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Weather and Elemental Places

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Introduction: Weather and Place, Weather in Place

While there are myriad theories of how place is made, a “significant insufficiency in these theoretical accounts . . . is the neglect of one of the fundamental aspects of place objectives, namely its climate.”1 Yet climate knowledge, experience, and memory are all necessarily situated. In this paper, I wish to explore the relationship between climate, weather, and place and placemaking. I will first revisit recent scholarship that makes the case for thinking about weather as the everyday and experienced manifestation of a climate in place, where we define place as a physical setting and a socially constructed space.. I will investigate how weather, rather than climate, has helped shape—and continues to shape—understandings and representations of local places. I will also consider how weather histories, and legacies of weather knowledge, may have contributed to comprehensions of place-specific cultures, local identities, and changing articulations of place over time. To illustrate these themes, I draw on examples of different forms of documented weather histories, including diaries, parish records, and letters, and I take a scalar approach considering a range of places—the farm, the parish, the village, the town, and the household. Finally, I will argue that the “weather heritage” of a place may serve society and communities at a time of uncertain weather futures as climates change. It is first useful, however, to consider some of the shifts in understanding with respect to climate and culture in recent decades and to establish the importance of thinking about weather therein.

The notion of climate is increasingly recognized as a cultural as well as a physical process. In recent decades there has been a (re)focusing of attention on the cultural interpretations and meanings of climate.2 There is a growing recognition that what people understand about climate and climate change, and their actions to address it, are “complex cultural matters” and “specific meanings have emerged in and from particular times and places.”3 This point has been reinforced by David Livingstone in his contribution to a special issue on the “cultural spaces of climate” published in Climatic Change in 2012 in which he argues for the importance of understanding the spatial and temporal specificities or particularities of climate and its manifestations. The “tyranny of the mean,” he suggests, has “conspired to keep hidden climate as it is actually experienced by individual people in specific places.” Particular experiences in place matter, not least because, as he continues, “Inquiring into the experience of a single exceptionally hot summer or one remarkably harsh winter . . . not only shape[s] a local community’s immediate encounter with climatic realities, but also cast[s] lengthy shadows over future memories.” Moreover, it is important to highlight “the significance of understanding very particular temporal moments in very specific venues if we are to grasp how communities form their impressions of climatic realities.” There is, then, as Livingstone argues, a need “to attend to the particular, the specific, the located in the inquiring into human experiences of climate.”4

What this means, however, is not to talk about climate but to talk about weather.5 Climate is the average climate conditions over a long period of time rather than those observed on a daily or seasonal basis.6 Climate is a “statistical construct (consisting of trends and averages) that individuals can observe only indirectly.”7 Weather, in contrast, is what can be experienced. Indeed, as Eliza de Vet argues, “in terms of everyday human experience, climate and long term climate change takes expression through specific local weather patterns.”8 Weather provides the lens through which the relationship between culture and climate is most easily viewed.9 Weather is what is experienced, monitored, observed, interpreted and mediated. It follows that in order to consider the particularities and specificities of human experience of and responses to climate, and how these vary over time and space, it is important to study the multiple human experiences and interpretations of weather.10 For this paper, this means discussing local weather, that is to say, weather in place.

Climate is “nested in places” through local weather, and weather influences the way we experience, remember, commemorate, and indeed celebrate place.11 Place in turn plays a central role in influencing and shaping weather memories, and it provides a frame of reference that helps locate such memories.12 There is an emerging literature on the influence of place in the making of weather histories and memories. Borrowing from historical geographies of the places of knowledge production,13 geography and place are fundamental to both the generation and the consumption of weather knowledge. It follows that weather is made, recorded in place, and that the resultant knowledge is indelibly marked by the local and spatial circumstances of its making. Weather knowledge is also transferred, transacted across, and received in different places. The production and reception of this weather knowledge is thus spatially as well as temporally contingent. At the same time, however, weather itself contributes to the making and meaning of place. Recent work has begun to focus on the relationship of place and weather and on establishing the importance of locally, place-specific experiences of weather in shaping weather memories, in understanding people’s perception of their local climate, how it may be changing, and in turn their understanding of global climate science.14

Weather as we know, and as we are seeing, has the capacity to be mundane, normal, average, sometimes below, and sometimes above average. Recent research has begun to explore the link between relational context and weather memory, including work on mundane or everyday weather,15 and on popular experiences of “ordinary” weather and how this shapes individual and collective sense of place.16 Weather can also be extreme, unusual, spectacular, disruptive, damaging, and fatal.17 Equally, then, attention has also begun to focus on the experiences of and memories associated with more extreme weather events, such as storms or extreme warmth or cold, and how such phenomena can influence perceptions of place, and can help shape a place.

In the remainder of this paper, I want to explore how weather, mundane and average, phenomenal and tempestuous, unusual and extreme, complex and recurrent, is inextricably intertwined with place, can help make place, inform a sense of place, and shape how place identities come into being at a range of scales. I want to build on the work of Vannini et al. who have highlighted “the centrality of weather in popular discourse . . . and with regard to national identity.”18 I also want to draw on various aspects of some of my recent climate and weather history research, including work I have conducted with colleagues and friends. In particular, I want to draw mainly, but not exclusively, on recent weather history research using archives to explore impacts and responses to weather events in a UK context. I would first like to consider the concept of the “weather place.”

Writing and Making Weather Places

As Vannini et al. have argued, “The weather has a special relationship with place. At its most elementary level the weather is itself a feature of place.”19 Weather of course physically shapes the landscape, molding, modifying, and transforming the landscape directly. Landscapes are weathered and they are dynamic precisely because of the weather to which they are exposed. Weather also shapes landscapes indirectly via interventions, adapations, and changes to the built environment to cope with unusual or damaging weather. Inasmuch as weather places come into being through weather itself, weather continued to shape place physically.

All places are at once “fluid, dynamic, and multidimensional”, yet also have “haunting identities and familiarities running through them”.20 Weather is fundamental to the physical construction and human experience and understanding of this fluidiuty, this dynamism and multidimensionality, and for creating the binding ties to place. As Vannini and colleagues have argued, places become “known” and knowable by and through their weather; they are made distinctive from one another into specific “weather places.”21 Physically, the weather of a place helps define it, while past weather places can be revealed or exposed by weather itself. One only has to consider the implications of recent heat waves and droughts in the UK and the way this revealed past landscape features.22 Conceptually too, however, weather plays a central, defining role in the way in which people, individually and collectively, define a sense of place and are rooted to a place. As both weather and place are fluid, changeable, dynamic, however, so too are weather places. Experiences of weather are reflexive and contribute to the idea of dwelling where dwelling means repeated encounters with places that serve to build up memoriesand perhaps nostalgia for those places, “rendering those places deepened by time and qualified by memory”.23 We can then rethink weather as part of a place’s past, “an ensemble of memories tied to experiences that have unfolded within a place”.24

Language and communication are also pivotal to placemaking.25 The reality and idea of a place is sustained through conversation, narrative, accounts, stories—place narratives. Place is created and reproduced through interpersonal interaction, and indeed, much of what people feel about sense of place is often mediated but also maintained by others. Whether they be experiential, vicarious, individual, collective, written, or oral, accounts, stories, and narratives all help create and make a place. Weather places, it follows, come into being and can be created, revealed, and recreated not just through weather itself, as noted, but also through language, conversation text, narrative storytelling, commemoration, weather experiences, memories, narratives, traditions, myths, poems, literature, and stories. Research conducted with colleagues Lucy Veale and Simon Naylor, for example, revealed how the Helm Wind of Cross Fell, Cumbria, Britain’s only named wind, has come to define Cross Fell as a place.26 The Helm Wind is an example of a very particular, local weather phenomenon—the product of a place-specific interaction of landscape topography and atmosphere. Individuals, social groups, and organizations, however, have all been inspired by and have attempted to observe, measure, understand, explain, and depict the Helm Wind over a two-hundred-year period. The Helm has thus been inscribed into cultural history in the form of personal accounts and oral histories detailing encounters and experiences of the Helm Wind, scientific reports that have attempted to discover its cause, and paintings showing its presence. As such, it is an example of an elemental phenomenon that has come to be understood and articulated through different narrative forms and produced and reproduced as a result of different knowledge cultures. Yet whichever way the Helm has been described, depicted, encountered, remembered, it has helped make Cross Fell a place forever associated with its windy forces. The Helm has therefore helped mold (physically and conceptually) Cross Fell into a very distinctive weather place.

Weather can thus contribute to the [culture](https://dictionary.cambridge.org/dictionary/english/culture) of a [particular](https://dictionary.cambridge.org/dictionary/english/particular) [society](https://dictionary.cambridge.org/dictionary/english/society), framing and informing [traditions](https://dictionary.cambridge.org/dictionary/english/tradition) and languages, and “providing affordances for the human engagement of place and with place.”27 This has been illustrated recently by Toby Pillatt, who, drawing on Ingold’s concept of the “weather world,” argues that weather is integrated into people’s interpretation of place. Based on his examination of eighteenth-century diaries from Cumbria, he notes how “the weather in which one stands can be as much responsible for generating a sense and use of place as the ground on which one stands.”28 Moreover, the ephemerality and uncertainty of weather are “often celebrated aesthetic values because they remind us of the timeliness of nature and the human condition.”29 Weather is, as a result, well documented and recounted. Weather talk and weather writing are, in fact, ubiquitous, and there is a tremendous amount of information available for anyone interested in historical weather and accounts and stories of past weather events, composite stories of events that collectively build up a sense of place. The keeping of journals, letters, diaries, and field notes, especially with their subsequent rewriting and publication, means that “less tangible and more emotive or nostalgic tendencies amongst individuals in a community” all have the power to gain access to and take hold on public consciousness and achieve thereby a higher degree of stability and permanence.30 In the remainder of this paper, I wish to draw on examples of these materials to explore how weather helps make place. I focus on a set of three themes: mundane and unusual weather and the creation of weather places; phenomenal and eventful weather places; and weather and the home place. I consider weather places at a range of scales of weather as a variety of forms of weather writing—local weather heritage—to explore these themes.

Mundane and Unusual Weather Places

As Vannini et al state, “most of the changes that weather and place undergo are anticipated” and “enter the realm of familiarity in such depth that they become part of the place itself.”31 Weather in place is indeed often characterized by averages, seasonal or annual, whether this relates to rainfall, temperature, sunshine hours, snowfall, or wind speed. Everyday weather, normal weather if you will, the weather we might expect and get used to, in itself creates the weather place. In fact, some places become known and knowable through association with particular types of “normal” weather for those places. This also means that when weather is “out of the ordinary,” it can be a cause for concern. Capstick and Pidgeon focus on severely cold weather in the UK, for example, highlighting how experience of these events consolidates common conceptualizations of such events as unnatural, and therefore a function of the reality of climate change.32

Beyond the realm of the instrumental weather records that help us establish norms, averages, and, by extension, out-of-the-ordinary weather, weather places have come into being through a variety of documented sources. Weather diaries and journals or everyday diaries that include weather references, for example, have proved to be pivotal to investigations of climate and weather history in that they often provide place- and date-specific observations on the weather.33 They help us understand norms and unusual weather in place and provide an invaluable lens through which to view the mundane, the regular, the normal for a particular local place. Yet the quotidian recording of normal weather in place over time documented in such diaries allows us to see and understand what may be out of the ordinary, above or below average, beyond the norm, unusual, in some cases extreme and, more rarely, unprecedented, for a particular place and indeed for the person recording. Such sources reveal much about place-specific weather and how it was perceived, but also about the people who compiled the diaries and their purpose. For example, compiling quotidian references to the weather, it has been argued, can be seen as a means of “reducing the weather to order,” making it manageable and ordered, by setting it against a context of everyday events, and given that “compiling a weather diary was not part of anybody’s job[,] the duty was a self-imposed one. . . . Weather journals have also been seen as products of a certain kind of exercise of self-formation” and improvement.34 Diaries do not have to be weather diaries per se to contain information about place-specific weather. People who maintained everyday diaries and journals often include references to the weather as it affected daily events and activities in particular places and times. The meteorological data and/or qualitative weather information within both forms of diary are intertwined with the subjectivities and day-to-day activities of the author. Diaries, then, can also provide information about the nature of diary keepers and weather observers as well as past weather in place. Importantly, these are peopled and geographically specific narratives that tell us something of what it was like to live through local, particular, everyday as well as unusual weather conditions, which bring specific places to life through weather commentaries.

The farming diary of Randall Burroughes is a case in point. Burroughes (1761–1817) was a younger son of Jeremiah Burroughes, a brewer based in Wymondham and North Burlingham, Norfolk. Admitted to Emmanuel College, Cambridge, in 1778 and at Lincoln’s Inn in 1779, Randall married Anne, daughter and co-heir of Samuel Denton of Burfield near Wymondham, and thereafter lived at Burfield Hall, commencing farming at Sutton and Browick in 1783. A yeoman farmer with interests in agricultural innovation, Randall Burroughes’s detailed journal of weekly entries between 1794 and 1799 provides a rare account of farming practices on a large heavy-land farm in the inflationary 1790s.35 His diary entries enable us to view the way in which both normal and unusual weather was intertwined with and influenced farming life and practices in Wymondham. It also reveals how the severe winter of 1794–95—one of the most severe in Manley’s Central England Temperature (CET) Series—unfolded and was experienced in place.36

Most of Burroughes’s diary entries are mundane and benign, relating weather to day-to-day activities on the farm, the setting for his agrarian innovation. His commentaries were sometimes summative, sometimes focused on individual daily weather. It is this mundanity, however, that means the unusual conditions of winter 1794–95 are brought into relief. Thus, for the period between 1 September and 31 October 1794, he notes how he

Began to sow wheat upon the third of October and finished upon the eighteenth. . . . Heavy and continued rains this season interrupted those who were later in their sowing this season. . . . No ploughing upon account of the wet weather.37

By 13 December, however, “the frosty weather” was rendering the land very dry and hard, limiting the capacity of his laborers to work on the experimental underdraining of his land. By December 27

the frost continued very severe so much so that not only the underdraining was entirely retarded, but the men employed in furrowing down old hedgerows found the greatest difficulty in penetrating the ground with pick axes. . . . Hitherto the horses had been shoed in the usual manner not prepared for the frost.

Burroughes’s diary then details the conditions on his farm through the winter of 1794–95 and his diary entries for January 1795 in particular—now recognized to be the coldest January in the CET38—reveal the localized implications for his and his laborers’ day-to-day farming activities. On 20 January 1795, for example, he records:

So intense was the frost that a greyhound which was seen running about at six o’clock laying herself down to sleep in the open air at 8 o’clock was taken up at the stable door frozen to death. The two men at Sutton & at Bones were obliged to leave off working the chief part of this week on account of the frost the ground being inpenetrable by their pickaxes.

His diary entries also chart a progressive thaw, the subsequent flooding that would be widespread across the country, and how this brought its own localized challenges on his farm:

8 Feb—The thaw which began on Saturday continued still & the rapidity of it is likely to reason in many parts excessive floods. My meadows at Stalworthy are entirely overflowe’d and in appearance like a little sea. During the ninth and tenth the continuation of the thaw had not ceased but the wetness occasioned by it upon the arable lands prevented ploughing.

There are of course great numbers of diaries of this nature that chart normal and unusual weather events in place. They can be considered diaries that focus on mundane weather for a particular location but write weather into being and in turn enable us to understand the developing picture of distress in particular locations, providing insight into the situated, particular, cultural context for challenging weather.

Weather places come into being through myriad other local written sources too. Of particular interest in this respect are parish records and the way in which these recount unusual and extreme weather in particular communities. In an essay on the use of archives for meteorological research, Gordon Manley expressed his “fear that many who work on collections of papers may not be aware of the value of regular or detailed notes on the weather at the place in question, more particularly anything that helps towards quantitative assessment of intensity as well as frequency of extreme events in the context of the time.”39 These sources represent “a unique source. . . . They contribute to our understanding of the impact that those conditions had on the local populace and as such have a role as place specific ‘community records’ of weather and weather-recording.”40 As a key medium of very local documentation, parish records thus help create weather places. They offer geographically specific accounts and detail the effects of unusual weather “on locally important customary and communal arrangements,” often including reference to “particularly local landmarks” and thus giving a clear sense of place.41

fig. 1. Handbill detailing the Kirk Ireton tornado (Microfilm M437, vol. 2, Derbyshire Records Office, Kirk Ireton baptism register 1813–1880). Reproduced with permission of the Derbyshire Record Office.

To take one example, I wish to focus on the account of the Kirk Ireton tornado, which took place on Sunday, 12 May 1811. The account of this dramatic event, which tore through various villages across south Derbyshire and caused considerable damage but thankfully claimed no lives, was found in a baptism register from 1813 to 1880 and took the form of a handbill posted in the front of the register—an indication that it was to be purposefully remembered as an important piece of parochial history (see figure 1).42 The handbill provides “an Authentic and Circumstantial Account of the most Tremendous TORNADO Or WHIRLWIND, Ever known in Great Britain” and traces the passage of this freak event from where it was first identified, in Kirk Ireton, through the villages of Callow, Hopton, and Bonsall before making its way to Darley. The account is graphic, charting its appearance and the accompanying atmospheric context but also revealing the time- and place-specific impacts of the event:

ABOUT Two o’clock in the Afternoon, the upper and lower current of the Clouds became confused, and the Atmosphere sultry; about three o’Clock Thunder was heard at a distance (Southwardly), upon its nearer approach, about four o’Clock, it was attended by a heavy fall of Rain, and Hail-stones of an immense size, which did great Damage.

Local geographies and places, and features of places, are brought into relief as the tornado tore into them:

In the space of two minutes, the streets were filled with ruins, most of the Houses, Barns and Outbuildings were unroofed, and many totally thrown down, the Windows burst in; Corn and Hay Stacks carried up and dispersed; Trees torn up by the roots; some broken off and carried to a considerable distance; the Lead upon the Church turned up in an astonishing manner and a Piece above half a Ton weight carried into an adjoining Field. . . . The TORNADO continued its course to CALLOW and HOPTON, which instantly presented a similar awful scene of Devastation; the Ruins of Buildings, a Plantation almost destroyed, large Timber Trees 10 and 12 feet in circumference, lying in all directions; some broken and twisted to pieces; others torn up by the roots, with an immense weight of earth hanging to them. From thence it proceeded over HOPTON-MOOR, by the upper part of BONSALL and DARLEY, venting its Rage with unabating violence, in a course of about Eight Miles, (in a Northwardly direction) and extending from 300 to 400 Yards in width.

Eyewitness testimony from “a Gentleman of Bonsall-Dale” provides further particularity:

“I was situated,” says he, “in a Dale during the Tempest, and could not see its grandeur to describe it properly; but what I saw of it was truly terrific. . . . It tore the roof quite off a Cottage at Okerside, and broke the slates into atoms the same as if they had been beat with a hammer, and took out of the roof a Bed and Blankets, and conveyed them to a considerable distance, and left them on the top of an Ash Tree. It passed through the Derwent in Darley-Dale, and divided the River into two parts, so that the bed of the River was quite dry for a considerable space.”

The tornado, a rare event, would be culturally inscribed into local place history. Later topographic accounts of Kirk Ireton and surrounding villages, for example, directly associate these places with the tornado. In Samuel Lewis’s (1848) Topographical Dictionary of England, for example, the entry for Kirk Ireton describes not only a town defined by its extent, local population, economy, and buildings but:

by an awful tornado, accompanied by lightning and loud claps of thunder; large trees were twisted from their roots, most of the houses were unroofed, and the church was stripped of its lead, which was blown into the adjoining fields.43

By the mid-nineteenth century at least, therefore, this rare but devastating event, a freak weather event, was helping define Kirk Ireton and other villages in the Wirksworth parish topographically, geographically, and historically.

Phenomenal and Eventful Placemaking

While social and economic systems have generally evolved to accommodate some deviations from “normal” weather conditions, this is rarely true of extreme and unexpected weather. For this reason, such events can have the greatest and most immediate social and economic impact of all weather types. Unanticipated changes such as extreme cold, storms, heat waves and droughts, and indeed freak events like the Kirk Ireton tornado can be the subject of much local attention and drama, invoking “clamorous reactions.”44 They become memorable, but perhaps especially when they are “compound” or complex: that is to say, one extreme followed by another or acting in a context of existing disruption due to other socioeconomic and environmental causes. Such extreme events can also claim priority in people’s memories, written and oral, while at the same time providing “anchors for personal memory.”45 As illustrated above, there is a tendency to “benchmark” events, such that they are associated with or define place. In other scenarios, however, weather places are made so through repeat events. The events help make place through a palimpsest of weather memories contributing to the making of place and building up a composite weather heritage in so doing.

The 1826 drought that affected large parts of the UK is a case in point. After the very cold January and a mild February, summer 1826 was to become the second warmest summer ever recorded. Heat and drought severely affected agriculture across the country.46 Diarist and weather recorder Robert Phillips Shilton of Nottingham, for example, recorded very high temperatures through the second half of June in his diary: “13th June: Therm. 110 deg. in sun; 20th June: hot, fair Therm. 105 deg.; 26th June: 115 deg.”47 By July the dry, hot conditions were beginning to take effect. A legal document from Bolingbroke, Lincolnshire, refers to the decision to allow people to graze their cattle on the highways until such date as rain arrived.48 Throughout August and September concerns grew over crops that normally provided emergency sources of food and fodder.49 Some sources, however, provide a level of detail that allows us to explore the anatomy of the drought as it unfolded and to compare its relative severity with previous events. William Gilbert of Market Harborough, Leicestershire, was schoolmaster of Great Bowden and began “A Journal Kept for the gratification of my son Thomas Gilbert which commences on the 1st day of March 1826 the day he left home to be apprenticed to Miss Tomalin of Daventry to be a Druggist & stationer, whom God preserve.” The diary actually runs to 1830 and documents the heat of the latter part of June and first part of July, as well as the water shortages experienced throughout August.50 Importantly, Gilbert references a drought in 1762 in a conversation with “old Joseph Charlton,” a time when the markets for cattle and pigs had collapsed. This kind of comparative benchmarking in consultation with the oldest inhabitant of a particular location is common practice but allows us to compare weather in place over time. As Strauss and Orlove explain, “We draw on this strong temporal awareness when we discuss weather and climate,” and “many cultures note links between exceptional climate events and historical events.”51 Narrative accounts highlight the different time frames in which weather and climate are experienced—current, recent, and distant—and indicate how narratives of specific events are recycled and help build up a memory of events in place.

Inasmuch as 1762 represented a benchmark against which the place-specific impacts of the drought of 1826 were compared, later accounts recall the 1826 drought in a similar way. One example is provided in an extract from a manuscript history of the town of Fulletby, Lincolnshire, compiled by Henry Winn in the ninety-first year of his life with the purpose of placing it in the church parish chest for posterity, in 1906–7. Winn notes that 1826 was the driest summer he could remember (at the age of eleven), “the country parched in appearance, the wells dry.” Winn also describes how water from Lincoln was imported to Boston, where it sold for three pence a bucketful.52 The parish register for Droitwich St Peter, compiled by the Reverend Lea, who frequently entered weather information into his register, also refers back to 1826 in the entry for 1864—another drought year—which also introduces a judgment of the relative extremity of the two dry years: “We have had the driest season known since 1826. . . . The turnip crop has generally failed though several may recover. . . . In some parts, as Sheffield and Derby they have had abundance of ruin—at Malvern the poor are obliged to buy their water.”53 The diary of William Holman of Norwich is similarly reflective, noting that 10 March 1929 was “another record, hottest day for March since 1826,” a fact he had obtained from listening to a radio broadcast, indicative that the 1826 drought entered the national memory as a benchmarked event.54

fig. 2. Flood markers along the river Trent, October 2016. Photo taken for exhibition curated by Georgina Endfield and Lucy Veale, “Weather Extremes: Making and Breaking Records in Nottinghamshire,” Nottingham Lakeside, December 2016–March 2017. University of Nottingham, Manuscripts and Special Collections.

One might also consider the role of repeat flood events, evidenced through epigraphic markers, making known places of flooding, defined by years, heights, levels, and the associated impacts of those events. The flood markers alongside the river Severn in Shrewsbury or the river Trent in Nottingham (see figure 2) represent cases in point. Through such markers, we see a retelling of place history through flood events, a physical and tangible representation of the changes in place over time. This making of place through weather and weather-related events is reinforced by reflections on the implications of these flood events and the memories, accounts, descriptions, and narratives of those who lived through them. For example, let us consider the floods of 1875. By any standard 1875 was an extremely wet year—so much so that it was the subject of a detailed inquiry produced for the Institution of Civil Engineers by George Symons, head of the British Rainfall Organisation. The problem was cumulative, resulting from several phases of unusually wet conditions between July and November that year. Flooding was widespread and prolonged across many parts of the country, and it had already been the subject of Illustrated London News articles and mentioned in diaries, letters, and estate accounts.

In Wales, Richard Lister Venables from the Llysdinam estate recorded that the river Ithon had never been so high as it was in July 1875,55 and rain and floods affected many parts of the country, affecting travel, trade, and school attendance.56 The Thames valley was mostly under water by September, according to a letter dated 14 November that year, written by Alfred Milner, Balliol College, Oxford, to P. L. Gell:

The valley of the Thames would be taken for an inland sea. One cannot get to the railway station except along the line for in the dip of the road is covered with water deep enough to drown a horse. Hedges & fences no more appear. The road to Abingdon was for half a mile become the most excellent place for punting. Pools of water are standing in Balliol quad . . . gallons of water. You can’t touch anything that isn’t damp & the whole thing is hellish.57

As this excerpt reveals, flooding made the familiar unfamiliar. The landscapes of the Thames valley were completely transformed by the widespread flooding such that places were in effect remade temporarily.

This period of flooding was to be particularly widespread and prolonged. Many if not most lowland and midland regions were affected, Nottingham being no exception. “The Great Flood” was an account that appeared in the Nottingham Journal of 29 October 1875 (and one that hydrologist H. H. Potter included in his file on the 1875 floods, itself a collation of events that served to reinforce the memory of the flooding).58 In the excerpt below, it is clear that this flooding was part of a much longer series of place-transforming flood events, including that which followed the harsh winter documented in Burroughes’s diaries, mentioned earlier:

It now turns out that we have never had a spread of water in our midst equal to that in 1795 until Friday at about noon, for previous to that time the water had been no higher than the great flood in 1852, on which occasion the Duke of Wellington was buried, when it will be remembered the flood was so extensive that the funeral had to be delayed for a considerable time. All night long on Thursday the water continues to rise, though every advance that was made was considered to be the highest that could possibly be attained, and on Friday morning the vast expanse of land which, viewed from the Castle rock, we are accustomed to see so beautifully chequered with trees, hills, and the lightning movement of Midland trains, has quite a different look altogether; certainly the entire aspect had not been so miraculously changed as if in obedience to a magician’s wand or the rubbing of Aladdin’s lamp, still a mighty change had been wrought, and this, too, in a most mysterious way. . . . The scene was of a true Venetian character, people were cutting to and fro, some wading more than knee deep through streets, others paddling on half-immersed planks, while scores could be seen even from such a high place as the Castle, fetching goods out of their homes, packing them on rafts, and then with all the awkwardness of dry land sailors managed to float their barks to more lucky neighbours who had been able to smile at the ravages of the elements, and yet keep them at bay.

As this account illustrates, floods are repeated, compared, inscribed, and commemorated. There is a layering of documented events that build up a chronology of transformation of place(s). Ironically, however, it could be argued that this sequence of events, this very layering of landscapes transformed by water, reinforces a place’s identity as a weather place—as a place, in this case, subjected to repeated flooding. Moreover, the damage, the repairs, the flood memorials (including epigraphic markers), and even later flood protection schemes, plans, diversions, culverts, and flood banks serve to reinforce that identity.

As is also evident in this last example, particular extreme events, even within sequences of events, can claim priority in people’s memories. Take, for instance, a village that has become associated with an extreme and damaging flood event, the Lynmouth flood of 1952. This event took place on the night of 15–16 August 1952 and primarily affected the village of Lynmouth, North Devon. A storm with heavy rainfall, combined with already saturated soil and flood debris, led to the flooding of the village and a total loss of thirty-four lives. This event has become benchmarked in the history of this unfortunate community. Rebuilding work, the diversion of the river around the village, and the creation of a memorial garden are among the flood’s legacies.59 Various conspiracy theories surrounding the 1952 event have also helped consolidate the flood’s place in history and indeed Lynmouth’s history as a weather place. Documentaries and publications focusing on the apparent association of the flood with Project Cumulus—a geoengineering initiative being conducted by a team of international scientists working with the Royal Air Force at the time—have also served to keep the memory of the flood alive.60 Memories of this event were dramatically reawakened when a similar event happened in Boscastle, also in North Devon. Occurring fifty-two years to the day after the Lynmouth flood, the Boscastle event destroyed six buildings, swept fifty cars out to sea, and broke up several roads, and more than sixty people had to be airlifted to safety by rescue helicopters.

As Oliver acknowledges in relation to Welsh weather diaries, “Memories are short when it comes to comparative remarks.”61 Events are ephemeral and can soon be forgotten or replaced by other later memories. In fact, generally speaking, and according to Harley’s “recency effect,”62 more recent extreme events will seize popular attention, and place memories in turn then tend to be distorted in this respect, even though the written record can in fact help assemble past events over a longer time period. Archival research, for example, reveals that similar floods had been recorded at Lynmouth in past centuries, but these have been overwritten by the 1952 event (and possibly also, in time, by Boscastle in 2004). Research in the Devon Records Office reveals that on 8 August 1770 a petition was submitted to a local man, John Short, for “alleviation and relief” for the local fishermen following what appears to be a very similar scale event. Short notes that

the river at Linmouth by the late rains rose to such a degree as was never known by the memory of any man now living, which brought down great rocks of several tons each, and choaked up the harbour; broke one boat to pieces and was driven to sea, and another boat was driven on the rocks which cost upwards of twelve pounds in repairing; and had all the rest been there, some of them must have been broken to pieces and driven away, and perhaps several people drowned (as some was then like to be) which would have been the destruction of many families.—And also carried away the foundation under the Kay on that side against the river six foot down and ninety foot long, and some places two foot in under the Kay, which stands now in great danger of falling; . . . And as the place is now so ruinous, the seamen and other families must entirely leave it, and then it will all soon be washed away if not immediately repaired which by a moderate computation will amount to forty pounds. Therefore the said petitioners humbly desire your hon. to advance what your goodness shall think proper, as they will advance and do what lieth in their power which may be of advantage to you and your posterity, and your petitioners as in duty bound will ever pray. Linton, the 8th day of August 1770.63

This was an event that clearly transformed Lynmouth in much the same way as the event of 1952, though the latter has replaced the former in place memories. Lynmouth is clearly a place unavoidably now associated with this historical flood, but a richer weather heritage revealed by the documentary record if anything reinforces this area as a weather place, made so by a much longer history of devastating and dramatic flooding. In the next section, I will develop the idea of eventful placemaking through flooding, but at a much more intimate scale—the scale of the home.

Weather and the Place of Home

The home has been associated with “a sense of belonging, rootedness, memory[,] . . . nostalgia,” and safety, as well as a place that “disappoints, aggravates, neglects, confines and contradicts as much as it inspires and comforts us.”64 There is, at the same time, also a growing recognition that the house or home can be considered a more-than-human space.65 While it has long been regarded as a place “separating the inside from the outside, nature from human beings, the public from the private sphere,” home is now acknowledged to be “materially and spatially imbricated with nature, non-humans and the ‘outside,’”66 with “links to independent agencies embodied by plants, nonhuman animals, weather patterns, seasons, diurnal cycles.”67 All such “entities and rhythms” play an active and transformative role in the place of the home in homemaking.

Weather is an aspect of nature that is essential for the construction of the place of the home. As I have shown through work with my colleague Carol Morris on amateur weather enthusiasts, the domestic space, including indoor and garden spaces, plays a key role in the constitution of production and circulation of knowledge about weather, challenging the idea that processes of understanding and making sense of the weather are confined to other, nondomestic expert sites such as the laboratory, meteorological office, university, or field.68 The home, and the domestic space more broadly understood, has long been central to weather observation and recording, and by extension the production of “home-made” weather knowledge.69 Through observation and recording of the weather from the home, whether in diaries, notebooks, or formal meteorological registers, and whether the weather account represents the purpose of the document or is more incidental to its overall content, weather has effectively been brought into the home, blurring the boundaries between the house walls and the outside, nonhuman world. In Kaika’s terms, weather becomes a hybrid entity or “quasi object” in that it is material and real but also socially mediated, constructed, and reported within the place of the home.70 The home becomes a weather place in this way.

The manifestations of extreme weather breaking through into the home and/or disrupting home life also contribute “mutations to idealized versions of home which emerge from sudden, gradual or routine exigencies of daily life.”71 Studies of the home have to date paid very limited attention to what Power has referred to as “nature times,” the “diurnal and nocturnal rhythms, seasonal cycles and processes” of nature, linked to weather, that might influence everyday, routine, or seasonal practices within the home.72 Historical documents of the kind drawn on in my weather history work reveal that weather has most certainly played a key part in influencing the nature and timing of particular homemaking practices, such as food preparation, storage, and the lighting of hearth fires—practices as proxies for changing seasons, perhaps. But in a physical sense, weather can seriously disrupt, confine to, or exclude from the home. What does being removed from or confined to the home place by the weather do to that place, and how is the home place made and remade through weather? What happens to the home when its boundaries are broken? What happens when the home becomes a weathered place?

There are many examples of dramatic “large scale disruptions to home via the indiscriminate wrath of natural disasters” linked to extreme and unusual weather events.73 Some particularly dramatic events destroyed houses completely, while other events forced people to remain either in or out of their home space. A flood in Derby on Tuesday, 9 December 1740, for instance, “confined” people “to the upper rooms of their houses and many of them were in great terror fearing they and their little tenements would have been swept away by the Torrent of Water” from the river Derwent.74 In contrast, it was the extraordinary display of lightning that affected the residents of Oswestry, Shropshire, on 6 June 1778, when at 9:30 p.m.

there happened at Oswestry one most dreadful flash of lightening attended by rain. . . . The lightening and explosion were instantaneous. . . . At the house of John Fox . . . the lightening rushed down the kitchen chimney and took its course into a ground chamber, just opposite to the fire place in the kitchen, almost in the entrance of which stood a maiden servant or Mr. Fox’s, rocking a young child of his in a cradle, whom it killed on the spot. It afterwards was attracted by a wire rod on which was filed receipts, etc. (which were not even signed) and which was exactly over the young woman’s head, from thence it forced itself into a room above, making a small chink in both the ceiling and flooring just in which place stood a four post oak bedstead, which it greatly shattered and burnt some part of the hangings and cloaths on the bed.75

We can also point to greater particularity, exploring the way in which events played out and unfolded within particular households in “real time.” My final example brings us back to the 1875 floods referred to earlier, with an account of flooding recorded in Langford, Nottinghamshire, by Maria Nevile. Maria was the wife of Rev. Charles Nevile, M.A., prebendary of Lincoln and rector of Fledborough, and she and her family were directly affected by the flood that took place on the river Trent five on 22 and 23 October 1875. Maria produced a very detailed and personalized account of the flood as it affected her home, which was located less than half a mile from the riverside and four miles north of Newark-on-Trent. Her account charts the anatomy of the flood as it unfolds, and she uses her home and environs as a place through which the advancement of the flood is traced—the house and garden itself become a weather bell. Her story develops in sync with the rising water levels, and this framing allows key stages in the flood event to be monitored from within the home and set against a context of domestic routines, allowing us to see how the threat of the flood reinforces the activities within the domestic space.

She begins her account with the evening of 22 October 1875 (Friday) when there was a small flood on the Trent. The water

had risen but little during the day but was beginning to rise more rapidly about 4 or 5 o clock. When we got up a little before 7 the next (sat 23rd) morning there was the highest flood we had ever seen. Not a scrap of the posts and rails along the pathway . . . was to be seen and the water was still rising.

Having left the house at 9:00 a.m. with friends to attend a confirmation, she returns home and notes how “within half an hour of our return, about 10.30 or 11 am . . . we were beginning to move our books to upstairs. The water at the same time began to trickle through the wall at the back of the bank just opposite the servants’ hall window.” The flood threat didn’t stop the usual domestic routines:

at one o clock we went to dinner and while at dinner saw the water trickling down the grand walk in front of the window having forged through the bank and wall. We got the carpets in the sitting room up and the furniture piled and at 2.30 Mary, Lucy and Rhoda with their nurse started for Tuxford in the carriage.

By marking the progress of the flood in this way, Nevile uses the house and its environs as a flood monitor, but home life in the home space goes on, dinner is consumed, even if preparations are made to save carpets and books and to move the children elsewhere to safety. The family’s servants were allowed to leave the house if they wanted to, but “imprisoned” by the rising floodwaters outside, they set to work “to boil one piece and roast another piece of beef and these had been cooking all the evening.” There is a mundane practicality to the activities set against the drama of what is unfolding outside. The threat of the flood reinforces homemaking activities.

By the evening, despite the fact that “the water now was trickling truly through the bank and wall and there was a pool on the lawn,” Maria noted that

we shut the shutters and had tea in the day nursery and sat there very cosily listening to the trickling of the water which kept increasing and from time to time looking out on the bank and watching the lanterns of the men who were working on it.

Maria Nevile here draws attention to the everyday domesticity, a resistance almost to the threat that the floodwaters pose. The floodwaters are imposing on the home space, and the home starts to become a hybrid space as the water seeps in, yet there is an impressive, persistent constancy to domestic routine. The family inside the house are given reassurance by men working on the flood bank outside that “they were so far masters of the water which had not overtopped the bank,” so the family retires to bed, albeit having moved bedrooms from the ground floor to the first. The response to the flood seems to be coordinated, managed, and even manageable, a function perhaps of the fact that Maria had lived through the floods of 1852 and explains as much in her account:

About 12.30 . . . a roar succeeded by a rush of water the bank having broken just opposite the bathroom window near the spot where the water had first begun to trickle through and within a few yards of the place where it broke in 1852.

Gradually, her home is swamped and she is excluded from it, a place overtaken by the floodwater. The losses to Nevile’s family are minimal, however, and the relative comfort of having sustained no major injury allows Nevile time and space to reflect on the event and the place of the flood. From the relative security and safety of her rescue boat she noted, “The flood though sad was a very beautiful sight and the sun shining brightly on the expanse of water in the hues . . . and the hedges with their autumnal tints (which are very beautiful this year) appearing out of it.” Here is a place transformed by the flood. Her account provides a continuum along which she and her family move, from confinement in to exclusion from the home place as it becomes progressively imbricated with Nature through the flood. Her home becomes a weathered place.

Conclusion: Weather Places and Stories for Action

In my final section, and as a way of concluding, I wish to return to the relationship between climate and weather and to consider how situated weather stories such as those discussed in this paper and ideas around elemental placemaking at a range of scales can be brought to bear to support preparation for climate futures. My point of departure is a set of interconnected dilemmas. In recent years in the UK as elsewhere, polling has revealed a small decline in concern alongside an increase in skepticism with respect to the seriousness of climate change. This is arguably resulting in less compulsion or will toward action and personal commitment,76 notwithstanding recognition of a climate emergency in many governmental and institutional settings. To some extent this lack of engagement, or disengagement, is a function of two key parameters. There is still a “legitimate uncertainty about the exact impacts of climate change, as our understanding of how climate systems work and interact with the human and biological systems is far from complete.”77 Yet it is also becoming clear that climate change is still perceived by many to be a “psychologically distant” issue on a number of different dimensions both spatially and temporally. To reduce this distance it has been argued that we need to make climate change “more real, local, relevant and immediate.”78

This means thinking about experiences of weather in place and potentially in a range of different types of place. A growing body of scholarship is seeking to reinforce the saliency of a particular, locally understood interpretation of climate through weather, to demonstrate the importance of spatial and temporal contingency in understanding climate variability. The situated nature of climate experienced through local weather is increasingly being recognized as fundamental to understanding how the public perceives, responds to, and adapts to climate changes.79

Furthermore, as Adger et al. have noted, “Place attachment is . . . emerging as an important factor for climate adaptation in regions where existing livelihoods are unlikely to be maintained as the impacts of climate change are increasingly manifest.”80 Indeed, connectedness to place is important to climate change attitudes and behaviors because it can engender place-protective intentions.81 Locating climate through local weather stories and specific weather places, and different types of places, is therefore thought to represent a useful means of (re)engaging the public in debates about how climate change may affect them locally.82

Drawing on our weather heritage, histories, memories, and vivid, vicarious, or actual experiences and stories of past weather and weather events in place at a range of spatial scales may help in this respect.83 Framing climate in terms of stories about local events and geography, local places, and the history of weather in those places helps make complex challenges and manifestations of climate change more salient and tangible,84 could result in greater emotional and cognitive engagement with climate change,85 and is thought to be central to the development of comprehensible and appropriate climate change risk communication strategies.86 By extension, then, and to close, I want to emphasize the importance and value of working with the kinds of stories from the historical archives, our weather heritage, that can help us in terms of translating stories about weather in place into climate futures.

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Notes

1. Igor Knez, “Attachment and Identity as Related to a Place and Its Perceived Climate,” Journal of Environmental Psychology 25, no. 2 (2005): 207–18.

2. Mike Hulme, “Geographical Work at the Boundaries of Climate Change,” Transactions of the Institute of British Geographers 33 (2008): 5–11; Mike Hulme, Why We Disagree about Climate Change (Cambridge: Cambridge University Press, 2009); Karl Offen, “Historical Geography III: Climate Matters,” Progress in Human Geography 38 (2014): 476–89.

3. Stephen Daniels and Georgina H. Endfield, “Narratives of Climate Change: Introduction,” Journal of Historical Geography 35 (2009): 215–22.

4. David N. Livingstone, “Reflections on the Cultural Spaces of Climate,” Climatic Change 113 (2012): 91–93, quotation on 91–92.

5. Mike Hulme, Weathered: Cultures of Climate (London: Sage, 2016).

6. Alexa Spence, Wouter Poortinga, Catherine Butler, and Nicholas Frank Pidgeon, “Perceptions of Climate Change and Willingness to Save Energy Related to Flood Experience,” Nature Climate Change 1, no. 1 (2011): 46.

7. Kevin Goebbert, Hank C. Jenkins-Smith, Kim Klockow, Matthew C. Nowlin, and Carol L. Silva, “Weather, Climate, and Worldviews: The Sources and Consequences of Public Perceptions of Changes in Local Weather Patterns,” Weather, Climate, and Society 4, no. 2 (2012): 132–44, quotation on 132.

8. Eliza De Vet, “Exploring Weather-related Experiences and Practices: Examining Methodological Approaches,” Area 45 (2003): 198–206, quotation on 198.

9. Hulme, “Geographical Work.”

10. Toby Pillatt, “Experiencing Climate: Finding Weather in Eighteenth Century Cumbria,” [Journal of Archaeological Method and Theory](http://link.springer.com/journal/10816) 19 (2012): 564–81.

11. Knez, “Autobiographical Memories for Places”; Igor Knez, “Attachment and Identity as Related to a Place and Its Perceived Climate,” Journal of Environmental Psychology 25, no. 2 (2005): 207–18, quotation on 209

12. Hulme, Why We Disagree.

13. David N. Livingstone, Putting Science in Its Place: Geographies of Scientific Knowledge (Chicago: University of Chicago Press, 2003); Simon Naylor, “Nationalizing Provincial Weather: Meteorology in Nineteenth-century Cornwall,” British Journal for the History of Science 39, no. 3 (2006): 407–33; Diarmid A. Finnegan, “Natural History Societies in Late Victorian Scotland and the Pursuit of Local Civic Science,” British Journal for the History of Science 38, no. 1 (2005): 53–72; Charles C. Withers, “Place and the ‘Spatial Turn’ in Geography and in History,” Journal of the History of Ideas 70, no. 4 (2009): 637–58.

14. Sarah Strauss and Benjamin S. Orlove, Weather, Climate, Culture (Oxford: Berg, 2003); Eliza De Vet, “Exploring Weather-related Experiences and Practices: Examining Methodological Approaches,” Area 45 (2003): 198–206.

15. De Vet, “Exploring Weather-related Experiences”; Hilary Geoghegan and Catherine Leyshon, “On Climate Change and Cultural Geography: Farming on the Lizard Peninsula, Cornwall, UK,” Climatic Change 113, no. 1 (2012): 55–66.

16. Philip Vannini, Dennis Waskul, Simon Gottschalk, and Toby Ellis-Newstead, “Making Sense of the Weather: Dwelling and Weathering on Canada’s Rain Coast,” Space and Culture 15, no. 4 (2012): 361–80.

17. Marita Sturken, “Desiring the Weather: El Niño, the Media, and California Identity,” Public Culture 13, no. 2 (2001): 161–89.

18. Vannini et al., “Dwelling and Weathering,” 363.

19. Vannini et al., “Dwelling and Weathering,” 371.

20. Paul Cloke and Owain Jones, “Dwelling, Place and Landscape: An Orchard in Somerset,” Environment and Planning A 33 (2001): 649–66, quotation on 652.

21. Vannini et al., “Dwelling and Weathering.”

22. See, for example, news stories covered by the BBC on the way in which drought conditions in summer 2008 revealed past landscape features: <https://www.bbc.com/news/uk-44767497> and <https://www.bbc.co.uk/news/world-europe-44801939>.

23. Cloke and Jones, “Dwelling, Place and Landscape.” on 651 24. Vannini et al., “Dwelling and Weathering,” 373.

25. Y Fu Tuan, “Language and the Making of Place: A Narrative-descriptive Approach,” Annals of the Association of American Geographers 81, no. 4 (1991): 684–96.

26. Lucy Veale and Georgina H. Endfield, “[The Helm Wind of Crossfell](http://onlinelibrary.wiley.com/doi/10.1002/wea.2165/pdf),” Weather 69, no. 1 (2014): 3–7; Lucy Veale, Georgina H. Endfield, and Simon K. Naylor, “[Knowing Weather in Place: The Helm Wind of Cross Fell](http://www.sciencedirect.com/science/article/pii/S0305748814000474),” Journal of Historical Geography 45 (2014): 25–37.

27. Vannini et al., “Dwelling and Weathering,” 364.

28. Pillatt, “Experiencing Climate,” 578.

29. Yuriko Saito, “The Aesthetics of Weather,” in A. Light and J. Smith, eds., The Aesthetics of Everyday Life (New York: Columbia University Press, 2005), 156–76.

30. Alexander Hall, “Remembering in God’s Name: The Role of the Church and Community Institutions in the Aftermath and Commemoration of Floods,” in Georgina H. Endfield and Lucy Veale, eds., Cultural Histories, Memories and Extreme Weather (London: Routledge, 2017): 112–32; Alexander Hall and Georgina H. Endfield, “‘Snow scenes’: Exploring the Role of Memory and Place in Commemorating Extreme Winters,” Weather, Climate, and Society 8, no. 1 (2016): 5–19; Andrew W. Gorman-Murray, “An Australian Feeling for Snow: Towards Understanding Cultural and Emotional Dimensions of Climate Change,” Cultural Studies Review 16, no. 1 (2010): 60–81.

31. Vannini et al., “Dwelling and Weathering,” 371.

32. Stuart Bryce Capstick and Nicholas Frank Pidgeon, “Public Perception of Cold Weather Events as Evidence for and against Climate Change,” Climatic Change 122, no. 4 (2014): 695–708.

33. George C. Adamson, “Private Diaries as Information Sources in Climate Research,” Wiley Interdisciplinary Reviews: Climate Change 6, no. 6 (2015): 599–611.

34. Jan Golinski, “Putting the Weather in Order: Narrative and Discipline in Eighteenth Century Weather Diaries,” paper delivered at the William Andrews Clark Memorial Library, University of California at Los Angeles, 16 May 1998; Jan Golinski, British Weather and the Climate of Enlightenment (Chicago: University of Chicago Press, 2007), 84.

35. S. W. Martins and T. Williamson, eds., The Farming Journal of Randall Burroughes (1794–1799), Norfolk Record Society vol. 58 (1995). The diary was featured on A History of the World: Ploughs, Cows and Clover, broadcast on 17 May 2010 on BBC One. Burroughes let the Browick farm and sold his sheep in 1799, and it is possible that he ceased farming at the time the record ends.

36. Gordon V. Manley, “Central England Temperatures: Monthly Means 1659–1973,” Quarterly Journal of the Royal Meteorological Society 100 (1974): 389–405.

37. Farming journal of Randall Burroughs of Wymondham, 1794 to 1799. MC216, Norfolk Record Office.

38. Manley, “Central England Temperatures.”

39. Gordon V. Manley, “The Use of Archives and Written Records in Meteorological Research,” Archives 15, no. 65 (1981): 3–10, quotation on 8.

40. Lucy Veale, James P. Bowen, and Georgina H. Endfield, “‘Instead of Fetching Flowers, the Youths Brought in Flakes of Snow’: Exploring Extreme Weather History through English Parish Registers,” Archives and Records 38, no. 1 (2017): 119–42, quotation on 136.

41. John Emrys Morgan, “Understanding Flooding in Early Modern England,” Journal of Historical Geography 50 (2015): 37–50, quotations on 45.

42. Microfilm M437, vol. 2, Derbyshire Records Office, Kirk Ireton baptism register, 1813–1880.

43. S. Lewis, A Topographical Dictionary of England, in Four Volumes, 7th ed. (London: Lewis & Co., 1848), 2:621.

44. Vannini et al., “Dwelling and Weathering,” 371.

45. Hulme, “Geographical Work,” 102.

46. Terry Marsh, Gwyneth Cole, and Rob L. Wilby, “Major Droughts in England and Wales, 1800–2006,” Weather 62, no. 4 (2007): 87–93.

47. Diary of Richard Philips Shilton, M491, Nottinghamshire Archives.

48. Agreement signed at a vestry at Bolingbroke that the cattle shall be allowed to wander freely on the highways until the drought ends. Inhabitants of Bolingbroke,2 DAWSON/14, Lincolnshire Archives.

49. Letter from B. Dashwood, Clifton, to William Forster Esq, Lincolns Inn, London. Part of a bundle of letters relating to a proposed bond on indemnity and some objections of Mr Martin Pitts. MISC DEP 109/132, Lincolnshire Archives.

50. Diary of William Gilbert recording daily weather inc. drought Aug 1826 and floods 1828. Titled Great Bowden 1826, A Journal, DE5919/1 Leicestershire, Leicester and Rutland Record Office.

51. Strauss and Orlove, Weather, Climate, Culture, 230.

52. Papers of or relating to Henry Winn of Fulletby, 1816-1914, WINN 5/3, 1906–7, Lincolnshire Archives.

53. Register of the Parish of St Peter in Droitwich beginning in the year 1793. Vol 3 baptisms 1793 to 1812 and burials 1793 to 1812. 850DROITWICHSPA/1/a/iii, Worcestershire Records Office.

54. Small pocket diary belonging to William Holman, NorwichMC 535/1, Norfolk Records Office.

55. Letter, from Richard Lister Venables (Llysdinam Estate Records / Venables family) to George S. Venables LLYSDINAM B1474, Llyfrgell Genedlaethol Cymru/National Library of Wales.

56. E.g. Notebook of Charles Isham Strong, ST 454, [Northamptonshire Record Office](http://www.northamptonshire.gov.uk/en/councilservices/community/archives/pages/default.aspx); George Higgens, Analysis of Waltham rainfall, including comments on record rainfall, droughts, etc, 1860 to 1939 DE 7316/1, [Leicestershire, Leicester and Rutland Record Office](http://www.leics.gov.uk/recordoffice); Sharpe and Wade, solicitors of Market Deeping. Papers re flood relief 1875-6, SW 5/19, Lincolnshire Archives; Gr S 3/1/1–25, Indexed scrapbook containing newspaper cuttings compiled by F. S. Granger largely relating to local issues but also including items of national and international significance, [Nottingham University Library, Department of Manuscripts and Special Collections](http://www.nottingham.ac.uk/manuscriptsandspecialcollections/index.aspx); Watercolor painting of Grafton Regis in a flood by Miss J B Sams, daughter of Revd. Sams, Rector of Grafton Regis. Part of Album, Northamptonshire Records Office

57. Letter dated 14 November from Alfred Milner, Balliol College, Oxford, to P.L. Gell. D3287/MIL/1/16, , Derbyshire Records Office.

58. HR Potter, Packet entitled 'October 1875 flood', c. 1975.HRP/F/1/3/1, Nottingham University Library, Department of Manuscripts and Special Collections.

59. Eric D. Delderfield, The Lynmouth Flood Disaster (Exton: Atkins & J. Letheren, 1953).

60. See, for example, “RAF Rainmakers Caused 1952 Flood: Unearthed Documents Suggest Experiment Triggered Torrent That Killed 35 in Devon Disaster,” Guardian, <https://www.theguardian.com/uk/2001/aug/30/sillyseason.physicalsciences>.

61. J. Oliver, “Problems of Agro-climatic Relationships in Wales in the Eighteenth Century,” in J. Oliver, ed., Weather and Agriculture (Oxford: Pergamon, 1967), 187–99, quotation on 188.

62. Trevor A. Harley, “Nice Weather for the Time of Year: The British Obsession with the Weather,” in Sarah Strauss and Benjamin S. Orlove, eds., Weather, Climate, Culture (Oxford: Berg, 2003), 103–18.

63. Petition of the seamen of Lynmouth on behalf of themselves and other the inhabitants of Lynton and Lynmouth, addressed to John Short and concerning the flooding of the river at Lynmouth, 52/14/2/1, Devon Record Office.

64. Katherine Brickell, “Mapping and Doing Critical Geographies of Home,” Progress in Human Geography 36, no. 2 (2012): 225–44, quotation on 226.

65. Emma R. Power, “Domestic Temporalities: Nature Times in the House-as-home,” Geoforum 40, no. 6 (2009): 1024–32, esp. 1031.

66. Maria Kaika, “Interrogating the Geographies of the Familiar: Domesticating Nature and Constructing the Autonomy of the Modern Home,” International Journal of Urban and Regional Research 28, no. 2 (2004): 265–86, quotation on 265.

67. Power, “Domestic Temporalities,” 1025.

68. Georgina H. Endfield and Carol Morris, “Exploring the Role of the Amateur in the Production and Circulation of Meteorological Knowledge,” Climatic Change 113, no. 1 (2012): 69–89; Carol Morris and Georgina H. Endfield, “Contemporary Home-made Meteorological Science: Co-constructing the Home Weather-climate Knowledges in the UK,” in D. Opitz, S. Bergwik, and B. Van Tiggelen, eds., Domesticity in the Making of Modern Science (London: Palgrave, 2015), 151–71.

69. Morris and Endfield, “Contemporary Home-made Meteorological Science.”

70. Kaika, “Interrogating the Geographies,” 265.

71. Brickell, “Mapping,” 228.

72. Power, “Domestic Temporalities,” 1024.

73. Brickell, “Mapping,” 229.

74. Transcriptions of excerpts from a commonplace book, dating from the late eighteenth century, recording extreme weather occurrences throughout Derbyshire, D 349, Derbyshire Records Office.

75. I. Watkins, Oswestry with an account of its old houses, shops, Etc., and some of their occupants, 6 June 1778 F 64, [Shropshire Archives](http://www.shropshire.gov.uk/archives/).

76. Raul P. Lejano, Joana Tavares-Reager, and Fikret Berkes, “Climate and Narrative: Environmental Knowledge in Everyday Life,” Environmental Science and Policy 31 (2013): 61–70.

77. Wouter Poortinga, Alexa Spence, Lorraine Whitmarsh, Stuart Capstick, and Nick F. Pidgeon, “Uncertain Climate: An Investigation into Public Scepticism about Anthropogenic Climate Change,” Global Environmental Change 21, no. 3 (2011): 1015–24.

78. Alexa Spence, Wouter Poortinga, and Nick Pidgeon, “The Psychological Distance of Climate Change,” Risk Analysis: An International Journal 32, no. 6 (2012): 957–72, quotation on 957.

79. Irene Lorenzoni and Nicholas Frank Pidgeon, “Public Views on Climate Change: European and USA Perspectives,” Climatic Change 77 (2006): 73–95, esp. 80; Jean P. Palutikof, Maureen D. Agnew, and Mark R. Hoar, “Public Perceptions of Unusually Warm Weather in the UK: Impacts, Responses and Adaptations,” Climate Research 26, no. 1 (2004): 43–59.

80. W. Neil Adger, Jon Barnett, Katrina Brown, Nadine Marshall, and Karen O’Brien, “Cultural Dimensions of Climate Change Impacts and Adaptation,” Nature Climate Change 3, no. 2 (2013): 112.

81. Leila Scannell and Robert Gifford, “Personally Relevant Climate Change: The Role of Place Attachment and Local versus Global Message Framing in Engagement,” Environment and Behavior 45, no. 1 (2013): 60–85, esp. 66.

82. Hulme, “Geographical Work.”

83. Lyle Scruggs and Salil Benegal, “Declining Public Concern about Climate Change: Can We Blame the Great Recession?” Global Environmental Change 22, no. 2 (2012): 505–15, esp. 507; Sabine M. Marx, Elke U. Weber, Benjamin S. Orlove, Anthony Leiserowitz, David H. Krantz, Carla Roncoli, and Jennifer Phillips, “Communication and Mental Processes: Experiential and Analytic Processing of Uncertain Climate Information,” Global Environmental Change 17, no. 1 (2007): 47–58, esp. 49; Richard E. Nisbett and Lee D. Ross, Human Inference: Strategies and Shortcomings of Social Judgment (London: Prentice-Hall, 1980), 334.

84. Spence et al., “Psychological Distance,” 971.

85. Candice Howarth and Richard Black, “Local Science and Media Engagement on Climate Change,” Nature Climate Change 5, no. 6 (2015): 506.

86. Marx et al., “Communication and Mental Processes.”