

ADAPTING CIVIL PROCEDURE

BY

CAROLINE G. COX*

Proposals to amend the Federal Rules of Civil Procedure are typically modest in scope or seek to address changing technology. However, recent major hurricanes and the COVID-19 pandemic have pushed the Judicial Conference to consider how the Rules should work in emergencies. The resulting Rule 87—which officially became effective on December 1, 2023—effectively creates alternative versions of select rules when the Judicial Conference makes a finding of an emergency within a judicial district. Although the proposed rule is a step in the right direction, continued attention to the challenges civil litigation faces in the climate change era is necessary.

This Article examines the vulnerability of the Federal Rules of Civil Procedure to climate change and offers a framework for continued adaptation of the Rules to an uncertain world. The Federal Rules, like many areas of the law, rest on assumptions of societal and climatic stability. Climate change threatens this fundamental “stationarity.” Therefore, this Article takes the first steps in an adaptation analysis for the Federal Rules, beginning with the core procedural values that an adaptation plan should protect and an overview of existing stressors to those values. The Article then provides an analysis of how climate change disasters will further undermine efforts to achieve those procedural values. Using natural disasters of the last fifteen years as case studies, the Article evaluates how the growing intensity, frequency, and unpredictability of climate change disasters will exacerbate existing civil procedure stressors and undermine its stationarity assumptions. The Article concludes with recommendations for both a better approach to reforming civil procedure and some specific

*Program Director and Adjunct Professor, Energy, Environment & Land Use Program, Vanderbilt University. I would like to thank Michael P. Vandenberg, J.B. Ruhl, Christopher Serkin, Jim Rossi, Alexandra Lahav, Richard Marcus, Jonathan Cox, and Steven Rodriguez for thoughtful comments on drafts of this paper, and Robin Kundis Craig for offering critical advice and feedback early in the writing process. I am also immensely grateful to Judge Lee H. Rosenthal and Judge Jane B. Stranch for their mentorship and inspiration to pursue this research. Thank you to the Vanderbilt Law School Energy, Environment & Land Use Program for support of this project.

actions courts and the Judicial Conference should take to address climate disasters. Importing the adaptive management theory to the Judicial Conference will allow the Federal Rules to capitalize on their preexisting resilience and adaptive capacity without risking the widespread use of maladaptive strategies in civil cases after climate disasters. Given the acceleration of climate change and the ever-present need of society's most vulnerable populations to use the courts to secure benefits and protect their rights, such an approach to adapting civil procedure is critical for achieving the Federal Rules' underlying aims.

I.	INTRODUCTION	81
II.	THE CHALLENGE OF UNCERTAINTY AND COMMONPLACE CATASTROPHE TO THE LAW	86
	A. <i>The New World of Nonstationarity</i>	86
	B. <i>The Challenges of Nonstationarity in the Law</i>	88
	C. <i>Stationarity Assumptions in Civil Procedure</i>	89
III.	A VULNERABILITY ANALYSIS OF THE FEDERAL RULES OF CIVIL PROCEDURE	91
	A. <i>Defining the Adaptation Target: Rule 1 and Procedural Values</i>	92
	B. <i>The Existing Stressors on Civil Procedure's Values</i>	95
IV.	CIVIL PROCEDURE'S CLIMATE STRESS TESTS: LESSONS FROM RECENT DISASTERS	99
	A. <i>Hurricanes Katrina & Rita: Limitations to Courthouse Access and Access to Litigation Necessities</i>	100
	B. <i>Hurricane Harvey: Challenges to Trans-Substantivity</i>	104
	C. <i>Hurricane Maria: Civil Cases Without Civil Infrastructure</i>	108
	D. <i>COVID-19: Social Distancing in an Unusual Disaster</i>	110
	E. <i>Lessons Learned</i>	113
	1. <i>The Need for Reevaluation of Early Case Filtering and Trans-Substantivity</i>	113
	2. <i>Barriers to Access of Information and the Rules</i>	113
	3. <i>Challenges to the Active Participation of Judges</i>	114
	4. <i>Challenges to Procedural Justice with an Emphasis on Speed and Expense</i>	114
	5. <i>Undermining Courthouses as Loci of Democratic Participation</i>	115
V.	ADAPTING CIVIL PROCEDURE	115
	A. <i>Proposed Rule 87</i>	115
	B. <i>The Need for Resilience and Adaptive Capacity Beyond Proposed Rule 87</i>	118
	C. <i>Establishing Stronger Adaptive Management in Federal Civil Procedure</i>	123

D. Limitations of the Adaptation Management Approach to Civil Procedure Reform	127
VI. CONCLUSION	129
APPENDIX	131

I. INTRODUCTION

The catastrophic effects of climate change are many and diverse: mass extinctions, fatal heat waves, disastrous floods, decreased biodiversity, and sea level rise to name but a few.¹ Climate change will disrupt everything, including the very machinery of justice. When infrastructure fails, courts close and leave disputes unresolved and rights unprotected, at least temporarily. The increasing risk of climate disasters makes those infrastructure failures both more likely and more serious. Procedural rules premised on infrastructural stability, therefore, will leave courts struggling to provide their “essential and democratic” service.²

Procedural reforms should take seriously not only the idea that procedure is “entirely practical” and requires “change in the light of practical details,”³ but also that procedure requires change in the light of physical conditions. Adapting procedural rules to the physical realities of climate change—including the growing frequency and severity of natural disasters⁴—is critical if the United States’ adaptation goals include an equitable and effective civil justice system. After all, ineffective procedure can just as successfully deprive litigants of justice as the absence of substantive rights.⁵ Civil proceduralists have long debated how best to reform the system to achieve greater equity and

¹ See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2022: IMPACTS, ADAPTATION AND VULNERABILITY 9–11, 45–50 (Hans-Otto Pörtner et al. eds., 2022) [hereinafter IPCC REPORT 2022], <https://perma.cc/K284-68B9> (describing the various negative externalities of climate change on the environment and how this in turn has had a negative impact on general human health).

² Helen Hershkoff & Arthur R. Miller, *Courts and Civil Justice in the Time of COVID: Emerging Trends and Questions to Ask*, 23 N.Y.U. J. LEGIS. & PUB. POL’Y 321, 423 (2021).

³ Thurman Arnold, *The Role of Substantive Law and Procedure in the Legal Process*, 45 HARV. L. REV. 617, 643 (1932).

⁴ See IPCC REPORT 2022, *supra* note 1, at 100, 107 (describing how procedural justice plays a role in combatting the intensity of climate change).

⁵ As Representative John Dingell explained, “I’ll let you write the substance of a statute and you let me write the procedure, and I’ll screw you every time.” *Regulatory Reform Act: Hearing on H.R. 2327 Before the Subcomm. on Admin. Law & Governmental Regul. of the H. Comm. on the Judiciary*, 98th Cong. 312 (1983) (statement of Rep. John Dingell, Chairman, H. Comm. on Energy & Com.); see also, e.g., *Hanna v. Plumer*, 380 U.S. 460, 468 (1965) (“The difference between the conclusion that the Massachusetts rule is applicable, and the conclusion that it is not, is of course at this point ‘outcome-determinative’ in the sense that if we hold the state rule to apply, respondent prevails, whereas if we hold that Rule 4(d)(1) governs, the litigation will continue.”).

provide just results to litigants,⁶ but they have not deeply evaluated the physical world's impact on the civil courts. And although scholarship exploring how climate change is affecting and challenging different legal regimes like environmental law and administrative law era abounds, it has not yet addressed civil procedure.⁷ This Article begins to fill that gap with a resilience analysis of the Federal Rules of Civil Procedure (FRCP) and recommendations on how those responsible for crafting the Rules can approach this adaptation deficit.⁸

⁶ See, e.g., John Bronsteen, *Against Summary Judgment*, 75 GEO. WASH. L. REV. 522, 526 (2007) (advocating for the abolition of summary judgment because it is both unconstitutional, inefficient, and unfair); Edward D. Cavanagh, *Federal Civil Litigation at the Crossroads: Reshaping the Role of the Federal Courts in Twenty-First Century Dispute Resolution*, 93 OR. L. REV. 631, 676–77 (2015) (advocating for procedural changes in federal litigation that reflect twenty-first century litigation); Owen M. Fiss, Comment, *Against Settlement*, 93 YALE L.J. 1073, 1073–75 (1984) (arguing that the increased use of settlements in alternative dispute resolutions and federal courts is problematic); Alexandra D. Lahav, *Procedural Design*, 71 VAND. L. REV. 821, 824–25 (2018) (advocating for more consistent and thus contestable procedures in federal court); Patrick E. Longan, *Civil Trial Reform and the Appearance of Fairness*, 79 MARQ. L. REV. 295, 321–23 (1995) (highlighting concerns regarding impartiality in settlement conferences); David Marcus, *The Collapse of the Federal Rules System*, 169 U. PA. L. REV. 2485, 2510–17 (2021) (discussing the balance of substance and procedure struck by the federal rules); Richard L. Marcus, *The Revival of Fact Pleading Under the Federal Rules of Civil Procedure*, 86 COLUM. L. REV. 433, 493–94 (1986) (discussing the constant cycle of revisions and abuses of the federal rules); Judith Resnik, *A2J/A2K: Access to Justice, Access to Knowledge, and Economic Inequalities in Open Courts and Arbitrations*, 96 N.C. L. REV. 605, 630–31 (2018) (discussing inconsistencies in the procedures that federal judges use for pretrial conferences in civil litigation).

⁷ See, e.g., Benjamin Ewing & Douglas A. Kysar, *Prods and Pleas: Limited Government in an Era of Unlimited Harm*, 121 YALE L.J. 350, 367–78 (2011) (discussing the challenge of fitting climate change litigation into tort law but concluding that these challenges should not be fatal to such tort cases); Jody Freeman & David B. Spence, *Old Statutes, New Problems*, 163 U. PA. L. REV. 1, 20–43 (2014) (explaining how the Environmental Protection Agency has wrestled with how to “fit” climate change into its authority under the Clean Air Act as a case study of regulatory challenges that arise when addressing new issues with older statutes); Jim Rossi & J.B. Ruhl, *Adapting Private Law for Climate Change Adaptation*, 76 VAND. L. REV. 827, 831–33 (2023) (arguing that torts, property, and contracts will and should play an important role in developing policy and resolving disputes of climate change harms and will themselves need to adapt to meet climate change challenges); J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENV'T L. 363, 377–78 (2010) (analyzing trends in the context and policy dynamics of climate change adaptation that will impact the structure and norms of environmental law); Michael P. Vandenberg & Mark A. Cohen, *Climate Change Governance: Boundaries and Leakage*, 18 N.Y.U. ENV'T L.J. 221, 221 (2010) (describing a new strategy to create incentives for major developing countries to reduce carbon emissions); Michael P. Vandenberg et al., *The Gap-Filling Role of Private Environmental Governance*, 38 VA. ENV'T L.J. 1, 4 (2020) (exploring the role of private environmental governance to address areas of public governance using the decarbonization of the Tennessee Valley Authority as a case study).

⁸ The more immediate need in the wake of climate disasters will be resilient Rules of Criminal Procedure. However, the constitutional concerns unique to criminal cases compel an independent resilience analysis of criminal procedure. I plan to undertake that analysis in a future article.

A resilience analysis for the Federal Rules may, at first blush, seem strange. However, such an analysis is necessary given civil procedure's assumptions of stability. The effective resolution of civil disputes requires rules that can weather climate disasters without sacrificing the core procedural values of our civil system, even in an increasingly unstable world. Furthermore, a resilience analysis follows the federal courts' pattern of reflection and operational reform following major disasters.

To be sure, the Federal Judiciary has taken tentative steps to consider how the Rules should work in emergencies. The Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020⁹ required the Judicial Conference and the Supreme Court to consider amendments to the Federal Rules that could improve the judiciary's response to future emergencies.¹⁰ After reviewing rules "that might be strained by emergency circumstances,"¹¹ the Advisory Committee on Civil Procedure proposed a new rule in 2021—FRCP 87—that would effectively create alternative versions of select rules when the Judicial Conference makes an emergency finding.¹² The Committee took a conservative approach, however¹³: Only those rigid Federal Rules that give judges no discretion over timing or approving alternative means of service have emergency counterparts. The Supreme Court adopted the new rule, and Rule 87 became effective on December 1, 2023.¹⁴

Although proposed Rule 87 is a positive development, the climate crisis will create emergencies that require contingency plans beyond Rule 87. Infrastructure failures, displaced judges and litigants, and discovery access challenges are near certainties as climate disasters grow in intensity and frequency. In the last fifteen years, federal courthouses have shut their doors to litigants in response to floodwaters, severe winter storms, and hurricanes.¹⁵ Similar and more severe disasters in the future risk undermining the Federal Rules'

⁹ Coronavirus Aid, Relief, and Economic Security Act (CARES Act), Pub. L. No. 116-136, 134 Stat. 281 (2020).

¹⁰ *Id.* § 15002(b)(6), at 530.

¹¹ Minutes of the Civ. Rules Advisory Comm. 4 (Apr. 23, 2021), <https://perma.cc/DNF3-6CMK>.

¹² Memorandum from Hon. Robert M. Dow, Jr., Chair, Advisory Comm. on Civ. Rules to Hon. John D. Bates, Chair, Comm. on Rules of Prac. & Proc., Jud. Conf. of the United States 4 (May 13, 2022), <https://perma.cc/6R9A-LDNN>.

¹³ *See id.*; Memorandum from Catherine T. Struve, Rep., Comm. on Rules of Prac. & Proc., Daniel J. Capra, Rep., Advisory Comm. on Evid. Rules to Comm. on Rules of Prac. & Proc., CARES Act Project Regarding Emergency Rules (June 1, 2021), <https://perma.cc/LQ4Q-WEQ7> (summarizing the process of drafting Rule 87).

¹⁴ *See* Sup. Ct, Amendments to the Federal Rules of Civil Procedure, at 4 (Apr. 24, 2023), <https://perma.cc/J6YX-7GHL>.

¹⁵ *See, e.g., Court Takes Direct Hit from Typhoon Soudelor*, U.S. CTS. (Aug. 6, 2015), <https://perma.cc/CF9K-YEZ4>; *Winter Storm Nemo*, U.S. CTS. (Feb. 8, 2013), <https://perma.cc/7A2R-8J88>; U.S. Cts., *From Katrina to Sandy, U.S. Courts Learn to Weather Crises*, YOUTUBE (Sept. 23, 2015), <https://perma.cc/23WP-6UTT>.

capacity to fulfill their substantive goals, including meaningful access to justice.

The courts have thus far jury-rigged civil procedure to allow cases to proceed in these unprecedented conditions. Appropriately preparing the civil courts for the climate change era, however, requires more than faith in procedural flexibility. The Judicial Conference should adopt a more focused and iterative learning process for future disasters that addresses the ways in which climate change will undermine the equity and substantive goals of the Federal Rules.¹⁶

This Article proceeds in four parts. Part II begins with an explanation of “stationarity,” a term describing the relatively stable upper and lower climate bounds even within a dynamic physical environment.¹⁷ Due to unprecedented concentrations of atmospheric greenhouse gases, previously predictable environmental conditions such as rainfall and temperature will no longer follow familiar patterns.¹⁸ But the loss of stationarity is not limited to the climate: ecological, social, and technological systems will also feel its effects.¹⁹ This emerging “nonstationarity” creates a more complex environment for the law’s operation.²⁰ Part II continues by offering the first exploration of the connection between the Federal Rules of Civil Procedure and stationarity. Although the Federal Rules have and continue to adapt to changing conditions, they still rest on assumptions of access to judges, the ability of litigants to bring their cases, and the basic physical infrastructure of case filing. Growing nonstationarity will challenge normal procedure that relies on fulfillment of those assumptions.

Given the certainty of climate disruptions, adaptation of both the physical world and legal regimes is necessary. Part III takes the first steps in an adaptation analysis for the Federal Rules, beginning with the core procedural values that an adaptation plan should protect. Procedural scholars have long debated the revisions and interpretations of the Federal Rules.²¹ This Article identifies Rule 1, which defines the

¹⁶ See *infra* Part V. Some scholarship has touched on emergency management in the courts, but it has not proposed solutions specific to civil procedure. See, e.g., Thomas A. Birkland & Carrie A. Schneider, *Emergency Management in the Courts: Trends After September 11 and Hurricane Katrina*, 28 JUST. SYS. J. 20, 23 (2007).

¹⁷ P. C. D. Milly et al., *Stationarity Is Dead: Whither Water Management?*, 319 SCIENCE 573, 573 (2008).

¹⁸ Robin Kundis Craig, “Stationarity Is Dead”—Long Live Transformation: Five Principles for Climate Change Adaptation Law, 34 HARV. ENV’T L. REV. 9, 15 (2010).

¹⁹ See, e.g., Rossi & Ruhl, *supra* note 7, at 843–48 (discussing stationarity and private law).

²⁰ *Id.* at 845 (citing Craig, *supra* note 18).

²¹ See, e.g., Arthur R. Miller, *Simplified Pleading, Meaningful Days in Court, and Trials on the Merits: Reflections on the Deformation of Federal Procedure*, 88 N.Y.U. L. REV. 286, 309–10 (2013) (criticizing the “procedural stop signs” which courts have erected since 1986); Judith Resnik, *Failing Faith: Adjudicatory Procedure in Decline*, 53 U. CHI. L. REV. 494, 495–496 (1986) [hereinafter, Resnik, *Failing Faith*] (calling for review of the rules where they are silent on issues such as settlement and discovery); Judith Resnik, *Managerial Judges*, 96 HARV. L. REV. 374, 376–77 (1982) [hereinafter, Resnik, *Managerial Judges*]

Federal Rules' scope and purpose,²² as the primary source for understanding civil procedure's core values. Based on this assessment, the Article asserts that any adaptation of the Federal Rules should focus on providing access to justice, certainty to litigants, judicial efficiency, and accurate outcomes. Part III then explores existing stressors to these procedural values that should inform any adaptation strategy.

Part IV discusses the most critical component of the adaptation analysis: the Federal Rules' specific vulnerabilities to climate change and nonstationarity. Using natural disasters of the last fifteen years as case studies, Part IV evaluates how the growing intensity, frequency, and unpredictability of climate change disasters will exacerbate existing civil procedure stressors and undermine its stationarity assumptions. These recent stress tests present reasons to consider how civil procedure should respond to a future of more frequent climate catastrophes.

Part V explores how civil procedure can learn from these emergency experiences and better employ its adaptive capacity to address climate uncertainty. The Judicial Conference's Committee on Rules of Practice and Procedure has recommended a new rule for the declaration of a "Civil Rules emergency."²³ Part V examines this proposed rule and its continued adherence to the view that only moderate adaptation of civil procedure is necessary. While proposed Rule 87 is a laudable step, it does little to address the stationarity assumptions that underlie federal civil procedure or the procedural values at risk from climate emergencies.

The discussion concludes with recommendations for both a continuing and concerted approach to reforming civil procedure and specific actions courts and the Judicial Conference should take to address climate disasters. Part V explains how civil procedure already exhibits resilience and adaptive capacity, key qualities for a system that must handle climate stressors, but lacks a management theory for ensuring that procedural responses are not maladaptive. The Article argues for importing adaptive management theory to civil procedure, especially as the Judicial Conference can already study and amend rules with an eye toward "learning while doing."²⁴ The Article then offers two substantive reforms—the promotion of discovery protocols and the creation of disaster best-practices for courts—as first steps in this effort to preserve procedural values in the climate change era. The Article concludes with an acknowledgement of the limitations of this approach

(describing how the judge's role has moved toward "encourag[ing] settlement"); Stephen C. Yeazell, Essay, *The Misunderstood Consequences of Modern Civil Process*, 1994 WIS. L. REV. 631, 632 (arguing for a comprehensive view of the changes to civil procedure to understand their combined effect).

²² FED. R. CIV. P. 1.

²³ COMM. ON RULES OF PRAC. & PROC., SUMMARY OF THE REPORT OF THE JUDICIAL CONFERENCE 2–4, 14–17 (Sept. 2022), <https://perma.cc/K98L-DHFM>; *id.* apps. C-5 to -15.

²⁴ See, e.g., Holly Doremus, Essay, *Precaution, Science, and Learning While Doing in Natural Resource Management*, 82 WASH. L. REV. 547, 550 (2007) (applying "learning while doing" to natural resource management).

but an explanation of why these adaptations are both necessary and beneficial to the future of the civil justice system.

II. THE CHALLENGE OF UNCERTAINTY AND COMMONPLACE CATASTROPHE TO THE LAW

The law relies on a certain degree of stability.²⁵ But climate change, especially as warming accelerates, undermines that foundation, driving ecological systems away from “dynamic equilibria” and toward unpredictable instability.²⁶ This Part provides a brief explanation of this climate shift and its implications for the legal system. It then argues that civil procedure—with its assumptions about a robust infrastructure to support civil litigation—will not be immune from the vicissitudes of climate catastrophes. Indeed, given the importance of civil litigation to the enforcement of individual rights and the peaceful resolution of disputes,²⁷ the disruptive effects of climate change on civil procedure could have profound consequences outside federal courtrooms.

A. *The New World of Nonstationarity*

The wave of natural disasters in the last decade—from hurricanes²⁸ and floods²⁹ to heatwaves,³⁰ forest fires,³¹ and droughts³²—underscores the scientific consensus that anthropogenic climate change is rapidly destabilizing climate patterns on a global scale.³³ From 1980 to 1989, the United States experienced just 33 billion-dollar disasters, requiring

²⁵ Cf. Robin Kundis Craig et al., *Balancing Stability and Flexibility in Adaptive Governance: An Analysis of Tools Available in U.S. Environmental Law*, *ECOLOGY & SOC'Y*, June 2017, no. 3 (discussing the importance of balancing stability and flexibility in governance, including the relationship between government and society).

²⁶ Iain Brown et al., *Climate Change, Drought Risk and Land Capability for Agriculture: Implications for Land Use in Scotland*, 11 *REG'L ENV'T CHANGE* 503, 504 (2011).

²⁷ Alexandra D. Lahav, *The Roles of Litigation in American Democracy*, 65 *EMORY L.J.* 1657, 1658–59 (2016).

²⁸ See, e.g., Maggie Astor, *The 2017 Hurricane Season Really Is More Intense than Normal*, *N.Y. TIMES* (Sept. 19, 2017), <https://perma.cc/FRA2-5UG5>; Angela Fritz & Rachel Ramirez, *Hurricane Ian's Rapid Intensification Is Part of a Trend for the Most Dangerous Storms*, *CNN* (Sept. 28, 2022), <https://perma.cc/8GFD-7YS3>.

²⁹ See, e.g., Emma Bowman, *California Storms Bring More Heavy Rain, Flooding and Power Outages*, *NPR* (Jan. 15, 2023), <https://perma.cc/WT7N-URV2>.

³⁰ See, e.g., Liliana Salgado, *Heat Wave Takes a Toll on Arizona Homeless*, *REUTERS* (July 27, 2022), <https://perma.cc/V44L-94SH>; Emily Cassidy, *Relentless Heat in the Southwest*, *NASA EARTH OBSERVATORY* (July 25, 2023), <https://perma.cc/3ZCX-MSAP>.

³¹ See, e.g., Derrick Bryson Taylor, *The Bootleg Fire in Oregon Is Among More than 60 Wildfires in the U.S.*, *N.Y. TIMES* (July 14, 2021), <https://perma.cc/F2RR-2BWD>.

³² See, e.g., Talal Ansari, *Drought in U.S. West Is Driest Period in Centuries*, *WALL ST. J.* (Feb. 14, 2022), <https://perma.cc/U4ES-ZTJH>.

³³ See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS* 24–25 (Valérie Masson-Delmotte et al. eds., 2021) [hereinafter *IPCC REPORT 2021*], <https://perma.cc/D3UW-R73W>.

the equivalent of \$213.6 billion in 2023 dollars for recovery efforts.³⁴ That figure more than quadrupled between 2010 and 2019, with 131 billion-dollar disasters, costing a combined \$967.4 billion.³⁵ This change is not a fluke. Human-caused greenhouse gas emissions are making major hurricanes more costly, heatwaves more frequent and intense, and heavy (and often deadly) precipitation more common,³⁶ even as effectively responding to these events becomes more challenging.³⁷

In the past, severe weather events like these high-cost disasters have occurred “within an unchanging envelope of variability,” providing some predictability to the extremes in our natural systems.³⁸ But the growing concentration of atmospheric greenhouse gases is fueling a transition away from this “stationarity,” in which “change can be managed within a fairly well-defined range of extremes,” to “nonstationarity.”³⁹ A hurricane in a particular ecosystem, for example, may alter water levels and the population distribution of certain species, but if stationarity persists, the storm will not permanently change the maximum or minimum water levels or the species present.⁴⁰ If that same ecosystem is experiencing nonstationarity, however, that expected “envelope of variability” no longer exists.⁴¹ In the new world of nonstationarity, we now face uncertainty about climate feedback mechanisms, systems’ tipping points, and mutable ecological interconnections.⁴² A world of nonstationarity is an unpredictable one.

This will be the new (ab)normal even if the world stabilizes atmospheric greenhouse gases.⁴³ The 2021 report from the United Nations Intergovernmental Panel on Climate Change (IPCC) presented the grim reality: global temperatures have already risen approximately 1.1°C from preindustrial levels.⁴⁴ At this point, even the most dramatic

³⁴ Nat’l Ctrs. for Env’t Info., *U.S. Billion-Dollar Weather and Climate Disasters*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://perma.cc/A8AP-PV2Z> (last visited Nov. 13, 2023). Figures are Consumer Price Index-adjusted.

³⁵ *Id.*

³⁶ IPCC REPORT 2021, *supra* note 33, at 24–25; IPCC REPORT 2022, *supra* note 1, at 18.

³⁷ See IPCC REPORT 2022, *supra* note 1, at 18–19.

³⁸ See Milly et al., *supra* note 17, at 573.

³⁹ J.B. Ruhl & James Salzman, *Climate Change Meets the Law of the Horse*, 62 DUKE L.J. 975, 991 (2013).

⁴⁰ See, e.g., *id.* at 991; cf. R. Henry Weaver & Douglas A. Kysar, *Courting Disaster: Climate Change and the Adjudication of Catastrophe*, 93 NOTRE DAME L. REV. 295, 304 (2017) (describing the complexity of ecological systems, which “do not conform to standard assumptions of linear behavior”).

⁴¹ See Milly et al., *supra* note 17, at 573.

⁴² Craig, *supra* note 18, at 15.

⁴³ Carbon dioxide’s persistence in the atmosphere for centuries, if not millennia, ensures as much. See Olivier Boucher et al., *Implications of Delayed Actions in Addressing Carbon Dioxide Emission Reduction in the Context of Geo-engineering*, 92 CLIMATIC CHANGE 261, 262 (2009); Susan Solomon et al., *Irreversible Climate Change Due to Carbon Dioxide Emissions*, 106 PROC. NAT’L ACAD. SCI., U.S. 1704, 1704–05 (2009).

⁴⁴ IPCC REPORT 2021, *supra* note 33, at 5 (“Global surface temperature was 1.09 [0.95 to 1.20] °C higher than 1850–1900, with larger increases over land (1.59 [1.34 to 1.83] °C) than over the ocean (0.88 [0.68 to 1.01] °C).”).

emissions reductions cannot stop at least another thirty years of climbing global temperatures.⁴⁵ Although climate scientists are increasingly able to model the effects of these lingering greenhouse gases,⁴⁶ experience provides no guide on how the climate and ecosystems, let alone human institutions, will respond.⁴⁷ The future, therefore, is one of unpredictable extremes and natural disasters.

B. The Challenges of Nonstationarity in the Law

A budding area of legal scholarship considers the impact of climate instability on the law.⁴⁸ Importing the concept of stationarity from the sciences, legal scholars have described how the law presumes continuity within the environment.⁴⁹ Much of environmental law, in particular, rests on the idea that ecosystems have core characteristics that can be maintained with careful management.⁵⁰ Similar assumptions about the stability of physical and social conditions exist throughout the various sectors of law.⁵¹ Property law, for example, was largely developed over a time period without substantial changes to floodplains, wildfire frequency, or sea level.⁵² Common law and statutory regimes, therefore, often rely on assumptions of stability in allocating property resources and rights.⁵³

⁴⁵ *Id.* at 15.

⁴⁶ See Omid Alizadeh, *Advances and Challenges in Climate Modeling*, 170 CLIMATE CHANGE 1, 12 (2022).

⁴⁷ See, e.g., Clifton P. Bueno de Mesquita et al., *Taking Climate Change into Account: Non-Stationarity in Climate Drivers of Ecological Response*, 109 J. ECOLOGY 1491, 1492 (2021).

⁴⁸ See generally, e.g., Eric Biber, *Law in the Anthropocene Epoch*, 106 GEO. L.J. 1 (2017) (asserting that the size and severity of climate changes' effects necessitate massive changes to the legal system); Craig, *supra* note 18 (examining climate change's impact on environmental and ecology law); Myanna Dellinger, *An "Act of God"? Rethinking Contractual Impracticability in an Era of Anthropogenic Climate Change*, 67 HASTINGS L.J. 1551 (2016) (discussing how climate change will alter interpretations of "Act of God" clauses in contracts); Jessica Owley, *Changing Property in a Changing World: A Call for the End of Perpetual Conservation Easements*, 30 STAN. ENV'T L.J. 121 (2011) (discussing challenges to perpetual conservation easements because of climate change); Geoffrey F. Palachuk, *The New Decade of Construction Contracts: Technological and Climate Considerations for Owners, Designers, and Builders*, 11 SEATTLE J. TECH., ENV'T & INNOVATION L. 171 (2021) (exploring the role of climate change in construction industry contracts); Rossi & Ruhl, *supra* note 7 (arguing that private law will need to adapt to the loss of stationarity).

⁴⁹ See, e.g., Ruhl, *supra* note 7, at 393.

⁵⁰ See Craig, *supra* note 18, at 32–35. Many foundational environmental laws preexisted the emergence of the dynamic equilibrium model and instead assumed "the natural stability model of ecosystems." Ruhl, *supra* note 7, at 393.

⁵¹ Ruhl & Salzman, *supra* note 39, at 993.

⁵² *Id.* at 994; see also Rossi & Ruhl, *supra* note 7, at 839–41 (arguing both that private law, including property law, will have an important role in adaptation disputes and that private law itself will have to adapt given the shift to nonstationarity).

⁵³ Ruhl & Salzman, *supra* note 39, at 994.

Nonstationarity in the global climate system undermines not only ecosystem stability,⁵⁴ but also the stationarity assumptions embedded in legal regimes. Unpredictable changes to floodplains and sea levels, for example, may make longstanding property regimes unworkable. The U.S. Global Change Research Program's Fourth National Climate Assessment makes blunt this connection between climate and society: "changes in extreme events are expected to increasingly disrupt and damage critical infrastructure and property, labor productivity, and the vitality of our communities."⁵⁵ Legal regimes relying on the stability of such systems, therefore, are also increasingly vulnerable. Without historical analogues, lawmakers, judges, and policymakers will have limited insight into how best to stabilize ecosystems, society, and legal regimes.⁵⁶

C. Stationarity Assumptions in Civil Procedure

Like the common law, civil procedure has evolved to address new relationships, technologies, and substantive law. Although "no adjudicative system can function effectively without imposing some orderly structure on the course of its proceedings,"⁵⁷ that structure has traditionally bent to changing societal needs and norms. The Federal Rules of Civil Procedure exemplify this dynamic of gradual change. For instance, as the role of corporations in society grew, civil procedure adapted the rules on venue and service of process both explicitly and through interpretation.⁵⁸ Another societal shift, the rise of electronic

⁵⁴ J.B. Ruhl and Jim Rossi identify three forms of nonstationarity: "nonstationarity (1) of climate averages, leading to a trend in an observed time series; (2) of climate variances, including of upper and lower bounds; and (3) of relationships between different climate components." Rossi & Ruhl, *supra* note 7, at 844 (citing Bernard Cazelles & Simon Hales, *Infectious Diseases, Climate Influences, and Nonstationarity*, 8 PLOS MED. 1212 (2006)).

⁵⁵ U.S. GLOB. RSCH. PROGRAM, FOURTH NATIONAL CLIMATE ASSESSMENT: VOLUME II: IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES 25 (2018) [hereinafter USGRP, FOURTH NATIONAL CLIMATE ASSESSMENT]. The U.S. Global Change Research Program has since released its Fifth National Climate Assessment, which underscores the interconnectedness of human systems and climate. See U.S. GLOB. RSCH. PROGRAM, *Sector Interactions, Multiple Stressors and Complex Systems*, in FIFTH NATIONAL CLIMATE ASSESSMENT (2023).

⁵⁶ See generally Rossi & Ruhl, *supra* note 7 (describing the challenges of adapting law to climate change).

⁵⁷ *Woodford v. Ngo*, 548 U.S. 81, 90–91 (2006).

⁵⁸ See, e.g., FED. R. CIV. P. 4(d) advisory committee's note to 1993 amendment ("Paragraph (2)(A) is explicit that a request for waiver of service by a corporate defendant must be addressed to a person qualified to receive service. The general mail rooms of large organizations cannot be required to identify the appropriate individual recipient for an institutional summons."); cf. Thomas E. Rutledge & Christopher E. Schaefer, *Proposed Changes to Federal Rules of Civil Procedure Could Reduce Questions as to Federal Diversity Jurisdiction*, AM. BAR ASSOC., BUS. L. TODAY (Oct. 21, 2019), <https://perma.cc/9JNC-BHVK> (discussing a proposed Federal Rules of Civil Procedure amendment that would require each party in a federal diversity jurisdiction lawsuit to file a statement with the necessary information to determine each parties' citizenship).

storage and email, prompted tinkering and eventual rewriting of the discovery rules.⁵⁹ The evolution of American civil procedure has often originated informally at the case-level, as the Federal Rules create “general policies that guide discretionary application on a case-specific basis,” rather than “detailed controls.”⁶⁰

Underlying the Federal Rules’ adaptability are core assumptions of stability. First and foremost, the Federal Rules assume that an available adjudicator exists. Judges may take different approaches to cases, but the Federal Rules take for granted the presence of a judicial authority to set deadlines, rule on motions, and oversee parties’ disputes to a conclusion.⁶¹ The Federal Rules also assume the existence of a means to file papers and evidence.⁶² The envelope of variability is broad: paper files have made way for electronic case records. But some infrastructure, whether physical or digital, must exist to store such case material. Finally, the Federal Rules assume the presence of litigants. The movement toward greater judicial management has reduced litigants’ influence over cases,⁶³ but the ultimate power to initiate cases and define the dispute rests with the parties.⁶⁴ Additional stationarity assumptions exist, but the aforementioned assumptions stand out as core to the Federal Rules’ basic functioning.

Although none of these assumptions explicitly pertain to climate or ecological systems, they each rely on stable infrastructure and civil society. A litigant cannot bring nor can an adjudicator manage a case if flooding and destruction has made all courthouses inaccessible. Sustained loss of electricity and damage to physical infrastructure can make developing case records, let alone filing them, difficult. Because “everything driven and affected by climate change faces a nonstationarity future as well,”⁶⁵ including infrastructure and civil

⁵⁹ Memorandum from Hon. Lee H. Rosenthal, Chair, Advisory Comm. on the Fed. Rules of Civ. Proc. to Hon. David F. Levi, Chair, Standing Comm. on Rules of Prac. & Proc., Report of the Civil Rules Advisory Committee (May 27, 2005), <https://perma.cc/6WE6-8PTL> (recommending revisions to Rules 16, 26, 33, 34, 37, and 45 to address discovery of electronically stored information); Order Prescribing Amendments to the Federal Rules of Civil Procedure, 547 U.S. 1233, 1239–52 (2006).

⁶⁰ Edward H. Cooper, *Simplified Rules of Federal Procedure?*, 100 MICH. L. REV. 1794, 1795 (2002).

⁶¹ *See, e.g.*, FED. R. CIV. P. 16 (requiring judges to issue a scheduling order and allowing for a judge-led pretrial conference); FED. R. CIV. P. 63 (providing that “any other judge may” take over a hearing or trial for a judge who is unable to proceed after “certifying familiarity with the record and determining that the case may be completed without prejudice to the parties”).

⁶² *See, e.g.*, FED. R. CIV. P. 3, 5(d).

⁶³ *Cf. Resnik, Managerial Judges, supra* note 21, at 378 (discussing the increase in judges’ power to manage cases without formal restraints).

⁶⁴ *See, e.g.*, FED. R. CIV. P. 8 (setting basic requirements for pleadings but leaving to the parties to determine the substance of claims, responses, or defenses); FED. R. CIV. P. 41(a) (voluntary dismissal of actions); *see also* *Caterpillar Inc. v. Williams*, 482 U.S. 386, 392 (1987) (stating that the plaintiff is the master of his complaint under the well-pleaded complaint rule).

⁶⁵ Rossi & Ruhl, *supra* note 7, at 844.

society, civil procedure faces its own nonstationarity challenges. As the next Part explains, climate upheavals can disrupt—and have already disrupted—normal civil procedure just as they have undermined the stationarity assumptions of environmental and common law.

III. A VULNERABILITY ANALYSIS OF THE FEDERAL RULES OF CIVIL PROCEDURE

Rapid decarbonization is critical to avoiding climate catastrophe. But mitigation cannot reverse the effects of committed warming. Therefore, many governments—local, state, and federal alike—have produced plans to adapt to a hotter world.⁶⁶ Although the consequences of climate change are often not fully predictable, adaptation planning allows for more effective responses to identified risks.⁶⁷ These plans largely seek the same end: “ensuring that people, communities, and natural systems are able to withstand the impacts of climate disruption.”⁶⁸

The typical adaptation planning framework begins with a vulnerability assessment.⁶⁹ This includes an explicit identification of the organizational goals (i.e., what the adaptation plan is trying to protect from the effects of climate change),⁷⁰ followed with an analysis of how adaptation targets are already vulnerable.⁷¹ A city’s adaptation plan may, for example, identify human health and wellbeing as an adaptation goal and analyze how the prevalence of preexisting conditions like asthma or diabetes in the community may amplify the negative effects of climate disruption.⁷²

Civil procedure has not undergone a similar process, despite the disruptions that climate change has caused and will continue to cause to civil courts.⁷³ This Part takes the initial steps in applying that

⁶⁶ See, e.g., U.S. ENV’T PROT. AGENCY, EPA 100-K-14-001, CLIMATE CHANGE ADAPTATION PLAN (2014), <https://perma.cc/4GAR-GUYM>; COMMONWEALTH OF MASS., MASSACHUSETTS STATE HAZARD MITIGATION AND CLIMATE ADAPTATION PLAN (2018), <https://perma.cc/NWV8-S2K4>; STATE OF R.I., RESILIENT RHODY: AN ACTIONABLE VISION FOR ADDRESSING THE IMPACTS OF CLIMATE CHANGE IN RHODE ISLAND (2018), <https://perma.cc/WXA2-EX7Z>; CITY OF BOS., HEAT RESILIENCE SOLUTIONS FOR BOSTON, FINAL REPORT (2022), <https://perma.cc/6ZBL-BT7D>.

⁶⁷ See U.S. ENV’T PROT. AGENCY, OFF. OF WATER, BEING PREPARED FOR CLIMATE CHANGE: A WORKBOOK FOR DEVELOPING RISK-BASED ADAPTATION PLANS 6–7 (2014) [hereinafter EPA, PREPARED FOR CLIMATE CHANGE], <https://perma.cc/2MCY-DUV7>.

⁶⁸ E.g., CAL. NAT. RES. AGENCY, SAFEGUARDING CALIFORNIA: IMPLEMENTATION ACTION PLANS 10 (2016), <https://perma.cc/XD5W-FKVF>.

⁶⁹ EPA, PREPARED FOR CLIMATE CHANGE, *supra* note 67, at 8.

⁷⁰ See *id.*

⁷¹ See *id.* at 23–24.

⁷² See, e.g., JUAN DECLET-BARRETO ET AL., NAT. RES. DEF. COUNCIL, GUIDE TO COMMUNITY VULNERABILITY ASSESSMENTS 12–15 (2020), <https://perma.cc/H8WA-C3H3> (describing an example vulnerability index that looked at variables like housing tenure and immigration status as predictors of heat mortality and morbidity).

⁷³ For examples, see *infra* Part IV.

vulnerability assessment framework to the Federal Rules of Civil Procedure. First, this Part defines the core values of civil procedure that are worthy of protection. Next, the Part offers a brief assessment drawn from secondary literature of those values' preexisting vulnerabilities that leave the Federal Rules at greater risk to climate disruptions.

A. Defining the Adaptation Target: Rule 1 and Procedural Values

A critical step in developing a climate adaptation plan is identifying the proper metrics for measuring success.⁷⁴ In practice, this step often answers the question of what an adaptation plan is meant to protect. For communities, the primary concerns when establishing an adaptation plan are likely maintaining human health and critical infrastructure.⁷⁵ But for the law, the applicable measurements are often more abstract. Judges and policymakers, therefore, will need to analyze the underlying goals of particular legal regimes to effectively adapt the law to the climate change era.

Although the Federal Rules hold themselves out as separate from substantive areas of the law, there still are instrumental goals that sit behind procedural design.⁷⁶ Indeed, the original drafters of the Federal Rules used Rule 1 to establish a succinct explanation of the overall Rules' aims. Through Rule 1, the Federal Rules contain their own means to measure their success and an opportunity to consider the core values to the civil system.⁷⁷ The current version of Federal Rule 1 states:

Scope and Purpose. These rules govern the procedure in all civil actions and proceedings in the United States district courts, except as stated in Rule 81. They should be construed, administered, and employed by the court and the parties to secure the just, speedy, and inexpensive determination of every action and proceeding.⁷⁸

⁷⁴ Cf. Ruhl & Salzman, *supra* note 39, at 995 (offering a model framework to measure "the likelihood of any new legal field emerging from significant changes to background natural social, and economic conditions"). This structure is closely related to the process of disaster risk management planning. See IPCC REPORT 2022, *supra* note 1, at 133 (explaining that disaster planning is a "set of processes that improve understanding of disaster risk").

⁷⁵ See, e.g., U.S. AGENCY FOR INT'L DEV., CLIMATE VULNERABILITY ASSESSMENT: AN ANNEX TO THE USAID CLIMATE RESILIENCE FRAMEWORK 13–14 (2016), <https://perma.cc/8498-NZL3>.

⁷⁶ Stephen Subrin, *On Thinking About a Description of a Country's Civil Procedure*, 7 TUL. J. INT'L & COMP. L. 139, 140 (1999); see Lahav, *supra* note 6, at 825 (suggesting that the goals of a procedural design should be identifiable and contestable); Frank I. Michelman, *The Supreme Court and Litigation Access Fees: The Right to Protect One's Rights—Part I*, 1973 DUKE L.J. 1153, 1172 (1999) (discussing values underlying procedural guarantees in litigation).

⁷⁷ See Harold Hongju Koh, Speech, "The Just, Speedy, and Inexpensive Determination of Every Action?", 162 U. PA. L. REV. 1525, 1525 (2014).

⁷⁸ FED. R. CIV. P. 1.

This “trinity of procedural virtues”—justness, speed, and inexpensiveness—has inspired amendments to the Federal Rules and frequently appears in judicial opinions as the lodestar for the interpretation of all other rules.⁷⁹ Rule 1’s emphasis on the roles of the court and the parties and its insistence that the Rules apply to all proceedings hint at additional underlying values.

For example, Rule 1’s first sentence embraces the idea that, regardless of the applicable substantive law, all cases will use the same procedure.⁸⁰ This “trans-substantivity” of civil procedure—expressed in the command that the Rules will apply to “all civil actions and proceedings”—serves both efficiency and equality aims.⁸¹ Litigants know the Federal Rules framework applies regardless of which federal district they bring their actions in or the basis of their claims.⁸² Moreover, trans-substantive regimes provide equal treatment of legal processes, signaling to litigants that their claims have equal concern within the civil courts.⁸³

Rule 1 embraces the “just” determination of cases as a goal of the procedural rules.⁸⁴ Although multiple understandings of what qualifies as a just outcome are possible,⁸⁵ the dominant view equates justness with accuracy.⁸⁶ Just decisions are those that appropriately assign legal rights and remedies, which often pushes toward procedural designs favoring decisions on the merits.⁸⁷

⁷⁹ See Patrick Johnston, *Problems in Raising Prayers to the Level of Rule: The Example of Federal Rule of Civil Procedure 1*, 75 B.U. L. REV. 1325, 1326–27 (1995).

⁸⁰ FED. R. CIV. P. 1; see Robert G. Bone, “To Encourage Settlement”: Rule 68, Offers of Judgment, and the History of the Federal Rules of Civil Procedure, 102 NW. L. REV. 1561, 1619 (2008) (“The idea that the Federal Rules of Civil Procedure should apply uniformly to all substantive law claims . . . still has a strong hold on rulemaking today.”); David Marcus, *The Past, Present, and Future of Trans-Substantivity in Federal Civil Procedure*, 59 DEPAUL L. REV. 371, 376 (2010) (“The vast majority of the Federal Rules are trans-substantive, with a few minor exceptions.”).

⁸¹ David Marcus, *Trans-Substantivity and the Processes of American Law*, 2013 BYU L. REV. 1191, 1191 (2013) (“The term ‘trans-substantive’ refers to doctrine that, in form and manner of application, does not vary from one substantive context to the next.”).

⁸² *Id.* at 1220.

⁸³ *Id.*

⁸⁴ FED. R. CIV. P. 1.

⁸⁵ See Robert G. Bone, *Improving Rule 1: A Master Rule for the Federal Rules*, 87 DENV. U. L. REV. 287, 289 (2010) (“[I]s the ‘justness’ of an outcome a function of its accuracy alone, or does it also depend on symbolic effects, educative value, or even the fairness of the participation opportunities that parties receive?”).

⁸⁶ See Paul D. Carrington & Derek P. Apanovitch, *The Constitutional Limits of Judicial Rulemaking: The Illegitimacy of Mass-Tort Settlements Negotiated Under Federal Rule 23*, 39 ARIZ. L. REV. 461, 462 (1997) (“[J]ustice is not broad social justice among classes, but is just recognition of the merits of individual claims and defenses.”).

⁸⁷ See Stephen Subrin, *How Equity Conquered Common Law: The Federal Rules of Civil Procedure in Historical Perspective*, 135 U. PA. L. REV. 909, 962, 986 (1987) (discussing the importance of decisions on the merits through jury trials to the drafters of the original Federal Rules).

The second value of the procedural trinity, speedy determinations, represents the idea that “justice delayed is justice denied.”⁸⁸ Although time is necessary to reach accurate decisions, excessive delay, in which delay costs outweigh benefits, harms the judicial process.⁸⁹ Additional time beyond what is necessary for a particular case has externalities: greater expense, challenges in maintaining evidence, diversion of judicial resources from other cases, continued uncertainty for litigants and interested parties, and diminished trust in the system.⁹⁰

The final value of the procedural trinity, inexpensive determinations, represents concerns about both participation and fairness. Procedural design and interpretation focused on the value of inexpensive litigation recognize cost as an access-to-justice issue.⁹¹ Legal services are expensive, and self-representation does not avoid litigation costs such as discovery or filing fees.⁹² For defendants, in contrast, the value of inexpensive adjudication arises from the fact that a party brought into court must bear its litigation costs in most cases, regardless of the case’s outcome.⁹³

Rule 1, in introducing the parties’ and court’s shared role as administrators of the Rules, gestures toward another value worth noting: citizen participation.⁹⁴ Litigation offers individuals a chance to exert their wills over issues that matter to them. Civil litigation can also generate new law, which makes broader participation important to democratic legitimacy.⁹⁵ Public participation—whether through jury service, observation of courtroom proceedings, or party status—creates a public record of actions taken (or not taken) by judges and lawyers, offering citizens the ability to monitor the least democratic branch of the federal government.⁹⁶

⁸⁸ *E.g.*, *Johnson v. Rogers*, 917 F.2d 1283, 1285 (10th Cir. 1990).

⁸⁹ See Richard Posner, *An Economic Approach to Legal Processes and Judicial Administration*, 2 J. LEGAL STUD. 399, 445–48 (1973).

⁹⁰ See *In re Phenylpropanolamine (PPA) Prods. Liab. Litig.*, 460 F.3d 1217, 1227 (9th Cir. 2006) (“[D]elay in reaching the merits . . . is costly in money, memory, manageability, and confidence in the process.”); *In re Tyler*, 839 F.2d 1290, 1292 (8th Cir. 1988) (“[J]udicial resources are limited in the short run and need to be protected from wasteful consumption.”).

⁹¹ See Emery G. Lee III, *Law Without Lawyers: Access to Civil Justice and the Cost of Legal Services*, 69 U. MIA. L. REV. 499, 504–07 (2015) (detailing how potential clients for contingency fee attorneys are turned away and represent themselves pro se).

⁹² *Id.* at 504, 514 & n.81.

⁹³ See *Celotex Corp. v. Catrett (Celotex)*, 477 U.S. 317, 327 (1986) (emphasizing that that courts must apply summary judgment with an eye toward both the rights of plaintiffs to have their cases heard and the rights of defendants to avoid unnecessary trial by showing “prior to trial, that the claims . . . have no factual basis”); *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 559 (2007) (emphasizing the cost of discovery defendants may be subject to).

⁹⁴ See Michelman, *supra* note 76, at 1172 (recognizing “participation” as a value furthered by allowing people to litigate). “Citizen” here is used to refer to those who participate in the American democratic community, regardless of citizenship status.

⁹⁵ Richard D. Freer, *Exodus from and Transformation of American Civil Litigation*, 65 EMORY L.J. 1491, 1492 (2016).

⁹⁶ *Id.* at 1494.

Similarly, the importance of access to justice, such as the ability to file lawsuits and obtain decisions on the merits, is implicit across many of these specific values. Speed, for example, is valuable in that it allows for the fair allocation of judicial attention to more cases so that more litigants can have their day in court. The value of low-cost determinations is, in part, focused on ensuring that low-income litigants as well as wealthy litigants can use the civil courts to seek civil justice.

B. The Existing Stressors on Civil Procedure's Values

Adaptation analyses must also account for existing stressors that may make the system more vulnerable to climate change impacts. Rather than looking first to climate change stressors, this phase first identifies preexisting gaps between the ideal version of the system and its actual functioning.⁹⁷ Here, that requires assessing where the Federal Rules are most dramatically failing to realize the values established in Rule 1. There is ample evidence of stress on those procedural values through the erosion of the trans-substantive norm, elevated pleading standards, disappearing civil jury trials, and growing concerns about discovery.

Although the drafters of the FRCP intended the Rules' trans-substantivity to symbolically bolster claim and claimant equality while also improving efficiency,⁹⁸ federal civil procedure often deviates from that norm. The twin pressures of specialization and case complexity have eroded the expectation of trans-substantive procedure.⁹⁹ The Supreme Court and Congress have both pushed for substance-specific procedures in fields with costly or time-consuming litigation.¹⁰⁰ But federal judges' use of Rule 83, which allows for the creation of local and courtroom specific procedures, contributed most to this slide from trans-substantivity. The Judicial Conference's 1988 report on local rules found

⁹⁷ See, e.g., Hans-Martin Füssel & Richard J.T. Klein, *Climate Change Vulnerability Assessments: An Evolution of Conceptual Thinking*, 75 CLIMATIC CHANGE 301, 317 (2006) (“[V]ulnerability assessments tend to include additional factors that increase their relevance for decision-makers. This is achieved by a more comprehensive representation of the main stressors affecting a system, including non-climatic stressors, and consideration of the socio-economic factors that determine the differential potential of communities to adapt to changing conditions.”).

⁹⁸ Marcus, *supra* note 80, at 372.

⁹⁹ See Carl Tobias, *Local Federal Civil Procedure for the Twenty-First Century*, 77 NOTRE DAME L. REV. 533, 569 (2022) (“One critical consideration that seemingly prompted the promulgation and enforcement of many local strictures, a significant percentage of which were inconsistent or duplicative, was the felt need to address the growing quantity and complexity of lawsuits . . .”).

¹⁰⁰ In 1976, for example, the Supreme Court promulgated distinct procedures for habeas corpus statutes. Resnik, *Failing Faith*, *supra* note 21, at 526 & n.141. In 1995, Congress enacted the Private Securities Litigation Reform Act of 1995, Pub. L. No. 104-67, 109 Stat. 737 (codified as amended at 15 U.S.C. §§ 77z-1 to 78j-1), which created heightened pleading requirements for federal securities law claims. *Id.* § 101(b); 15 U.S.C. § 78u-4(b)(1)–(2), (3)(8), (4) (2018).

over 5,000 such rules, some of which conflicted with the Federal Rules or provisions of the United States Code.¹⁰¹ Although amendments to Rule 83 and subsequent Supreme Court opinions have clarified the limited role for such procedures,¹⁰² the prevalence of local rules and procedures continues to mean that procedure may differ greatly between districts, judges, and even among cases.¹⁰³ The ideals of the trans-substantive norm—equality and efficiency—are therefore under stress.

Access to justice is also already under significant strain. The shift in pleading standards over the last several decades is a textbook example of this stress; the current regime places pressure on plaintiffs to have evidence before a formal exchange of information is possible.¹⁰⁴ Until 2007, readers of the Federal Rules would have been correct in understanding Rule 8's command that a pleading must contain "a short and plain statement of the relief sought"¹⁰⁵ to create a notice-pleading standard.¹⁰⁶ But the Supreme Court's decision in *Bell Atlantic Corp. v. Twombly*¹⁰⁷—and its 2009 elaboration in *Ashcroft v. Iqbal*¹⁰⁸—revised that standard without changing a single word of the Rules.¹⁰⁹ The Court interpreted Rule 8 to require that a plaintiff plead facts showing substantive plausibility of her claims, rather than simply offering notice

¹⁰¹ See Memorandum from Mary P. Squiers, on the Loc. Rules Project, to Honorable Anthony J. Scirica, and Members of the Comm. on Rules of Prac. & Proc. 2, 5 (Dec. 12, 2002), <https://perma.cc/68PV-V7B8>.

¹⁰² See Tobias, *supra* note 99, at 534. ("The exponential increase in local strictures, many of which were conflicting, prompted Supreme Court revision of Rule 83 during 1985 and 1995, as well as legislative enactment of the JIA in 1988.")

¹⁰³ *Id.* at 533.

¹⁰⁴ Professor Brooke D. Coleman argues that if *Twombly* and *Iqbal* had been the standard from the beginning, trailblazing anti-discrimination cases would not have gotten beyond the pleading stage. Brooke D. Coleman, Essay, *What If?: A Study of Seminal Cases as If Decided in a Twombly/Iqbal Regime*, 90 OR. L. REV. 1147, 1168 (2012).

¹⁰⁵ FED. R. CIV. P. 8(a)(2).

¹⁰⁶ A classic example of notice pleading is *Dioguardi v. Durning*, 139 F.2d 774 (2d Cir. 1944). Joseph Dioguardi, a pro se plaintiff and immigrant, filed a complaint against the Collector of Customs of New York. *Id.* at 774. His complaint was in imperfect English and did not cite the law allegedly entitling him to relief. *Id.* at 774–75. Nevertheless, the Second Circuit concluded that he had met the Rule 8 pleading standard because, although "inartistically" phrased, the complaint disclosed Dioguardi's claims that the defendant "converted or otherwise d[id] away with" his merchandise. *Id.* at 775.

¹⁰⁷ 550 U.S. 544 (2007).

¹⁰⁸ 556 U.S. 662 (2009).

¹⁰⁹ See Sybil Dunlop & Elizabeth Cowan Wright, *Plausible Deniability: How the Supreme Court Created a Heightened Pleading Requirement Without Admitting They Did So*, 33 HAMLINE L. REV. 205, 208 (2010). Although scholars and practitioners initially debated whether these opinions were a change to pleading standards, post-*Iqbal* and *Twombly* research shows that district courts relied on the "plausibility" standard to dismiss cases at higher rates than before the decisions, particularly for pro se and civil rights plaintiffs. Patricia W. Hatamyar, *The Tao of Pleading: Do Twombly and Iqbal Matter Empirically?*, 59 AM. U. L. REV. 553, 582, 607, 615 (2010); see also *id.* at 624 ("Notice pleading may not be 'dead' in federal court, but the prognosis is grave.")

of the claim itself.¹¹⁰ Litigants who cannot, because of either a lack of resources or the challenges of inherent information asymmetries, plead sufficient facts at the outset usually will not have access to discovery, let alone receive a decision on the merits.¹¹¹ Scholars and advocates alike have criticized this increasingly “restrictive ethos” within civil procedure,¹¹² and the tension between the procedural idea of access to justice and the current reality raises profound legitimacy concerns for the civil courts.¹¹³

The disappearing civil jury trial is a similar sign of procedural values under pressure. Although, the Supreme Court admonished the lower courts in 1966, emphasizing that “[t]he basic purpose of the Federal Rules is to administer justice through fair trials, not through summary dismissals as necessary as they may be on occasion,”¹¹⁴ the rate of civil jury trials has steadily declined to a current disposition rate of less than 1%.¹¹⁵ Courts have instead leaned heavily on pretrial mechanisms such as dismissals for failure to state a claim and summary judgment.¹¹⁶ Under current standards for summary judgment, for example, defendants no longer have to proffer their own evidence to

¹¹⁰ See *Fowler v. UPMC Shadyside*, 578 F.3d 203, 210 (3d Cir. 2009) (discussing how pleading standards have shifted to a more heightened form); see also generally A. Benjamin Spencer, *Understanding Pleading Doctrine*, 108 MICH. L. REV. 1, 18 (2009) (discussing how modern pleading doctrine requires “the allegation of objective facts coupled with supported implications”).

¹¹¹ See, e.g., Roy L. Brooks, Conley and Twombly: *A Critical Race Theory Perspective*, 52 HOW. L.J. 31, 58 (2008) (“[E]vidence of discriminatory animus . . . is typically not revealed to the plaintiff until discovery.”); Koh, *supra* note 77, at 1528 (explaining that the *Twombly* standard “impose[s] severe information asymmetries upon civil rights and human rights plaintiffs who are expected at the outset of actions to offer nearly conclusive demonstrations of defendants’ intent”).

¹¹² See, e.g., A. Benjamin Spencer, *The Restrictive Ethos in Civil Procedure*, 78 GEO. WASH. L. REV. 353, 354–56 (2010) (discussing how a liberal ethos in civil procedure would provide various benefits).

¹¹³ Fabio Arcila, Jr., *Plausibility Pleading as Misprescription*, 80 BROOK. L. REV. 1487, 1503 (2015).

¹¹⁴ *Surowitz v. Hilton Hotels Corp.*, 383 U.S. 363, 373 (1966).

¹¹⁵ See Jeffrey Q. Smith & Grant R. MacQueen, *Going, Going, But Not Quite Gone: Trials Continue to Decline in Federal and State Courts. Does It Matter?*, JUDICATURE, Winter 2017, at 28 (discussing the dramatic decrease in civil jury trials the past century); Yeazell, *supra* note 21, at 633.

¹¹⁶ See, e.g., John H. Langbein, *The Disappearance of Civil Trial in the United States*, 122 YALE L.J. 522, 569 (2012) (discussing the large role of summary judgement and how this leads to more settlements); see also, e.g., Marc Galanter & Mia Cahill, “*Most Cases Settle*”: *Judicial Promotion and Regulation of Settlements*, 46 STAN. L. REV. 1339, 1340 (1994) (discussing how arbitration and dismissal are prominent mechanisms in avoiding trial); J. Maria Glover, *The Federal Rules of Civil Settlement*, 87 N.Y.U. L. REV. 1713, 1724 (2012) (discussing how judges have a goal of early case disposition); Gillian K. Hadfield, *Where Have All the Trials Gone? Settlements, Nontrial Adjudications, and Statistical Artifacts in the Changing Disposition of Federal Civil Cases*, 1 J. EMP. LEGAL STUD. 705, 730 (2004) (discussing the decrease in trials by comparing disposition data of Federal civil cases from 1970 to 2000); Judith Resnik, *Diffusing Disputes: The Public in the Private of Arbitration, the Private in Courts, and the Erasure of Rights*, 124 YALE L.J. 2804, 2836–37 (2015) (discussing the expansion of the reach and scope of the Federal Arbitration Act).

successfully argue that the plaintiffs have not supported essential elements of a claim.¹¹⁷ This transition from public adjudication to paper dispositions challenges both justness and public participation values.

Common to many of these existing stressors on civil procedure is discovery.¹¹⁸ The original intent of the discovery rules was to allow “parties to obtain the fullest possible knowledge of the issues and facts before trial.”¹¹⁹ The belief was that, in following the path of pretrial procedures, the expected trial would be “less a game of blind man’s buff [sic] and more a fair contest with the basic issues and facts disclosed to fullest practicable extent.”¹²⁰ But rising litigation costs, new statutory regimes, growing case complexity, and drastic technological changes have made discovery a challenge to speed and cost in civil litigation.¹²¹ It is no surprise, therefore, that the Judicial Conference has devoted most of its energy in the last several decades to amending the discovery rules. The 2015 amendments to the Federal Rules marked a dramatic change from the 1935 Rules’ promise of open discovery: Rule 26 now limits discovery to relevant, nonprivileged matters that are “proportional to the needs of the case”¹²² rather than the permissive standard of original version.¹²³ This proportionality analysis expressly takes into account “the importance of the issues at stake in the action, the amount in controversy, . . . the parties’ resources, . . . and whether the burden or expense of the proposed discovery outweighs its likely benefit.”¹²⁴ Even with this new balancing regime, lawyers, judges, and scholars alike have voiced concern that the discovery system is broken and risks undermining trust in the civil courts.¹²⁵

¹¹⁷ *E.g.*, *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255–57 (1986); *Celotex*, 477 U.S. 317, 323–24 (1986); *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–88 (1986). Multiple articles have discussed the impacts of these three cases (*Anderson*, *Celotex*, and *Matsushita*), sometimes referred to as the “trilogy.” *See generally* Joe S. Cecil et al., *A Quarter Century of Summary Judgment Practice in Six Federal District Courts*, 4 J. EMP. LEGAL STUD. 861 (2007) (finding no statistically significant change in the granting of summary judgment following the trilogy of Supreme Court cases but finding an increased likelihood of summary judgment motions between 1975 and 1986); Martin H. Redish, *Summary Judgment and the Vanishing Trial: Implications of the Litigation Matrix*, 57 STAN. L. REV. 1329, 1342–50 (2005); Adam N. Steinman, *The Irrepressible Myth of Celotex: Reconsidering Summary Judgment Burdens Twenty Years After the Trilogy*, 63 WASH. & LEE L. REV. 81, 119 (2006).

¹¹⁸ *See, e.g.*, Stephen B. Burbank, *Pleading and the Dilemmas of “General Rules,”* 2009 WIS. L. REV. 535, 561 (2009) (characterizing *Twombly* as “the most recent signal of a retreat from the goal of adjudication on the merits”).

¹¹⁹ *Hickman v. Taylor*, 329 U.S. 495, 501 (1947).

¹²⁰ *United States v. Proctor & Gamble Co.*, 356 U.S. 677, 683 (1958).

¹²¹ *See Twombly*, 550 U.S. 544, 558 (2007) (“[I]t is one thing to be cautious before dismissing an antitrust complaint in advance of discovery, but quite another to forget that proceeding to antitrust discovery can be expensive.” (citation omitted)); Arcila, *supra* note 113, at 1503.

¹²² FED. R. CIV. P. 26(b)(1).

¹²³ FED. R. CIV. P. 26(b)(1) advisory committee’s note to 2015 amendment.

¹²⁴ FED. R. CIV. P. 26(b)(1).

¹²⁵ Arcila, *supra* note 113, at 1522 n.161.

IV. CIVIL PROCEDURE'S CLIMATE STRESS TESTS: LESSONS FROM RECENT DISASTERS

These existing vulnerabilities to goals of the Federal Rules are themselves sufficient to have proceduralists worried, but less remarked upon are the emerging threats from outside the legal system. While the slow decline in the public trial might erode public understanding of the judicial system,¹²⁶ natural disasters have assuredly upended regular court proceedings for substantial periods of time in jurisdictions throughout the United States. In this next step of the adaptation analysis, the Article considers the Federal Rules' vulnerabilities to climate change through case studies of recent natural disasters.

Although the destabilizing effects of climate change will make drawing predictions for the future even more difficult, it is certain that the warming planet increases the chances of natural disasters.¹²⁷ Analyzing the challenges that the federal courts have faced from past disasters illuminates these emerging climate stressors on civil procedure. Legal scholars, commentators, and judges often try to extract lessons from past hardships. In 1998, for example, *The Judge's Journal* issued a special edition of articles on emergency preparation in the judiciary. The articles considered how the Red River Floods of 1997,¹²⁸ the Loma Prieta earthquake,¹²⁹ and Hurricane Andrew¹³⁰ undermined judicial activities and how the judiciary could plan for future natural disaster events. Similarly, the renewed attention on emergency preparation in the judiciary following September 11, 2001, drew upon the experiences from these other tragedies.¹³¹ This Part does much the same for five major disasters of the last two decades: Hurricanes Katrina and Rita; Hurricane Harvey; wildfires in the western United States; Hurricane Maria; and the COVID-19 pandemic. This Part considers how more frequent climate change disasters will distort the

¹²⁶ See Stephen B. Burbank & Stephen N. Subrin, *Litigation and Democracy: Restoring a Realistic Prospect of Trial*, 46 HARV. C.R.-C.L. L. REV. 399, 401 (2011).

¹²⁷ See, e.g., IPCC REPORT 2022, *supra* note 1, at 9.

¹²⁸ Thomas B. Pedeliski, *A Case of Judicial Restoration: A Court System Responds to and Recovers from the Red River Flood of 1997*, JUDGES' J., Fall 1998, at 17, 17–23 (discussing how a prompt judicial response to save files and relocate mitigated the problems caused by flooding and the lack of a disaster plan).

¹²⁹ Stephen L. Wasby, *Disruption, Dislocation, Discretion, and Dependence: The Ninth Circuit Court of Appeals and the Loma Prieta Earthquake*, JUDGES' J. Fall 1998, at 33, 33–34, 39 (noting “almost no disruption” to Ninth Circuit operations after the earthquake due to judicial flexibility with rules, dependence on court staff, and ability to relocate).

¹³⁰ Rebecca Mae Salokar, *After the Winds: Hurricane Andrew's Impact on Judicial Institutions in South Florida*, JUDGES' J., Fall 1998, at 26 (discussing how prior disaster planning, incremental decision making, and cooperation led to a rapid recovery for the court system).

¹³¹ See, e.g., Judith S. Kaye, Essay, *Coping with Disaster*, 3 J. APP. PRAC. & PROCESS 453, 453–55, 457–58 (2001) (reflecting on the tragedy of September 11, 2001, and the response of the judiciary amidst the crisis); THOMAS A. BIRKLAND, EMERGENCY PLANNING AND THE JUDICIARY: LESSONS FROM SEPTEMBER 11, at 1–2, 21 (2004), <https://perma.cc/UJ2T-9RUT>.

Federal Rules' underlying assumptions and ability to fulfill its substantive aims.

A. Hurricanes Katrina & Rita: Limitations to Courthouse Access and Access to Litigation Necessities

On August 28, 2005, Hurricane Katrina struck the Gulf Coast, with rainfall and winds continuing into the morning of August 29, 2005.¹³² The next day, multiple canal levees broke in New Orleans, Louisiana and inundated 80% of the city with muddy water.¹³³ The storm and consequent infrastructure failure killed hundreds of Gulf Coast residents and destroyed thousands of homes and businesses, leaving residents homeless and without income.¹³⁴ The National Hurricane Center estimated the storm caused \$125 billion in total damage.¹³⁵ Less than a month later, Hurricane Rita again forced evacuations in Louisiana and Texas and caused at least \$12 billion in additional damages.¹³⁶

Directly attributing the hurricanes to climate change is extremely difficult, if not impossible.¹³⁷ However, scientists agree that climate change likely increases the probability of the storms.¹³⁸ As the Supreme

¹³² See generally COMM. ON HOMELAND SEC. & GOVERNMENTAL AFFS., HURRICANE KATRINA: A NATION STILL UNPREPARED, S. REP. No. 109-322, at 21, 52 (2006).

¹³³ Joseph B. Treaster & N.R. Kleinfeld, *New Orleans is Now Off Limits; Pentagon Joins in Relief Effort*, N.Y. TIMES (Aug. 31, 2005), <https://perma.cc/3ETD-BXDN>.

¹³⁴ See RICHARD D. KNABB ET AL., NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE KATRINA 11–13, 23–30 (rev. 2023) (detailing the history and destruction of Hurricane Katrina and updating the Tropical Cyclone Report of August 2005).

¹³⁵ *Id.* at 13.

¹³⁶ RICHARD D. KNABB ET AL., NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE RITA 8 (rev. 2006).

¹³⁷ See Michael Burger et al., *The Law and Science of Climate Change Attribution*, 45 COLUM. J. ENV'T. L. 57, 98–99 (2020) (explaining how the “storyline” approach to attribution that looks at components of an event for climate attribution “may be more appropriate for complex, iconic, multivariate events such as Hurricane Sandy, which combine everything from extreme storm surge and snowfall to high winds”). *But see, e.g.*, WORLD WEATHER ATTRIBUTION PROJECT, <https://perma.cc/LTZ2-K643> (last visited Nov. 2, 2023) (analyzing the role climate change has played in individual extreme weather events). Establishing causation in climate change-focused cases was a particular challenge in the immediate aftermath of Hurricane Katrina because of continuing climate change denial rhetoric in the courts. *See, e.g.*, *Comer v. Nationwide Mut. Ins.*, No. 05-cv-436, 2006 WL 1066645, at *4 (S.D. Miss. Feb. 23, 2006) (“[T]here exists a sharp difference of opinion in the scientific community concerning the causes of global warming, and I foresee daunting evidentiary problems for anyone who undertakes to prove, by a preponderance of the evidence, the degree to which global warming is caused by the emission of greenhouse gasses . . . and the extent to which the emission . . . intensified or otherwise affected the weather system that produced Hurricane Katrina.”).

¹³⁸ Morris A. Bender et al., *Modeled Impact of Anthropogenic Warming on the Frequency of Intense Atlantic Hurricanes*, 327 SCIENCE 454, 454 (predicting a doubling in the frequency of category four and five hurricanes by the end of the twenty-first century based on climate change models). Climate attribution science has progressed significantly since Hurricane Katrina and *Massachusetts v. U.S. Env't Prot. Agency*, 549 U.S. 497 (2007). *See*

Court noted in *Massachusetts v. U.S. Environmental Protection Agency*, studies before Hurricane Katrina showed that rising ocean temperatures might increase the severity of tropical storms.¹³⁹ At the very least, Hurricanes Katrina and Rita offer a picture into the world to come, a world of more frequent and more severe storms.¹⁴⁰

Hurricanes Katrina and Rita and their collective aftermath did not spare the federal courts. U.S. district courts in Alabama, Louisiana, Mississippi, and eastern Texas drastically altered their court operations in response to the storms.¹⁴¹ As Katrina approached, the U.S. District Court for the Eastern District of Louisiana closed the doors of the Hale Boggs Federal Building and issued an order soon after suspending all deadlines in cases pending before the court.¹⁴² The district court did not terminate the suspension order until late November, nearly three months later.¹⁴³ The courthouse “suffered wind damage, broken windows, and roof leaks,” but was otherwise spared.¹⁴⁴ Nevertheless, the Eastern District operated exclusively from other federal courthouses in Louisiana until November 1¹⁴⁵ and did not reopen Hale Boggs to the public until December 12.¹⁴⁶ Similarly, the Eastern District of Texas entered an order explaining that Hurricane Rita left “no reasonable available location within [its] Beaumont Division” for court sessions, so it was forced to conduct special sessions in the Houston Division of the Southern District of Texas.¹⁴⁷ The Southern District of Alabama and Southern District of Mississippi relatedly closed courthouses after Hurricane Katrina.¹⁴⁸

Burger et al., *supra* note 137, at 110 (discussing attribution studies conducted for Hurricane Harvey).

¹³⁹ 549 U.S. at 521–22, 522 n.18.

¹⁴⁰ See Thomas R. Knutson et al., *Tropical Cyclones and Climate Change*, 3 NATURE GEOSCIENCE 157, 157 (2010) (“[I]t remains uncertain whether past changes in tropical cyclone activity have exceeded the variability expected from natural causes. However, future projections based on theory and high-resolution dynamical models consistently indicate that greenhouse warming will cause the globally averaged intensity of tropical cyclones to shift towards stronger storms.”)

¹⁴¹ See George B. Huff Jr., *Planning for Disasters: Emergency Preparedness, Continuity Planning, and the Federal Judiciary*, JUDGES’ J., Winter 2006, at 14.

¹⁴² Order by Chief Judge Helen G. Berrigan (E.D. La. Sept. 1, 2005), <https://perma.cc/M2GT-H7HZ>.

¹⁴³ Mark v. Michael, No. 08-1261, 2008 WL 4365929, at *2 (E.D. La. Sept. 23, 2008).

¹⁴⁴ CONG. RSCH. SERV., RS22281, GENERAL SERVICES ADMINISTRATION FACILITIES AFFECTED BY HURRICANE KATRINA 2 (2007) [hereinafter CRS HURRICANE KATRINA STUDY].

¹⁴⁵ Jeremy Shapiro, *Federal Courthouse in Houma Reopens Monday*, HOUMA TODAY (Oct. 1, 2005), <https://perma.cc/65E8-ZYYN>; Pamela A. MacLean, *A Tale of Disaster and Two Courts: U.S. Courts Open, La. Courts Struggle*, NAT’L L.J. (Nov. 8, 2005), <https://perma.cc/ARK8-9KGY>.

¹⁴⁶ CRS HURRICANE KATRINA STUDY, *supra* note 144.

¹⁴⁷ General Order Regarding Special Sessions of Court Outside the District Due to Hurricane Rita, No. 05-17 (E.D. Tex. Oct. 6, 2005).

¹⁴⁸ See, e.g., OFF. OF THE INSPECTOR GEN., FOLLOW-UP REVIEW OF THE CRITICAL INCIDENT RESPONSE PLANS OF THE UNITED STATES ATTORNEYS’ OFFICES app. I (2007), <https://perma.cc/6YE6-8UQZ>; CRS HURRICANE KATRINA STUDY *supra* note 144, at 2; Press

Displacement of judges, lawyers, and litigants added to the unprecedented strain on civil proceedings.¹⁴⁹ To be sure, federal courts were better able to resume operations than their state court counterparts due to a mixture of luck and greater access to resources.¹⁵⁰ The Fifth Circuit, for example, had a Continuity of Operations Plan in place before Hurricane Katrina,¹⁵¹ which required the circuit court facilities to close before the storm.¹⁵² In response to the difficulty of proceeding with civil and criminal trials as rebuilding efforts began in New Orleans, Congress enacted the Federal Judiciary Emergency Special Sessions Act¹⁵³ to allow federal courts to conduct court outside of their districts. But the need for prompt evacuation left judges and court staff without time to create logistical plans for continued communication and reopening proceedings in new locations.¹⁵⁴ As court staff relocated to Houston or other nearby cities, courts faced the challenge of addressing needs like medical care, schooling for children, and housing.¹⁵⁵ Furthermore, many court personnel had to juggle the storm's impact on their personal lives with their judicial responsibilities.¹⁵⁶

Release, Civ. Dist. Ct. for the Parish of Orleans, Court Operations Update (Sept. 27, 2005), <https://perma.cc/ZW42-FL4Y>.

¹⁴⁹ See Charles McCowan III, *The Impact of Hurricanes Katrina & Rita on the Louisiana Justice System*, at 36 (May 2010) (unpublished MSc. Thesis, Louisiana State University and Agricultural and Mechanical College) (on file with author).

¹⁵⁰ Birkland & Schneider, *supra* note 16, at 26. See generally Greg G. Guidry, *The Louisiana Judiciary: In the Wake of Destruction*, 70 LA. L. REV. 1145 (2010).

¹⁵¹ Hon. Edith Brown Clement, *Maintaining Continuity: The Fifth Circuit's Rebound from Hurricane Katrina*, 38 TEX. TECH. L. REV. 531, 532 (2006). Ultimately, the Fifth Circuit Court of Appeals John Minor Wisdom Courthouse in New Orleans suffered only broken windows. *Id.* at 533.

¹⁵² Gregory J. Cowan et al., *The Courts: Guardians of Health and Liberty*, 35 J.L. MED. & ETHICS 50, 51 (2007).

¹⁵³ Federal Judiciary Emergency Special Sessions Act of 2005, Pub. L. No. 109-63, 119 Stat. 1993 (codified as amended at 28 U.S.C. §§ 48, 141, 152(c), 636 (2018)).

¹⁵⁴ See Brandon L. Garrett & Tania Tetlow, *Criminal Justice Collapse: The Constitution After Hurricane Katrina*, 56 DUKE L.J. 127, 145–46 (2006).

¹⁵⁵ *Id.* at 137, 146, 148.

¹⁵⁶ Indeed, the storm's widespread impact was used to question judicial independence—and perhaps challenge judicial prestige. In a lawsuit involving claims related to the Mississippi River Gulf Outlet and other canal breaches, defense lawyers sought to disqualify the presiding federal judge primarily because his home suffered damage from Hurricane Katrina. See *Berthelot v. Boh Bros. Constr. Co.*, 431 F. Supp. 2d 639, 641–43 (E.D. La. 2006). The defense asserted that because the judge lived in the New Orleans metro area and had experienced hurricane damage himself, he could not fairly judge the claims. *Id.* at 642–43. “If fear of harm caused by flooding and living in a city that has been harmed by flooding is a sufficient reason to mandate recusal,” the judge wrote, “one could argue that living in a city inundated by crime . . . would require the recusal of judges who live there from hearing criminal matters.” *Id.* at 647. Recusal arises under a different statutory authority than that of the Federal Rules, which are the focus of this Article. See 28 U.S.C. § 455(a) (2018) (“Any justice, judge or magistrate judge of the United States shall disqualify himself in any proceeding in which his impartiality might reasonably be questioned.”). Nevertheless, it is worth considering whether there will be more questions about judicial impartiality in a world with more frequent disasters affecting large communities and even entire judicial districts.

Lawyers, litigants, and witnesses faced similar challenges. When Katrina struck, New Orleans was home to one-third of Louisiana's lawyers; with their displacement came difficulty in accessing necessary discovery materials, witnesses, and support staff.¹⁵⁷ Hurricane Katrina forced lawyers to leave both their homes and offices for an extended time and aggressive headhunting of these displaced lawyers eroded the stock of legal representatives in New Orleans even after individuals were able to safely return to the city.¹⁵⁸ Those who were able to return then faced the emotional challenge of returning to work while still coping with their personal traumas from the storm.¹⁵⁹ Lawyers struggled to maintain communication with clients, many of whom had relocated across the country.¹⁶⁰ Federal court opinions from the months following the hurricane frequently mention delays in discovery and pretrial proceedings because witnesses had relocated.¹⁶¹ Without the current ubiquity of digital information storage, parties reported critical case documents as either damaged from flooding or inaccessible.¹⁶²

The mass dislocation of people and legal resources placed considerable strain on both the Eastern District of Louisiana and neighboring districts.¹⁶³ The Middle District of Louisiana began accepting filings for the Eastern District in early September.¹⁶⁴ To

¹⁵⁷ Birkland & Schneider, *supra* note 16, at 25–26; *see also* Charles v. County of Nassau, 116 F. Supp. 3d 107, 122 (E.D.N.Y. 2015) (remarking on similar challenges to pretrial proceedings due to law firm closures after Hurricane Sandy).

¹⁵⁸ *See* Brenda Sapino Jeffreys, *14 Days Later: Katrina's Impact on the Texas Legal Community; Headhunters and Job Seekers*, TEX. LAW. (Sept. 12, 2005).

¹⁵⁹ *See* Garrett & Tetlow, *supra* note 154, at 151 (discussing the “court system’s early paralysis” following Hurricane Katrina).

¹⁶⁰ *See* Terry Carter, *Riding out the Storm: Even the Best Disaster Plans Can't Help New Orleans Lawyers Account for Lost Clients, Disruption and Uncertainty*, A.B.A. J., Feb. 2006, at 32, 37.

¹⁶¹ *See, e.g.*, Superior Diving Co., Inc. v. Watts, No. 05-cv-197, 2008 WL 11337621, at *1 (E.D. La. Apr. 10, 2008).

¹⁶² In some cases, apparently unscrupulous attorneys attempted to use the hurricanes as excuses for failing to respond to discovery. Courts met such tactics with frustration and, occasionally, sanctions. *See, e.g.*, Maggette v. BL Dev. Corp., Nos. 7-cv-181, 7-cv-182 (N.D. Miss. May 11, 2010) (Second Report and Recommendations of Special Master Craig Ball) (finding that “responsive documents long sworn by others to have been lost were right on the shelves, in the places they’d always been and where they were supposed to be”); *Glasper v. Morgan*, No. 06-cv-5897, 2008 WL 1746705, at *4 (E.D. La. Apr. 11, 2008); *Recinos-Recinos v. Express Forestry, Inc.*, No. 05-cv-1355, 2006 WL 2349459, at *11 (E.D. La. Aug. 11, 2006).

¹⁶³ Arguably the most concerning impact, although outside the scope of this article, was to the criminal legal system. *See generally* Pamela R. Metzger, *Doing Katrina Time*, 81 TUL. L. REV. 1175 (2007); Ira P. Robbins, *Lessons from Hurricane Katrina: Prison Emergency Preparedness as a Constitutional Imperative*, 42 U. MICH. J.L. REFORM 1 (2008); ACLU NAT’L PRISON PROJECT, ABANDONED AND ABUSED: ORLEANS PARISH PRISONERS IN THE WAKE OF HURRICANE KATRINA (2006), <https://perma.cc/HX6K-ZR4N>. The hurricane’s damage delayed criminal trials and forced the relocation of incarcerated persons. *See* THE WHITE HOUSE, THE FEDERAL RESPONSE TO HURRICANE KATRINA: LESSONS LEARNED 41 (Feb. 2006), <https://perma.cc/MM5G-G2FV>.

¹⁶⁴ General Order, No. 2005-10 (M.D. La. Sept. 6, 2005).

facilitate the re-creation of case records, impacted districts issued special orders temporarily waiving many users' PACER fees.¹⁶⁵ And in recognition of the severe disruption to the courts, the Administrative Office of the U.S. Courts exempted the Eastern District of Louisiana from the Civil Justice Reform Act's reporting requirements for the September 2005 reporting period.¹⁶⁶ The Eastern District's docket suffered immediate and continued stress in the years following the storm as the number of insurance cases ballooned¹⁶⁷ and litigants brought high-profile cases over the levee failures in New Orleans and the damage to coastal marshes caused by oil industry-related canals and pipelines.¹⁶⁸

Collectively, these impacts illustrate emerging challenges to civil procedure's underlying stationarity assumptions. First and foremost, the court orders and opinions following the hurricanes demonstrate how limited access to information can severely disrupt case progression. Ongoing litigation came to a virtual standstill for weeks, and parties struggled even as courthouses reopened. Although the Rules provided flexibility on deadlines, court orders and opinions cannot capture how many parties did not file cases because of displaced litigants or lack of access to necessary documents. Second, these disasters strained the assumption of open courts. Although the Eastern District of Louisiana could temporarily relocate, the inability for litigants and the public to access local courthouses undermined the Rules' implicit preference for a public court of law. Third and finally, Hurricanes Katrina and Rita humbled the ideal of impartial and active judging assumed in the Rules. The storms displaced and harmed judges and litigants alike, undermining the idea of a judiciary removed from the issues presented on the courts' dockets.

B. Hurricane Harvey: Challenges to Trans-Substantivity

Hurricane Harvey struck Houston and southeast Texas as a Category 4 hurricane¹⁶⁹ on August 25, 2017, and heavy rain lingered for

¹⁶⁵ *In re Waiver of Pacer Fees*, No. 2005-11 (M.D. La. Sept. 19, 2005); *In re Waiver of Pacer Fees*, No. 2005-13 (M.D. La. Oct. 28, 2005) (extending the original extension to November 25, 2005); *General Order Temporarily Waiving PACER User Fees in Counties Affected by Hurricane Rita*, No. 05-15 (E.D. Tex. Oct. 4, 2005).

¹⁶⁶ ADMIN. OFF. OF THE U.S. CTS., CIVIL JUSTICE REFORM ACT OF 1990 REPORT 1 (Sept. 30, 2005), <https://perma.cc/5X6B-X9U8>.

¹⁶⁷ See James M. Garner et al., *The Status and Evolution of First-Party Property Insurance Bad Faith Claims After Hurricane Katrina*, 62 LOY. L. REV. 25, 25 n.2 (2016).

¹⁶⁸ Sandra Zellmer, Essay, *A Tale of Two Imperiled Rivers: Reflections from a Post-Katrina World*, 59 FLA. L. REV. 599, 623 (2007).

¹⁶⁹ *Saffir-Simpson Hurricane Wind Scale*, NAT'L HURRICANE CTR. & CENTRAL PAC. HURRICANE CTR., <https://perma.cc/99VC-3EFJ> (last visited Nov. 05, 2023). Category 4 storms have wind speeds in excess of 130 miles per hour. *Hurricane Harvey: Storm Roars Ashore Near Corpus Christi, Tex.*, N.Y. TIMES (Aug. 25, 2017), <https://perma.cc/3ZFL-MDXQ>.

days.¹⁷⁰ In less than one week, the Houston-Galveston area saw fifty inches of rain, closing in on the average *annual* rainfall for the area.¹⁷¹ Sixty-eight people died in Texas as a direct result of the storm.¹⁷² Later reports concluded that the hurricane damaged one-third of Houston's housing stock.¹⁷³ The result was one of the most expensive natural disasters in United States history.¹⁷⁴ The National Oceanic and Atmospheric Agency (NOAA) estimated that Harvey caused \$155 billion in physical damage alone.¹⁷⁵

Climate change provided the necessary conditions to intensify and sustain Hurricane Harvey and its “prodigious” rainfall.¹⁷⁶ Indeed, the 2018 National Climate Assessment used Harvey as an example of climate change impacts to come.¹⁷⁷ Several scientific studies found that anthropogenic climate change increased Harvey's precipitation over land by between 15% and 37%.¹⁷⁸

As with Hurricanes Katrina and Rita, the federal courts' civil dockets filled with orders delaying trials and extending deadlines.¹⁷⁹ Courts outside of Texas weighed whether transfer to other districts in the state made sense given that “the Houston area [wa]s experiencing serious flooding and related problems associated with Hurricane

¹⁷⁰ See *Hurricane Harvey: Storm Roars Ashore Near Corpus Christi, Tex.*, N.Y. TIMES (Aug. 25, 2017), <https://perma.cc/Y8DL-XM93>; Cassandra Pollock & Alex Samuels, *Five Days After Hurricane Harvey, Here's Where Things Stand in Texas*, TEX. TRIB. (Aug. 29, 2017), <https://perma.cc/BHS6-5P6V>; see also Sandra Brown, *The Long Road to Recovery: Response and Rebuilding after Hurricane Harvey*, 81 TEX. B.J. 242 (2018).

¹⁷¹ STEPHANIE GLENN ET AL., SUMMARIZING HURRICANE HARVEY'S ENVIRONMENTAL IMPACTS, HOUSTON ADVANCED RSCH. CTR. (2017), <https://perma.cc/XJ43-R9WJ>.

¹⁷² ERIC S. BLAKE & DAVID A. ZELINSKY, NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE HARVEY 1 (2018), <https://perma.cc/AE7A-LAE8>.

¹⁷³ Rebecca Elliott, *Tens of Thousands Displaced by Harvey Still Yearn for Home*, HOUS. CHRONICLE (Nov. 22, 2017), <https://perma.cc/A7NU-7JXG>.

¹⁷⁴ See BLAKE & ZELINSKY, *supra* note 172, at 9 (ranking the cost of the damage caused by Hurricane Harvey second to only Hurricane Katrina).

¹⁷⁵ *Costliest U.S. Tropical Cyclones Table Updated*, NAT'L CTRS. FOR ENV'T INFO., NAT'L HURRICANE CTR. (Oct. 10, 2023), <https://perma.cc/W4DB-LET3>.

¹⁷⁶ See Burger et. al., *supra* note 137, at 109–10; Kevin E. Trenberth et al., *Hurricane Harvey Links to Ocean Heat Content and Climate Change Adaptation*, 6 EARTH'S FUTURE 730, 730 (2018).

¹⁷⁷ See USGRP, FOURTH NATIONAL CLIMATE ASSESSMENT, *supra* note 55, at 95.

¹⁷⁸ Mark D. Risser & Michael F. Wehner, *Attributable Human-Induced Changes in the Likelihood and Magnitude of the Observed Extreme Precipitation During Hurricane Harvey*, 44 GEOPHYSICAL RSCH. LETTERS 12457, 12463 (2017); S. Wang et al., *Quantitative Attribution of Climate Effects on Hurricane Harvey's Extreme Rainfall in Texas*, 13 ENV'T RSCH. LETTERS 1, 1 (2018).

¹⁷⁹ See, e.g., *Kohr v. City of Houston*, No. 17-cv-1473, 2017 WL 6619336, at *1 (S.D. Tex. Dec. 28, 2017) (dissolving a temporary restraining order originally instituted following Hurricane Harvey to prevent enforcement of public camping prohibitions); *Golden v. Gen. Motors LLC*, No. 17-cv-606, 2017 WL 5633465, at *3 n.1 (W.D. Tex. Nov. 22, 2017) (“Hurricane Harvey was a disaster, disrupted daily activity in Houston for a considerable period of time, and could justify delay in certain circumstances.”); *In re Castex Energy Partners, LP*, 584 B.R. 150, 153 (S.D. Tex. Bkr. 2018) (noting that the trial was delayed). As with Katrina, the courts' greatest challenge was addressing criminal dockets and the safety of incarcerated people. See *supra* note 163.

Harvey.”¹⁸⁰ Courts found “good cause” and “excusable neglect” for missed deadlines.¹⁸¹ As with Hurricanes Katrina and Rita, Hurricane Harvey left many federal courthouses inaccessible.¹⁸² The Beaumont courthouse in the Eastern District of Texas was closed for several weeks after the storm’s landfall because of severe water and mold damage.¹⁸³ Upon reopening, the court put most civil cases on the backburner to prioritize its criminal docket.¹⁸⁴ Twenty-four employees of that district—including the Chief Judge—had their homes destroyed or heavily damaged during the hurricane.¹⁸⁵ Federal courts in the Southern District of Texas closed courthouses in Brownsville, Corpus Christi, Galveston, and Victoria.¹⁸⁶ The Southern District also issued general orders announcing that the courthouse and clerk’s office in the Houston, Galveston, Victoria, and Corpus Christi divisions were inaccessible pursuant to Federal Rule 6(a) until September 1, 2017.¹⁸⁷ The federal court in San Antonio in the Western District of Texas also closed.¹⁸⁸

Harvey’s impact on the federal court caseloads mirrored that in Louisiana following Katrina and Rita. The storm damaged over 160,000 homes in Harris County—about 21% of the occupied housing units¹⁸⁹—and led to a secondary flood of insurance litigation filed in Texas federal courts.¹⁹⁰ But whereas the Louisiana federal courts had muddled through the surge of insurance claims, Texas federal courts responded to Hurricane Harvey with new streamlined procedures to fast track insurance cases. Recognizing that the flexible, party-driven discovery allowed under Federal Rules could be onerous given the deluge of hurricane-related insurance claims, the Southern District of Texas

¹⁸⁰ United States v. Cooke, No. 99-cr-50089, 2017 WL 4172630, at *5 (W.D. La. Aug. 31, 2017).

¹⁸¹ See *Morris v. Aircon Corp.*, No. 16-cv-035, 2017 WL 11630435, at *3 (E.D. Tex. Sept. 20, 2017); *Arreola v. Zapata Cnty.*, No. 16-cv-00285, 2017 WL 4174932, at *1 (S.D. Tex. Sept. 12, 2017).

¹⁸² See *In re Thomas*, No. H-17-3549, 2018 WL 1210723, at *1 n.1 (S.D. Tex. Mar. 8, 2018).

¹⁸³ See *Integrated3d, Inc. v. Aveva, Inc.*, No. 17-cv-159, 2017 WL 10185175, at *6 n.4 (E.D. Tex. Nov. 16, 2017).

¹⁸⁴ *Id.* (noting that the court prioritized its criminal cases).

¹⁸⁵ *Courts Help Each Other Survive Hurricane Season*, U.S. CTS. (Jan. 18, 2018), <https://perma.cc/E33K-ECH6>.

¹⁸⁶ Debra Cassens Weiss, *Courts Close as Hurricane Harvey Threatens Texas Coast*, A.B.A. J. (Aug. 25, 2017), <https://perma.cc/35MM-XXM9>.

¹⁸⁷ Amended Order Finding that the Clerk’s Office and the Courthouse are Inaccessible, No. 2017-13 (S.D. Tex. Aug. 30, 2017); Order Finding that the Clerk’s Office and the Courthouse Are Inaccessible, No. 2017-12 (S.D. Tex. Aug. 29, 2017).

¹⁸⁸ Weiss, *supra* note 186.

¹⁸⁹ HARRIS CNTY., HURRICANE HARVEY DAMAGE ASSESSMENT 21 (2018), <https://perma.cc/D8L3-N55D>.

¹⁹⁰ See *Just the Facts: Insurance Case Filings Spike After Natural Disasters*, U.S. CTS. (Nov. 16, 2021), <https://perma.cc/P3J9-G76K> (showing a rapid growth in insurance claims in areas Hurricane Harvey hit after the storm).

adopted the Initial Discovery Protocols for First-Party Insurance Property Damages Cases Arising from Disasters.¹⁹¹

These Protocols provide for default initial disclosures in insurance cases.¹⁹² The Southern District of Texas noted that flooding cases from natural disasters almost always required the same exchange of information, which meant that enormous efficiency gains existed in consolidating cases for pre-trial management and having the parties follow these protocols.¹⁹³ Rather than rely on plaintiffs unfamiliar with federal litigation to prepare initial discovery requests, the protocols instead require both parties to automatically provide discovery on the key information and documents needed in the average case within forty-five days of the defendant's responsive motion or pleading.¹⁹⁴ The district saw success with this procedure leading to settlement.¹⁹⁵ However, data from similar protocols for certain types of employment actions showed a reduction in motions practice, but no change in the time to achieve resolution.¹⁹⁶ The protocols therefore prioritize the efficiency of discovery over the trans-substantive norms found in the Federal Rules.¹⁹⁷

Even with these efficiency gains from routinized judicial management, damage from Hurricane Harvey undoubtedly derailed many litigants' cases. Court orders in the aftermath of the storm mention that litigants found it difficult to collect and submit evidence for summary judgment.¹⁹⁸ In one Fair Labor Standards Act case, a defendant informed the court that they had lost crucial records in the

¹⁹¹ INST. FOR THE ADVANCEMENT OF THE AM. LEGAL SYST., INITIAL DISCOVERY PROTOCOLS FOR FIRST-PARTY INSURANCE PROPERTY DAMAGE CASES ARISING FROM DISASTERS 1 (2019) [hereinafter IAALS PROTOCOLS], <https://perma.cc/56WB-DWRJ>; IAALS' *Discovery Protocols Provide Clarity to Courts in Times of Emergency*, I.A.A.L.S. BLOG (Sept. 24, 2021), <https://perma.cc/9USX-AW3B>.

¹⁹² IAALS PROTOCOLS, *supra* note 191, at 2.

¹⁹³ See Lee H. Rosenthal & Daniel D. Hu, *Flood Control: Initial Discovery Protocols in the Southern District of Texas*, 82 TEX. B.J. 690, 690–92 (2019); see also *U.S. District Judge George C. Hanks, Jr.*, U.S. DIST. & BANKR. CT. S. DIST. TEX., <https://perma.cc/AV77-58CP> (last visited Sept. 29, 2022) (listing among the applicable procedures the Initial Discovery Protocols for First Party Insurance Property Damage Cases); *U.S. Magistrate Judge Christina A. Bryan*, U.S. DIST. & BANKR. CT. S. DIST. TEX., <https://perma.cc/RP34-5W3H> (last visited Sept. 29, 2022) (same); *U.S. District Judge Lee H. Rosenthal*, U.S. DIST. & BANKR. CT. S. DIST. TEX., <https://perma.cc/F42B-NKEL> (last visited Sept. 29, 2022) (same); *U.S. District Judge Charles Eskridge*, U.S. DIST. & BANKR. CT. S. DIST. TEX., <https://perma.cc/7ZDU-FHD8> (last visited Sept. 29, 2022) (same).

¹⁹⁴ Rosenthal & Hu, *supra* note 193, at 691.

¹⁹⁵ *Id.*

¹⁹⁶ Emery G. Lee III & Jason A. Cantone, *Pilot Project on Discovery Protocols for Employment Cases Alleging Adverse Action*, JUDICATURE, Spring 2016, at 6–7.

¹⁹⁷ See Steven S. Gensler & Lee H. Rosenthal, *Breaking the Boilerplate Habit in Civil Discovery*, 51 AKRON L. REV. 683, 697 (2017) (“There is no need to wait because requests for such core material are inevitable, and there is no need for objections because the categories were identified and drawn to ensure that the information and documents would be relevant and proportional.”).

¹⁹⁸ PPD Enter. v. Stryker Corp., No. 16-cv-0507, 2017 WL 4950065, at *4 n.8 (S.D. Tex. Nov. 1, 2017).

flooding.¹⁹⁹ Most importantly, court opinions emphasized the proactive role that litigants had to take in shepherding their cases even with the hurricane-related delays. Court opinions from post-hurricane litigation often lamented the fact that litigants failed to inform the court of their need for additional time because of the hurricane before critical deadlines.²⁰⁰ It is harder to determine how many cases did not make it into the federal courts in the first place owing to the storm's disruption.

Hurricane Harvey, although devastating to Houston and surrounding areas of Texas, presents a more complicated tale of the Federal Rules in times of upheaval than did Hurricanes Rita and Katrina. Displacement from the storm undoubtedly made it challenging to access necessary information, leaving many lawsuits unfiled and litigants screened from court. But, on the whole, Texas courts met the rise in insurance cases following the storm with procedural innovations that avoided larger judicial delays.

C. Hurricane Maria: Civil Cases Without Civil Infrastructure

Hurricane Maria struck Puerto Rico as a Category 4 hurricane on September 20, 2017.²⁰¹ Two weeks earlier, Hurricane Irma had dealt a serious blow to the island's electric power grid and as Maria approached over 61,000 people still lacked electricity.²⁰² The hurricane decimated hundreds of thousands of buildings on the island through a combination of heavy rainfall, storm surge, and winds.²⁰³ The barely-recovered power grid collapsed; all 3.4 million Puerto Rican residents lost electricity.²⁰⁴ The subsequent power outage was the longest in United States history.²⁰⁵ Few basic communication networks withstood the storm: Ninety-five percent of cellular phone service failed²⁰⁶ and few landline,

¹⁹⁹ *Martinez v. Ranch Masonry, Inc.*, No. 16-cv-3267, 2018 WL 1579476, at *5 n.2 (S.D. Tex. Apr. 2, 2018); *see also* *Phx. Process Equip. Co. v. Cap. Equip. & Trading Corp.*, No. 3:16-CV-00024-CHB, 2022 WL 3094320, at *12 (W.D. Ky. July 18, 2022) (finding that physical records were destroyed in Hurricane Harvey).

²⁰⁰ *See* *January v. Tex. Dep't of Crim. Just.*, 760 F. App'x 296, 299 n.1 (5th Cir. 2019) (rejecting a plaintiff's excuse for not responding to a motion for summary judgment because the plaintiff had not informed the court that she lacked mail service until after the response deadline had passed or in subsequent motions); *cf.* *Houston v. Tex. Dep't of Agric.*, No. CV H-18-4431, 2019 WL 11670785, at *3 (S.D. Tex. June 5, 2019).

²⁰¹ *See* Brian K. Sullivan & Ezra Fieser, *Maria Latest Threat to Puerto Rico After \$1 Billion Irma Hit*, BLOOMBERG (Sept. 20, 2017), <https://perma.cc/64GC-5E3K>.

²⁰² U.S. DEP'T OF ENERGY, HURRICANE IRMA & HURRICANE HARVEY, SEPTEMBER 19 EVENT SUMMARY (REPORT #38) 1 (Sept. 19, 2017), <https://perma.cc/ZMY6-NHRU>.

²⁰³ FED. EMERGENCY MGMT. AGENCY, MITIGATION ASSESSMENT TEAM REPORT, HURRICANES IRMA AND MARIA IN PUERTO RICO, at i (2018), <https://perma.cc/U9MV-WFHZ> [hereinafter MITIGATION ASSESSMENT].

²⁰⁴ *Id.*

²⁰⁵ *See* David Brindley, *Power Struggle: Months After Hurricane Maria, Puerto Rico is Still Recovering from the Longest Blackout in U.S. History*, NAT'L GEOGRAPHIC (July 2018), <https://perma.cc/A3CL-V8LE>.

²⁰⁶ MITIGATION ASSESSMENT, *supra* note 203, at i.

internet, or radio services withstood the storm.²⁰⁷ The federal government estimated that Maria caused \$90 billion in damage.²⁰⁸

The devastation of Puerto Rico's infrastructure made regular civil proceedings impossible for months.²⁰⁹ The hurricane destroyed the roof of the largest federal courthouse on the island and the remaining federal courthouses also suffered damage requiring closure.²¹⁰ Although the federal courthouse reopened its doors a little less than a month after Maria hit, electricity to the whole island was not restored until March of 2018.²¹¹

The widespread destruction left judges with new case management challenges.²¹² Following Hurricane Irma, the District of Puerto Rico issued a general order tolling claims due between September 6 and 8.²¹³ Hurricane Maria then prompted an order declaring the district court closed as of September 18 and inaccessible until October 16.²¹⁴ The court thus ordered that, "Due to the aftermath of Hurricane Maria that caused total devastation of power and communication infrastructure for the Court and members of the Bar, all deadlines and delays within this Court's authority . . . are suspended until November 6."²¹⁵ The district court temporarily stayed most cases during the initial period of recovery.²¹⁶ Judges regularly granted additional extensions, but the

²⁰⁷ FED. COMM'N COMM'N, 2017 ATLANTIC HURRICANE SEASON IMPACT ON COMMUNICATIONS REPORT AND RECOMMENDATIONS, PUBLIC SAFETY DOCKET NO. 17-344, at 15, 17 (Aug. 2018), <https://perma.cc/77MB-JTLX>.

²⁰⁸ RICHARD J. PASCH ET AL., NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE MARIA 7 (2023), <https://perma.cc/SYM8-D6NA>.

²⁰⁹ See generally Sigrid Steidel Figueroa, *Emergencia y Respuesta Judicial: El Poder Judicial de Puerto Rico Ante el Huracán María*, 87 REVISTA JURÍDICA UNIVERSIDAD DE PUERTO RICO 789 (2018).

²¹⁰ David Boeri, *Hurricane Maria Upends 1st Circuit as Federal Courthouses in Puerto Rico Are Damaged*, WBUR NEWS (Oct. 6, 2017), <https://perma.cc/X9ST-GK8B>.

²¹¹ *Rodriguez-Guiterrez v. Hosp. Gen. Menonita, Inc.*, No. 16-2990, 2019 WL 3064902, at *1 n.1 (D.P.R. July 10, 2019).

²¹² Substantive issues arose as well, particularly in criminal cases. For example, a FEMA administrator and electric company president alleged to have committed bribery conspiracy, disaster fraud, and wire fraud following the hurricane argued for a change of venue in the criminal case against them because "nearly all Puerto Ricans were affected by Hurricane Maria and the loss of power," a panel of Puerto Rican jurors could not be impartial. *United States v. Tribble*, 470 F. Supp. 3d 139, 142–43 (D.P.R. 2020). The court denied the request for a change of venue. *Id.* at 155.

²¹³ Notice from the Clerk No. 17-09, Extension of Terms Due to Passage of Hurricane Irma (D.P.R. Sept. 8, 2017).

²¹⁴ Notice from the Clerk No. 17-011, Extension of Terms Due to Imminent Passage of Hurricane Maria (D.P.R. Sept. 18, 2017); *Rodriguez-Guiterrez*, 2019 WL 3064902 at *1 n.1.

²¹⁵ Notice from the Clerk No. 17-509, *In re* Emergency Measures After the Passage of Hurricane María, at 3 (D.P.R. Oct. 4, 2017).

²¹⁶ See, e.g., *Triangle Cayman Asset Co. 2 v. Empresas Omajede, Inc.*, No. 17-2372, 2019 WL 1499331, at *1 (D.P.R. Apr. 3, 2019).

onus was placed on the parties to explain their reasons for needing more time as Puerto Rico slowly restored normal operations.²¹⁷

D. COVID-19: Social Distancing in an Unusual Disaster

Less than two months after Wuhan's Huanan Seafood Wholesale Market closed in response to reports of a pneumonia-like illness in the city, the World Health Organization declared COVID-19 a pandemic.²¹⁸ In the United States, state governments requested that nonessential workers stay home.²¹⁹ Schools transitioned to virtual instruction as social distancing limited gatherings.²²⁰ And the federal courts found themselves trying to keep cases moving forward while closing the courthouse doors.²²¹

Unlike the growing intensity of hurricanes in the last several decades, the risk of pandemics cannot be so simply attributed to climate change. But COVID-19 signals a likely future. Climate change will likely increase the spread of infectious diseases through populations,²²² and the continued human encroachment on wild habitats opens new chances for diseases to jump from animals to humans.²²³ Already, the world has seen a rise in the occurrence of water-borne, vector-borne, and zoonotic²²⁴ diseases.²²⁵ Climate change's disruptions to natural systems will continue this trend.

²¹⁷ See, e.g., *Rosa-Rivera v. Municipio de San Juan*, No. 16-1465, 2018 WL 11436541, at *10 n.3 (D.P.R. Mar. 30, 2018) (explaining the that court was "liberally granting" motions for extension, but such an extension needed to be requested in a timely manner); *Márquez-Marín v. Barr*, 463 F. Supp. 3d 165, 167–68 (D.P.R. 2020) (citing a motion for extension of time noting that one lawyer involved in the case lacked electricity on October 30, 2017 and thereafter had electricity on intermittently).

²¹⁸ Michael Worobey et al., *The Huanan Seafood Wholesale Market in Wuhan was the Early Epicenter of the COVID-19 Pandemic*, 377 SCIENCE 951, 951 (2022); *WHO Director-General's Opening Remarks at the Media Briefing on COVID-19*, WORLD HEALTH ORG. (Mar. 11, 2020), <https://perma.cc/4MPE-JH7L>.

²¹⁹ See, e.g., Cal. Exec. Order N-33-20 (Mar. 19, 2020); N.Y. Exec. Order No. 202.8 (Mar. 20, 2020), <https://perma.cc/7UWH-WTXA>; N.J. Exec. Order No. 107 (Mar. 21, 2020), <https://perma.cc/W8D9-HKXB>; Or. Exec. Order No. 20-12 (Mar. 23, 2020), <https://perma.cc/698A-RT4M>; Wash. Proclamation No. 20-25 (Mar. 23, 2020), <https://perma.cc/QZ9Y-8B5S>.

²²⁰ Sarah Mervosh & Vanessa Swales, *Colleges and Universities Cancel Classes and Move Online Amid Coronavirus Fears*, N.Y. TIMES (Mar. 12, 2020), <https://perma.cc/2892-MAM8>.

²²¹ See Robert Loeb et al., *The Federal Courts Begin to Adapt to COVID-19*, LAWFARE (Mar. 18, 2020), <https://perma.cc/A8Q4-A475> (cataloging initial adaptations of a variety of federal courts).

²²² Emily K. Shuman, *Global Climate Change and Infectious Diseases*, 362 NEW ENG. J. MED. 1061, 1061–62 (2010).

²²³ DELIA GRACE RANDOLPH ET AL., U.N. ENVIRONMENT PROGRAMME, PREVENTING THE NEXT PANDEMIC: ZOOONOTIC DISEASES AND HOW TO BREAK THE CHAIN OF TRANSMISSION 5, 7, 34 (2020).

²²⁴ A zoonotic disease is a disease that spreads from animals to humans. See *Zoonoses*, WORLD HEALTH ORG. (July 29, 2020), <https://perma.cc/Z8FD-UT4E>. COVID-19 is a zoono-

In this first of possibly many such pandemics, the judiciary's response was decentralized yet consistent. Each district began issuing general orders on court operations in early March 2020.²²⁶ These orders restricted physical access to courthouses, prohibiting persons who exhibited apparent symptoms of COVID-19, along with those who had traveled to countries with known COVID-19 outbreaks, had been asked to self-quarantine by a health professional, had been diagnosed with COVID-19, or had been in close contact with someone diagnosed with COVID-19.²²⁷

The courts leaned heavily on procedural flexibility to continue operations and reestablish something close to a civil procedure equilibrium. At the beginning of the pandemic, many courts put aside the usual concerns about efficiency to provide additional time to parties adjusting to new pandemic restrictions. Courts stayed proceedings²²⁸ or took piecemeal steps to extend deadlines given the uncertain trajectory of the pandemic.²²⁹ Courts also regularly invoked Federal Rule

tic disease. *See* Zi-Wei Ye et al., *Zoonotic Origins of Human Coronaviruses*, 16 INT'L J. BIOL. SCI. 1686, 1686 (2020).

²²⁵ IPCC REPORT 2021, *supra* note 33, at 1812; *see also* Xavier Rodó et al., *Changing Climate and the COVID-19 Pandemic: More than Just Heads or Tails*, 27 NATURE MED. 576, 576 (2021); Saloni Gupta et al., *Did Climate Change Influence the Emergence, Transmission, and Expression of the COVID-19 Pandemic?*, 8 FRONTIERS MED., Dec. 2021, at 6.

²²⁶ The United States Courts kept a table of relevant court orders regarding the COVID-19 pandemic and court business. *Court Orders and Updates During COVID-19 Pandemic*, U.S. CTS., <https://perma.cc/2YKN-RLCW>. (last updated Apr. 2023).

²²⁷ *See, e.g.*, Covid-19 Restrictions Regarding Entrance to Courthouses or Courtrooms, No. 2020-1 (D. Colo. Mar. 13, 2020), <https://perma.cc/PV42-TP9E>; *In re* Restrictions on Visitors to Courthouse, No. 20-mc-03910 (M.D. Ala. Mar. 11, 2020), <https://perma.cc/7SMT-CQZJ>.

²²⁸ *See, e.g.*, NAACP v. U.S. Dep't of Homeland Sec., No. 18-0239, 2020 WL 1331998, at *5 (D. Md. Mar. 23, 2020) ("Court proceedings are at a virtual standstill. Courts, including this one, have entered orders suspending court proceedings and extending filing deadlines. . . . It makes no sense to require the parties in this case to undertake further action, whether formal discovery or motions practice, in the current environment."); *Njokanma v. Advance Serv., Inc.*, No. 4:20-cv-3004, 2020 WL 1684222, at *1 (D. Neb. Apr. 6, 2020) (granting a motion to stay for 90 days based on the plaintiff's explanation that she had been unable to find counsel because of the pandemic).

²²⁹ *Herrera v. City of New York*, No. 19-cv-3216, 2020 WL 1879075, at *1 (S.D.N.Y. Apr. 15, 2020) (denying to stay the case but extending the time for defendants to respond to an amended complaint by 60 days); *see also* *Bethel Ministries, Inc. v. Salmon*, No. 19-01853, 2020 WL 1873623, at *2 n.2 (D. Md. Apr. 15, 2020) (explaining that although the U.S. District Court for the District of Maryland had suspended most filing deadlines in response to the pandemic, "discovery in civil cases is expressly exempted from the policy"); *Nekouee v. Privitera Realty Holdings*, No. 19-2773, 2020 WL 1433481, *1-2 (D. Kan. Mar. 24, 2020) (rejecting the defendant's argument that the pandemic justified a temporary stay because of the delay it would cause to investigating alleged Americans with Disabilities Act violations); *Hobbs v. Loomis*, No. 19-1307, 2020 WL 2036854, at *1-2 (D. Kan. Apr. 28, 2020) (extending time under Rule 4(m) for service of the complaint).

6(b)(1)(A) and (B) to extend deadlines to file pleadings²³⁰ and Federal Rule 16(b)(4) to modify scheduling orders.²³¹

Prior to the pandemic, many federal courts had adopted emergency preparedness and continuity of operations plans in the wake of earlier crises, and these plans emphasized improvements to communications systems.²³² The pace of this transition to virtual proceedings was staggering: less than a month after the federal government declared a national emergency concerning the pandemic, the federal courts were already touting how judges were holding hearings through video conferencing.²³³ Although courts had used video and phone conferencing in limited circumstances prior to the pandemic,²³⁴ restrictions on in-person hearings left federal courts little option but to significantly expand the use of these technologies. Courts permitted, and in some cases ordered, parties to conduct remote depositions as permitted under Federal Rule 30(b).²³⁵ Courts did not spare jury trials from dramatic changes, either. For instance, in March 2020, a court in the District of Minnesota allowed witnesses to appear by video in a civil bench trial.²³⁶

Critically, the pandemic did little to upset core stationarity assumptions underlying the Federal Rules. Judges, although appearing on Zoom, were still present and able to preside over cases. Because the pandemic did nothing to disrupt communication infrastructure, litigants were still able to file complaints and evidence. To be sure, the shift to online proceedings disadvantaged litigants with limited access to the internet, but the fundamental framework of the civil process changed

²³⁰ See, e.g., *Roan County v. Jacobs Eng'g Grp., Inc.*, No. 3:19-cv-206, 2020 WL 2025613, at *1 (E.D. Tenn. Apr. 27, 2020) (granting a motion for an extension of briefing schedule deadlines pursuant to Federal Rule 6(b)(1)(A)).

²³¹ See, e.g., *Garcia v. Beaumont Health*, No. 19-11673, 2020 WL 1873313, at *1–2 (E.D. Mich. Apr. 15, 2020) (extending a scheduling deadline under rule 16(b)(4) due to COVID); *Life Time, Inc. v. Cherrish Corp.*, 2020 WL 1467017, at *3 (D. Minn. Mar. 26, 2020) (granting a 90 day extension to a scheduling deadline in light of COVID); *Romo v. Costco Wholesale Corp.*, No. 19-cv-1120, 2020 WL 1624589, at *2 (S.D. Cal. Apr. 2, 2020) (granting a joint motion requiring counsel to take actions in accordance with Rule 16).

²³² Hellen Hershkoff & Arthur R. Miller, *Courts and Civil Justice in the Time of COVID: Emerging Trends and Questions to Ask*, 23 N.Y.U. J. LEGIS. & PUB. POL'Y 321, 361 (2021) (noting a number of courts already had “continuity of operations” and “pandemic/public health” plans in place at the time of the pandemic).

²³³ See *Courts Deliver Justice Virtually Amid Coronavirus Outbreak*, U.S. CTS. (Apr. 8, 2020), <https://perma.cc/928B-B6ME> (explaining courts’ caseloads are too heavy to pause operations and virtual proceedings are the most equitable solution).

²³⁴ See Alicia L. Bannon & Douglas Keith, Essay, *Remote Court: Principles for Virtual Proceedings During the COVID-19 Pandemic and Beyond*, 115 NW. U. L. REV. 1875, 1182–83 (2021).

²³⁵ See *Julian v. Metro. Life Ins. Co.*, No. 17-cv-957, 2020 WL 1699983, at *1 (S.D.N.Y. Apr. 7, 2020) (ordering a plaintiff to appear for a remote deposition but granting 30 days for the deposition to take place given the pandemic); *Sinceno v. Riverside Church in City of New York*, No. 18-cv-2156, 2020 WL 1302053, at *1 (S.D.N.Y. Mar. 18, 2020) (explaining court protocols for the conduct of remote depositions).

²³⁶ *In re RFC and ResCap Liquidating Tr. Action.*, 444 F. Supp. 3d 967, 972 (D. Minn. 2020).

little because the pandemic left the physical infrastructure of our court system intact.

E. Lessons Learned

Many other climate disasters and risks have challenged civil procedure and could still in the future. The cases presented above were chosen because they provide some of the more obvious lessons about how climate disasters will disrupt the norms and values that federal civil procedure has adopted over the decades. Forest fires, like hurricanes, will displace potential litigants and witnesses, reduce access to courts and necessary litigation information, and slow down cases already filed. Subtler challenges could come from heat waves and droughts, which can exacerbate existing societal inequality reflected in the courts.

1. The Need for Reevaluation of Early Case Filtering and Trans-Substantivity.

The hardest hit groups in these climate tragedies are those already most vulnerable and least well served under the current procedural regime. Data collected by the federal courts cannot show how many litigants did not file cases because of climate disasters, but displacement of people and loss of property during these crises suggests that the number is large. Those disadvantaged litigants that still make it to court are likely to have trouble accessing records, lawyers, and other key resources to successfully navigate a procedural system that filters out most cases through the pretrial process.²³⁷ Courts are also inclined to relax the trans-substantive norm in the aftermath of a climate disaster given the likelihood of similar cases and discovery needs. Climate change, therefore, will increase the dissonance between the Federal Rules' assumption of equal parties and cases and the reality of procedural practice.

2. Barriers to Access of Information and the Rules.

These climate-related disasters of the last two decades also demonstrate how the focus on early filtering of cases within current civil procedure is a poor fit for times of displacement. Although e-discovery is the bane of many a litigator's existence, in some instances the increasing digitization of society means that climate disasters will not so easily result in the loss of critical records. But the technological

²³⁷ See Arthur R. Miller, *The Pretrial Rush to Judgment: Are the "Litigation Explosion," "Liability Crisis," and Efficiency Clichés Eroding our Day in Court and Jury Trial Commitments?*, 78 N.Y.U. L. REV. 982, 984, 1003, 1004 n.112, 1063 (2003) ("A cynic might say, therefore, that 'getting it right' no longer is near the top of the priority list; indeed, it may rank well below 'getting it over with.'").

solutions of the pandemic are insufficient for the more likely disasters of the climate change era. Those disasters may destroy critical infrastructure, such as the servers on which discovery material is stored. Displaced litigants and attorneys may find themselves at a disadvantage in new districts with different local rules, and parties with fewer resources may struggle to make use of cloud-based technologies. Climate change will destabilize current access assumptions as physical infrastructure faces challenges that cannot be solved simply by moving resources online.

3. Challenges to the Active Participation of Judges.

Judges will also not be immune to the climate disruptions of the coming decades. As judges fall victim to the same climate disasters as the litigants in their courtrooms, the hands-on judicial management that the Federal Rules demands will be more challenging to achieve. Although judicial management has and will continue to move to online proceedings, the behavioral norms related to courtroom proceedings are harder without the usual symbols of judicial power. Severe disruptions—those, like Hurricane Maria, that leave infrastructure crippled for sustained periods—may leave judges unable to participate even virtually. The impacts of climate change stress the image of an active jurist and, in so doing, perhaps weaken judicial legitimacy.

4. Challenges to Procedural Justice with an Emphasis on Speed and Expense.

Hurricanes Katrina, Rita, and Harvey demonstrated that climate disasters may reverberate outside their geographic strike zone to create further litigation delays. The understandable desire to assist family following a devastating hurricane, for example, may make it difficult for litigants to vigorously prosecute their cases as civil procedure assumes.²³⁸ This neglect is “excusable,” but the growing frequency of storms and the large number of those affected put a strain on the speedy resolution of cases. Climate change disasters will require a recalibration of the current judicial thinking on efficiency. If courts continue to push cases to dismissal or resolution at the normal pace, the delicate balance between efficiency and justice may finally topple.

²³⁸ *Monticello Ins. Co. v. Dynabilt Mfg. Co.*, No. 605-cv-548, 2005 WL 2578715, at *2 (M.D. Fla. Oct. 13, 2005) (“A less than one month delay in filing a response to a motion due to providing assistance to one’s family cause[d] by a severe and devastating hurricane is clearly excusable neglect within the meaning of Federal Rule of Civil Procedure 60(b).”).

5. *Undermining Courthouses as Loci of Democratic Participation.*

Public access to courthouses is exceedingly difficult in times of climate disruption. Safety concerns, whether because of physical infrastructure or communicable disease, trump the opening of courthouse doors. The pandemic has allowed federal courts to test inclusion and participation through technology solutions, but such means of democratic openness can risk the symbolic prestige of the federal courts.²³⁹ Technological openness brings with it risks from infrastructure failures, which are likely to occur in more traditional natural disasters like hurricanes. Climate change, therefore, will destabilize the assumption of open, physical access to the courts and their public role without adaptation to procedural norms.

V. ADAPTING CIVIL PROCEDURE

Protecting communities from flooding, wildfires, and heatwaves will undoubtedly require great national attention. But as the discussion above demonstrates, the multiplication of climate disasters in our future will also impact civil procedure. Suggestions to modify the Federal Rules of Civil Procedure is well-trod territory within procedural scholarship.²⁴⁰ This Part offers a new angle to these concerns with an eye to the external forces shaping the practice of civil procedure rather than the proliferation of judge-created modifications to the system. Just as “there will be no panaceas” for environmental degradation in this new climate era,²⁴¹ there will not be easy solutions to adapting civil procedure to the new normal of frequent climate emergencies. Importing adaptation principles to the question of how to best prepare civil procedure for future crises requires leaning on civil procedure’s adaptive capacity and returning to first principles on what our civil procedure seeks to accomplish.

A. *Proposed Rule 87*

The most notable step toward civil procedure adaptation emerged from the CARES Act. As COVID-19 disrupted normal court functions, Congress instructed the Judicial Conference to “consider rules amendments . . . that address emergency measures that may be taken

²³⁹ See, e.g., John G. Browning, *Should Judges Have a Duty of Tech Competence?*, 10 ST. MARY’S J. LEGAL MALPRACTICE & ETHICS 176, 177–78 (2020) (“[J]udges across the country regularly exhibit ignorance of or unwillingness to educate themselves about the technologies around which modern life revolves.”).

²⁴⁰ See, e.g., Edward H. Cooper, *Simplified Rules of Federal Procedure?*, 100 MICH. L. REV. 1794, 1796 (2002) (outlining a draft approach to correct imperfections within the Federal Rules of Civil Procedure); Lahav, *supra* note 6, at 827 (proposing three alternative procedural designs).

²⁴¹ Craig, *supra* note 18, at 16 (citing Elinor Ostrom et al., *Going Beyond Panaceas*, 104 PROC. NAT’L ACAD. SCI. 15176, 15176 (2007)).

by the Federal Courts when the President declares a national emergency.”²⁴² Subcommittees of the Judicial Conference took on the task of looking at changes to the civil, criminal, appellate, and bankruptcy rules that could improve future disaster responses.²⁴³ The process of the CARES Act Subcommittee for Civil Rules involved first reviewing all existing rules to determine which presented challenges to “effective procedure in emergency circumstances.”²⁴⁴ Although many rules fit that description, the Advisory Committee initially identified six emergency rules²⁴⁵: three dealt with service of process; one with post-judgment motions; and two with “open court provisions” in Rules 43(a) and 77(b).²⁴⁶

From the start, the CARES Act Subcommittee for Civil Rules was, however, not wholly enthusiastic about a general emergency rule provision. The CARES Act required only consideration, not adoption, of rule amendments for emergencies.²⁴⁷ The primary argument against specific emergency rules was that the Federal Rules have sufficient embedded discretion to address unexpected challenges, significant emergencies included.²⁴⁸ The October 2020 meeting minutes from the Advisory Committee on Civil Rules noted that “[l]awyers and courts, working together have made use of remote means of communication to continue with effective pretrial work” and “the rules may well accommodate any practically workable approaches that may be adopted” in response to emergencies.²⁴⁹ The Subcommittee also “quickly discarded” the CARES Act recommendation that the trigger for the emergency rules would be a presidential declaration of a national emergency.²⁵⁰

The emergency rule—to be styled as FRCP 87—that emerged from this process creates a simple dichotomy between emergency and normal civil procedure.²⁵¹ Rather than provide emergency versions of the six

²⁴² CARES Act, Pub. L. No. 116-136, § 15002(b)(6), 134 Stat. 281, 530 (2020).

²⁴³ COMM. ON RULES OF PRAC. & PROC., JUD. CONF. OF THE UNITED STATES, PRELIMINARY DRAFT: PROPOSED AMENDMENTS TO THE FEDERAL RULES OF APPELLATE, BANKRUPTCY, CIVIL, AND CRIMINAL PROCEDURE, AND THE FEDERAL RULES OF EVIDENCE 8–9 (2021) [hereinafter EMERGENCY RULES PRELIMINARY DRAFT].

²⁴⁴ *Id.* at 41.

²⁴⁵ Minutes of the Civ. Rules Advisory Comm. 10 (Oct. 16, 2020), <https://perma.cc/4G2U-34HK>.

²⁴⁶ *Id.*

²⁴⁷ *See id.* at 9 (explaining that the CARES Act requires consideration of rule amendments that address emergency measures).

²⁴⁸ *Id.*

²⁴⁹ *Id.*

²⁵⁰ *Id.* at 11. This decision was wise given that presidential emergency declarations can last for months if not years. *See* National Emergencies Act, Pub. L. No. 94-412, 90 Stat. 1255 (1976) (codified as 50 U.S.C. §§ 1601–1651) (providing continuance for presidentially declared national emergencies).

²⁵¹ The complete text of the proposed rule is found in the appendix. *See* EMERGENCY RULES PRELIMINARY DRAFT, *supra* note 243, at 41–43 (explaining the purpose and character of the emergency rules); COMM. ON RULES OF PRAC. & PROC., *supra* note 23, app. C-5

rules initially identified, the Committee narrowed the list to address only two: Rules 4 and 6(b)(2).²⁵² Under “emergency” procedure, federal courts are permitted to authorize service to an individual, a business entity, a federal agency or employee, or other governmental entity under Rule 4 “by a method that is reasonably calculated to give notice,”²⁵³ in contrast to the specifications applicable under that rule.²⁵⁴ The emergency rule modifies Rule 6(b)(2) to allow an extension of thirty days to file motions pursuant to Rules 50(b), 50(d), 52(b), 52(d), 52(e), and 60(b).²⁵⁵ In June 2021, the Advisory Committee presented the Emergency Rule to the Committee on Rules of Practice and Procedure.²⁵⁶ Rule 87 took effect December 1, 2023.²⁵⁷

Several aspects of Rule 87 are especially noteworthy. First, the rule is conservative in its modification of the generally applicable rules. The emergency versions of Rules 4 and 6(b)(2) created through Rule 87 were the result of concerns that those rules presented textual barriers to emergency flexibility.²⁵⁸ In contrast, the drafters found sufficient discretion in the remainder of the Federal Rules to allow their effect and application during emergencies.²⁵⁹ Comments from outside groups in the early decision-making process highlighted numerous rules that could create litigation barriers during emergencies.²⁶⁰ Nonetheless, the Subcommittee embraced a minimalistic approach that emphasizes the discretion of individual judges.

Second, the definition of a “civil rules emergency” is comparatively broad. Declaring such an emergency requires a determination “that extraordinary circumstances relating to the public health or safety, or affecting physical or electronic access to a court, substantially impair the court’s ability to perform its functions” under the normal Federal Rules.²⁶¹ Rule 87 would easily encompass many expected climate change-related disasters. The Committee note to the rule explains that “[t]he range of the extraordinary circumstances that might give rise to a rules emergency is wide, in both time and space.”²⁶² Examples include

(explaining the conditions required for an emergency and the content of such a declaration).

²⁵² COMM. ON RULES OF PRAC. & PROC., *supra* note 23, app. C-5 to -9.

²⁵³ *Id.* app. C-6.

²⁵⁴ See FED. R. CIV. P. 4 (detailing normal civil procedure requirements for service).

²⁵⁵ COMM. ON RULES OF PRAC. & PROC., *supra* note 23, app. C-7.

²⁵⁶ Memorandum from Advisory Comm. on Federal Rules to Comm. on Rules of Practice and Proc. 1 (June 1, 2021), <https://perma.cc/7ZBE-KLKH>.

²⁵⁷ See *Pending Rules and Forms Amendments*, U.S. CTS. (last visited Sept. 29, 2023), <https://perma.cc/4BJ3-XQY8> (explaining the process required to amend federal rules and stating the year Rule 87 is projected to go into effect); FED. R. CIV. P. (Dec. 1, 2023), <https://perma.cc/J54Q-X72Z> (including Rule 87).

²⁵⁸ EMERGENCY RULES PRELIMINARY DRAFT, *supra* note 243, at 41.

²⁵⁹ Minutes of the Civ. Rules Advisory Comm., *supra* note 245, at 9–10.

²⁶⁰ See *generally* Comments on Emergency Rulemaking for the Federal Rules of Civil Procedure (2020), <https://perma.cc/G8Q5-NDK>.

²⁶¹ COMM. ON RULES OF PRAC. & PROC., *supra* note 23, app. C-5.

²⁶² *Id.* app. C-9.

“hurricanes, flooding, explosions, or civil unrest” at the local level, as well as regional or national emergencies “including such events as a pandemic or disruption of electronic communications.”²⁶³

Third, Rule 87 vests the power to declare such an emergency in the Judicial Conference, rather than individual district courts, judges, or another branch of government.²⁶⁴ It is an interesting choice given that, unlike the use of presidential power,²⁶⁵ there are few guidelines for the Judicial Conference’s declaration of emergency situations. Moreover, Rule 87 empowers the Judicial Conference to choose which of the emergency rules to authorize.²⁶⁶ Courts, even if overwhelmed from an external emergency, do not independently have that authority under Rule 87.

Finally, the commentary for Rule 87 evinces a distinct ambivalence about its own existence. Echoing the Subcommittee’s hesitation in drafting an emergency rule, the Rule’s Committee note explains that the Judicial Conference’s decision to declare a Rules emergency “should be carefully limited to problems that cannot be resolved by construing, administering, and employing the flexibility deliberately incorporated in the structure of the Civil Rules.”²⁶⁷ The note suggests that management at the level of the individual judge will be sufficient to deal with emergencies to come.

B. The Need for Resilience and Adaptive Capacity Beyond Proposed Rule 87

Rule 87, however, should not be the final word on the adaptation of civil procedure for climate change. The firm belief that the Federal Rules’ flexibility had allowed the federal courts to maintain the “just, speedy, and inexpensive determination of every action and proceeding” was little contested throughout the creation of Rule 87.²⁶⁸ In the end, the new rule rests on the same stationarity assumptions as the whole of the Federal Rules. Rule 87 assumes that the flexibility inherent to individual judges in the Federal Rules will almost always suffice to keep civil cases flowing through the courts. In altering only deadlines and

²⁶³ *Id.* apps. C-9 to -10.

²⁶⁴ *Id.* app. C-5.

²⁶⁵ For example, the National Emergencies Act requires the publication of presidential declaration of national emergencies in the Federal Register, National Emergencies Act, 50 U.S.C. §§ 1621–1651 (2018), that the declaration specify the statutory powers the President will exercise during the emergency, *id.* § 1631, and a report to Congress on all executive orders and expenditures related to the emergency, *id.* § 1641. Of course, presidential emergency declarations can last for decades and may not be targeted to circumstances in which judicial emergencies exist. *Id.* § 1622 (outlining methods of termination).

²⁶⁶ See COMM. ON RULES OF PRAC. & PROC., *supra* note 23, at 2–3 (discussion recommending the Judicial Conference authorize proposed emergency rules).

²⁶⁷ EMERGENCY RULES PRELIMINARY DRAFT, *supra* note 243, at 49.

²⁶⁸ See, e.g., Minutes of the Civil Rules Advisory Comm., *supra* note 245, at 9 (discussing the adequacy built into Civil Rules in terms of flexibility and discretion).

service of process standards, the rule takes for granted that the larger court infrastructure—online filing, judges, litigants, witnesses, and litigation materials—will be readily available soon. Service of process, for example, even if allowed by a “method that is reasonably calculated to give notice,” still presumes that litigants in a disaster area can file.²⁶⁹ Courts may grant extensions but notifying the parties of such extensions may be impossible if communications systems are not functioning beyond the preexisting deadlines.

Although natural disasters of the recent past have bent but not broken the federal civil process, a more systematic approach to continually adapt the Federal Rules will be necessary for a future of overlapping, more destructive, and more common natural disasters. The increasing scale and severity of climate disasters to come could make the procedure available in the federal courts so distinct from the procedural values offered in Rule 1 that the Rules lose their legitimacy and functionality. If the committees studying and revising the Federal Rules incorporate lessons from adaptation planning into the rulemaking process, future iterations of the Federal Rules may better handle these coming climate challenges and better protect core procedural values.

Future discussions of how to prepare the Federal Rules should address the two essential qualities for systems adapting to the climate change era: resilience and adaptive capacity.²⁷⁰ Resilience is, simply, “the capacity of a system to experience shocks while retaining essentially the same function, structure, feedbacks, and therefore identity.”²⁷¹ Resilience is both a measure of how quickly a system can return to normal and how much disruption it can handle before veering off its normal course.²⁷² In the legal system, Professor J.B. Ruhl has contrasted the Constitution’s resilience—seen through its resistance to structural change—with the common law, which has “a high capacity for

²⁶⁹ COMM. ON RULES OF PRAC. & PROC., *supra* note 23, app. C-6.

²⁷⁰ See, e.g., J.B. Ruhl, *General Design Principles for Resilience and Adaptive Capacity in Legal Systems—With Applications to Climate Change Adaptation*, 89 N.C. L. REV. 1373, 1374 (2011).

²⁷¹ Brian Walker et al., *A Handful of Heuristics and Some Propositions for Understanding Resilience in Social-Ecological Systems*, 11 ECOLOGY & SOC’Y 1 (2006); see also Marco A. Janssen & Elinor Ostrom, *Resilience, Vulnerability, and Adaptation: A Cross-Cutting Theme of the International Human Dimensions Programme on Global Environmental Change*, 16 GLOB. ENV’T. CHANGE 237, 237–38 (2006). Professor Robert L. Fischman has analogized resilience to a person riding a bicycle, which features two basic “equilibrium” states: riding forward and the bicycle flat on the ground. Robert L. Fischman, *Lecture, Letting Go of Stability: Resilience and Environmental Law*, 94 IND. L.J. 689, 691 (2019). If the bicycle in the forward-moving state hits a bump and wobbles, it has displayed resilience even if slightly damaged because it is able to continue within the forward-moving equilibrium. *Id.* In contrast, if the bump forces the bicycle to crash to the ground, the bicycle has entered a different equilibrium state. *Id.* “The greater the bump the system can absorb without causing the rider to fall, the greater the resilience” of that state. *Id.*

²⁷² Ruhl, *supra* note 270, at 1376–77.

swings in behavior in response to changing conditions without altering the system's basic structure and process design."²⁷³

Resilience is evident in the history of federal civil procedure. Trans-substantivity, eroded in some places as it may be, still exists as a norm even as new causes of action emerged from statutory law.²⁷⁴ Whether a class action lawsuit involving millions of dollars and civil rights law or a small flood insurance dispute, the Rules apply and mold themselves to the different substantive regimes.²⁷⁵ The recent experience with the pandemic was perhaps the most extreme example of procedural resilience. When stay-at-home orders made in-person proceedings impossible, the courts rapidly shifted to socially distanced means of carrying out the basic tasks of civil litigation.²⁷⁶

Adaptive capacity, in contrast, describes how well a system can adapt to new conditions.²⁷⁷ Adaptive capacity, therefore, measures the "flexibility, redundancy, and learning capacity" that a system has that allow it to respond to disruptions without fundamentally changing or collapsing.²⁷⁸ A system with high adaptive capacity can nimbly adjust to a new normal, whereas one with a low adaptive capacity will struggle.

Federal civil procedure also displays significant adaptive capacity. Although styled as "rules," the Federal Rules were drafted to provide broad guidelines for civil practice while leaving considerable room for alteration to individual cases.²⁷⁹ In so doing, the Federal Rules regime has provided a malleable foundation for civil practice in the federal courts. A central feature of this adaptive capacity is the discretion available to individual federal judges in overseeing cases. Indeed, some scholars have found such great adaptability in the rules and discretion for judges that civil cases may proceed in almost any order.²⁸⁰

Adaptive capacity is also present in the enduring trans-substantive norm. As discussed above, the Federal Rules are applicable to all federal civil matters, regardless of the substantive law underlying the claims or the size of the case.²⁸¹ The Rules accomplish this goal, in part, through

²⁷³ *Id.* at 1380–81.

²⁷⁴ See Bone, *supra* note 80, at 1619 ("The idea that the Federal Rules of Civil Procedure should apply uniformly to all substantive law claims . . . still has a strong hold on rulemaking today.")

²⁷⁵ See Marcus, *supra* note 80, at 376.

²⁷⁶ See generally Christopher L. Dodson, et al., *The Zooming of Federal Civil Litigation*, 104 JUDICATURE 12, 13 (2020).

²⁷⁷ Ruhl, *supra* note 270, at 1388. The Intergovernmental Panel on Climate Change defines adaptive capacity as "[t]he ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences." INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2014: SYNTHESIS REPORT OF THE IPCC FIFTH ASSESSMENT REPORT 118 (2014).

²⁷⁸ Craig Anthony Arnold, *Resilient Cities and Adaptive Law*, 50 IDAHO L. REV., Spring 2014, at 245, 246.

²⁷⁹ Lahav, *supra* note 6, at 861 ("The soul of the Federal Rules, it might be said, is judicial discretion . . .").

²⁸⁰ *Id.* at 823–24.

²⁸¹ See discussion *supra* Part III.C.1.

language emphasizing the availability of exceptions, extensions, and general principles above strict requirements. For example, Rule 12 creates a general rule that a defendant has twenty-one days after service of the complaint to serve a responsive pleading or motion to dismiss.²⁸² Rule 6 softens this command, allowing the court to extend that time “for good cause,” either sua sponte or on a motion of the party.²⁸³

The rule amendment process further contributes to civil procedure’s adaptive capacity. In theory, the amendment process allows the federal system to consider and adopt rule changes in response to emerging challenges. The Federal Rules originate from an agency-like process, beginning with the Practice and Procedure Standing Committee of the Judicial Conference.²⁸⁴ Congress created the Judicial Conference in 1958 to carry on a “continuous study of the operation and effect of the Federal Rules and to recommend changes and additions that the Conference “may deem desirable to promote simplicity in procedure, fairness in administration, the just determination of litigation, and the elimination of unjustifiable expense and delay.”²⁸⁵ The Standing Committee and its advisory committees conduct this continuous study on behalf of the Judicial Conference.²⁸⁶ The Committee—composed of practitioners, judges, and scholars—identifies aspects of the Rules that, in their opinion, should be revised, and then undertakes months if not years of study to determine the appropriate changes to Rules to address those issues.²⁸⁷ A proposed revision or new Rule is discussed not only among Committee members, but also undergoes a public comment period.²⁸⁸ A final version of this suggestion is transmitted to the Supreme Court.²⁸⁹ If no objections arise, the Supreme Court then transmits the new Rule or amendments to Congress by May 1 of the year the amendment is to take effect.²⁹⁰ Unless Congress acts within seven months to reject, modify, or defer the rules, the new language takes effect on December 1.²⁹¹ Although lengthy, this process has revised the Federal Rules to address emerging stressors like the growth of electronic discovery, mass tort cases, and new technologies.²⁹²

²⁸² FED. R. CIV. P. 12(a).

²⁸³ FED. R. CIV. P. 6(b)(1).

²⁸⁴ FED. R. CIV. P. Foreword.

²⁸⁵ 28 U.S.C. § 331 (2018)

²⁸⁶ *Id.* § 2073.

²⁸⁷ See *The Federal Rulemaking Process: Overview for the Bench, Bar, and Public*, U.S. CTS., <https://perma.cc/VT36-X589> (last visited Sept. 13, 2023).

²⁸⁸ *Id.*

²⁸⁹ *Id.*

²⁹⁰ 28 U.S.C. § 2074(a).

²⁹¹ *Id.*

²⁹² See, e.g., John H. Beisner, *Discovering A Better Way: The Need for Effective Civil Litigation Reform*, 60 DUKE L.J. 547, 581–84 (2010) (discussing the 2006 Amendments to the FRCP related to electronic discovery); Benjamin Kaplan, *Continuing Work of the Civil Committee: 1966 Amendments of the Federal Rules of Civil Procedure (I)*, 81 HARV. L. REV. 356, 375–80 (1967) (discussing 1966 Amendments to the FRCP related to class actions);

The Supreme Court possesses another, although highly controversial, mechanism supporting civil procedure's adaptive capacity. The Supreme Court has shown a willingness in the past to use its discretionary docket to step outside of the Rules Enabling Act²⁹³ process and change how courts use the Federal Rules. Through interpretation, the Supreme Court can change procedural rules without changing a single word.²⁹⁴ The Court's decision to switch from notice pleading to plausibility pleading in *Twombly* and *Iqbal* is a paradigmatic example. While the Rules themselves may not change, lower courts' understanding of how they are expected to apply those Rules may. When presented with relevant cases, then, the Supreme Court can recalibrate the Rules to fit changed circumstances or priorities.²⁹⁵

There are limits to these qualities supporting civil procedure's resilience and adaptive capacity, however. Although many scholars and jurists have championed the plasticity of the Federal Rules,²⁹⁶ actual practice has often forced the Rules toward ossification and complexity. Since their inception, the Rules have become more intricate, expansive, and nuanced,²⁹⁷ even if leaving room for judicial discretion.²⁹⁸ A particular challenge is the fact that "complex litigation has pushed the boundaries of civil rules that were designed for simple litigation."²⁹⁹

Moreover, some of these qualities may drive civil procedure to *maladaptive* solutions. For example, individual litigants may find that the flexibility afforded to judges in applying the Federal Rules stands in stark contrast to the complexity of meeting procedural requirements in litigating a case. Civil practice has trended toward the greater use of pretrial motions practice to screen out litigants.³⁰⁰ Individual civil litigants may have greater difficulty in getting redress within the federal courts due to heightened pleading standards, further restrictions on discovery, increased use of summary judgment, and judicial discretion used to narrow cases as further closing the courthouse

Yvonne A. Tamayo, *Are You Being Served?: E-Mail and (Due) Service of Process*, 51 S.C. L. REV. 227, 251 n.172 (2000) (discussing the Civil Rules Advisory Committee's 1999 recommended amendments to service of process rules to include email).

²⁹³ Rules Enabling Act, 28 U.S.C. §§ 2071–2077 (2018).

²⁹⁴ Cf. Lumen N. Mulligan & Glen Staszewski, *Civil Rules Interpretive Theory*, 101 MINN. L. REV. 2167, 2225–34 (2017).

²⁹⁵ Although the value of this power is limited if nimbleness is key, as it is in responding to natural disasters. The Supreme Court's interpretive role comes into play only through litigation and often after years of a case winding its way through the district and appellate courts.

²⁹⁶ Judith Resnik, Lecture, *Courts: In and Out of Sight, Site, and Cite*, 53 VILL. L. REV. 771, 809 (2008).

²⁹⁷ Linda S. Mullenix, *Lessons from Abroad: Complexity and Convergence*, 46 VILL. L. REV. 1, 2–3 (2001).

²⁹⁸ Michael E. Tigar, *Pretrial Case Management Under the Amended Rules: Too Many Words for a Good Idea*, 14 REV. LITIG. 137, 157 (1994).

²⁹⁹ Mullenix, *supra* note 297, at 2.

³⁰⁰ Nora Freeman Engstrom, *The Diminished Trial*, 86 FORDHAM L. REV. 2131, 2138 (2018).

doors.³⁰¹ Concerns about larger caseloads can unfairly screen out litigants earlier in the process, undermining access to justice. A successful adaptation approach, therefore, will need to look beyond the immediate effect of procedural changes and consider the longer-term impact, especially when stationarity assumptions no longer apply.

C. Establishing Stronger Adaptive Management in Federal Civil Procedure

Environmental law literature on adaptation offers a path forward for civil procedure—adaptive management.³⁰² This model is one of incremental adjustments and policy changes based on frequent feedback and testing.³⁰³ The adaptive management approach begins with identifying the basic properties of a system as a baseline for assessment, but also engages in an iterative process of monitoring, evaluation, and goal-refining. The basic steps are to: (1) define the problem; (2) set goals and objectives; (3) define the system baseline; (4) create conceptual models for the system; (5) choose management actions from those models; (6) implement those actions; (7) monitor the system’s response; and (8) evaluate those actions against the baseline.³⁰⁴ At bottom, this is a model of “learning while doing,” with a strong emphasis on continuous data collection and reevaluation.³⁰⁵

This framework offers considerable benefits to a system in flux. Adaptive management is well-suited to systems with information gaps, the ability to learn from past challenges, and opportunities to make changes based on that knowledge.³⁰⁶ In focusing on core values rather than the finality of decisions, adaptive management does not require “robust capacity to predict” how a particular rule or procedure will impact the system.³⁰⁷ Additionally, rather than arriving at a single solution—like proposed Rule 87—that will likely receive amendments

³⁰¹ See, e.g., Stephen N. Subrin & Thomas O. Main, *The Fourth Era of Civil Procedure*, 162 U. PA. L. REV. 1839, 1847–54 (2014).

³⁰² See generally, Ahjond S. Garmestani et al., *Panarchy, Adaptive Management and Governance: Policy Options for Building Resilience*, 87 NEB. L. REV. 1036 (2009); Hillary M. Hoffman, *Climate Change and the Decline of the Federal Range: Is Adaptive Management the Solution?*, VT. J. ENV’T L., Spring 2014, at 36; Kai N. Lee & Jody Lawrence, *Adaptive Management: Learning from the Columbia River Basin Fish and Wildlife Program*, 16 ENV’T L. 431, 435, 442 (1986); Ruhl, *supra* note 270, at 1390–91; J.B. Ruhl, *Taking Adaptive Management Seriously: A Case Study of the Endangered Species Act*, 52 U. KAN. L. REV. 1249 (2004).

³⁰³ Tracy-Lynn Humby, *Law and Resilience: Mapping the Literature*, 4 SEATTLE J. ENV’T L. 85, 119–20 (2014).

³⁰⁴ Ruhl, *supra* note 270, at 1391.

³⁰⁵ Holly Doremus, *Precaution, Science, and Learning While Doing in Natural Resource Management*, 82 WASH. L. REV. 547, 550 (2007).

³⁰⁶ See, e.g., Holly Doremus, *Adaptive Management as an Information Problem*, 89 N.C. L. REV. 1455, 1466 (2011).

³⁰⁷ As compared with traditional environmental impact assessments, which normally do require this predictive capacity. Ruhl, *supra* note 7, at 417.

only after a catastrophic failure or significant stress to that solution, adaptive management creates a regime of constant learning and tinkering.

Take, for example, a federal district ravaged by wildfires that destroy communication and electricity infrastructure throughout most of the region. Under Rule 87, the Judicial Conference would need to meet and declare a civil rules emergency. That declaration would only give judges the *discretion* to authorize alternative service of process or extend certain deadlines for motions pursuant to Rules 50, 52, 59, and 60.³⁰⁸ This would leave tough decisions about whether to shift procedure through standing orders from the district or the discretion of individual judge. Some judges may determine that with internet access available in nearby areas, litigants are responsible for requesting extensions. Others may offer blanket extensions until communities regain regular utility service. Even more difficult questions about how to deal with discovery after damage to servers or physical file locations would arise and lead to radically different outcomes for litigants depending on their judge.

An adaptive management approach, however, would more explicitly use past climate disasters as lessons for this current challenge. In addition to declaring a civil rules emergency, the Judicial Conference and the district would use the central values of Rule 1 to assess where current procedure in that region are falling flat (step 1). For example, the district might note that the fires displaced many litigants, making communication between litigants and counsel difficult and undermining the idea that case resolution will be speedy or just. The district court could then set a goal of getting cases back on track within a month, with litigants at least able to discuss a new case management plan with counsel and the court (steps 2 and 3). The district would then consider how modification of procedural rules could help achieve those goals (step 4): moving deadlines throughout the district; issuing orders for counsel to file updates in their dockets by a certain date; even providing additional opportunities for litigants to amend complaints based on the challenges of factual research in a time of crisis. The district court would issue orders based on its preferred approach (steps 5 and 6), and, most crucially, collect information on the response within the district (step 7). That information would be helpful in future disaster responses in that district or elsewhere; the district would compare the results with its goal, thereby identifying aspects of the plan that worked or did not work.

The Judicial Conference would, under this adaptive management regime, have a crucial role in both studying and disseminating information about management strategies. The district in the hypothetical above, for example, would share data and reactions to its wildfire experience with the Judicial Conference. The Conference could review that information together with similar information from

³⁰⁸ FED. R. CIV. P. 87(c).

disasters in other districts to develop best practices for district courts experiencing climate emergencies. The data would also help inform the Conference's own rulemaking process. Procedural issues and persistent failures to achieve one of Rule 1's guiding values that arise in this data would signal a need for rule changes. Climate disasters that create severe burdens for litigants to conduct factual research necessary to survive motions to dismiss, for instance, might prompt the Conference to revise Rule 8 to reestablish a notice pleading standard. This iterative process will provide the necessary information to make informed decisions. For example, tracking discovery issues in districts can show whether there is support for arguments that unethical parties may abuse discovery in litigation by claiming lost records. It can also show if increased sanctions for such abuses make a difference in preventing them.

Such an iterative process is not unknown to federal civil procedure. Under the Rules Enabling Act, the Judicial Conference has the framework for a public and deliberative means to amend the Rules when new problems arise.³⁰⁹ Although often slow,³¹⁰ the amendment process is regularly used to update rules to address perceived problems³¹¹ or even to make the language more understandable.³¹² Local rules pursuant to Federal Rule 83 similarly fit well with the adaptive management framework. In declaring a local rule, a district court, with the agreement of a majority the judges in that district, can experiment with the current procedural system so long as new rules are nonduplicative and noncontradictory of the Federal Rules or statutory law.³¹³ Rule 83 allows districts to implement procedural changes to alleviate unique pressures and to tailor procedure to better achieve goals of efficiency or fairness.³¹⁴ But the absence of iterative learning from these tools means that, in many cases, judges and the courts have little guidance in assessing whether procedural rules and decisions are

³⁰⁹ Rules Enabling Act, 28 U.S.C. § 2072 (2018). For a historical overview of the Rules Enabling Act of 1938, see generally Stephen B. Burbank, *The Rules Enabling Act of 1934*, 130 U. PA. L. REV. 1015 (1982).

³¹⁰ Cf. Michael Teter, *Acts of Emotion: Analyzing Congressional Involvement in the Federal Rules of Evidence*, 58 CATH. U.L. REV. 153, 154 (2008) (describing the identical process for amending the Federal Rules of Evidence as “slow” and taking “at least two to three years from start to finish”).

³¹¹ See Paul D. Carrington, *Politics and Civil Procedure Rulemaking: Reflections on Experience*, 60 DUKE L.J. 597, 611–13 (2010) (explaining how the 1983 Amendments “responded to the concerns expressed by business interests”); Adam N. Steinman, *The End of an Era? Federal Civil Procedure After the 2015 Amendments*, 66 EMORY L.J. 1, 3–4 (2016) (explaining that the 2015 Amendments responded to criticisms regarding frivolous lawsuits under the prior pleading standard regime).

³¹² See Edward H. Cooper, *Restyling the Civil Rules: Clarity Without Change*, 79 NOTRE DAME L. REV. 1761, 1761 (2004) (describing the goal of the “Style Project” to “translate present text into clear language that does not change the meaning”).

³¹³ FED. R. CIV. P. 83.

³¹⁴ See Carl Tobias, *Improving the 1988 and 1990 Judicial Improvements Acts*, 46 STAN. L. REV. 1589, 1592 (1994).

leading to maladaptation or to success in upholding core procedural values.³¹⁵ Moreover, climate disasters are not likely to affect only one district. As Hurricanes Katrina and Rita show, challenges in one district may push not only court proceedings to new locations, but also encourage litigants to file their claims elsewhere. Using the Judicial Conference's broader authority, then, will help coordination among districts.

Modifying the rulemaking process to include a judiciary-wide embrace of adaptative management could draw on these existing powers without requiring significant changes to the law. The Judicial Conference is tasked not only with amending the rules, but also with studying them.³¹⁶ In the past, the Civil Rules Committee has exercised this authority to evaluate the impact of Supreme Court decisions on procedural practice,³¹⁷ the law imposing discovery preservation obligations,³¹⁸ the use of standing orders,³¹⁹ and the admissibility requirements for summary judgment affidavits.³²⁰ This authority could be used to conduct a critical analysis of the ninety-four district courts' approaches to civil procedure during crises. A best practices guide would consider how emergencies may impact each of the Rules—a task the Advisory Committee has already accomplished—and then offer commentary on the best approaches to meet Rule 1's goals of efficiency, fairness, and low-cost adjudication.

One possible barrier to this adaptive management regime is that federal law places limits on local experimentation. In 1992, the Advisory Committee proposed an amendment to Rule 83 that would allow district courts, with the approval of the Judicial Conference, to implement experimental rules inconsistent with FRCP.³²¹ Concerns that such a rule would run afoul of 28 U.S.C. § 2071(a), which allows for local rules "consistent with . . . rules of practice and procedure" prescribed in the FRCP, ultimately doomed the proposal.³²² The most robust version of adaptive management of the civil rules, therefore, would require

³¹⁵ Professor Lahav asserts that this "lack of systemic coordination" is a key reason for the disintegration and "devolution of sequencing" within procedural law. Lahav, *supra* note 6, at 866–69.

³¹⁶ See 28 U.S.C. § 331 (2018) ("The Conference Shall make a comprehensive survey of the condition of business in the courts of the United States . . .").

³¹⁷ Memorandum from Andrea Kuperman, Chief Couns., Rules Comm., to Civ. Rules Comm. & Standing Rules Comm., Review of Case Law Applying *Bell Atlantic Corp. v. Twombly* and *Ashcroft v. Iqbal* (Dec. 15, 2010), <https://perma.cc/EEZ8-JG2R>.

³¹⁸ Memorandum from Kate David to the Discovery Subcomm., Laws Imposing Preservation Obligations (Dec. 15, 2010), <https://perma.cc/3NJW-R3U9>.

³¹⁹ COMM. ON RULES OF PRAC. & PROC., REPORT AND RECOMMENDED GUIDELINES ON STANDING ORDERS IN DISTRICT AND BANKRUPTCY COURTS (2009), <https://perma.cc/CG88-BD6Z>.

³²⁰ Memorandum from Andrea Kuperman to Civ. Rules Comm. & Standing Rules Comm., Admissibility Requirements for Summary Judgment Affidavits (Oct. 25, 2008), <https://perma.cc/754P-6KUR>.

³²¹ See Cooper, *supra* note 60, at 1799.

³²² *Id.*

statutory authorization. However, room still exists within the liminal spaces between rules for considerable flexibility.

The Judicial Conference and judges throughout the federal courts need not wait to put this management strategy into place. Two concrete actions would have immediate benefits and begin the transition to a better adaptive framework for the Rules. First, the Judicial Conference should actively promote the use of discovery protocols. As discussed above, discovery sits at the heart of most of the existing vulnerabilities within civil procedure, and natural disasters will exacerbate access and cost challenges to completing discovery. Hurricane Harvey, however, demonstrated that using such protocols—and thereby rejecting aspects of the trans-substantivity norm that do not promote equality of parties or litigation efficiency—can help alleviate discovery pressures on the courts following a major disaster. The Judicial Conference can also encourage the study of discovery protocols that go beyond single-plaintiff insurance claims to consider how add-on procedures can address common civil cases arising from disasters.

Second and relatedly, the Judicial Conference should provide disaster best-practices for courts. The federal court system will need better disaster preparedness plans, and the Judicial Conference can aid in that work by providing practical advice to federal judges about existing strategies for getting disaster-stricken courts closer to normal functioning. For example, surveys of district judges and litigants on extension procedures, defining “good cause” for delays after a disaster, and communication strategies in the immediate aftermath of disasters would be useful to districts preparing for disruptions to normal civil practice. Such information sharing will help retain greater consistency across district courts and provide data necessary for an effective adaptive management strategy.

Assuming that courthouses, digital and physical infrastructure, judges, parties, and lawyers will be able to quickly bounce back after climate disasters is increasingly untenable. At best, civil procedure in those affected districts may be able to muddle through.³²³ Bringing the adaptive management approach to bear on civil procedure offers the chance to improve upon that baseline and, at the very least, take stock of how civil procedure can maintain its core values in times of disruption.

D. Limitations of the Adaptation Management Approach to Civil Procedure Reform

In keeping with the principles of adaptive management, these suggestions for civil procedure are not a magic bullet. Adaptive

³²³ Cf. Jonathan M. Gilligan & Michael P. Vandenbergh, *Beyond Wickedness: Managing Complex Systems and Climate Change*, 73 VAND. L. REV. 1777, 1809–10 (2020) (advocating for “muddling through” as an alternative framework for addressing climate change and other “wicked problems”).

management is a decision-making tool that should lead to more pro-adaptive solutions, but it does not guarantee success. As legal scholars have noted, the popularity of adaptive management within federal agencies often belies the diversity of implementation and success in meeting its goals.³²⁴ A half-hearted embrace of adaptive management may fare no better in preparing civil procedure for climate disasters than the current regime. Moreover, if leaders do not take seriously the need to focus on core procedural values—especially the neglected access value—as goals for management decisions such as rule revisions, the status quo is unlikely to shift.

A related issue is properly allocating power to make decisions about procedural changes and defining core procedural values. Federal judges dominate the Judicial Conference, which means litigants, less privileged members of the public, and non-lawyers are often not at the table.³²⁵ The opportunity for public comment for proposed rules is part of the rulemaking process, but it often results in little feedback from those not admitted to the bar.³²⁶ If core qualities and values of the procedural system are a starting point for management conversations, the supermajority of judges risks overlooking the values that members of the public hold about the courts. Access, for example, might lose out yet again to efficiency concerns. Properly implementing an adaptive management style, therefore, will require those with authority to seek more input from the public to inform their management goals.

A further challenge is ensuring that this focus on procedural values and incremental changes do not run afoul of the Judicial Conference's limited powers. After all, the procedural rules "shall not abridge, enlarge or modify any substantive right."³²⁷ Civil procedure scholars may recognize the inherent tension in that statutory provision, but it nevertheless may hamper the larger values-driven conversations necessary to best adapt civil procedure to nonstationarity. Courts might see a drop in civil rights cases after disasters, for example, but efforts to bend procedure to help litigants must be thoughtful about avoiding pushing too far into expanding the substantive rights of claimants.

Most importantly, adapting the rules of civil procedure alone will not address larger systemic problems. Revising the Rules to reinvigorate notice pleading, for example, does not eliminate the other access-to-justice barriers that exist. The Judicial Conference is not in a position to provide lawyers to civil litigants, nor can it require the hiring of more federal judges as a way to alleviate efficiency concerns. Access to courts

³²⁴ J.B. Ruhl & Robert L. Fischman, *Adaptive Management in the Courts*, 95 MINN. L. REV. 424, 425–27 (2010).

³²⁵ JUD. CONF. OF THE U.S., OCTOBER 2023 MEMBERS, <https://perma.cc/Q2NA-NLJB> (last visited Nov. 7, 2023) (listing Judicial Conference members and showing that all members are judges).

³²⁶ See *Overview for the Bench, Bar and Public*, U.S. CTS., <https://perma.cc/6P3Q-HNHS> (last visited Nov. 7, 2023) (offering a mail list for the circulation of proposed amendments that consists almost entirely of judges, lawyers, and legal organizations).

³²⁷ 28 U.S.C. § 2072(b) (2018).

will not help climate change victims in flood-prone areas who lack flood insurance.³²⁸

Courts have some authority to address these issues outside of the Federal Rules and civil procedure. Courts should marry this adaptive management process with broader disaster management planning. As the climate disasters of the past show, the greatest challenges are often those of access: to information, to resources, and to litigation assistance. Disaster strategies then could consider the procedural challenges arising from infrastructure or lack of access and make plans for providing online resources or access to internet and places for Zoom, depending on the scenario faced.

Regardless of these limitations, adaptive management offers a path forward for federal civil procedure that more thoughtfully addresses challenges of the climate change disruptions to come. While it may not be a panacea to the crises of faith among proceduralists, it offers a step forward toward a procedural system that is more responsive to the needs of not just judges, but also litigants and the public.³²⁹

VI. CONCLUSION

The age of climate disasters is here, and society—including our legal system—is struggling to catch up. Although changes to civil procedure may seem far down on the list of necessary adaptation targets, the last two decades have provided ample evidence that that our civil courts are on precarious footing in this new era.

This Article takes the novel step in arguing both that civil procedure will not be immune to the impacts of climate change and that it must reconsider its process of addressing climate disasters. Already, legal scholars bemoan the ways in which federal civil procedure has departed from its central values. What once was a system designed for access and merits decisions is now a system focused on efficiency and early resolution of cases. Judicial discretion has grown, but guidance on how to approach major upheavals has lagged. Recent climate disasters—mainly hurricanes, but increasingly likely to include wildfires, epidemics, floods, and severe storms—have shown that current procedural practices are not prepared to address the access, discovery, and personnel challenges to come. If court infrastructure disappears or all judges are displaced by a disaster, what procedures

³²⁸ See Michelle Zaludek, *Surviving Climate Change: An Examination of Government Disaster Response and its Effect on People Impacted by Poverty*, 31 ALB. L.J. SCI. & TECH. 226, 253–54 (2021) (discussing the challenges for low-income communities to securing flood insurance and their increased likelihood of living in flood-prone areas).

³²⁹ Cf. Kevin A. Stack & Michael P. Vandenberg, *The One Percent Problem*, 111 COLUM. L. REV. 1385, 1418 (2011) (explaining how defining the denominator broadly has helped contribute to resistance to incremental changes in support of climate change mitigation).

make sense? The current emphasis on decentralized discretion and slow centralized change are ill-equipped to answer this question.

This Article's recommendation for embracing adaptive management within the federal courts is a step toward making civil procedure more resilient and adaptive in this new world of uncertainty. This framework would help the Subcommittee on Civil Rules, districts, and judges better evaluate existing stressors to procedural values, the risks of emerging climate stressors, the success of management strategies in other courts, and how best to tweak strategies to fit new challenges. Federal civil procedure's existing framework is well-suited to such a strategy. The Rules Enabling Act and past Subcommittee research demonstrate that the system can take on a "learning while doing" approach.

The past decades show that civil procedure is not immune to climate change disasters. The varied responses from judges and districts leave little certainty about how the courts will handle the challenges to come. Adapting civil procedure, then, is a critical component of safeguarding an essential part of the democratic system. In an uncertain future, no adaptation plan can promise a perfect outcome, but adaptive management offers a structured means to consider options. Most importantly, it offers a framework for modifying civil procedure that takes seriously the underlying values of access, justice, speed, cost, and the legitimacy of the courts.

APPENDIX

Rule 87. Civil Rules Emergency

- (a) **Conditions for an Emergency.** The Judicial Conference of the United States may declare a Civil Rules emergency if it determines that extraordinary circumstances relating to public health or safety, or affecting physical or electronic access to a court, substantially impair the court's ability to perform its functions in compliance with these rules.
- (b) **Declaring an Emergency.**
- (1) **Content.** The declaration:
 - (A) must designate the court or courts affected;
 - (B) adopts all the emergency rules in Rule 87(c) unless it excepts one or more of them; and
 - (C) must be limited to a stated period of no more than 90 days.
 - (2) **Early Termination.** The Judicial Conference may terminate a declaration for one or more courts before the termination date.
 - (3) **Additional Declarations.** The Judicial Conference may issue additional declarations under this rule.
- (c) **Emergency Rules.**
- (1) **Emergency Rules 4(e), (h)(1), (i), and (j)(2), and for serving a minor or incompetent person.** The court may by order authorize service on a defendant described in Rule 4(e), (h)(1), (i), or (j)(2)—or on a minor or incompetent person in a judicial district of the United States—by a method that is reasonably calculated to give notice. A method of service may be completed under the order after the declaration ends unless the court, after notice and an opportunity to be heard, modifies or rescinds the order.
 - (2) **Emergency Rule 6(b)(2).**
 - (A) **Extension of Time to File Certain Motions.** A court may, by order, apply Rule 6(b)(1)(A) to extend for a period of no more than 30 days after entry of the order the time to act under Rules 50(b) and (d), 52(b), 59(b), (d) and (e), and 60(b).
 - (B) **Effect on Time to Appeal.** Unless the time to appeal would otherwise be longer:
 - (i) if the court denies an extension, the time to file an appeal runs for all parties from the date the order denying the motion to extend is entered;

- (ii) if the court grants an extension, a motion authorized by the court and filed within the extended period is, for purposes of Appellate Rule 4(a)(4)(A), filed “within the time allowed by” the Federal Rules of Civil Procedure; and
 - (iii) if the court grants an extension and no motion authorized by the court is made within the extended period, the time to file an appeal runs for all parties from the expiration of the extended period.
- (C) *Declaration Ends.* An act authorized by an order under this emergency rule may be completed under the order after the emergency declaration ends.