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Rachel Carson Center for Environment and Society
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Craig E. Colten and Audrey M. Grismore

Can Public Policy Perpetuate the Memory of Disasters?

The Amite River flood in August 2016 caught many residents unawares. Rains hammered the Baton Rouge, Louisiana (USA) area for a couple of days and totals exceeded 50 centimeters in much of the small river basin. But heavy rain is nothing unusual in this place, nor are floods. Yet, the rain came so fast and for sufficient duration that floodwaters rose to record levels, creeping into houses across East Baton Rouge Parish as their occupants slept. At one gauge the river rose to over 12 meters, over 1.5 meters above the 1983 peak and more than 6 meters above the “flood stage.” This produced unprecedented flooding across much of the lower basin.

According to Neil Adger and colleagues, the memory of prior events helps society prepare for and cope with successive trauma.¹ Likewise, Lindsey McEwen and collaborators have written extensively about the critical importance of sustaining flood memories as a basis for a resilient society.² But, how well do we hold on to the lessons learned, how effectively do we insert memories of tragedy into public policy? The Amite River Basin provides a troubling view into the disjunction between local flood memories and their infusion into effective urban planning and development.

The disaster that unfolded from exceptional rainfall in this tiny basin was not unexpected. In fact, an event of this sort was predicted in 1985. The 2016 flood and the long-slow slog of recovery mirrors the previous record flood in 1983, and reminded residents of serious floods in 1953, 1977, 1979, 1993, 1990, and 2001 (figure 1). Indeed, the river had flooded in March just five months earlier in the same year! Following each of these previous tragedies, residents endured the turmoil of a protracted recovery.

The typical tabulation of disasters includes fatalities, numbers of properties damaged, and dollars of damage. In 1983, damage totals topped \$171 million with more than 5,300 houses damaged. In 2016, those numbers soared to \$8.7 billion in damages, with over

1 W. Neil Adger, Terry P. Hughes, Carl Folke, Stephen R. Carpenter, and Johan Rockstrom, “Social-Ecological Resilience to Coastal Disasters,” *Science* 308, no. 5737 (2005): 1036–39. Craig E. Colten and Amy Sumpter, “Social Memory and Resilience in New Orleans,” *Natural Hazards* 48, no. 3 (2009): 355–64.

2 Joanne Garde-Hansen, Lindsey McEwen, Andrew Holmes, and Owain Jones, “Sustainable Flood Memory: Remembering as Resilience,” *Memory Studies* 10, no. 4 (2017): 384–405, see 390.

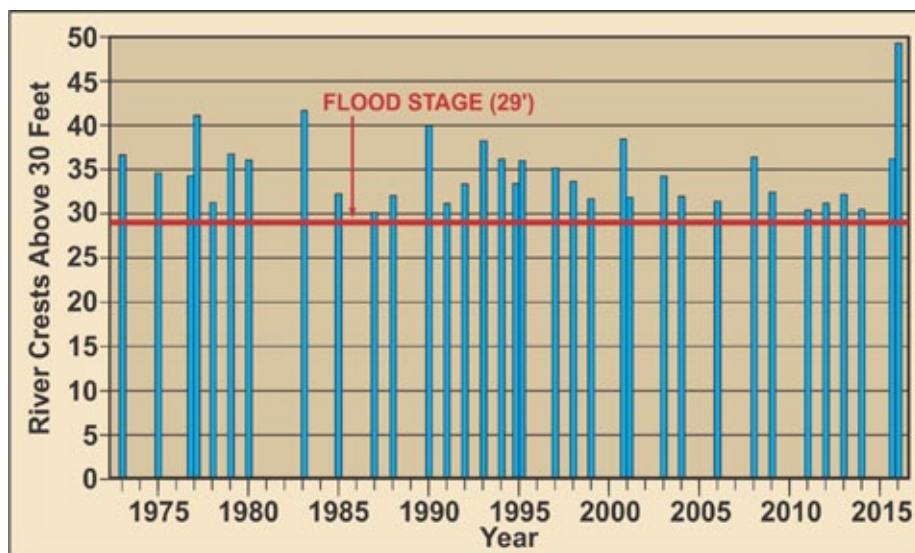


Figure 1:
Amite River
crests above
flood stage since
1973. Graphic
by Mary Lee
Eggart.

92,000 houses flooded.³ What these totals do not account for is the stress and strain on entire communities—the difficulties faced by members of impacted families as they restructure their everyday lives to accommodate both normal routines and the labors and frustrations of rebuilding, all as the normally supportive networks of friends and family are scattered. These deeply personal human burdens are the unmeasured costs of disaster. And, consequently they are often forgotten in the rush to rebuild and amidst the pressure to restart the economy, and lost in the proclamations of fortitude and perseverance—resilience distorted to mean defiance. The very real consideration that such an event could return is quickly set aside. Thus, local officials neglect future safety in the haste to rebuild bigger and better. Without perpetuating memories of tragedy and prioritizing safety, the risk of future suffering and turmoil, the untabulated cost, remains a reality.

There is often a stark disjunction between local memories of floods and the long recovery process, and the rapid decision making in the wake of disaster. When the waters rose in East Baton Rouge Parish in August 2016, there was a substantial legacy of planning for floods, but inadequate follow-through on many of the sensible proposals. How

³ Dek Terrell, *The Economic Impact of the August 2016 Floods on the State of Louisiana* (Baton Rouge: Louisiana Economic Development, 2016). The 2016 tabulation includes other river basins impacted by the same storm system.

do we employ social memory to perpetuate lessons that sustain a society's ability to cope with extreme events without repeating its mistakes and leading to repetitive suffering and costly recoveries? Some have spoken to this point in the past.

Two years after the prior record-setting disaster, a local floodplain expert, Rod Emmer, wrote a prophetic essay for his professional association. He argued that "flood damages are attributable to a lack of planning."⁴ Emmer pointed to a report prepared by the local planning commission months before the 1983 flood that cautioned, "Prevention of the development of residential subdivisions . . . in areas subject to inundation should be a primary consideration in determining which vacant lands should be earmarked for future residential use."⁵ He lamented that decision makers had failed to implement such recommendations.

For most of the region's settlement history since the 1700s, development avoided the riskiest areas and previous floods were inconsequential. By 1965, public officials recognized that flood damages were a growing problem. But some among them held the belief that flood risks were devaluing existing properties and impeding development; "Normal growth is being retarded in some of the most desirable housing areas and many potential industrial sites are unusable because they are located in floodplains." Indeed, a public report suggests that the erosion of property values that were kept off the market due to flood risks eclipsed the monetary costs of flood damages.⁶ Such attitudes acknowledge past floods, but take the position that flood control can eliminate risk. At that time, few people had direct memories of the miseries of inundation.

This attitude contributed to dueling public policy positions: floodplain avoidance versus structures protecting the interests of aggressive development. By 1979, a severe flood prompted a journalist to write that "many areas that 10 years ago were woods and swampy are now subdivisions and shopping centers."⁷ The tradition of floodplain avoid-

4 Rod Emmer, "The Disaster That Doesn't Have to Happen: The Baton Rouge Flood of 2001," in *Proceedings of the Annual Meeting of the Association of State Floodplain Managers* (New Orleans, LA: ASFPM, 1985), 131–45, quote at 132, <http://65.182.2.246/docum/crid/Marzo2006/CD2/pdf/eng/doc10039/doc10039-a.pdf>

5 Emmer, "The Flood that Doesn't Have to Happen," 132; and East Baton Rouge Parish, Planning Commission, "Preliminary Report to EBR City-Parish Planning Commission," *Land Use Development Study, Eastern Sector* (Baton Rouge, LA: 1983).

6 Switzer and Assoc., *East Baton Rouge Parish Water Conservation, Recreation, and Flood Control Program* (Baton Rouge, LA: 1965), 1.

7 "Baton Rouge Area Flooded," *New Orleans Times-Picayune*, 24 April 1979, 1 & 7, quote at 7.

ance was on the wane. On the eve of the 1983 flood, the local planning commission displayed its ambivalence. It reported that 10 subdivisions developed since the 1977 flood were in the footprint of that inundation.⁸ Yet, it pointed out that “emphasis should be placed on non-development in flood plains, until regulations are enacted to deter such development.”⁹ A statewide study assessing flood mitigation strategies recommended “protecting existing developments in flood-prone areas without encouraging further development in those areas.”¹⁰

Shortly after the record 1983 flood, Emmer voiced his criticism of tolerance for development in inappropriate places. Recent suburban sprawl reflected a disregard for the fast-accumulating flood memories. A second local flood-expert observed that of the 33 residential developments built in Baton Rouge between 1970 and 1984, 29 had been affected by floods. She also asserted that the city had “flood amnesia”—relying on politically popular structural solutions, regardless of their effectiveness, over land-use approaches.¹¹ A 1987 statewide flood management study acknowledged that floodplain development near Baton Rouge was placing residences in risky locations and concluded that “it may become necessary for parish and municipal governments to regulate development located within flood-prone areas in order to prevent further escalation of flood damages in Louisiana.”¹²

There were no incentives to prioritize safety over economic development. Subsequent reports reiterate this amnesia, which contributed to perpetual flood impacts.¹³

Local observers were fully aware that sprawling urban landscapes contributed to the spiraling number of flood-damaged properties. The urge to accommodate sprawl was driven by four key factors: absolute population growth that drove demand for suburban housing, lower-priced real estate in the Amite Basin, white flight from Baton Rouge, and new highways. Between 1970 and 2010, the population soared in those suburban devel-

8 East Baton Rouge Planning Commission, *Land Use Development Study*, 39.

9 East Baton Rouge Planning Commission, 18.

10 Flood Control Project Evaluation Committee, Louisiana Legislative Committee on Transportation, Highways and Public Works, *Louisiana Statewide Flood Control Program* (Baton Rouge, LA: 1985), 1–2.

11 Mike Dunne, “EBR has Flood Eggs in Structures Basket,” *Baton Rouge Advocate*, 5 April, 1987, 12A.

12 Mike Dunne, “BR Area Has 2nd-Worst Flooding Problem in Louisiana,” *Baton Rouge Advocate*, 2 March 1987, 1A.

13 Governor’s Interagency Task Force on Flood Protection and Mitigation, *Final Report* (Baton Rouge: State of Louisiana, 1990), see 22–23; and Amite River Basin Drainage and Water Conservation District, *Amite River Basin Floodplain Management Plan* (Baton Rouge: 2015), esp. ch. 4.



A small convenience grocery and tamale shop in Ascension Parish was among many businesses that endured high water and the damage that accompanies it. (Photo by author)

opments that hug the banks of the lower Amite River. Housing prices rose in the city and suburban properties had lower price tags. Tensions over school desegregation played a prominent role in the selective movement to suburban locations.¹⁴ The new Interstate Highway system offered efficient commutes into the capital city.

Baton Rouge pushed eastward from its high ground along the Mississippi River, downward towards the Amite, and urban landscapes replaced over 56,000 acres of pasture and forest (24,500 to 81,400 acres) between 1956 and 1979.¹⁵ In its 1991 plan, the city parish noted that about 45 percent of the parish was in the 100-year floodplain.¹⁶ Along the smaller Comite River, development had reached 35 percent of the total land area. Floodplain encroachment was most notable in the small tributaries where development typically exceeded 75 percent of the land area.¹⁷ Consequently, the minor tributaries flooded frequently.

¹⁴ Carl L. Bankston III and Stephen J. Caldas, *A Troubled Dream: The Promise and Failure of School Desegregation in Louisiana* (Nashville, TN: Vanderbilt University Press, 2002).

¹⁵ Emmer, "The Flood that Didn't Have to Happen," 131.

¹⁶ City of Baton Rouge, Parish of East Baton Rouge, *Horizon: Citizens Planning the Future, Conservation and Environmental Resources Element* (Baton Rouge, LA: 1991), 11.

¹⁷ Parish of East Baton Rouge, 95.

Homeowners in Denham Springs place their damaged household goods on the curb for garbage removal. This town is bordered by the Amite River and has been inundated numerous times in recent decades. (Photo by author)



East Baton Rouge entered the National Flood Insurance Program in 1979 and since then officials have mapped flood risk and enacted public policies in accord with the federal program. The standard for requiring flood insurance is based on the 100-year flood zone, yet FEMA also noted that the 500-year flood zone was also subject to inundation. The choice of the lesser standard by the federal flood program enabled communities to permit development in risky areas without denying citizens access to the subsidized insurance. Consequently, the city parish has taken steps to conform to FEMA standards. East Baton Rouge Parish, through its flood mitigation efforts, has earned a Community Rating Score, which entitles residents to a 15 percent discount on flood insurance.¹⁸

Over time, the city has adjusted its policies to acknowledge flood risk. Since 1973, policies have placed the burden on developers and focused primarily on individual developments, rather than basin-wide strategies, while also seeking to meet FEMA's flood insurance thresholds. A notable change took place in 1993, when the city required new construction to be built two feet above the base flood elevation.¹⁹ This revised ordinance

18 As of October 2016, East Baton Rouge Parish had a Community Rating System score of 7. FEMA, Community Rating System (CRS) Communities and their Classes—October 2016, https://www.fema.gov/media-library-data/1476294162726-4795edc7fe5cde0c997bc4389d1265bd/CRS_List_of_Communities_10_01_2016.pdf (accessed March 2018).

19 Amite River Basin Drainage and Water Conservation District, *Amite River Flood Control Program* (Baton Rouge, LA: 1995), 10.

provided significantly higher levels of protection for new homes, but it did not apply to existing structures, nor did it address the larger issue of basin-wide runoff produced by multiple subdivisions. Consequently, sprawl continued, runoff increased, and the number of homes at risk proliferated.

A clear consequence of intrusions into risky areas is the number of repeat flood insurance claims. Studies since the 1990s show a high incidence of repeat flood damage claims.²⁰ Highlighting the compulsion to permit expansion and long-term residence in risky areas, one of the newer communities in the parish, Central, which straddles a modest rise between the Amite River and its main tributary, the Comite, has some 75 percent of its municipal territory in the 100-year floodplain.²¹ Much of that land had been deliberately developed between 1983 and 2016, and nine thousand homes suffered flood damage in 2016.²²

The Amite River Basin authority has advocated a blend of structural and land-use approaches to flood protection. A central plank of the regional approach since the 1983 flood has been to build a diversion on the Comite River that would reroute a sizable quantity of water into the Mississippi River and thereby reduce the flood stage in the lower Amite. This project has enjoyed considerable local support, and even gained voter approval for a tax to pay for a portion of its construction. Yet, it has languished for a variety of reasons and remains incomplete. Since 2016, local government officials have demanded swift action on funding the project. Funding was finally approved in mid-2018. Even though the river basin organization has recommended stronger development controls, zoning and regulatory authority rests with individual parishes, which tend to favor development and increasing tax bases.²³ The incentive to control development is largely absent, even if the memory of tragedy persists.

20 Governor's Interagency Task Force, *Final Report*, 12–13; and City of Baton Rouge and Parish of East Baton Rouge, *A Comprehensive Study of the June 1989 Flood* (Baton Rouge, LA: Department of Public Works, 1990), 12.

21 Center for Hazards Assessment, Response and Technology (CHART), *Repetitive Loss Area Analysis #9: City of Baton Rouge Area, Greenwell Springs Area* (New Orleans, LA: University of New Orleans/Chart, 2009); City of Central, "Is My Property Included in the LOMR Effective?" 15 July 2016, <http://www.centralgov.com/maps-and-information/fema-flood-zone-maps.html#.WEWJFn2ulZQ> (accessed December 2016).

22 Emily Holden, "Louisiana Flood: 'Ignored and Screwed,' This Town Aims to Ease Flood Rules," *E&E News*, 6 September 2016, <https://www.eenews.net/stories/1060042323> (accessed February 2018).

23 Amite River Basin Drainage and Water Conservation District, *Amite River Basin Floodplain Management Plan* (Baton Rouge: Amite River Basin Water Conservation District, 2015), ch. 2-4, esp. 4.

Underscoring the rejection of memory, East Baton Rouge Parish swiftly set aside policies that contained requirements based on historical precedent. Within weeks of the 2016 flood, the parish council modified policies that required rebuilding substantially damaged properties a foot above the record flood. They declared the 2016 flood too extreme to stand as the record, and as a result the much lower 1983 record remains the baseline for construction and restoration.²⁴ As a consequence, unwitting property buyers bear the future burden—lured to high-risk locations by officially approved new roads and shopping centers, along with affordable real estate prices, and access to segregated schools.

French Settlement Catholic Church remained above the record flood. It occupies the highest land in this modest village that suffered extensive flooding beyond the community's original core. (Photo by author)



Policies contain explicit references to historic floods, but policymakers have opted to override public safety concerns with desires for taxable properties. In a tiny basin so beset with floods and one that will likely see more severe rain—as happened when 152 centimeters fell in Houston with the passage of Hurricane Harvey in 2017—these policies demand strict enforcement. Risk is rising as sprawl continues.

24 S. Hardy. "More than 32K Homes Can Stay on the Ground after Metro Council Exempts Many from Elevation Requirement," *Baton Rouge Advocate*, 14 September 2016, http://www.theadvocate.com/baton_rouge/news/article_4d8763b2-7a99-11e6-8efd-8bdcd69602e9.html (accessed September 2016).

Communities have been reluctant to affix physical reminders of flood lines, what McEwen and her colleagues refer to as essential mnemonic devices to help residents recall past floods. In the absence of such public displays of past flood levels, developers sell properties to unwitting buyers. Is it time for parish officials to require flood information to be part of property titles? Is it time for those who make a living subdividing land, along with risk, to place flood-height markers in the neighborhoods they develop, and to provide surety bonds, tied to local risk and past events, that can assist purchasers to move out in the event of a future flood and avoid repeated trauma? Is it time for the US Congress to modify the flood insurance program to encourage relocation rather than rebuilding in place? Is it time for policymakers to stand by ordinances that foreground safety over taxes and economic development? Some policies have flood memories embedded in them, but they have been set aside in the name of economic development. The long-term historical flood record not only must be built into development policy, urban planning, and construction codes, but adhered to in the wake of tragedy. We hope officials will take steps to ensure that flood memories persist between irregular tragedies, and that sensible policies will ultimately overcome the urge for unchecked sprawl.