

Drowning Island Nations: Legal Implications and Remedies
Annotated Bibliography

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STATEHOOD AND STATELESSNESS

I. DEFINITION OF STATEHOOD

Low-lying island states are facing a truly novel situation. There is no modern precedent for a country losing its territory through climate change rather than through annexation, conquest, or sale. Scholars are beginning to wrestle with the issue of what happens to a state that becomes uninhabitable and/or loses its territory because of changes caused by global warming, but very little has been written that is directly on point. Much of the discussion of the legal ramifications of climate changes focuses on the status of displaced persons and addresses the issue in a human rights framework (highlighting the need for additional legal protections because displaced persons that cross international borders will not meet the traditional definition of “refugees”).

Materials specifically on small island states, climate change, and statehood

1. Jane McAdam, *‘Disappearing States’, Statelessness and the Boundaries of International Law*, University of NSW Faculty of Law Research Series (2010). J. McAdam (ed), CLIMATE CHANGE AND DISPLACEMENT: MULTIDISCIPLINARY PERSPECTIVES (Oxford, Hart Publishing, forthcoming 2010).

This recent working paper was written by an Associate Professor of Law at the University of New South Wales. The author argues that land will become uninhabitable long before it actually disappears due to climate change. Because of this, populations will be displaced and the statehood indicia of permanent population, effective government, and capacity to enter into relations with other States will be problematic before the lack of a physical territory. One solution may be to recognize governments in exile, though until now governments in exile have been viewed as a time-limited mechanism that enables a government to operate outside its territory until it becomes possible for that government to reassert control in its territory. The functions traditionally performed by governments in exile have been limited to treaty-making, conferring immunities, privileges, and jurisdiction over nationals, and maintaining diplomatic relations and other diplomatic protections.

This article is helpful for showing that territory is not a necessary condition for statehood. International law has dealt only with situations where governments lose control over their territory because of invasion or rebellion, not where the territory literally disappears or becomes uninhabitable.

2. Achim Maas & Alexander Carius, *Territorial Integrity and Sovereignty: Climate Change and Security in the Pacific and Beyond*, Conference on Climate Change and Security, June 21-24, 2010, Trondheim, Norway.

This article explores the impacts of climate-induced sea level rise on conceptions of territorial integrity and sovereignty in Pacific Island States. The authors describe how the situation of climate refugees in these states may challenge the accepted requirements of

“statehood”, particularly territory and resident population. Noting that exclusive economic zones (EEZ) are especially important assets for island states, the authors examine several theoretical ways to avoid loss of territory, including (1) an agreement to fix maritime boundaries based on satellite footage from a given year, and (2) construction of sea defenses, also known as the “Dutch Scenario”, and (3) buying or receiving land from other countries. The authors indicate that the first two options have merit (though they may be challenged by other countries), whereas the third option will not work because it “appears unlikely today that territory may be ceded unless it is devoid of any other use of purpose”.

The authors also describe possible scenarios for submerged island states. They could continue to be recognized as sovereign states, although their population and government are relocated. Alternatively, they could lose their “statehood” and voting rights in international organizations, while the citizens retain passports and other privileges of sovereign immunity. The authors also note that some countries may choose to no longer recognize these states, leading to international tensions and disputes over the EEZ.

3. American Society of International Law Event, Rights-Based Responses to Climate Induced Displacement, Jan. 11, 2010. Presenter: Walter Kälin, Discussant Dinah Shelton, Moderator: Andrew Solomon. <http://www.youtube.com/watch?v=wHNDB5094bo>.

Walter Kälin is Professor of Constitutional and International Law at the University of Bern, Switzerland. Since 2005, he has been the UN Representative of the Secretary General on the Human Rights of Internally Displaced Persons. Dinah Shelton is Professor of International Law at George Washington School of Law. In this presentation, they discuss the likely displacement effects of climate change and the legal tools that are in place to address this displacement. Much of the discussion focuses on the legal rights of individuals and the gaps in international and domestic human rights law relevant to refugees and migrants who are moving, voluntarily or involuntarily, because of climate changes caused by global warming.

Around the 30 minute mark, Professor Kälin discusses climate change effects on sinking small island states and the increased migration, both internally and cross-border, that is likely to result. Professor Kälin notes the uncertain legal status of these persons, and asks whether they become stateless when land becomes uninhabitable? He feels they will not – stateless is defined as without a nationality, not without a country. The government will still exist, and he argues that any country can add enough mass to a sunken island to meet the territoriality requirement if that is found to be vital to statehood. He then invokes SMOM as an example of an entity that used to be a state that remains as subject of international law even without territory. He does not cite any authorities in this discussion and states that the legal status of the state itself is not at all clear.

4. Lilian Yamamoto & Miguel Esteban, *Vanishing Island States and Sovereignty*, 53 OCEAN & COASTAL MANAGEMENT 1 (2010).

This article, written by a PhD student at Kanagawa University and a Research Fellow at Kyoto University, examines ways that submerged or barren islands could maintain enough of a sovereign presence to continue to claim the EEZ surrounding the formerly inhabitable

island. The authors suggest that islands may be able to build sea defenses around an island or construct a “lighthouse” type tall structure as a “sovereignty marker” to keep a claim on adjacent lands. The authors also briefly explore the concept of a “deterritorialized” state and governments in exile as ways of maintaining sovereignty, although they characterize this status as “somewhat analogous to statehood.”

5. Sumudu Atapattu, *Climate Change, Human Rights, and Forced Migration: Implications for International Law*, 27 WISCONSIN INTERNATIONAL LAW JOURNAL 607 (2009).

This article was written by the Associate Director of the Global Legal Studies Center at the University of Wisconsin Law School and focuses on the status of populations displaced by climate change, both internally displaced persons and refugees that cross international borders. The article does not discuss the ramifications for the state itself, but does argue that the link between people and their state is nationality. In the concluding section, the author talks briefly about small island states that will become submerged, and states that populations of those countries will become “stateless persons in every sense of the term.”

6. Eoin O’Carroll, *Faced with Rising Sea Levels, the Maldives Seek New Homeland*, The Christian Science Monitor, Nov. 11, 2008, available at <http://www.csmonitor.com/Environment/Bright-Green/2008/1111/faced-with-rising-sea-levels-the-maldives-seek-new-homeland>.

This brief article discusses Maldives’ plan to set up a sovereign wealth fund to provide money to purchase land for relocation, and briefly mentions other countries that have relocated a portion of their population because of rising sea levels. It is cited in this context for its statement that “[n]o nation in recorded history has peacefully relocated its entire population and remained intact.”

Defining Statehood in International Law

The Montevideo Convention lays out the four requirements that have traditionally been required to establish a state. However, this definition of a state is not uncontested. It has been argued that territory and effective control are no longer required to form a state. The ability to attain political recognition may be the most important factor in establishing statehood. Once a State has established itself as a state, it receives a strong presumption of continuity and does not necessarily lose statehood by losing territory or effective control over that territory.

7. *Defining What Makes a Country: In Quite a State*, The Economist, April 8, 2010, available at http://www.economist.com/world/international/displaystory.cfm?story_id=15868439.

This brief article from a recent issue of The Economist reviews the difficulty of identifying the total number of countries in the world. It notes that membership in the U.N. is neither a necessary nor a sufficient condition for functioning statehood, and that there are varying degrees of recognition that give governments a calibrated set of tools to reward good behavior and penalize bad behavior.

8. William Thomas Worster, *Law, Politics, and the Conception of the State in State Recognition Theory*, 27 BOSTON UNIVERSITY INTERNATIONAL LAW JOURNAL 115 (2009).

This article examines the constitutive and declaratory theories of statehood, but is focused primarily on state creation, not dissolution. The constitutive theory provides that a state is only a state upon the political act of recognition by other states. The declaratory theory views recognition as merely acknowledgement of the existing statehood status. Statehood itself is acquired by the satisfaction of objective criteria (looks to the purported state's assertion of its sovereignty within the territory it exclusively controls).

9. Alison K. Eggers, *When Is a State a State? The Case for Recognition of Somaliland*, 30 BOSTON COLLEGE INTERNATIONAL & COMPARATIVE LAW REVIEW 211 (2007).

This student Note argues that Somaliland meets the requirements for statehood under the Montevideo Convention and that the international community should recognize Somaliland as a state. Resistance to recognition comes from an unwillingness to disrupt Somalia's territorial integrity. The author argues that secession is allowable under international law and that Somaliland has been functioning as a *de facto* independent state. Additionally, Somaliland voluntarily joined with Somalia after independence in 1960 and has the right to withdraw from that union. While states may form voluntary unions, the author suggests that each country retains rights to the territory they brought to the union (and do not gain any rights over each other's territory).

10. J.E. Peterson, *Qatar and the World: Branding for a Micro-State*, 60 MIDDLE EAST JOURNAL 732 (2006).

This article examines the constraints and problems that Qatar faces as a small state and the strategies that Qatar has adopted for its survival. There is a very brief discussion in the "When is a Small State in Fact a State?" section of the attributes a micro-state must possess in order to be regarded as a viable state, and stating that neither territory nor population are necessarily requisites.

11. Peter Wismer, *Bring Down the Walls! On the Ever-Increasing Dynamic Between the National and International Domains*, 5 CHINESE JOURNAL OF INTERNATIONAL LAW 511 (2006).

It is not clear what position the author of this article holds; he is listed only as a "legal adviser." The article itself argues for granting status as a subject of public international law (and attendant immunities) to non-governmental organizations (such as Oxfam and Médecins Sans Frontières) when they are performing *de jure imperii* tasks in the international arena.

12. Thomas D. Grant, *States Newly Admitted to the United Nations: Some Implications*, 39 COLUMBIA JOURNAL OF TRANSNATIONAL LAW 177 (2000).

This article, written by a Research Fellow at Oxford University, argues that the admission of Kiribati, Nauru, Tonga, and Tuvalu in the United Nations and the recognition of The

Republic of Bosnia and Herzegovina in 1992 show that effectiveness and independence are no longer central criteria of statehood. These states lack large territories, populations, and/or economic resources and in some instances continue to exist under some form of legal dependence.

13. Thomas D. Grant, *Defining Statehood: The Montevideo Convention and Its Discontents*, 37 COLUMBIA JOURNAL OF TRANSNATIONAL LAW 403 (1999).

Written while the author was a PhD candidate at Cambridge University, this article reviews the definition of a State under the Montevideo Convention of 1933 (permanent population, clearly defined territory, effective government, and capacity to engage in international relations). The author argues that the meaning of “state” has changed since then and that this definition is no longer adequate. Specifically, territory may not be necessary to statehood once statehood has been firmly established and capacity is a consequence of states, not a criterion for their formation. Additional factors such as independence, legality (including democracy), and membership in the U.N. may now be necessary to form a State.

States with no territory: SMOM, Holy See, governments in exile

There are some international entities that lack one or more of the traditional markers of sovereignty and yet are still recognized as a sovereign entity. These examples may suggest models that low-lying island states can follow in maintaining statehood.

14. Kurt Martens, *The Position of the Holy See and Vatican City State in International Relations*, 83 UNIVERSITY OF DETROIT MERCY LAW REVIEW 729 (2006).

Written by an assistant professor at the School of Canon Law, The Catholic University of America, this article reviews the sequence of events leading up to the creation of the Holy See and the Vatican. These are technically two separate entities though they are often treated the same. Until 1870, the Pope was sovereign of the Papal States and there was no controversy over his status as the leader of a country. After the Pope lost control over any territory, states continued to maintain diplomatic relations with the Holy See. The Holy See has permanent observer status at the U.N. The author argues that the Holy See and Vatican City are both subjects of international law and that the lack of territory and population between 1870 and 1929 did not cause any problems for the Holy See’s continued international existence.

15. Jason J. Kovacs, *The Country Above the Hermes Boutique: The International Status of the Sovereign Military Order of Malta*, 11 DIGEST 27 (2003).

This article was written by a graduate of Syracuse University College of Law and examines the history and current legal status of the Sovereign Military Order of Malta (SMOM). SMOM is a Roman Catholic religious order that has been internationally recognized as having some degree of sovereignty for centuries. In the past, SMOM did have control over territory but it has not had a territorial component since 1798. Nevertheless, SMOM has diplomatic relations with ninety states and is a non-voting permanent observer at the UN.

SMOM is widely regarded as being a subject of international law despite its lack of territory and permanent population. SMOM is not necessarily recognized as a sovereign state, but it has retained recognition of some sovereign status through a functioning government and the ability to engage in relations with other states.

16. Stefan Talmon, *RECOGNITION OF GOVERNMENTS IN INTERNATIONAL LAW: WITH PARTICULAR REFERENCE TO GOVERNMENTS IN EXILE* (1998).

This book has an interesting discussion of recognition, but it is not particularly related to problems of low-lying island states. However, see pp. 215–18 for a discussion of the need for the State to consent to the exercise of the jurisdiction of a government in exile. Without an express consent, host State recognition extends to legislative jurisdiction but not enforcement jurisdiction. The host State is able to determine how far the courts of the government in exile may exercise their jurisdiction.

Self-Determination and Territorial Integrity

These materials demonstrate the limits of self-determination as a means of protecting statehood. Self-determination emerged in the era of decolonization when there was a sudden proliferation of new states. Countries are unwilling to allow the definition to expand beyond the colonial context because they fear that it will encourage internal dissension and calls for secession by minority groups.

17. Milena Sterio, *On the Right to External Self-Determination: "Selfistans," Secession, and the Great Powers' Rule*, 19 *MINNESOTA JOURNAL OF INTERNATIONAL LAW* 137 (2010).

The author, an Assistant Professor of Law at Cleveland-Marshall College of Law, argues that people under modern-day international law accrue the right to some form of self-determination if they can demonstrate that they have been subjected to harsh oppression, have a relatively weak central government, that some type of international administration of its region has already taken place, and that it has garnered the support of the most sovereign states on our planet, the so-called Great Powers. The author concludes that recognition is the most important factor, although that may be at odds with the idea of state sovereignty and equality.

18. Anne F. Bayefsky, *SELF-DETERMINATION IN INTERNATIONAL LAW: QUEBEC AND LESSONS LEARNED* (2000).

The volume collects the expert opinions, passages from arguments submitted to the Canadian Supreme Court, and decision of the Court in the *Quebec Secession Reference* rendered on August 20, 1998. The focus of the book is on whether, and under what circumstances, the right of self-determination includes a right of unilateral secession. The introduction provides a brief overview of the development of the right of self-determination and explains the general view that "external" self-determination includes the right of secession in the context of colonial peoples, while "internal" self-determination requires participatory claims on governments, free of discrimination (this point is also discussed in the Factum of the

Attorney General of Canada, p. 309–31). A state whose government represents the whole people on a basis of equality complies with the principle of self-determination and is entitled to protection of its territorial integrity.

Indigenous Populations

There are some interesting comparisons that might be drawn between displaced islanders and indigenous peoples. Displaced islanders would lack the traditional connection to the land of indigenous peoples, but would share a common heritage and nationality. Both groups represent a minority community attempting to maintain a separate identity. These materials are particularly interesting in this context for their demonstration of efforts to allow self-government by identifiable groups in pre-existing countries.

19. Andrea Carmen, *Climate Change, Human Rights and Indigenous Peoples*, Submission to the United Nations High Commissioner on Human Rights by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council (December 26, 2008).

This paper describes how indigenous rights and human rights can provide a protective framework for communities that are at-risk of losing their land and livelihoods to climate change impacts. The author asserts that the current global climate crisis constitutes a growing threat to the basic right of survival, and therefore “requires an urgent, significant and comprehensive response by all states, the United Nations as a whole, and all of its bodies.” The author also articulates other rights that have been violated by greenhouse gas emissions, including inherent human rights (such as the right to permanent sovereignty over lands and natural resources, the right to development, the right to food, and the right to water) and treaty rights (such as the UN Declaration on Rights of Indigenous Peoples and US treaties Indian Nations).

20. Rebecca Tsosie, *Indigenous People and Environmental Justice: The Impact of Climate Change*, 78 UNIVERSITY OF COLORADO LAW REVIEW 1625 (2007)

This author asserts that the current international adaptation strategy, which includes the managed migration of vulnerable communities, “will prove genocidal for many groups of indigenous people”. Rather than removing indigenous peoples from their land, the author argues that the international community should recognize their right to environmental self-determination. Recognizing such a right would impose an affirmative requirement on nations with high emissions to mitigate the impacts of their industrial activities, so that those impacts do not interfere with the environmental sovereignty of indigenous communities.

21. Benedict Kingsbury, *Reconciling Five Competing Conceptual Structures of Indigenous Peoples’ Claims in International and Comparative Law*, 34 N.Y.U. JOURNAL OF INTERNATIONAL LAW & POLICY 189 (2001).

This article, written by a Professor at N.Y.U. School of Law, explores five conceptual structures employed in claims brought by indigenous peoples – human rights & non-discrimination claims; minority claims; self-determination claims; historic sovereignty claims; and claims as indigenous peoples. Section III discusses how the right of self-determination applies to indigenous peoples. This section argues that indigenous peoples have the right to maintain and strengthen their distinct characteristics and legal systems while retaining the right to participate fully in the life of the state.

22. Julie Cassidy, *The Enforcement of Aboriginal Rights in Customary International Law*, 4 INDIANA INTERNATIONAL & COMPARATIVE LAW REVIEW 59 (1993).

This article was written by an Assistant Professor at the Deakin University School of Law in Australia and considers the viability of using customary international law as a source of protection of aboriginal minorities' territorial integrity. It contains an overview of how aboriginal land rights have been viewed in Canada, New Zealand, Australia, and the U.S. for the past several hundred years and discusses recent tools (such as land rights legislation and recognition of self-government) used to protect indigenous rights.

23. Anangu Pitjantjatjara Land Rights Act of 1981,
http://www.austlii.edu.au/au/legis/sa/consol_act/apylra1981489/.

This Act grants the Anangu Pitjantjatjara unrestricted rights of access to land that the Governor grants to the Anangu in fee simple. Others are prevented from entering the lands but there are inalienability limitations on the land so the Anangu do not exercise total control over the land.

II. PREVENTING OR ADDRESSING FUTURE STATELESSNESS

The Republic of the Marshall Islands (Marshall Islands) is comprised of 29 atolls and 5 islands, located in the North Pacific Ocean halfway between Hawaii and Australia. 24 of the islands and atolls are inhabited; most urban centers are located only 1 meter above sea level.¹ The Marshall Islands are considered a Small Island Developing State (SIDS) and are a member of the SIDS network.

The United Nations Framework Convention on Climate Change – UNFCCC (1992) identifies two major categories of responses to climate change: (1) “mitigation” or preventative responses, which are meant to “reduce the sources of greenhouses gases or enhance the sinks”; and (2) “adaptation” responses, which are “adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.”²

¹ CIA – The World Factbook – Marshall Islands, available at <https://www.cia.gov/library/publications/the-world-factbook/geos/rm.html>

² David Hunter, James Salzman & Durwood Zaelke, *International Environmental Law and Policy* 650 (3d ed. 2007)

Mitigation

Reduction in greenhouse gas emissions through the use of various mitigation measures is certainly important in preventing the future statelessness of low-lying island states; the fewer GHGs released into the atmosphere, the smaller the global temperature rise and subsequent rise in sea level, resulting in fewer displaced island inhabitants and/or submerged states. Mitigation measures vary for each sector of the economy that contributes to climate change. Proposals include: increasing energy efficiency in machinery, appliances and power plants, fuel switching, reduced reliance on cars and making cars more fuel-efficient, reforestation, carbon capture and storage, carbon taxes and carbon trading. Developing nations, which include most low-lying island states, should implement mitigation measures within their own borders and should be supported by developed countries in this effort. However, these mitigation measures will need to be heavily supplemented with adaptation activities that will have a more immediate impact on the safety of the inhabitants of these low-lying islands.³

1. Robert J. Nicholls & Jason A. Lowe, *Benefits of mitigation of climate change for coastal areas*, 14 GLOBAL ENVIRONMENTAL CHANGE 229 (2004)

This paper analyzes the potential benefits of mitigation strategies for coastal areas, focusing particularly on the issue of sea-level rise. The authors note that mitigation strategies would produce the largest benefits in the long-term, probably the 22nd century and beyond. A more immediate and “robust” response to anthropogenic climate change would require a mixture of mitigation and adaptation policies in coastal areas. The authors conclude by recommending that further research on climate change and adaptive capacity, with a focus on long-term modeling, would be particularly helpful for policy makers.

Adaptation

Mitigation is a valuable long-term strategy, but it does not address the immediate impacts of climate change on human beings and ecosystems. Rising sea levels and changing weather patterns are already threatening food production, clean water availability, public health, and national security in SIDS and other vulnerable regions. Adaptation measures can help communities respond to these urgent problems, and build resilience to future impacts. There are a number of different strategies that communities can implement, such as constructing new infrastructure (e.g., increased sea defenses or flood-proof houses) and adopting new methods for farming, fishing, water collection, and other vital activities. However, these strategies are only a temporary solution for low-lying island states that are losing territory to sea level rise. The remaining option, migration, is discussed in the subsequent section.

2. The Secretary General, *Report of the Secretary General on Climate Change and its Possible Security Implications, delivered to the General Assembly*, U.N. Doc. A/64/350 (Sept. 11, 2009).

This report identifies six “threat minimizers” to climate change related security threats but does not provide specific strategies or successful examples.

1. Mitigation actions to keep the global mean temperature increase below 2° C: stringent emissions reductions, swift move to low-carbon energy sources, major advances in energy

³ Hunter, *International Environmental Law and Policy*, at 650-60.

efficiency and conservation, and slowing of deforestation, all while meeting development goals.

2. Adaptation includes capacity building, empowering people and improving physical infrastructure. Ideas include developing new drought-tolerant crops, combating land degradation and erosion, promoting agriculture practices that sequester carbon, public health education and monitoring on climate-sensitive disease, strengthening disaster risk management and regional natural disaster financing or insurance facilities.

3. Economic Growth and Sustainable Development: “climate-proof” their economy but many nations of low-lying atolls believe that since sea-level rise affect the very existence of the state “development itself becomes meaningless when there is no longer any sovereign territory with which it can be associated.”

4. Effective Government: comprehensive institutional capacity-building for climate change adaptation

5. Information for Decision-making and Risk Management

6. International Cooperation: multi-lateral agreements for climate-related migrants and statelessness

3. Moises Velasquez-Manoff, *A Pacific Island Chain with Real Energy Incentive*, The Christian Science Monitor, Aug. 7, 2009, available at <http://www.csmonitor.com/Environment/Global-Warming/2009/0807/a-pacific-island-chain-with-real-energy-incentive>.

Tuvalu vows to rely solely on renewable energy by 2020; hoping to inspire major emitters to reduce GHGs at Copenhagen. Tuvalu is relying on outside aid to move to solar energy, installing solar panels donated by a consortium of electricity firms with plans install more with the help of the Italian government.

4. Oxfam, *The Future is Here: Climate Change in the Pacific*, Oxfam Briefing Paper (July 1, 2009) (prepared by Nic Maclellan), available at <http://www.oxfam.org.au/resources/pages/view.php?ref=390&k=>.

This paper is a collaboration between Oxfam Australia and Oxfam New Zealand, focusing what these and other developed countries can do to prevent or help island nations cope with climate change in the Pacific. The authors cite avoiding the most extreme climate impacts, or mitigation, as the fairest and most cost-effective way of dealing with climate change in the Pacific. Alliance of Small Island States (AOSIS) calls for wealthy, polluting countries to reduce emissions by 40% by 2020 and 95% by 2050 to keep global warming under 2°C, requiring governments to set far higher emissions reductions targets. These countries should also support local efforts in island nations to use renewable energy and protect forests (i.e. low-carbon pathways to development). Initial financial support to island states has been welcome; this report suggests at least doubling the current amount of adaptation funding, providing it as grants instead of loans and directing it to basic resilience programs at the community level (funding traditional local knowledge instead of consultants and scientific testing). The report calls on Australia and New Zealand to have relocation and migration

discussions with island nations now, including changing immigration policies, to prepare for climate displacement.

Specific examples include: (1) village level renewable energy initiatives like Pacific Energy and Gender (promoting solar cookers), (2) establish single Global Climate Finance Mechanism (reduce administrative costs of complying with numerous bi-lateral agreements); (3) U.S. government provided desalinization equipment to Marshall Islands cities to combat drought and FEMA emergency aid for Marshall Islands and Micronesia flooding in December 2008, (4) climate-proofing communities in Fiji by trialing salt-resistant varieties of staple foods and mangroves to halt coastal erosion, protecting wells from salt-water intrusion and relocating homes away from the coast (the authors advocate this type of “soft technology” rather than “hard technology” like seawalls as they tend to be more local solutions, more compatible with island traditions and work with nature instead of against it), (5) Kiribati has adaptation actions like raising awareness and improving the weather station but moving inland is impossible due to the islands’ small size, ultimately requiring “long-term merit-based relocation strategy which involves up-skilling [their] people”, (6) relocation of Carteret Islanders where NGO is helping families from outlying islands move to church-donated land on the main island (but some SIDS feel that planning for relocation now undermines their efforts for emissions reductions, “forcing us to leave our islands now due to the inaction of those responsible is immoral and cannot be used as quick-fix solutions to the problem.”), (7) analogy to Bikinians, who after relocation for hydrogen bomb testing are still living on those other islands 50 years later, (8) New Zealand government established the Pacific Access Category to facilitate/increase migration by its Pacific Island neighbors but stressed that it was *not* a special category for people displaced by climate change, (9) long-term relocation strategies of investing in real estate in Pacific Rim countries, developing skills training programs to increase labor mobility and developing a safer islands policy that concentrates limited resources on the most populated areas and implicitly ceding outer islands to the ocean.

5. Kanako Morita, *Financing Climate Change Adaptation: Case Study of a Small Island Developing State*, (Feb.15-18, 2009) (prepared for Int’l Studies Assoc. Ann. Convention 2009), *available at* http://www.allacademic.com/meta/p_mla_apa_research_citation/3/1/0/3/1/p310318_index.html.

This author identifies five factors that determine the effectiveness of institutional aid: the (1) transparency of the money flow; (2) cost-efficiency of an institution; (3) chain of accountability; (4) sustainability and (5) flexibility. Using these five factors, both generally and as applied to the island nation of Samoa, the author concludes that the targets of international institutional aid should be at the local level and that the GEF as a funding source has higher accountability than bilateral Official Development Assistance programs (ODAs). The best current financing system to implement climate adaptation is the GEF’s small grants program.

6. National Adaptation Programmes of Action (NAPAs), *available at* http://unfccc.int/national_reports/napa/items/2719.php

NAPAs provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their urgent and immediate needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage. As of October 2008, the UNFCCC secretariat had received NAPAs from 38 LDCs, all NAPAs are available in pdf on this website. The main content of NAPAs is a list of ranked priority adaptation activities and projects, as well as short profiles of each activity or project, designed to facilitate the development of proposals for implementation of the NAPA. To facilitate access to project details from the NAPAs, the secretariat has developed a NAPA Project Database. The Marshall Islands have not yet submitted their NAPA.

7. Birtta Heine and Lorenz Petersen, *Adaptation and Cooperation*, Forced Migration Review, Issue 31, pg. 48 (Refugee Studies Center, October 2008)

This article was written for the Forced Migration Review’s special issue on Climate Change and Displacement. The authors discuss the need for international cooperation and commitment to adaptation measures. They outline three main steps involved in every adaptation strategy: (1) developing a clear understanding of climate impacts in order to gauge the vulnerability of ecosystems and societies, (2) compare climate impacts with vulnerabilities to derive possible adaptation measures, (3) determine the governance aspects of the adaptation measures by allocating responsibly among parties. Each of these steps requires the “collective efforts of various actors, working on different levels and across sectoral boundaries”. The authors note that these steps should also be applied to migration, as an adaptation strategy, when areas become no longer capable of sustaining livelihoods.

8. U.N. News Centre, Small island nations’ survival threatened by climate change, UN hears, (Sept. 25, 2008), *available at* <http://www.un.org/apps/news/story.asp?NewsID=28265&Cr=general+assembly&Cr1=date>.

This short U.N. news article highlights the major issues in speeches made by representatives from 4 Pacific Island nations (Kiribati, Marshall Islands, Palau & Micronesia): urgency of action; SIDS not major emitters of GHGs, making mitigation measures on their part limited; SIDS lack resources to build seawalls; adaptation impossible because islands are too small and lack higher ground, requiring formulation of a “long-term merit-based relocation strategy”; upskilling of people to make them marketable at international labor markets; need for major emitters to change; food security with farmland only a few meters above sea level; global warming as security issue.

9. Alliance of Small Island States (AOSIS) and the U.N. Foundation, *Global Climate Change and Small Island Developing States: Financing Adaptation*, (Feb. 5, 2008) (Green Paper Draft for Review), *available at* http://www.un.int/wcm/webdav/site/suriname/shared/documents/papers/CLIMATECHANGEAOSIS_GreenPaper_Feb52008_.pdf

The AOSIS makes an urgent call for adaptation measures for SIDS in this paper. Table 5 lists potential short-term and long-term adaptation strategies for SIDS in each of five thematic areas: agriculture and food security; water resources and quality; disaster risk management; coastal zone development and natural resources management. They also suggest areas of international cooperation to overcome barriers in SIDS countries in key areas of policy development, capacity building, joint R&D and monitoring and evaluation.

In addition to existing funding sources like the Global Environment Facility's Special Climate Change Fund (SCCF), the Least Developed Countries Fund (LDCF) and the Adaptation Fund (AF), the Caribbean Catastrophe Risk Insurance Facility (CCRIF) may serve as a model for small states in the Pacific Region who are also vulnerable to natural disasters. CCRIF is the world's first multi-country insurance pool (pooling risks by region decreased each country's premium by up to 40%) that provides immediate, short-term liquidity to countries after a hurricane or earthquake. CCRIF represents an important shift from disaster response to ex-ante disaster management.

This paper outlined a range of activities that can be taken to increase funding for adaptation, leverage existing financing sources, and improve the investment climate. These include: developing a portfolio of sector specific projects (e.g., agriculture, tourism); working with MDBs, bilaterals, and other funders to apply climate resistant conditionalities to their lending operations and facilitate risk mitigation funding to spur local lending for adaptation; creating a global green finance facility and electronic hub; developing creative carbon finance streams and a remittance network; establishing offshore green finance services, an island stock exchange, and sovereign wealth funds; and setting up living laboratories for renewable energy in island nations.

10. David Hunter, James Salzman & Durwood Zaelke, *INTERNATIONAL ENVIRONMENTAL LAW AND POLICY* 660 (3d ed. 2007).

This short section of the textbook highlights the wide variety of adaptation activities, ranging from building higher levees and sea walls, to making evacuation and disaster relief plans, and the international relocation of island communities. The authors' focus on international financial support, insurance and the relocation of climate refugees as the most important factors in adapting to the adverse impacts of climate change provides a useful narrowing of issues.

International Financial Support: 3 main funds have been created to help developing countries afford adaptation plans and projects and are administered by the Global Environment Facility (GEF). (1) Special Climate Change Fund (SCCF) provides funding adaptation and for other activities that help Annex II countries diversify their economies; (2) Least Developed Countries Fund (LDCF) supports developing nations prepare National Adaptation Programmes of Action (NAPAs), which provide a process for developing nations to identify priority activities that respond to their urgent climate change adaptation needs; (3) Adaptation Fund (AF) will finance specific adaptation projects in developing countries.

Relocation of Climate Refugees: the authors' cite the relocation of Lateu villagers further inland on the island of Vanuatu, with financial and technical support from UNEP and the Canadian government, as a successful example of international cooperation in supporting climate refugees for the future. Also references New Zealand's informal agreement with Tuvalu to take up to 75 families/year as refugees over the next 30 years.

11. Secretariat of the U.N. Framework Convention on Climate Change, *Vulnerability and Adaptation to Climate Change in Small Island Developing States*, (background paper for the expert meeting on adaptation for small island developing States), *available at* http://unfccc.int/files/adaptation/adverse_effects_and_response_measures_art_48/application/pdf/200702_sids_adaptation_bg.pdf.

The purpose of this background paper was to stimulate discussion for the expert meetings on adaptation for the Caribbean (in Jamaica, Feb. 5-7, 2007) and the Pacific region (in Cook Islands, Feb. 26-28, 2007). The paper covers a range of issues related to adaptation including: climate change impacts for SIDS; vulnerability and adaptation assessments; risk management and reduction; insurance and funding; regional and international cooperation. This paper lists possible adaptation options in very general terms and also lists planned, pipeline, ongoing and completed adaptation projects. The importance of SIDS completing their NAPAs is emphasized.

12. SIDSnet: Small Island Developing States Network, www.sidsnet.org.

Climate change affects the ability of SIDS to meet their Sustainable Development goals under the Mauritius Strategy. The SIDS Unit of the Division for Sustainable Development (DSD), U.N.-DESA helps SIDS implement the Mauritius Strategy and publishes a monthly update newsletter available on this website. SIDSnet is being aggressively updated as a result of very recent funding by Spain and will soon serve as a much-needed central knowledge management system to facilitate information sharing and collaboration between SIDS.

SIDS are currently focusing on the Mauritius +5 review in September 2010; creating National Assessment Reports (NARs) and meeting regionally in the Caribbean and Pacific. They are also filming a series of 3 climate-change related documentaries: Grenada (hurricane recovery efforts); Maldives (sea-level rise); Tuvalu (impact of salt-water intrusion on food supply).

13. Leonard Nurse & Rawlestone Moore, *Adaptation to Global Climate Change: An Urgent Requirement for Small Island Developing States*, 14(2) REVIEW OF EUROPEAN COMMUNITY AND INTERNATIONAL ENVIRONMENTAL LAW 100 (2005)

This article discusses the implications of climate change for SIDS, arguing that local governments must take urgent adaptation measures because they cannot rely on the international community for support. The authors note that the Alliance of Small Island States (AOSIS) faces a dilemma: its adaptation efforts are "stymied" by continuing opposition to emissions reduction." The authors argue that developed nations have not committed themselves to substantially reducing emissions, and therefore small island states

have “no viable option” other than to implement immediate adaptation strategies that make the country more resilient to the effects of climate change. The authors recommend that such strategies be integrated into the existing national mechanisms, in order to make them more cost-effective. The authors note that although there is some international funding for adaptation, many small island states are “unlikely to benefit from this resource pool in a substantial way”, because funds are so limited and there are so many potential recipients.

The following articles are helpful in identifying the particular vulnerabilities of island nations but provide little guidance on adaptation strategies:

14. Jon Barnett, *Global Warming and the Security of Atoll-Countries* (Univ. of Canterbury, Macmillan Brown Ctr. for Pac. Stud., Working Paper Series No. 9, 2004), available at http://www.upf.pf/IMG/pdf/12_Barnett.pdf.

Defines atoll countries and their vulnerability to climate change. The author finds that island nations are politically active at the international level to reduce global emissions of GHGs and are active at regional level in research and capacity building for adaptation to global warming but have outstanding shortfalls in research and policy implementation capacity. There is also a local lacuna of funding and adaptation projects.

15. Mark Pelling & Juha I. Uitto, *Small Island Developing States: Natural Disaster Vulnerability and Global Change*, 3 *Environmental Hazards* 49, 49-62 (2001), available at http://www.tc.umn.edu/~blume013/pelling_Uitto_sm_islands.pdf.

Defines SIDS and identifies their priorities in building national disaster mitigation capacity and overcoming insularity and remoteness. Case study – Barbados.

16. Peter Roy & John Connell, *Climatic Change and the Future of Atoll States*, 7 *Journal of Coastal Research* 1057, 1057-75 (1991).

Migration

Migration differs from other adaptation strategies, which are intended to increase the resilience of human and natural systems against climate change. Such strategies often focus on reforming land use and improving the adaptive capacity of the community *within* their environment. In contrast, the migration strategy is premised on the understanding that efforts to improve resilience and adaptive capacity have or will become futile in particular regions. The only remaining option for inhabitants of such regions is relocation. Because it is so highly disruptive, migration is seen by many scholars a “last resort”. However, for drowning island nations like the Marshall Islands, migration may be the only viable option for survival.

17. Susan F. Martin, *Climate Change and International Migration* (GMF June 2010).

Martin discusses the potential impact of climate change on international migration and examines the existing capacity to deal with this issue. She finds that the existing policy framework, which only provides asylum for traditional refugees, is not sufficient to provide host countries for environmental migrants, since many of these people “will be unlikely to

meet the legal definition of a refugee”. Given this inadequacy, Martin recommends that guidelines for protecting displaced persons should be reexamined to include climate migrants, and future adaptation policies should explicitly address and manage international climate-induced migration.

18. Jon Barnett and Michael Webber, *Accommodating Migration to Promote Adaptation to Climate Change*, Policy Research Working Paper 5272 (World Bank 2010).

This paper explains how climate change will increase future migration, discusses the risks associated with such migration, and examines how some of this migration may actually enhance the capacity of communities to adapt to climate change. The authors note that carefully planned policy responses can mitigate the risks associated with climate-induced migration, and can contribute to the development of adaptive capacity. The recommended responses include: “ensuring that migrants have the same rights and opportunities as host communities”, reducing transportation costs, facilitating mutual understanding and respect among migrants and host communities, clarifying property rights, ensuring that migrant communities have a decision-making role in migration schemes, and strengthening emergency response systems.

19. Moffat Mamu, Letter to the Editor, *Climate Change and Our Identity*, Solomon Star, Apr. 19, 2010, available at <http://www.solomonstarnews.com/viewpoint/private-view/4915-climate-change-and-our-identity>.

This Letter to the Editor provides a more local perspective (Solomon Islands) on how sea-level rise due to emission of GHGs will affect the people of SIDS. The author focuses on the loss of cultural identity that will accompany relocation and the feeling of “being a stranger in another man’s land.” He also suggests that mitigation and relocation efforts will be more successful if the press puts “a face and human touch” to often dry and technical climate change reports by telling the story of island people affected by climate change.

20. Koko Warner, Charles Ehrhart, Alex de Sherbinin, Susana Adamo & Tricia Chai-Onn, *In Search of Shelter: Mapping the Effects of Climate Change on Human Migration and Displacement*, May, 2009, available at <http://ciesin.columbia.edu/documents/ClimMigr-rpt-june09.pdf>.

The authors suggest investment should be aimed at assisting people to build climate-resistant livelihoods, so that fewer are forced to migrate. As people have always engaged in long- and short-term migration as an adaptive response to climatic stress, human migration must be included in adaptation plans. Migration plans may include “measures to facilitate and strengthen the benefits of migrant remittances” and “the rights-based resettlement of populations living in ... small island states.” Resettlement that meets human rights standards can be costly; historic high emitters should be bound to increase their aid for human mobility adaptation measures. The permanent resettlement of people affected by chronic impacts of climate change will require the creation of clear international guidelines for protecting the rights of environmentally-induced migrants.

A short case study of “Tuvalu and The Maldives: Sea level rise and small island developing states” finds that most islanders who have migrated internationally are motivated by uncertainty about the future and concern over climate change and rising sea levels but most islanders can “only make it to the next livable place.”

21. Philippe Boncour and Bruce Burson, *Climate Change and Migration in the South Pacific Region: Policy Perspectives*, Institute of Policy Studies Symposium (July 2009).

This article outlines some of the key issues and themes discussed at the Institute of Policy Studies symposium in July 2009. The authors discuss the challenges of integrating migration into the climate change debate, including disputes over causation, the complexity of climate change-related migration, and the perception of cross-border movement as a “security threat”. The authors suggest that more information about the potential scale and patterns of climate change related migration would be especially useful in this debate. The authors also recommend that scholars and lawyers develop workable definitions of concepts like human rights, statelessness, self-determination and international displacement, as they pertain to climate migration. Consensus on these issues can facilitate bilateral state cooperation to assist and manage climate migration, which is “vitally important” for the future of South Pacific island states.

22. *2009 Global Trends: Refugees, Asylum-Seekers, Returnees, Internally Displaced and Stateless Persons* (Geneva: UNHCR, 2009).

This UN report provides an overview of forcibly displaced and stateless persons worldwide, but does not specifically address climate refugees. The report discusses the capacities and contributions of host countries, finding that countries with strong economies are more capable of absorbing refugee populations. The report advocates “voluntary repatriation” as a “durable solution, which has historically benefitted the largest number of refugees”. It emphasizes that resettlement is a “key protection tool” and a “significant responsibility sharing mechanism” for all countries.

23. Marion Couldrey & Maurice Herson (eds.), *CLIMATE CHANGE AND DISPLACEMENT: FORCED MIGRATION REVIEW No. 31* (Refugee Studies Center, October 2008).

This edition of the Forced Migration Review contains a number of brief articles on climate change and human displacement. The articles highlight the need for adequate planning and management of climate-induced migrations, and better definitions, information and analysis of this phenomenon. Some of the authors also discuss the importance of a human rights-based approach for protecting and assisting displaced populations. A few of the articles address the specific situation in drowning island states, and are discussed separately in this bibliography.

24. Oli Brown for the Int'l Org. for Migration [IOM], *Migration and Climate Change*, 2008.

The author found that while the global media is frantic to find the first victims of climate change or “climate canaries,” thus far most publicized examples of forced migration due to

climate change (the Carteret Islands and Vanuatu) are more anecdotal than empirical, affecting only a few thousand people at a time. Efforts to expand the definition of “refugee” to include people displaced for environmental reasons have faltered but the EACH-FOR project is attempting to gather statistics on climate migration. The NAPAs of SIDS are intended to help these nations prioritize their adaptation efforts but none of the ones submitted thus far have even mentioned migration as an option.

25. Frank Biermann and Ingrid Boas, *Protecting Climate Refugees: The Case for a Global Protocol*, 50(6) SCIENCE AND POLICY FOR SUSTAINABLE DEVELOPMENT 8 (2008).

This article, written by two researchers from The University of Amsterdam, discusses the general situation of climate refugees and proposes that the UN implement a “separate, independent legal and political regime created under a Protocol on the Recognition, Protection, and Resettlement of Climate Refugees”. The authors specify that the core objective of this protocol should be the “planned and voluntary resettlement and reintegration of affected peoples over periods of many years and decades”, as opposed to short-term disaster relief. The authors also recommend that wealthy industrialized countries, which have contributed far more to global warming, should be responsible for financing, supporting and facilitating this program of resettlement.

26. Stephen Tully, *The Contribution of Human Rights as an Additional Perspective on Climate Change Impacts within the Pacific*, 5 NEW ZEALAND JOURNAL OF PUBLIC AND INTERNATIONAL LAW 169 (2007).

This article provides an overview of climate change impacts within the Pacific region, and recommends that the international community implement a human-rights based relocation strategy. The author notes that small island states will “increasingly experience loss of territory and socio-economic and cultural disruption before ceasing to be habitable.” The author goes on to argue that the strategy of adaptation is limited as an effective long-term response to climate change. For one thing, reactive adaptations are expensive, socially disruptive and unsustainable. The author also notes that adaptation is predicated upon a state-centric sustainable development agenda, and therefore ill suited for islands that will soon lose their territory and possibly their statehood. Finally, adaptation is problematic due to the lack of funding for such strategies.

Given these problems, the author proposes an “international framework that ensures, in the worst-case scenario, that affected individuals are relocated and resettled within other states.” This framework should be based on human rights principals, specifically the obligation to protect the rights to life, culture, work, food, water, and health. The author also recommends that this framework should emphasize individual entitlements above claims to a particular status, such as refugee status. This would “sidestep the doctrinal deficiencies associated with concepts such as nationality, statelessness, refugee, or alien. Keeping this framework in mind, the author advocates more adaptation assistance but also recognition of when migration, rather than adaptation, is necessary. He recommends that managed migration

programs should be proactive, rather than reactive. He also notes that such programs would require international compromise—specifically, developed nations must accept responsibility to provide humanitarian assistance and accept climate refugees into their country.

27. Compact of Free Association, As Amended, Between the Government of the United States of America and the Government of the Republic of the Marshall Islands, *available at* <http://166.122.164.43/archive/special/RMICompact,asamended.pdf>.

The Marshall Islands have a Compact of Free Association with United States, in which the U.S. gives the islands money in exchange for full international defense authority and responsibilities. This Compact may affect migration options for the Marshallese, as most citizens of the associated states may live and work in the United States (albeit now with a passport after the 2003 COFA renewal changed some immigration rules). The U.S. also gives “Compact Impact” funding to other US territories (American Samoa, Guam, Hawaii and Northern Mariana Islands) to help those governments cope with the expense of providing services to immigrants from the Marshall Islands, Micronesia and Palau.

28. Norman Myers, *Environmental Refugees: a Growing Phenomenon of the 21st Century*, 357 *PHILOSOPHICAL TRANSACTIONS: BIOLOGICAL SCIENCES* 609 (2002).

This article discusses the challenges of climate-induced migration. First, the author analyzes the factors which have led to increasing numbers of environmental refugees, including the effects of global warming: sea-level rise, flooding of coastal-zone communities, increased droughts and disruptions of rainfall regimes, as well as other factors, such as poverty and colonial history. The author predicts that the issue of environmental refugees will “rank as one of the foremost human crises of our times”. Noting that there will be limits to the willingness and capacity of host countries to accept climate refugees, the author proposes that preventative policies are necessary to deal with this problem. The author also recommends that we redistribute foreign aid to support host countries with many climate refugees.

III. OPTIONS FOR A “DISAPPEARING” STATE

Much of the discussion concerning long-term options for small-island states facing imminent submersion, or risk of inhospitable territory, concerns internal and external relocation of climate displaced populations. Regarding relocation to outside states, academics discuss several possible scenarios ranging from the most optimal—where a disappearing state can retain all its sovereignty and original state rights by acquiring new territory, to merging into a host state but still retaining some autonomy, to the least optimal situation—where there is an absence of planning altogether and a state is unprepared or lacks a relocation strategy.

Acquire new territory from another state

Acquiring new territory from another state would allow a low-lying island to retain its nationality and its rights as a common people. There do not seem to be examples of new territories acquired from

other states in the modern era. Currently, where territory for the most part has been developed, there are no undiscovered territories to relocate to and it seems unlikely that other states will cede territory.

1. Ilan Kelman, *Island Evacuation*, 31 FORCED MIGRATION REVIEW 20 (Refugee Studies Center, October 2008).

This article was written for the Forced Migration Review's special issue on Climate Change and Displacement. Kelman explains how global warming will have a particular impact on islands, some of which will need to make hard decisions regarding displacement and evacuation procedures. The author suggests that, "rather than losing a culture, language and identity... island communities could instead be re-created" by resettling in areas that are similar but more secure than their current location. Such resettlement may require another state to cede territory, which will have legal ramifications. The author also notes that decisions will have to be made concerning sovereignty and autonomy of these new communities, describing several scenarios: (1) joint access to an island's resources, as in Svalbard, (2) shared autonomy with "parallel and complementary justice systems", as is the case for indigenous people in Canada and New Zealand, or (3) shared autonomy with parallel currency systems. The author notes that, even once a governance model is established, there will be other difficult questions such as who pays for the move, land acquisition, and construction of new infrastructure.

2. Maryanne Loughry and Jane McAdam, *Kiribati – relocation and adaptation*, 31 FORCED MIGRATION REVIEW 20 (Refugee Studies Center, October 2008).

This article was written for the Forced Migration Review's special issue on Climate Change and Displacement. The authors discuss the current situation in Kiribati, where residents are considering the possibility of permanent relocation. The authors note that, although significant actors like the World Bank and European Union have invested in adaptation programs to increase awareness of climate change effects and develop infrastructure in Kiribati, they have not created an "adequate forum for discussions of realistic options", nor have they created an institution that would mandate assistance for relocation efforts. The authors assert that these significant players need to recognize the reality of climate-induced displacement and implement mechanisms to assist and fund relocation projects.

New Iceland

3. Jane McAdam, *'Disappearing States', Statelessness and the Boundaries of International Law*, University of New South Wales Faculty of Law Research Series (2010). J. McAdam (ed), CLIMATE CHANGE AND DISPLACEMENT: MULTIDISCIPLINARY PERSPECTIVES (Oxford, Hart Publishing, forthcoming 2010).

Some authors refer to Icelandic settlement as a lease of territory from another state and not an actual acquisition. McAdam points out that the settlement was never supposed to be a separate colony but created and dissolved by an order of the Canadian Order-in-Council. The process by which it was created and dissolved illustrates that the Icelandic “state” was not actually its own sovereignty. Furthermore the settlers did not intend for their new territory to be seen as independent of Canada.

4. Rosemary Rayfuse, *W(h)ither Tuvalu? International Law and Disappearing States*, University of New South Wales Faculty of Law Research Series (2009).

The Icelandic territory has been referred to as a state within a state by some academics. Rayfuse portrays the Icelandic settlement as an example of the acquisition of sovereignty by treaty of cession. Her article also emphasizes that the Icelandic movement was both due to climate change and extreme poverty. Lastly, she comments on the high unlikelihood of state ceding territory today, unless the land ceded was undesirable and/or uninhabited.

5. Burke G. Vanderhill and David E. Christensen, *The Settlement of New Iceland*, Annals of the Association of American Geographers, Vol. 53, No. 3 (1963), *available at*: <http://www.jstor.org/stable/2561269> Accessed: 25/04/2010 14:42.

One of the few instances where a territory owned by one state was partly ceded to an outside population of settlers occurred in the late 1800s. The settlement of “New Iceland” recounts the history of Icelandic immigrants who formed their own autonomous colony in Canada. During the late 1800s, due to climate change events—long periods of below normal temperatures and volcanic eruptions—Icelandic people immigrated to Canada. In 1875, a group of Icelandic emigres and the Canadian government entered into an agreement whereby the government granted a large tract of land—some 450 square miles—to the settlers and guaranteed them the same rights as Canadian citizens. The Canadian government aided the colonists by appointing a guide, providing transportation for settlers, economic aid in the form of loans and allowing settlers to choose the land, within the province of Manitoba, to settle. The settlers had their own government and constitution. Though the settlers had the aid of the Canadian government, the settlement had trouble thriving due largely to an inhospitable terrain and unfamiliarity with environment conditions. Eventually, the settlement was absorbed into the Canadian government in 1887.

Failed Requests for Acquisition

6. *Climate Change Displaced Persons and Housing, Land and Property Rights: Preliminary Strategies for Rights-based Planning and Programming to Resolve Climate-Induced Displacement* (Displacement solutions, February 10, 2010).

In 2008, the Prime Minister of Tuvalu formally requested from Australia a small piece of territory to resettle the entire population of Tuvalu. Australia did not acquiesce to the request but Torres Strait Islands did unofficially offer one of its islands for the Tuvalu to resettle on.

7. Brad Crouch, A road to nowhere, SUNDAY TIMES (Western Australia). October 5, 2008. Available on Westlaw [10/5/08 SUNDTWAU 15].

This article corroborates Tuvalu's request for a migration plan with Australia. According to the article, Prime Minister Apisai Ielemia secretly met with the Australian officials "to float" a migration plan where the Tuvaluan population will resettle in Australia and maintain their sovereignty.

Purchasing or Renting Territory

8. *Govt approves plan to rent Tabuhan Island to Maldives investor*, JAKARTA POST, April 1, 2010, available at <http://www.thejakartapost.com/news/2010/04/01/govt-approves-plan-rent-tabuhan-island-maldives-investor.html>.

This article states that the Indonesian government is willing and has already approved a plan to rent part of its territory to willing purchasers. The Minister of Marine Resources and Fisheries Fadel Muhammed has approved a plan to rent the island to a Maldives investor but for the purposes of a tourist resort.

9. Steve Holland, *Indonesia's rent-an-island answer to climate change*, RADIO AUSTRALIA, June 3, 2009, available at <http://www.abc.net.au/news/stories/2009/06/03/2588165.htm>.

Indonesia proposes to rent its islands to small islands states threatened by rising sea levels. Indonesia has about 10,000 uninhabited islands it can rent out and is considering the Maritime Minister's proposal to do so.

10. *Indonesian islands for rent*, THE STRAITS TIMES, May 6, 2009, available at http://www.straitstimes.com/Breaking%2BNews/SE%2BAsia/Story/STIStory_373069.html.

Indonesia has approximately 17,500 islands. Many of which are uninhabited and safe from rising sea levels. At the time of the article, Indonesia was considering renting its uninhabited islands to small islands states whose territories are being threatened by rising sea levels.

11. *Trouble in Paradise*, SUNDAY TIMES (UK), February 1, 2009, available on Westlaw [2/1/09 SUNDTUK (No Page)].

This article documents that the President of Maldives, Mohamed Nasheed, who intends to put aside two million dollars a year into a fund for relocation. Though it seems unlikely that the money collected will be enough to purchase new territory, the Maldives President also intends to rely on richer nations to help bear the brunt of costs for relocation.

12. Eoin O'Carroll, *Faced with Rising Sea Levels, the Maldives Seek New Homeland*, THE CHRISTIAN SCIENCE MONITOR, Nov. 11, 2008, available at <http://www.csmonitor.com/Environment/Bright-Green/2008/1111/faced-with-rising-sea-levels-the-maldives-seek-new-homeland>.

This brief article discusses Maldives' plan to purchase land for the relocation of its population. The president is considering migration to lands that have a similar climate, culture and cuisine (like Sri Lanka) or where land is abundant (like Australia). He plans to finance the expense of this relocation with a sovereign wealth fund based on tourism revenue. This article also mentions three other countries that have relocated a portion of their population because of rising sea levels (Bangladesh's Bhola Island, Papua New Guinea's Carteret Islands and Vanuatu's Tegua).

13. Randeep Ramesh, *Paradise almost lost: Maldives seek to buy a new homeland*, THE GUARDIAN, November 10, 2008, available at <http://www.guardian.co.uk/environment/2008/nov/10/maldives-climate-change>.

The article states that the Maldives President will set aside monies from tourism revenue to purchase a new homeland. The Maldives President sees this as an "insurance policy" and the best option to address climate change and the eventual submersion of the Maldives islands. The president was looking at Sri Lanka, India, and Australia as potential states to buy territories from.

Merge into a host state

The issues surrounding climate displaced populations merge into host states mostly involves hypothetical scenarios. Typically, examples of internal relocation are much more common. Furthermore, there are very few examples of climate displaced individuals merging into another state as a collective group and many more instances of individual refugees moving to other states in their individual capacity.

14. Oli Brown, *Migration and Climate Change*, IOM Migration Research Series, International Organization for Migration (2008).

The paper examines climate-change displacement, reporting on the actual policy responses by small island states and developed countries, and proposes strategies that small island states should implement to mitigate the effects of climate change displacement. The report emphasizes that, despite the considerable amount of data and alarm regarding rising sea

levels, international commitments to the goal of climate refugee rights is limited. Brown states, “there is a collective, and rather successful, attempt to ignore the scale of the problem.” Furthermore the paper highlights that migration is viewed by many developed states as a failure of adaptation.

Brown first suggests legal recognition of climate refugees. Regardless of what term is adopted, a set terminology for those individuals displaced by climate change should be explicitly defined in order to further develop international framework on how best to handle climate change displacement.

15. International Organization for Migration (IOM), Discussion Note: Migration and the Environment, Ninety-fourth session, MC/INF/288 (Nov. 1, 2007).

This discussion note provides suggestions for long-term migration planning due to climate change. The discussion note envisions varying degrees of environmental degradation and then proceeds to offer recommendations for each potential level of degradation. The recommendations regarding migration strategies are the following: 1) In cases where environmental degradation is less advanced the note proposes bilateral agreements between host countries and migrating populations that allow for temporary migrant workers to enter; and 2) When environmental changes are at irreversible stages, the note recommends that permanent migration and resettlement schemes be enacted in incremental steps. The report advocates disaster preparedness between the affected population and host state. It also recommends that host states consider allowing displaced populations temporary stay.

Forced Migration

16. Nic Maclellan, *The future is here: climate change in the Pacific*, Oxfam New Zealand and Oxfam Australia (July 2009), available at <http://www.oxfam.org.au/resources/filestore/originals/OAus-FutureIsHere-0709.pdf>.

This report provides two examples of forced migration where currently sovereign peoples, who were colonies at the time of forced migration, were resettled into another state. It first documents the forced migration of the Micronesian people of Banaba to Fiji’s Rabi Island. The forced migration occurred during World War II, when the British government purchased territory from Fiji. The resettlement was partly because of environmental conditions: phosphate mining had ruined the island of Banaba. The second instance occurred in the 1950s, when communities on Gilbert and Ellice Islands (now Kiribati and Tuvalu) were resettled to the Solomon Islands. Both islands were British colonies at the time. The forced relocation has had adverse consequences for both communities. The Banaba people still seek to relocate back to their homeland but cannot due in part to the

severe environmental degradation. For those people resettled on the Solomon Islands, in 2007 a tsunami dislocated many communities on the Solomon Islands. The settlers from Gilbert and Ellice Islands were not afforded the same relief as the indigenous Melanesian islanders (which includes peoples from the Solomon islands). Indigenous Melanesian islanders were able to resettle with extended clans but the non-indigenous Micronesians were not able to.

The paper also highlights the responses of Australia and New Zealand to climate change displacement. It states that both countries have been slow to address the issue of adaption generally and specially resettlement schemes.

17. *Climate Change, Human Rights and Forced Human Displacement; Case Studies as Indicators of Durable Solutions*, Background Paper for UNHCR Roundtable Meeting (December 10, 2008).

This paper provides a brief background to a roundtable meeting convened jointly by Displacement Solutions, the UNHCR, and the Pacific Regional Office of UN Information Centre. The paper recognizes that some adaptation scenarios will “unavoidably include forced human displacement and some form of relocation”, which will impact “both the displaced populations themselves and the receiving communities in the places to which they relocate.” The paper discusses several different forms of relocation, and acknowledges that each category will have different policy and legal implications for governments, regional bodies, and international agencies. The authors recommend that information gathered through “bottom-up” strategies will ensure that displaced communities are involved in developing and implementing relocation plans.

Immigration Agreements

18. François Gemenne, *Climate Change and Forced Displacements: Towards a Global Environmental Responsibility? The Case Study of the Small Island Developing States (SIDS) in the South Pacific Ocean*, London School of Economics Department of Government (2006).

Using Tuvalu as a case-study, this paper discusses how the burden and responsibility of climate-change-induced migrations could be shared among states. Gemenne describes the solutions that Tuvalu is currently considering, including buying land in Australia or New Zealand, moving to Niue or Fiji, and establishing a burden-sharing agreement to finance relocation. Gemenne discusses two schemes which have been proposed by New Zealand and Australia: the Pacific Access Category (PAC), an immigration agreement between New Zealand, Tuvalu, Fiji, Kiribati, and Tonga, which allows a limited number of displaced migrants to relocate in New Zealand; and the Pacific Climate Change Alliance, which was recently proposed by Australia’s Labor Party to assist neighboring island states with mitigation, adaptation and emergency efforts. Gemenne notes that, although these burden-sharing arrangements may provide some regional solutions, the urgent situation in drowning

island states will require an international commitment to sharing the responsibility for climate-induced migrations.

“Deterritorialized states”

19. Achim Maas & Alexander Carius, *Territorial Integrity and Sovereignty: Climate Change and Security in the Pacific and Beyond*, Conference on Climate Change and Security, Trondheim, Norway (June 21-24, 2010).

This article, mentioned on page 2, discusses the impacts of climate-induced sea level rise on conceptions of territorial integrity and sovereignty in Pacific Island States. The authors describe possible scenarios for submerged island states that have lost their territory. They could continue to be recognized as sovereign states, although their population and government are relocated. Alternatively, they could lose their “statehood” and voting rights in international organizations, while the citizens retain passports and other privileges of sovereign immunity. The authors also note that some countries may choose to no longer recognize these states, leading to international tensions and disputes over the EEZ.

The authors also describe possible methods of preserving EEZ in deterritorialized island states, including: (1) an agreement to fix maritime boundaries based on satellite footage from a given year, and (2) construction of sea defenses, also known as the “Dutch Scenario”, and (3) buying or receiving land from other countries. The authors indicate that the first two options have merit (though they may be challenged by other countries), whereas the third option will not work because it “appears unlikely today that territory may be ceded unless it is devoid of any other use of purpose”.

20. Lilian Yamamoto & Miguel Esteban, *Vanishing Island States and Sovereignty*, 53 OCEAN & COASTAL MANAGEMENT 1 (2010).

This article, mentioned on page 3, examines ways that submerged or barren islands could maintain enough of a sovereign presence to continue to claim the EEZ surrounding the formerly inhabitable island. The authors suggest that islands may be able to build sea defenses around an island or construct a “lighthouse” type tall structure as a “sovereignty marker” to keep a claim on adjacent lands. The authors also briefly explore the concept of a “deterritorialized” state and governments in exile as ways of maintaining sovereignty, although they characterize this status as “somewhat analogous to statehood.”

21. Rosemary Rafuse, *W(h)ither Tuvalu? International Law and Disappearing States*, University of New South Wales Faculty of Law Research Series (2009).

Rafuse’s paper advances an expansion of the definition of statehood to include states without territories—“deterritorialized” states. Past and current examples include the Sovereign Order of the Military Hospitaller Order of St John of Jerusalem, of Rhodes and of Malta (commonly referred to as the Knights of Malta) and the Papal See between 1870 and

1929. Although neither state had its own territory, each was treated as an independent state with the ability to enter into treaties and with broad recognition from other states.

With these examples in mind, Rayfuse proposes that small-island states, at risk of submersion and threatened with the loss of their territories, be considered deterritorialized states. Rayfuse envisions that a deterritorialized state would continue to retain its governing authority. It “would act as a trustee of the assets of the state for the benefit of its citizens wherever they might be located.” As deterritorialized states, small islands would be able to preserve their current maritime zones and retain the maritime rights they had as nation with territory. She acknowledges that extensive arrangements between deterritorialized states and host states will have to occur to smooth transition. She advocates that the deterritorialized state have the same rights as it had as a state with territory (cultural, national, linguistic, etc) and also be allowed full citizenship rights of the new host state.

Other options

Placing the burden on developed states to find a solution to climate-change displacement

22. Bonnie Docherty and Tyler Giannini, *Confronting a Rising Tide: A proposal for a convention on climate change refugees*, 33 HARVARD ENVIRONMENTAL LAW REVIEW 349, (2009).

The focus of the article places an emphasis not on what disappearing states should do but on what developed states, which are the major contributors towards climate change, should do. The article proposes an independent convention that would create obligations on developed states to assist populations displaced by climate change. The article advocates obligating host states to assist to the fullest extent possible.

23. Vikram Odedra Kolmannskog, *No Regrets*, 31 FORCED MIGRATION REVIEW 46 (Refugee Studies Center, October 2008).

This article was written for the Forced Migration Review’s special issue on Climate Change and Displacement. Kolmannskog asserts that “adaptation in the most exposed and vulnerable states must be an international task”, since the responsibility for climate change and its impacts primarily lies with developed countries. That said, the author also recognizes that “protection of people on their territory is the primary responsibility of nation states”, and so vulnerable states must also take adequate measures to address the realities of adaptation and forced migration.

24. Tony Angelo, *The Cook Islands/New Zealand*, Kreddha Autonomy Mapping Project, (December 2007), available at www.kreddha.org/mapping/downloads/080207_Cook_Islands.pdf.

The Kreddha Autonomy Mapping Project, a project designed to examine different autonomous government relationships, commissioned this report. The report explains the relationship between Cook Islands and New Zealand. Cook Islands is an autonomous state in a free association relationship with New Zealand since 1965. Originally Cook Islands was a colony and a dependent territory of New Zealand. Cook Islands, in accordance with the United Nations norms, passed the Cook Islands Constitution Act of 1964 and denied New Zealand the power to administer or legislate on the island. The free association relationship allows for Cook Islands to retain New Zealand citizenship but it does not have its own citizenship status. The arrangement allows for Cook Islands to decide to end the free association at any time.

The relationship between Cook Islands and New Zealand is unique and can provide further guidance on possible arrangements between other pacific island states and developed states. Perhaps islands with similar colonial pasts may be able to obtain like arrangements.

MARITIME GOVERNANCE

Coastal states and low-lying areas are vulnerable to the impacts of climate change and rapidly rising sea levels. These effects have received sporadic legal treatment, with questions such as the effect of coastal regression on the location of baselines and maritime zones, the role of bilateral or multilateral treaties, existing maritime sovereignty disputes (and proposed solutions), and other similar enforcement issues, being covered by a limited number of articles. This section briefly explains each of these issues, highlighting areas where further research is relevant and necessary.

I. COASTAL REGRESSION AND BASELINES / MARITIME ZONES

International law relating to entitlement to maritime zones is set forth in the 1982 Law of the Sea Convention (LOSC). While jurisdictional rights over the territorial sea, contiguous zone, exclusive economic zone (EEZ) and continental shelf may differ, the outer boundary of each of these zones is measured from a *common baseline*. According to Article 5, except where otherwise provided in the LOSC, the normal baseline is the “low-water line along the coast as marked on large-scale charts officially recognized by the coastal state.” Under certain circumstances, straight baselines drawn in accordance with the specific rules set out in Article 7 may be used. But it is important to note that the LOSC does not expressly indicate whether the outer boundary of maritime zones move with baselines. The LOSC arguably fixes the outer boundary of some zones (the continental shelf and deltas and other natural conditions that make coastlines unstable), but there are no provisions that potentially “fix” the outer boundary of the EEZ, contiguous zone, or territorial sea. Some commentators interpret this negative implication to mean that the legal and physical boundary of these maritime zones are ambulatory. (See David D. Caron, “When Law Makes Climate Change Worse.” 17 Ecology L. Q. 621 (1990); Charles Di Leva & Sachiko Morita, *Maritime Rights of Coastal States and Climate Change: Should States Adapt to Submerged Boundaries?* Law & Development Working Paper Series No. 5, 2008).

The difficulty with ambulatory baselines is that all coastlines, and thus the delimitation of maritime zones, could be affected. In turn, once rendered uninhabitable by sea level rise, islands could lose their exclusive economic zone and continental shelf. Should a low-lying island disappear entirely, it could lose its territorial sea as well. Thus, apart from the uncertainty as to the location of boundaries and zones that would be implicated by an ambulatory baseline, such an interpretation could spark disputes over sovereignty rights to living and non-living resources.

The ambulatory theory is not unambiguously correct. Negative implications are difficult to premise a legal theory upon, and there does not seem to be a clear resolution of whether the LOSC intended baselines to be fixed or ambulatory in the case of coastal regression.⁴ In the alternative, some commentators propose rejecting the ambulatory theory and developing a new rule of

⁴ Note, there is some U.S. case law to support the ambulatory approach. See, e.g., *United States v. California*, 382 U.S. 448, 449 (1966) (treating coastlines as something that can be “heretofore or hereafter modified by natural or artificial means,” as opposed to something that is fixed at one point in history). There is also a draft provision in the 1958 Geneva Convention (the precursor to LOSC) that appears to support the idea of an “ambulatory coastline.”

customary or conventional law freezing the outer limits of maritime zones where they were located at a certain point in time. (See Caron) There are issues with this approach as well, although commentators suggest that such an approach would be well looked upon, because resources could be directed to substantive adaptation needs rather than preserving maritime entitlements.

1. Rosemary Rayfuse, *W(h)ither Tuvalu? International Law and Disappearing States*, University of New South Wales Faculty of Law Research Series (2009).

Rayfuse's article discusses the physical disappearance of states in the context of climate change. The author analyzes this issue in the context of the law of the sea and jurisdiction over maritime spaces, arguing in favor of "an international strategy to freeze existing baselines and maritime zones" to protect the interests of disappearing states.

2. Charles Di Leva & Sachiko Morita, *Maritime Rights of Coastal States and Climate Change: Should States Adapt to Submerged Boundaries?* Law & Development Working Paper Series No. 5 (2008).

This article explores the geopolitical ramifications of shifting coastlines, noting that such ramifications may have a grave impact on developing countries that "lack the resources and capacity to address complicated historical and geographic approaches to boundary claims". The author begins by analyzing the potential impacts of rising sea levels on the rights of coastal states over their maritime zone, focusing on how the United Nations has thus far addressed this issue in the U.N. Convention on the Law of the Sea. The author notes that many nations, including 20 coastal states, are still not party to UNCLOS, and encourages these nations to join the Convention: "the more universal the ratification of the Convention becomes, the more the Convention can... help avoid potential tensions and conflicts over maritime claims." The author also suggests that the drawing of accurate baselines, and compliance with the deposit and publicity requirements of UNCLOS, are equally important for moving forward. Finally, the author recommends that developed countries should provide technical and financial assistance to developing coastal states and low-lying regions, so as that these countries can "approach any future territorial and maritime boundary negotiations with the necessary tools".

3. Cleo Paskal, *Climate Change and Borders*, Ecologist Online, August 2, 2007, available at http://ecologist.testing.net-genie.co.uk/investigations/climate_change/83042/climate_change_and_borders.html.

This article explores the effect that climate change and rising sea levels will have on maritime boundaries. Paskal discusses three hypothetical scenarios, which each illustrate a different legal issue: (1) shifting borders between maritime neighbors, (2) dramatically eroded Exclusive Economic Zones (EEZ) and (3) threats to sovereignty.

4. Alain Khadem, *Protecting Maritime Zones from the Effects of Sea Level Rise*, 5(3) IBRU BOUNDARY AND SECURITY BULLETIN (Autumn 1998)

Based on a finding that the current International Law of the Sea is "ill-equipped" to respond to rising sea levels, this article recommends that rules describing how baselines are

construction in relation to the coast should be updated. Specifically, the author explores how “straight baselines could be used to protect the limits of maritime zones from the effects of shoreline migration”. The author asserts that such an approach would have a “relatively mild effect” on most maritime zones, and proposes an “innovative technique for controlling the straight segments”. Although this approach was rejected at the 3rd U.N. Conference on the Law of the Sea, the author insists that it should be reconsidered in light of his new technique.

5. David D. Caron, *When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level*, 17 *ECOLOGY LAW QUARTERLY* 621 (1990)

In this paper, the author considers the implications that a rising sea level may have for the law of baselines. The author notes that, thus far, the law of baselines has been based on the assumption that there will not be a significant rise in sea level. Given that this assumption is no longer scientifically valid, the author describes how the law of baselines “will not only hamper adaptation to a rising sea level, but indeed may aggravate the consequences of climate change.” Finally, the author examines possible alternatives to the current law, and proposes that we adopt a new system “in which the boundaries of all maritime zones, in particular the exclusive economic zone, are fixed on the basis of presently accepted baselines”.

6. Alfred Soons, *The Effects of a Rising Sea Level on Maritime Limits and Boundaries*, 37(2) *NETHERLANDS INTERNATIONAL LAW REVIEW* 207 (1990)

This article provides an overview of how rising sea levels, caused by anthropogenic climate change, may alter maritime boundaries.

II. BILATERAL AND MULTILATERAL TREATIES

As discussed above, the 1982 Convention on the Law of the Sea provides for baseline delimitations along almost all types of coastline. Twenty-one years after the text was finalized and more than a decade since it came into force, the Convention has 155 parties, which include coastal and landlocked states. As of 2007, however, twenty coastal states are not parties to the Convention, including the United States. Although many of these states have maritime zones that generally comply with the conditions specified in the Convention, some have maritime boundaries that go beyond the conditions set forth in the Convention. Accordingly, most commentators agree that the more universal the ratification of the Convention becomes, the more it can help avoid tensions and conflicts over maritime claims.

1. Michael A. Becker, *International Law of the Sea*, 42 *INTERNATIONAL LAW* 797 (2008)

This article provides a brief overview of the International Law of the Sea, including the ratification of the U.N. Convention on the Law of the Sea (UNCLOS), recent developments in the Arctic region (specifically, continental shelf claims of the Arctic states), Maritime Security (including piracy law and the Proliferation Security Initiative), and laws

relating to the whaling industry. The author also discusses dispute resolution venues for claims arising under the International Law of the Sea, including the ICJ and U.S. Courts.

2. John A. Duff, *The United States and the Law of the Sea Convention: Sliding Back from Accession and Ratification*, 11 OCEAN & COASTAL LAW JOURNAL 1, 2 (2005-06)

In this article, the author discusses why the United States has not ratified UNCLOS, although it has signed a related agreement relating to the implementation of Part XI of UNCLOS. The author explores U.S. political history, as well as contemporary reactions to the Convention, outlining a number of different perspectives on the debate, including: national security, diplomatic, commercial shipping, academic, senate, industrial and environmental interests. The author notes that opposition to the Convention is primarily grounded in concerns about U.S. sovereignty, and concludes that it is unlikely that the U.S. will ratify the convention in the near future.

3. Barbara Kwiatkowska and Alfred H.A. Soons, "Entitlement to Maritime Areas of Rocks Which Cannot Sustain Human Habitation or Economic Life of Their Own," 21 NETHERLANDS YEARBOOK OF INTERNATIONAL LAW 139 (1990).

This article discusses the UNCLOS definition of an island as 'a naturally formed area of land, surrounded by water, which is above water at high tide' and the entitlements that accompany this definition, including a 12 mile territorial sea (TS), a 24 mile contiguous zone (CZ), the continental shelf (CS) and the 200 mile exclusive economic zone (EEZ).

III. MARITIME SOVEREIGNTY DISPUTES

A significant effect of climate change relates to global security. In the context of rapidly rising sea levels, one particularly salient example is the melting of ice in the Arctic Region, which is expected to open the Northwest Passage. Several countries, including the United States, Canada, Russia, and others, are competing to secure the subsurface rights to the Arctic seabed. The United States, for example, is compiling scientific data to substantiate claims to the continental shelf. And in 2007, Russia staked its flag into the seabed at the North Pole. These actions demonstrate that the Arctic seabed is a hotbed for rising political tensions. It is also significant, however, as a source of undiscovered oil and gas, and as an opportunity for expanded trade (the opening of the Passage could reduce travel time between Asia and Eastern North America). Arctic region law of the sea issues have more to do with EEZ rights and policies than with baseline delineation. This, however, is an area for further research as there has been little mention of the overlapping law of the sea issues in articles.

1. Cleo Paskal, *How climate change is pushing the boundaries of security and foreign policy*, Briefing Paper for Energy, Environment and Development Programme, (Chatham House, June 2007), available at: <http://www.chathamhouse.org.uk/research/eedp/papers/view/-/id/499/>.

This paper further explores the issues introduced in Paskal's article, "Climate Change and Borders" (mentioned on page 32). Paskal describes how the impacts of climate change will

destabilize the international system, by triggering legal disputes, disrupting access to vital resources, and impacting infrastructure. To analyze the potential legal disputes, she discusses four scenarios: (1) shifting borders between U.S. and Cuba, (2) dramatically eroded EEZ in coastal states, (3) threats to sovereignty of small island states, and (4) the Northwest Passage as a new transportation route. Paskal then discusses how access to water and food may be limited by climate change, leading to increased regional conflict and massive migration. Lastly, Paskal describes how sea-level rise, and its compounding effects on storm surges and extreme weather events, will erode coastline infrastructure in both developed and developing states, resulting in short-term problems and long-term destabilization.

IV. ENFORCEMENT ISSUES

In the context of disappearing states, some issues to consider are how to manage “authority” without having sovereignty over property acquisitions; how to recognize citizenship rights in new “host” states; and continued management and avoided exploitation of maritime zones. On the latter issue, there are certainly challenges of monitoring, control, surveillance, and enforcement. Some possible solutions would include increased use of satellite and other MCS technologies, and increased cooperation with relevant local and international organizations.

Other significant challenges to consider are payment for resources taken and ensuring appropriate conduct – for example, sustainable development practices and distribution of funds to beneficiaries. There is an open question as to whether this would require overarching oversight, perhaps an international presence or authority.

V. CONCLUSIONS

While the status of low-lying states has received increased attention in recent years, particularly up to and during the Copenhagen conference, the subject of international legal boundaries, climate change, and low-lying states has received relatively little academic treatment. The two best resources on this subject are the Caron article and the Di Leva and Morita paper. They present the core delimitation legal issues and how the LOSC exacerbates those issues. Beyond those two articles, however, there has been limited work on the subject. This suggests that additional core work addressing legal options for island states is necessary, as well as additional work placing this particular law of the sea question into a broader context of maritime issues relating to climate change.

PROPERTY RIGHTS

I. EFFECTS OF DISPLACEMENT AND STATELESSNESS ON PROPERTY RIGHTS

1. Mark Freudenberger and David Miller, *Climate Change, Property Rights, & Resource Governance: Emergencing Implications for USG Policies and Programming*, USAID Property Rights and Resource Governance Briefing Paper #2 (January 2010).

In this USAID Issue Brief, the authors describe how climate-induced migration will disrupt land tenure regimes and destabilize institutions of governance and property rights. The authors note that “tenure considerations will be instrumental in managing the increased population in migrant-receiving communities”, and stress the importance of clarification, documentation and protection of existing informal tenure relationships, as well as “transparent and open dispute resolution mechanisms that are perceived as legitimate and are accompanied by information campaigns and legal assistance to the vulnerable segments of society.” The authors caution against further marginalization of the disenfranchised communities, recommending that policy makers ensure property rights for the poor, indigenous peoples and women.

2. *Climate Change, Human Rights and Forced Human Displacement; Case Studies as Indicators of Durable Solutions*, Background Paper for UNHCR Roundtable Meeting (December 10, 2008).

This paper provides a brief background to a roundtable meeting convened jointly by Displacement Solutions, the UNHCR, and the Pacific Regional Office of UN Information Centre. The paper recognizes that some adaptation scenarios will “unavoidably include forced human displacement and some form of relocation”, which will impact “both the displaced populations themselves and the receiving communities in the places to which they relocate.” The paper discusses several different forms of relocation, and acknowledges that each category will have different policy and legal implications for governments, regional bodies, and international agencies. The authors recognize the need to ground policy responses within a framework that addresses housing, property and land rights of both those relocated and the receiving communities and populations. The paper specifies that the roundtable meeting will explore how case studies in the Carteret islands, the Maldives and Tuvalu can inform future policy—specifically, “what housing, land and property issues were involved, and how these might differ across jurisdictions” and how the potential for property disputes and other disruptions can be minimized.

II. HOUSING, LAND AND PROPERTY RIGHTS BASED SOLUTIONS

1. *Climate Change Displaced Persons and Housing, Land and Property Rights: Preliminary Strategies for Rights-based Planning and Programming to Resolve Climate-Induced Displacement* (Displacement Solutions, February 10, 2010) available at <http://displacementsolutions.org/?cat=16>.

Displacement Solutions is a nonprofit organization in Switzerland that believes housing and property rights are essential elements to solving climate displacement. This report outlines the housing, land and property rights of climate change displaced persons, examines the consequences of climate displacement in Papua New Guinea, Kiribati, Tuvalu and Bangladesh, and proposes rights-based housing and policy measures that can be initiated to assist displaced persons. The report asserts that international human rights law, and international law in general, contain certain rights and entitlements that pertain to housing, land and property (which the authors refer to as “HLP rights”). These include the right to adequate housing and rights in housing, the right to security of tenure, the right to not be arbitrarily evicted, the right to land and rights in land, the right to property and peaceful enjoyment of possessions, the right to privacy and respect for the home, the right to freedom of movement and to choose one’s residence, and the right to water. Displacement Solutions recommends expanding HLP rights in states affected by climate displacement, emphasizes equal treatment of displaced individuals and host states, and encourages land set aside programs and trust funds. It also advocates a pacific region forced displacement solutions initiative that involves both states affected by climate displacement and developed states creating long-term 5 to 25 year plans for solutions to climate displacement.

2. Jon Barnett and Michael Webber, *Accommodating Migration to Promote Adaptation to Climate Change*, Policy Research Working Paper 5272 (World Bank 2010).

This paper explains how climate change will increase future migration, discusses the risks associated with such migration, and examines how some of this migration may actually enhance the capacity of communities to adapt to climate change. One of the policy responses recommended by the authors is that property rights should be clarified in areas that will receive migrants. The authors note that land tenure and other property systems “are important determinants of the environmental outcomes of influxes of migrants... where local landowners have some security of tenure and are able to develop systems that allow migrants access to it, land can be shared, and migrants tend to use it sustainably.” The authors also note, however, that adaptation strategies in vulnerable areas may require adjustments to make property regimes more equitable. In general, the authors assert that where institutions are strong and property rights are clear, migration rarely leads to violent outcomes.

3. Julian Quan and Nat Dyer, *The Implications of Climate Change for Land Tenure and Land Policy*, Land Tenure Working Paper 2 (Food and Agriculture Organization of the United Nations 2008).

This report assesses the implications of climate change for land tenure, as well as the role that land policy can play in adaptation strategies. The authors use case studies from South Asia and sub-Saharan Africa to trace the linkages between climate change, impacts on land-use systems, and the land tenure implications. They predict that there will be large land losses due to global warming and sea level rise, and that the “greatest challenge” will be resettling people and providing alternate livelihoods. To meet this challenge, the authors advocate for national and regional climate adaptation initiatives that incorporate “intensified resettlement planning and a stronger role for state in land use planning of areas at risk and available for resettlement”. Developing resettlement plans will require land inventory and occupation surveys in areas at risk of loss and potential resettlement areas. The authors note that public land acquisition may be required for resettlement, but that in many cases, “provision of small scale house and garden plots may be the only options, given high population densities and intense competition for land”, and that “resettlement will need to be accompanied by employment generation and diversification out of farming and dependence on natural resources.”

LEGAL REMEDIES

There are a number of potential mechanisms through which drowning island nations could seek redress for the impacts of climate change. Vulnerable states could sue greenhouse gas emitting countries for violations of treaty obligations, tort law, human rights law, and customary international law. These states could also use these legal frameworks to negotiate for an international agreement in which developed countries contribute substantially to adaptation and relocation strategies.

IV. INTERNATIONAL LAW SOLUTIONS

1. Kara K. Moberg, *Extending Refugee Definitions to Cover Environmentally Displaced Persons Displaces Necessary Protection*, 94 IOWA LAW REVIEW 1107 (2009).

This student author argues that extending refugee and asylum laws to protect environmentally displaced persons will provide insufficient protection, and will consume judicial resources needed for traditional refugees. Rather, the author recommends that environmentally displaced persons “should receive protection under their own Environmentally Based Immigration Visa (EBIV) Program”, in which countries would share the burden of accepting and supporting displaced persons.

2. Angela Williams, *Turning the Tide: Recognizing Climate Change Refugees in International Law*, 30(4) LAW & POLICY 502 (2008).

Williams discusses the current plight of people who are suffering displacement or forced migration as a result of climate change. She argues that present legal structures for refugees are “largely inadequate”, since they are designed for political refugees, and proposes “an explicit recognition of so-called climate change refugees in the post-Kyoto agreement that allows for, and facilitates, the development of regional programs to address the problem”. Williams notes that achieving recognition international agreement may be especially challenging, given the “unwillingness of states to compromise their sovereignty” and the “reluctance of the United States to agree to the most basic of commitments via the Kyoto Protocol”, but recommends that a regional agreement, operating under an international umbrella framework, could foster recognition of climate refugees under international law.

3. Frank Biermann and Ingrid Boas, *Protecting Climate Refugees: The Case for a Global Protocol*, 50(6) SCIENCE AND POLICY FOR SUSTAINABLE DEVELOPMENT 8 (2008).

This article, written by two researchers from The University of Amsterdam, discusses the general situation of climate refugees and proposes that the UN implement a “separate, independent legal and political regime created under a Protocol on the Recognition, Protection, and Resettlement of Climate Refugees”. The authors specify that the core objective of this protocol should be the “planned and voluntary resettlement and reintegration of affected peoples over periods of many years and decades”, as opposed to short-term disaster relief. The authors also recommend that wealthy industrialized countries,

which have contributed far more to global warming, should be responsible for financing, supporting and facilitating this program of resettlement.

4. Emma Brindal, *Justice for Climate Refugees*, 32(4) ALTERNATIVE LAW JOURNAL 240 (2007).

Brindal briefly describes the situation of climate refugees, and critiques the lack of international recognition for these persons. She notes that the current UN definition of “refugee” could be expanded to include climate refugees, but recommends that a separate international treaty to recognize and assist environmental refugees would be preferable.

5. Richard Toi and Roda Verheyen, *State responsibility and compensation for climate change damages—a legal and economic assessment*, 32 ENERGY POLICY 1109 (2004).

This article discusses the customary international law rule that countries may do each other no harm, applying this principal to the inequitable impacts of climate change. The authors argue that states can be held accountable for their greenhouse gas emissions under the no-harm rule, and victims can make claims for the cost of adaptation and for residual damage. The article also estimates the hypothetical compensation that should be paid by the OECD to developing countries, up to .25% of GDP in the short run and up to 4% of GDP in the long run.

6. Alexander Gillespie, *Small Island States in the Face of Climatic Change: The End of the Line in International Environmental Responsibility*, 22 UCLA JOURNAL OF ENVIRONMENTAL LAW & POLICY 107 (2003-2004).

This article critiques the inequity of international climate negotiations, and evaluates several solutions to this problem. First, the author analyzes the role of SIDS within the negotiations, finding that, despite having special recognition within the FCCC, these states have been unable to negotiate for meaningful reduction targets or mitigation strategies. The author then examines suggestions for improving the situation of SIDS. He considers whether countries should use a human rights framework to gain leverage in the debate and to establish broad obligations under international law, determining that although these suggestions have “philosophical allure”, they “will not solve the problem of adequately confronting climate change.” The author also finds that the sustainable development approach is “doomed to failure” because there is no consensus on “the meaning of sustainable development or how to implement it in individual cases”. Rather, the author insists that “climate change, as with all major international environmental problems, has to be dealt with on a state-to-state basis”. He provides several examples of other international environmental conflicts where this approach has been successful. Finally, the author recommends that SIDS should assert their status as sovereign states and attempt to increase their influence in the FCCC negotiations. If the SIDS continue to be ignored, the author suggests that they seek an ICJ advisory opinion as to whether the negotiations are being carried out in good faith.

7. Roda Verheyen, *Climate Change Damage and International Law – Prevention Duties and State Responsibility*, (December 2003) (Ph.D. dissertation, University of Hamburg).

In this dissertation, Verheyen discusses the legal implications of the impacts of climate change, arguing that states are obligated to compensate other actors for the impacts of their greenhouse gas emissions. The author evaluates the institutions and mechanisms that produce these obligations, including the UNFCCC, the Kyoto Protocol, other treaty law, customary international law (the “No-Harm-Rule”), and the “State Responsibility” doctrine. The author then considers three potential claims: (1) Nepal and Bhutan for damages resulting from increased glacial melting, (2) the Cook Islands for damages resulting from rising sea levels, and (3) China for financial support on paying insurance premiums for infrastructure at risk from increased rainfall and flooding. The author concludes that the current international law mechanisms do not efficiently or adequately regulate damages resulting from climate change.

8. J. Chris Larson, *Racing the Rising Tide: Legal Options for the Marshall Islands*, 21 Michigan Journal of International Law 495 (1999-2000).

This paper describes the threat posed by climate change and rising sea levels to the Marshall Islands, and identifies three legal theories under which the Marshall Islands may obtain relief for deleterious impacts: (1) UNFCCC obligations, (2) ICJ claim for breach of customary international law, (3) treaty obligation between the United States and the Marshall Islands. After evaluating the three options, the author concludes that the request for adaptation funds under UNFCCC obligations would be the most “time sensitive of the three options”, and that an ICH claim would be more appropriate after such a request was denied. The author also recommends that the Marshall Islands should request relief from the United States for obligations in the Compact of Free Association (1986). Under this Compact, the Marshall Islands would be requesting defense from the threat of accelerated sea rise, rather than demanding that the U.S. as take responsibility for GHG emissions. For this reason, the author believes that such a claim has “more potential for success than any hostile legal action brought against the United States”.

II. HUMAN RIGHTS APPROACH

1. Steffen Bauer, *“Climate Refugees” beyond Copenhagen: Legal Concept, Political Implications, Normative Consideration*, German Development Institute (2010).

This report examines the international legal status of climate refugees, and advocates a cooperative approach to dealing with the problem. The author finds that climate refugees cannot be classified as “refugees” under current international law, because they are not victims of overt political oppression. Nonetheless, the author recommends that policy-making for climate refugees should be aligned with human rights principals, including the responsibility to protect, the precautionary principal, the polluter pays principal, and the principal of common but differentiated responsibility. Under these principals, developed countries with high emissions should support and fund adaptation and migration activities. The author notes that migration “implies being able to leave”, and that it is often “not a viable strategy” for marginalized and vulnerable groups. Due to these difficulties, the author recommends relocation and resettlement only after all other options are exhausted. The author concludes by stating that we need an “international climate agreement, which

incorporates legally binding, common but differentiated obligations of all countries, with a special focus on climate induced migration”.

2. *Climate Change Displaced Persons and Housing, Land and Property Rights: Preliminary Strategies for Rights-based Planning and Programming to Resolve Climate-Induced Displacement* (Displacement Solutions, February 10, 2010) available at <http://displacementsolutions.org/?cat=16>.

This paper, prepared as part of Displacement Solutions’ Climate Change and Displacement Initiative, outlines the housing, land and property rights of climate change displaced persons, examines the consequences of climate displacement in Papua New Guinea, Kiribati, Tuvalu and Bangladesh, and proposes rights-based housing and policy measures that can be initiated to assist displaced persons. The paper asserts that international human rights law, and international law in general, contain certain rights and entitlements that pertain to housing, land and property (which the authors refer to as “HLP rights”). These include the right to adequate housing and rights in housing, the right to security of tenure, the right to not be arbitrarily evicted, the right to land and rights in land, the right to property and peaceful enjoyment of possessions, the right to privacy and respect for the home, the right to freedom of movement and to choose one’s residence, and the right to water. The paper then recommends that displaced persons may show that the losses incurred as a result of climate change are direct violations of their HLP rights, and “according to human rights law, appropriate forms of reparation and restitution must be accorded to those who have lost access to, use of or ownership over housing, land or property lost due to climate change”.

3. Sumudu Atapattu, *Climate Change, Human Rights, and Forced Migration: Implications for International Law*, 27 WISCONSIN INTERNATIONAL LAW JOURNAL 607 (2009).

This article was written by the Associate Director of the Global Legal Studies Center at the University of Wisconsin Law School and focuses on the status of populations displaced by climate change, both internally displaced persons and refugees that cross international borders. The article does not discuss the ramifications for the state itself, but does argue that the link between people and their state is nationality. In the concluding section, the author talks briefly about small island states that will become submerged, and states that populations of those countries will become “stateless persons in every sense of the term.”

4. Anne Parsons, *Human Rights and Climate Change: Shifting the Burden to the State?* 9 SUSTAINABLE DEVELOPMENT LAW & POLICY 22 (2009).

This article provides a brief overview of integrating a human rights framework into climate change mitigation and adaptation policies. The author notes that previous climate change negotiations “have marginalized resource-poor countries in need of adaptation”, and recommends that these countries invoke procedural rights, the right to development, and other human rights to gain leverage in these negotiations.

5. Jessie Hohmann, *Igloo as Icon: A Human Rights Approach to Climate Change for the Inuit?* 18 TRANSNATIONAL LAW & CONTEMPORARY PROBLEMS 295 (2009).

This article examines the human right to housing and its implications for Inuit communities responding to climate change. First, the author explains how the right to housing is an internationally recognized human right, citing the International Covenant on Economic, Social and Cultural Rights. Then, the author explains how the Inuit right to housing has been threatened by anthropogenic climate change, and discusses the viability of a transnational claim.

6. Andrea Carmen, *Climate Change, Human Rights and Indigenous Peoples*, Submission to the United Nations High Commissioner on Human Rights by the International Indian Treaty Council (IITC), NGO in Special Consultative Status to the UN Economic and Social Council (December 26, 2008).

This paper describes how indigenous rights and human rights can provide a protective framework for communities that are at-risk of losing their land and livelihoods to climate change impacts. The author asserts that the current global climate crisis constitutes a growing threat to the basic right of survival, and therefore “requires an urgent, significant and comprehensive response by all states, the United Nations as a whole, and all of its bodies.” The author also articulates other rights that have been violated by greenhouse gas emissions, including inherent human rights (such as the right to permanent sovereignty over lands and natural resources, the right to development, the right to food, and the right to water) and treaty rights (such as the UN Declaration on Rights of Indigenous Peoples and US treaties Indian Nations).

7. Owen Cordes-Holland, *The Sinking of the Strait: The Implications of Climate Change for Torres Strait Islanders’ Human Rights Protected by the ICCPR*, 9(2) MELBOURNE JOURNAL OF INTERNATIONAL LAW 405 (2008).

This article advocates a human rights approach to understanding climate change and migration. The author assesses the viability of a complaint being made to the United Nations Human Rights Committee under the ICCPR Optional Protocol, contending that Australia’s ongoing failure to adopt sufficient measures to reduce greenhouse gas emissions constitutes a violation of Islanders’ Covenant rights. The author argues that Australia must adopt more stringent environmental regulations before it will satisfy its obligation under the ICCPR. However, the author also acknowledges that, although the Islanders’ claim would have “compelling legal merit”, the “complexity of issues such as causation and standing mean that it is unclear how the Committee would ultimately determine the case.”

8. John Crump, *Snow, Sand, Ice and Sun: Climate Change and Equity in the Arctic and Small Island Developing States*, 8(3) SUSTAINABLE DEVELOPMENT 8 (2008).

In this article, the situations of small island development states and arctic communities are discussed in the context of climate change impacts. The author notes that both regions have a diverse number of Indigenous communities, as well as populations that rely on natural resources and traditional knowledge for their livelihoods and culture. He then analyzes how climate change has impacted these vulnerable communities, emphasizing the need for a prompt international response. The author notes that the Inuit have already petitioned the

Inter-American Commission on Human rights, requesting relief “from human rights violations resulting from the impacts of global warming and climate change caused by acts and omissions of the United States”. The author recommends that small island states and the Arctic work together, using a human rights framework, to lobby at UNFCCC negotiations and push for a post-Kyoto agreement that will recognize the needs of these vulnerable regions.

9. Brooke Havard, *Seeking Protection: Recognition of Environmentally Displaced Persons Under International Human Rights Law*, 18 VILLANOVA ENVIRONMENTAL LAW JOURNAL 65 (2007).

Havard critiques the lack of international protections for environmentally displaced persons, and argues that they should not be excluded from traditional Convention refugee status. To reconcile the discrepancy between a traditional refugee and a climate refugee, persecution (an element required by the Convention definition) would include human rights abuses, including the displacement of persons due to anthropogenic environmental change.

10. Stephen Tully, *The Contribution of Human Rights as an Additional Perspective on Climate Change Impacts within the Pacific*, 5 NEW ZEALAND JOURNAL OF PUBLIC AND INTERNATIONAL LAW 169 (2007).

This article, mentioned on page 20, provides an overview of climate change impacts within the Pacific region, and recommends that the international community implement a human-rights based relocation strategy. The author notes that small island states will “increasingly experience loss of territory and socio-economic and cultural disruption before ceasing to be habitable.” The author goes on to argue that the strategy of adaptation is limited as an effective long-term response to climate change. For one thing, reactive adaptations are expensive, socially disruptive and unsustainable. The author also notes that adaptation is predicated upon a state-centric sustainable development agenda, and therefore ill suited for islands that will soon lose their territory and possibly their statehood. Finally, adaptation is problematic due to the lack of funding for such strategies.

Given these problems, the author proposes that we establish an “international framework that ensures, in the worst-case scenario, that affected individuals are relocated and resettled within other states.” This framework should be based on human rights principals, specifically the obligation to protect the rights to life, culture, work, food, water, and health. The author also recommends that this framework should emphasize individual entitlements above claims to a particular status, such as refugee status. This would “sidestep the doctrinal deficiencies associated with concepts such as nationality, statelessness, refugee, or alien. Keeping this framework in mind, the author advocates more adaptation assistance but also recognition of when migration, rather than adaptation, is necessary. He recommends that managed migration programs should be proactive, rather than reactive. He also notes that such programs would require international compromise—specifically, developed nations

must accept responsibility to provide humanitarian assistance and accept climate refugees into their country.

III. LITIGATION AND DAMAGES

1. Donna Green & Kirsty Ruddock, *Could Litigation Help Torres Strait Islanders Deal with Climate Impacts?*, 9 SUSTAINABLE DEVELOPMENT LAW & POLICY 23 (2009).

This paper uses the Torres Strait region as a case study for discussing the legal remedies that are available to states and individuals who are disproportionately impacted by climate change. The author recommends that the Torres Strait Islanders could bring claims under native title law, human rights law, discrimination law, tort law (public nuisance and negligence), and environmental law. Although such remedies are unlikely to mitigate climate change impacts, they can provide additional funding for adaptation and relocation activities.

2. Rebecca Elizabeth Jacobs, *Treading Deep Waters: Substantive Law Issues in Tuvalu's Threat to Sue the United States in the International Court of Justice*, 14 PACIFIC RIM LAW & POLICY JOURNAL 103 (2005).

This article explores the substantive law problems in Tuvalu's potential suit against the U.S. The author notes that, unless the U.S. submits to ICJ jurisdiction, Tuvalu will need to find an alternate forum for the lawsuit. Even if Tuvalu can sue through the ICJ, it will have difficulty showing that the U.S. is unlawfully causing the island's damage, and that it has a right to future damages (since the ICJ has never granted prospective relief). The author also believes it unlikely that Tuvalu could establish legal liability under the UNFCCC and the Kyoto Protocol, but rather the ICJ would need to find that the precautionary principle is a customary international law rule, and that the U.S. has violated this rule.

3. Roda Verheyen, *Climate Change Damage and International Law – Prevention Duties and State Responsibility*, (December 2003) (Ph.D. dissertation, University of Hamburg).

In this dissertation, mentioned on page 39, Verheyen evaluates three potential claims for climate change damages: (1) Nepal and Bhutan for damages resulting from increased glacial melting, (2) the Cook Islands for damages resulting from rising sea levels, and (3) China for financial support on paying insurance premiums for infrastructure at risk from increased rainfall and flooding. The author concludes that the current international law mechanisms do not efficiently or adequately regulate damages resulting from climate change.

4. Rosemary Reed, *Rising Seas and Disappearing Islands: Can Island Inhabitants Seek Redress Under the Alien Tort Claims Act?* 11 PACIFIC RIM LAW & POLICY JOURNAL 399 (2002).

This article argues that the current situation faced by inhabitants of disappearing islands constitutes a human rights violation and is remediable under the Alien Tort Claims Act. The author asserts that island inhabitants may seek redress under the ATCA by claiming that they

are victims of environmental human rights violations and possibly even genocide. Those inhabitants who are indigenous populations may also assert that they have a protected status in international law. The author notes that “an environmental human rights claim would be groundbreaking”, however, genocide and discrimination against indigenous populations are widely recognized under international law.