

# Are Republicans Bad for the Environment?

State Politics & Policy Quarterly  
2021, Vol. 21(2) 195–219  
© The Author(s) 2020  
DOI: 10.1177/1532440020941794

Luke Fowler<sup>1</sup>  and Jaclyn J. Kettler<sup>1</sup>

## Abstract

Does the partisanship of officeholders affect environmental outcomes? The popular perception is that Republicans are bad for the environment, but complicating factors like federalism may limit this outcome. Using a dataset that tracks toxic releases over 20 years, we examine how partisan control of executive and legislative branches at both state and federal levels affect environmental policy. Moving beyond the passage of policies or environmental program spending allows us to fully understand the impact of Republicans on the environment. In addition, we take into account structural complications that may shape the relationship between Republican control and environmental outcomes. We find that the conventional wisdom that Republicans are bad for the environment has some validity, but it is dependent on what offices Republican elected officials occupy. More specifically, Republicans significantly affect toxic chemical releases when occupying governorships and controlling Congress. Our conclusions provide further insight into understanding how partisanship affects environmental outcomes, including how partisanship composition across the federal system matters.

## Keywords

environmental policy, public policy, federal and state politics, federalism, legislative and executive interaction, legislative politics, political parties, parties and interest groups, bureaucracy, executive politics

Does the partisanship of officeholders affect policy outcomes? The answer perhaps seems obvious, but our systems of federalism and policy making can complicate the relationship between the parties and policy outcomes, motivating the need for more

---

<sup>1</sup>Boise State University, Boise, ID, USA

## Corresponding Author:

Luke Fowler, School of Public Service, Boise State University, 1910 University Drive—MS 1935, Boise, ID 83725-0001, USA.

Email: [lukefowler@boisestate.edu](mailto:lukefowler@boisestate.edu)

research taking into account these systems. In an era of high partisan polarization, possibly one of the most polarizing issues is the environment and how our government is responding to emerging challenges, such as climate change. Studying environmental outcomes, therefore, is useful for evaluating how the partisanship of national and state officeholders matters for policy.

Previous research indicates that important relationships exist between partisanship, environmental policy issues, and political behaviors, including citizens' beliefs about government responsibilities, legislative voting patterns, and campaign rhetoric (Daniels et al. 2012; Shipan and Lowry 2001). On one side, the Democratic Party has traditionally been a home for environmentalists, and Democrats in Congress and the White House have been a driving force for federal action on environmental problems. On the other side, the Republican Party has long pushed an agenda that is antithetical to the environment in the name of reducing regulations, being pro-business, or making America more competitive in international markets. Consequently, we expect Republicans in national and state-elected offices to result in worse environmental outcomes.

This expectation aligns with the popular perception that Republicans are bad for the environment, but complicating factors like federalism may limit this outcome. Our system of environmental federalism places significant responsibility for administering federal environmental programs with states. This raises the possibility that Republicans' impact on the environment varies across federal and state governments. In addition, executive and legislative branches have significant involvement in the crafting, passage, and implementation of environmental policy. These vertical and horizontal interbranch relationships create a complex governance system that may block or condition any relationship between partisan control and environmental outcomes. As such, we ask, are Republicans bad for the environment? More specifically, is there a negative correlation between Republicans holding office at the state or federal level and environmental outcomes? Or does federalism and interbranch relations complicate and limit the effect of Republican partisan control on environmental outcomes?

Moving beyond the passage of policies or environmental program spending allows us to fully understand the impact of Republicans on the environment. To do so, we analyze a dataset of toxic chemical releases, socio-economic variables, and partisanship of elected officials across 50 states and 20 years. In addition, we take into account structural complications that may shape the relationship between Republican control and environmental outcomes. Recognizing that both the executive and legislative branches play a role in environmental policy making, we include the partisan control of both the executive and legislative branches. Furthermore, as environmental policy involves intergovernmental partnerships, we also consider partisan control of federal and state offices. Our findings contribute a comprehensive test of Republicans' effect on the environment from which we conclude that Republican Congresses and governors pave the way for more toxic chemical releases, but there are some nuances to their power in doing so.

## Literature Review

### *Partisanship*

Although environmental issues now highlight partisan polarization in the United States, issues relating to the environment were fairly non-partisan until the 1980s (Daniels et al. 2012). Historically, Republican presidents like Teddy Roosevelt and Richard Nixon enacted key policies protecting American lands and environment, and there was a general sense of bipartisanship surrounding many of the legislative successes of the mid-20th century (Ruckelshaus 1985). In recent decades, however, clear partisan and ideological differences on environmental policies have appeared in the party platforms, legislative behavior, and citizens' attitudes (Daniels et al. 2012; Dunlap and McCright 2008; Shipan and Lowry 2001).

One factor contributing to this growing polarization is the composition of the party coalitions. More specifically, political parties are made up of coalitions or networks of interests, including interest groups and activists that work to get candidates elected in exchange for support on their political positions or policy goals (Bawn et al. 2012). Whereas environmental groups are key actors in the Democratic Party network, business groups and corporate interests are more influential in the Republican Party, which tend to be less supportive of using government regulations to address environmental problems (e.g., Grossmann and Dominguez 2009; Koger, Masket, and Noel 2010). Moreover, conservative activists and groups more hostile to environmental policies and regulations have gained strength in the Republican Party in recent decades, pushing the party to the right on environmental issues (Layzer 2012; McCright, Xiao, and Dunlap 2014; Turner and Isenberg 2018).

Furthermore, public opinion now shows substantial divisions between Republican and Democratic voters on environmental issues. Although a majority of Democrats and Republicans are supportive of protecting the environment, the percentage of Republicans supportive of environmental protections has decreased over time, resulting in more polarized views on this issue (Daniels et al. 2012). In general, Republicans and conservatives are less supportive of using government regulations or increasing government spending to protect the environment than Democrats and liberals (Konisky, Milyo, and Richardson 2008; McCright, Xiao, and Dunlap 2014). In turn, previous research has found a linkage between public opinion and environmental policy (e.g., Fowler 2016b; Johnson, Brace, and Arceneaux 2005; Vandeweerdt, Kerremans, and Cohn 2016). Therefore, as Republican voters are less favorable toward environmental regulations, Republican officials may be less likely to enact environmental protections or enforce environmental regulations.

As a result of the different interests in their party coalitions and voters, the national Democratic and Republican Party platforms have contained significant differences on environmental policies and issues since 1976 (Kamieniecki 1995). The Democratic platforms have supported increased spending on environmental programs and more government regulations in an effort to protect the environment. In comparison, the Republican platforms place more emphasis on economic growth and private interests protecting the environment, and there is little support for

government regulations. More recently, Republican politicians have also opposed proposals to address climate change, which has helped fuel the perception that Republicans are bad for the environment (Skocpol and Hertel-Fernandez 2016). These trends extend to the state level, where Democratic Party platforms devote more attention to environmental issues than Republican Party platforms (Coffey 2014). Although Republican platforms do address environmental issues, protecting the environment or addressing environmental concerns are not top priorities. Consequently, Republican officeholders may be less likely to pass and enforce government regulations, resulting in worse environmental outcomes than when Democrats are in relevant positions of power.

From these growing partisan differences in the party coalitions, issue agendas, and opinion on environmental issues, we expect partisan differences in environmental outcomes. Partisan control provides the opportunity to affect the environment through the passage and implementation of environmental policies and regulations. Republicans in executive and legislative offices can prevent, weaken, fail to enforce, or remove environmental regulations. Republicans can also decrease spending on environmental programs or place a higher priority on other policy issues or interests, all of which can affect the quality of the environment. Indeed, a sizable majority of citizens believe the Democratic Party can do a better job dealing with environmental issues, and many expect Republicans in public office to result in worse environmental outcomes than Democrats (Pew Research Center 2017).

Furthermore, there is some evidence that political control can affect environmental outcomes. Conservatives have successfully relaxed some existing environmental regulations and have prevented or delayed the adoption of new ones by Congress and federal agencies (Layzer 2012). Through the passage and implementation of relevant policies and practices, pro-environmental voting records in states' Congressional delegations contribute to reductions in greenhouse emissions (Dietz et al. 2015). In addition, Democrats in state legislatures have responded to temperature anomalies by sponsoring more climate change bills, while Republicans are unresponsive to climate anomalies (Bromley-Trujillo, Holman, and Sandoval 2019).

Drawing from partisan differences on environmental policies and previous research, we expect Republican officeholders to negatively affect environmental outcomes. However, the complicated nature of policy making and policy implementation, especially for environmental policy, may limit the effect of partisan control on policy outcomes. In particular, interbranch relationships in policy making may weaken or condition the translation of partisan preferences into policy outcomes. Public opinion and the judicial system can also act as checks, but we focus on the potential complications resulting from executive and legislative involvement in environmental policy making and intergovernmental responsibility for environmental policy. These vertical (executive–legislative) and horizontal (federal–state) interbranch relationships create a complex governance system that may affect the relationship between partisan control and environmental outcomes. By considering this complex governance structure for environmental policy when evaluating the effect of partisan control on environmental outcomes, we help fill a gap in previous research that focuses on one branch or one level of government.

## *Executive versus Legislative Power*

The vertical checks and balances between the executive and legislative branches create a limitation to their respective powers, potentially blocking a direct relationship between partisan control and environmental outcomes. The back and forth of these checks and balances is most obvious in the shared authority over the policy making and budgeting process, which previous research connects to environmental outcomes over time (Bacot and Dawes 1997; Woods 2008; Woods, Konisky, and Bowman 2009). However, legislative and executive powers also differ in their influence over how environmental policies are implemented (Wood and Waterman 1991), a key mechanism for influencing how policies will affect environmental outcomes.

On one hand, legislatures have the power to influence programs through their role in policy making, the budget, and their agency oversight authorities. Previous scholars argue that legislative oversight of agency rule-making plays an important role in institutionalizing environmental policy implementation. To this end, legislatures may seek to create rigid rules to reduce uncertainty about how policies may be implemented in the future in response to changing political coalitions (Potoski 1999, 2002; Wood and Bohte 2004). As such, if they do not trust the agency to implement a law as desired, state legislatures attempt to control agencies by passing more specific bills (Huber, Shipan, and Pfahler 2001). This may reduce the influence of executive partisanship as implementers have less discretion to respond to political influences.

On the other hand, executives wield significant power over administrative agencies. In this role, executives have the power to shape how diligently or effectively environmental policies are implemented. Although the discretion given to the bureaucracy varies, executives appoint key positions in both federal and state bureaucracies, including agency heads, who in turn lead development of processes and rules to implement laws and programs (Dometrius 2002; Howell and Lewis 2002; Woods and Baranowski 2007; Wood and Waterman 1991). In addition, at the federal level, presidents in recent decades have begun to use the tools of administrative presidencies to centralize power over the environmental agenda. For instance, presidents Bush and Obama used executive orders and influence over agency rule-making processes to shape how environmental policies were implemented. Although there was some push-back from Congress, both presidents enjoyed considerably more power in this regard than their predecessors (Konisky and Woods 2016, 2018; Rabe 2007). At the state level, gubernatorial powers vary, which may allow some to play more important roles than others. For governors with few institutional powers, it may require more political energy to affect how environmental policies are implemented, compared with those that have centralized control over agencies and budgets (Barrilleaux 1999; Barrilleaux and Berkman 2003; Beyle and Ferguson 2008).

However, it is difficult to determine how much influence partisan control of one branch carries without considering partisan control of other key political offices in the environmental policy implementation system. The role of both branches in environmental policy making may condition or weaken the relationship between partisan control and environmental outcomes. In other words, do the effects of Republican

presidents depend on which party controls Congress? Or, do the effects of Republican-controlled state legislatures depend on who is governor?

It is also possible that legislatures have an indirect influence on environmental outcomes as they depend on the executive branch to implement environmental policies, despite their policy making, budgeting, and oversight powers. On the contrary, executive branches may have more capacity to unilaterally influence how policies are implemented. This difference is potentially important to determining in which situations Republicans are bad for the environment, if any. While we expect partisan control of the executive and legislative branches to affect environmental policy outcomes, the involvement of each branch in policy making and implementation may weaken this relationship without partisan control of both branches. We also expect these relationships to differ between state and federal levels due to intergovernmental responsibility for environmental policy.

### *Environmental Federalism*

Vertical intergovernmental relationships in environmental policy may also complicate the relationship between partisan control and environmental outcomes. Contemporary environmental policy largely hinges on a delicate intergovernmental partnership between federal and state governments. The federal government establishes national environmental standards, regulations, and guidelines for programs as well as monitors for compliance. These national standards create a baseline for environmental protection affecting environmental outcomes across the country, but states are given significant discretion in designing regulations, pollution control strategies, and administrative procedures. Specifically, under most federal environmental programs, Environmental Protection Agency (EPA) is charged with the responsibility for implementation, but is allowed to delegate that authority to states through a partial preemption system (i.e., primacy or primary implementation and enforcement authority). Through this system, EPA is also required to approve state implementation plans, monitor activities, and evaluate performance (Konisky and Woods 2016, 2018; Scheberle 2004, 2005). As a result, states can pursue political and administrative innovations to address unique socio-economic, political, and technical challenges within their jurisdictions, but these must comply with and be approved by EPA (Crotty 1987; Scicchitano and Hedge 1993; Woods 2006b; Woods and Potoski 2010). As such, if partisanship seeps into political or administrative directives and/or oversight of EPA (e.g., executive orders, political appointments, legislative oversight, budget allocation), it can trickle down to state agencies and complicate the effect of partisan control of state offices on the environment.

To this end, when federal–state relationships are positive, federal and state agencies cooperate to achieve mutually agreeable environmental policy goals. On the contrary, when this relationship is negative, programs are bogged down by conflict as federal and state agencies compete over how to deal with environmental problems (Scheberle 2004). In some cases, these conflicts lead to open warfare as state or federal elected officials try to force their agenda on the other party. Furthermore, the

delegation of primacy provides states with a powerful bargaining chip in negotiating for program adjustments (Crotty 1987). While EPA has tools to manage state actions (e.g., establishing national standards and guidelines, monitoring and oversight authority, control over resources), past experience indicates that EPA has limited ability to run these programs independently and has never revoked primacy once granted (Crotty 1987; U.S. EPA 2019b; Woods 2006b; Woods 2008). In general, neither federal nor state leaders can expect to effectively achieve their policy goals (whether those are better for environmental outcomes or not) if there is intergovernmental conflict. In most cases, conflict leads to worse environmental outcomes as programs are overwhelmed with administrative challenges.

Given this, scholars have observed two competing phenomena in state environmental programs: a “race-to-the-top” and a “race-to-the-bottom” (Chang, Sigman, and Traub 2014; Konisky 2007; Konisky and Woods 2010; Koski 2007; Potoski 2001; Woods 2006a, 2006b). In terms of the former, some states are willing to exceed federal environmental standards to satisfy growing citizen demands for environmental quality. If state-elected officials are committed to environmental protection, they dedicate the necessary resources for programs, and administrators have the political support to pursue innovative implementation strategies to improve environmental conditions. In the latter, states use lax regulations and enforcement to attract industry in response to regulatory competition. If state-elected officials are not committed to the environment, they tend to follow implementation strategies that only meet minimum requirements to maximize funding from EPA and minimize regulatory barriers to economic development (Bacot and Dawes 1997; Lester 1995; Potoski 2002; Potoski and Woods 2000; Sapat 2004; Travis, Morris, and Morris 2004). In either case, decentralized decision making affords state leaders the opportunity to affect how effective state agencies are in implementing programs based on their environmental values.

In addition, as many state legislatures are now more productive than Congress, they have ample opportunity to shape environmental policies. This is particularly apparent with climate change policies in which a majority of states have challenged federal leadership by adopting greenhouse gas reduction targets over the last two decades, and more recently, have signed onto the Paris Climate Agreement after President Trump withdrew the United States (Center for Climate and Energy Solutions 2019; Konisky and Woods 2018; Rabe 2008, 2011). In sum, the institutional structures at play provide states with significant power to affect environmental policy based on the policy preferences of state-elected officials.

The intergovernmental responsibility for environmental policy makes it important to consider federal and state partisan control when evaluating the relationship between partisanship and environmental outcomes. It is possible these vertical relationships in environmental policy making and policy implementation block the influence of partisanship on outcomes. Alternatively, partisan alignment in offices across levels of government may result in a stronger effect. By examining partisan control of executive and legislative offices in the federal and state governments, we can evaluate these possibilities and provide a more complete test of the effect of partisan political control on environmental outcomes.

## Method

### *Data*

Our dataset includes state-level observations for 50 states between 1993 and 2012. Although our initial dataset included 1,000 observations, missing data reduced our analytical sample to 702. This time period includes the most complete data on both environmental outputs, policy activities, and state-level political factors available. In addition, it captures a naturally modern period in both environmental politics and policy. Since the 1990 amendments to the CAA, there have been no major legislative changes to the Clean Air Act (CAA), Clean Water Act (CWA), or Resource Conservation and Recovery Act (RCRA), so we can expect institutional factors related to these programs to be stable over time. This time span also covers the Clinton, Bush, and Obama administrations, which provides some variation in the partisanship of the presidency, as well as different combinations in the partisan control of Congress, gubernatorial offices, and state legislatures. The appendix provides variable descriptions.

### *Measuring Environmental Impacts*

Measuring how partisanship affects the environment is a difficult task, as there is a complex array of federal, state, and local policies and administrative structures that are entangled in U.S. environmental governance. Although there is a long list of environmental outputs and outcomes tracked and reported by various public agencies (e.g., reported violations), many of these are subject to data validity and reliability challenges when making interstate comparisons. Consequently, there are few common measures of general environmental quality sophisticated enough to infer a causal relationship with partisan leadership. Previous scholars encountering a similar methodological challenge have used toxic chemical releases as a mechanism to assess the effectiveness of environmental policies. Their logic works like this: environmental quality is dependent on toxic chemical releases (i.e., pollution), so the purpose of most environmental policies is to curtail pollution to protect environmental quality; therefore, toxic chemical releases can be used as a measure of the impact of those policies (Bacot and Dawes 1997; Bowen and Wells 2002; Daley and Garand 2005; Fowler 2019; Konisky and Woods 2012; O'Toole et al. 1997; Sapat 2004).

For this study, we need a comprehensive measure of environmental quality capturing the influence of federal and state governments. Following the approach of previous research cited above, we use pollution concentration as a measure of environmental outcomes, calculated as the rate of annual state-level toxic chemical releases in pounds per square mile (U.S. EPA 2019c).<sup>1</sup> The Toxic Release Inventory (TRI) program requires companies classified as mining, manufacturing, utilities, waste management, or wholesale trade that produce more than 25,000 pounds of toxic chemicals a year to report those chemical releases to EPA, who then compiles those reports into a national database. Primarily, these toxic releases involve pollutants directly regulated by the CAA, CWA, or RCRA and that pose a threat to human health and the environment (U.S. EPA 2019a).<sup>2</sup>



These three programs rely heavily on intergovernmental partnerships, so both federal and state politics play an important role in their effectiveness. Specifically, national standards and guidelines are established at the federal level; program implementation via regulations, procedures, and pollution control strategies occur at the state level; and program funding comes from both federal and state sources. As a result, the pollution concentration measure allows us to more fully evaluate how vertical and horizontal interbranch relationships may affect environmental outcomes than specific policy outcomes. The measure also provides comparable outcomes across states.

We assume toxic chemical releases are correlated with air, water, and land quality, so this serves as a proxy measure for key dimensions of general environmental quality (Bacot and Dawes 1997; Fowler 2019). That is, “. . . to gauge how states fare in combating their environmental situations, having information on the amount of pollution being released within states’ borders is imperative” (Bacot and Dawes 1997, 361). Given variation in state size, toxic releases by itself may introduce biases into our analyses, so we use a rate with land area to make a more accurate comparison between states based on relative concentration.

In addition, we assume that Republicans have a general environmental policy agenda, but there is not enough consistency across the country in medium-specific policy stances to examine nuanced measures of environmental outcomes. Although Republicans can likely be grouped together based on a general bend away from pro-environmental policies, that grouping becomes more tenuous if we also assume that there is consistency in nuanced policy stances in regard to air, land, or water issues for elected officials operating in different ecological contexts. For instance, industrial cities in the Rust Belt grapple with a different set of environmental challenges than post-industrial urban areas in the West, so it is difficult to expect that Republican environmental agendas will be comparable on specific medium-based issues, such as air quality. Therefore, partisanship effects are likely only detectable when we aggregate policy outcomes to a broad enough level, so that nuances in Republican agendas across states become inconsequential. Although there may be some limitations, this provides us with an adequate mechanism to examine how partisanship affects the environment.

### *Partisan Control*

To test the effects of partisanship, we created a series of dummy variables to compare Republican partisan control (1) with non-Republican partisan control (0) for president, Congress, governors, and state legislatures. We obtained data on partisan control of state offices and branches of governments from National Conference of State Legislatures (2019), and of Congress from the U.S. Senate (2019) and U.S. House of Representatives (2019), respectively. Notably, our measurement strategy assumes two things. First, as our research question is focused on whether Republican elected officials are bad for the environment, we compare Republicans with all non-Republicans, which includes both Democratic control of elected offices (and third-parties and independents in some cases) as well as divided partisan control of legislative branches. As such, our findings indicate how Republican control of these offices compare with all

alternative partisan control scenarios. To do so, we construct a series of dummy variables. In Model 1, we use a simple comparison of Republicans with non-Republicans for each of the four offices. In Models 2 through 5, we conduct a more sophisticated comparisons by constructing a series of dummy variables that compare alternative combinations of partisan control across two offices (i.e., Republican–Republican; Republican–non-Republican; non-Republican–Republican) with a base category (i.e., non-Republican–non-Republican). Consequently, we are able to make inferences about how different partisan combinations of presidents, Congress, governors, and state legislatures compare as it relates to environmental outcomes.

Second, we assume that any toxic chemicals released during an elected official's term can be attributed to how monitored industrial facilities respond to their leadership. While elected officials do not directly control toxic chemical releases and systemic institutional changes may take years to manifest, releases of toxic chemicals by industrial facilities, as well as the corresponding compliance monitoring and enforcement, is a continual process. Therefore, if partisanship has an impact, changes in toxic releases should be observable in the short term. However, we do recognize that in years of partisan change, there may be lingering effects from previous administrations or legislative agendas. Consequently, we also include two dummy variables to control for partisan changes at federal and state levels, where partisan stability (coded 0) is compared with partisan switch in either executive or legislative branch (1) or in both branches (2).

### *Co-Variates*

We use 11 additional variables to control for socio-economic and institutional factors that also may affect toxic chemical releases. First, as toxic chemical releases are a by-product of economic activity, more economic activity from polluting industries typically results in more toxic releases (U.S. EPA 2019a). As such, we control for gross state product per capita produced from industries regulated under the CAA, CWA, and RCRA that are required to report toxic chemical releases under the TRI program. Using data from the BEA, we measure gross state product produced from the mining, manufacturing, utilities, waste management, or wholesale trade industries, in billions of real 2009 dollars (U.S. Bureau of Economic Analysis [U.S. BEA] 2019).

Second, we use three variables to control for political and ideological differences between states that are separate from partisanship: citizen ideology, Republican legislative ideology, and pro-environmental public opinion. To measure citizen and Republican legislator ideology, we use data from two commonly cited sources on the subject: Berry et al. (1998) revised citizen ideology series, and Shor and McCarty (2011). Berry et al. (1998) uses a series of interest group ratings of Congressional voting patterns to make inferences about ideological preferences of state populations. Shor and McCarty (2011) use roll call voting data to determine ideological patterns within state legislatures. Given that we are most concerned with Republicans, we focus on their ideologies, rather than ideology of the entire legislature. While both studies attempt to conceptualize related elements of state political landscapes, they are focused on different dimensions that help us to separate ideology from partisanship in

our analyses. Public beliefs concerning the environment are an additional dimension here. Although state-level public opinion is difficult to measure, Kim and Urpelainen (2018) estimate state-level pro-environmental public opinion from 1973 to 2012 using a Multi-level Regression and Poststratification (MRP) technique that purports to produce the most accurate estimates available. With data from the General Social Survey (GSS), they measure pro-environmental public opinion with a survey item that is frequently used to capture public opinion on environmental concern (Daniels et al. 2012): “Are we spending too much, too little, or about the right amount on improving and protecting the environment?”

Finally, several scholars point to state capacity to manage environmental programs as a key dimension of success. Program expenditures tend to be the most common measures used, as more spending tends to equate to more resources dedicated to overcoming policy challenges (Bacot and Dawes 1997; Fowler 2016a; Lester 1995; Sapat 2004). Consequently, we use three variables to control for differences in financial resources at subnational levels: state total expenditures, state environmental expenditures, and local environmental expenditures. We include both levels of subnational government for environmental expenditures to capture any issues related to second-order devolution or fiscal federalism (i.e., if spending is shifted from state to local). We also include total state expenditures to control for differential spending levels in general. We use data from the U.S. Census (i.e., Statistical Abstract Series) and measure both as millions of real 2009 dollars per capita (U.S. Census 2019).<sup>3</sup> In addition, we account for variations in institutional features of federal–state relationships. While 44 states have primacy for the CAA, CWA, and RCRA, EPA manages at least one of these programs in 6 states, so the political and administrative processes are likely to differ (U.S. EPA 2019b). To control for these effects, we use a dummy variables to compare states with primacy for all three programs (1) with states without primacy for one program (0).

## Analysis

To test these effects, we use a regression model with fixed effects for states and years.<sup>4</sup> Unlike random effects models, fixed effects models assume a set of unobserved variables within each state and year are associated with our dependent variable and control accordingly, so our analysis focuses on unexplained variance. The benefit of this assumption here is that it controls for a litany of factors that contribute to unexplained variance within states or over time that may otherwise bias our estimates (Bell and Jones 2015; Clark and Linzer 2015). Essentially, this allows us to examine how a set of political and economic variables common among states affect the variance left unexplained by factors unique to states or years. However, fixed effects models do not estimate effects for variables that are time invariant, rather they only control for those variables. Therefore, while institutional features, such as citizen legislatures or gubernatorial powers, and geographic factors, such as region, are controlled for in the model, we cannot estimate their relationship with our dependent variable. In addition, as we assume that standard errors within each state are correlated over time, we cluster

standard errors at the state level (Primo, Jacobsmeier, and Milyo 2007). In general, this provides a rather rigorous test for identifying statistically significant relationships, so it is unlikely any findings suffer from Type 1 error (i.e., false positives).

## Results

Results for the fixed effects models are presented in Table 1. First, in Model 1, initial findings indicate that Republican control of political offices is indeed correlated with higher concentrations of toxic releases, but only for Congress and governorships. Notably, a Republican Congress has a stronger impact on pollution concentration than Republican Governors, which may suggest that Congress plays a significant role in shaping how environmental policies are managed through their oversight and budgeting powers. In fact, a Republican Congress versus a non-Republican Congress (i.e., divided or Democratically controlled) is consistently the strongest predictor of toxic releases per square mile across models.<sup>5</sup> Findings for neither Republican President nor Republican state legislatures are statistically significant by themselves, indicating that there is not a generalizable effect for Republican control of either.

To put these coefficients into perspective, Figure 1 plots the predicted values of pollution concentrations for Republican and non-Republican control of national and state offices. We held the other variables at their mean values for these predictions. State-level pollution concentrations under Republican Governors are predicted to be around 1,585 pounds per square mile of annual toxic chemical releases compared with 1,435 pounds for non-Republican governors (approximately 150 pounds per square mile or 10.5% higher). In addition, pollution concentrations under Republican Congresses are predicted to be almost 500 pounds per square mile higher (or about 37%) than under non-Republican control.

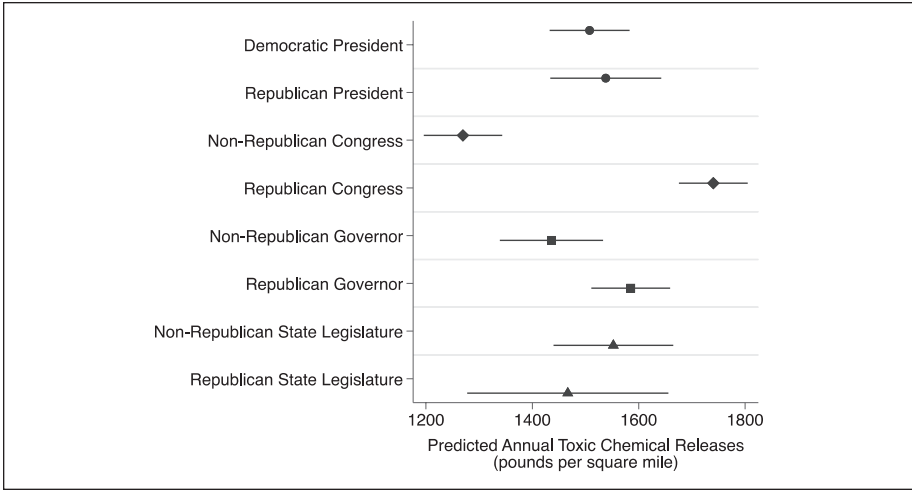
Second, as we know that there are both horizontal and vertical relationships that affect political influence over environmental policy, we further examine these relationships to determine if they are conditional on partisan control of other offices. In Models 2 to 5 in Table 1, we evaluate alternative combinations of partisan control of federal and state government offices on environmental outputs using dummy variables (e.g., the Republican president with Republican Congress variable equals 1 when there is Republican control of both). We omitted the dummy variable for non-Republican control of both offices from the models.

Model 2 compares alternative scenarios for the partisan control of the federal government, with findings indicating that a Republican Congress with a Democratic President is correlated with more toxic releases per square mile than a Democratic president and non-Republican Congress. In general, this would suggest that Republican Congresses are correlated with higher pollution concentrations than non-Republican Congresses. Model 3 compares alternative scenarios for the partisan control of state governments, with findings indicating that Republican governors with either a Republican or non-Republican controlled state legislature are correlated with more toxic releases per square mile, compared with a Democratic Governor with a non-Republican controlled state legislature. Similar to findings for Congress, Republican

**Table 1.** Results for Fixed Effects Models.

	Model 1	Model 2	Model 3	Model 4	Model 5
Republican President	-154.17 (290.98)		-151.57 (289.41)		-188.88 (291.39)
With Republican Congress		377.69 (233.24)			
Non-Republican Congress		-154.17 (290.98)		156.33 (309.91)	
Republican Governor				88.65 (267.19)	
Non-Republican Governor					
Democratic President		1,781.94 (471.58)**		451.27 (117.88)**	
With Republican Congress					
Republican Governor		284.91 (102.08)**			
With Republican Legislature			422.92 (135.53)**		
Non-Republican Legislature			250.99 (119.91)*		
Non-Republican Government with Republican Legislature			71.05 (117.29)		
Republican Congress	531.86 (162.50)**		537.01 (163.95)**	553.70 (162.71)**	786.25 (170.04)**
With Republican Governor					355.11 (176.88)
Non-Republican Governor					112.44 (80.60)
Non-Republican Congress with Republican Governor					129.04 (114.49)
Republican State Legislature		121.66 (114.01)		146.69 (114.41)	
Pro-environmental public opinion	2,739.60 (2,066.92)	2,739.60 (2,066.92)	2,804.00 (2,107.18)	2,576.48 (2,025.28)	2,656.50 (2,052.87)
Citizen ideology	33.81 (13.27)*	33.81 (13.27)*	33.84 (13.35)*	32.77 (12.75)*	33.26 (13.13)*
Republican legislator ideology	1,326.43 (604.11)*	1,326.43 (604.11)*	1,351.79 (610.39)*	1,375.40 (601.37)*	1,038.16 (583.72)
Federal partisan change	-109.17 (199.62)	-109.17 (199.62)	-106.03 (198.30)	-72.68 (196.63)	-125.65 (199.77)
State partisan change	-5.14 (82.83)	-5.14 (82.83)	-6.27 (81.76)	-14.35 (84.46)	4.92 (81.69)
State expenditures	283.94 (155.80)	283.94 (155.80)	290.25 (159.61)	329.66 (164.96)	255.19 (155.95)
State environmental expenditures	-2,030.18 (2,032.57)	-2,030.18 (2,032.57)	-1,875.93 (1,944.55)	-1,797.53 (2,009.72)	-1,972.30 (2,007.53)
Local environmental expenditures	4,142.93 (3,471.88)	4,142.93 (3,471.88)	4,159.35 (3,506.94)	3,801.71 (3,251.17)	4,502.09 (3,542.53)
Primacy	-1,145.25 (642.22)	-1,145.25 (642.22)	-1,144.4 (634.34)	-1,212.8 (646.45)	-1,086.29 (622.17)
Utilities industry	140.16 (660.51)	140.16 (660.51)	162.83 (663.74)	58.27 (652.69)	261.46 (664.91)
Manufacturing industry	-75.35 (197.69)	-75.35 (197.69)	-74.29 (196.96)	-51.53 (200.91)	-65.05 (199.29)
Mining industry	214.85 (142.81)	214.85 (142.81)	210.43 (140.13)	182.83 (145.19)	231.73 (140.65)
Wholesale industry	1,360.50 (603.31)*	1,360.50 (603.31)*	1,342.72 (594.52)*	1,321.28 (602.37)*	1,352.72 (587.77)*
Constant	-5,906.04	-5,906.04	-5,995.75	-6,129.47	-5,461.30
Log likelihood	-5,813.67	-5,813.67	-5,813.53	-5,811.27	-5,811.80
BIC	11,830.52	11,830.52	11,836.79	11,833.27	11,833.32
Pseudo R <sup>2</sup>	.22	.22	.22	.22	.22
N size	702	702	702	702	702

Note. Standard errors in parentheses. Dummy variables for years 1993 through 2012 are not reported. Variables for 2006, 2008, 2009, and 2012 were dropped due to collinearity. BIC = Bayesian information criterion. \**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

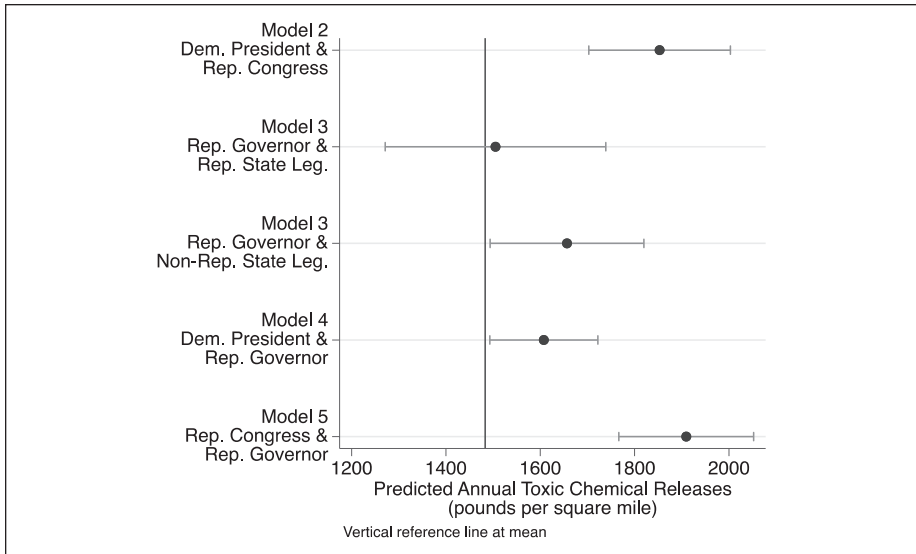


**Figure 1.** Predicted state-level pollution outputs for Republican and non-Republican control of offices (Model 1).

governors are generally correlated with higher pollution concentrations, regardless of who controls state legislatures. Nevertheless, unified Republican government is also correlated with higher pollution concentrations than divided government, so legislatures may have some impact.

Model 4 compares alternative scenarios for partisan control of the presidency and governor, with findings indicating that Republican Governors with Democratic Presidents are correlated with more toxic releases per square mile, than Democratic Presidents and Non-Republican Governors. In general, this may suggest that partisan conflict also plays a role in shaping pollution concentrations (i.e., more pollution when there is vertical conflict over environmental agendas) or that governors have more influence over policy implementation than presidents. Model 5 compares alternative scenarios for partisan control of Congress and governorships, with findings indicating that Republican controlled Congresses with Republican governors are correlated with higher pollution concentrations compared with Democratic control of both offices. Comparisons of Models 4 and 5 with Models 2 and 3 suggests there is a lot more nuance to vertical power dynamics here than in horizontal power dynamics. In general, our findings indicate that Republican control of elected offices tends to be correlated with higher pollution concentrations than non-Republican control, but it is highly conditional on both vertical and horizontal checks and balances.

To aid in the interpretation of these results, we plot the predicted amount of pollution concentrations for statistically significant partisan control variables for Models 2 to 5 in Figure 2. The figure demonstrates that these scenarios of partisan control tend to increase toxic chemical releases relative to the observed population mean output (1,483 pounds per square mile). In particular, Democratic presidents with a Republican Congress (toxic releases predicted to be around 1,850 pounds per



**Figure 2.** Predicted state-level pollution outputs for statistically significant partisan control variables in Models 2 to 5.

square mile, or 24.7% higher than observed population mean) and Republican Congresses with Republican governors (toxic releases predicted to be about 1,909 pounds per square mile, or 28.7% higher than observed population mean) substantially increase pollution outputs.

In addition to the partisanship variables, several control variables also proved to be statistically significant predictors of pollution concentrations. In particular, positive coefficients for citizen ideology and Republican legislator ideology indicate that pollution concentrations increase as citizens and Republican legislators become more progressive.<sup>6</sup> This is a counterintuitive finding and requires further examination. However, it may hint at the implications of ideological conflicts that create gridlock and negatively affect the environment. For instance, a legislature with a more progressive Republican caucus may find difficulty aligning their agenda with that of Republicans in other offices, leading to conflict and policy uncertainty. Finally, of the economic variables, only wholesale industry is statistically significant, which may not be surprising when the complex relationship between economic development and pollution is considered (Dinda 2004). Notably, the effect sizes for both ideology variables and wholesale trade are larger than those for the partisanship variables, which suggests that partisan control of elected officials is important but not the only driver of pollution concentration.

## Discussion and Conclusion

Are Republicans bad for the environment? Our analyses indicate that the answer to that question is nuanced and depends on several factors. First, and foremost,

Republicans controlling Congress or in Governor's offices are certainly correlated with higher toxic chemical concentrations at the state level, as compared with non-Republicans holding the same offices. However, findings for Republican control of the presidency or state legislatures suggest there are no generalizable effects for those offices. Second, as no elected official has unilateral control over environmental regulation, partisanship composition across the federal system matters. In general, our findings would suggest that horizontal checks and balances affect the magnitude of influence that Republican governors or Congresses have over toxic releases, but it is vertical checks and balances that may be more meaningful. In other words, federal and state agencies following a similar partisan agenda may be more important in understanding how federal environmental programs work, than executive and legislative branches being under unified partisan control. This suggests that vertical power struggles, including partisan gridlock, are an important dimension of partisan polarization and should be further considered as a dynamic issue in environmental federalism (Scheberle 2004, 2005).

Second, executive authority to shape environmental policies functions differently at federal and state levels. Although both presidents and governors have authority to alter the way environmental policies are implemented through their leadership of the executive branch, the structure of environmental federalism affects the robustness of those powers. Although we are hesitant to make inferences about presidential power given that our data only compared Bush with Clinton and Obama, it seems the effects of state executive authority on environmental regulation are more generalizable than federal executive authority. This is likely because implementation of federal rules typically occurs through state agencies which are under gubernatorial authority, despite any control presidents may have over EPA rule-making processes. Thus, state environmental managers are likely to be less stringent in their monitoring and enforcement when they serve under Republican governors, but who is in the White House may have little or no effect on their day-to-day job performance. Notably, this finding questions whether the push toward the administrative presidency to centralize control over the environmental agenda by recent presidents actually has any impact on environmental outcomes (Konisky and Woods 2016, 2018; Rabe 2007).

Third, the dynamics for legislative branches are flipped compared with those for the executive branch, in the effects of federal legislative authority on environmental regulation are more generalizable than state legislative authority. In general, this is likely because Congress wields considerable influence over federal funding, which largely trickles down to states and pays for implementation of federal programs. For instance, federal grants-in-aid amounted to more than 40% of state expenditures on natural resources programs in 2010 (Office of Management Budget 2019; U.S. Census 2019). Moreover, state spending is largely in response to unfunded mandates, and state expenditures tend to have a non-linear relationship with environmental program outcomes (Bacot and Dawes 1997; Gromley 2006). Consequently, Republican Congresses looking to cut funding for environmental programs can influence resources available to environmental managers, even if they are distanced from day-to-day operations, while state legislatures may have less leverage or are



less consistent in doing the same. However, our analysis focused on programs that are authorized through federal legislation, so it would seem reasonable that Congress would have more influence here than state legislatures. This begs the question of whether state legislatures then wield more generalizable effects over programs adopted at the state level, which may be an important issue as states have been proactive and innovative in dealing with emerging environmental challenges surrounding climate change (Carley 2011; Rabe 2011).

Overall, this research demonstrates that partisan control can influence environmental outcomes. Our findings do have a few limitations though. Most significantly, our dependent variable is the concentration of toxic chemical releases at the state level and we assume a correlation with environmental conditions. Therefore, our findings do not directly represent the relationship between partisanship and environmental quality, as pollution concentration is but one indicator. In addition, we aggregate toxic releases across air, land, and water to create a general measure. In doing so, we assume that the relationship between partisanship and the environment is not nuanced; that is, Republicans take a consistent approach to environmental regulations across mediums, and do not take different stances on air regulations compared with water regulations. We also assume that effects of partisanship on toxic releases is apparent in the short term. While our findings do indicate this is likely the case, there may also be lingering effects of past regulatory regimes and partisan political agendas on environmental policy implementation that are not captured in our empirical models. Finally, our data only accounts for these trends under three presidents, with only one of those being a Republican. While Clinton, Bush, and Obama are the most recent presidents to operate under modern environmental federalism, it is possible that our findings may be a function of unique aspects of their presidencies that are independent of their partisanship. As such, further research on the connection between partisanship and environmental outcomes is necessary.

To this end, scholars should begin to dig deeper into Republican and Democratic orientations toward the environment. For example, are Republicans anti-environment or just ambivalent toward it? There is also a need to consider variation in attitudes on environmental protections within the Republican Party. When asked about environmental regulations, a majority of Republicans are concerned about the negative effects of such regulations on businesses and the economy (Anderson 2017). However, "Establishment" Republicans are more supportive of environmental regulations than Tea Party Republicans (Francia and Morris 2014). Evaluating differences within the Republican Party is important for fully understanding the effect of partisan control on environmental outcomes. In addition, while our analysis focused on legacy environmental programs that have had decades to mature and solidify, climate change is an emerging challenge with fewer institutionalized policies and administrative structures. As such, future research should also explore whether partisanship at state and federal levels has affected greenhouse gas emissions through national or subnational policy making (or lack thereof). As issues become increasingly polarized, it is necessary for us to ascertain how partisan or ideological differences translate into environmental outcomes, so we can better understand the political barriers to effectively mitigating and adapting to emerging environmental problems.

# Appendix

Variable Descriptions.

Variable	Description	M	SD	Minimum	Maximum
Toxic releases	Total toxic chemical releases in pounds per square mile (U.S. Environmental Protection Agency [U.S. EPA] 2019c)	1,424.22	1,610.16	6.94	16,417.70
Republican President	Dummy variable comparing state-years with Republican Presidents (1) with years with Democratic Presidents (0)	0.29	0.45	0	1
Republican Congress	Dummy variable comparing state-years with Republican-controlled Congress (1) with years with Democratic control or divided partisan control (0) (U.S. House of Representatives 2019; U.S. Senate 2019)	0.48	0.50	0	1
Republican Governor	Dummy variable comparing state-years with Republican Governors (1) with years with Democratic, Independent, or Third-Party Governors (0) (National Conference of State Legislatures [NCSL] 2019)	0.55	0.50	0	1
Republican Legislature	Dummy variable comparing state-years with Republican-controlled state legislatures (1) with years with Democratic control, divided partisan control, or non-partisan control (0) (NCSL 2019)	0.38	0.49	0	1
Pro-environmental public opinion	Kim and Urpelainen (2018) estimate of state-level pro-environmental public opinion	0.60	0.046	0.41	0.77
Citizen ideology	Berry et al. (1998) measure of citizen ideology	50.06	15.42	8.45	95.97
Republican legislator ideology	Shor and McCarty (2011) measure of legislator ideology	0.70	0.34	-0.42	1.89
Federal partisan change	Dummy variable comparing years in which there is no change in partisan control of presidency and Congress (0) with years in which control of one (1) or both branches (2) changes	0.24	0.43	0	1

(continued)

**Appendix (continued)**

Variable	Description	M	SD	Minimum	Maximum
State partisan change	Dummy variable comparing years in which there is no change in partisan control of governor or state legislature (0) with years in which control of one (1) or both branches (2) changes	0.14	0.37	0	2
State expenditures	Total state expenditures measured as real 2009 dollars per capita (U.S. Census 2019)	5.55	1.82	2.36	15.96
State environmental expenditures	Total state natural resource expenditures measured as real 2009 dollars per capita (U.S. Census 2019)	0.09	0.09	0.001	0.83
Local environmental expenditures	Total expenditures from local governments measured in millions of real 2009 dollars (U.S. Census 2019)	0.02	0.03	0.0003	0.29
Primacy	Dummy variable comparing years when states had primacy for the Clean Air Act (CAA), Clean Water Act (CWA), and Resource Conservation and Recovery Act (RCRA) (1) with years when states are without primacy for all three programs (0) (U.S. EPA 2019c)	0.83	0.38	0	1
Utilities industry	Gross state product produced from the utilities industry, in billions of real 2009 dollars per capita (U.S. Bureau of Economic Analysis [U.S. BEA] 2019)	0.26	0.10	-0.21	0.83
Manufacturing industry	Gross state product produced from the manufacturing industry, in billions of real 2009 dollars per capita (U.S. BEA 2019)	3.35	1.50	0.52	8.21
Mining industry	Gross state product produced from the mining industry, in billions of real 2009 dollars per capita (U.S. BEA 2019)	0.44	0.86	-0.03	6.16
Wholesale industry	Gross state product produced from the wholesale trade industry, in billions of real 2009 dollars per capita (U.S. BEA 2019)	1.37	0.40	0.60	2.89

## Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

## ORCID iD

Luke Fowler  <https://orcid.org/0000-0001-6104-315X>

## Supplemental Material

Supplemental material for this article is available online.

## Notes

1. We tested alternative measures including toxic releases per capita, total toxic releases, and toxic release concentrations by medium (i.e., air, water). While directional relationships were mostly consistent across different dependent variables, statistical significance varied, and diagnostic tests (e.g., Bayesian Information Criterion) indicated that pollution concentration is the preferred model.
2. The Toxic Release Inventory (TRI) data do not include fugitive emissions produced during manufacturing processes that are not directly accounted for under the reporting rules.
3. U.S. Census did not report state and local expenditure data for 2001 and 2003, which resulted in these years being dropped from the analysis.
4. Diagnostics tests indicated no violations of the multicollinearity or heteroscedasticity assumptions. Specifically, Variance Inflation Factor (VIF) scores did not exceed critical values previously reported by Fox (1992), and we failed to reject the null hypotheses for the Breusch–Pagan and White’s tests. In addition, the use of fixed effects corrects for any potential serial correlation that may occur over time.
5. We ran similar models comparing Democratic control of elected offices with non-Democratic control, which are included in Supplemental Online Appendix A. Findings for partisan control of state-level offices are largely consistent with results for Republicans here, albeit in the opposite direction; findings for other control variables were also consistent. On the contrary, it appears that Democratic control of federal offices have little or no generalizable effect on pollution concentrations, which may require further inquiry as we consider how partisan agendas affect environmental conditions.
6. Given our interest in the Republican side of the aisle here, we choose to focus our analysis on how intra-party differences may account for environmental outcomes, rather than shifting focus to ideological differences between legislatures for both Republican and Democrats. We did test a version of this variable that included legislative ideology for both parties. Findings were directionally consistent with those presented here but not statistically significant. This would confirm that our approach is the best fit for our data. However, the ideology versus party dimension requires further inquiry to be able to draw more concrete conclusions.

## References

- Anderson, Monica. 2017. "For Earth Day, Here's How Americans View Environmental Issues." Pew Research Center. <https://www.pewresearch.org/fact-tank/2017/04/20/for-earth-day-heres-how-americans-view-environmental-issues/> (accessed April 3, 2019).
- Bacot, A. Hunter, and Roy A. Dawes. 1997. "State Expenditures and Policy Outcomes in Environmental Program Management." *Policy Studies Journal* 25 (3): 355–70.
- Barrilleaux, Charles. 1999. "Governors, Bureaus, and State Policymaking." *State and Local Government Review* 31 (1): 53–59.
- Barrilleaux, Charles, and Michael Berkman. 2003. "Do Governors Matter? Budgeting Rules and the Politics of State Policymaking." *Political Research Quarterly* 56 (4): 409–17.
- Bawn, Kathleen, Martin Cohen, David Karol, Seth Masket, Hans Noel, and John Zaller. 2012. "A Theory of Political Parties: Groups, Policy Demands and Nominations in American Politics." *Perspectives on Politics* 10 (3): 571–97.
- Bell, Andrew, and Kelvyn Jones. 2015. "Explaining Fixed Effects: Random Effects Modeling of Time-Series Cross-Sectional Panel Data." *Political Science Research and Methods* 3 (1): 133–53.
- Berry, William D., Evan J. Ringquist, Richard C. Fording, and Russell L. Hanson. 1998. "Measuring Citizen and Government Ideology in the American States, 1960-1993." *American Journal of Political Science* 42 (1): 327–48.
- Beyle, Thad, and Margaret Ferguson. 2008. "Governors and the Executive Branch." In *Politics in the American States*, 9th ed., eds. Virginia Gray and Russell L. Hanson. Washington, DC: CQ Press, 192–228.
- Bowen, William M., and Michael V. Wells. 2002. "The Politics and Reality of Environmental Justice: A History and Considerations for Public Administrators and Policy Makers." *Public Administration Review* 62 (6): 688–98.
- Bromley-Trujillo, Rebecca, Mirya Holman, and Andres Sandoval. 2019. "Hot Districts, Cool Legislation: Evaluating Agenda Setting in Climate Change Bill Sponsorship in US States." *State Politics & Policy Quarterly* 19 (3): 375–95.
- Carley, Sanya. 2011. "The Era of State Energy Policy Innovation: A Review of Policy Instruments." *Review of Policy Research* 28 (3): 265–94.
- Center for Climate and Energy Solutions. 2019. "State Climate Policy Maps." <https://www.c2es.org/content/state-climate-policy/> (accessed April 11, 2019).
- Chang, Howard F., Hilary Sigman, and Leah G. Traub. 2014. "Endogenous Decentralization in Federal Environmental Policies." *International Review of Law & Economics* 37:39–50.
- Clark, Tom S., and Drew A. Linzer. 2015. "Should I Use Fixed or Random Effects?" *Political Science Research and Methods* 3 (2): 399–408.
- Coffey, Daniel J. 2014. "Federal Parties and Polarization." In *The State of the Parties: The Changing Role of Contemporary American Politics*, eds. John Clifford Green, Daniel J. Coffey, and David B. Cohen. Lanham: Rowman & Littlefield, 137–53.
- Crotty, Patricia McGree. 1987. "The New Federalism Game: Primacy Implementation of Environmental Policy." *Publius* 17 (2): 53–67.
- Daley, Dorothy M., and James C. Garand. 2005. "Horizontal Diffusion, Vertical Diffusion, and Internal Pressure in State Environmental Policymaking, 1989-1998." *American Politics Research* 33 (5): 615–44.
- Daniels, David P., Jon A. Krosnick, Michael P. Tichy, and Trevor Tompson. 2012. "Public Opinion on Environmental Policy in the United States." In *Handbook of U.S. Environmental*

- Policy*, eds. Michael Kraft and Sheldon Kamieniecki. New York: Oxford University Press, 461–86.
- Dietz, Thomas, Kenneth A. Frank, Cameron T. Whitley, Jennifer Kelly, and Rachel Kelly. 2015. “Political Influences on Greenhouse Gas Emissions from US States.” *Proceedings of the National Academy of Sciences* 112 (27): 8254–59.
- Dinda, Soumayananda. 2004. “Environmental Kuznets Curve Hypothesis: A Survey.” *Ecological Economics* 49 (4): 431–55.
- Dometrius, Nelson C. 2002. “Gubernatorial Approval and Administrative Influence.” *State Politics & Policy Quarterly* 2 (3): 251–67.
- Dunlap, Riley E., and Aaron M. McCright. 2008. “A Widening Gap: Republican and Democratic Views on Climate Change.” *Environment: Science and Policy for Sustainable Development* 50 (5): 26–35.
- Fowler, Luke. 2016a. “Local Governments: The ‘Hidden Partners’ of Air Quality Management.” *State and Local Government Review* 48 (3): 175–88.
- Fowler, Luke. 2016b. “The States of Public Opinion on the Environment.” *Environmental Politics* 25 (2): 315–37.
- Fowler, Luke. 2019. “Problems, Politics, and Policy Streams in Policy Implementation.” *Governance* 32:403–20.
- Fox, John Georges Monette. 1992. “Generalized Collinearity Diagnostics.” *Journal of the American Statistical Association* 87 (417): 178–83.
- Francia, Peter L., and Jonathan S. Morris. 2014. “The Divided Republicans? Tea Party Supporters, Establishment Republicans, and Social Networks.” In *The State of the Parties: The Changing Role of Contemporary American Politics*, eds. John C. Green, Daniel J. Coffey, and David B. Cohen. Lanham: Rowman & Littlefield, 175–90.
- Gromley, William T. 2006. “Money and Mandates: The Politics of Intergovernmental Conflict.” *Publius* 36 (4): 523–40.
- Grossmann, Matt, and Casey B. K. Dominguez. 2009. “Party Coalitions and Interest Group Networks.” *American Politics Research* 37 (5): 767–800.
- Howell, William G., and David E. Lewis. 2002. “Agencies by Presidential Design.” *Journal of Politics* 64 (4): 1095–1114.
- Huber, John D., Charles R. Shipan, and Madelaine Pfahler. 2001. “Legislatures and Statutory Control of Bureaucracy.” *American Journal of Political Science* 45 (2): 330–45.
- Johnson, Martin, Paul Brace, and Kevin Arceneaux. 2005. “Public Opinion and Dynamic Representation in the American States: The Case of Environmental Attitudes.” *Social Science Quarterly* 86 (1): 87–108.
- Kamieniecki, Sheldon. 1995. “Political Parties and Environmental Policy.” In *Environmental Politics and Policy: Theories and Evidence*, 2nd ed., ed. James P. Lester. Durham: Duke University Press, 146–67.
- Kim, Sung Eun, and Johannes Urpelainen. 2018. “Environmental Public Opinion in the U.S. States, 1973–2012.” *Environmental Politics* 27 (1): 89–114.
- Koger, Gregory, Seth Masket, and Hans Noel. 2010. “Cooperative Party Factions in American Politics.” *American Politics Research* 38 (1): 33–53.
- Konisky, David M. 2007. “Regulatory Competition and Environmental Enforcement: Is There a Race to the Bottom?” *American Journal of Political Science* 51 (4): 853–72.
- Konisky, David M., Jeffrey Milyo, and Lilliard E. Richardson. 2008. “Environmental Policy Attitudes: Issues, Geographical Scale, and Political Trust.” *Social Science Quarterly* 89:1066–85.

- Konisky, David M., and Neal D. Woods. 2010. "Exporting Air Pollution? Regulatory Enforcement and Environmental Free Riding in the United States." *Political Research Quarterly* 63 (4): 771–82.
- Konisky, David M., and Neal D. Woods. 2012. "Measuring State Environmental Policy." *Review of Policy Research* 29 (4): 544–69.
- Konisky, David M., and Neal D. Woods. 2016. "Environmental Policy, Federalism, and the Obama Presidency." *Publius* 46 (3): 366–91.
- Konisky, David M., and Neal D. Woods. 2018. "Environmental Federalism and the Trump Presidency: A Preliminary Assessment." *Publius* 48 (3): 345–71.
- Koski, Chris. 2007. "Regulatory Choices: Analyzing State Policy Design." *Law & Policy* 29 (4): 407–34.
- Layzer, Judith A. 2012. *Open for Business: Conservatives' Opposition to Environmental Regulation*. Cambridge: MIT Press.
- Lester, James P. 1995. "Federalism and State Environmental Policy." In *Environmental Politics and Policy: Theories and Evidence*, 2nd ed., ed. James P. Lester. Durham: Duke University Press, 39–60.
- McCright, Aaron M., Chenyang Xiao, and Riley E. Dunlap. 2014. "Political Polarization on Support for Government Spending on Environmental Protection in the USA, 1974–2012." *Social Science Research* 48:251–60.
- National Conference of State Legislatures (NCSL). 2019. "State Partisan Composition." <http://www.ncsl.org/research/about-state-legislatures/partisan-composition.aspx> (accessed January 1, 2019).
- Office of Management Budget. 2019. "President's Budget: Historical Tables." <https://www.whitehouse.gov/omb/historical-tables/> (accessed July 8, 2020).
- O'Toole, Laurence J., Chilik Yu, James Cooley, Gail Cowie, Susan Crow, Terry DeMeo, and Stephanie Herbert. 1997. "Reducing Toxic Chemical Releases and Transfers: Explaining Outcomes for a Voluntary Program." *Policy Studies Journal* 25 (1): 11–26.
- Pew Research Center. 2017. "Public Dissatisfaction with Washington Weighs on the GOP." <https://www.people-press.org/2017/04/17/public-dissatisfaction-with-washington-weighs-on-the-gop/> (accessed April 13, 2019).
- Potoski, Matthew. 1999. "Managing Uncertainty through Bureaucratic Design: Administrative Procedures and State Air Pollution Control Agencies." *Journal of Public Administration Research and Theory* 9 (4): 623–40.
- Potoski, Matthew. 2001. "Clean Air Federalism: Do States Race to the Bottom?" *Public Administration Review* 61 (3): 335–42.
- Potoski, Matthew. 2002. "Designing Bureaucratic Responsiveness: Administrative Procedures and Agency Choice in State Environmental Policy." *State Politics & Policy Quarterly* 2 (1): 1–23.
- Potoski, Matthew, and Neal D. Woods. 2000. "Designing State Clean Air Agencies: Administrative Procedures and Bureaucratic Autonomy." *Journal of Public Administration Research and Theory* 11 (2): 203–21.
- Primo, David M., Matthew L. Jacobsmeier, and Jeffrey Milyo. 2007. "Estimating the Impact of State Policies and Institutions with Mixed-Level Data." *State Politics & Policy Quarterly* 7 (4): 446–59.
- Rabe, Barry. 2007. "Environmental Policy and the Bush Era: The Collision between the Administrative Presidency and State Experimentation." *Publius* 37 (3): 413–31.
- Rabe, Barry. 2008. "States on Steroids: The Intergovernmental Odyssey of American Climate Change Policy." *Review of Policy Research* 25 (2): 105–28.

- Rabe, Barry. 2011. "Contested Federalism and American Climate Policy." *Publius* 41 (3): 494–521.
- Ruckelshaus, William D. 1985. "Environmental Protection: A Brief History of the Environmental Movement in America and the Implications Abroad." *Environmental Law* 15 (3): 455–69.
- Sapat, Alka. 2004. "Devolution and Innovation: The Adoption of State Environmental Policy Innovations by Administrative Agencies." *Public Administration Review* 64 (2): 141–51.
- Scheberle, Denise. 2004. *Federalism and Environmental Policy: Trust and the Politics of Implementation*. 2nd ed. Washington, DC: Georgetown University Press.
- Scheberle, Denise. 2005. "The Evolving Matrix of Environmental Federalism and Intergovernmental Relationships." *Publius* 35 (1): 69–86.
- Scicchitano, Michael J., and David M. Hedge. 1993. "From Coercion to Partnership in Federal Partial Preemption: SMCRA, RCRA, and OSH Act." *Publius* 23 (4): 107–21.
- Shipan, Charles R., and William R. Lowry. 2001. "Environmental Policy and Party Divergence in Congress." *Political Research Quarterly* 54 (2): 245–63.
- Shor, Boris, and Nolan McCarty. 2011. "The Ideological Mapping of American Legislatures." *American Political Science Review* 105 (3): 530–51.
- Skocpol, Theda, and Alexander Hertel-Fernandez. 2016. "The Koch Network and Republican Party Extremism." *Perspective on Politics* 14 (3): 681–99.
- Travis, Rick, John C. Morris, and Elizabeth D. Morris. 2004. "State Implementation of Federal Environmental Policy: Leveraging in the State Clean Water Revolving Fund." *Policy Studies Journal* 32 (3): 461–80.
- Turner, James M., and Andrew C. Isenberg. 2018. *The Republican Reversal: Conservatives and the Environment from Nixon to Trump*. Cambridge: Harvard University Press.
- U.S. Bureau of Economic Analysis. 2019. "Regional Data." <https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1> (accessed January 1, 2019).
- U.S. Census. 2019. "Statistical Abstract Series." [https://www.census.gov/library/publications/time-series/statistical\\_abstracts.html](https://www.census.gov/library/publications/time-series/statistical_abstracts.html) (accessed January 1, 2019).
- U.S. Environmental Protection Agency. 2019a. "Learn about the Toxic Release Inventory." <https://www.epa.gov/toxics-release-inventory-tri-program/learn-about-toxics-release-inventory> (accessed January 1, 2019).
- U.S. Environmental Protection Agency. 2019b. "State Review Framework for Compliance and Enforcement Performance." <https://www.epa.gov/compliance/state-review-framework-compliance-and-enforcement-performance> (accessed January 1, 2019).
- U.S. Environmental Protection Agency. 2019c. "TRI Basic Data Files: Calendar Year 1987–2017." <https://www.epa.gov/toxics-release-inventory-tri-program/tri-basic-data-files-calendar-years-1987-2017> (accessed January 1, 2019).
- U.S. House of Representatives. 2019. "Party Division of the House of Representatives, 1789 to Present." <https://history.house.gov/Institution/Party-Divisions/Party-Divisions/> (accessed January 1, 2019).
- U.S. Senate. 2019. "Party Division." <https://www.senate.gov/history/partydiv.htm> (accessed January 1, 2019).
- Vandeweerd, Clara, Bart Kerremans, and Avery Cohn. 2016. "Climate Voting in the US Congress: The Power of Public Concern." *Environmental Politics* 25 (2): 268–88.
- Wood, B. Dan, and John Bohte. 2004. "Political Transaction Costs and the Politics of Administrative Design." *Journal of Politics* 66 (1): 176–202.
- Wood, B. Dan, and Richard W. Waterman. 1991. "The Dynamics of Political Control of the Bureaucracy." *American Political Science Review* 85 (3): 801–28.



- Woods, Neal D. 2006a. "Interstate Competition and Environmental Regulation: A Test of the Race-to-the-Bottom Thesis." *Social Science Quarterly* 87 (1): 174–89.
- Woods, Neal D. 2006b. "Primacy Implementation of Environmental Policy in the U.S. States." *Publius* 36 (2): 259–76.
- Woods, Neal D. 2008. "The Policy Consequences of Political Corruption: Evidence from State Environmental Programs." *Social Science Quarterly* 89 (1): 258–71.
- Woods, Neal D., and Michael Baranowski. 2007. "Governors and the Bureaucracy: Executive Resources as Sources of Administrative Influence." *International Journal of Public Administration* 30 (11): 1219–30.
- Woods, Neal D., David M. Konisky, and Ann O'M. Bowman. 2009. "You Get What You Pay For: Environmental Policy and Public Health." *Publius* 39 (1): 95–116.
- Woods, Neal D., and Matthew Potoski. 2010. "Environmental Federalism Revisited: Second-Order Devolution in Air Quality Regulation." *Review of Policy Research* 27 (6): 721–39.

### Author Biographies

**Luke Fowler** is an associate professor and director of the Masters of Public Administration program at Boise State University in Boise, Idaho. His research interests include state and local politics, intergovernmental relations, environmental policy, and policy implementation.

**Jaclyn J. Kettler** is an assistant professor of political science at Boise State University in Boise, Idaho. Her research interests include state politics, political parties and interest groups, campaign finance, and women and politics.