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Who Will Pay: The Public & Private Insurance Implications of Climate Change's Drastic Challenges: The Boston College Environmental Affairs Law Review 2015 Symposium

Boston College Environmental Affairs Law Review

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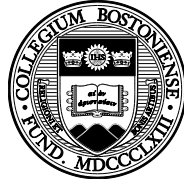
The Boston College Environmental Affairs Law Review 2015 Symposium



Who Will Pay: The Public & Private Insurance Implications of Climate Change's Drastic Challenges

Boston College Law School, Thursday, November 5





Super-storms. Extreme droughts. Sea-level rise. This Boston College Environmental Affairs Law Review symposium examines how best to allocate or defray the financial costs of property damage from climate change, and the insurance implications of anticipatory adaptation. Too often today the risk of loss is poorly allocated—upon victims who had no rational alternatives or upon the public, subsidizing irrational development patterns and private behavioral choices. The conference explores the current ability and future potential of private and social insurance and alternative risk transfer mechanisms such as reinsurance and catastrophe bonds to indemnify catastrophic losses caused by climate change events, and to motivate sustainable anticipatory adaptation to ever-increasing risks.

Symposium Schedule

9:45 a.m. **Registration and Continental Breakfast**

10:15 a.m. **Welcome to the Law School – *Dean Vincent Rougeau***

10:30 a.m. **PANEL ONE:**

Climate Change and Insurance Coverage, from 30,000 Feet

Qihao He, University of Connecticut: Mitigation of Climate Change and Regulation by Insurance: A Feasible Proposal for China

Sean B. Hecht, University of California–Los Angeles: Balancing Risk, Equity, and Justice in U.S. Coastal Communities under the NFIP

Donald Thomas Hornstein, University of North Carolina–Chapel Hill: State Residual Coastal Insurance Facilities

Commentator: *Patricia A. McCoy, Boston College*

Noon **Luncheon, and Luncheon Speaker**

*Patrick Parenteau, Vermont Law School:
Scary Science: the Impacts of Climate Disruption*

1:30 p.m.

PANEL TWO:

Specific Coverage Issues Implicating Climate Change

*Itzhak Kornfeld, Hebrew University of Jerusalem:
Insurance Issues Raised by Climate Change-Induced Drought*

*Chad Marzen, Florida State University and Grant Ballard,
Banks Law Firm: Climate Change and Federal Crop Insurance*

*Christopher Serkin, Vanderbilt University: Under-Regulation and
the Rise of the City: The Unidentified Problem of Municipal Risk
Management*

*Anastasia Telesetsky, University of Idaho: The Potential Role of
Public Disaster Insurance in Mega-Cities in Managing Climate
Change Risks*

Commentator: *David Wirth, Boston College*

3:15 p.m.

Break

3:30 p.m.

KEYNOTE ADDRESS – *Michael B. Gerrard, Columbia University*

4:15 p.m.

PANEL THREE:

Financing for Climate Change Risk

*Michael Bennett, The World Bank, and Sophie E. Smyth, Temple
University: Can Capital Markets Help Developing Countries Protect
Against the Risk of Catastrophic Loss Caused by Climate Change?*

Carl G. Hedde, Munich Re: Reinsurance and Climate Change

*Edward P. Richards, Louisiana State University: The Public and
Private Insurance Implications of Climate Change's Drastic
Challenges*

Commentator: *Cynthia McHale, Ceres*

5:45 p.m. Reception for Presenters and Attendees

Symposium Participants' Biographies

Michael B. Gerrard, *keynote speaker*

Michael Gerrard is Andrew Sabin Professor of Professional Practice at Columbia University Law School, where he teaches courses on environmental and energy law and directs the Sabin Center for Climate Change Law. He is also Chair of the Faculty of Columbia's Earth Institute. Before joining the Columbia faculty in January 2009, he was partner in charge of the 110-lawyer New York office of Arnold & Porter LLP; he is now Senior Counsel to the firm. He practiced environmental law in New York City full time from 1979 to 2008 and tried numerous cases and argued many appeals in federal and state courts and administrative tribunals. He was the 2004-2005 chair of the American Bar Association's 10,000-member Section of Environment, Energy and Resources. He has also chaired the Executive Committee of the New York City Bar Association and the Environmental Law Section of the New York State Bar Association, and served on the executive committees of the boards of the Environmental Law Institute and the American College of Environmental Lawyers.

Since 1986, Professor Gerrard has written an environmental law column for the *New York Law Journal*, and since 1989 he has been editor of a monthly newsletter, *Environmental Law in New York*. He is author or editor of eleven books, two of which were named Best Law Book of the Year by the Association of American Publishers: ENVIRONMENTAL LAW PRACTICE GUIDE (twelve volumes, 1992) and BROWNFIELDS LAW AND PRACTICE: THE CLEANUP AND REDEVELOPMENT OF CONTAMINATED LAND (four volumes, 1998). His other books are ENVIRONMENTAL IMPACT REVIEW IN NEW YORK (two volumes, with Philip Weinberg and Daniel Ruzow, 1990); WHOSE BACKYARD, WHOSE RISK: FEAR AND FAIRNESS IN TOXIC AND NUCLEAR WASTE SITING (1994); THE LAW OF ENVIRONMENTAL JUSTICE (with Sheila Foster) (2d ed. 2008); AMENDING CERCLA (with Joel Gross) (2006); GLOBAL CLIMATE CHANGE AND U.S. LAW (with Jody Freeman) (2d ed. 2014); THE LAW OF GREEN BUILDINGS (with Cullen Howe) (2010); THE LAW OF CLEAN ENERGY: EFFICIENCY AND RENEWABLES (2011); THE LAW OF ADAPTATION TO CLIMATE CHANGE: U.S. AND INTERNATIONAL ASPECTS (with Katrina F. Kuh) (2012); and THREATENED ISLAND NATIONS: LEGAL IMPLICATIONS OF RISING SEAS AND A CHANGING CLIMATE (with Gregory E. Wannier) (2013). Legal Media Group's GUIDE TO THE WORLD'S LEADING ENVIRONMENT LAWYERS, based on 4,000 questionnaires, reported in 2005 and again in 2007 that Gerrard "received more personal nominations for this guide than any other lawyer in the world." He received his B.A. from Columbia University and his J.D. from New York University Law School, where he was a Root Tilden Scholar.

Michael Bennett

Michael Bennett is the Head of Derivatives and Structured Finance at the World Bank. During his sixteen years at the World Bank, he has worked in both Washington, D.C. and Paris. His team is responsible for the structured capital markets transactions executed or arranged by the World Bank Treasury, including in the area of natural disaster risk management. Among his notable

transactions in this area are the World Bank's only "sukuk" Islamic para-bonding issuance to date, and catastrophe bond issuances by the Mexican Government under the World Bank's MultiCat Program. Before joining the World Bank, he worked in the capital markets field in New York, Tokyo and Hong Kong. He has a J.D. from Columbia University School of Law (1990) and a B.A. from Wesleyan University (1987).

David Dana

David Dana is the Kirkland & Ellis Professor of Law at Northwestern University School of Law, and also the director of the Environment and Energy Program at Northwestern's Searle Center on Regulation. He previously taught at Boston University School of Law, and has been a visiting professor at Harvard, the University of Virginia, and several foreign universities. His most recent law review publication, on the use of insurance as a means of regulating risks from fracking, was recently published in the *Iowa Law Review* and selected for republication in the ELI's *Environmental Law and Policy Annual Review*. A graduate of Harvard College and Harvard Law School, Professor Dana was an environmental litigator in private practice and at the U.S. Department of Justice before entering teaching.

Qihao He

Qihao He is a visiting scholar at Boston College Law School for the 2015-16 school year, and previously was a visiting scholar at the University of Pennsylvania Law School from January through September, 2015. Before returning to the University of Connecticut School of Law in Fall 2013 as an S.J.D. candidate specializing in insurance law (2013-2016), Mr. He received his LL.M. degree in Insurance Law with honors from UConn in 2012. Previously, he studied at the University of International Business and Economics (UIBE) in Beijing, China, where he earned both his master's degree and bachelor's degree in law. His S.J.D. dissertation will explore climate change and the sustainable distribution of catastrophic risk. Mr. He has written several publications related to climate change and insurance, including *Climate Change and Effective Catastrophe Risk Management Mechanisms*, 2015 INTERNATIONAL JOURNAL OF BONDS AND DERIVATIVES (forthcoming); *Catastrophe Insurance Solvency Regulation: An Assessment Approach*, 7 INSURANCE LAW REVIEW (forthcoming 2015); *Climate Change and Financial Instruments to Cover Disasters: What Role for Insurance?* in THE ROLE OF LAW AND REGULATION IN SUSTAINING FINANCIAL MARKETS (Niels Philipsen, et al., eds., 2014); *Research on the Legal Nature of Catastrophe Insurance Risk Securitization (CIRS)*, 13 INTERNATIONAL BUSINESS LAW REVIEW OF CHINA (2014); and *Securitization of Catastrophe Insurance Risk and Catastrophe Bonds*, 8 FRONTIERS OF LAWS IN CHINA (2013).

Sean B. Hecht

Sean Hecht is the Evan Frankel Professor of Policy and Practice and the Co-Executive Director of the Emmett Institute on Climate Change and the Environment at the University of California-Los Angeles School of Law. He collaborates on environmental issues with academics, environmental lawyers, advocacy organizations, policymakers, and the business community. He also

works with students to serve in environmental organizations and government agencies. Professor Hecht's research includes developing legal and policy tools for building resilience to climate change's likely impacts, including sea-level rise; analyzing the insurance and finance sectors' roles in addressing climate change; and analyzing the role of environmental impact analysis in protecting health and the environment. Professor Hecht is a former chair of the State Bar of California's environmental law section, and the founding board chair of the Harbor Community Benefit Foundation, a nonprofit that works to mitigate environmental impacts and improve environmental quality in the communities of San Pedro and Wilmington, near the Port of Los Angeles. He earned his B.A. at Yale University, and his J.D. at the University of Michigan. He blogs about environmental law and policy topics at <http://legal-planet.org>.

Carl G. Hedde

Carl Hedde manages the Risk Accumulation Department, including catastrophe management, risk accumulation, and geo-research functions at Munich Re America. His responsibilities include oversight of corporate accumulation issues at Munich Re America, including the use of catastrophe risk models, client catastrophe risk consulting services, and portfolio management. Additionally, he manages a group of scientists that provide seismological and meteorological expertise and research capabilities to Munich Re America and its clients. Mr. Hedde received a Bachelor of Science Degree from the State University of New York – Albany, and holds the CPCU Designation. He has 35 years of experience at Munich Re America, holding various positions within the Company. He has served as Chairman of the Board of Directors of the Insurance Institute for Business and Home Safety (IIBHS), and is a founding Board Member of the International Society of Catastrophe Managers (ISCM). He currently serves on the IIBHS and National Institute for Building Science boards.

Donald Thomas Hornstein

Donald Hornstein is the Aubrey L. Brooks Professor of Law at the University of North Carolina School of Law. In 2013, he was featured as one of 26 of the nation's best law teachers in a book published by the Harvard University Press, *WHAT THE BEST LAW TEACHERS DO*. Recipient of a Fulbright Scholar award to work on environmental law in East Africa, Professor Hornstein is best known for his work on risk analysis. This field has led him to work on insurance law and, in particular, the intersection of insurance and climate risk. Professor Hornstein has been appointed by the North Carolina Commissioner of Insurance to the Board of Directors of the state's Coastal Wind Pool, a \$500-million residual insurance facility insuring properties against catastrophic wind damage along the North Carolina coast and the Outer Banks. Professor Hornstein has served for six years on the Board, as a member of its Reinsurance and Catastrophe Bond Committee, and as Chair of its Mitigation Committee.

Itzhak E. Kornfeld

Itzhak Kornfeld is the Giordano Research Fellow at the Faculty of Law of the Hebrew University of Jerusalem, in Israel. He holds a Sc.B. (geology), M.A.

(geochemistry), J.D. (Tulane), LL.M. (Georgetown), and LL.D./Ph.D. (Hebrew University). His main research interests are international environmental law, insurance law, human rights, and constitutional law, with a focus on how tribunals adjudicate natural resources and water law issues. He also researches energy law issues, concentrating on the human right to energy. He has written widely on these subjects. Dr. Kornfeld is currently finishing two books. The first is titled *ADJUDICATING INTERNATIONAL WATER DISPUTES IN NORTH AMERICA*, while the second is *DAM(N)ING NATURAL RESOURCES: DAMS AND THE DESTRUCTION OF PEOPLE AND THE ENVIRONMENT*. He was a co-founder and managing articles editor of the *Tulane Environmental Law Journal*, and clerked for the Honorable David I. Gertler, who was appointed by the Fifth Circuit Court of Appeals as a special master in a case involving complex property and oil & gas issues in Louisiana and Texas. Dr. Kornfeld worked as a petroleum geologist for ten years. He has litigated numerous environmental and energy cases, including a landmark CERCLA case of first impression, where the District Court held that City of Philadelphia's sewer systems were not *per se* exempt from CERCLA's definition of "facilities," for purposes of liability for contribution costs. *U.S. v. Union Corp.*, 277 F.Supp.2d 478 (E.D. Pa 2003). His blog: <http://itzchakkornfeld.com>.

Chad G. Marzen

Chad Marzen is an Assistant Professor of Legal Studies in Business at the College of Business at Florida State University, where he has taught courses such as The Legal and Ethical Environment of Business and the Legal and Political Aspects of Insurance. He grew up on a farm in north central Iowa. He received a B.A. from Grinnell College in 2005 and a J.D. from Saint Louis University in 2008. He practiced in an insurance defense law firm in Omaha, Nebraska for approximately two-and-a-half years between 2008 and 2011 before his appointment at Florida State University. He is a member of the state bars of Iowa and Nebraska. Professor Marzen is an author or co-author of approximately 24 published or forthcoming academic articles. His authored or co-authored articles have been published or are forthcoming in journals such as the *Baylor Law Review*, *San Diego Law Review*, *West Virginia Law Review*, *Journal of Insurance Regulation*, *Harvard Journal on Racial & Ethnic Justice*, *Virginia Law & Business Review*, *Journal of College and University Law*, *Texas Hispanic Journal of Law & Policy*, *Brigham Young University Journal of Public Law*, and the *William and Mary Environmental Law & Policy Review*, among others. His research interests are primarily focused on insurance law and policy issues, including federal crop insurance. He has testified via deposition as an expert witness in two crop insurance cases in federal court and has previously presented on federal crop insurance issues at both the Creighton University School of Law and the University of North Dakota School of Law. He is a recipient of the Distinguished Scholar Award from the Seabee Memorial Scholarship Association (2013).

Patricia A. McCoy

Patricia McCoy is a prominent U.S. scholar in financial services regulation and the Liberty Mutual Insurance Professor at Boston College Law School. In 2014, she moved to Boston College from the University of Connecticut School of Law,

where she was the Connecticut Mutual Professor of Law and Director of the Insurance Law Center. Professor McCoy's research interests focus on the nexus between financial products, consumer welfare, and systemic risk, analyzed through the lens of law, economics, and empirical methods. In 2010-2011, as a senior official at the Consumer Financial Protection Bureau she established the Mortgage Markets section and oversaw all of the Bureau's mortgage policy initiatives. Professor McCoy received her J.D. from the University of California at Berkeley. At law school, she was Editor-in-Chief of the *Industrial Relations Law Journal*. Following graduation, she clerked for the late Hon. Robert S. Vance on the U.S. Court of Appeals for the Eleventh Circuit. Before entering academe, Professor McCoy was a partner at the law firm of Mayer, Brown in Washington, D.C. Previously a member of the Consumer Advisory Council of the Federal Reserve Board of Governors and the board of directors of the Insurance Marketplace Standards Association, she now sits on the Advisory Committee on Economic Inclusion of the Federal Deposit Insurance Corporation. She spent the 2002-2003 school year as a Visiting Scholar at the MIT Economics Department. Professor McCoy's latest book, *THE SUBPRIME VIRUS*, was published by Oxford University Press in 2011 and written with Kathleen C. Engel.

Cynthia McHale

Cynthia McHale is the Director of the Ceres Insurance Program. She brings over twenty years of expertise working with many of the leading North American and European insurers, re-insurers and industry brokers. In her current role Ms. McHale is leading a campaign to promote the insurance industry's understanding and leadership on climate risks and opportunities. As risk managers, risk carriers and major institutional investors, insurers have a vital interest and play an important role in fostering society's response to global warming. Stronger insurance industry leadership on climate change issues will strengthen and accelerate our nation's transition to a clean energy future while helping to build a resilient and sustainable society. Before joining Ceres, Ms. McHale managed Accenture's Global Insurance Industry Program. She oversaw development, management and execution of the growth strategy for the global practice. Prior to this, as a strategy management consultant at Accenture, she worked directly with sector leaders to identify new opportunities for achieving profitable growth in a highly dynamic and competitive environment for risk reduction and transfer. She began her career as a casualty underwriter at GenRe, a Berkshire Hathaway company. She holds a B.A. in Government from Dartmouth and an M.S. in Management from Hult International Business School.

Peter Molk

Peter Molk is Assistant Professor of Law at Willamette University teaching contracts, business associations, securities regulation, and insurance. His research focuses on issues of business law and organizational choice, design, and ownership, as well as insurance law, and has been published in the *Iowa Law Review*, *University of Illinois Law Review*, and *Tulane Law Review*, among others. He received a J.D. and an M.A. in economics from Yale and a B.A. from Amherst. At Yale, he was articles editor of the *Yale Journal on Regulation*, an Olin Fellow in

Law, Economics, and Public Policy, and a Kauffman Fellow in Law, Economics, and Entrepreneurship. He received the Judge Ralph K. Winter Jr. prize for the best paper in law and economics. Professor Molk clerked for Judge Winter on the 2d Circuit and was a Visiting Assistant Professor at the University of Illinois. He has also worked as a valuation consultant on antitrust and energy matters.

Patrick A. Parenteau

Patrick Parenteau is Professor of Law and Senior Counsel in the Environmental & Natural Resources Law Clinic (ENRLC) at Vermont Law School. He served as Director of the VLS Environmental Law Center from 1993-1999 and was founding director of the ENRLC in 2004. Professor Parenteau has an extensive background in environmental and natural resources law. He was Vice President for Conservation at the National Wildlife Federation in Washington, D.C. (1976-1984); Regional Counsel to the New England Regional Office of the EPA in Boston (1984-1987); Commissioner of the Vermont Department of Environmental Conservation (1987-1989); and Senior Counsel with the Perkins Coie law firm in Portland, Oregon (1989-1993). Professor Parenteau has been drafting, litigating, teaching, and writing in the field for over 30 years, and currently focuses on climate challenges in his research, teaching, publishing, public speaking, and litigation. In 2005, he received the National Wildlife Federation's Conservation Achievement Award and in 2015 was elected to the American College of Environmental Lawyers. Professor Parenteau holds a Regis University B.S., a J.D. from Creighton, and an LL.M. in Environmental Law from George Washington University.

Zygmunt J.B. Plater

Zyg Plater is Professor of Environmental Law at Boston College. He has served on seven law faculties in the U.S. and abroad (fired by only one of them), teaching environmental, property, land use, and administrative law, and has worked abroad on environmental issues in Costa Rica, Colombia, Ethiopia, and Japan. He chaired the Alaska Exxon-Valdez Oil Spill Commission's legal task force, worked with his students on the Woburn toxics case chronicled in Jonathan Harr's book *A CIVIL ACTION*, and consulted on the BP Deepwater Horizon Blowout calamity. Working for embattled farmers, with his students' assistance he carried the first major Endangered Species Act case—a small fish versus the last TVA dam—through federal agencies, Congress, the White House, and the Supreme Court, in a saga often regarded by critics as “the most extreme environmental case ever.” A more realistic story is told in *THE SNAIL DARTER & THE DAM*, the saga of the tiny endangered fish's travels through the corridors of American power (Yale Univ. Press). He has a Princeton A.B., a J.D. from Yale, and an S.J.D. from Michigan.

Edward P. Richards

Edward Richards received his undergraduate degree in biology and behavioral science from Rice University, studied human physiology and biochemistry as a graduate student at Baylor College of Medicine, and physical chemistry and drug design at the University of Michigan. He received his J.D. from the

University of Houston and his masters degree in public health from the University of Texas School of Public Health. He is the Clarence W. Edwards Professor of Law at the Louisiana State University Law Center, and Director of the Program in Law, Science, and Public Health. He is currently researching the impact of sea level rise and climate change on coastal disaster risks. His publications include five books and more than 150 articles and chapter. He has been the Chair of the AALS Administrative Law Section and runs the Administrative Law Discussion Forum. He has worked on projects with the Centers for Disease Control and Prevention, the Department of Justice, the Department of Homeland Security, and several state health departments.

Christopher Serkin

Christopher Serkin was named Associate Dean for Research at the Vanderbilt Law School in 2015. He teaches and writes about land use and property law. His provocative scholarship addresses local governments, property theory, the Takings Clause, land use regulations and eminent domain. His articles have appeared in law reviews at the University of Chicago, Columbia University, University of Michigan, New York University, University of Notre Dame and Northwestern University. He is the author of *THE LAW OF PROPERTY, a Concept and Insights* book published in 2012, and a co-editor of a leading casebook, *LAND USE CONTROLS* (4th edition, 2013) with Robert Ellickson, Vicki Been and Roderick Hills. Before joining Vanderbilt's law faculty, Dean Serkin taught at Brooklyn Law School from 2005-2013. He has been a visiting professor at the University of Pennsylvania, the University of Chicago, and New York University. He began his academic career at New York University School of Law, where he taught for two years as an acting assistant professor in its Lawyering Program. After earning his J.D. at the University of Michigan School of Law, Dean Serkin was a law clerk for Judge John M. Walker Jr. of the U.S. Court of Appeals for the Second Circuit and for Judge J. Garvan Murtha of the U.S. District Court for the District of Vermont.

Sophie Smyth

Sophie Smyth is an Associate Professor of Law at Beasley School of Law, Temple University, Philadelphia, where she teaches International Financial Law, International Development Law and Policy, and Contracts. Her research focuses on legal vehicles for collective action in development and environmental finance, about which she has published extensively. Her most recent publications appear in the *Harvard Journal of Health and Human Rights*, the *Kansas Law Review*, the *University of Pennsylvania Journal of International Law*, and the *Georgetown Journal of International Environmental Law*. Prior to joining Temple Law School, Professor Smyth was a Senior Counsel in the Legal Vice Presidency of the World Bank. Professor Smyth is a law graduate of Trinity College, Dublin and also holds graduate law degrees from Oxford University, England and Georgetown University Law Center. Following her graduation from Georgetown, she served as Judicial Clerk for the late Judge Hugh Bownes on the Court of Appeals for the First Circuit.

Anastasia Telesetsky

Anastasia Telesetsky is an Associate Professor at the University of Idaho College of Law in the Natural Resource and Environmental Law Program where she teaches environmental law and international environmental law. She has taught summer courses at Renmin University and the Chinese University of Political Science and Law in Beijing. Professor Telesetsky is currently on sabbatical and is a visiting research fellow at Stanford University Law School. She is currently co-chair of the American Bar Association's Section of International Law's International Environmental Law Committee and a member of the research committee of the Green Growth Knowledge Platform's group focused on Green Growth and Law. Professor Telesetsky is an active member of the International Union for Conservation of Nature's World Commission on Environmental Law. She is the co-editor of a recent volume on international disaster response law. Her LL.M. thesis at the University of British Columbia explored the potential of climate change insurance as a tool for adaptation and mitigation. She received her J.D. from the University of California-Berkeley.

David A. Wirth

David Wirth is Professor of Law at Boston College Law School, where he teaches primarily in the field of public international law, with a specialty in international environmental law. Professor Wirth began his career as Attorney-Adviser for Oceans and International Environmental and Scientific Affairs in the Office of the Legal Adviser of the U.S. Department of State in Washington, D.C., where he had principal responsibility for all international environmental issues. Prior to entering academia, Professor Wirth was Senior Attorney and Co-Director of the International Program at the Washington, D.C. office of the Natural Resources Defense Council. He is a 1981 graduate of the Yale Law School and served as law clerk to Judge William H. Timbers of U.S. Court of Appeals for the Second Circuit in New York for a year thereafter. He holds undergraduate and graduate degrees in chemistry from, respectively, Princeton and Harvard Universities. Professor Wirth is the author of more than fifty articles and reports on international environmental law and policy for legal, academic, professional, and popular audiences. He is a life member of the Council on Foreign Relations.



The Law Review's Symposium Issue – Two Additional Articles

Articles in the Spring issue of Volume 43 of the *Environmental Affairs Law Review*, in addition to the papers presented at this “Who Will Pay...” November climate change/insurance symposium, will also include two additional articles from contributors who were not able to be with us for the day's presentations.

So that symposium attendees may have a present introduction to these additional forthcoming articles, Professors David Dana and Peter Molk have prepared the following Abstracts for their symposium articles –



“Government's Role in Climate Change Insurance”

Peter Molk, Willamette University College of Law

Abstract: There are currently no robust insurance markets for climate change insurance. While these markets would provide valuable loss-avoidance incentives, at the same time giving financial certainty to individuals and businesses that face staggering future liabilities, existing efforts have produced only a fragmented set of private and public products that provide piecemeal coverage. This article examines the government's role in providing unified markets for insuring climate change risk. Although innovations in reinsurance markets suggest that private insurers could cover discrete risks associated with climate change, such as flood or wind loss, climate change's broader systemic risks present problems of scale and scope that public insurance is better positioned to handle. Government-provided insurance for climate change is therefore a necessary part of any potential climate change solution. The article draws lessons from existing insurance programs to show both why purely private insurance would be inappropriate for a robust climate change insurance market, as well as how a nationally provided insurance program could be designed to avoid past problems.



“Incentivizing Municipalities to Adapt to Climate Change: Takings Liability and Mandatory Flood Insurance as Two Possible Solutions”

David Dana, Northwestern University School of Law

Abstract: Municipalities are central to how well, or not, the United States adapts to climate change and its attendant increases in extreme weather, change in sea level, and flooding. Given the very strong tradition of localism in the United States, and the need for adaptation to be tailored to conditions on the ground, an effective adaptation regime requires municipalities making sensitive decisions that are informed by the best available information regarding weather and sea level. While some municipalities have taken a leadership role with respect to climate change, others have not taken efforts to adapt to climate change or have taken only minimal steps. One relevant question then becomes: how can municipalities that have not taken adequate measures to address catastrophe risks be incentivized to do so? This Article considers two possible ways to incentivize otherwise reluctant municipalities – altering Takings Clause liability

for municipalities that take inadequate measures to protect private property from climate change, and enhancing requirements that municipalities carry third-party insurance against flood and storm damage as a condition for receiving disaster aid. The Article concludes that the Takings Clause solution is undesirable, both because it is doctrinally problematic and because it could create perverse incentives for municipalities to channel the risks of climate change onto the most vulnerable populations and perverse incentives for property owners not to take actions on their part to adapt to climate change risks. By contrast, mandatory insurance requirements, properly configured, could have a number of good effects: bringing third-party insurers in as de facto regulators and sensitizing municipal leaders to climate change risks they otherwise might be motivated to ignore. Thus, enhanced mandatory insurance may help lead the strategic retreat from flood-prone areas that climate change arguably calls for. Part I provides the legal background for the Takings Clause liability approach, describing recent case law, such as *Arkansas Game, Big Oak*, and the post-Katrina litigation. Part II explains why the various takings claims are problematic under current case law and in terms of government and private property owner incentives. Part III explains why the current flood and storm insurance and post-flooding federal aid regime provides perverse incentives for municipalities in the process of adaptation to climate change. Part IV sketches an improved, mandatory insurance regime and argues that it would generate net social benefits and may be politically feasible.

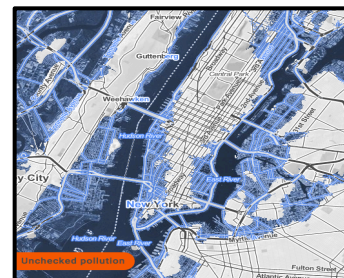


Some Relevant Materials on Climate Change and Insurance

For symposium attendees and interested observers, the law review offers here a far-from-comprehensive collection of citations to various materials that may be useful and relevant to continued thoughtful study and analysis of issues presented at the intersection of climate disruption and public and private insurance systems. (For workable links, see this program posted at <http://ealr.bclawreview.org>)

- Cambridge Institute for Sustainability Leadership, *Insurance Regulation for Sustainable Dev't: protecting human rights – climate risks & natural hazards* (2015), <http://www.cisl.cam.ac.uk/publications/sustainable-finance-publications/insurance-regulation-for-sustainable-development>
- Ceres, <http://www.ceres.org/resources/reports/insurance>
 - *Insurer Climate Risk Disclosure Survey Report & Scorecard: 2014 Findings & Recommendations* (Oct. 21, 2014)
 - *Building Resilient Cities: From Risk Assessment to Redevelopment* (Dec. 5, 2013)
 - *Building Climate Resilience in Cities: Priorities for Collaborative Action* (Dec. 5, 2013)
- Climate Central, *Interactive maps: sea-level rise*, <http://sealevel.climatecentral.org/>
- Sean Hecht, *Climate Change and the Transformation of Risk: Insurance Matters*, 55 UCLA L. REV. 17559 (2008)
- **Peter Kochenburger** & Joseph MacDougald, *Climate Change and Insurance*, 417 JOHN MARSHALL L. REV. 719 (2013)
- Richard Lord, et al., eds., *CLIMATE CHANGE LIABILITY: TRANSNATIONAL LAW AND PRACTICE* (2012)
- Evan Mills, Lawrence Berkeley Nat'l Laboratory, *Insurance & Climate Change: Proactively and Profitably Managing The Risk*, <http://evanmills.lbl.gov/presentations/insurance-and-climate.pdf>
- Evan Mills, *The Greening of Insurance*, 338 SCIENCE 1424 (2012), <http://evanmills.lbl.gov/pubs/pdf/science-2012-mills-1424-5.pdf>
- PNAS (Proceedings of the National Academy of Sciences – U.S.A.), *Carbon Choices Determine US cities Committed to Futures Below Sea Level*, <http://www.pnas.org/content/early/2015/10/07/1511186112.full.pdf?with-ds=yes>
- Swiss Re, *Why Insurers Care about Climate Change* (2015), http://www.swissre.com/rethinking/climate_and_natural_disaster_risk/Why_insurers_care_about_climate_change.html
- *Symposium Issue on Climate Change & Insurance Law*, 20 CONN. INS. L.J., Issue 1 (2013), <http://insurancejournal.org/wp-content/uploads/2014/02/28751-Conn-Ins-Text-20-1-c2.pdf>
- The Geneva Association, <https://www.genevaassociation.org/search?Search=climate>

Manhattan awash:



Notes

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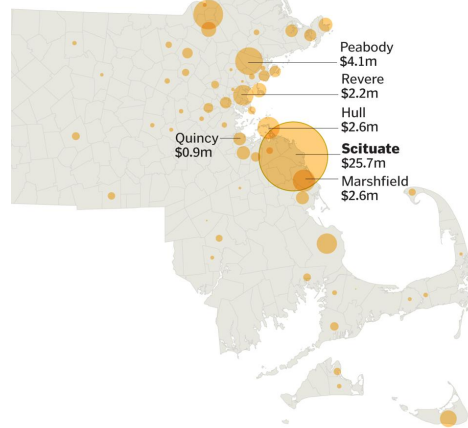
Notes

A flood of damage

Massachusetts communities with the most homes that are severely and repeatedly flooded.

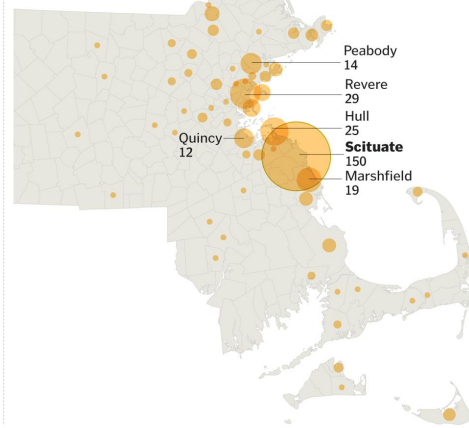
DATA AS OF JANUARY 2014

Total claims paid since 1978 for severe repetitive loss properties

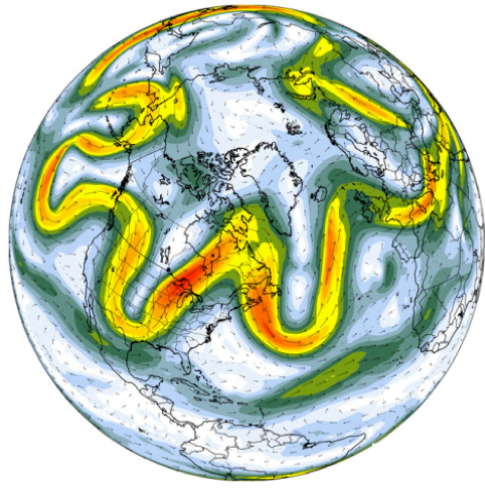


SOURCE: Federal Emergency Management Agency

Number of severe repetitive loss properties



CHIQUI ESTEBAN/GLOBE STAFF



Jet Stream,... fauœ