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18 Online digital communication, networking, and environmental history

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On January 23, 1996, Professor Dennis Williams from Southern Nazarene University declared, “Today begins a new epoch [for] all of us who have been discussing environmental history electronically for the past few years.” This was the first message sent to the H-ASEH (later renamed H-Environment) email list-serv, now more than twenty years ago. H-ASEH was the successor to the previous ASEH-L email listserv that Williams started in 1991. While some environmental historians had previously communicated in smaller, closed computer networks in the past, the advent of email listservs and the H-Net consortium was the beginning of widespread online digital communication and networking among environmental history scholars.

In the two decades since Williams posted that first message, online digital technologies have opened up new avenues for the communication of research findings and the development of research networks among environmental historians. In fact, environmental historians have been leaders in the use of online digital communications technologies in the environmental humanities. As Cheryl Lousley (2015) recently wrote, “Among environmental humanities scholars, it is the environmental historians who have been most adept at reconfiguring scholarly research and communication in light of emerging digital possibilities” (Lousley 2015, p. 3). This chapter examines the changing uses of online digital technologies for communication and networking in the environmental history research community. It offers a survey of the history of online environmental history activities and a snapshot of the contemporary uses of such technologies. These technologies have influenced scholarship in the field of environmental history in a number of important ways. First, they have facilitated the development and growth of regional, national, and international scholarly networks. Second, they have extended the reach of environmental history research findings making this research accessible to communities beyond the academy, including educators, policy makers, journalists, and public history audiences. Finally, environmental historians have begun to make use of online digital technologies for the development of new forms of scholarly publication.

Creating online scholarly networks

From the early-1990s to the mid-2000s, environmental historians primarily used online digital technologies for the development of scholarly research networks. This was precisely the purpose of ASEH-L and H-ASEH. These email listservs provided an online discussion forum for members of the American Society for Environmental History and other users around the world. ASEH-L began in the early-1990s with 300 mostly American subscribers and was hosted by Texas Tech University before migrating to the H-Net system. Just as today, these email listservs created an international online forum for scholars in environmental history to discuss common issues, post announcements about conferences and publications, and share other news.

In the first month, H-ASEH users posted sixty-one messages on a range of topics. One of the earliest topics for discussion was a general conversation about the state of the field of environmental history and how historians defined this relatively new area of study. As editor of *Environmental History*, Hal Rothman enthusiastically described the field as “one of the most exciting new disciplines to emerge in the past two decades.” He wrote an early introductory statement about environmental history, the ASEH, and the journal itself. “We intend for the list to be the location of dialogue and debate about the field of environmental history,” wrote Rothman in January 1996, “as well as a place where books are reviewed, new publications announced, and other matters of interest to the members discussed and debated” (Rothman 1996). For the most part, this was how environmental historians tended to use the listserv.

Conferences, workshops, symposia, and other events filled the early message threads on H-ASEH as scholars made use of the listserv as a platform to advertise various activities and meetings. Within a day, Charlotte Zoe Walker (January 24, 1996) from SUNY Oneonta posted the first conference announcement for an event on multicultural perspectives on environmental writing. Ray Bromley (January 29, 1996) followed up with an announcement about a one-day conference at the Lewis Mumford Center at the University of Albany.

Teaching issues arose early in H-ASEH discussion with historians seeking advice on course development. For example, Robert Schwartz (January 29, 1996) sought help with developing a new course on environmental thought in Europe from 1600 to the present. Joel Tarr’s first message (January 29, 1996) on the listserv was a request for videos relating to Native American attitudes toward nature. Within a month, Sarah Elkind was already working on creating an online repository for syllabi and other teaching resources (Williams February 28, 1996).

While H-ASEH began as an online tool for members of the ASEH and much of the early discussion focused on US topics, scholars studying topics and working outside the US made use of the listserv to develop scholarly networks. For instance, Mats Widgren (January 25, 1996), a geographer from Stockholm University, reached out to find other scholars working on “the historical and social contexts of intensive farming” (Widgren 1996). Richard Stuart (January 25, 1996) from Parks Canada sought information about environmental historians

working on topics relating to Canada. Laxman D. Satya (January 30, 1996) started an extended discussion of sources relating to the environmental impacts of British colonialism in nineteenth-century India. And Horacio Capel from Universidad de Barcelona shared a number of references to scholarship on conservation history in Spain. The global reach of environmental history was evident in the early use of this email listserv in the mid-1990s.

To reflect the increasing number of non-American subscribers of H-ASEH, 20 per cent of the 1200 members in early 2000, H-ASEH changed its name to H-Environment. This change became particularly urgent with the creation of the European Society for Environmental History (ESEH) the prior year. ESEH would become one of the supporting professional organisations of H-Environment, which was reflected with the creation of a new editorial board that included a representative of ESEH and the appointment of a European list editor. Through ESEH, the number of non-American subscribers of H-Environment continued to expand (H-Environment editors, April 6, 2000).

Early discussions on H-ASEH differed somewhat from the way that environmental historians use email listservs today. For the most part, discussion on the current H-Environment listserv is dominated by announcements without much back and forth conversation. In the first months of H-ASEH, however, it was common for environmental historians to pose open-ended questions and generate some discussion among users. This most often took the form of seeking resources for particular topics or issues in environmental history. On 5 February 1996, Tina Roberts (Roberts 1996), a graduate student at University of Maine, started a discussion thread seeking resources on the role of women in the environmental movement. This generated eighteen responses over the remainder of the month with suggestions for further reading and references to particular women in the environmental movement.

While most of the direct online interaction among environmental historians in the 1990s took place on H-ASEH, scholarly associations also made use of websites to share information and resources with their members. "Understanding the past for its impact on the future," read the header of the Forest History Society website in early 1998. As one of the earliest environmental history associations to establish a presence on the Web, Forest History Society led the way by providing information about environmental history for its members and general readers. Duke University started hosting the website in the mid-1990s. In addition to providing information on membership, relevant archives, its oral history program, publications, and awards, the Forest History Society website included its extensive bibliography: an online version of a computer database that the society had kept since the early 1980s. This quickly became one of the most influential online resources for environmental history scholarship.

ASEH, and later ESEH, both established websites to share information with members and provide resources about the emerging field for a general readership (Figure 18.1). ASEH first started with a website directly tied to the H-ASEH/H-Environment email listserv but eventually fully migrated to its own domain at aseh.net in 2002. This website focused specifically on membership issues, the

society's annual meeting, and the journal *Environmental History*. In 2007, ASEH began publishing a digital version of its newsletter. ESEH first established its website in 2000, constructing a similar site to that of ASEH and other historical scholarly associations. It included membership information, conference details, and links to additional resources.

The case of ESEH, in particular, illustrates the power of the Web to create networks. An earlier attempt to create a scholarly environmental history association, the European Association for Environmental History (EAEH), never really got off the ground. The last print newsletter was published in 1995 and then it fell silent. Without a ubiquitous communication tool, such as the Web, it proved almost impossible to create an international network in the culturally and linguistically diverse continent that is Europe. From the start, the website was a central part of ESEH's communication strategy. Here, scholars could sign up as members and find information about the organisation, conferences, and publications (Winiwarter, March 31, 2001). A combined use with H-Environment proved very effective and by the time of the first ESEH conference in September 2001 about 300 scholars had registered as members mainly through the website. In recent years the website has diversified and is now linked to a social media presence and H-Environment has mostly lost its function as a communication channel for ESEH members.

Up to the early-2000s environmental history focused on issues in North America and Europe, with more of the online content appear in English. More recently, however, an ever-growing number of researchers from Asia, the South Pacific, Africa, and Latin America have been joining what has become a global environmental history community (Reinaldo 2008). This resulted in the creation of the Latin American and Caribbean Society of Environmental History (SOLCHA in Spanish) in 2004 and the Association of East Asian Environmental History in 2009. Both societies had a web presence from the beginning but the sites are not yet as thoroughly developed as those of the ESEH and ASEH. The sites present basic information about the organisations, membership, conferences, and news in the field. The sites play an important role in communicating and organizing the biannual conferences of both organisations.

By the early 2000s ASEH, ESEH and H-Environment had established an online presence that had helped to create international scholarly networks in environmental history. But in large countries with relatively small and scattered populations, in particular in Canada and Australia, it was felt that a more regional focus was needed in order to connect scholars. This led to new online initiatives of network building and online innovation during the first decade of the twenty-first century. In 1997, the *Environmental History Network* was established at the Australian National University with the aim to facilitate communications among scholars working across a range of university departments, government agencies, businesses, and cultural and scientific institutions. A few years later the network had established an online presence and encompassed all states of Australia and New Zealand, reflected in the new name of the network: *The Australian and New Zealand Environmental History Network*. The

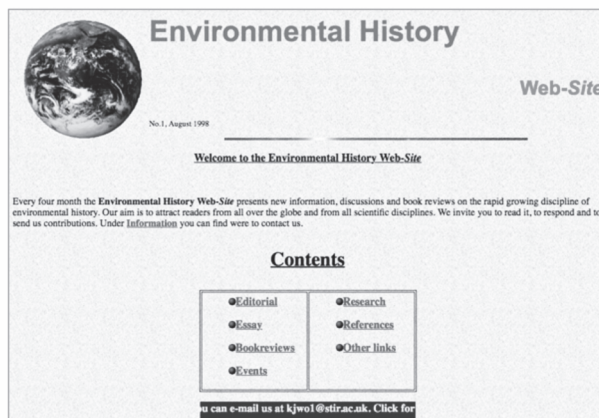
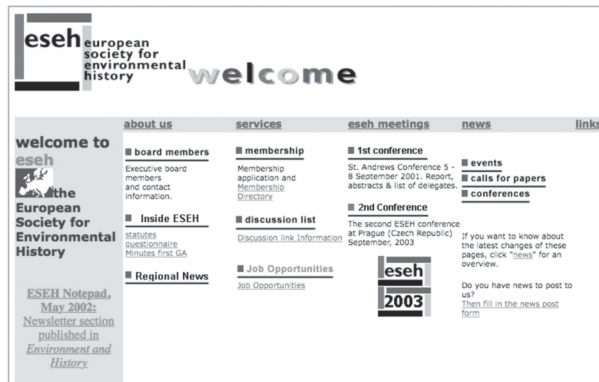
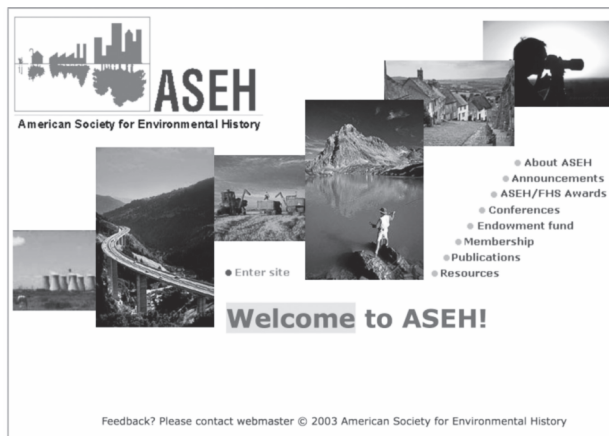


Figure 18.1 Three examples of early environmental history sites: ASEH (2002), ESEH (2000), and EH website (1998). Note the simple structures and the lack of interactive features

Source: Images courtesy of ASEH, ESEH and Jan Oosthoek.

network became a successful bulletin board around which a diverse group of researcher from around Australia and New Zealand coalesced. The site of the *Australian and New Zealand Environmental History Network* is closely linked to the Centre for Environmental History at the Australian National University which administers the site. The latter also has an active web presence and complements the network with news and stories related to members of the Centre and the wider research community in Australia and New Zealand.

In 2004, Alan MacEachern (University of Western Ontario) and a team of environmental historians and historical geographers founded the Network in Canadian History and Environment (NiCHE), a new organization focused on scholarship in environmental history in Canada. This team won funding from the Social Sciences and Humanities Research Council of Canada to develop a national research network and disseminate environmental history scholarship to academic and non-academic audiences. In doing so, NiCHE leveraged online digital tools in order to connect researchers across Canada. The organization began with a traditional static website, but soon made use of online collaboration software by Groove Networks to facilitate the development of collaborative research papers and to lead real-time online discussions of issues and themes in Canadian environmental history. In 2007, NiCHE relaunched its website using the Drupal content management system. This allowed members to write and submit their own content for the site. The commenting feature of the new site also allowed members to respond to one another and generate discussion and conversation. This use of user-generated content and commenting tools blended the information sharing features of early environmental history websites with the online engagement and interactivity of email listservs. In 2008, NiCHE started publishing an audio podcast called, *Nature's Past*, which further extended the public reach of the network to communities beyond the academy.

Reaching wider audiences

While the development of scholarly networks dominated environmental historians' early use of online digital technologies, some researchers also saw the potential to use the internet as a communications tool to reach broader public audiences. With environmental issues capturing greater public attention in the 1990s, some historians began to envision a public role for environmental history, one that could be facilitated by online technologies. Dissemination of scholarly work has always been important. Only a few decades ago this was mainly done through scholarly journals and, in the humanities, the monograph. Some better-known scholars contributed to public debate through newspapers, popular magazines, and, in some cases, television and radio programmes. Overall, dissemination of scholarly material was conducted through a number of limited media with a limited reach. In 2004, Catherine Christen and Lisa Mighetto (2004) co-edited a special issue of *The Public Historian* to coincide with the first joint meeting of the ASEH and the National Council on Public History. In that issue, they made note of the degree to which environmental historians addressed "the

'usefulness' and uses of environmental history in a variety of forums, including ASEH conferences, and in recent years also on the H-Environment web site and e-mail discussion network" (Christen and Mighetto 2004, p. 10). Based on those online discussions, they hoped to use the joint meeting of these two groups as an occasion to ask how environmental history might benefit from the adoption of public history's approach to the dissemination of historical knowledge. Online digital technologies would come to play a significant role in that effort.

Outside of the activities of the main scholarly associations, a few individual researchers began to develop websites as resources for other researchers and general audiences with an interest in environmental topics. These websites served as some of the earliest online resources for the dissemination of environmental history to audiences beyond the academy. In 1996 Bill Kovarik published the first version of his *Environmental History Timeline* on the Web. This timeline was originally published in a book entitled *Mass Media and Environmental Conflict* (1996) earlier that same year. Over time the website and timeline evolved and expanded to include more international topics and take the timeline back to prehistory. At present the site also contains a blog with posts commenting on current environmental events putting them into historical context, short biographies and material for students. The site stands very much on its own and is not embedded in current online social media platforms which would extend the reach of the site even further.

A site that is currently firmly embedded in a network of online social media is *Environmental History Resources*. In 1998 this site began its life as a personal website of Jan Oosthoek, then an environmental history graduate student based in Scotland. The site was initially hosted by Tripod.co.uk and called "Environmental History Website" and was intended as a general resource for a global audience. Within months the site was moved to the servers of University of Stirling and renamed "Oosthoek's Environmental History Homesite." In 2005 the site was closed down by the University of Stirling and in early 2006 Oosthoek relaunched it as *Environmental History Resources*. Here Oosthoek continued to focus on developing publicly accessible environmental history resources that were intended not just for a scholarly audience, but a broader public history audience. The site is used as a platform to explain the field to non-experts, especially students new to the field and earliest content included a series of introductory essays. In the spring of 2006 Oosthoek launched *Exploring Environmental History*, the first environmental history audio podcast, which was a significant departure from previous uses of online audio. Instead of recorded lectures, Oosthoek produced a regular, edited, episodic series, which continues to this day. More recently *Environmental History Resources* has added a dedicated YouTube Channel with short introductory videos and the site is closely linked to a network of online social media, including Twitter, Google Plus and the scholarly social network ResearchGate.

From the mid-2000s a new type of online academic presence emerged in the form of blogging. A number of individuals (mainly graduate students and early-career scholars) embraced blogging to showcase their work to a wider audience.

Blogging among environmental historians developed not just as a form of self-publication and promotion. Instead, it added to the academic processes of research, writing, and debate. Blogging emerged as a productive scholarly activity as scholars turned research or a talk, a topic they are teaching about and even commentary on current affairs into blog posts.

Since the late 2000s, several environmental historians have published regular blogs about their research. For instance, in late 2009, Katherine Knight, an early-career scholar, launched Envirohistory NZ, a blog about her own research and conservation issues in New Zealand. The aim of the site is to “to stimulate discussion and exploration of the way we relate to our environment through history.” Many of the topics on this blog relate to her research and have ended up in a monograph about the environmental history of the Manawatu region of the North Island of New Zealand. Also in 2009, Sean Kheraj (York University) started an academic blog about his work in Canadian environmental history, featuring short articles about ongoing research, teaching, and current affairs. In 2013, Dolly Jørgensen (Luleå University of Technology), president of the ESEH and contributor to this volume, started a research blog with a focus on her project on the history of species re-introductions called “The Return of Native Nordic Fauna.” This blog stands out as an explicit example of a project-focused blog created with the intention of helping Jørgensen develop her ideas and present preliminary findings from her broader research project.

Environmental historians have also collaborated on group blog initiatives, multi-authored regular blogs with editorial teams. The Forest History Society launched one of the earliest environmental history group blogs in 2008 called, *Peeling Back the Bark*. This blog highlights the archives and photo collection of the Forest History Society through numerous articles and features (Lehmen, August 8, 2008). In 2011, Jim Clifford, then the project manager for the Network in Canadian History and Environment, launched *The Otter~La loutre* (originally called *Nature's Chroniclers*), a group blog focused on Canadian environmental history. Based on his experience co-founding and editing the web publication, *ActiveHistory.ca*, Clifford developed a multi-authored group blog model that saw the publication of hundreds of short articles each year. These articles included a mix of research findings, opinion, historiographical debate, and current events offering a rich, new form of scholarly communication and the fostering of ongoing discussion among environmental historians in Canada. Similar blogs have since emerged, including *Edge Effects*, a digital magazine edited and published by a graduate student team from the Center for Culture, History, and Environment at University of Wisconsin, Madison.

While many of these blog posts may never contribute directly to academic articles, many others have ended up in published papers, book chapters, and even books. As a result, blogging has become part of the online academic public landscape. According to digital historian Tim Hitchcock (July 28, 2014), blogging has become “a way of thinking in public and revising one’s work, to make it better, in public.” He argues that knowing that there is an audience forces scholars to think a little harder about the reader, the standards of record keeping and

attribution that underpins research. Indeed, as Jørgensen (September 6, 2013) found in the case of her own research blog, "With a little time commitment, a love of writing, and a desire to share insights, having a research blog can be an integrated part of the research process" (Jørgensen 2013).

Online social networking

Within the past few years, new online social networking technologies have emerged, assuming some of the former scholarly networking features of email listservs and early website development. Online social networks represent a great opportunity to create communities that go well beyond the traditional limits of academic networks to include not only professional historians and practitioners of other disciplines, but also policy makers, other educators, and journalists. Environmental historians tend to use Twitter most actively for online social networking, but they can also be found on Facebook and Google Plus. Users share links to articles and other media relevant to the field. They also debate and discuss key issues and themes. Some scholars use online social networks to organize panels and workshops for annual conferences and other meetings. On Twitter, they also adopt specific hashtags for conferences in order to share and discuss conference papers in real time. Social networks are good for creating communities, sharing ideas, debating issues, finding collaborators, and disseminating research.

One of the largest online social networking groups in environmental history can be found on #envhist, the most common hashtag used among environmental historians for general discussion on Twitter. In 2009, during a conversation with Adam Crymble (website administrator for the Network in Canadian History and Environment) Twitter user @SmithMillCreek first proposed using a single hashtag to help organize the tweets of environmental historians. Since then, the #envhist hashtag has been used to coordinate discussion among hundreds of Twitter users, many of whom are environmental history scholars. According to Wilko Hardenberg's (March 29, 2012) analysis, the hashtag gained popularity beginning in April 2011 and users posted more than 2,300 tweets with the #envhist hashtag within a year. Unfortunately, technical limitations on accessing historical data from Twitter make it difficult to determine the total use of this hashtag today. However, environmental historians, journalists, policy makers, and the broader public continue to use #envhist and Twitter as tools for scholarly networking.

One significant limitation to the use of Twitter is the limited number of characters that can be used (up to 140) and its short memory. Blogs get around these limitations but these do not have the flexibility of building large interactive communities that share information easily. Other online social networks, including Facebook and Google Plus incorporate the networking capabilities of Twitter and some of the features of blogging. These platforms, however, do not allow users to easily organise a network around a dedicated hashtag like the use of #envhist on Twitter. This changed with the recent update of Google Plus which

puts an emphasis on its so-called communities. Google Plus communities are online social networks to connect with people interested in a specific topic and act as a place for discussion, dissemination of new research and publications and general announcements. Communities are often actively managed and moderated so that only relevant items are posted and shared among members and the use of tags as well as topics simplifies searches. Google Plus currently hosts three profiles related to environmental history and one community.

A most impressive example of how an environmental history community could be run on Google Plus is the Biocultural Landscapes and Seascapes (BCLS) community. It was started by Jean-Baptiste Pichancourt, a research ecologist at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Brisbane, in December 2012. The BCLS community is an interesting online space for environmental historians and has a wide interdisciplinary membership. Pichancourt and others designed the community for people interested in issues at the intersection between biodiversity and cultural diversity. In January of 2016 the BCLS community reached over 4,000 members and was renamed "Biocultural Diversity" to reflect the diverse membership of the network that encompasses scientists, social scientists, and humanists as well as policy makers, land managers, NGOs, and other stakeholders from civil society.

New platforms for publication

In addition to using online digital technologies to facilitate public engagement and networking, environmental historians have also developed new online platforms for scholarly publishing. As Peter Roberts wrote in 1999, "I believe the potential advantages of moving toward electronic publication for scholarly work far outweigh any possible disadvantages associated with such a move." Environmental historians have indeed seen many of those advantages in recent years. All of the major journals in the field now publish online electronic editions and many of the university presses publish e-book copies of their monographs. But environmental history scholars have begun to use online digital technologies to produce new forms of scholarly publication beyond the traditional print journal and monograph.

For many years, H-Environment has published digital book reviews, once the exclusive purview of scholarly journals. H-Net began its book reviews project in the 1990s and H-Environment joined the effort in 1997. Dennis Williams served as the first book review editor and posted the first call for contributors on January 28, 1997, just one year after launching the H-ASEH listserv. Within a few months, Charles C. Kolb (1997) published the first H-Environment book review. As an online and freely-accessible digital publication, H-Environment book reviews reach a wide and growing audience of readers.

In recent years, however, H-Environment has broadened its approach to reviews, exploring new forms made possible by online digital technologies. In particular, H-Environment Roundtable Reviews stands as an example of how online digital technologies offer the potential to explore new forms of publication.

In January 2011, Jacob Darwin Hamblin announced the publication of a new feature intended to complement the existing book reviews project. H-Environment Roundtable Reviews assembles a group of three to four scholars to review a single book in the field of environmental history. H-Environment published the first issue of this new feature on January 31, 2011. H-Environment Roundtable Reviews, now in its sixth volume, has published forty issues. While the format is not entirely novel, it was only on the rare occasion that a traditional scholarly journal would assemble a roundtable review of a single monograph or essay. The online digital platform allows H-Environment to devote an entire publication to the round table format.

Within the past few years, digital technologies have facilitated a flourishing of new open-access online journals in the fields of environmental history and environmental humanities. Indeed, the dissemination of freely available online journals through open-access publishing has been one of the most significant consequences of the adoption of online digital technologies in academia and it has been influential in the development of new online journals in environmental history and environmental humanities. Michael Geist recently wrote, "The shift toward open access becoming the default form of disseminating research in many fields is a remarkable change given that conventional publishing in expensive subscription-based journals was the standard in many areas of research as recently as ten years ago" (Geist 2016, p. 30). Open-access online publication has offered these journals the opportunity to reach global audiences and publish research that may not have fit well in traditional print publications. In 2012, a collaboration of scholars from universities in Australia, Canada, the United States, and Sweden founded *Environmental Humanities* and published its first issue. This international peer-reviewed journal publishes exclusively in an open-access online digital format. *Environmental Humanities* is part of the Directory of Open Access Journals, joining a number of new online journals that have adopted an open-access publishing model. Since 2010, the Rachel Carson Center for Environment and Society has published its own open-access online journal called, *RCC Perspectives*, a publication focused on less formal articles in environmental humanities. Most recently, the Centre for Environmental History at Australian National University launched *International Review of Environmental History*, its own open-access journal (available in print and online). The appearance of these new journals suggests a trend toward open-access online journal publication in environmental humanities, although the most influential journals in the field of environmental history remain subscription-based print journals.

We see other experiments in online digital publication that push the boundaries of how environmental historians communicate and disseminate their research. The Arcadia Project is one such digital environmental history project that attempts to publish research findings in novel ways. A project of the Rachel Carson Center for Environment and Society and the ESEH, the Arcadia Project is a unique Web publication of original peer-reviewed environmental histories. The project is organized into collections that examine key themes in environmental history with case studies from around the world. Each case study is

authored by a leading scholar on the topic and includes a short essay, a bibliography for further reading, and links to relevant online resources. Moreover, the collections are mapped and situated on a timeline so that users can explore these global environmental histories spatially and temporally. As a so-called “born digital” project, Arcadia makes full use of rich media, hypertext linking, and non-linear structure in its presentation of environmental history scholarship. The short text and emphasis on references to additional resources position this project as a public history initiative as well, offering users an introduction to a wide range of topics in environmental history. Arcadia and other new online publications suggest rich possibilities for the development of new forms of scholarly publication for environmental history.

Conclusion

From email listservs in the 1990s to the development of international online social networks of scholars, policymakers, educators, and journalists, the past two decades of the use of online digital technologies for networking and communication clearly demonstrate the ways in which environmental history has been at the forefront of broader changes in digital scholarship. This survey suggests a number of significant conclusions about the influence of digital technologies on environmental history.

First, the field of environmental history has developed alongside the growth and the use of online digital technologies in academia. To understand the development of the field from a historiographical perspective, it is important to consider the role that online digital technologies played in fostering communities, facilitating debate, linking researchers around the globe, and promoting the dissemination of research findings. The launch of H-ASEH in 1996 took place concurrently with an international flourishing of the field, especially in regions outside of the United States. In many ways, the growth of the field in parts of the world where geographic distance or cultural barriers isolated researchers from one another can be attributed, in part, to the exploitation of online digital technologies for networking and communication.

Because online digital technologies played such a significant role in the development of the field of environmental history around the world, the archiving and preservation of digital communication is especially urgent. Historical records of online social networks, including Twitter, Google Plus, and Facebook are difficult, if not impossible, to access and many early websites in environmental history have not been adequately archived. Future research on the historiography of the field will be impeded by these technological limitations and failures to preserve this digital content.

Second, while environmental historians have had a long history of using online digital technologies for networking and communication and they may have been particularly prominent in this regard when compared to other sub-disciplines in history, it may also be true that environmental history's use of online digital technologies is symptomatic of broader changes in the humanities

and social sciences over the past twenty years and a reflection of how the Internet and the Web have shaped academia more broadly. Certainly in the case of open-access online publishing environmental historians have not been exceptional. Many other fields of academic scholarship have embraced open-access publishing more thoroughly. Still, the particular case study of environmental history is worth considering in detail as an example of how the Internet and the Web have shaped academia in the late-twentieth and early-twenty-first centuries.

Third, the use of blogging and social networks, such as Twitter, have started to influence the way that a younger generation of scholars conducts the processes of research and writing. For example, blogging has become a tool for testing new ideas, refining writing, and to honing in on new research questions. The immediacy of the Web has sped up feedback processes compared to older print publications. In addition, the Web has the potential to increase the visibility and impact of research, something that universities and funding agencies increasingly emphasize (Biswas and Kirchherr 2015).

Finally, while environmental historians have been particularly adept at using online digital technologies for communication and networking, they have not yet widely adopted digital technologies for research analysis. This is still an emerging area in the field, but there are current projects that demonstrate the future directions for digital scholarship in environmental history. In particular, in the areas of historical geographic information systems (HGIS) and text mining we see new, exciting environmental history research. The use of “big data” and the development of infrastructure for executing large collaborative research projects is still in its infancy in the field of environmental history. However, projects such as Trading Consequences and Sustainable Farm Systems stand as models for new digital scholarship in the field. The work of scholars at the Spatial History Project at Stanford University also represents future possibilities for the further integration of HGIS into environmental history scholarship. The use of online digital technologies in environmental history will likely continue to be significant for networking and communication, but will take on an even greater role in research analysis in the future.

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