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OPEN RIVERS :
RETHINKING WATER, PLACE & COMMUNITY



CLIMATE, CHANGE & PEOPLE

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An interdisciplinary online journal rethinking the Mississippi
from multiple perspectives within and beyond the academy.

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The cover image is a view of the Chixoy River, Guatemala. Image courtesy of Brent K. S. Woodfill.

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TEACHING AND PRACTICE

THE PERILS AND PROMISE OF USING SHORT-TERM MEDIA TO TEACH LONG-TERM CLIMATE PATTERNS

By Patrick Nunnally

A concern for climate change has burst onto the national media, scientific literatures, and other discourses over the past year. As someone who teaches in design- and natural resource-oriented fields, I feel an obligation to equip my students with critical awarenesses of the patterns, as well as a sense of what they can do, professionally and personally, to face this crisis.

For me, teaching starts with place: Where are we and, knowing that, what are our responsibilities to the place, to others who live here, to ourselves?

For the past 17 years, I have taught a course in the spring semester on the Mississippi River in the Twin Cities. In three of those years—2011, 2014, and 2019—the region has seen a “hundred-year flood.” Yes, I know, that means these occur more than once every hundred years; that’s the subject of another article.

A word on location: the Mississippi River bisects the University of Minnesota’s Minneapolis campus (the St. Paul campus, where colleges relating to agriculture and natural resources and



*Flooding at the Upper Landing in St. Paul, Minnesota, March 2019.
Image courtesy of Joanne Richardson.*

biology are located, is situated to the northeast, upstream). Thousands of students pass daily across the river on the Washington Avenue Bridge, only occasionally, perhaps, looking down at the water 54 feet below (Weeks 2016). Most of the Minneapolis campus is located within the boundaries of the Mississippi National River and Recreation Area, a unit of the National Park system. All of the campus is Dakota homeland.

Higher education, of course, is organized by academic disciplines, colleges, and other siloed patterns of knowledge. A challenge of teaching place-based classes is to reflect the immediacy of the land- and waterscape around us, using the river as it passes through the campus as a “teaching lab” for the concepts we discuss, while at the same time staying somewhat recognizable as a discipline that students are familiar with and expect. For classes in landscape architecture, students are tasked with devising interventions in the physical space of the river corridor, proposing both a program and goals for their work as well as envisioning specifically what they would change. For students in natural resources, the challenges are more oriented to resource management and environmental education than to landscape intervention. Finally, for interdisciplinary seminars in the University Honors Program, students are asked to envision future relationships with the land and water of the river corridor by using the knowledge and experiences they bring to the course. In all cases, students examine land, water, and human societies as systems that impose stresses, limitations, and changes on each other. Given the river corridor’s proximity, classes like these (I am not the only one at the University who does this work) offer great opportunities for students to engage in community-engaged, experiential education that directly addresses professional and academic interests.

Most recently, the course I co-teach in Environmental Science, Policy, and Management on the Mississippi River corridor has included a strong theme of a changing climate. The class, “People, Land, and Water: Systems Under

Stress,” naturally lends itself to a discussion of climate change as a stressor for people, land, and water. For my students who work in natural resources, planning, design, engineering, or pretty much any profession that intersects the environment, climate change will be a reality of their career. When I co-teach with a scientist, we are able to work with students to address specifics of how the climate is changing. Without scientific expertise in the room, the changing climate is addressed through readings that are more journalistic in nature. In either case, our teaching addresses questions of how reliable the knowledge is we are discussing; that is, how do we know what we think we are learning is valid? Given the controversial nature of climate change policies, these are important questions and discussions to have.

In spring 2011, I asked all the students in my “Making the Mississippi” landscape architecture class to post tweets about the current flooding on the Mississippi or its local tributary rivers, the Minnesota or St. Croix. The flooding was dramatic and getting a lot of media attention. At the time, Twitter was a relatively new social media platform, and students had to be walked through the processes of setting up an account, having my program account follow them, and following the program in turn to establish a more robust dialogue on the flood topics. Students participated well, for the most part, perhaps because this assignment replaced one of the more substantive field exercises they would have been asked to do (and which was impossible because the field sites were under water anyway).

In spring 2019, my co-teacher and I agreed that students could earn bonus credit for posting tweets about that season’s floods. Very few students bothered to earn these points; we suspect that the assignment was just too far outside of standard academic practices for them since many did the more conventional task, which was to make an independent visit to a field site and write up their response. As with the 2011 experiment, strict guidelines were put in place to ensure that

students were engaged with the course issues. We gave full credit for a tweet that made a statement, that linked to an article from online, and that included one of their own photos of the space being described. The photo is important as a confirmation that the student actually went into the field. The link is important as a confirmation that the student is connecting their observations and reflections to something being reported more broadly. The tweet's text itself is important to confirm that the student is actually thinking critically about these connections, not just finding someone else's perspective from a link.

For example, in early April, soon after the assignment began, a student wrote a tweet that referenced a state legislative committee which had earlier held hearings on climate change impacts in Minnesota. The student's question and link pivoted to local master planning work that was being undertaken for one of the river-adjacent park properties. Another student took a more historical approach, noting that the logs and other detritus that had lodged against one of the islands in St. Paul resembled the timber jams that were common occurrences when the river carried millions of board feet a year to sawmills. The student's link was to a local news report about how the current logjam was getting large enough to have dangerous impacts on nearby river-adjacent properties.

Matthew Wosje
@WosjeMatthew

 **Matthew Wosje**
@WosjeMatthew Follow

@RiverLifeUMN I wonder what the Minnesota House of Representatives Energy and Climate Finance and Policy Division thinks of all this flooding? Will flooding measures be included in Hidden Falls master plan at some point? Here is the current master plan: stpaul.gov/departments/pa ...



7:37 PM - 4 Apr 2019

Brooke Bahner
@BrookeBahner

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Recent flooding in St. Paul has put parts of Raspberry Island underwater. Yet these fast-moving waters prevent expensive timber jams that often occur in the area. In the late 19th century this flooding would be ideal for lumber industries. minnesota.cbslocal.com/2013/06/29/st- ... @RiverLifeUMN



7:59 AM - 18 Apr 2019

Brooke Bahner @BrookeBahner



Brooke Bahner
@BrookeBahner

Follow

Flooding at St. Anthony Falls generates hydropower for Xcel Energy. However, many people argue to remove the dams to restore natural river flow. This would help fish populations, eliminate costly repairs and safety risks, and prevents sediment buildup.

startribune.com/st-anthony-fal ...



12:33 PM - 29 Apr 2019

1 Retweet 5 Likes



What did we learn? Three things come to mind:

First, the immediacy of flooding circumstances matters. The two years when I offered a Twitter assignment were 2011 and 2019, both years in which the river flooded and the flooding was regularly in the news. It's much more difficult for students to find interesting and important things to say when the river is behaving "normally" (we'll leave aside the question of "normal" for rivers in an era of climate change). These assignment responses are snapshots and capture immediate circumstances without the longitudinal study that would be needed to make assessments

about climate change. To use a common figure of speech, students are tweeting the weather, not climate.

The second lesson follows from the first. If there were to be developed enough "snapshot" tweet records to begin to tell a longitudinal story of change over time, then a department, college, or program would have to commit to this project as a multiyear effort. Moreover, the sponsoring entity would have to figure out data curation, storage, and presentation, perhaps through a long-term StoryMap platform or something similar. Finally, the challenge of providing necessary context for what might easily end up as thousands of impressions is formidable. What are the conditions of the river that contributed to flooding in a particular year, and how have those conditions changed from year to year? These are just a couple of the connected scientific and sociocultural questions that such a long-term project raises.

Finally, a third lesson learned had to do with one of the benefits of exposing students to the social media world as professionals, regardless of how durable those impressions are. The work of my 2019 students was retweeted and liked by water and climate professionals, some of whom are not previously known to my program. When I told the students about this pattern, they were surprised that their work, which they had envisioned as routine coursework, had in fact put them into a larger professional conversation.

I think it's this final point that resonates most strongly with me. If I can find ways for students to begin to see their work as part of professional practices that extend beyond the confines of the classroom and campus, then that achieves one of my largest goals as a teacher. "Tweeting the floods," which might morph into a "tweet the river" series of assignments, offers that opportunity to enrich students' learning experiences, despite the apparent incongruity of doing social media for class.

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About the Author

Patrick Nunnally coordinates the River Life Program in the Institute for Advanced Study at the University of Minnesota. He serves as editor for *Open Rivers* and was one of the lead scholars for the University's John E. Sawyer Seminar, "Making the Mississippi: Formulating New Water Narratives for the 21st Century and Beyond," funded by the Andrew W. Mellon Foundation.