



COLUMBIA LAW SCHOOL

CENTER FOR CLIMATE CHANGE LAW



# Threatened Island Nations:

## Legal Implications of Rising Seas and a Changing Climate

Center for Climate Change Law, Columbia Law School  
Republic of the Marshall Islands

Columbia Law School  
435 W. 116<sup>th</sup> St. (at Amsterdam Ave.)  
New York, New York

May 23-25, 2011

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## Threatened Island Nations:

### Legal Implications of Rising Seas and a Changing Climate

Columbia Center for Climate Change Law and the Republic of the Marshall Islands

May 23-25, 2011

#### Day 1: The Status Quo: Shifting Legal Options in a Changing World – Monday, May 23

**Registration and Continental Breakfast** **8:15AM – 9:00AM**

**Introductory Session** **9:00AM – 10:15AM**

Michael Gerrard, *Columbia Law School*

Honorable John Silk, *Foreign Minister, Republic of the Marshall Islands*

Mary-Elena Carr, *Earth Institute, Columbia University*

**Morning Break** **10:15AM – 10:30AM**

**Statehood and Statelessness** **10:30AM – 12:15PM**

Jenny Grote Stoutenburg, *University of California Berkeley*

Maxine Burkett, *University of Hawai'i Law School*

Ambassador Phillip Muller, *Republic of the Marshall Islands*

***Political Discussion to Follow***

**Lunch** **12:15PM – 1:30PM**

**Preserving Marine Rights: Fishing and Minerals**

**1:30PM – 3:00PM**

Alfred Soons, *Utrecht University*

David Freestone, *George Washington University Law School*

Ann Powers, *Pace Law School*

Rosemary Rayfuse, *University of New South Wales*

***Political Discussion to Follow***

**Afternoon Break**

**3:00PM – 3:30PM**

**Legal Remedies**

**3:30PM – 5:30PM**

Jacob Werksman, *World Resources Institute*

Donna Green, *University of New South Wales*

Dean Bialek, *Independent Diplomat*

Antonio Oposa, *University of the Philippines*

***Political Discussion to Follow***

**Reception**

**5:30PM – 7:00PM**

**Screening: “Sun Come Up”**

**7:00PM – 7:45PM**

**Day 2: What Can Be Done to Help, and How to Do It – Tuesday, May 24**

**Registration and Continental Breakfast**

**8:15AM – 9:00AM**

**Resettlement and Migration Issues**

**9:00AM – 11:00AM**

John Van Dyke, *University of Hawai'i Law School*

Brad Blitz, *Kingston University London*

Les Stein, *Columbia Law School*

Robin Bronen, *Alaska Immigration Justice Project*

***Political Discussion to Follow***

**Morning Break**

**11:00AM – 11:15AM**

**Existing Legal Structures**

**11:15AM – 1:00PM**

Ilona Milar, *Baker & McKenzie*

Michele Klein Solomon, *International Organization for Migration*

Katrina Wyman, *New York University Law School*

***Political Discussion to Follow***

**Lunch**

**1:00PM – 2:15PM**

**A New International Convention?**

**2:15PM – 4:00PM**

Michel Prieur, *Centre International de Droit*

David Hodgkinson, *University of Western Australia*

Jane McAdam, *University of New South Wales*

***Political Discussion to Follow***

**Afternoon Break**

**4:00PM – 4:30PM**

**The Way Forward**

**4:30PM – 6:00PM**

Michael Gerrard, *Columbia Law School*

Ambassador Phillip Muller, *Republic of the Marshall Islands*

**Low Library Reception**

**6:00PM – 7:00PM**

**Low Rotunda Dinner and Keynote**

**7:00PM – 9:00PM**

**Day 3: Domestic Options for Small Island States – Wednesday, May 25**

**Registration and Continental Breakfast** **8:15AM – 9:15AM**

**Engineering for the Future** **9:15AM – 11:15AM**

*Joosueb Lee, Korea Global Green Growth Institute*

*Klaus Jacob, Columbia University*

*Erin Coughlan, Columbia University*

*Albon Ishoda, Republic of the Marshall Islands*

*Murray Ford, University of Hawai'i*

**Morning Break** **11:15AM – 11:30AM**

**Law and Policy Choices** **11:30AM – 1:15PM**

*Justin Rose, University of the South Pacific*

*Siobhan McInerney-Lankford, World Bank*

*Chanho Park, Korea Global Green Growth Institute*

**Lunch** **1:15PM – 2:30PM**

**Concluding Session** **2:30PM – 4:00PM**

*Michael Gerrard, Columbia Law School*

*Ambassador Phillip Muller, Republic of the Marshall Islands*

**Reception** **4:00PM – 5:00PM**

## Poster Presentations

*Posters will be shown outside the panel rooms on the days noted below. On other days, posters will be shown in the dining area. For more poster information, visit the table located outside of Jerome Greene Room 104.*

### **Monday, May 23, 2011**

#### ***Alternative Sovereignty “Models” for Island States***

*Presenters:* Lilian Yamamoto, *United Nations University – Institute of Advanced Studies*

Miguel Esteban, *Waseda University*

*Contact:* [yamamoto@ias.unu.edu](mailto:yamamoto@ias.unu.edu), [esteban.fagan@gmail.com](mailto:esteban.fagan@gmail.com)

#### ***How Much for that State?: Valuing Intangible Assets Such as Statehood and Nationality***

*Presenter:* Benoit André, *University of British Columbia*

*Contact:* [benoitandrebe@hotmail.com](mailto:benoitandrebe@hotmail.com)

#### ***Is Climate Change Drowning Tuvalu’s Sovereignty?***

*Presenter:* Efren Jogia, *University of the South Pacific*

*Contact:* [avadra.kedavra@gmail.com](mailto:avadra.kedavra@gmail.com)

#### ***Right to Self-determination and the People of Disappearing Island States: Challenges and Responses***

*Presenter:* Mostafa Naser, *Macquarie University Australia School of Law*

*Contact:* [mnaserbd@gmail.com](mailto:mnaserbd@gmail.com)

#### ***Transboundary Climate Change to Coal: One Small Step Against a Dirty Energy, One Giant Leap for Climate Justice***

*Presenters:* Kristin Casper, *Greenpeace International*

Maketo Robert, *Federated States of Micronesia*

Leonito (Jun) Bacalando, Jr., *Federated States of Micronesia*

Jasper Teulings, *Greenpeace International*

Jan Šrytr, *Environmental Law Service*

*Contact:* [kristin.casper@greenpeace.org](mailto:kristin.casper@greenpeace.org)

***Compensating Climate Injustice?***

Presenters: Jeni Barcelos, *University of Washington School of Law*

Jennifer Marlow, *University of Washington School of Law*

Contact: [jeni@threedegreeswarmer.org](mailto:jeni@threedegreeswarmer.org), [jen@threedegreeswarmer.org](mailto:jen@threedegreeswarmer.org)

**Tuesday, May 24, 2011**

***Anticipating a Condition of “Deterritorialized Statehood” for Small Island States: Examining the Ethical and Practical Responsibilities of Major Emitter Nations***

Presenter: Nicole Marshall, *University of Alberta*

Contact: [nicole2@ualberta.ca](mailto:nicole2@ualberta.ca)

***Climate Change and Human Rights in the Caribbean: Threatened Islands and Threatened People***

Presenter: Ian Rampersad, *Trinidad and Tobago*

Contact: [irampersad@ag.gov.tt](mailto:irampersad@ag.gov.tt)

***The Legal Treatment of Climate-Induced Immigrants under International Law***

Presenter: Carolina Claro, *University of Brasilia*

Contact: [cclaro@gmail.com](mailto:cclaro@gmail.com)

***Preparing for the Future by Studying the Issues of Today: A Look at the Marshallese Community in Arkansas***

Presenter: D'lorah Hughes, *University of Arkansas Law School*

Contact: [dlhughes@uark.edu](mailto:dlhughes@uark.edu)

***International Regulation of Persons Displaced by Climate Change***

Presenters: Rowena Maguire, *Queensland University of Technology*

Louise Kruger, *Queensland University of Technology*

Contact: [r.maguire@qut.edu.au](mailto:r.maguire@qut.edu.au), [lm.kruger@connect.qut.edu.au](mailto:lm.kruger@connect.qut.edu.au)

***Sinking Sands: Adaptation of Immigration Policies for the “Well-Founded Fear” of Climate Change in the Caribbean***

Presenter: Glenys Spence, *Phoenix School of Law*

Contact: [gspence@phoenixlaw.edu](mailto:gspence@phoenixlaw.edu)

**Wednesday, May 25, 2011**

***Energy Systems for Threatened Island States***

*Presenter:* Eric Stoutenburg, *Stanford University*

*Contact:* [estout@stanford.edu](mailto:estout@stanford.edu)

***Ensuring Reliable and Safe Water Access for All Through a Stronger Legal Framework in a Context of Changing Climate on Funafuti, Tuvulu***

*Presenters:* Lan Berg, *University of Oslo*

Florent Baarsch, *Euromed Marseille*

*Contact:* [lan.marie@gmail.com](mailto:lan.marie@gmail.com), [florent.baarsch@gmail.com](mailto:florent.baarsch@gmail.com)

***Nānā I Na Kānāwai O Kēia Pae ʻĀina (Look to the Laws of this Land)***

*Presenters:* Deanna Spooner, *Pacific Islands Climate Change Cooperative*

Trisha Watson, *Honua Consulting*

*Contact:* [deanna.spooner@plccc.net](mailto:deanna.spooner@plccc.net), [watson@honuaconsulting.com](mailto:watson@honuaconsulting.com)

***Strengthening Water Resilience to Climate Change in Majuro Atoll***

*Presenter:* Mark Stege, *Marshall Islands*

*Contact:* [markstege@gmail.com](mailto:markstege@gmail.com)

***Voices from the Village: The USP Climate Change & Migration Project***

*Presenter:* Jonathan Kawakami, *University of the South Pacific*

Justin Rose, *University of the South Pacific*

*Contact:* [lasaburo77@gmail.com](mailto:lasaburo77@gmail.com)

## **Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate**

**Summary Paper for Columbia Conference  
May 23-25, 2011**

This conference will convene legal and policy experts from around the world to address legal questions arising from the impacts of global climate change, particularly rising sea levels, on small island nations. The below topics will be discussed during the three-day conference. Several of these questions remain unresolved in international law, and so no hard conclusions can be offered; however, the participants will propose tentative predictions under the status quo, as well as exploring a range of methods for altering the status quo through legal innovation, diplomatic activity, and active planning.

One key goal of the conference is to build and strengthen bridges between academic expertise and avenues of political response. While there may not be immediate answers to fully resolve these complex topics, and a diverse range of views may be presented, urgency demands that creative engagement be mobilized. The complex, long-term risks can be reduced through immediate results in practical adaptation measures as well as global action in reducing harmful emissions. Nevertheless, the time has now come for increased dialogue and understanding of such difficult long-term risks, fully acknowledging their deep sensitivity.

Although there are inevitable inaccuracies in any climate-related prediction, the consensus is that without any remediating activity the Marshall Islands and other low-lying island nations around the world could become uninhabitable in a matter of decades – a serious security risk which can no longer be ignored. Sea level rise will be particularly acute in the Pacific and other island regions where increased intensity and severity of weather patterns, including “King Tide” events, may overwhelm domestic infrastructure and water supplies, as well as local ecosystems. Another climate impact that will particularly harm these nations will come from ocean acidification, which could kill off local coral species (among the most diverse in the world), depleting fish reserves and potentially further undermining the physical stability of the islands.

If permanent communities are forced to move elsewhere, however unacceptable such a scenario may be, unprecedented questions arise under customary international law about the legal status of both the nations and their citizens. Specifically, can a deterritorialized state maintain sovereignty in international law if its citizens live exclusively within another country’s borders, and how does this change if the land is completely submerged versus merely becoming uninhabitable? Further, what becomes of the citizens of a deterritorialized nation, and will they have access to secondary citizenship in any new destinations? Customary international law resolves sovereignty issues as a mixed question of law and fact, looking for a defined territory, permanent population, effective government, and some degree of international recognition. In this context, the first two considerations will pose the greatest burden for states wishing to maintain sovereignty. However, there is limited precedent in the international system for deterritorialized states; and existing sovereignty requirements, as customary law, may be overridden by an international consensus to redefine statehood.

Of particular concern to many of these islands is continued access to their maritime territories, particularly their Exclusive Economic Zones (EEZs), which provide critical fishing rights and access to other marine resources. As currently set by the United Nations Convention on the Law of the Sea (UNCLOS), EEZs extend 200 nautical miles from the shore. However, the Convention is not clear regarding permanent boundaries, and so, from one perspective, traditionally EEZs would recede along with the coast if sea levels rose. Several scholars have suggested alternatives to this, which include agreeing to freeze baselines (at current shore extent) or set exact EEZ boundaries, artificially propping up coastlines, reinterpreting UNCLOS, and in certain conditions entering bilateral agreements. This problem is particularly severe for small islands, because substantial marine territory – as much as 40,000 square nautical miles - could be threatened with the submersion of a single island, and because the potential loss of sovereignty could also affect their rights to maintain any marine territory. Resolving these issues may require legal innovations both within and outside of the UNCLOS framework, and may call into question current conceptions of sovereignty.

If certain small island nations become uninhabitable, their populations will have to move somewhere, but it remains unclear where they would go. On the international level, refugee law as defined by the 1951 Convention on Refugees perhaps might not apply to persons displaced by climate change (although subsequent clarifying agreements applying to Africa and the Americas might), and there is no international obligation for any particular country to take in such migrants. Similarly, protections in the United States and Europe for victims of environmental disasters are temporary, and leave no path to full residency. In response, individual nations may turn to existing agreements and relationships with potential destination countries. Domestic immigration laws in certain countries may also be used.

Options also exist in international institutions to provide more aid and support to climate-displaced peoples. Traditional institutions that could be integral to this effort include the International Organization on Migration and the United Nations High Commissioner for Refugees. The United Nations Framework Convention on Climate Change (UNFCCC) may also be of potential use in organizing resettlement activities. This is particularly true following the outcome of the 2010 Conference of the Parties in Cancun, which recognized the importance of “measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement...at national, regional and international levels.” The UNFCCC could perhaps address aspects of this issue through its loss and damage work plan, including aspects relating to slow onset effects. Some scholars have suggested that such reinterpretation and utilization of existing treaties and institutions are sufficient to address existing adaptation needs. Others disagree and have instead called for a new convention to protect the rights of environmentally displaced peoples. The proposals vary in their application and administrative structure, but all create refugee-like protections for qualifying environmental victims.

If people are forced to resettle, many have argued that they should be able to recover damages for harms received. However, the authority for such litigation remains unclear. Substantively, there are several possible bases for establishing a violation of international law, including breach of treaty claims under the UNFCCC, the human right of self-determination, the duty under the World Heritage Convention to “preserve natural and human heritage,” UNCLOS protections against ocean acidification, and theories in tort and certain other areas of the law. To the extent that violations are established,

there is some question whether damages or injunctive relief are most appropriate, and there may be important questions to be addressed in defining an appropriate remedy, if indeed, one exists.

A more difficult question is which courts could hear such claims and enforce remedies, if such remedies are possible. The International Court of Justice is empowered by Chapter XIV of the UN Charter as the principal judicial organ of the UN, but with limited powers, including advisory opinions; and certain treaties, including the UNFCCC (Article 14.6), offer similarly advisory commissions which could perhaps hear such cases. Access to domestic courts in key major emitters is similarly uncertain. Some have argued that domestic courts established by the small island nations themselves may provide an alternative source of jurisdiction; but such efforts remain mostly theoretical.

If, indeed, resettlement is a politically acceptable scenario (and it may not be), questions also arise around exactly how any resettlement would be organized. Preparations should be made far in advance of any actual movement, and could come in three stages. First, basic housing and life-supporting infrastructure would be planned. Second, the political relationships between displaced nationals and host states would need to be resolved, including questions of joint citizenship, access to social services (including healthcare and education), and what level of autonomy such communities might have. And finally, community cohesion would be important. Any new communities should do more than provide housing; they should be structured to promote livelihoods and preserve critical familial and community bonds. An especially complex issue in a resettlement scenario may include addressing personal and cultural identification with land, including conceptions under traditional customary law. Many different mechanisms for organizing this process are possible, from local ordinances to international planning.

This conference poses a range of challenging legal questions – and active planning should be no less ambitious. Many island nations have expressed interest in transformative shifts to low-carbon pathways, including, for some, carbon neutrality both to ensure energy security as well as to spur global action by larger nations. Scholars are examining design options to effect such an immediate and fundamental energy shift in island nations. Further, resettlement should always be considered a last, worst-case scenario, even if it is an acceptable scenario. Several scholars are examining innovative, long-term adaptation options so that island nationals can remain on their homelands for as long as possible. Design possibilities range from island-wide structural projects such as sea walls and large-scale sand imports, to more individualized solutions in innovative housing design. On more remote, less-populated islands such activities may be more difficult or complex.

To enable any necessary physical and social changes, small island governments would need to update existing institutions to prepare administratively for sea level rise and possible relocation. Possibilities to be discussed at the conference include addressing property systems to account for changing landscapes, developing new budget priorities, establishing targeted insurance regimes to allow for individual recovery, and above all, informing populations about risks and future contingencies.

This conference will seek to address many of the above legal questions, and to begin the critical dialogue for resolving those which cannot now be answered.

## Abstracts

### Panelists

#### **Dean Bialek**

##### *Ocean Acidification – Making the Polluters Pay for the ‘Second Big Impact’ of Higher Atmospheric Concentrations of CO<sub>2</sub>*

As the Earth’s largest carbon sink, the oceans continue to absorb a large proportion of atmospheric CO<sub>2</sub>, quickly increasing the acidity of the oceans, with potentially devastating impacts, including the degradation of coral reefs and the collapse of entire segments of the marine food web. For these reasons, ocean acidification has been referred to as “the other half of the CO<sub>2</sub> problem”. The science behind the causes of ocean acidification is easily understood and predictable, perhaps even more so than the causal linkages between the greenhouse effect and global warming. But the traditional ‘global warming’ focus of efforts to counter increasing CO<sub>2</sub> emissions has left ocean acidification without a natural policy home. Public awareness of the problem is therefore weak, making it difficult for any groundswell of interest to form so it becomes a serious factor in driving policy action on climate change.

One international strategy to address this gap would be for a group of countries most vulnerable to the impacts of ocean acidification – such as atoll island countries and archipelagic states reliant on the health of coral systems for their fish-fed livelihoods and tourism – to champion an international response to the issue, including the possible threat of action in an international court or tribunal.

International litigation would be seen as a relatively aggressive diplomatic response, and would generate significant public attention, but would need to be weighed carefully by relevant countries against a variety of complex legal and political considerations. An action based around marine pollution-related obligations and the dispute settlement procedures under the UN Convention on the Law of the Sea appears to offer the most fertile ground for success, and might be pre-empted by a request for an advisory opinion to clarify the relevant legal principles in advance, and thereby help to reduce both the political and litigation risks.

In addition, much could be done in advance, or indeed while building a legal case, to raise public awareness, educate the broader populace and, through a targeted diplomatic campaign, bring the seriousness of ocean acidification to the attention of policy-makers, in turn enhancing the economic and environmental arguments in favour of reduce CO<sub>2</sub> emissions as quickly as possible.

#### **Brad K. Blitz**

##### *Statelessness, Protection and the Challenges of Resettlement*

More than 20 years ago the Intergovernmental Panel on Climate Change (IPCC) stated that that the greatest single impact of climate change could be on human migration. Over the past two decades, there has been increasing acceptance that both dramatic and cumulative changes in climatic patterns present a major challenge to the security of people across the developing world, giving rise to potentially unprecedented forms and levels of migration. Yet, in spite of the growing consensus of the

dangers that extreme weather events pose to human security, there has been little focus on the prospect of resettlement. This paper explores the challenges of resettling vulnerable populations and evaluates attempts at 'national rescue' by national governments and communal organizations in the South Pacific and Indian Ocean. It makes the case that the existential nature of the threat posed to these and other populations introduces the prospect of statelessness and thus opens the doors to UNHCR and alternative protection mechanisms including resettlement.

### **Robin Bronen**

#### *Climate-Induced Displacement: An Adaptive Governance Response Based in Human Rights*

Several Alaskan indigenous communities have concluded that relocation is the only durable solution to the climatic events that are threatening their lives. In 2006, a US government report confirmed that relocation is required because a catastrophic climatic event could submerge them within 10-15 years. Despite these dire predictions no community has been relocated. Government agencies have no mandate or funding for relocation. Their mission of disaster relief is limiting their ability to relocate communities. Despite these challenges, one community, Newtok is in the process of relocation. Climigration is the word that best describes this type of displacement. Climigration requires a unique adaptive governance framework based in human rights doctrine.

Communities, rather than individuals, will be forced to migrate. Permanent relocation will be mandated because there will be no ability to return home because home will be under water or sinking in thawing permafrost. Catastrophic random environmental events, such as hurricanes, do not cause climigration. However, these random environmental events, if on-going, may alter ecosystems permanently, cause extensive damage to public infrastructure, repeatedly place people in danger and require communities to relocate. Determining which communities are most likely to encounter displacement will require a complex assessment of a community's ecosystem vulnerability to climate change, as well as the vulnerability of its social, economic and political structures. Permanent relocation must only occur when there are no other durable solutions. Newtok's relocation provides a model for other communities faced with climate-induced threats to lives, livelihoods and critical infrastructure. An adaptive governance framework must be created to ensure that the human rights of individuals and communities forced to relocate are protected.

### **Mary-Elena Carr, Madeleine Rubenstein, Alice Graff and Diego Villareal**

#### *Sea Level Rise: What Do We Know?*

One of the most cited consequences of anthropogenic global warming is the rise in sea level, as warming water expands and land-based ice melts and runs into the sea. Sea level measured by tide gauges and satellites has risen since 1900; it is currently increasing at over 3mm/year. This rise is not uniform throughout the globe. In some regions, such as the western Pacific and southeast Indian Oceans, the increase is up to three times more than average, primarily due to thermal expansion. The 2007 Fourth Assessment Report of the Intergovernmental Panel on Climate Change projected an increase of 18-60 cm by 2100 (relative to 1990) for different socio-economic scenarios and models, without including rapidly melting polar ice sheets. A recent estimate that considers the most likely responses of the

Greenland and West Antarctic Ice Sheets is 80 cm. A projection of 75 to 190 cm is derived by calculating sea level from temperature based on past conditions. Since many reef islands and atolls have average heights only a few meters above sea level, even the lower end of the projections elicit concern. Sea level impacts on reef islands are not limited to flooding of low lying areas or erosion of the shoreline, but also include saline intrusion into groundwater and an increased vulnerability to storms and wave action. Other human activities, such as groundwater use, coastal construction, and reef degradation aggravate the impacts of rising sea level.

Here we examine the state of the knowledge of current sea level change, as well as future projections of sea level rise and other aspects of climate change such as precipitation variability and extreme weather events. We emphasize the characteristics of small island states that rend them particularly vulnerable to climate change, and place that vulnerability in a human context by examining the ways in which human activities and systems will be impacted by and/or will exacerbate the expected impacts of a changing climate.

### **Erin Coughlan**

#### *An Overview of Possible Adaptation Strategies for the Marshall Islands*

Conventionally, adaptation strategies have been broadly categorized into measures that protect against change, measures that accommodate change, and measures that enable people to retreat and avoid the worst effects of climate change. Our approach suggests that a mixture of these options is likely to be the most effective at addressing both climate variability and change, and a hybrid approach is suggested. This can be applied at all scales, and can be incorporated into household, regional, and national-level decisions to increase adaptive capacity in the face of sea level rise and rainfall fluctuations.

To apply this to the context of climate change in low-lying islands, an overview of several options for each category and scale will be discussed. These range from household design and waterproofing, to vegetation interventions and reverse osmosis systems. This will be followed by a discussion of the local context of the Marshall Islands, including examples of how adaptation is being carried out in this setting, and considerations for applying a subset of the listed ideas.

### **Murray Ford**

#### *Local Scale Variability of Atoll Island Vulnerability: Challenges for Effective Adaptation Planning*

The Marshall Islands are widely considered to be amongst the most vulnerable countries with respect to the impacts of climate change. Despite widespread discussions of climate impacts on atoll islands, existing national evaluations of vulnerability frequently lack local assessment of the physical impacts of environmental change on non-urbanized reef islands. Studies tend to be undertaken at the national or regional scale and typically focus on the islands with the largest populations. The focus on urban atolls does not reflect the vulnerability of communities on remote outer islands. Initial findings from a number of outer island assessments suggest a high degree of variability in both the physical and social characteristics of island communities and resultant vulnerability profiles. Presently, there is limited local capacity to produce scientifically sound assessments of the vulnerability of rural communities to the impacts of sea-level rise. The following paper outlines initiatives to strengthen the capacity of various

stakeholder groups to undertake physical vulnerability assessments, through community-level training. A number of case studies from several RMI atolls provide a focus for discussion of local scale variations of island vulnerability, as well as the potential implications for adaptation planning.

**David Freestone and Clive Schofield**

*Holding Back the Waves? Options to Secure Maritime Jurisdictional Claims in the Face of Global Sea Level Rise*

“Buy land. They’ve stopped making it.” – Mark Twain. Although Twain’s flippant comment is not quite true as “they” have not stopped making land (which continues to grow as a result of a variety of natural processes), it is the case that more land is under threat of disappearing than is being created. It is now widely accepted that the significant sea level rise is taking place and that this phenomenon is likely to accelerate. This poses potentially disastrous implications for many coastal States, especially those with large and heavily populated low-lying coastal areas and small low-lying island States. Among these threats is the likely impact of rising sea levels on national claims to maritime jurisdiction.

This threat arises in particular because coastal State baselines along the coast predominantly consist of ‘normal’ low-water line and the traditional linkage between ambulatory normal low-water baselines and the limits of maritime zones of jurisdiction dictates that as normal baselines recede as a consequence of sea level rise, so too the maritime zones measured from such baselines will also retreat leading to erosion in the scope of the coastal State’s maritime claims. Further, sea level rise has the potential to threaten insular status and this, in turn, may have major knock-on impacts on the capacity of a feature to generate maritime jurisdictional claims.

This paper explores three main issues in this context. Firstly, a global overview of the potential impacts of sea level rise on coasts and thus baselines/islands is offered with a view to highlighting the likely uneven impacts of this phenomenon. Secondly, the paper explores the pros and cons associated with the proposed fixing of normal baselines and/or the maritime jurisdictional limits derived from them. Thirdly, it has been suggested that a number of island States ultimately face the dire prospect of total inundation of their territory, raising further complex and serious legal questions marks over the preservation of national maritime claims.

The paper explores and assesses some of the legal and technical options and proposals open to coastal States seeking to address and adapt to the challenges posed to their maritime jurisdictional rights by sea level rise, drawing on the relevant scholarly literature that has developed on this topic over (at least) the past two decades.

**Donna Green and Kirsty Ruddock**

*What Legal Recourse Do Non-State Islands Have to Obtain Resources to Adapt to Climate Change?*

This paper uses a series of case studies to draw parallels between non-state islands attached to major nations in order to discuss the issue of liability for the impacts of climate change, and consequently the responsibility to pay for adaptation and mitigation activities. This approach is taken because the impacts from climate change on island communities have not been sufficiently addressed during the

most recent international climate negotiations, despite these communities being identified as vulnerable. This paper uses Mer Island in the Torres Strait, Australia as the main case study to consider these questions. We then extend this discussion to consider other non-state islands including: French Polynesia, Wallis and Futuna Islands, France; Guam and the Northern Mariana Islands, United States; and Niue, Tokelau and Cook Islands, New Zealand. Through this discussion, we find that the analysis of law, particularly customary land law that may assist Mer Islanders could likewise assist other non-state islands throughout the Pacific.

### **Jenny Grote Stoutenburg**

*When Do States Disappear? Thresholds of Effective Statehood and the Continued Recognition of “Deterritorialized” Island States*

The current stalemate in the international climate negotiations increases the likelihood that sea level rise caused by anthropogenic climate change will render low-lying island states uninhabitable or even completely submerged, forcing their populations to relocate to other countries and threatening their sovereign existence. However, just as sea level rise itself, inundation and emigration will be a gradual process. The presentation defines the thresholds at which threatened island states would cease to fulfill the customary criteria for statehood of a defined territory, a permanent population, a government, and independence. These are factual criteria, but facts only acquire international legal significance when they are interpreted by international legal actors, generally states or international organizations. The presentation therefore also discusses which legal actors have the competence to determine whether and when a small island state has become extinguished. Lastly, it will be argued that other states have a moral and perhaps even a legal duty to continue recognizing island states that have lost their effective statehood, given that this loss of statehood affects fundamental international legal norms such as the right to self-determination and permanent sovereignty over natural resources. The presentation concludes with policy recommendations for the maintenance of statehood by threatened island nations.

### **David Hodgkinson and Lucy Young**

*‘In the Face of Looming Catastrophe’: A Treaty for Climate Change Displaced Persons and its Discontents*

Around the world, millions of people may be displaced as a result of climate change. Most legal instruments advanced to address the displacement problem either seek to link any instrument with the UNFCCC or do not provide for internal displacement – that which takes place within a state – the most likely form of displacement. This paper sets out a multi-lateral governance framework – a convention – for climate change displacement, both internal and trans-border, temporary and permanent. It seeks to address climate change displacement without shaping instruments not designed to deal with the displacement problem.

Persons likely to be displaced within state borders would be subject to a framework of assistance and protection in which obligations would be shared between the home state and the international community. The proposed convention would largely operate prospectively; assistance to climate change displaced persons would be based on a ‘bottom-up/top-down’ assessment of whether their

environment was likely to become uninhabitable due to events consistent with anthropogenic climate change such that resettlement measures and assistance were necessary. Put another way, the convention contemplates the collaborative provision of pre-emptive resettlement to those most at risk in terms of the impacts of climate change. Provision of assistance under the convention could, thus, be described as 'anticipatory adaptation.'

The convention provides specifically for the populations of threatened island nations which may become uninhabitable due to the effects of climate change, and differentiates such states from others which may be affected by large scale displacement.

### **Klaus H. Jacob**

#### *Risk-Based Planning Options for Sea Level Rise – with Examples for Majuro, RMI.*

Current relative Sea Level Rise (SLR) rates for the Majuro Atoll, Republic of Marshall Islands (RMI) are on the order of 3 to 4mm per year, not much higher than global rates. Majuro's average ground elevation is only about 2m above pre-2000 mean sea level. Yet it is home to the RMI capital, with more than 30,000 (~40% of RMI population) living on 9.7 square km of narrow land. Wave action and storm surges, combined with high tides, already flood portions of the island; especially the most densely settled windward part of Majuro known as DUD (Delap-Uliga-Djarrit). Other hazards are shortage of freshwater during droughts. The basic question addressed in this survey is: how sustainable is Majuro (and hence the RMI) in the face of sea level rise that is expected to accelerate during this century because of climate change. A reasonable planning scenario is 1 +/- 0.5m of SLR by 2100. Another long-term factor that needs to be considered is whether the growth of coral reefs can keep up with accelerating SLR while being threatened by rising ocean temperatures and acidification, and stresses from human activity on the atoll itself. In the last 20,000 years with SLR exceeding 1m per century during global deglaciation, reef growth kept up with SLR rates similar to those expected for future centuries, but under then more favorable conditions for corals: lower ocean temperatures and acidity, and absence of population stresses.

A risk-based approach is taken to address the sustainability issue. Risk is defined as the product of three factors: the Hazard (largely from storms combined with SLR), the Assets (people, their homes, commerce, public buildings and infrastructure); and the Vulnerability of the assets, given the hazards. We make estimates of hazard curves (probability vs. magnitude of hazard, e.g. flood height), for current and future sea levels and storms. In the absence of suitable asset and elevation inventories we use estimates of total built assets and GDP; and for vulnerability, standard damage relations as a function of flood elevations are adopted. The used variables are first-order approximations and need to be refined by future thorough, locally informed work. These approximate estimates show, however, that the risk is a substantial portion of the GDP now and rapidly increases with SLR, to the point, where protective measures (shore and flood protection structures, sea walls, raising of buildings and infrastructure), while technically marginally effective for a few decades, are becoming ever more difficult and costly to sustain. The construction of raised emergency shelters may protect the loss of lives, but infrastructure and livelihoods will be stressed to be virtually unsustainable, even with flexible resources available. The risk-based approach provides a rational tool to estimate the increasing loss rates under various assumptions:

e.g. (i) business as usual; (ii) engineered reduction of losses and at what costs as a function of SLR; (iii) reduction of assets (at least partial retreat) and leaving the islands in a more “natural state” to battle storms, rising ocean temperature and acidity; and by reducing the human stresses on the islands, and – at the same time – removing people from ever increasing risks. Ultimately the timing of decisions will be determined by other factors: cultural, political (both global and local), and economics and finance. But the physically based risks are quantifiable (with uncertainties) and should serve as important decision input.

### **Jane McAdam**

#### *Swimming against the Tide: Why a Climate Change Displacement Treaty is Not the Answer*

Drawing on field work in Tuvalu, Kiribati and Bangladesh, this paper argues that advocacy for a new treaty to address climate change-related movement is presently misplaced for a number of reasons. The paper does not deny the real impacts that climate change is already having on communities, nor that migration is a normal adaptive response to such change. Rather, it queries the utility – and, importantly, the policy consequences – of pinning ‘solutions’ to climate change-related displacement on a multilateral instrument, in light of the likely nature of movement, the desires of communities affected by it, and the fact that a treaty will not, without wide ratification and implementation, ‘solve’ the humanitarian issue. The argument is developed by examining some conceptual and pragmatic difficulties in attempting to construct a refugee-like instrument for people fleeing the effects of climate change, and by critiquing whether there are legal benefits, as opposed to political benefits, to be gained by advocating for such an instrument.

### **Ilona Milar, Catherine Gascoigne and Elizabeth Caldwell**

#### *Making Good the Loss: An Assessment of the Loss and Damage Mechanism Under the UNFCCC Process*

Can an international loss and damage mechanism in the UNFCCC assist particularly vulnerable countries protect the rights of their citizens? Loss and damage caused by climate change will have profound implications for the protection of affected persons’ human rights, including their rights to health, culture, standard of living, self-determination, nationality, and above all, the right to life. Whilst each of these human rights is broadly guaranteed through pre-existing international instruments, such instruments were nevertheless never formed with the specific problems posted by climate change-induced loss and damage in mind. Accordingly, there is no coordinated legal or administrative framework which specifically protects human rights from being infringed as a result of loss and damage caused by climate change or which seeks to provide compensation or redress for such loss.

Recognising the absence of necessary frameworks, a number of Parties to the UNFCCC, including members of the Alliance of Small Island States, have advocated for the establishment of measures to address climate change-induced loss and damage through the adaptation framework being discussed for the period post-2012. Nevertheless, coming to an international consensus about detailed obligations of a loss and damage mechanisms under the UNFCCC’s adaptation framework is plagued with logistical and political difficulties. Our paper provides an overview of the elements that may comprise a loss and damage mechanism and highlights how such a mechanism may assist particularly vulnerable developing countries respond to the impacts of climate change. We caution, however, that such a mechanism

should focus primarily on tools to assist with risk management, risk transfer and funds to compensate for loss and damage suffered or anticipated (e.g. relocation costs if people are forced to migrate), whilst specific details about the protection of human rights of persons displaced by climate change should be dealt with through other measures, for example regional migration laws.

### **Antonio Oposa**

#### *Legal Actions to Secure Life Sources for Future Generations*

Climate change is the most serious issue concerning justice between current and future generations. The intergenerational equity dimensions of climate change are of particular relevance for island nations who will inherit degraded and depleted natural resources and stand to lose land, livelihood, culture, security and national identity. This paper explores two complementary avenues of legal redress: the World Heritage Convention ('WHC', 1972) and the Public Trust Doctrine ('PTD').

The PTD requires that governments safeguard natural resources necessary for public welfare and survival. As trustee, a government is under a fiduciary duty to protect the trust asset for present and future generations, both of which have a legally cognizable property interest in public natural resources. The atmosphere is recognized as a central asset of the Public Trust, and is part of the common heritage of mankind. Characterizing it as an asset which forms part of the global trust places all nations on Earth in the position of co-trustees, each with joint and several fiduciary obligations to protect atmospheric health and climate equilibrium, and provides a framework for international obligations and a liability principle transferable to nations through domestic legal systems.

The WHC establishes a framework for global cooperation and imposes a binding duty on State Parties to protect and conserve cultural and natural heritage "so exceptional as to transcend national boundaries and [form] part of the common heritage of present and future generations". It recognizes that "deterioration or disappearance of any item of the cultural or natural heritage constitutes a harmful impoverishment of the heritage of all nations". Article 4 provides that each State Party recognizes the "duty of ensuring the identification, protection, conservation, presentation and transmission to future generations of the cultural and natural heritage..." This paper explores the legal avenues available under the WHC. It examines the relevance of the Public Trust doctrine to World Heritage Sites, and the scope for programmes of corrective action for world heritage sites recognized as 'in danger' in the context of climate change mitigation potential.

### **Ann Powers**

#### *Rising Waters Don't Float All Boats*

Sea level rise over the next decades has the potential to affect all coastal States, some severely. Among other impacts may be the loss of territory and subsequent effects on the extent of a State's maritime jurisdiction and its control over current resources. While the loss of territory may be relatively minimal in some areas, feet or yards, it may be extensive in others. The situation is especially dire for many Small Island States which could be completely submerged, losing not only their territory but their very identity as States.

While States have typically addressed issues of land erosion or accretion in their national laws, no international rule or standard exists for dealing with these events and their impact on jurisdictional baselines. The United Nations Convention on the Law of the Sea (UNCLOS) provides for the establishment of final and binding outer limits of a coastal State's continental shelf, but does not address this issue of permanence with respect of other maritime zones. The question arises then whether a uniform scheme should be devised, and if so, whether it should be based on fixed or ambulatory baselines.

This paper examines four states, Tuvalu, Seychelles, Maldives, and Bangladesh from an interdisciplinary perspective in light of the current rules on maritime delimitation under UNCLOS. Assessing the predicted sea level rise and impact on these states, the study concludes that maritime boundaries currently established in UNCLOS should remain fixed so as to ensure the equitable allocation of maritime rights and future health of these states.

### **Rosemary Rayfuse**

#### *Sea Level Rise and Maritime Zones: Preserving the Maritime Entitlements of 'Disappearing' States*

Sea level rise, whatever its causes has been identified as a significant threat to low-lying coastal areas. In the case of low-lying island states, their very continued existence may be threatened by loss of territory and population. This paper reviews international rules relating to the establishment of maritime zones and their application in the case of sea level rise (the 'baseline dilemma'). It discusses the relevance of the baseline dilemma in the context of the possible inundation of island states by sea level encroachment (the statehood dilemma) and discusses a range of options available to sea level threatened states at the national and international level to assist them to preserve their maritime entitlements into the future. While acknowledging the need for an international rule permanently freezing baselines, it is suggested that a practical, cost effective and potentially normative solution is for coastal states to ensure that their domestic legislation is consistent with their international ambitions and protects their maritime claims into the future. Simple domestic legislative amendments are proposed to that effect.

### **Leslie A. Stein**

#### *Domestic Laws for the Resettlement of Threatened Nations' Populations in a Host Country*

If the population of a threatened nation is going to migrate en masse to a country willing to be their host, the issue arises as to what domestic laws of the host country can facilitate the migration. To be meaningful, the population must be settled in a location that offers employment opportunities and, to the extent possible, permits group cohesion and a familiar patterning of social and cultural markers. Land use planning is the prime regulatory system for translating the goals and aspirations of the population into domestic laws for their resettlement. The contemporary concepts of New Urbanism, smart growth, and form based zoning incorporated into a regulatory framework will provide the means to create "social capital" in the form of familiar aspects of the culture left behind which is the most important factor for adjustment in the host country.

**Jacob David Werksman**

*Holding Large Greenhouse Gas Emitters to Account: Challenges and Possibilities*

Despite two decades of treaty negotiation and many creative attempts to use domestic and international law to hold sovereigns responsible for the global impacts of their greenhouse gas emissions, a fully articulated legal theory for climate justice remains elusive. This paper analyzes a hypothetical dispute arising between a small island developing country and an industrialized country that is a major current and historical emitter greenhouse gases that has taken no significant steps to curb its emissions. It assumes that damages occurring to the complainant state are convincingly attributable to the respondent state. It notes that the principles of state responsibility and the obligation to do no transboundary environmental harm have been broadly accepted. It suggests, however, that the law has not yet articulated the duty of care any particular state owes to limit its greenhouse gas emissions from activities that all states continue to rely upon as essential to human life. It further notes absence of dispute settlement forums with the compulsory jurisdiction to take up such a challenge and render a legally binding outcome. It does, however point to more informal forms of conflict resolution that governments might pursue in a way that helped move the development of the law forward.

**Katrina M. Wyman**

*Bilateral Outmigration Channels: Their Limits and Potential*

This paper advocates a two-track approach to ensure that citizens of island nations threatened by climate change have a place to reside if large scale migration becomes necessary due to climate change. Under this approach, the first track and highest priority would be expanding the existing outmigration channels available to the citizens of the small island nations commonly thought to be most vulnerable to climate change. As a second track, some, but less, priority would be given to developing new international legal protections in case the domestic response in destination countries is insufficient.

The starting point for the argument for giving priority to expanding existing outmigration channels is that there already is noticeable outmigration from Kiribati, Tuvalu and the Republic of the Marshall Islands (RMI), the three least developed of the four small island nations commonly thought to be most vulnerable to the effects of climate change. Moreover, that outmigration mainly occurs in an orderly way to two highly developed countries – the United States and New Zealand – and to a limited extent a third – Australia – that in combination could afford to increase the number of migrants that they admit.

The paper starts by analyzing existing outmigration from Kiribati, the Maldives, RMI and Tuvalu, the four island nations whose existence is commonly regarded as threatened by climate change. The paper then develops and applies a framework to evaluate the potential to use existing bilateral immigration channels to deal with climate change migration. Against the backdrop of this analysis, the paper argues for a two-track approach that prioritizes the bilateral expansion of existing outmigration channels, and secondly advocates for a new multilateral international legal protection instrument.

## Poster Presenters

### **Benoit André**

#### *How Much for that State?: Valuing Intangible Assets Such as Statehood and Nationality*

This contribution reflects on the valuation of certain intangible assets associated with homeland's loss. Although homeland's loss entails different potential intangible damages such as self-determination right loss, culture loss, mental suffering, etc. the present contribution will focus on the damages of Statehood loss, sovereignty injuries and nationality right loss.

### **Florent Baarsch and Lan Marie Nguyen Berg**

#### *Ensuring Reliable and Safe Water Access for All Through a Stronger Legal Framework in a Context of Changing Climate on Funafuti, Tuvalu*

Despite the various efforts since 1980, some of the poorest populations of Tuvalu's capital city Funafuti still lack access to sufficient and safe drinking water. A reliable access to freshwater is a necessary prerequisite to ensure the habitability of Funafuti and all islands.

This study acknowledges the current barriers to water security on Funafuti and highlights the requirements to ensure a reliable access for all. It aims at understanding how the government can achieve its objective of 50 litres of safe drinking water per capita a day to the whole population by strengthening the existing legal framework.

Many reports give a comprehensive overview of the freshwater availability in Funafuti, and the different programmes implemented. Moreover, a survey, conducted for this study considers the difference between the access to essential private equipment and the needs of a particular poor population. The comparison of these results to the average level of equipment on Funafuti, as reported by the Public Works Department (PWD), offers a good appreciation of the present disparities between needs and access.

This paper shows that 1) the needs of the population are unsatisfied and that the inhabitants of the surveyed area live in a situation of water scarcity, 2) the level of disparities in the distribution of equipment per capita is an impediment to water access, 3) the standard unit of the water projects has to change from litres per household to litres per capita and 4) only a more comprehensive legal framework including water systems requirements can ensure that the needs of the population are met.

In a context of increased scarcity due to a changing climate, this study highlights that reliable drinking water access, as defined by the Government of Tuvalu, is feasible but has to be the object of particular focus. The Water Resources Act of Tuvalu must clearly express the will of the Government in order to achieve its goal of offering a minimum of 50 litres per capita a day to the whole population.

**Carolina de Abreu Batista Claro**

*The Legal Treatment of Climate-Induced Immigrants under International Law – From Human Rights to Reciprocity*

Environment-induced migration is not a new phenomenon in the history of mankind but it has become a more alarming fact when facing the 21<sup>st</sup> century migratory crisis and the accelerating rate of environmental change. On a theoretical basis, environment-induced migration can be divided into three main categories: (i) environmental migration in a broad sense, which is accountable for any person or group of persons who face forced migration due to natural hazards; (ii) conservation or ecological migration, when people are forced to migrate due to the establishment of a conservation or preservation unit; and (iii) climate-induced migration, for forced fluxes of migrants caused by drastic climate change. Although some categories of environment-induced migrants can be determined, public policies and global governance have both failed to address the legal and social consequences of the issue. The analysis of current migratory policies has led to the inference that never before immigrants have faced a more threatening situation because of the increase denial of acceptance into State borders. Global migration governance is diffuse and lacks organization between its actors. Moreover, it is closely dependent on State practice. International migration law does not have a legal definition of environmentally displaced people and the term “environmental refugees” is broadly criticized because the refugee protection does not apply *per se* to environment-induced immigrants. An international treaty to protect environment-induced migrants is extremely desirable, but meanwhile States need to find solutions to deal with the problem both internally and internationally. International Law can contribute to the protection of environment-induced immigrants both on a future norm and on existing legal principles: (i) the reciprocity principle should be applicable to environment-induced immigrants crossing State borders in case an international legal entity still exists in the country of origin, (ii) general norms of human rights are all applicable to internal and external environment-induced migrants, especially article 13 of the Universal Declaration of Human Rights, (iii) the *non-refoulement* principle, which accounts for refugee protection, could be adapted to a specific protection for environment-induced immigrants in case they are not able to return to their country of residence and, most importantly, (iv) the cooperation principle is mandatory between States and within international organizations for securing the protection and well-being of environment-induced immigrants.

**D'Ilorah Lynn Hughes**

*Preparing for the Future by Studying the Problems of Today: A Look at the Marshallese Community in Arkansas*

The experiences of the Marshall Islanders currently living in Arkansas can offer insight into the structure for the cultural and social integration of a resettled population. In particular, the Marshallese have faced a hard road in navigating American legal and health care systems that are unprepared for the language and cultural differences of this population. Both systems are struggling to address the needs of Marshall Islanders while dealing with a lack of financial resources and the great need for cultural awareness in the community at large. This presentation is designed to provide an introduction to the issues facing the Marshallese community currently residing in the State of Arkansas and some possible solutions to address their needs.

## **Efren Jogia**

### *Is Climate Change Drowning Tuvalu's Sovereignty?*

Climate change induced sea level rise is affecting both the physical and legal structure of Tuvalu. Current domestic and international laws applicable in Tuvalu will not cater even for the changes that may occur to Tuvalu's maritime boundaries. Yet the people of Tuvalu are more concerned with the threats posed by climate change for their future endeavors and the nation as a whole. This concern extends to whether they may achieve standing in international courts when claiming remedies for the harm they are suffering as a result of climate change. What will be the future of the country when the rising sea washes away beaches, homes, properties and subsequently the islands, leaving the people homeless, stateless and without sovereignty?

The issue of climate related statelessness has been discussed in academic literature but remains unsolved. Despite numerous international negotiations Tuvalu and other similarly vulnerable countries are of the view that most developed countries are ignoring the consequences faced by them. There is hope that customary international law may offer possibilities for protecting countries whose maritime boundaries are altering. There have been discussions about retaining maritime boundaries in the event that islands become submerged. Requiring greater consideration is the issue of migration of people away from climate impacted countries and their ultimate status as groups and individuals in the destination countries. Novel concepts in international law may assist those whose statehood is threatened by the devastating impacts of climate change.

This paper will examine the legal issues surrounding the possibility that climate change will result in Tuvalu becoming a 'deterritorialised state' and the prospect of it retaining sovereignty, both as a society of people and in relation to its maritime zones and the natural resources therein. The paper will be informed by empirical research in Tuvalu, reporting the views of both the leaders of country as well as a selection of its citizens.

## **Jonathan Saburo Kawakami**

### *Voices from the Village: The USP Climate Change & Migration Project*

This poster introduces the USP Climate Change and Migration Project. Project data analysis is still in the preliminary stages, so the poster does not present findings. It instead aims to bring this project to the attention of climate change researchers and practitioners and to build linkages with people who may be interested in collaborating with the team or receiving copies of research outputs when they become available.

Whilst scholars from outside of the Pacific are beginning to address questions of how to deal with displaced populations, very little has yet been heard from Pacific islanders themselves on these issues, especially those outside government. This project aims to increase the presence of Pacific island voices in the discourse about climate change and migration. Student researchers from the Federated States of Micronesia, Tuvalu, Kiribati and the Marshall Islands were trained in interviewing and conducting field research. The researchers visited 25 atoll communities in four countries from December 2010 to February 2011. They interviewed around 150 people, mostly using vernacular languages, about various

issues relating to climate change, its impacts, their past experiences of migration and the prospect of future climate-induced migration.

**Rowena Maguire and Louise Kruger**

*The International Regulation of Persons Displaced by Climate Change*

It is certain that there will be changes in environmental conditions across the globe as a result of climate change. Such changes will require the building of biological, human and infrastructure resilience. In some instances the building of such resilience will be insufficient to deal with extreme changes in environmental conditions and legal frameworks will be required to provide recognition and support for people dislocated because of environmental change. Such dislocation may occur internally within the country of original origin or externally into another State's territory. International and national legal frameworks do not currently recognise or assist people displaced as a result of environmental factors including displacement occurring as a result of climate change. Legal frameworks developed to deal with this issue will need to consider the legal rights of those people displaced and the legal responsibilities of those countries required to respond to such displacement. The objective of this article is to identify the most suitable international institution to host a program addressing climate displacement.

There are a number of areas of international law that are relevant to climate displacement, including refugee law, human rights law and international environmental law. These regimes, however, were not designed to protect people relocating as a result of environmental change. As such, while they indirectly may be of relevance to climate displacement, they currently do nothing to directly address this complex issue. In order to determine the most appropriate institution to address and regulate climate displacement, it is imperative to consider issues of governance. This paper seeks to examine this issue and determine whether it is preferable to place climate displacement programs into existing international legal frameworks or whether it is necessary to regulate this area in an entirely new institution specifically designed to deal with the complex and cross-cutting issues surrounding the topic.

Commentators in this area have proposed three different regulatory models for addressing climate displacement. These models include:

- (a) Expand the definition of refugee under the Refugee Convention to encompass persons displaced by climate change;
- (b) Implement a new stand alone Climate Displacement Convention; and
- (c) Implement a Climate Displacement Protocol to the UNFCCC.

This article will examine each of these proposed models against a number of criteria to determine the model that is most likely to address the needs and requirements of people displaced by climate change. It will also identify the model that is likely to be most politically acceptable and realistic for those countries likely to attract responsibilities by its implementation. In order to assess whether the rights and needs of the people to be displaced are to be met, theories of procedural, distributive and remedial justice will be used to consider the equity of the proposed schemes. In order to consider the most politically palatable and realistic scheme, reference will be made to previous state practice and

compliance with existing obligations in the area. It is suggested that the criteria identified by this article should underpin any future climate displacement instrument.

### **Jen Marlow and Jeni Krencicki Barcelos**

#### *Compensating Climate Injustice?*

In an era where billions of dollars of adaptation funds have been pledged, it is critical to creatively rethink climate adaptation finance mechanisms and the political institutions that administer them. Current funding mechanisms are insufficiently based on voluntary pledges of foreign aid and state-to-state transactions that may repress human rights if the funds fall into the wrong hands or are misapplied for political purposes contrary to adaptation. It is imperative that adaptation finance does not further exacerbate the human rights conditions of climate-impacted communities. We propose to survey available and existing forms of legal redress for victims of climate harms (such as market share liability and nuisance under tort law), as well as propose new schemes for compensating individual victims of climate harms as part of a comprehensive adaptation strategy. A proactive mass claims processes—administered by a claims body such as a climate change compensation commission—is one tested approach for supporting and furthering individualized climate harms remedies. But it has never been applied in the climate adaptation context. We will critically evaluate a series of compensation schemes modeled after the United Nations Compensation Commission, The September 11<sup>th</sup> Victim Compensation Fund, the U.S. Workers’ Compensation scheme, and the BP Victim’s Compensation Fund. We propose to do so through research involving a series of conversations and interviews with key players in the climate adaptation arena.

### **Nicole Marshall**

#### *Anticipating a Condition of “Deterritorialized Statehood” for Small Island States: Examining the Ethical and Practical Responsibilities of Major Emitter Nations*

Anticipating a condition of “deterritorialized statehood” for many island nations, this paper examines the opportunities which lie within concepts of decentralized federalism – a political model where authority can be transferred away from a central power into smaller (identity-based) political units – in offering a remedy to the loss of native territory for these nations. Particularly, it delves into the case of Quebec, Canada as a model for the continued existence of a nation within another nation. The paper argues that, from a practical standpoint, the decentralized federal model offers a unique possibility in creating a situation which meets the immediate needs of all parties.

Underpinning this political remedy, the paper highlights the ethical responsibilities of the international community, arguing that the larger portion of responsibility for ensuring the continued existence of these deterritorialized nations lies with larger, lower-populated nations such as Canada, the United States, and Australia who, along with much of Europe, have an ethical duty to ameliorate the negative effects of the climatic changes that they have contributed to wherever possible. It rejects treating environmentally displaced peoples as traditional “refugees,” distributing them among states individually or in small groups. Instead, the paper argues that island nations should not suffer disproportionately to their culpability in causing the conditions of climate change by facing extinction.

Finally, the paper acknowledges the central challenge of its own proposal: ramped anti-immigration sentiments worldwide, particularly against refugee-like populations, but concludes that domestic policy and international charitable pressure, rather than a global shift in international law or agreement, offer the most significant potential as mechanisms for change.

### **Mostafa Mahmud Naser**

#### *Right to Self-determination and the People of Disappearing Island States: Challenges and Responses*

The right to self-determination is a fundamental principle of international law. The international human rights instruments including ICCPR and ICESCR establish that ‘all peoples have the right of self-determination’ by virtue of which ‘they freely determine their political status and freely pursue their economic, social and cultural development’. It implies the right of the people not to be deprived of its own means of subsistence and the obligation of states to promote the realization of the right to self-determination, including for people living outside its territory. Sea level rise, global warming, and extreme weather events related to climate change are threatening to render the islands inhabitable and in the longer term, the territorial existence of a number of low-lying island states. Thus the extinction of island states and the permanent displacement of their inhabitants due to climate change in extreme cases, have serious implications for the right to self-determination, as well as for the full range of human rights for which individuals depend on the state for their protection. Additionally, the right to have a nationality and not to become stateless is also affected if the state from which that nationality flows disappears. The HRC has recognized that the denial of adequate land and resources to a people is incompatible with the right to self-determination as the permanent loss of statehood, without a successor state to take its place, violates a people’s right to self-determination. In this context, this paper analyzes the legal questions arising from disappearance of island states for climate change-related reasons. For this, it examines the status of people compelled to leave the disappearing islands in search of a new shelter and the protection afforded to them under international law. It argues that the international community including states and international organizations has an obligation to take positive action to avert the challenges posed by climate change to the right to self-determination of disappearing island states and to prevent the loss of statehood.

### **Ian Rampersad**

#### *Climate Change and Human Rights in the Caribbean: Threatened Islands and Threatened People*

The following analysis seeks to examine the discernable dynamic relationship between global changing patterns in climate and the protection of fundamental human rights. Using the Republic of Trinidad and Tobago it will illustrate not only how these two concepts are intricately linked, but more so how the effects of climate change impose upon States an obligation to refine the manner in which fundamental human rights are protected. The contextual setting for this analysis stems from an examination of the drowning nation phenomenon but is constrained by the extent to which this specific phenomenon actually affects Trinidad and Tobago and the Caribbean as a whole.

**Maketo Robert, Leonito (Jun) Bacalando, Jr., Jasper Teulings, Kristin Casper, Jan Šrytr and Kristina Šabová**

*Transboundary Climate Challenge to Coal: One Small Step Against Dirty Energy, One Giant Leap for Climate Justice*

Transboundary environmental impact assessment (TEIA) procedures give climate-vulnerable countries the opportunity to be consulted and provide input on dirty energy projects. Typically, TEIAs are conducted by *neighboring* countries concerning the *physical flow* of pollution. In a landmark intervention in 2010, the Federated States of Micronesia's (FSM) Office of Environment and Emergency Management requested a TEIA of the Pruněřov II brown coal (lignite)-fired power plant in the Czech Republic. It asserted its right to be heard as a sovereign stakeholder because the plant's greenhouse gas emissions may contribute to potential and possible climate change impacts. This paper examines the law of TEIA, and in particular its status as customary international law as supported by the recent International Court of Justice judgment in the *Case Concerning Pulp Mills on the River Uruguay*. A case study of FSM's request for a TEIA of the Pruněřov II brown coal (lignite)-fired power plant in the Czech Republic is provided, followed by a discussion of the technical legal obstacles to conducting TEIAs based on climate change concerns. It also evaluates the practical use of TEIA by sovereign island nations as supported by international law. As sovereigns, island nations owe a legal obligation to their people to ensure the continued survival of their nation, cultures, and traditions. All of these are exposed to unprecedented risk of vanishing. International transboundary law is a means to highlight potential climate impacts of dirty energy projects and improve related policies and decisions. Ultimately, TEIA may help these states to fulfill this obligation owed to its citizens and save these nations from grave peril.

**Glenys P. Spence**

*Sinking Sands: Adaptation of Immigration Policies for the "Well-Founded Fear" of Climate Change in the Caribbean*

This article will examine the nature of immigration law in the context of asylum and refugee laws in the United States and the United Kingdom. My argument is premised on the theory that the law of these two nations needs reform to provide for the impact of climate change on the peoples of the Caribbean. Central to my thesis is that the current immigration scheme that provides temporary protected status to victims of natural disaster is inadequate for the oncoming catastrophes wrought by climate change. The historical treatment of Caribbean nationals under U.S. and U.K immigration laws will be examined to unveil a tapestry of racial discrimination inherent in the immigration policies of these two countries.

The current immigration scheme provides asylum to applicants who are persecuted based on "a well-founded fear" of future persecution. This "well-founded" fear has its nexus in political persecution of the individual. Asylum law does not contemplate the migration of peoples as a group, and many are left to perish under the slow and heavy hand of the immigration process. The displacement of peoples caused by climate change must be categorized in the same manner as persecution based on other protected grounds. The immigration laws of countries like the U.S. and the U.K. are grounded in a theory of repatriation and do not provide for the permanent resettlement of environmental refugees. Lawmakers must react to the impact of climate change on the inhabitants of these small islands.

Climate change presents a future threat to the lives of these groups, and must be contemplated in the debate on immigration reform.

**Deanna Spooner and Trisha Kehaulani Watson**

*Nānā i na kānāwai o kēia pae ʻāina (Look to the Laws of this Land)*

International and national laws and policies are proving inadequate to redress current and predicted biocultural impacts of sea-level rise on Pacific Island peoples and communities. This is due in part to divergent Western and traditional Pacific Island approaches to land, water, and species management. In the United States, national and state laws largely describe the relationship of humans to the natural world in terms of ownership (property or commodity) and stewardship, whereas Pacific cultural traditions describe this relationship in terms of the familial and divine.

Various existing Western legal frameworks have been proposed to remedy sea-level rise impacts on indigenous peoples, including environmental, human rights, maritime, and other branches of law. Traditional conservation management represents an alternate legalistic framework for dealing with the impact of sea level rise on indigenous Pacific Island communities and increasing their adaptive capacity. This paper presents on the biocultural mechanisms of management, adaptation, and mitigation in the Pacific that can supplement or replace those legal and policy approaches currently being pursued.

**Eric Stoutenburg**

*Energy Systems for Threatened Island Nations*

Most small island nations are powered almost exclusively by diesel generator systems. These systems are robust, easy to maintain, and are low cost to install. However, these systems leave the island nation's economy exposed to significant oil price spikes and threaten their energy security during supply disruptions from weather or geopolitical events. With diesel fuel as the only imported energy source, island nation economies pay a disproportionate amount of their GDP on their energy supply, which limits the funds available for healthcare, education, economic development, and infrastructure projects to mitigate the effects of sea level rise. Wind, solar, and ocean renewable energy are the only domestic sources for low lying island nations. While these technologies are now readily available, their high capital cost and some engineering challenges such as their natural variability have limited their effective deployment for island nations. Using a research project for the small remote islands of American Samoa as an example, an engineering framework will be presented showing the process to develop these domestic energy resources. At least one year of measuring the resources is required to appropriately site the renewables, and this year of measurement can reveal important information to dramatically improve the performance of the future renewable system. This investment in the design process, along with a framework that considers the unique economies, communities, labor force, meteorology, tsunami and cyclone threats, and existing systems, is critical to implement functioning and enduring renewable power systems for these island nations that deliver lower cost energy and energy independence.

**Lilian Mitsuko Yamamoto and Miguel Esteban**

*Alternative Sovereignty “Models” for Island States*

Sea level rise might cause serious consequences to Island States, which may suffer the loss of one of the essential requirements of statehood under current international law: their territory. However, the poster discusses the search for alternative forms of international juridical status. Indeed, Island States, even after disappearing as countries, could retain some form of “deterritorialized” sovereignty, having their international personality recognized by other States. Different existing “deterritorialized” models will be showcased, based on the Sovereign Military Order of Malta (SMOM) and the concept of governments-in-exile.

One of the key problems, however, is what will happen to the territories that were once governed by these states. Sovereignty over a certain territory depends on the definition of what constitutes an island, and different engineering solutions can be interpreted in a variety of ways from the point of view of international law. In the poster, a variety of engineering solutions will be discussed, such as the possibility of building sea defences, sovereignty markers or houses on tilts. Each of these solutions would be then discussed in the view of how they would affect alternative sovereignty models (such as that of a “deterritorialized” state).

The main conclusion that will be drawn is that urgent changes are needed to international law regarding the status of islands and Island Nation States, and how these should be pushed for in international forums.

## Biographies

### Panelists

**Dean Bialek** is the Director for UN, Climate Change and Natural Resources at Independent Diplomat (ID), the world's first non-profit diplomatic advisory group. Based in New York, Dean leads ID's work on climate change and Western Sahara, and helps to oversee ID's work at the UN. Dean is a negotiator with the delegation of the Republic of the Marshall Islands in international climate talks under the UN Framework Convention on Climate Change, specializing in mitigation and legal issues. Before joining ID, Dean had over five years' experience in the Australian Foreign Service, most recently at Australia's Mission to the United Nations in New York, where he worked as an adviser and negotiator on economic and environmental affairs and the law of the sea. Prior to his New York posting, Dean was a Legal Adviser at Australia's Department of Foreign Affairs and Trade, primarily as a key member of the team negotiating maritime boundary and revenue-sharing arrangements for offshore oil and gas resources in the Timor Sea. Dean worked previously at the World Trade Organization, as a lecturer at the Melbourne University Law School, as a consultant to the International Union for Conservation of Nature (IUCN) and as an intern at the Foundation for International Environmental Law and Development (FIELD) in London. Dean has a PhD (International Law) from the University of Melbourne and a Master of Laws (Environmental Law) from University of London.

**Brad K. Blitz** is a Professor of Human and Political Geography at Kingston University in London. He received his Ph.D. in International Development and Education from Stanford University. A former Jean Monnet Chair at Oxford Brookes University and Research Associate in the Department of International Development, University of Oxford, he is also director of the International Observatory on Statelessness, a web-based initiative which seeks to connect academics, NGOs, governments and others interested in the plight of stateless and other vulnerable people. He is widely regarded as an expert on stateless and has acted as a consultant to UNDP, UNICEF, the UN Office of the High Commissioner for Human Rights (OHCHR), the World Bank, OSCE, Council of Europe and several governments. Recent publications include *Statelessness in the European Union: Displaced, Undocumented and Unwanted*, Cambridge University Press, 2011 (co-authored with Caroline Sawyer); and *Statelessness and Citizenship: A Comparative Study on the Benefits of Nationality*, Edward Elgar Publishing, 2011 (co-authored with Maureen Lynch). He is currently directing a US State Department project "Measuring the Costs of Statelessness," a livelihoods study of 1,200 stateless and formerly stateless households in Bangladesh, Kenya, Slovenia, and Sri Lanka.

**Robin Bronen** is a human rights attorney, the executive director of the Alaska Immigration Justice Project and PhD candidate in the Resilience and Adaptation Program at the University of Alaska, Fairbanks. She is a National Science Foundation fellow researching climate-induced community relocations in Alaska and Papua New Guinea. Her research examines community vulnerability and adaptation to climate-induced ecological change and focuses on creating new governance systems to specifically respond to communities, which are no longer habitable because of climate change, and must relocate.

**Maxine A. Burkett** is an Associate Professor of Law at the William S. Richardson School of Law, University of Hawai'i and serves as the Director of the Center for Island Climate Adaptation and Policy (ICAP) at the University of Hawai'i Sea Grant College Program. Professor Burkett attended Williams College and Exeter College, Oxford University, and received her law degree from Boalt Hall School of Law at the University of California, Berkeley. Professor Burkett's courses include Climate Change Law and Policy, Torts, Environmental Law, Race and American Law, and International Development. She has written in the area of Race, Reparations, and Environmental Justice. Currently, her work focuses on "Climate Justice," writing on the disparate impact of climate change on poor and of-color communities and the ethical and legal obligation owed to these communities. She has presented her research on Climate Justice throughout the United States and in West Africa, Asia, Europe and the Caribbean. As the Director of ICAP, she leads projects to address climate change law, policy, and planning for island communities in Hawai'i, the Pacific region, and beyond. Professor Burkett most recently served as the Wayne Morse Chair of Law and Politics at the Wayne Morse Center, University of Oregon. She was the Fall 2010 scholar for the Center's "Climate Ethics and Climate Equity" theme of inquiry. She is the youngest scholar to have held the Wayne Morse Chair.

**Mary-Elena Carr**, Associate Director of the Columbia Climate Center, carried out research in oceanography prior to joining Columbia University. As a Research Scientist at CalTech's Jet Propulsion Laboratory, she used observations made from satellites and numerical models to quantify the pathways of carbon into and within the ocean. Between 2005 and 2007 she was Associate Program Director in Biological Oceanography at the National Science Foundation. She has been a member of the scientific steering committees of the U.S. Ocean Carbon and Biogeochemistry program and the international Integrated Marine Biogeochemistry and Ecosystems Research program. At Columbia, Carr works to meet the challenge of climate change by coordinating multi-disciplinary education initiatives and leading research at the boundary of social and physical sciences, including projects that evaluate the impact of government policies on greenhouse gas emissions and responding to claims of those skeptical of climate science. She founded the Columbia Climate Center blog, *Climate Matters @ Columbia*, to meet the Climate Center mission to improve communication between climate scientists and the users of climate information, from the general public to policy makers. Her degrees are from the University of Barcelona (BSc and MSc) and Dalhousie University (PhD).

**Erin Coughlan** completed a Master's Degree in Climate and Society at Columbia University. Her undergraduate degree is in Environmental Science and International Development from McGill University, and she has worked in environmental consulting and research. Her area of interest is climate change adaptation, including research into both sea level rise and adaptation in East Africa.

**Murray Ford** is a coastal geologist with the University of Hawaii Sea Grant College Program. His work focuses on providing technical assistance to a range of stakeholders within the Marshall Islands on a number of issues, including climate adaptation, hazard mitigation and coastal management. Working with the College of the Marshall Islands, Ford works extensively on public outreach on environmental issues. Recently, his work has focused on strengthening the understanding of reef flat wave processes and their impact on coastal inundation on Majuro atoll. Ford is also interested in better understanding the implications of shoreline change on densely populated urban atolls and remote, outer-island communities.

**David Freestone** is the Executive Director of the Sargasso Sea Alliance, which is housed within the Washington Office of the International Union for the Conservation and Nature and Natural Resources (IUCN). He is also Visiting Scholar and Adjunct Professor at The George Washington University Law School in Washington DC. The Sargasso Sea Alliance – led by the Government of Bermuda – aims to mobilise support from a wide variety of national and international organisations, governments and donors for the institution of protection measures for this unique ecosystem. He holds an advanced Doctorate in Law (LL.D) from the University of Hull and an LL.M from the University of London. From 1996-2008, he was first Head of the International Environment Law Group and then (2004-2008) Deputy General Counsel and Senior Adviser in the Office of the General Counsel at The World Bank in Washington, DC. He is the founder and Editor in Chief of the *International Journal of Marine and Coastal Law* (now in its 26<sup>th</sup> year) and General Editor of the book series *Legal Aspects of Sustainable Development* (published by Martinus Nijhoff). He is the winner of the 2007 Haub Prize for Environmental Law awarded by the International Council on Environmental Law and Stockholm University. He has published some 20 books and more than 150 articles on the law of the sea and international and marine environmental law issues.

**Michael B. Gerrard** is the Andrew Sabin Professor of Professional Practice at Columbia Law School, where he teaches courses on environmental law, climate change law, and energy law, and is the director of the Center for Climate Change Law. From 1979 through 2008 he practiced environmental law in New York, most recently as managing partner of the New York office of Arnold & Porter LLP. Upon joining the Columbia law faculty, he became Senior Counsel to the firm. His practice involved trying numerous cases and arguing many appeals in federal and state courts and administrative tribunals, handling the environmental aspects of numerous transactions and development projects, and providing regulatory compliance advice to a wide variety of clients in the private and public sectors. A prolific writer in environmental law and climate change, Gerrard twice received the Association of American Publishers' Best Law Book award for works on environmental law and brownfields. He has written or edited nine books, including *Global Climate Change and U.S. Law*, the leading work in its field. His ninth book, *The Law of Clean Energy: Efficiency and Renewables*, was published in May 2011. Since 1986 he has been an environmental law columnist for the New York Law Journal. Gerrard was the 2004-2005 Chair of the American Bar Association's Section of Environment, Energy and Resources. He also chaired the Executive Committee of the New York City Bar Association, and the Environmental Law Section of the New York State Bar Association. Several independent rating services ranked Gerrard as the leading environmental lawyer in New York and one of the leading environmental lawyers in the world. Gerrard has taught courses at Columbia University School of Law, Yale School of Forestry and Environmental Studies, and New York University Law School. He has also lectured on environmental law in Great Britain, France, Netherlands, Denmark, China, India, Canada, and throughout the United States.

**Donna Green** is a senior researcher at the Climate Change Research Centre, University of New South Wales, Australia. Her research focuses on human-environment interactions, specifically on social and economic vulnerability, adaptation and risk.

**Tregar Albon Ishoda** is co-author, trainer and facilitator of the regionally-renowned *Reimaanlok* "Looking to the Future" community-based national resource management framework. He has served in several Marshall Islands environmental, fisheries and communications capacities, currently as Executive

Director of the Marshall Islands Conservation Society and co-chair on the inter-sectoral Coastal Management Advisory Council.

**Jenny Grote Stoutenburg**, LL.M.; Maître en Droit, holds law degrees from the University of Cologne, Germany, and the Université Paris I (Panthéon-Sorbonne), France. She has worked at the Federal Foreign Office of Germany, the German Institute for Human Rights, the Public Prosecution Service of Berlin and the District Court of Berlin. As a Research Fellow at the Max Planck Institute for Comparative Public Law and International Law in Heidelberg, Germany, she specialized in the fields of international environmental law and the international law of the sea. She has published several articles relating to small island states, international environmental law, ocean law, and environmentally induced migration. Currently a Visiting Scholar at the University of California, Berkeley, she is finalizing her Ph.D. dissertation on “Disappearing Island States in International Law.”

**David Hodgkinson** is Special Counsel with Australian law firm Clayton Utz and an Associate Professor in the Law School at the University of Western Australia. As executive director of a non-profit organisation, he also manages an industry partnership which is building capacity in mechanisms designed to reduce greenhouse gas emissions. He also leads a project team working on a draft convention for persons displaced by climate change. David is the co-author of the book “Global Climate Change: Australian Law and Policy” (2008) and the general editor of the loose-leaf service “Australian Climate Change Law and Policy” (2010). Earlier in his career he was Senior Legal Research Officer at the High Court of Australia where he worked for Justice Sir William Deane. He was also Director of the Legal Department at IATA (the organisation of the world’s airlines) in Montreal.

**Klaus H. Jacob** is a geophysicist with an interest of bridging basic Earth Science and social implications. He is an Adjunct Professor at the School of International and Public Affairs (SIPA) at Columbia University. He is a Special Research Scientist at the Lamont-Doherty Earth Observatory of Columbia University where after more than three decades of global research and advising Ph.D. students in basic Earth Sciences and Seismology, he retired from a full-time senior position in 2001. He also taught at Barnard College and the Urban Planning Department of Columbia’s Graduate School of Architecture, Planning and Preservation. At SIPA, he continues to teach graduate courses on Disaster Risk Management. Dr. Jacob’s current research is largely focused on mitigating the effects of global climate change and related sea level rise, and protection from inundation of infrastructure in major coastal cities around the world.

**Michele Klein Solomon** is the Permanent Observer of the International Organization for Migration (IOM) to the United Nations. Prior to assuming her current function in August 2010, she was the Director of the Migration Policy and Research Department of IOM. In that capacity, she was instrumental in building the Organization’s migration policy expertise and profile, including by helping to create and leading the IOM International Dialogue on Migration, and serving as a key member of the secretariat to and producing the Berne Initiative’s International Agenda on Migration Management. She regularly provides advice and guidance to governments in all regions of the world as well as to regional, intergovernmental and non-governmental organizations on a wide range of migration policy matters. Ms. Klein Solomon received her Juris Doctor and Masters of Science in Foreign Service (MSFS) degrees, *cum laude*, from the Georgetown University Law Center and Georgetown University School of Foreign Service in 1988, with honors including the Landegger Honors Certificate in International Business

Diplomacy. She served as the topics editor for the journal *Law and Policy in International Business*. Prior to joining IOM in 2000, Ms. Klein Solomon served as an Attorney Adviser with the U.S. Department of State, Office of the Legal Adviser, from 1989 - 2000. She served in a number of offices (UN Affairs, Human Rights and Refugees, Law Enforcement and Intelligence, and Management) during her tenure with the State Department. Of particular relevance to her work with IOM, Ms. Klein Solomon served as the Department's principal refugee and migration lawyer from 1991 - 1996. Ms. Klein Solomon received several awards for outstanding performance during her tenure with the Office of the Legal Adviser, including the Federal Bar Association's Younger Lawyer of the Year award in 1994. Ms. Klein Solomon has published on a range of migration-related issues, including migration and asylum, migration and trade, and migration and development.

**Jane McAdam** (BA (Hons), LLB (Hons) (Sydney), DPhil (Oxford)) is a Professor in the Faculty of Law at the University of New South Wales. She is the Faculty's Director of Research, and the Director of the International Refugee and Migration Law project at the Gilbert + Tobin Centre of Public Law. She is also a Research Associate at the University of Oxford's Refugee Studies Centre, and was the Director of its International Summer School in Forced Migration in 2008. Dr. McAdam has published widely in the areas of international refugee law, in particular on complementary protection and climate change-related displacement. She is the author of *Complementary Protection in International Refugee Law* (Oxford University Press, Oxford, 2007); *The Refugee in International Law*, 3<sup>rd</sup> edn (with GS Goodwin-Gill, Oxford University Press, Oxford, 2007); and the editor of *Forced Migration, Human Rights and Security* (Hart Publishing, Oxford, 2008). Her most recent publications include an edited collection entitled *Climate Change and Displacement: Multidisciplinary Perspectives* (Hart Publishing, Oxford, 2010), and she is currently finalizing the manuscript for a new monograph entitled *Climate Change, Forced Migration and International Law* (Oxford University Press, Oxford, forthcoming 2011). Dr. McAdam is the Associate Rapporteur of the Convention Refugee Status and Subsidiary Protection Working Party for the International Association of Refugee Law Judges; an adviser to the United Nations High Commissioner for Refugees on the legal aspects of climate-related displacement; and has been a consultant to the Australian and British governments on climate change and refugee issues.

**Siobhán McNerney-Lankford** is Senior Policy Officer in the Operations Policy and Country Services Vice-Presidency (OPCS) of the World Bank. There she works for the Nordic Trust on human rights (NTF) advising on human rights law and policy in Bank activities and partnerships related to human rights. Prior to joining OPCS she served as Counsel in World Bank Legal Vice-Presidency (LEGVPU). In that capacity she worked primarily on human rights law and safeguard policies, advising on legal and policy issues and coordinating research and consultations relevant to human rights. She led the LEGVPU's research project on human rights indicators as well as its TFESSD project on international law, human rights and climate change. She is the World Bank's representative on the OECD Development Assistance Committee Human Rights Task Team (having chaired the Task Team from 2006-2008), she served as the World Bank representative on the UN High-Level Task Force on the Right to Development until the end of its mandate in 2009 and she has represented the World Bank at the UN, EU and other international fora. Before joining the World Bank Dr. McNerney-Lankford worked in private practice in Washington D.C., focusing on public interest litigation and administrative law. She has published extensively on human rights law, EU law and anti-discrimination law, and co-authored a book published by the World Bank entitled *The Human Right to Water: Legal and Policy Dimensions* (2004). More recently, she co-

authored a World Bank Study on *Human Rights Indicators in Development* (2010) with Dr. Hans-Otto Sano and a World Bank Study on *Human Rights and Climate Change: A Review of the International Legal Dimensions* (2011) with Drs. Mac Darrow and Lavanya Rajamani. Her human rights law experience includes work with U.S. House of Representatives on the Subcommittee on International Operations and Human Rights, U.S. Federal District Court (Central District of California), Lawyers' Committee for Civil Rights, Irish Council for Civil Liberties and Free Legal Advice Centers (Dublin). She is a member of the American Bar Association (ABA), the State Bar of Rhode Island and the American Society of International Law (ASIL). Dr. McInerney-Lankford holds an LL.B. from Trinity College, Dublin (First Class Honors), a B.C.L. from Oxford University, an LL.M. from Harvard Law School, and a D.Phil. in EU human rights law from Oxford University. In 2010 she was named among the *Irish Legal 100* published by the *Irish Voice* newspaper

**Ilona Millar** is a Senior Associate with Baker & McKenzie's Environment and Environmental Markets Practice. With a diverse range of experience in environmental law and environmental policy, Ilona has acted for a wide range of private and public sector clients and advises on the legal aspects of international and domestic climate change policy, carbon markets and emissions trading. In recent years, Ilona has been involved in structuring and advising on a number of transactions related to carbon forestry and REDD, both in Australia and overseas. Prior to joining Baker & McKenzie in May 2008, Ilona worked for the Foundation for International Environmental Law and Development in London, where she assisted the Alliance of Small Island States in international climate change negotiations and provided advice to the European Commission on legal and policy issues associated with emissions trading schemes. Ilona teaches the international climate law course at the Australian National University and regularly publishes and lectures on topics such as international legal frameworks for climate change. In 2005, whilst Principal Solicitor of the Environmental Defender's Office (New South Wales), Ilona was named "NSW Young Environmental Lawyer of the Year" by the Law Council of Australia.

**Phillip H. Muller** is a Marshallese politician and diplomat. From 1982 to 1984, Muller was the Deputy Minister of Foreign Affairs for the Marshall Islands. In 1984, he was elected to the Legislature of the Marshall Islands from the Nitijela constituency. From 1986 to 1994, he was the Minister of Education, and from 1994 to 1999, he was the Minister of Foreign Affairs. In 1999, he left politics. On June 25, 2008, Muller was appointed the Permanent Representative of the Marshall Islands to the United Nations in New York City. Muller is an alumnus of Rockhurst College in Kansas City, Missouri.

**Antonio Oposa** is one of Asia's voices in the international arena of Environmental Law. His work is known for having established the principle of intergenerational responsibility in the Philippine Supreme Court. In 1990, Mr. Oposa, representing some 40 children all over the Philippines, filed suit against the Philippine Government to cancel all the logging in the country. Dismissed at the lower court, he brought the case to the Supreme Court on a matter of principle – that children and future generations are the parties that will be most affected by the environmental degradation that is happening in this generation. Recently, after 10 years of legal battle again all the way to the Philippine Supreme Court, succeeded in compelling some 12 government agencies to clean up Manila Bay. Mr. Oposa is also the international environmental negotiator for the Federated States of Micronesia in the Montreal Protocol where he is now advocating for the phase-down of HFC gases, also known as the super-greenhouses gases. He also founded the School of the SEA (Sea, Earth and Air), an experiential learning center for sustainable living

in the white sand shores of Bantayan Island in the central Philippines. Mr. Oposa received his law degree from the University of the Philippines, where he also teaches Environmental Law, and his Master of Laws from the Harvard Law School. He received the 2009 Ramon Magsaysay Award, also known as the Nobel Peace Prize of Asia, "[f]or his path-breaking and passionate crusade to engage Filipinos in acts of enlightened citizenship that maximize the power of the Law to protect and nurture the environment, for themselves, their children, and generations yet unborn."

**Ann Powers** is a full-time faculty member of Pace Law School's Center for Environmental Legal Studies, where she teaches a range of environmental courses, including the law of oceans and coasts, international environmental law, UN diplomacy, and water quality. Her scholarship includes articles on emerging ocean issues, water pollution trading programs, and citizen litigation. Professor Powers has worked with United Nations Environment Program (UNEP) projects and the World Conservation Union's (IUCN) Commission on Environmental Law and its Law Academy. She chairs the Land-based Pollution Subcommittee of the Commission's Oceans, Coasts & Coral Reefs Specialist Group. She was a co-organizer of a Workshop on High Seas Governance for the 21<sup>st</sup> Century, an international conference on policy and regulatory options to improve oceans governance held in New York City. She has served on many boards and panels, including the Board of Directors of the Environmental Law Institute. Prior to arriving at Pace, she worked for the Chesapeake Bay Foundation, a major regional US environmental group, and for the US Department of Justice. In connection with her work and professional activities she has testified on numerous occasions before the US Senate and House of Representatives, and state legislatures and commissions.

**Michel Prieur** is an emeritus professor at Limoges University (France) specializing in environmental law. He was previously a professor at Strasbourg University and Dean of the Limoges Law School. He is Vice President of the Environmental Law Commission of the IUCN, Scientific Director of the CRIDEAU (research center of Limoges in environmental, planning law and urban law). He is the founder and Director of the *Revue Juridique de l'Environnement* (Environmental Law Review) existing since 1976. As an international consultant he drafted the European Landscape Convention for the Council of Europe and the Mediterranean Protocol on integrated coastal zone management for UNEP. As President of the International Council of Comparative Environmental Law he is in charge of legal proposals for the Rio+20 international conference with preparatory meetings in Brazil end of June 2011, in Limoges 28 September-1 of October 2011 and in Bucharest in November 2011.

**Rosemary Rayfuse** is a Professor of International Law at the University of New South Wales, Australia. She currently holds a conjoint appointment as Professor of International Environmental Law at Lund University, Sweden. She has published widely on topics of international law, particularly the law of the sea, including high seas fisheries, oceans governance and protection of the marine environment in areas beyond national jurisdiction. Her current research focuses on the impact of climate change on the substance, structures and normative prospect of international law. She is a member of global research projects on the constitutionalisation and fragmentation of international law and on global environmental governance, a member of the IUCN Commission in Environmental Law and co-chair of its sub-group on high seas governance. She is on the editorial boards of a number of international law journals and has advised numerous governments, inter-governmental organisations and non-governmental organisations, including working with the South Pacific Geosciences Commission to assist

Pacific Island States during the drafting of their preliminary submissions to the Commission on the limits of Continental Shelf.

**Justin Rose**, BA LLB (Hons) (ANU) PhD (Macq), is Director of the Environmental Law Program at the University of the South Pacific, where he teaches environmental law, international environmental law, and comparative environmental law. Justin specializes in Pacific island environmental law, having worked and researched in the region in since 1998. Justin's publications include articles and papers in the area of regionalism in environmental law, environmental governance by customary institutions, and trust funds for environmental programs in the Pacific. Justin previously taught environmental law at the University of Sydney, the University of New England and Macquarie University. Prior to joining academia, Justin was an environmental legal advisor for various government and civil society organisations in Australia and the Pacific islands. Justin's current research focuses on climate change law in Pacific the island region.

**Honorable John Silk** is the Minister of Foreign Affairs. He is also a member in Parliament, where he represents the people of Ebon Atoll, Marshall Islands. From 2000 to 2007, he was as the Minister of Resources and Development. He was self employed from 1996-2000, worked at Stege and Associates Law Firm from 1990-1993, was a Legal Advisor at Micronesian Legal Services Corporation from 1981-1990, and was a Reporter and Editor for the *Marshall Islands Journal* from 1979-1981. He is an alumnus of Regis University in Denver, Colorado.

**Alfred H.A. Soons** studied law, specializing in international law, at the universities of Utrecht (The Netherlands), Washington (Seattle, USA) and Cambridge (England). After a few years as a researcher and lecturer in international law, he served for 11 years in various legal and policy positions at the Netherlands Ministry of Transport, Water Management and Public Works. In 1987 he returned to Utrecht University as a Professor of public international law and Director of the Netherlands Institute for the Law of the Sea (NILOS). He was a member and chairman of the Advisory Committee on Public International Law of the Netherlands Ministry of Foreign Affairs, president of the Netherlands Society of International Law and Director of Studies of the International Law Association. Currently he is a co-director of the Rhodes Academy of Oceans Law and Policy, member of the Advisory Body of Experts on the Law of the Sea of the Intergovernmental Oceanographic Commission (IOC/ABE-LOS) and chairman of the Scientific Advisory Council of the Netherlands Defense Academy.

**Leslie A. Stein** is a Visiting Scholar at the Center for Climate Change Law at Columbia Law School. His particular expertise is in the crossover between land use planning and climate change mitigation and adaptation. He was Chief Counsel for the future development of Sydney, Australia, was a Judge in land use disputes for 10 years and has been a professor at various law schools teaching land use and urban development. In addition to various articles on land use and climate change, he wrote the treatise "Principles of Planning Law" (OUP 2008) and was responsible for other legal texts including "Urban Legal Problems" and "Locus Standi." He is currently completing a book on the "Effect of Climate Change on the Legal System."

**Jon M. Van Dyke** has been Professor of Law at the William S. Richardson School of Law, University of Hawai'i, since 1976, where he teaches Constitutional Law, International Law, International Ocean Law, and International Human Rights. Previously he taught at the Hastings College of the Law (University of

California) in San Francisco (1971-76) and Catholic University Law School (1967-69) in Washington, D.C. In the spring of 2011, he was a Visiting Professor of Law at the University of California at Berkeley. Professor Van Dyke has written or edited 11 books, including *Who Owns the Crown Lands of Hawai`i?*, *Maritime Boundary Disputes, Settlement Processes, and the Law of the Sea* (Martinus Nijhoff 2009), *International Law and Litigation in the U.S.* (West, 3rd ed. 2009), *Updating International Nuclear Law* (2007); *Sharing the Resources of the South China Sea* (Martinus Nijhoff 1997; paperback edition, University of Hawai`i Press 1999), and *Freedom for the Seas in the 21<sup>st</sup> Century: Ocean Governance and Environmental Harmony* (Island Press 1993) (which received the Harold and Margaret Sprout Award from the International Studies Association for excellence in the field of international environmental policy). In 1987, he received the University of Hawai`i Presidential Citation for Excellence in Teaching; in 1984, 1993, 1996, and 2002 he was selected as the "Outstanding Professor" at the Law School; in 2006 and 2008 he was selected by the students to give the faculty address at the graduation ceremony; and in 2009 he received the Regents' Medal for Excellence in Research.

**Jacob David Werksman** is an international lawyer, specializing in international environmental law and international economic law. He directs the Institutions and Governance Program at the World Resources Institute (WRI). WRI's governance team leads networks of researchers and advocates around the world to develop strategies that strengthen the relationship between citizens and their governments by promoting greater transparency, inclusiveness and accountability in key environment and natural resource sectors. Werksman has recently provided legal advice and published widely on international legal dimensions of climate policy, including on the design of REDD governance, compliance mechanisms and the relationship between carbon markets and international investment agreements. He is currently an Adjunct Professor of law at New York University, and at Georgetown University, and an active Member of the State Bar of California. Werksman has previously held posts at the Rockefeller Foundation, United Nations Development Programme, and the Foundation for International Environmental Law and Development (FIELD) in London.

**Katrina M. Wyman** has a B.A., M.A., and LL.B. from the University of Toronto and an LL.M. from Yale Law School. In 2002, she joined the New York University School of Law, where she teaches classes in natural resources, environmental and tort law. In the past several years her areas of research have included analyzing whether the citizens of island nations that may become uninhabitable due to climate change should have a right under international law to resettle in other nations.

### Poster Presenters and Others

**Benoit André** is a PhD Candidate at the University of British Columbia where he works under the supervision of Professor Ian Townsend Gault. He is a former lawyer in France and Belgium and is now the executive director of the Caiimm, a Canadian non-profit in charge of francophone immigration issues.

**Florent Baarsch** studied law and economics at the undergraduate level at Lyon III University. As a graduate student, he focused on environmental and public law at the same University. He is now enrolled at Euromed Marseille as a graduate student in economics. He has written a report on education and sustainable development for UNESCO and the United Nations Decade on Education for Sustainable Development, worked on the economic consequences of deforestation and the different Kyoto mechanisms.

**Leonito (Jun) Bacalando, Jr.** is Assistant Attorney General in the Department of Justice of the Federated States of Micronesia (FSM) since 2008. He provides legal advice to the President of the FSM on a wide range of legal subjects, including environmental law, international law, and constitutional law. He graduated from the University of San Carlos in Cebu City, Philippines with the degrees of Bachelor of Arts in Political Science and Bachelor of Laws. Previously, he served as an assistant attorney general in the State of Pohnpei, FSM for more than four years and was designated as acting Attorney General for the State of Pohnpei for one year. He worked as a litigator in the law firm Angara Abello Concepcion Regala and Cruz Law Offices (ACCRALAW) in Makati City, Philippines in 2004. He is a member of the bar in the Philippines and in FSM.

**Jeni Krencicki Barcelos** is the Founder and Co-Executive Director of Three Degrees. Jeni most recently served as a Gates Public Service Law Scholar at the University of Washington School of Law, where she focused on the intersection of climate change and human rights law. While in law school, Jeni co-organized the Three Degrees Conference on the Law of Climate Change and Human Rights in May 2009, and co-founded the Three Degrees Project at the University of Washington School of Law, of which she now shares the role of Executive Director. She graduated Phi Beta Kappa from the University of California at Berkeley and holds a Master's degree in Environmental Science from the Yale School of Forestry and Environmental Studies, where she co-developed and taught Yale's first graduate course on Environmental Security. Jeni helped design and coordinate the founding of the Progressive Ideas Network – a national alliance of multi-issue think tanks and advocacy organizations. Jeni's more recent work includes advising Sightline Institute, a Seattle-based think tank, about legal and policy recommendations for states to use in implementing more just climate policies to low-income families. She has been volunteering her time with The Climate Project since 2006, assisting in the dissemination of Al Gore's global educational campaign on climate change. Jeni is also an editor of "Climate Change: A Reader," an academic text forthcoming from Carolina Academic Press.

**Lan Marie Nguyen Berg** studied development studies at Oslo University College. She is now enrolled as a graduate student at the Centre for Development and Environment (SUM), University of Oslo.

**Kaitlin Butler** completed a Master's Degree in Climate and Society at Columbia University. Her undergraduate degree is in Sociology, with an Africana Studies correlate, from Vassar University. She has worked in immigration law and most recently climate adaptation research. She hopes to continue

her focus on climate change adaptation as it applies to reproductive rights, human rights, and equitable food systems.

**Kristin Casper** is Legal Counsel for Greenpeace International. She advises on international environmental law and legal aspects of campaigning in the areas of climate change, energy, toxics, and water and on Arctic-related issues. Prior to coming to Greenpeace International, she campaigned on climate change and other environmental issues for over 10 years. Kristin is a registered attorney with the State of Colorado Bar. She graduated from the University of New Mexico School of Law in 2009 with a Juris Doctor degree and earned a certificate in natural resources and environmental law. She also received the Hon. Pete Domenici Award for Excellence in Environmental Law and served as a student editor for the *Natural Resources Journal*.

**Carolina de Abreu Batista Claro** earned her bachelor's degree at Law from Universidade Presbiteriana Mackenzie (São Paulo, Brazil), an LLM degree in Public Law from Processus Institute (Brasília, Brazil) and is currently a master's student in International Law at the University of São Paulo – USP (São Paulo, Brazil – 2012) and, simultaneously, a master's student in Sustainable Development at the University of Brasília – UnB (Brasília, Brazil – 2011), researching legal, political, economic and environmental implications of climate change to human migration, focusing on insular nations throughout the world. She has been an International Law Professor for over six years, teaching both Public and Private International Law at universities and at prep courses to the Brazilian diplomatic career. Mrs. Claro is also a pro-bono lawyer for undocumented immigrants in Brazil and a consultant on Immigration Law. With articles published in books, magazines and newspapers, she has participated in seminars and conferences in Brazil, the Americas and Europe.

**Maryam Hariri** is an urban planner specializing in climate change adaptation and flood resiliency in the built environment. Her most recent research examines the risks, impacts, and adaptation responses of sea level rise on waterfront development in three cities: New York City, Rotterdam, and London. She has experience working with related urban planning and water issues in Netherlands, New York City, California, Istanbul, Hamburg, and Bangladesh. She is currently a research fellow at the VU University of Amsterdam, and received her Master's in Urban Planning from New York University and her Bachelors from the University of California, Berkeley.

**D'Iorah Lynn Hughes** is a Professor and directs the Criminal Clinics at the University of Arkansas School of Law. In addition to teaching both the Juvenile Defense and Criminal Prosecution clinics, she developed an interdisciplinary program with the School of Social Work. Her teaching experience includes courses in Health Law, Pre-Trial Litigation Skills, and, most recently, Advanced Interviewing, Counseling and Negotiation, which she taught to both American and Chinese law students at Nanjing University in Nanjing, China. Prior to joining the University of Arkansas, Professor Hughes served as a Visiting Assistant Professor at Case Western Reserve School of Law, where she taught in the Health Law Clinic. After graduating from Duke Law School, Professor Hughes served as a judicial clerk under the Honorable Janis Graham Jack of the U.S. District Court in Texas' Southern District, a staff attorney in the AIDS Legal Services Program of the Law Foundation of Silicon Valley, and as a Deputy Public Defender for the Orange County Public Defender's Office in Santa Ana, California. She is a Board Member for the AALS Section on Balancing Legal Education, serves on the Board of Directors for Legal Aid of Arkansas,

the Arkansas Access to Justice Commission and was recently appointed by the Governor to the Arkansas Coalition for Juvenile Justice.

**Efren Jopia** is a new graduate with a LLB Degree from the University of the South Pacific (USP) School of Law situated in Vanuatu. Efren is currently undergoing his Professional Diploma in Legal Practice (PDLP). Efren joined the USP research team that is currently doing major research on climate change and migration in the Pacific. Efren is expected to complete his PDLP and commence work in the Attorney General's Office in Tuvalu mid June this year.

**Johnathen Saburo Kawakami** graduated from Laura High School in the year 2006 and continued his education at the University of the South Pacific Joint Education Program for a year and a half. He started his studies in law in 2008 at the University of the South Pacific School of Law in Port Vila, Vanuatu and will be graduating in 2011. During law school, he interned at the Marshall Islands Attorney General's Office and at the Marshall Islands Legislative Office of Parliament. Recently, he has participated in a climate change and migration research project with Dr. Justin Rose. The project focused on different countries of the Pacific, namely, Yap Islands in the Federated States of Micronesia, Kiribati, Tuvalu and the Marshall Islands. In 2010, he also interviewed a number of community members and government officials on questions regarding climate change and migration. He is interested in the field of public international law and international environmental law.

**Louise Kruger** is a recent graduate and university medalist from the Faculty of Law at the Queensland University of Technology. Louise now works as a graduate lawyer in the Construction and Infrastructure Team of Blake Dawson, Sydney. Louise is interested in the areas of refugee and comparative law.

**Rowena Maguire** is Lecturer at the Faculty of Law at the Queensland University of Technology. In her doctorate, she examined international forest regulation and made a number of conclusions about the role of justice in forest regulation. Her thesis is currently being prepared for publication with Edward Elgar Publishers. Rowena teaches and researches in the areas of social justice, international law, development law, environmental law and property law.

**Jen Marlow** is the Founder and Co-Executive Director of Three Degrees. Jen graduated from the University of Washington School of Law in 2010 and is a member of the Washington State Bar. While in law school, Jen co-organized the Three Degrees Conference on the Law of Climate Change and Human Rights, and co-founded the Three Degrees Project on climate justice, serving as an inaugural fellow to the project. Jen graduated from Middlebury College in 2002, where she studied environmental studies and literature with John Elder and Bill McKibben, co-edited the Otter Creek Journal on nature and the arts, and wrote book reviews for *The Middlebury Campus*. Prior to law school, Jen worked as a field biologist, newspaper reporter, editor at award-winning Orion magazine, communications associate for the Portland-based think tank Ecotrust, and columnist for *Edible Portland*. Jen also co-organized the Inaugural Next Generation Leadership Retreat Series for The Center for Whole Communities to provide leadership opportunities for emerging environmental and social justice leaders. During law school, apart from conference organizing, Jen advised the Washington Environmental Council and Sightline Institute on legal barriers to developing fair climate policies for Washington State, interned for the Berman Environmental Law Clinic, and served as a judicial extern for the Honorable John C. Coughenour.

**Nicole Marshall** is a PhD Candidate in the department of political science at the University of Alberta in Edmonton, Alberta, Canada. She has participated in numerous international conferences to present papers on the moral, legal, and political challenges presented by the issue of internal and cross-border environmental displacement. Currently, she is focused on teaching, as well as finishing her dissertation on forced environmental migration at the University of Alberta.

**Mostafa Mahmud Naser** is an Assistant Professor at the Department of Law of the University of Chittagong, Bangladesh. Currently, he is doing his doctoral study at Macquarie Law School, Australia on "Climate Change and Forced Migration." He obtained an LL.B. (Hons.) and LL.M. degree from the University of London and the University of Chittagong, respectively. He has written extensively on law, justice and human rights and has to his credit a number of research articles in both national and international journals. He has also participated in various international conferences and workshops and presented papers therein. His areas of interest and specialization include International Human Rights Law, International Humanitarian Law, Migration and Refugee Law and International Environmental Law.

**Ian Rampersad** is an Attorney at Law and currently employed as a Senior Legal Executive (Acting Head) at the International Law and Human Rights Unit in the Ministry of the Attorney General, in Trinidad and Tobago. Mr. Rampersad has previously worked in International Criminal Law at the Central Authority Unit with the Ministry of the Attorney General and is a Board Certified Civil Mediator specializing in family mediation. He was trained as a solicitor in the United Kingdom and has an academic background in international relations at the post-graduate level.

**Maketo Robert** is the Secretary of the Department of Justice and the Attorney General of the Federated States of Micronesia since February 2008. He holds the distinction of being the most senior Micronesian practising attorney. His extensive knowledge about government operations, Micronesian legal traditions and international law places Maketo in a unique opportunity to assess the legal developments internationally as they impact upon the FSM jurisdiction. He graduated from California Western School of Law with a Juris Doctor degree and from the University of Guam with a degree of Bachelor of Arts in Political Science. Previously, he served as staff attorney of the Congress of the Federated States of Micronesia, as legal counsel for the Micronesian Maritime Authority during the negotiations for fishing access agreements, and as retained attorney for the FSM Development Bank. He represented Chuuk State during the negotiations of the FSM-US Compact of Free Association. He served as Staff Attorney during the first Constitutional Convention for Chuuk State and as Delegate in the first FSM Constitutional Convention in 1975.

**Glenys P. Spence** is an Assistant Professor of Law at Phoenix School of Law. Professor Spence is a graduate of the University of Pittsburgh School of Law. Before joining Phoenix School of Law in 2009, Professor Spence practiced civil litigation and immigration law. In her practice she represented clients in family-based immigration and deportation defense. Professor Spence also served as an adjunct professor of Business Law at the Metropolitan State College of Denver in Denver, Colorado where she taught Introduction to the Legal Environment of Business and Advanced Business Law. Professor Spence's scholarship focuses on the intersection of International commercial law, and Commonwealth Caribbean law in the post-colonial era. She also writes in the area of Asylum and Refugee law in the United States and internationally. She has written articles on indigenous peoples in Suriname, Kenya,

and Costa Rica, and has spoken at conferences sponsored by the National Association of Women in Higher Education, and the University of Colorado at Boulder. Her most recent work includes *The Accession of the Dominican Republic to the Convention on the International Sale of Goods (CISG)*, *The International Lawyer*, Volume 45 (American Bar Association, 2010); *Old Relics: Unearthing Colonial Discourse in U.S.-Caribbean Immigration Policy: The Tyranny of legal Interpretation*, *Journal of Civil Rights and Economic Development* (Fall 2011); *SB1070: Impact on Immigrant Victims of Domestic Violence* (co-authored with Professor Penny Wilrich); Paper Presentation: *Singing Songs in a Strange Land: The Plight of Haitian Children in the Space of International Adoption*, 2011 Family Law Symposium, St. Mary's Law School, San Antonio, Texas; and Paper Presentation: *Caliban's Burden: Exporting the U.N. Convention on the International Sale of Goods (CISG) to St. Vincent and the Grenadines*, 2009 Annual Meeting of the Law and Society Association: Law, Power, and Inequality in the 21<sup>st</sup> Century, Denver, Colorado, May 2009.

**Deanna Spooner** has worked in the conservation field for two decades. Her areas of focus include native species conservation, ecosystem management, and climate change in North America and the Pacific Islands, with particular emphasis on the integration of science and economics in legal and policy decision making. She currently holds the position of Coordinator of the Pacific Islands Climate Change Cooperative, a non-regulatory organization dedicated to developing decision tools in support of climate change adaptation strategies to ensure the continued vitality of the Pacific Islands region's biocultural heritage. Most recently she was the Executive Director of the Hawai'i Conservation Alliance and the Hawai'i Conservation Alliance Foundation. She holds a B.A. from U.C. Berkeley and a J.D. from U.C. Hastings.

**Jan Šrytr** is a lawyer with public interest law organization Environmental Law Service (ELS). He has four years' experience with various issues dealt with by the organization: providing free legal help to citizens, environmental litigation in the Czech Republic and other EU countries (including the campaign against the biggest individual industrial source of air pollution in the Czech Republic – ArcelorMittal steelworks), the case of climate impacts assessment of the Prunéřov II power plant, or defending the inhabitants of the Gubin region in Western Poland against the plan to open a new lignite mine in the area. Jan gives legal support to the EU environmental organizations on the international and EU climate protection legislation. Since 2010, he has been responsible for leading a team of the ELS lawyers focused on the litigation of CO2 intensive projects within the EU and advocacy towards the EU climate and energy policy.

**Mark Stege** has focused his career on building the capacity of the Marshall Islands to understand and respond to the impacts of climate change. He has served as director, board of directors, and principal researcher for Marshall Islands environmental organizations, and is now director for the Majuro-based consultancy MarTina Corporation with emphases in education, energy, environment and climate change policy and planning. Past and current projects include a Majuro and Ebeye household energy efficiency survey, the regional sustainable finance plan for the Micronesia Challenge, and place-based science curriculum and laboratory development at Marshall Islands High School. Mark is currently leading a team tasked to build a convincing evidence base for major donor investment in the water sector on Majuro Atoll as a high priority adaptation response to the impacts of climate change. Mark has a B.A. in Asian Pacific History from Santa Clara University in 2000 and an M.B.A. from Gonzaga University in 2009.

**Eric Stoutenburg** received his M.S. from Stanford University's Civil and Environmental Engineering department in 2008 and is currently a Ph.D. candidate at Stanford in the Atmosphere/Energy program. He researches the grid integration of variable renewables and the electrical infrastructure requirements of ocean renewables such as offshore wind and wave energy. He is part of a research team that models and designs the addition of renewables to the small islands of American Samoa to improve their energy security. He has conducted field work on the islands including installation of wind and solar measurement sensors and energy efficiency audits. As part of his research and as a project manager with the Stanford Solar and Wind Energy Project group, he manages the data collection, analysis, and project development for a combined wind and solar project. His recent professional experience includes submarine power cable cost estimation for connecting ocean renewables and the grid integration of wind power in the western US. He also serves as the American representative for the International Network on Offshore Renewable Energy.

**Jasper Teulings** is General Counsel and *advocaat* at Greenpeace International. Its Legal Unit, comprising six lawyers, provides legal support on organisational and campaign issues. Jasper has sat on the Boards of the INGO Accountability Charter and the Dutch section of the International Commission of Jurists, and will join the Board of EarthRights International in June 2011. Before joining Greenpeace International, Jasper was in private practice for 10 years as a civil litigator, focusing on media law. He regularly speaks on a wide range of topics, such as climate change litigation, free speech and peaceful protest, and Greenpeace's corporate campaigns.

**Lilian Mitsuko Yamamoto** is a Programme Associate in the Sustainable Urban Futures Programme at UNU-IAS. She holds a law degree from Londrina State University, Brazil. After she was granted a Japanese government scholarship (Monbukagakusho), she did her master's studies at Kanagawa University in Japan. In 2011, Lilian received her doctoral degree in international human rights law. Her research topics include climate change and the sovereignty of island states, refugee protection system and international criminal courts. She also worked as a consultant for the Japan Association of Lawyers against Nuclear Arms (JALANA), writing reports on the extraterritorial application of the American Declaration of the Rights and Duties of Man and on the continuing violations of human rights.

## Nearby Places to Eat

*Artopolis Espresso Cafe*

1090 Amsterdam Ave | Btwn 113th & 114th St

*Bistro Ten 18*

1018 Amsterdam Ave | At 110th St

*Campo (Italian)*

2888 Broadway | Btwn 112th & 113th St

*Chipotle*

2843 Broadway | At 110th St

*Columbia Cottage (Chinese)*

1034 Amsterdam Ave | At 111th St

*Community Food & Juice (American)*

2893 Broadway | Btwn 112th & 113th St

*Deluxe (American)*

2896 Broadway | Btwn 112th & 113th St

*Five Guys*

2847 Broadway | Btwn 110th & 111th St

*Hamilton Deli*

1129 Amsterdam Ave | Btwn 115th & 116th St

*Havana Central at The West End (Cuban)*

2911 Broadway | Btwn 113th & 114th St

*Koronet Pizza*

2848 Broadway | Btwn 110th & 111th St

*Le Monde (French)*

2885 Broadway | Btwn 112th & 113th St

*Maoz Vegetarian (Falafels)*

2857 Broadway | Btwn 110th & 111th St

*Milano Market (Gourmet Sandwiches)*

2892 Broadway | Btwn 112th & 113th St

*Ollie's (Chinese)*

2957 Broadway | At 116th St

*P & W's Sandwich Shop*

1030 Amsterdam Ave | Btwn 110th & 111th St

*Symposium Greek Restaurant*

544 W 113th St | Btwn Broadway & Amsterdam Ave

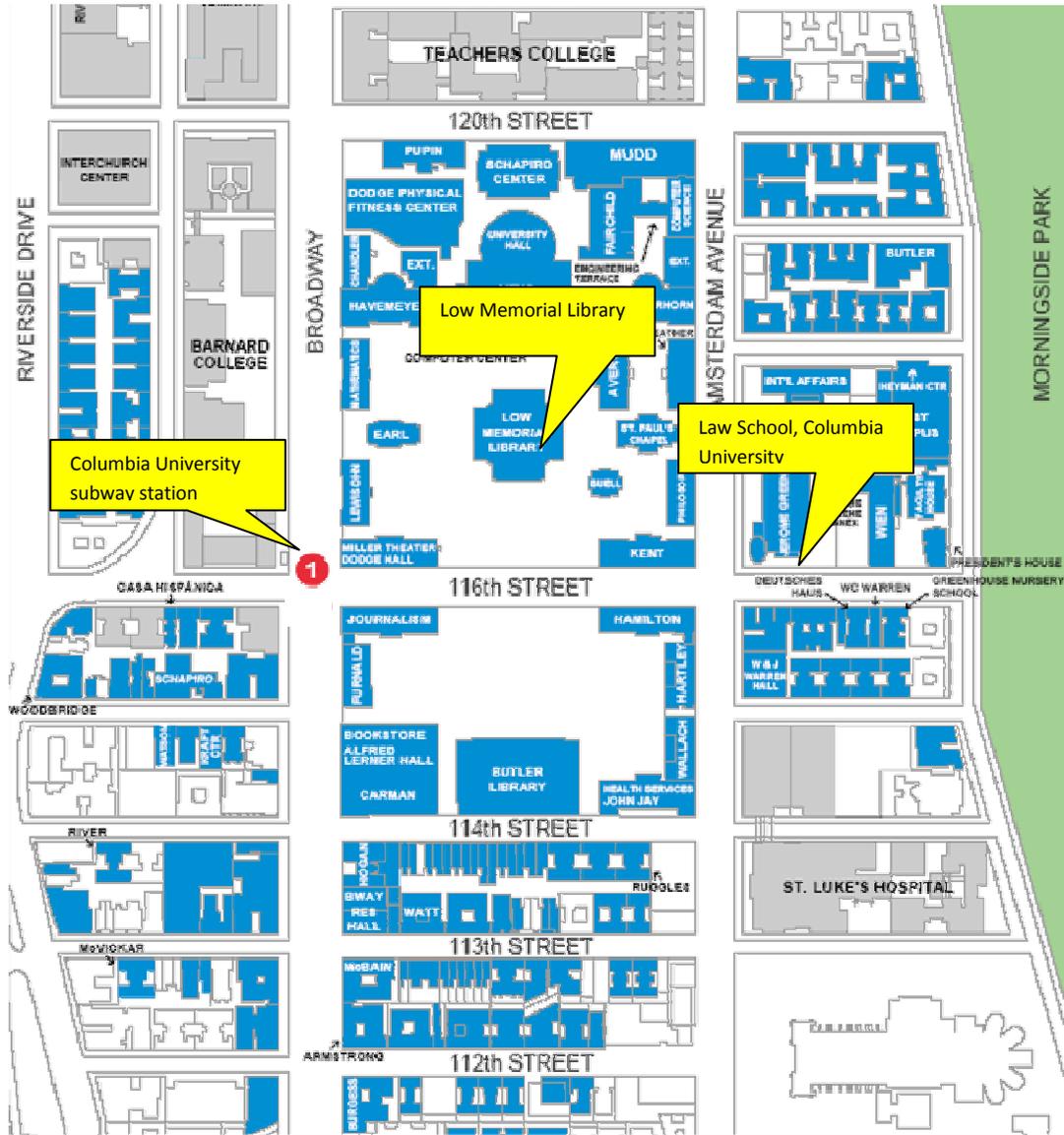
*The Heights Bar & Grill (Mexican)*

2867 Broadway | Btwn 111th & 112th St

*V & T Pizza (Italian)*

1024 Amsterdam Ave | Btwn 110th & 111th St

# Campus Map



# Manhattan Uptown Street Map





## CENTER FOR CLIMATE CHANGE LAW



The **Center for Climate Change Law (CCCL)** at Columbia Law School develops new legal techniques to fight climate change and trains people in their use. It does so in conjunction with the renowned scientists of Columbia University, and in close cooperation with the governmental and nongovernmental organizations that are grappling with the legal and policy issues raised by climate change. The Center addresses a critical need for the systematic development of legal techniques to fight climate

Credit: © Eileen Barroso/Columbia University Office of Public Affairs change outside of the realm of judicial litigation, and the compilation and dissemination of information for lawyers in the public, private and NGO sectors. CCCL is led by the Andrew Sabin Professor of Professional Practice and Director of the Center for Climate Change Law **Michael Gerrard**

*The Center for Climate Change Law engages in a number of activities, including:*

➤ **Legal Resource Center**

Sources of law on climate change are quite disparate and difficult to find. CCCL has created a website that organizes and links a wide range of materials in a searchable format, such as judicial and administrative decisions, pleadings, and legislative histories, to name but a few. This site is now recognized as the leading source of continually updated climate change legal information in the United States, and it is followed by lawyers around the world via Facebook, Twitter, and our listserv.

➤ **Legal Issues Facing Threatened Island Nations**

At the request of the Republic of the Marshall Islands, CCCL is convening an international scholarly conference to be held the week of May 23, 2011 at Columbia on the legal issues facing island nations that are facing submersion as a result of rising sea levels. Among the issues are sovereignty; fishing, mineral and property rights; relocation rights; and legal remedies.

➤ **Development of Model Laws and Best Practices**

CCCL is working to prepare model laws and best practices to address the problem of climate change. Examples of the Center's work in this area include preparing model ordinances for mandating green building practices, energy efficiency, and use of renewable energy resources, and for considering future flood and weather risks in land use planning and construction; and guidelines for disclosure of climate risks in securities filings.

➤ **Regulatory Tracking and Participation**

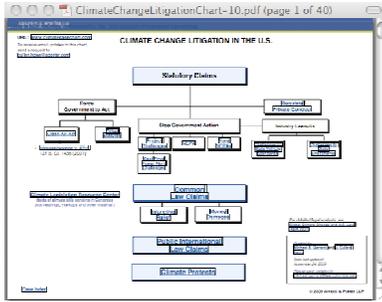
CCCL systematically tracks regulatory processes relating to climate change, identifying the policy choices inherent in them, alerting groups that could be affected, and directly participating in some of the processes. Most recently, the Center submitted comments on the Council on Environmental Quality's guidance regarding the consideration of greenhouse gases and climate change impacts under the National Environmental Policy Act. The Center is also part of an ongoing expert dialogue discussing climate regulatory activities and options under the Clean Air Act.

➤ **Book Series**

Several aspects of the solution to climate change involve so many legal issues that practitioners in all sectors would benefit from book-length treatments. These could best be done as multi-author works, so that chapter authors could bring their own specialties to bear. Our book [The Law of Green Buildings](#) was published by the American Bar Association in August 2010. We have just completed a book titled [The Law of Clean Energy: Efficiency and Renewables](#), to be published in the Spring of 2011. Now underway is a book on domestic and international legal issues in adaptation to climate change.

➤ **Public Events**

CCCL holds and participates in a number of events including conferences, debates, seminars, and panel discussions. Past events include a three-way debate on the Waxman-Markey bill, a panel discussion on the Obama Administration's actions leading up to the Copenhagen negotiations, a conference on bio-sequestration and climate law and policy, a conference held at the U.S. House Office Building on implementation of climate policy, and a program on climate regulation without Congressional action.



## CLIMATE CHANGE LITIGATION CHART

CCCL has created a comprehensive chart of U.S. climate change case law, organized by both claim and case name, with links to decisions, briefs and relevant commentaries. We have also added a chart of non-U.S. climate change case law, organized by both claim and case name, with links to decisions and additional information.

## CLIMATE LEGISLATION RESOURCE CENTER

CCCL is tracking legislative action on climate change in the 111<sup>th</sup> Congress. The website contains news, blog links, and commentaries on Senate and House of Representatives deliberations, including previous versions, house floor debates, markups, hearings, key house correspondence, and analyses of the American Clean Energy and Security Act H.R. 2454 (“Waxman-Markey”) and the American Power Act (“Kerry-Lieberman”).

Climate Legislation Resource Center



Legislative Action on Climate Change in the 111th Congress of the United States

### AGENCY MANDATES

The Center for Climate Change Law has prepared a database of all federal agency mandates contained in the House bill, ACES/Waxman-Markey. The database is sorted by **primary agency**, but it is an Excel spreadsheet that can also be sorted by **type of action** (e.g. regulations, reports, covering task forces), by **subject matter** (e.g. adaptation, appliances, transmission planning), by section number, or by page number. Users can also perform word searches.

### UPCOMING HEARINGS

POSTPONED: The Senate Committee on Energy and Natural Resources will meet to discuss Policy Options for GHG Emission Reductions.



### CLIMATE REGULATION TRACKING SERVICE

California Water  
Executive Order  
Renewable Fuel Standards  
Program

Climate and Toxics  
GHG Reporting Rule  
Tailoring Rule - Revised PSD  
Triennial

Enforcement Finding  
PSD Interim Memo Reconsideration  
Underground Injection Control for Geosols  
Reauthorization

### EXECUTIVE ORDERS

**Federal Leadership in Environmental, Energy, and Economic Performance**  
On October 6, 2009, President Obama issued Executive Order 13514, which instructs federal agencies to set or achieve various emissions reduction and energy and environmental benchmarks by 2010, 2020, and 2050. The order requires agencies to set GHG emissions reduction targets for 2020 within 90 days, and requires OMB to set a federal government target for 2020 within 120 days. The order also sets out required reductions in vehicle fleet petroleum use and requires increases in water and energy efficiency and in recycling and waste diversion rates. The order also mandates adoption of certain contract and procurement practices designed to promote energy and water efficiency and environmentally preferable products.

- Published Executive Order 13514

Winston & Strawn Briefing on Executive Order  
Holtz & Knight Alert on Executive Order  
Patten Hoopes Alert on Executive Order

### FINAL RULES

## CLIMATE REGULATION TRACKING SERVICE

CCCL tracks climate regulation and maintains an up to date compilation of rule texts, agency responses, regulatory impact analyses, transcripts of public hearings, analyses, and other documents. CCCL has prepared a searchable database of all federal agency mandates contained in Waxman-Markey, and is preparing a similar database for federal agency mandates in Kerry-Lieberman.

## DRAFT MODEL MUNICIPAL GREEN BUILDING ORDINANCE

CCCL has released a draft model green building ordinance based on analysis of practices in existing municipal green building regulation and research on possible legal impediments. Unlike other model ordinances that detail technical specifications, this ordinance presents a framework for the implementation of existing technical standards and a streamlined procedure for their compliance and enforcement. The model ordinance is accompanied by commentary and legal analysis.

Municipal Climate Change Laws Resource Center



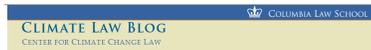
### Database of New York State Municipal Laws on Green Buildings, Alternative Energy, and Energy Efficiency

Local laws intended to reduce energy use and greenhouse gas emissions have recently proliferated as part of a municipal level response to climate change. Columbia Law School's Center for Climate Change Law has prepared a database of many of these laws in New York municipalities relating specifically to green buildings, solar energy, wind energy, and energy efficiency. The database can be downloaded here.

The database is sorted by county, but it can also be sorted by subject matter or municipality. Each statute is classified as a green building, solar energy, wind energy, or energy efficiency statute. A total of 372 laws are currently catalogued in the database. To avoid an unwieldy structure, only the most essential portion of each statute is summarized. In almost every case, the statute has provisions additional to those provided in the database.

The user can access the unabridged statute by clicking on the hyperlink, identified by blue, underlined text, provided with each statute citation. Most links lead to the municipality's entire code database. From here, the user can easily access the relevant portion of the code by referencing the citation given. Some links lead directly to the precise portion of the code in question and navigating the code database is not necessary.

While the database contains a substantial number of statutes, it is not currently comprehensive. CCCL welcomes any additional information regarding New York State municipal laws related to climate change or corrections of existing entries in the database. Please email such additional information to [law@climate.columbia.edu](mailto:law@climate.columbia.edu).



**CLEAN ENERGY TECHNOLOGY AND JOBS: COMPARING U.S. AND U.K. APPROACHES**  
By Jessica Vreza

The Kerry-Lieberman (KL) bill addresses Clean Energy Technology and Jobs in Title IV, subtitle B, section 111, and Title V, section 110. The bill includes provisions for providing clean energy jobs, including production incentives through contracts with trademarks, and encouraging the development of green production. Part of subtitle B, entitled "Clean Energy Career Development", creates several programs to build employment and technical expertise in renewable energy systems. These include Clean Energy Career Development Grants, an Information and Resource Center for renewable energy and job training, renewable energy services, and Clean Energy Career Development Demonstration Project.

Subtitle also grants the Secretary of Education to award grants to a competitive basis to eligible partnership to develop programs of study that are focused on emerging sectors and jobs in the fields of clean energy, renewable energy, energy efficiency, climate change mitigation, and climate change adaptation (Clean Energy Career Development Grants). Eligible partnerships may include at least one local educational agency, non-governmental organization, and representative of the community, including business, labor organization and green education centers.

Section 1101 directs the Secretary of Labor, in collaboration with the Secretary of Energy

## CLIMATE LAW BLOG & GREEN BUILDING BLOG

CCCL maintains a blog that comments on and provides insight into timely issues relating to climate change law and regulation at the local, state, and federal levels, and a blog on green building issues. Professor Gerrard contributed a widely-circulated blog from the United Nations climate conference in Copenhagen in December 2009. Most recently, the blog has featured a series concerning EPA regulation of greenhouse gases and the associated litigation.

## Other Online Resources

- Compilation of offset protocols
- Securities disclosure resources
- Climate law bibliography
- NEPA and State NEPA protocols and environmental impact statements
- Database of green building incentives
- State and local initiatives on climate change

## Contact:

**Michael B. Gerrard**

Andrew Sabin Professor of Professional Practice  
Director of the Center for Climate Change Law  
Tel: 212-854-3287

Email: [michael.gerrard@law.columbia.edu](mailto:michael.gerrard@law.columbia.edu)

## NOTES

## NOTES