cold era. The Saxon preacher Ambrosius Taurer (d. *circa* 1591) noted that the sun was increasingly hiding behind dark clouds and disappearing for long

¹⁰ Christian Pfister and Rudolf Brázdil, 'Climatic Variability in Sixteenth-Century Europe and Its Social Dimension: A Synthesis', *Climatic Change*, 43, 1999, pp. 5–53 (p. 26).

¹¹ Wolfgang Behringer "'Kleine Eiszeit' und Frühe Neuzeit", in *Kulturelle Konsequenzen der 'Kleinen Eiszeit'*, ed. Wolfgang Behringer, Hartmut Lehmann and Christian Pfister, Göttingen, 2005, pp. 415–508 (p. 429).

¹² *Ibid.* pp. 430–31.

¹³ Quoted after *ibid.*, p. 432.

periods as if never meant to return again.¹⁴ The Lutheran theologian and superintendent of Saxony, Polycarp Leyser the Elder (1552–1610), said in a speech delivered in 1605 in Torgau that not only had the amount of food decreased but also the price of everything had doubled. There were not enough animals in barns, fewer and fewer fish in rivers and lakes, and the same went for birds in the air, with burghers and peasants becoming poor.¹⁵

The latest research provides us with much more information about the fluctuations in climatic conditions in the early modern period than the contemporaries had at their disposal. We know unusually wetter springs occurred in Europe in the early seventeenth and the first half of the eighteenth century. On the other hand, wetter summers were observed from around 1570 until around 1680 and in 1748–80. Springs and summers with extreme rainfalls were recorded in the seventeenth century, but the century was also marked by the driest years in the era — in 1666 and 1669.¹⁶

During the ‘little ice age’, witch trials were held in Europe on a large scale,¹⁷ with around fifty thousand individuals, primarily women (around 80%), being condemned to death.¹⁸ From the beginning of the twentieth century, attempts were made in literature on the subject to find an explanation for why witch hunting in the early modern era took on such proportions. In the early 1990s, the German historian Wolfgang Behringer formulated a thesis according to which the little ice age, or the climatic fluctuations occurring at the time, influenced European witch trials.¹⁹ Comparing the chronology of witch trials in several states, Behringer noted that they were held at the same time in France, Scotland, Switzerland and Germany. He concluded that all waves of witch hunts were linked to food crises (existential crises), the result of long-term extreme weather phenomena. One of the primary accusations in witch trials in Western Europe was the accusation levelled at the alleged witches of ‘ruining’ weather utilizing witchcraft.²⁰ Changes in weather patterns began to be attributed to

¹⁴ *Ibid.*, p. 433.

¹⁵ *Ibid.*

¹⁶ Przybylak, ‘Zmiany klimatu Polski’, p. 200.

¹⁷ The literature on the subject is vast; worthy of note among the recent publications are Julian Goodare, *The European Witch-Hunt*, New York and London, 2016; Stephan Quensel, *Hexen, Satan, Inquisition: Die Erfindung des Hexen-Problems*, Wiesbaden, 2017.

¹⁸ Goodare, *The European Witch-Hunt*, p. 411.

¹⁹ Wolfgang Behringer, ‘Das Wetter, der Hunger, die Angst: Gründe der europäischen Hexenverfolgungen in Klima- Sozial- und Mentalitätsgeschichte: Das Beispiel Süddeutschlands’, *Acta Ethnographica Hungarica*, 37, 1991/92, 1–4, pp. 27–50 (p. 34); *idem*, *Hexen. Glaube, Verfolgung, Vermarktung*, Munich, 1998, p. 68.

²⁰ Wolfgang Behringer, ‘Weather, Hunger and Fear: Origins of the European

witches, the devil's associates, which explained the appearance of harsh winters, hot summers, gales, hurricanes, with snow and frost in May.²¹ This was the explanation provided, for example, for anomalies like the one from 1626, when on 24 May, walnut-sized hailstones were recorded near Stuttgart, followed two days later by an icy wind and frost on the night of 26/27 May. That night vine, rye, and barley crops were utterly destroyed, while leaves on trees turned black. According to Behringer, these events and the ensuing crop failure, cattle diseases, price increases, and epidemics led to accusations of witchcraft and trials in the area in the following years.²²

When presenting his hypothesis, Behringer noted that synchronizing existential crises and witch hunts should not be interpreted as a deterministic relationship. Another critical factor shaping the dynamics of witch hunting, alongside climate, was a radical transformation of mentality after 1560 towards a gloomy, depressing worldview shared by the elites of the day, who were also affected by the changes in climate and economy (such as inflation and the resulting fall in incomes). There emerged a widespread belief that witches ruin the weather with the help of the devil in order to destroy crops in the fields and thus ruin the Christians.²³ Therefore, it was no coincidence that witch hunting in Europe peaked during the most extensive crop failures caused by climate change. The crop failures, in turn, brought about inflation, economic crisis, and famine.²⁴

According to Behringer, famine and diseases throughout Europe spread simultaneously in years of adverse weather conditions. Therefore, this can be the basis for explaining the synchronized nature of persecutions in distant regions like Scotland and Bavaria.²⁵ The scholar added, however, that there was no automatic link between the years of agricultural crisis and witch hunting, as periods of recession always happened from time to time, though without bringing about witch trials.²⁶

Witch-Hunts in Climate, Society and Mentality', *German History*, 13, 1995, 1, pp. 1–27. See also idem, 'Climatic Change and Witch-Hunting: The Impact of the Little Ice Age on Mentalities', *Climatic Change*, 43, 1999, 1, pp. 335–51.

²¹ Christian Pfister, 'Climatic Extremes, Recurrent Crises and Witch Hunts: Strategies of European Societies in Coping with Exogenous Shocks in the Late Sixteenth and Early Seventeenth Centuries', *The Medieval History Journal*, 10, 2007, pp. 33–73 (p. 61).

²² Wolfgang Behringer, *Witches and Witch-Hunts: A Global History*, Cambridge, 2004, p. 114.

²³ Behringer, 'Weather, Hunger and Fear', p. 21.

²⁴ Behringer, "'Kleine Eiszeit'", pp. 415–508.

²⁵ Behringer, 'Das Wetter, der Hunger, die Angst', p. 34.

²⁶ *Ibid.*, p. 35.

The decisive factor was a change in the mode of thinking and worsening economic conditions.²⁷

The Swiss climatologist Christian Pfister, who agrees with Behringer's belief in the significant impact of climate change on the rise in the number of witch trials,²⁸ has established that Switzerland as well as entire Central Europe experienced particularly cold and wet years in 1560–74, 1583–89, 1623–28, 1684–98 and 1763–71.²⁹ According to Pfister, these coincided with years in which the number of witch trials was particularly high, as he demonstrates in a graph (Fig. 1).

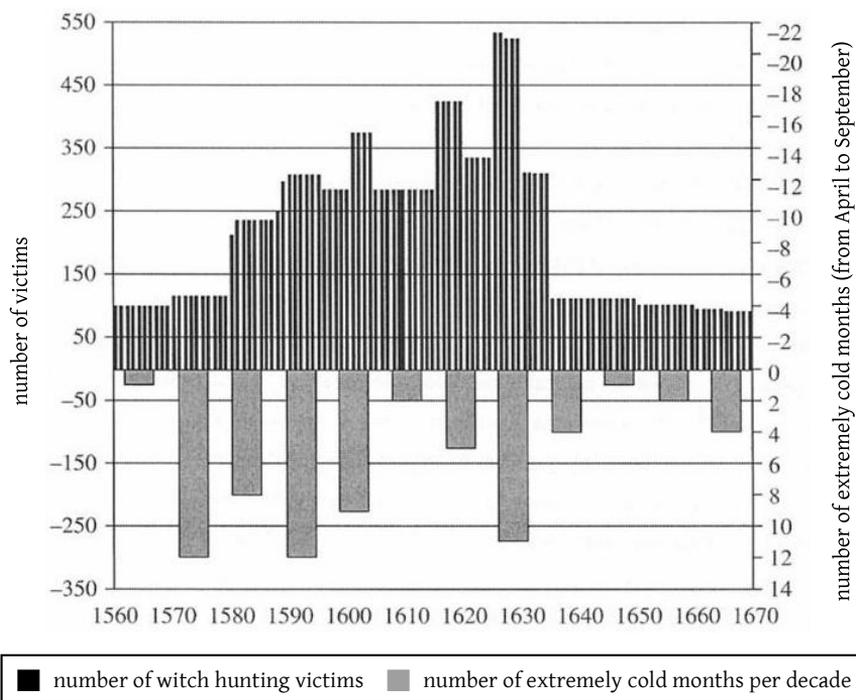


Figure 1. Average number of witches and number of cold anomalies per decades in summer months (from April to September) in Central Europe (1560–1670).

Source: Pfister, 'Climatic Extremes', p. 64.

²⁷ Emily Oster, 'Witchcraft, Weather and Economic Growth in Renaissance Europe', *Journal of Economic Perspectives*, 18, 2004, 1, pp. 215–28 (p. 216).

²⁸ Pfister, 'Climatic Extremes', p. 60.

²⁹ Christian Pfister, *Das Klima der Schweiz von 1525–1860 und seine Bedeutung in der Geschichte von Bevölkerung und Landwirtschaft*, 2 vols, Bern and Stuttgart, 1984, vol. 1, p. 150.

It turns out, however, that the thesis formulated by Behringer does not bear scrutiny in all regions of Europe. Michael Ströhmer has studied in this context the area of the present-day Ostwestfalen-Lippe, concluding that, unlike in Southern Germany, after 1560, it is impossible to find evidence of the direct impact of climate change on the outbreak of witch hunt-associated panic.³⁰

The fact remains, however, that weather witchcraft, that is the ruining of weather, was a classic accusation levelled against witches in Western and Central Europe. This began during the first wave of witch hunting in Germany from 1562.³¹ Nor is it a coincidence that in 1563 there began a discussion between Catholic and Protestant clergymen in the German Empire over whether witches were able to change the weather.

As in Western Europe, where the weather conditions began to worsen in the early 1560s, in the Polish-Lithuanian state, climatic fluctuations and the resulting crop failures, epidemics, hunger, and high prices began to emerge at the same time. As early as the beginning of 1560, winter across Poland was very harsh. Gales raged in spring (for example, in Gdańsk), while incessant rainfalls marked June and July.³² The following year, 1561, brought a dry spell, although winter (1561/62) was mild. This may have been the cause of the abundance of vegetables in 1562.³³ On the other hand, in 1563, snow could be seen as late as June. The situation was similar in 1564 when sub-zero temperatures were still experienced in May. Climate conditions were not kind to Poland in 1565 either, with many rivers overflowing their banks and Royal Prussia suffering from famine and cattle plague.³⁴ In 1567, on the other hand, it rained incessantly from 3 June till 1 July, with the Vistula River overflowing its banks. After four days, the river returned to its channel.³⁵ The following year brought warmer weather, so much warmer, in fact, that, if we are to believe chroniclers, white roses blossomed in Gdańsk on 21 October 1568.³⁶

³⁰ Michael Ströhmer, 'Zauberhafte Donnerwetter — Katastrophismus, Hexenangst und die Klimathese zur Kleinen Eiszeit', *Paderborner Historische Mitteilungen*, 26, 2013, pp. 5–38 (p. 37).

³¹ H.C. Eric Midelfort, *Witch Hunting in Southwestern Germany 1562–1684: The Social and Intellectual Foundations*, Stanford, CA, 1972, pp. 73, 88–89.

³² Antoni Walawender, *Kronika klęsk elementarnych w Polsce i w krajach sąsiednich w latach 1450–1586*, 2 vols, Lviv, 1932–35, vol. 1: *Zjawiska meteorologiczne i pomory (z wykresami)*, 1932, p. 125.

³³ *Ibid.*, p. 126.

³⁴ *Ibid.*, pp. 126–29.

³⁵ *Ibid.*, p. 133.

³⁶ *Ibid.*

The fact that climate change was taking place in Poland at the beginning of the second half of the sixteenth century was confirmed by, for example, Jan Kochanowski, who in his *Pieśń świętojańska o Sobótce* (Saint John's Eve Song), published for the first time in 1586, but written a few years or even a decade or so earlier, wrote:

We are either struck by hailstorms,
Or punished by temperatures that are too warm;
The crops are poorer and poorer every year,
And evil dearth arises.³⁷

As I have already said, the disasters were 'foretold'. In 1563 people living in Royal Prussia frequently saw what they considered miraculous signs, such as naked swords, flames, crosses, and a 'shaking' of the sky — signs believed to herald hard days to come. The signs ceased to appear in Royal Prussia after 19 September 1564; instead, however, an epidemic appeared,³⁸ striking Grudziądz, Malbork and Radzyń Chełmiński, among others. Its victims in Toruń were so numerous that twelve–fifteen carts full of corpses would be driven through the city streets daily. The city council even hired a Jew as the municipal physician,³⁹ hoping that he might be able to stop the epidemic. Fearing hunger-driven unrest, the council decided that the city warehouses should always contain ten lasts of grain that could be handed out if necessary. However, a few years later, it turned out that such a supply was too small to feed the local residents; in 1569, famine struck the city.

More disasters befell Toruń in 1570. The waters of the Vistula River swelled so high that a bridge collapsed; in addition, a stream (the Bach) running through the city overtook its banks, which stopped the mills located by it.⁴⁰ The prices rose again. In 1571 a *szefel* of rye cost a florin (in 1565 — twenty-two *grosze*), a *szefel* of wheat — thirty-six *grosze* (in 1565 — thirty *grosze*), of barley — twenty-two *grosze* (in 1565 — seventeen *grosze*),

³⁷ Jan Kochanowski, *Utwory wybrane*, Białystok, 2002, p. 112.

³⁸ Between 1551 and 1600 there were twenty-nine years with epidemics in Royal (and Ducal) Prussia; Andrzej Karpiński, *W walce z niewidzialnym wrogiem: Epidemie chorób zakaźnych w Rzeczypospolitej w XVI-XVIII wieku i ich następstwa demograficzne, społeczno-ekonomiczne i polityczne*, Warsaw, 2000, p. 311, table 1.

³⁹ *Geschichte Thorns aus Urkunden, Dokumenten und Handschriften*, ed. Julius Emil Wernicke, 2 vols, Thorn, 1842, vol. 2: *Die Jahre 1531-1840 umfassend*, p. 149.

⁴⁰ In 1550–1800 the Vistula River overflowed its banks in Royal Prussia fifty-nine times, most often, twenty-one times, in the second half of the seventeenth century. These were primarily spring floods, Piotr Oliński, 'Wylewy w dolnym biegu Wisły w okresie nowożytnym', *Rocznik Elbląski*, 29, 2019, pp. 77–85 (p. 81).

with only the price of oats remaining on its 1565 level — twelve *grosze* for one *szefel*.⁴¹ The prices in Toruń remained high until 1576.

The plague remained within the territory of the Polish-Lithuanian state for more than a decade (until 1581).⁴² This was also a period of cold and snowy winters, floods, droughts, famine, and cattle plague. Toruń even experienced, on the night of 9 January 1572, a light earthquake, during which ten-pound stones reportedly fell from the sky, killing many people.⁴³ There was also a raging gale and a cloudburst, with litres of rain pouring down. The downpour caused the collapse of nineteen spans of a bridge over the Vistula. Around 200 people on the bridge fell into the river and drowned.⁴⁴

In his description of the conflict between the city of Gdańsk and King Stephen Báthory in 1577, the Elbląg burgher Michael Friedwald (1525–97) wrote that Judgment Day was near, as it was heralded by hailstorms, thunderstorms, lightning and wind.⁴⁵ Friedwald also believed it was a time of witches and that the people of Gdańsk were like them in their pride and godlessness.⁴⁶ It should be noted, however, that one year before that, King Báthory's troops had burned down many villages within Gdańsk's dominion.⁴⁷

In the 1580s, the situation in Royal Prussia was not much better than in the preceding two decades. Although the plague had receded, it was followed by droughts, floods and powerful gales. On 22 November 1582, one of such gales destroyed thousands of trees in the forests belonging to Toruń.⁴⁸ In the winter of 1598/99, the temperatures were so low there

⁴¹ *Geschichte Thorns aus Urkunden*, vol. 2, p. 150.

⁴² Walawender, *Kronika kłęsk elementarnych w Polsce*, pp. 267–91.

⁴³ *Chronik von Königsberg in Pr. (1500–1800)*, ed. Conrad Heinrich Theodor Flögel, Königsberg, [c. 1855], p. 40, informs us that a meteorite weighing twenty thousand hundredweights fell to the ground in Wolfsmühle (Wilczy Młyn) near Toruń.

⁴⁴ Walawender, *Kronika kłęsk elementarnych w Polsce*, p. 142. The Toruń bridge in the sixteenth–seventeenth centuries has recently been discussed by Bogusław Dybaś, 'Die Thorner Weichselbrücke in der Frühen Neuzeit als Herausforderung für die Forschung', *Rocznik Toruński*, 47, 2020, pp. 17–52.

⁴⁵ Significantly, chroniclers wrote less often about droughts, although the second half of the sixteenth century in Royal Prussia was marked by nine droughts of varying intensity, including three extreme droughts; Rajmund Przybylak et al., 'Droughts in the Area of Poland in Recent Centuries in the Light of Multi-proxy Data', *Climate of the Past*, 16, 2020, pp. 627–61 (p. 641), fig. 4.

⁴⁶ *Peter Himmelreich's und Michael Friedwald's, des Löwentödters, Elbingisch-Preussische Geschichten*, ed. Max Toeppen, Leipzig, 1881, p. 260.

⁴⁷ Abraham Hartwich, *Geographisch-historische Landesbeschreibung deren dreyen im Pohlischen Preußen liegenden Werdern, als des Danziger-, Elbing- und Marienburgischen, Königsberg*, 1722, p. 477.

⁴⁸ Walawender, *Kronika kłęsk elementarnych w Polsce*, p. 155.

that nothing could be stored in cellars, with the freezing weather not abating until Lent in 1599.⁴⁹

According to Ryszard Werchracki, in terms of crop failure and plagues, the years 1587–1647 can be divided into two periods of significant disasters: 1587–1603 and 1621–32. The entire decade of 1621–30 in Royal Prussia was also a period of the plague, on a bigger or smaller scale.⁵⁰ Epidemics brought them crop failures, high prices, famine, and associated diseases.⁵¹ Happier times for the local population came in 1604–20 and 1632–47.⁵² Interestingly, in 1604–20, theoretically a happier period, several trials were held in Toruń — in 1606 (two trials), 1607,⁵³ 1608, 1609, 1610 (two trials), and another trial in 1618.⁵⁴ On 7 March 1620, an executioner threw (into the Vistula River) a sack with the wife of the city servant Barthel Koht tied in it. Since no stone was put in the sack, it floated; only near the Dybowski Castle did it finally sink. The woman was punished for cheating on her husband for seventeen years and engaging in witchcraft. Some of her lovers fled Toruń; others were punished in jail (flogging?) and expelled from the city. The adulteress's maid was expelled as well. The drowned woman apparently sold her ten-year-old granddaughter to a certain lecherous nobleman.⁵⁵ Yet nothing specific was written about her witchcraft.

Generally, cold and frigid winters were recorded in the sixteenth–eighteenth centuries in the Polish-Lithuanian state (including Royal Prussia) in the following decades: 1541–50, 1571–80, 1591–1600, 1641–50, 1651–60, 1731–40, 1741–50 and 1771–80.⁵⁶ The most significant number of cold winters was recorded in the second half of the sixteenth century, specifically in 1540–1600.⁵⁷ On the other hand, the most significant

⁴⁹ Jacob Heinrich Zerneck, *Thornische Chronica, in welcher die Geschichte dieser Stadt von MCCXXI bis MDCCXXVI aus bewehrten Scribenten und glaubwürdigen Documentis zusammen getragen wurden*, Berlin, 1727, p. 220; *Geschichte Thorns aus Urkunden*, vol. 2, p. 153.

⁵⁰ Stanisław Hoszowski, 'Klęski elementarne w Polsce w latach 1587–1648', in *Prace z dziejów Polski feudalnej ofiarowane Romanowi Grodeckiemu w 70 rocznicę urodzin*, Warsaw, 1960, pp. 453–65 (p. 462).

⁵¹ *Ibid.*, pp. 460–61.

⁵² Ryszard Werchracki, 'Klęski elementarne w Polsce w latach: 1587–1647. I. Zjawiska meteorologiczne, stan urodzajów i pomory bydła. — II. Mory', *Sprawozdania Towarzystwa Naukowego we Lwowie*, 18, 1938, 3, pp. 321–26 (p. 326).

⁵³ State Archives in Toruń (hereinafter: AP Toruń), loose records of the city of Toruń, no. 9137, p. 44.

⁵⁴ AP Toruń, Toruń city records, Catalogue II; records and files, no. VIII-14 (Die zu Thorn verhängten Criminal-Strafen 1558 bis 1697: Register), pp. 10, 32, 43, 77, 79, 106.

⁵⁵ Zerneck, *Thornische Chronica*, p. 261.

⁵⁶ Rajmund Przybylak et al., 'Zmienność warunków termiczno-opadowych w Polsce w okresie 1501–1840 w świetle danych historycznych', *Przegląd Geograficzny*, 76, 2004, 1, pp. 5–31 (p. 16); Przybylak, 'Zmiany klimatu Polski', p. 202.

⁵⁷ Przybylak et al., 'Zmienność warunków termiczno-opadowych', p. 19.

number of hot summer seasons was recorded in 1580–1640.⁵⁸ Extremely wet and very wet summers were recorded in 1501–10 and 1561–70.⁵⁹ Hot summers in Poland-Lithuania occurred in the following decades: 1551–60, 1581–90, 1611–20, 1631–40, 1661–70.⁶⁰

Let us see whether witch trials in Royal Prussia coincide with these decades.⁶¹ It should be noted, however, that — unfortunately — we lack a comprehensive study of witch hunting in Royal Prussia in the early modern period.⁶² Consequently, we do not know the precise number of witch trials in the province in the sixteenth–eighteenth centuries. Moreover, most records associated with these trials have not survived, which is why some are known only from brief references. Thus, we do not know, for example, the course of witch trials held in Toruń in the sixteenth and seventeenth centuries because the so-called *Blutbuch*, where witchcraft cases were most likely recorded, was lost (or was destroyed) in 1686.⁶³ A lack of sources is why we know nothing about these trials in Elbląg. Nor do we know the details of witchcraft-related proceedings before two courts of assessors in Gdańsk. We know the dates, names of the accused, generalized accusations, and sentences, but we lack the testimonies and details of the trials themselves,⁶⁴ as information about them has been preserved only in the lists of trials held before these courts. We are in a slightly better situation regarding the source material relating to trials held on the estates belonging to Gdańsk, for almost complete court records of several trials have been preserved.⁶⁵

Thus, our knowledge of the number and course of witch trials in Royal Prussia in the early modern period is not complete, but it is extensive enough to generalize and formulate some hypotheses. There have been studies of witch trials held before courts in several Prussian towns, namely

⁵⁸ *Ibid.*, p. 16.

⁵⁹ *Ibid.*, p. 22.

⁶⁰ Przybylak, ‘Zmiany klimatu Polski’, p. 203.

⁶¹ Incidentally, in 2018 two Polish historians studying climate concluded that: ‘Early modern Poland is commonly known as a country without stakes, so we will not be dealing in this chapter with the links between climate and witch burning’; Adam Izdebski and Konrad Wnęk, ‘Historia klimatu Krakowa’, in *Ekobiografia Krakowa*, ed. Adam Izdebski and Rafał Szymotka, Cracow, 2018, pp. 51–87 (p. 55).

⁶² What cannot be regarded as such a study is the short doctoral dissertation of Felix Reich, *Hexenprozesse in Danzig und in den westpreußischen Grenzgebieten*, Munich, 1940.

⁶³ *Geschichte Thornes aus Urkunden*, vol. 2, p. 107. Nothing is known about it after 1686.

⁶⁴ Jacek Wijaczka, ‘Procesy o czary w Gdańsku w XVI–XVII wieku’, *PH*, 110, 2019, 3, pp. 399–417.

⁶⁵ Jacek Wijaczka, ‘“Czarownice” w dobrach miejskich Gdańska w czasach wczesnonowożytnych’, in *Kobiety w Prusach Królewskich*, ed. Wojciech Zawadzki, Pelplin, 2020, pp. 39–54.

Grudziądz, Nowe nad Wisłą, Kowalewo Pomorskie and Gdańsk.⁶⁶ We also have information about trials held in Gniew in the sixteenth century,⁶⁷ Skarszewy in the late seventeenth and early eighteenth century,⁶⁸ as well as Starogard in the first half of the eighteenth century⁶⁹ and several isolated trials in other towns.⁷⁰

In most European countries, the years 1657–1750 were marked by a decline in witch trials.⁷¹ Exceptions include like the Polish-Lithuanian Commonwealth, where the trials reached their peak after 1670⁷² and lasted with great intensity throughout the first half of the eighteenth century.⁷³ At that time, witch trials were also held in Royal Prussia, one of the provinces of the Polish-Lithuanian state. We know, for example, that on 3 August 1678, a witch was burned in a field behind Mokre (a village belonging to the city of Toruń). As the chronicler notes, nothing had been heard about witches in Toruń for a long time.⁷⁴ On 21 January 1698, two witches were executed in Mokre. One was a woman whose name or origin we do not know, and the other was her ten-year-old daughter, who had also been pronounced the devil's accomplice. The mother was burned alive; the girl was ordered to be

⁶⁶ Jacek Wijaczka, 'Procesy o czary przed sądem miejskim w Grudziądzu w XVI–XVII wieku', *Rocznik Grudziądzki*, 18, 2009, pp. 87–101; idem, 'Polowanie na czarownice i czarowników w Nowem nad Wisłą i najbliższej okolicy miasta w XVII i pierwszej połowie XVIII wieku', *Czasy Nowożytnie*, 22, 2009, pp. 119–44; idem, 'Procesy o czary przed sądem sołtysim Kowalewa (Pomorskiego) w XVII–XVIII wieku', *ZH*, 82, 2017, 2, pp. 101–19; idem, 'Procesy o czary w Gdańsku', *passim*.

⁶⁷ V. Meyer, 'Kulturgeschichtliches aus der Stadt Mewe im 16. Jahrhundert, nach dem "Mewer Blutregister"', *Zeitschrift des historischen Vereins für den Reg.-Bezirk Marienwerder*, 51, 1912, pp. 41–68; 52, 1913, pp. 60–84; 53, 1913, pp. 1–39.

⁶⁸ Jacek Wijaczka, 'Procesy o czary przed sądami miejskim i wojewodzińskim w Skarszewach w końcu XVII i w pierwszej połowie XVIII wieku', in *Prusy i Inflanty między średniowieczem a nowożytnością: Państwo — społeczeństwo — kultura: Zbiór studiów*, ed. Bogusław Dybaś and Dariusz Makiła, Toruń, 2003, pp. 81–96.

⁶⁹ Jacek Wijaczka, 'Procesy o czary przed sądem zamkowym w Starogrodzie w pierwszej połowie XVIII wieku', in *Cała historia to dzieje ludzi... Studia z historii społecznej ofiarowane profesorowi Andrzejowi Wyczańskiemu w 80-tą rocznicę urodzin i 55-lecie pracy naukowej*, ed. Cezary Kukło in collaboration with Piotr Guzowski, Białystok, 2004, pp. 291–300.

⁷⁰ Jacek Wijaczka, 'Postępowanie sądowe w sprawie o czary w Toruniu w 1712 roku', *OiRP*, 51, 2007, pp. 199–212; idem, 'Samosąd w sprawie o czary w Czerniewie (dawny powiat tczewski)', *Rocznik Gdański*, 69–70, 2009–10, pp. 37–45.

⁷¹ Brian P. Levack, *Polowanie na czarownice w Europie wczesnonowożytnej*, Wrocław, 1991, p. 203.

⁷² Stanisław Salmonowicz, 'Procesy o czary w Polsce: Próba rozważań modelowych', in *Prawo wczoraj i dziś: Studia dedykowane profesor Katarzynie Sójce-Zielińskiej*, ed. Grażyna Bałtruszajtys, Warsaw, 2000, pp. 303–21 (p. 315); Małgorzata Pilaszek, *Procesy o czary w Polsce w wiekach XV–XVIII*, Cracow, 2008, p. 313.

⁷³ Jacek Wijaczka, 'Procesy o czary w Polsce w dobie Oświecenia: Zarys problematyki', *Klio*, 7, 2005, pp. 17–62; Pilaszek, *Procesy o czary w Polsce*, pp. 322–32.

⁷⁴ Pilaszek, *Procesy o czary w Polsce*, p. 378.

beheaded first. The executioner found the order problematic because of the girl's allegedly 'magical gestures'.⁷⁵

As I have already mentioned, in the eighteenth century, the Polish-Lithuanian state was among those regions in Europe where witch trials were numerous. Significantly, however, in the Enlightenment era in other European countries, too, there were many more witch trials than was assumed in the literature on the subject throughout the twentieth century.⁷⁶ The situation was similar in Royal Prussia. While we know nothing about such proceedings in Gdańsk, in another large Prussian city, Toruń, there were no fewer than nine such trials.⁷⁷

The jury proceedings in Nowe adjudicated in at least twenty-six witch trials in 1624–1747.⁷⁸ The data presented in Table 1 clearly show that most trials, eighteen out of the twenty-six, were held in the city in the early modern period only in the first half of the eighteenth century. Why so late? A decline of local fairs marked the first decades of the eighteenth century in Nowe. However, in the second half of the seventeenth century, they attracted merchants from towns like Chojnice, Elbląg, Gdańsk, Gniew, Grudziądz, Kwidzyn, Malbork, Starogard and Tuchola. In 1701–17 merchants from only three of them, Gdańsk, Gniew and Świecie came to the fairs.⁷⁹ According to Andrzej Pryłowski, such a decline in commercial contacts resulted from events associated with the Great Northern War.⁸⁰

It should be noted, however, that not only warfare and the resulting economic problems affected the town's inhabitants. They also had to face problems relating to violent meteorological phenomena, crop failures, epidemics, and plagues, which struck Royal Prussia in the first half of the eighteenth century (see Table 2).⁸¹

For example, the frost in January and February 1709 was so severe (plus there were heavy snowfalls)⁸² that it destroyed fruit trees in gardens.

⁷⁵ *Ibid.*, p. 403.

⁷⁶ *Späte Hexenprozesse: Der Umgang der Aufklärung mit dem Irrationalen*, ed. Wolfgang Behringer, Sönke Lorenz and Dieter R. Bauer, Bielefeld, 2016, *passim*.

⁷⁷ AP Toruń, Toruń city records, Catalogue II, no. 3744, pp. 111–21; Martina Thomsen, *Zwischen Hauptwache und Stockhaus: Kriminalität und Straffjustiz in Thorn im 18. Jahrhundert*, Marburg, 2005, p. 267, writes about eight such trials, although she gives the dates of only two trials.

⁷⁸ Wijaczka, 'Polowanie na czarownice i czarowników', p. 143.

⁷⁹ Andrzej Pryłowski, *Gospodarka Nowego n. Wisłą w latach 1662–1772: Problemy produkcji i wymiany*, Bydgoszcz, 1978, p. 138, table 51.

⁸⁰ *Ibid.*, p. 174.

⁸¹ Franciszek Jukniewicz, 'Zjawiska meteorologiczne i stan urodzajów oraz pomory w Polsce w latach 1697–1750', *Sprawozdania Towarzystwa Naukowego we Lwowie*, 17, 1937, 1, pp. 63–70.

⁸² The winter of 1709 in Europe was the coldest winter since 1500. On the night of

Table 1. Witch trials before the courts of six towns in Royal Prussia in the sixteenth–eighteen centuries

| Decade | Town | | | | | |
|------------------|--------------|-------------|------------|----------------|------------|-------------|
| | Gdańsk | Toruń | Grudziądz | Nowe nad Wisłą | Kowalewo | Chełmno |
| 1501–1510 | 1 | – | – | – | – | – |
| 1511–1520 | – | – | – | – | – | – |
| 1521–1530 | – | – | – | – | – | – |
| 1531–1540 | – | – | – | – | – | – |
| 1541–1550 | – | – | – | – | – | – |
| 1551–1560 | – | – | – | – | – | – |
| 1561–1570 | 2 | 1 | 1 | – | – | – |
| 1571–1580 | 4 | – | – | – | – | – |
| 1581–1590 | 3 | – | – | – | – | – |
| 1591–1600 | 1 | 2 | – | – | – | – |
| 1601–1610 | – | 7 | – | – | – | – |
| 1611–1620 | 2 | 2 | – | – | – | 1 |
| 1621–1630 | – | – | – | 1 | – | – |
| 1631–1640 | 4 | – | 1 | 1 | – | 5 |
| 1641–1650 | 4 | – | – | 1 | 2 | – |
| 1651–1660 | 1 | – | – | – | – | 1 |
| 1661–1670 | 2 | – | 1 | – | – | 1 |
| 1671–1680 | – | 1 | – | – | 2 | – |
| 1681–1690 | – | – | – | 2 | – | 2 |
| 1691–1700 | 1 | 1 | – | 3 | – | – |
| 1701–1710 | – | – | – | 11 | 1 | – |
| 1711–1–20 | – | 1 | – | 6 | – | – |
| 1721–1730 | – | 1 | – | – | – | – |
| 1731–1740 | – | – | – | – | 2 | – |
| 1741–1750 | – | – | – | 1 | – | – |
| 1751–1760 | – | 1 | – | – | – | – |
| 1761–1770 | – | – | – | – | – | – |
| 1771–1780 | – | – | – | – | – | – |
| Total: | 25/23 | 17/5 | 3/3 | 26/3 | 7/4 | 10/8 |

The numbers in **bold** denote the decades of weather anomalies and the number of trials held at the time.

Source: the author's own research.

Table 2. Meteorological phenomena, crop failures, epidemics, and plagues in (Royal) Prussia in 1701–1750

| Type of phenomenon | Years |
|---------------------------------|---|
| Harsh winters | 1708/09, 1728/29, 1739/40 |
| Spring and summer floods | 1713, 1714, 1717 (Nogat River), 1729, 1736, 1744, 1745, 1748 |
| Hot summers (droughts) | 1702, 1706–1708, 1715, 1718, 1719, 1733, 1739–1740, 1742, 1745, 1748–1749 |
| Heavy rains, hailstorms, storms | 1705, 1706, 1709, 1713, 1715, 1725, 1731 |
| Locust | 1712 |
| Crop failure | 1722 |
| Poor crops | 1740 |
| High prices | 1709 |
| Famine | 1706, 1707 |
| Cheap grain | 1705, 1706, 1721, 1723, 1736 |
| Plague | 1707–1711 |
| Epidemics | 1717 |

Source: Jukniewicz, 'Zjawiska meteorologiczne i stan urodzajów', pp. 63–70.

Birds and animals died.⁸³ Lakes completely froze to the ground, and corn was destroyed by frost in the fields.⁸⁴ When spring came, and temperatures rose, the ground steamed so much that people walking through the streets of Elbląg could barely recognize each other through the mist.⁸⁵ On 6 August 1713, the rivers Vistula and Nogat overflowed their banks in Royal Prussia, flooding all their islets. Not only hay but also crops in the fields were flooded.⁸⁶ On the other hand, the winter of 1723/24 was so mild that as early as January and February 1724, there was no ice on the

5/6 January 1709 masses of extremely cold polar air moved south at 40 km/h, preceded by a rain front. The Adriatic Sea was covered with ice, as was the French coast of the Mediterranean Sea. Fruit trees, vine and olive trees were destroyed by frost; Christian Pfister, 'Von der Hexenjagd zur Risikoprävention Reaktionen auf Klimaveränderungen seit 1500', in *Zwei Grad: Das Wetter, der Mensch und sein Klima*, ed. Petra Lutz and Thomas Macho, Göttingen, 2008, pp. 56–61 (p. 56).

⁸³ Zernecke, *Thornische Chronica*, p. 420; 'Michael Kelch's Tagebuch 1698–1723', ed. Max Toeppen, *Altprußische Monatsschrift*, N.F. 36, 1899, 5–6, pp. 368–413 (p. 379).

⁸⁴ 'Michael Kelch's Tagebuch', pp. 379–80.

⁸⁵ *Ibid.*, p. 380.

⁸⁶ Samuel Wilhelm, *Collectanea: Marienburg in schwerer Zeit: Aufzeichnungen eines preußischen Bürgermeisters zwischen 1696 und 1726: Nach der Auswahl von Robert Toeppen*, ed. Rainer Zacharias in collaboration with Reinhard Wenzel, Frankfurt am Main, 2006, pp. 186–87.

Vistula River, and merchants could float their goods to Gdańsk.⁸⁷ The castellan of Podlasie, Wiktoryn Kuczyński, wrote in his diary:

Then came the year 1724 with its strange winter, for it was too warm, with no snow until late March for a few days. The water level was low, and then on 1 May there came a downpour which caused rivers to overflow their banks. The price [of grain — J.W.] rose to 100 florins at the Gdańsk fairs. And when the waters rose and boats could be launched, one day, 250 boats passed through Toruń during one post.⁸⁸

Witch trials in the first half of the eighteenth century were also held before the court in Skarszewy. We know of four court proceedings held in 1700–20.⁸⁹ Similar trials (three) were also held before the court in Kowalewo Pomorskie, although there were many more accusations of witchcraft in the town, which did not lead to a trial.⁹⁰

When trying to answer the question of whether substantial climatic fluctuations influenced the number of witch trials in Royal Prussia in the early modern period, I used data concerning six Prussian towns (Gdańsk, Toruń, Grudziądz, Nowe, Kowalewo Pomorskie and Chełmno). This is because information about the number and course of court proceedings relating to witchcraft in these towns is the most detailed. In the sixteenth–eighteenth centuries, jury courts in these towns adjudicated at least eighty-eight trials in total, forty-six of which (just over half) came in decades marked by strong climatic fluctuations (see Table 1). Thus it is difficult to conclude unequivocally that the worsening climate led to increased accusations of witchcraft and the number of trials. This is confirmed by trials held in another Prussian town, namely Chełmno, where such trials occurred in 1619,⁹¹ 1638 (three trials),⁹² 1639 (two),⁹³ 1665,⁹⁴ 1662⁹⁵ and 1684 (two).⁹⁶ This means that half of the trials were held also outside the decades of increased weather fluctuations.

⁸⁷ Zerneck, *Thornische Chronica*, p. 443.

⁸⁸ Wiktoryn Kuczyński, *Pamiętnik 1668–1737*, ed. Józef Maroszek, Białystok, 1999, p. 52.

⁸⁹ Wijaczka, 'Procesy o czary przed sądami miejskim i wojewodzińskim w Skarszewach', pp. 85–95.

⁹⁰ Wijaczka, 'Procesy o czary przed sądem sołtysim Kowalewa', *passim*.

⁹¹ AP Toruń, Toruń city records, no. 2, leaf 2r.

⁹² *Ibid.*, no. 11, pp. 68, 69, 71, 80; *Ziemia chełmińska w przeszłości: Wybór tekstów źródełowych*, ed. Marian Biskup, Toruń, 1961, pp. 149–50.

⁹³ AP Toruń, Toruń city records, no. 11, p. 81; *Ziemia chełmińska w przeszłości*, pp. 149–50.

⁹⁴ AP Toruń, Toruń city records, no. 15, p. 34.

⁹⁵ *Ibid.*, no. 16, p. 48.

⁹⁶ *Ibid.*, no. 32, leaf 24v; 26r–v; *Ziemia chełmińska w przeszłości*, pp. 149–50 — here we can read about three trials; this is a mistake, as there were two trials, though three women were judged, hence, perhaps the incorrect number.

So did the fluctuations in climatic conditions during the little ice age impact the number of witch trials in Royal Prussia? Of course, they did. However, it seems that the impact was, in the light of the known sources concerning witch trials in the province, not direct but indirect. It was revealed in the effects exerted on the human psyche by crop failures, high prices, famine, and diseases caused by violent storms, cold winters, and rainy summers. Climatic fluctuations led to a decline in production, primarily agricultural production. The climatic anomalies also resulted indirectly in the death of animals caused by plagues and lack of hay supplies during winters. We do not know how peasants in Royal Prussia dealt with these problems. Like Swiss peasants, they may have given their cattle fir branches mixed with straw instead of hay, but then cows stopped producing milk. In addition, the hungry cattle mooed in barns all day and night, driving the villagers to despair.⁹⁷ This is not surprising, as cattle played a key role in agriculture because the animals were a source of pulling power and manure for growing cereal crops, meat, and milk.⁹⁸ The death of cattle could destabilize the life of any small farm. As a result, concern for animals fuelled many popular superstitions, including the fear of witchcraft. Thus the effects of climatic fluctuations led to a change in the way of thinking, feeling and behaving, also changes in social organization and cultural life.⁹⁹

According to Johannes Dillinger, testimony given during witch trials always claimed that during sabbaths, witches engaged in weather sorcery together.¹⁰⁰ They would fill a pot with 'black matter' or their own urine. Then they would dance around the pot until one of them knocked it over more or less accidentally. When the fluid spilled from the pot, frost or a storm immediately came.¹⁰¹ While such testimonies could be heard during trials held in the German Empire and other European states, this was not necessarily the case in Royal Prussia. Broken by torture, women talked about their alleged encounters with the devil and other witches during sabbaths but did not say that they sought to bring about frost or rain. In Royal Prussia, we practically never encounter accusations of ruining weather utilizing witchcraft. During the twenty-six trials held before the court in Nowe, only once was weather mentioned, but not as a charge against the

⁹⁷ Pfister, 'Von der Hexenjagd', see p. 56.

⁹⁸ Pfister, 'Climatic Extremes', p. 62.

⁹⁹ Behringer, "'Kleine Eiszeit'", p. 427.

¹⁰⁰ Johannes Dillinger, 'In Teufels Küche: Hunger und Lebensmittel in der Hexenimagination', in *Essen und Trinken in der Europäischen Kulturgeschichte*, ed. Justus Nipperdey and Katharina Reinholdt, Berlin and Münster, 2016, pp. 163–78 (p. 175).

¹⁰¹ *Ibid.*, p. 175.

woman on trial. In 1624 Margarethe Tiburkow (Małgorzata Tiburkowa) was accused of engaging in sorcery. When tortured, she admitted to keeping contact with the devil, spoiling beer, and harming the health of various people employing spells, though she added that she also used spells to heal some individuals. In her testimony, she said (when asked, it would seem) that she did not know whether rain could be brought about by throwing a wheel and a swallow's nest into a well.¹⁰²

In Royal Prussia, sorcery was used more to defend against bad weather effects. This was the behaviour of the widow of Hans Heiden, an innkeeper in Ujeścisko near Gdańsk (today one of the city's boroughs). On Christmas 1581, she asked her maidservant to bring her some soil from the farmstead that belonged to the village head. The soil was to ensure that in the event of bad weather, above all lightning, nothing would happen to the house in which both women lived.¹⁰³ Why would the soil from the village head's farmstead have magical properties? We do not know, unfortunately.

Why did the local population in Royal Prussia not accuse witches of ruining the weather? Two explanations were provided in Europe at the time why the weather suddenly deteriorated. First, it was said that this was a manifestation of God's wrath for the godless life of Christians; second, that witches caused this at the devil's instigation to destroy Christians.¹⁰⁴ The link between rainy summers, harsh snowy winters, crop failures, and high prices was visible only to some.¹⁰⁵ Most of the people living in Royal Prussia must have been convinced by local preachers during sermons delivered from the pulpit (the basic source of information in the early modern period) that the bad weather affecting people living in the provinces had been caused by the wrath of God, who had punished them for their amoral life and violation of divine commandments. That is why they did not blame witches for it.

In her study devoted to witch trials in Poland, Małgorzata Pilaszek concluded that in the early modern period 'fear of a growing population

¹⁰² Hans Maercker, *Eine polnische Starostei und ein preussischer Landrathskreis: Geschichte des Schwetzer Kreises 1466-1873*, part 2, Danzig, 1886 (*Zeitschrift des Westpreussischen Geschichtsvereins*, 18), p. 111.

¹⁰³ Zwei Schriftstücke aus einer Strafsache wegen Zauberei gegen Hans Heiden nachgelassene Witwe, Krügerin in Wonnenberg bei Danzig, 1582-1583, Library of the Polish Academy of Sciences in Gdańsk, MS 1046, leaf 1r.

¹⁰⁴ Pfister, 'Von der Hexenjagd', p. 59; Hannes Weik, *Hexenwerk oder Gottes Zorn?: Hexenverfolgungen in Südwestdeutschlands im Kontext der 'Kleinen Eiszeit' (1560-1630)*, Hamburg, 2013, passim.

¹⁰⁵ Wilhelm Abel, *Agrarkrisen und Agrarkonjunkturen: Eine Geschichte der Land- und Ernährungswirtschaft Mitteleuropas seit dem hohen Mittelalter*, Hamburg and Berlin, 1978, p. 123.

of witches did not grow in proportion to the years of weather disasters. Sorcery was a phenomenon depending on too many factors coinciding for a clear correlation between these phenomena to emerge'.¹⁰⁶ This conclusion can be extended to Royal Prussia, for climatic fluctuations were only one of several factors influencing witch hunting in the province in the early modern period.

(Translated by Anna Kijak)

Summary

In the early 1990s, Wolfgang Behringer formulated a thesis in which climatic fluctuations influenced European witch trials. Comparing the chronology of witch trials in several states, Behringer noted that they were held simultaneously in France, Scotland, Switzerland and Germany. He went on to conclude that all waves of witch-hunting were linked to food crises, which in turn were a result of long-lasting extreme weather phenomena. In the article, I seek to determine whether such a correlation also occurred in the sixteenth–seventeenth centuries in Royal Prussia. Drawing on the existing literature on the subject and archive research, I compare the years of natural disasters with the dates of the trials. The comparison suggests that climatic conditions during the little ice age indirectly impacted the number of witch trials in Royal Prussia and were one of several factors influencing witch hunting in the province.

(Translated by Anna Kijak)

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¹⁰⁶ Pilaszek, *Procesy o czary w Polsce*, p. 314.

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