Bologna and Siena during the Dantean Anomaly (1309-1321)

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The common consensus seems to suggest that Italy was spared from the Great Famine (1315–1321).¹ While it is certainly true that fewer people starved there than in contemporary England, however, the absence of massive famine does not necessarily mean that the meteorological conditions were better than in the rest of Europe, as chronicle quotations suggest:

[1315] There was nothing but rain in October, November and December, and it wasn't cold [...]  
[1316] Great was the frost, and an extreme dearth of all foodstuffs [...]  
[1317] In this time there was a considerable snowfall and deep freeze for all of February and March [...]  
[1319] In January and February the deep freeze that got worse from day to day [...] and many people froze to death - Chronicon Parmense

Figure 1: Depiction of the city of Parma, 15th century. Public domain, Wikimedia Commons https://upload.wikimedia.org/wikipedia/commons/d/dc/Parma_nel_XV_secolo.jpg?uselang=de.

Although Italian scholars were amongst the first to work in the field of climate history, the

historiography on Italian climate history of the Middle Ages is actually quite lacking.\footnote{See for an overview: Nella spirale del clima. Culture e società mediterranee di fronte ai mutamenti climatici, a cura di Emanuela Guidoboni, Antonio Navarra, Enzo Boschi, Bologna 2010; the significant body of publications by Dario Camuffo and Silvia Enzi, mostly on the Veneto and the Early Modern period, should be mentioned here. Also Emanuela Guidoboni took up her first research in the 1980s.} Italian narrative sources for the thirteenth and fourteenth centuries are incredibly dense, but, with few exceptions,\footnote{Silvia Enzi, Mirca Sghedoni, Chiara Bertolin, Temperature Reconstruction for North-Eastern Italy over the Last Millennium: Analysis of Documentary Sources from the Historical Perspective, in: The Medieval History Journal 16/1 (2013), pp. 89-120; Trevor Dean, Natural encounters: climate, weather and the Italian Renaissance, in: European Review of History/Revue européenne d'histoire 18/4 (2011), pp. 545-561.} they have not been evaluated for climate history. Even better, the rich archival documentation in Italy allows for study of climate history at practically the local level.\footnote{Laurent Litzenburger, Une ville face au climat: Metz à la fin du Moyen Âge. 1400-1530, Nancy 2015.} Historians of other European regions can only dream of such rich source material.

This is one reason that I have chosen two Italian cities—Bologna and Siena—for my study. Neither belongs to the major Italian cities around 1300, although they were already of considerable size and economic, political, and cultural importance. For most of the time covered by this study, communal governments ruled over both cities. In Siena and Bologna, local chronicles, both edited and unedited, allow for a first approach to the communal history for the Dantean Anomaly. But more importantly, the municipal archives in these two cities have preserved dense administrative documentation. This includes nearly continuous records of the city council (Consiglio Maggiore/Generale) for the entirety of the Dantean Anomaly. While Bologna offers additional administrative documentation with details on what happened inside and outside the city walls, Siena is famous for its detailed financial accounts that provide information (like costs) on specific reactions to extreme events.

But the cities have also been chosen for what they do not have in common: They represent different microclimates in Italy—the Po valley and Tuscany—and while Siena was, in normal times, self-sufficient thanks to its domestic grain production, Bologna constantly needed to import grain. Neither city initially possessed its own harbor to import crops, although in 1302 this changed in the case of Siena with the acquisition of Talamone on the Thyrrenian Sea.

My focus is on changes to infrastructure and institutions in response to the rising frequency of extreme events. These include the establishment of new authorities (e.g., to develop infrastructure around Bologna) and the institution of new laws to stabilize grain availability (e.g., new statutes in Siena). The institutions—whether traditional or newly created—often proved to be at the heart of
the municipal government: the *Domini bladi* in Bologna became the most important council in Bologna, and aspiring politicians aimed to be part of this institution. The granary even became the seat of the city’s government. In the case of Bologna’s first crypto-signore, the banker Romeo Pepoli, his (almost) successful path to power was closely connected to the offices he held in bodies responsible for water infrastructure and the money he provided to his fellow citizens (or, more precisely: to the grain welfare system) in times of famine. Finally, the economic ascent of his family in the 1310s was coupled with a shift from money lending to real estate acquisitions in the *contado*, most pronounced in settlements which had been repeatedly devastated by flooding.

*Figure 2:* Bologna’s City Hall (Palazzo del Comune), built in the late 13th century on the former home of Accursius. The oldest part to the left served as the city’s granary (Palazzo della Biada) and became the seat of the communal government in 1336. Image: Public Domain, [Wikimedia Commons](https://commons.wikimedia.org/wiki/Category:Palazzo_d%27Accursio_(Bologna)?uselang=de#mediawiki/File:Palazzo_d%27Accursio_-_Facciata_addobbata_per_la_visita_del_Papa_1.jpg)

Infrastructure mattered in several ways: In some cases, these measures were direct reactions—the
building of new river dikes in the plains around Bologna after major floods, for example, or the construction of new granaries around Siena in 1314. In other cases, the reconstruction of infrastructure which had been destroyed in natural disasters—roads, bridges, mills, and canals—consumed considerable sums of the communal budget. Finally, the impact extreme events had on the afflicted cities varied a great deal depending on the preexisting infrastructure: harbors, for example, provided access to imported grain, while a sophisticated and well-financed system of dikes helped control flood damage.

Despite the many opportunities for such study in the historical record of the Italian peninsula, there are also a few unfortunate lacunae. Unlike for England and France, the sources for Italy do not include information on yields and prices of grain and wine for the years 1309–1321. In addition, few natural proxies are available: Dendrochronological results are scattered, and lake sediments likewise lack the needed temporal resolution. Furthermore, there is little research on historical erosion, although chronicles prominently mention it:

And in this year [Sep 1318] was the strongest rain that ever was since the Deluge, [...] and in these areas many people drowned; and it was a horrible thing to see how the water had ruined everything: Where it had found weak soil, it had taken it all away. And that's why it is not surprising that in many high places, that is in the mountains, where the ground is rocky, all the soil had been washed away and the ground remained uncovered by soil; all you could see were stones. And that's why many places became deserted and those who cultivated them left.

- Cronaca Senese

**Figure 3:** So-called “Desert of Accona” between Siena and Buonconvento, known by this name since the Middle Ages. Image: Public Domain, [Wikimedia Commons](https://it.wikipedia.org/wiki/Deserto_di_Accona#/media/File:Deserto_di_Accona-1.jpg)

To summarize, the project aims first to reconstruct climate change based on narrative sources for the
Duecento and Trecento in Northern and Central Italy, and to represent these finding using climate indices that will facilitate comparison of these results to findings for other regions.

Second, the project will produce a regionalized study of climate history for two important Italian cities, demonstrating how Italian communes were affected by and reacted to a rising frequency of extreme events. Thanks to their economic power, trade networks, infrastructure, and established systems of grain management, the Italians were undoubtedly better prepared to handle such problems than most other Europeans. The connections between crop failure, dearth, and harsh weather conditions which have been demonstrated for other regions can also be established for Italy. In the third step, the project intends to demonstrate that socio-cultural, economic, and political reasons explain why Italy was hit less hard by the Great Famine during a period of serious meteorological deterioration; this is paramount in explaining the role cultural preconditions played in the relatively low vulnerability to climate phenomena we find in Italy compared to the other sub-projects and comparable regions.