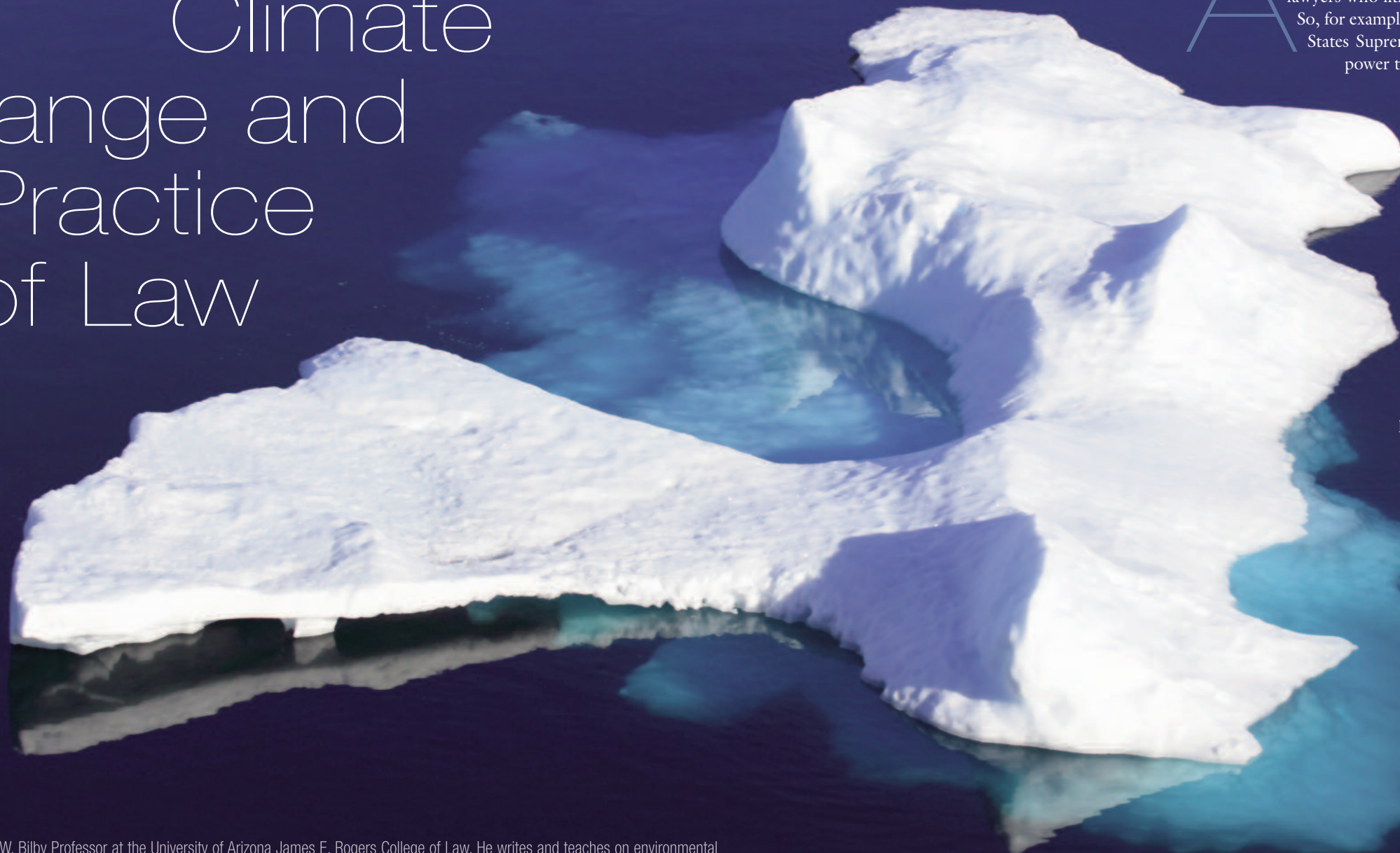




BY MARC L. MILLER & JONATHAN T. OVERPECK

Climate Change and the Practice of Law



MARC L. MILLER is the Ralph W. Bilby Professor at the University of Arizona James E. Rogers College of Law. He writes and teaches on environmental law and policy, and on criminal law and policy. He is the co-editor of a new book series called "The Edge," which is published by the University of Arizona Press and that addresses issues at the intersection of environmental science, law and policy. He also serves as the co-director of the Program on Criminal Law and Policy at the law school.

JONATHAN T. OVERPECK is the Co-Director of the University of Arizona Institute of the Environment, and a Professor in the Department of Geosciences. He was a coordinating lead author of the Fourth U.N. Intergovernmental Panel on Climate Change (IPCC) Report, which was published in 2007. In that year, the IPCC panel was awarded the Nobel Peace Prize.

The following article explores the relevance of climate change to legal practice. ARIZONA ATTORNEY plans to publish occasional articles from scholars and practicing lawyers and judges on more focused assessments of the impact of environmental law and climate change for lawyers. We invite the suggestions and insights of readers. Write to the editor at arizona.attorney@azbar.org.

At first glance, climate change might seem like a topic of practice relevance only for lawyers who litigate a handful of high-profile lawsuits against the federal government. So, for example, in the highly discussed decision in *Massachusetts v. EPA*,¹ the United States Supreme Court found that the Environmental Protection Agency had the power to regulate greenhouse gases under the Clean Air Act. But that important case seems pretty far removed from the day-to-day issues of representing individuals, corporations and local governments.

A scientific and political consensus has emerged about the reality of human-caused climate change.² This consensus in the United States is reflected in years of reports out of both Republican and Democratic administrations. Climate skeptics raise questions about uncertainties in models, or whether any response in mitigation—or a response now rather than one in the future—is called for. But rejection of the existence of human-caused climate change altogether is now far outside the mainstream.

What does this mean for lawyers in their daily practice? While climate models suggest a range of likely impacts and timeframes, the significant physical impacts of climate change may seem to be far enough down the road that lawyers representing clients in current disputes, business deals and other doings can significantly discount these impacts.

On some reflection, there seem to be more areas of practice where climate change might generate independent claims or issues, or otherwise affect the advice given to clients. Some of the most immediate areas of practice are those representing regulated clients such as power, water and transportation companies and utilities, where the state and federal governments are increasingly incorporating (or proposing to incorporate) climate change in regulatory policy. Energy clients are balancing "old" and "new" energy and the development of new transmission and storage capacities. Emerging carbon trading regimes and clean businesses will generate significant new and ongoing work for lawyers. Environmental practitioners doing work on public lands and natural resources, including topics such as forest plans and endangered species, already wrestle with climate change.

In this article we explore the relevance of climate change to many areas of practice, including general business, real estate, insurance, land use, public utilities, state and local law, transportation, as well as power and water. Our hypothesis is that through change in the "facts on the ground"—current and emerging impacts—and through active discussions of legal and regulatory reforms, climate change is fast becoming an issue of significant importance to legal practice. Our claim is not that climate change will affect every area of practice—we do not expect a "climate change" defense in criminal law or that a person even be allowed to present a justification or

necessity defense to charges based on damage to coal-fired energy facilities, or for destroying a fleet of Hummers. But for many questions of counsel and in many kinds of disputes, climate change will play an increasingly central role.

This article focuses on the fundamental reason why climate change will and should have such a pervasive impact on a broad swath of legal practice.

A Pervasive Environmental Shift: New Risks

Climate change is already having measurable impacts on the natural and human environment. There is some regional and local variation in the impacts of climate change, and different natural and social “endowments”—different geographies and landscapes and populations and wealth and so forth—mean that even similar shifts in mean annual temperature, for example, can have varying consequences. These varying endowments and consequences help to explain why cities, counties, states and regions have pursued both mitigation and adaptation strategies—and why lawyers who work for and represent state and local governments need to be attentive to issues of possible federal preemption.³

But it is fair to describe both the observed experience and the implications of a wide range of climate models as increasing various risks from the natural environment.

Illustration: Health and Risk

Increased temperatures can have direct health effects, such as from heat stress. Those increases have implications for individuals, businesses and governments in terms of how they adapt—more cooling, more health services, and so forth. The implications may be indirect, such as the northward movement of organisms like the West Nile Virus and dengue fever. With a sufficient increase in temperatures, we also would expect to see demographic shifts—the movement of people, and especially those susceptible to harm from heat, to cooler climates, with corresponding economic impacts.

The complex interaction of effects from climate change rather than the direct physical, health and ecological impacts may create risks that generate the most immediate attention from lawyers and their clients.

Mean annual warming in parts of the U.S. Southwest already has surpassed that of most of the rest of the country.⁴ Related changes in the volume and timing of precipitation as well as a decrease in Colorado River flow are also taking place in the region.

Increases in temperature and changes in precipitation also change the likelihood and scale of extreme events, such as storms, floods and drought.

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More generally, warming is likely already causing a significant increase in tree death, large wildfire frequency, wildfire duration and wildfire season length across the West. Changing temperature and precipitation regimes also have implications for water temperature and soil moisture. Drier soils and vegetation will transform ecosystems and ecological services, and will likely harm water quality and air quality. Paradoxically, both theory and modeling indicate that flood frequency will increase in the future just as drought frequency will increase.

Illustration: Fire and Risk

A similar story holds for likely future changes in wildfire. A hotter, drier climate will directly increase the flammability of fuels, and reduce the opportunity for snow or rain to limit the scale of fires that do occur. Researchers have documented significant current changes in fire regimes.⁵ But wildfire changes are not solely a function of heat and precipitation. Deserts that have not adapted to large-scale fire are now burning not because of the change in temperature, but because of the spread of human-introduced non-indigenous species that have transformed the landscape and fundamentally altered the desert ecology.

One invasive species that has transformed large parts of the Sonoran Desert is buffelgrass. This African grass was introduced for forage—a common justification for the intentional introduction of non-indigenous species. The distribution of buffelgrass is not random; in Arizona it has been planted and spread in areas near urban settlements, and notably around Tucson. The spread of this invasive plant, along with that of others such as red brome, is bringing wildfire into Southwest deserts that are poorly adapted to the very large and extreme hot fires generated by these invasive species.

The increase in fire risk from a hotter, drier climate would be substantial if it was limited to woody wilderness areas of the Southwest. But the combination of climate change, invasive plants and other human factors greatly expand fire risk to both natural systems and to human structures and population. This risk is magnified further as development spreads into new areas in the

deserts and mountains. Then it is magnified yet again as invasive species transform areas that would have only localized burns into flammable systems that can link upland forests with the lowland desert ecosystems. The implications of changes in temperature and precipitation extend to human consumption and use of water and energy, industrial uses of water and energy, and agriculture.

Lawyers and Law as Managers of Risk

Lawyers and non-lawyers frequently summarize the role of law as the peaceful resolution of disputes. But dispute resolution is only one (albeit important) function of the law. Another general function, even in the absence of disputes, is to manage risk, for individuals, for businesses and other entities, and for governments.



Judges will be confronted by the need to assess competing claims about the future... But the legal puzzles raised by climate change are not merely prospective.

This role is especially important and visible in representing businesses.

Business or real estate investments, including insurance agreements, are made based on assumptions about the nature and scale of risks—risks of extreme events, and risk of changed circumstances with regard to water, other natural resources, power and health. In that regard, climate change should alter the nature of contracts. Indeed, the full suite of legal tools that are available to manage risk—including the building blocks of contract, tort law, property, and insurance—should all shift to take account of the changed and often greater risks.

Illustration: Water Disputes

A specific context illustrates the risk-management perspective. For both water management and for the resolution of a wide range of water disputes, lawyers and judges have long relied on estimates of the past availability of water to project its availability in the future. Now, however, as a result of climate change, using the past as the

most reasonable predictor of the future for water supply is in serious doubt. Some courts are beginning to realize this.

Another way of saying this is that the concept of “stationarity” is dead. That has long been a fundamental assumption underlying water management in the United States.⁶ The concept of stationarity is based on the premise that the random variability of a water system (e.g., flow in a river) is such that its statistical properties (e.g., mean, variance, extremes, autocorrelation, and so on) do not vary with time. However, both observed recent and potential future effects of climate change on river hydrology call into question the assumption that flow is a stationary process. Continued reliance on the past envelope of variability for anticipating future river flow is likely to be misleading. Judges will be confronted by the need to assess competing claims about the future, with some claims based on measured but perhaps suspect data drawn from the historical record, and the other claims based on the projections of climate models.

As climate change threatens water supplies, competition between individual (municipal), agricultural, commercial and natural resource uses will need to be addressed either through prospective reallocation, some greater use of market mechanisms to allocate waters, or lawsuits to resolve a situation not foreseen when prior water law and water rights decisions were made.

The legal puzzles raised by climate change are not merely prospective. For example, if extreme weather events whose likelihood or intensity can be tied to human-caused climate change result in harm to property or other interests, will insurance or other agreements limiting liability or coverage for “Acts of God” or “natural disasters” preclude recovery? Disaster law—the response to major events—is one of the areas that is likely to be subject to pressure from climate

change.⁷ Where ongoing climate change has the most immediate impacts, such as along coasts as sea levels rise,⁸ will individuals, towns or larger government entities have cognizable claims against the largest emitters of greenhouse gases (for their affirmative acts) or, as illustrated in an indirect fashion by *Massachusetts v. EPA*, against governments for their failure to act?

Federal and State Law & Regulation

Lawyers for industries that produce significant amounts of greenhouse gases have been taking account of climate change for some time. Indeed, many businesses, whether or not the subject of national and state policy debates, have made climate change policy and climate change risks a part of their business plans and operations. Attention to climate change may come from concern for risk reduction, to find new cost savings, out of a sense of corporate social responsibility (with or without clear bottom-line returns), or to respond to client, employee, supplier, customer or



other “green” preferences and demands. In all situations, lawyers representing those companies and their officers and members of corporate boards must take account of the shift.

More recently, climate change has become the subject of explicit and general business legislation and regulation. Legislation and regulation are additional mechanisms for identifying, mitigating, shifting or limiting risk. (Legislation can serve many other functions as well, of course.)

A striking and more recent development is law and regulation regarding climate change that applies broadly to business practice, rather than to specific businesses with large climate-change profiles. The leading example of such laws is California Assembly Bill 32. A leading example of federal regulation is the new SEC securities rule on climate change.

State Legislation: California Assembly Bill 32

In 2006 the California Legislature passed and Governor Schwarzenegger signed AB 32—the California Global Warming Solutions Act. AB 32 is the most sweeping example of statewide climate change legislation. It establishes a regulatory structure to reduce six greenhouse gases identified in the Kyoto Protocol to 1990 levels by 2020, and to 80 percent of 1990 levels by 2050. In contrast to the more limited renewable energy portfolio standards implemented by a number of other states, AB 32 grants regulatory authority to the California Air Resources Board—an institution with a long history of tough regulation and enforcement practices in the pursuit of clean air.

AB 32 demonstrates that it is possible for states to enact greenhouse-gas legislation—whose larger purpose is climate-change mitigation—even in the absence of national policy or binding interna-

tional agreements. Another message: Not all emitters are equal, as the regulatory program in AB 32 focuses on large industrial sources of greenhouse gases. A third message: Major climate change legislation is a political hot potato, as there is now an initiative on the November 2010 ballot in California (Ballot Proposition 23—just to confuse matters!) to suspend the implementation of AB 32.

The tools authorized by AB 32 include annual facility-based emissions reporting from cement plants, power plants, cogeneration facilities, refineries, hydrogen plants and large combustion sources and third-party verification of emissions. Notably, AB 32 includes a “cap-and-trade” system that limits overall greenhouse-gas emissions from these key industries.

AB 32 does not focus solely on big corporate emitters. In addition to the indirect impact on smaller businesses and consumers of potentially higher-energy prices because of AB 32, the law also authorized the Air Resources Board to develop a “scoping plan” and identify “early action” measures. The board has identified regulations of landfills, motor vehicle fuels, refrigerants in cars, tire pressure, port operations, and reduction of the use of high “global warming potential” gases in consumer products.

In 2008 the California Legislature expanded the impact of AB 32 through Senate Bill 375. SB 375 uses transportation funding to promote climate-sensitive land-use arrangements, especially urban high-density housing and improved climate-focused transportation networks, in each of 18 regions in the state. On June 30, 2010, the California Air Resources Board issued regional greenhouse-gas reduction targets. Now all planning agencies in California—cities, counties, special districts and so forth—must take account of climate change. SB 375 will be a part of every real estate, land use, transportation, state and local government and finance practice.

Corporate and Securities Law: The New Interpretive SEC Rule

On February 8, 2010, the SEC issued a new interpretive rule reminding publicly traded companies of the range of possible material risks from climate change and the obligation of companies to disclose those risks in filings.⁹


The SEC summarized the pervasive changes taking place throughout the business world in response to direct and indirect risks from climate change, with special attention to changing practices among insurers whose main job is to understand, quantify and mitigate risk. The agency also noted the increase in actual and proposed federal, state and non-U.S. legislation and regulation, and noted that these legal and regulatory shifts had implications for publicly listed companies. In addition, the SEC highlighted the varying potentially material risks to companies from direct physical risks from climate change, indirect consequences of regulation or business trends, and international accords.

The SEC tied climate change to a 40-year history of requiring companies to identify material environmental risks, and explained that the new interpretive rule is “intended to remind companies of their obligations under existing federal securities laws and regulations to consider climate change and its consequences as they prepare disclosure documents to be filed with us and provided to investors.”

An Unfolding Story

Legal scholars have focused their attention on high-profile climate litigation and legislation. There are dramatic and high-profile cases such as *Massachusetts v. EPA*. Another high-profile and much-discussed lawsuit is the unsuccessful federal action by the Alaskan town of Kivalina against ExxonMobil and other energy companies for direct harms from the promotion of fossil fuels and the suppression of evidence of harm from global warming—a claim akin to that made against cigarette companies that resulted in the massive settlement with the states.¹⁰

What legal scholars have not yet done nearly enough is work with the bar to understand and illuminate the workaday impacts of climate change on legal practice. Most climate scientists probably do not know a lawyer unless they happen to be related to or live next door to one. But we believe that both legal scholars and climate experts should engage the bench and bar on the question of how climate change will affect legal practice.

This article is a step toward a better discussion. Climate change is already emerging in several areas of practice, including some fairly surprising developments such as securities regulation. We believe that climate change should alter areas of legal practice that are concerned with managing risk. More and more, those risks will arise from external factors, including water availability, cost, timing and quality; energy availability and cost; temperature; fire or flood risk; and health impacts. Lawyers need to be prepared for these changes, and others yet to be determined. 

endnotes

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3. The Edge Environmental Science, Law & Policy books series, published by the University Press, and directed by the two of us and Barbara Morehouse, has a forthcoming volume on federalism and climate change, to be published in 2011. See www.edge-books.com.
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