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Elena Lioubimtseva,
Grand Valley State University,
United States

*CORRESPONDENCE

Robin Kundis Craig
✉ rrcraig@law.usc.edu

SPECIALTY SECTION

This article was submitted to
Ocean Solutions,
a section of the journal
Frontiers in Marine Science

RECEIVED 02 October 2022

ACCEPTED 12 December 2022

PUBLISHED 23 December 2022

CITATION

Craig RK (2022) Climate adaptation
law and policy in the United States.
Front. Mar. Sci. 9:1059734.
doi: 10.3389/fmars.2022.1059734

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Climate adaptation law and policy in the United States

Robin Kundis Craig*

University of Southern California, Gould School of Law, Los Angeles, CA, United States

When President Biden took office in January 2021, he immediately re-invigorated the United States' commitment to addressing climate change, including climate adaptation, through Executive Order 13990—Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis (January 20, 2021) and Executive Order 14008—Tackling the Climate Crisis at Home and Abroad (January 27, 2021). Federal agencies have continued to implement these and other climate-related executive orders. This article examines recent legal developments to summarize the United States' current policy approach to climate change adaptation, especially as such developments affect marine sector. Despite the natural tendency to focus on the federal government—and there have indeed been improvements in federal adaptation policy since the Biden Administration took office—this article also argues that focusing solely on the federal government reveals only one facet of important developments in the United States' climate adaptation policy. Instead, this article acknowledges and illuminates the pluralistic and federalistic structure of United States governance, concluding that much climate adaptation work occurs within tribes and through state and local governments, regardless of who sits in the Oval Office.

KEYWORDS

climate change adaptation, United States, federalism, adaptation plans, tribes

1 Introduction

The succession of federal administrations from President Barack Obama to President Donald Trump to President Joseph Biden makes clear that the United States' *national* commitment to addressing climate change depends on who occupies the White House. President Obama's climate change track record was not perfect, as evidenced by his Administration's failure to persuade Congress to enact national climate legislation, despite considerable effort to do so (Lavelle, 2016). Nevertheless, under President Obama, the U.S. Environmental Protection Agency (USEPA) promulgated the Clean Power Plan (USEPA 2015) to address greenhouse gas emissions from stationary sources, found that greenhouse gas emissions from cars and trucks endangered the public welfare

(USEPA 2009), and created greenhouse gas emission standards for cars and trucks for model years well into the 2020s (USEPA and NHTSA 2010; USEPA and NHTSA, 2011; USEPA and NHTSA, 2012; USEPA and NHTSA, 2016). These policies helped to reduce greenhouse gas emissions, particularly in the energy sector (Lavelle, 2016).

President Obama also explicitly addressed adaptation. In November 2013, he issued Executive Order 13653—Preparing the United States for the Impacts of Climate Change (Obama, 2013). This order foregrounded the need for multiple levels of government to work together to address climate change (Obama, 2013, §1). It stressed partnerships, information creation and sharing, risk-informed decision making, adaptive learning, preparedness planning, and the reform of federal law to remove barriers to adaptation investment and maladaptive requirements and incentives (Obama, 2013, §§1, 2, 4, 5). It also created a new federal Council on Climate Preparedness and Resilience (Obama, 2013, §6). Within nine months of the order, the Departments of Defense, the Interior, and Agriculture, USEPA, the National Oceanic and Atmospheric Administration (NOAA), the Federal Emergency Management Agency (FEMA), and the U.S. Army Corps of Engineers (USACE) had to propose “changes to their land-and water-related policies, programs, and regulations necessary to make the Nation’s watersheds, natural resources, and ecosystems, and the communities and economies that depend on them, more resilient in the face of a changing climate” (Obama, 2013, §3).

Donald Trump’s election in November 2020 abruptly changed the United States’ stance on climate change, and his administration reversed or undermined several Obama Administration policies. On June 1, 2017, President Trump announced that the United States would withdraw from the 2015 Paris Agreement to implement the United Nations Framework Convention on Climate Change, a promise he carried out as soon as it was legally possible to do so, on November 4, 2020 (McGrath, 2020). The Trump Administration USEPA repealed the Clean Power Plan and replaced it with the far more anemic Affordable Clean Energy Rule (USEPA 2019). It also undid the Obama Administration USEPA’s greenhouse gas emission standards for cars for model years 2021–2025 (USEPA 2018), replacing them with far less protective emissions standards and eliminating California’s waiver under the federal Clean Air Act (USEPA & NHTSA 2019). This waiver allows California to impose more string emissions controls on vehicles, which other states can then adopt.

This article provides an overview of current climate change adaptation policy in the United States. Given international attention to changes in U.S. presidential administration, it begins with a survey of the changes that have occurred at the federal level since the Biden Administration took office. However, unlike many examinations that stop at this federal level, this article also acknowledges the United States’ pluralistic

and federalistic system of governance, which accords considerable governance and policy authority to tribes, states, and municipalities. By acknowledging the legal and policy efforts of these other governance entities, this article demonstrates that many tribes, states and local governments have remained active in their climate change adaptation efforts despite the significant double reversals in federal climate policy.

2 Methodology

This article engages in a standard legal summary of the United States’ current governance approach to climate change adaptation. The methodology for such a summary is to review the relevant new and amended laws (statutes), regulations, and policy statements (e.g., Executive Orders), as well as commentaries on and other legal summaries of those developments.

3 Climate adaptation policy in the federal government under President Biden

3.1 President Biden’s first actions on climate change

On January 20, 2021, his first day in office, President Biden made the United States a party to the Paris Agreement once again (Blinken, 2021), re-committing the United States to climate change mitigation. Within a week, the new president issued two executive orders that re-engaged the federal government in addressing climate change, both mitigation and adaptation.

The first was Executive Order 13990—Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis, also issued on President Biden’s first day in office (Biden, 2021a). The order generally re-committed the United States to science-based policy and to environmental justice. However, it also emphasized both climate mitigation and adaptation. For example, it included determinations both “to reduce greenhouse gas emissions” and “to bolster resilience to the impacts of climate change” (Biden, 2021a, §1).

On balance, however, this first executive order was far more focused on climate change mitigation than adaptation. For example, it ordered review of several specific Trump-era regulations related to greenhouse gas emissions (Biden, 2021a, §2). It placed a temporary moratorium on the 2020 Coastal Plain Oil and Gas Leasing Program, which would have allowed oil and gas development in the Arctic National Wildlife Refuge in Alaska (Biden, 2021a, §4); restored President Obama’s protective withdrawals of the Arctic Ocean and Bering Sea

from oil and gas development (Biden, 2021a, §4); and revoked the March 2019 Permit that would have allowed TransCanada Keystone Pipeline to complete the Keystone XL Pipeline (Biden, 2021a, §6). The executive order also required several federal agencies to establish a Social Cost of Carbon (Biden, 2021a, §5). Finally, it revoked a series of President Trump's energy- and environment-related executive orders and directed the Council on Environmental Quality, which implements the National Environmental Policy Act (NEPA), to rescind its 2019 draft guidance on how federal agencies should evaluate greenhouse gas emissions in their environmental impact assessments (Biden, 2021a, §7).

One week later, President Biden issued Executive Order 14008—Tackling the Climate Crisis at Home and Abroad (Biden, 2021b). This order established as federal policy “that climate considerations shall be an essential element of United States foreign policy and national security,” and it articulated specific steps that the administration would take to re-engage with the international community on climate change (Biden, 2021b, §§101-104). Domestically, the order created the White House Office of Domestic Climate Policy and the National Climate Task Force (Biden, 2021b, §§202, 203).

Like Executive Order 13990, many parts of this second order focus on climate change mitigation. For example, Executive Order 14008 tasked the Secretary of the Interior with identifying ways that the federal government could increase renewable energy production on public lands and offshore (Biden, 2021b, §207), while pausing new leases for oil and gas production in those same spaces (Biden, 2021b, §208). It also sought to end federal subsidies to the fossil fuel industries (Biden, 2021b, §209).

However, this second order also extensively addressed climate change adaptation. For example, it sought to revitalize land and water conservation to increase resilience, reduce greenhouse gas emissions, sequester carbon—and to create jobs (Biden, 2021b, §214). As part of this effort, President Biden ordered the creation of the Civilian Climate Corps (Biden, 2021b, §215), although Congress's vacillation on the Build Back Better legislation undermined its implementation (Dumain, 2022). More pointedly, Executive Order 14008 gave federal agencies 120 days to submit draft climate adaptation plans “that describe[] the steps the agency can take ... to bolster adaptation and increase resilience to the impacts of climate change” (Biden, 2021b, §211). An agency's plan must address that agency's own vulnerabilities to climate change, the agency's plans to increase water and energy efficiency at federal buildings and facilities, its ability to use its purchasing power to spur innovation, and its efforts to increase the federal government's resilience to supply chain disruptions (Biden, 2021b, §211). In addition, several agencies were tasked with expanding and improving the federal government's climate forecasting

capacities to assist federal agencies, states, local governments, tribes, territories, communities and businesses “in preparing for and adapting to the impacts of climate change” (Biden, 2021b, §211).

3.2 Federal agency climate adaptation plans

As a result of Executive Order 14008, climate adaptation planning is well underway among federal agencies. On October 7, 2021, the federal government announced climate adaptation plans from 24 federal agencies (White House, 2021). The number has since grown to 26 federal agencies (CEQ 2022).

Notably, several of these adaptation plans are relevant to the marine environment. For example, USACE prioritizes sea level rise and coastal flooding risks (USACE 2022, 1). Within the U.S. Department of Commerce, NOAA has prioritized community resilience to both coastal inundation and climate impacts on fisheries (US Department of Commerce 2022, 1).

On December 8, 2021, President Biden issued Executive Order 14057—Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability (Biden, 2021c). While most of this executive order is focused on climate change mitigation efforts, it also orders federal agencies to implement and continue to update their climate change adaptation and resilience plans (Biden, 2021c, §503).

3.3 Congressional funding for climate change adaptation

In Executive Order 14008, President Biden recognized the importance of infrastructure and new energy investment both to address climate change and to protect jobs and livelihoods (Biden, 2021b, §§212, 213, 217, 218). While the U.S. Congress still has not enacted climate legislation for the United States, it *has* financed this infrastructure and other investments in climate resilience.

The Infrastructure Investment and Jobs Act (IIJA), Public Law No. 117-58, became law on November 15, 2021. This \$1 trillion piece of legislation focuses primarily on funding climate adaptation, although it did also provide “\$65 billion for clean energy and grid-related investments” and “\$7.5 billion to build a national network of charging stations for electric vehicles” (Newburger, 2021). To promote climate adaptation, the IIJA provided \$50 billion for climate resilience and weatherization, increased funding for the Army Corps and FEMA programs that reduce flood risk, and gave NOAA money for wildfire modeling and forecasting (Newburger, 2021). Another \$55 billion funded expanded access to clean drinking water, while \$21 billion

targeted the cleanup of contaminated sites and capping orphaned oil and gas wells (Newburger, 2021).

The IJJA's companion legislation, mostly targeting climate mitigation, was supposed to be the Build Back Better bill. Instead, in August 2022, Congress enacted and President Biden signed into law the Inflation Reduction Act of 2022 (IRA), Public Law No. 117-169. The IRA focuses on funding *mitigation* efforts, including \$370 billion for energy infrastructure and tax credits for qualifying consumers who buy electric vehicles. According to the White House, the IRA puts the United States "on track to decrease greenhouse gas emissions by about 40 percent below 2005 in 2030" and to save Americans up to \$1.9 trillion in the social costs of climate change by 2050 (Gimont, 2022; Vahlsing, 2022).

Some of these saved social costs, however, are also relevant to climate change adaptation, such as by supporting individuals' abilities to afford health care. The law extends Affordable Care Act subsidies for health care insurance premiums through 2024, preventing approximately 3 million Americans from losing their health insurance at the end of 2022 (Smith, 2022). The IRA will also cap drug prices at \$2000 per year for seniors on Medicare starting in 2025 (Smith, 2022). For federal agency adaptation, the IRA gave the National Park Service and U.S. Bureau of Land Management (BLM) a total of \$700 million to conserve and enhance the resiliency of the ecosystems they protect, while \$2.15 billion went to the U.S. Forest Service and BLM to conserve forests on federal public lands (Gimont, 2022). Finally, the IRA allocates considerable amounts of money for grants to tribes and to state and local governments for climate adaptation projects.

4 Climate adaptation law and policy among the states and municipalities

Under the United States' system of federalism, the federal government has limited authority and power. Instead, the *states* retain the most basic police power authority—that is, the authority to regulate to protect public health, safety, and welfare. States, in turn, can choose to delegate some or all this authority to municipalities. As a result, state and local governments are key players in climate change adaptation in the United States.

State and local governments have played increasing roles in climate change adaptation governance. According to the Georgetown Climate Law Center, as of September 2022, 19 states and the District of Columbia have state-level adaptation plans finalized, while another five states had plans in progress (Georgetown CLC 2022). Local and regional planning occurs across the country, even in states without state-level plans (Georgetown CLC 2022). Only Arkansas, Kansas, Missouri,

Nebraska, North Dakota, South Dakota, West Virginia, and Wyoming still completely lack any form of adaptation planning (Georgetown CLC 2022).

As one example of state adaptation laws and policies, California law has mandated California Climate Adaptation Strategies since 2015, and the state released its latest Climate Adaptation Strategy in 2021 despite both the Trump Administration and the pandemic (CNRA 2021). The revised strategy "elevated six key priorities that must drive all resilience actions in California": (1) strengthening protections for climate-vulnerable communities; (2) bolstering public health and safety; (3) building a climate-resilient economy; (4) accelerating nature-based climate solutions and increasing natural systems' climate resilience; (5) decision making based on the best available climate science; and (6) using partnerships and collaborations to leverage resources (CNRA 2021). As part of the last two priorities, moreover, California is pursuing climate adaptation partnerships with the many tribes within its borders; it further commits "to incorporating and supporting tribal expertise and traditional ecological knowledge into this work at all levels" and "to reflect the priorities of California Native American tribes in adapting to climate change" (Cal.gov, 2022).

As noted, the federal IRA acknowledges that much of the necessary work for climate adaptation will occur at these state and local levels. For example, it provides \$5.95 billion to support farmers, ranchers, and foresters, including \$125 million to the U.S. Department of Agriculture "to provide technical assistance, outreach, mediation, and training" regarding the issues facing farmers (Gimont, 2022). In addition, a total of \$2.75 billion is targeted at conserving non-federal forests (Gimont, 2022). The U.S. Bureau of Reclamation received \$550 million to award grants to disadvantaged communities in western states lacking reliable access to water to cover up to 100% of the costs of new water projects, and an additional \$4 billion for grants to tribal and local governments, especially those in the Colorado River Basin, to deal with drought. The IRA also established a \$3 billion Environmental Justice Block Grant Program within the USEPA (Gimont, 2022), money that can be used to help communities reduce their vulnerabilities and increase their resilience to climate change; a \$5 billion Climate Pollution Reduction Grant Program for state and local governments; \$280.5 million to improve air quality more generally, especially in low-income and disadvantaged communities; and \$50 million for grants to improve air quality and greenhouse gas emissions at schools (Gimont, 2022). For the marine environment, the IRA provides \$2.6 billion NOAA to award grants to state and local governments to conserve and restore coastal and marine habitats and resources (Gimont, 2022), which could help communities to restore the wetlands and other coastal ecosystems that both provide natural amenities and protect the communities behind them from storm surge.

5 Climate adaptation policy among U.S. tribes

The U.S. government officially recognizes 574 Native American tribes in the 48 contiguous states and Alaska (BIA 2021); numerous others are limited to only state recognition or no official legal recognition at all (USGCRP 2021). Federally recognized tribes exist as dependent sovereign nations and can exercise considerable sovereign authority within their reservations.

Increasing numbers of tribes within the United States are using this authority to adapt to climate change. Roughly 60 tribes, for example, have tribal adaptation plans (University of Oregon n.d.; NCAI 2022). These include tribes from Arizona, California, Colorado, and Utah, but with concentrations of tribal adaptation planning in Alaska, the Pacific Northwest, and the Great Lakes region. Tribes have taken well over 800 actions to adapt to climate change (USGCRP 2021: 576), responding to the local impacts of climate change. For example, the Karuk tribe of northern California recommends a return to prescribed burning to address wildfire threats, while “[t]he Tulalip tribes of Washington state are relocating nuisance beavers from urban areas back to traditional watersheds to help lower river temperatures and aid salmon populations; they are also redirecting agricultural runoff for electricity generation” (Jones, 2020). Other techniques include the revival of traditional clam gardens, removal of invasive species, and planting seedlings selected for their disease resilience (Jones, 2020).

However, while “[m]any Indigenous peoples have been proactively identifying and addressing climate impacts,” “institutional barriers exist in the United States that severely limit their adaptive capacities,” including access to the funding necessary for successful adaptation (USGCRP 2021: 573). Increasingly, Tribes and other indigenous groups in the United States, as in other nations, are turning to litigation as a source of adaptation funding and capacity (e.g., Bookman, 2022; *Native Village of Kivalina v. ExxonMobil Corp.*, 696 F.3d 849 (9th Cir, 2012, *cert. denied*, 569 U.S. 1000 (2013)).

6 Conclusion

To understand climate adaptation in the United States, one must look at more than just the federal government. While the Trump and Biden Administrations have engaged in double reversals of *national* climate policy, tribes, states, and

municipalities have been working—more-or-less steadily and most often out of the spotlight—to figure out how their regions and communities can adapt to the climate change impacts already occurring. It remains to be seen to what extent the recent infusions of federal money will accelerate these non-federal adaptation efforts—and perhaps take them in new directions, with ever-increasing attention to equity and inclusion.

Author contributions

RC is the lead and only author of this article, who is entirely responsible for the researching and drafting of it.

Funding

Drafting of this mini-comment was supported by a summer research award from the University of Southern California Gould School of Law in July 2022.

Acknowledgments

The author thanks the organizers of the 2021 IMBIZO 6 for inviting her both to participate in that online conference and to contribute to this volume.

Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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