



Republic of the Marshall Islands:
Views regarding the Possible Security
Implications of Climate Change

Permanent Mission of the
Republic of the Marshall Islands to the United Nations

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Republic of the Marshall Islands: Background

The Republic of Marshall Islands (RMI) consists of 29 remote coral atolls, each made up of small islets, and five single islands in the North Pacific Ocean region. These atolls are spread out over an area of approximately 750,000 million sq km, and consist of approximately 1,000 individual islets. The atolls are low-lying, averaging only about 2 meters above sea level and making up a total of 181 km² of land area. Generally, the atolls are long and very thin stretches of land, in which it is often possible to stand in the lagoon and see the ocean on the other side. As such, there are relatively few, if any, places of substantially varying or higher elevation.

Prior to independence, RMI was a United Nations Trust Territory administered by the United States of America. Since RMI declared its independence on October 21, 1986, the current political system consists of democratic with executive, legislative, and judicial branches. RMI was admitted as member of the United Nations in 1991.

RMI's population is estimated to be about 60,000 inhabitants. The capital of Majuro, located on the Majuro Atoll, is densely populated with a population of about 25,400. It is facing many environmental challenges, including inadequate supplies of potable water and pollution of surface water from household waste.

Besides Majuro and Ebeye, which account for approximately 60% of the total population, 24 atolls are inhabited and the remainder are sparsely populated. Land use is divided into 11.11% for arable land, 44.44% for permanent crops, and 44.45% for other uses. Outmigration to the United States (under the Compact of Free Association) has, as a general trend, brought some negative cultural impacts, although many migrants take advantage of positive economic and education opportunities in the US.

RMI's GDP is approximately \$155 million, and about \$2,900 on a per capita basis. RMI has averaged economic growth of about 1% per annum over the past decade, but the country remains heavily dependant on foreign assistance and maintains a Compact of Free Association with the United States of America..

RMI's major industries include handicrafts, tuna processing, tourism and copra (dried coconut meet). However, imports (\$54 million annually) greatly exceed exports (\$9 million annually). Key sectors with growth potential include tourism and fisheries, but these are increasingly vulnerable to the impacts of climate change. Transportation between atolls is often limited. Recent increases in international fuel prices have rendered the economy even more fragile, due to the nation's small scale and remote location. The government declared a state of economic emergency on July 3, 2008 and again on August 4, 2008 due to global price shocks in the energy and food sectors; basic energy security remains threatened, and long-term reliance upon imported food is problematic. While the global energy market has since stabilized, RMI remains vulnerable to future energy market trends.

The Marshallese people are well known for their strong emphasis on traditional culture. Cooperation and caring are vital characteristics for a geographically isolated and vulnerable people. Land serves as an important focal point for Marshallese culture and social organization. Land tenure in the Marshall Islands is customary; land is not viewed as interchangeable real estate, but instead as a foundation of national, cultural and personal identity and spirit. The continued health of the environment, including coastal ecosystems, is not merely a means to achieve important policy goals, but is also a part of the Marshallese collective culture and identity.

Overview of Climate Impacts within the Republic of the Marshall Islands

For RMI, climate impacts are wide-ranging and pose serious barriers to achieving or safeguarding key development goals, in turn posing a threat to the security of the country.

Lying an average of just 2 meters above sea levels; sea-level rise, including levels analyzed by the IPCC, as well as best available science, entails a threat to both the future habitability and physical presence of the Marshall Islands' thin and low-lying islands.

Based on the IPCC Synthesis Report 2007 (AR4), sea levels have been rising worldwide; the rise is now accelerating and expected to worsen over the next century.¹**Error! Bookmark not defined.** The average rate of global sea-level rise from 1961 to 2003 was 1.8 mm/year compared to the average rate of increase from 1993 to 2003 at 3.1 mm/year. By the end of the 21st century (2090 to 2099), the total global average sea-level rise is projected to range from 0.19 to 0.58m (excluding the impact of glacial melt), however, mainstream and peer-reviewed scientific assessments have also noted that sea-level rise may rise over the next century by as much as .8 to 2 m if current GHG emissions scenarios continue and polar regions continue to destabilize and melt.

Due to the long-time scales of climate change, sea-level rise is expected to continue post-2100, if the melting of the Greenland ice sheet and other polar regions is included, sea-level rise could increase by as much as an additional 3 to 7 m. In addition, sea surges will become more common; the 2007 IPCC Report concludes, that sea-level rise is expected to exacerbate inundation, storm surge, erosion and other coastal hazards, thus threatening vital infrastructure, settlements and facilities that support the livelihood of island communities. Temperatures have also been rising during the last century both in global surface and sea temperatures and are expected to continue throughout the next century.² The intensity of tropical storms and cyclones is likely to increase as a result of climate change³ and patterns of rainfall are likely to change globally, with both heavy precipitation and drought becoming more frequent events. Recent scientific evidence

¹See IPCC Synthesis Report 2007, pg. 47.

² IPCC Synthesis Report 2007, pg. 30.

³ IPCC Synthesis Report 2007, pg. 46.

issued by leading scientists, including that of an IPCC lead author, issued subsequent to the 2007 IPCC report, reveals troublesome conclusions, including that interim models indicate that there may be severe impacts for coral atoll nations even at low levels of greenhouse gas emissions, that sea level rise may be greatest in tropical regions due to ocean circulation patterns and that the observed rate of climate-related impacts is occurring at a rate which is faster than existing scientific models can account .⁴

Sea-level rises of the magnitude contemplated by the best available science would no doubt pose a serious threat to RMI's territorial integrity.⁵ Even a half-meter rise in sea level, or less, could threaten RMI's suitability for human habitation, due to impacts that would include increasingly scarce freshwater resources.

National data collection monitoring in RMI indicates that sea-level rise is already being observed, and at increasing rates. Nearly all of the land within the Marshall Islands consists of fragile atolls which are very thin; in many places within an atoll one can stand in the lagoon and see waves crashing on the ocean side, across the atoll, thus offering little by way of higher ground for internal relocation.

The Republic of the Marshall Islands made a detailed submission to the UN Human Rights Commission in December 2008, documenting and analyzing the implications of climate change upon a wide range of social, economic and legal characteristics of the nation. In summary, the report concluded that "the reclassification of Marshallese as a displaced nation, or, loosely defined, as 'climate refugees,' is not only undesirable, but also unacceptable as an affront to self-determination and national dignity. It is unlikely that larger nations, with greater political power, would easily accept such a fate for their political boundaries and peoples." The Human Rights Commission national report detailed present and near to long-term climate impacts upon housing, food, water, nationhood and health. Forthcoming data and treatment will also be addressed by the Republic of the Marshall Islands in its second National Communication to the UNFCCC.

The recent 2009 academic study presented at the Copenhagen Climate Congress, titled "Recent movements of the ITCZ in the tropical Pacific and ramifications for the Marshall Islands" (with joint authors including Dr. Julian Sachs, an Oceanography professor at the University of Washington and the Marshall Islands Office of Environmental Planning and Policy Coordination) details scientific investigations concluding that during the industrial era (starting from approximately 1750), the Intertropical Convergence Zone (ITCZ) weather band has been moving northwards at increasing rates, and that this shift

⁴ See generally Report of the First Assessment of Low Stabilization Scenarios, Potsdam Institute for Climate Impact Research, 2008; Rao et al., IMAGE and MESSAGE Scenarios Limiting GHG Concentrations to Low Levels, Revised Draft 7/25/ 2008; Hare, Bill, Science of Climate Change (2008) at http://www.theclimategroup.org/assets/resources/Science_of_Climate_Change.pdf

⁵ Richard Kerr, "Seas to Rise Faster This Century" Science Magazine 4 Sept 2008 at <http://sciencenow.sciencemag.org/cgi/content/full/2008/904/1>; see also "A Semi-Emperical Approach to Projecting Future Sea Level Rise" Science Magazine 1 Jan 2007 http://www.pik-potsdam.de/~stefan/Publications/Nature/rahmstorf_science_2007.pdf; see also Rohling et al. "High rates of sea-level rise during the last interglacial period" Nature Magazine 6 December 2007 at <http://www.nature.com/ngeo/journal/v1/n1/full/ngeo.2007.28.html>

may be as a result of observed climate change corresponding with increasing atmospheric concentrations of GHG.. The projected result of the increasing rate of ITCZ shift in the Marshall Islands will be to introduce drought in areas accustomed to heavier rainfall, and to introduce increasing precipitation in areas not accustomed to flooding or heavy rain events.

RMI's Response to Climate Vulnerabilities and Remaining Barriers

In the intervening 17 years since the issuance of its first 1992 report on climate impacts, RMI has responded on a national basis by bolstering national capacity to address climate change impacts through the creation of the Office of Environmental Planning & Policy Coordination and other relevant agencies. Efforts to address climate-related impacts include public awareness-raising, participation in regional climate adaptation projects (addressing both capacity-building as well as developing implementation strategies for food and water security), successful implementation of renewable energy strategies, and, among other adaptation strategies, the development of a national implementation plan for the Micronesia Challenge (a cross-cutting sub-regional conservation goal which enhances community resiliency and uses traditional knowledge and ecosystem strategies to conserve vulnerable coastal/land resources by 2020). RMI is a participant in the Pacific Adaptation to Climate Change Project, a regional project focusing on climate change adaptation, which aims to enhance the resilience of a number of key development sectors (food production and food security, water resources management, coastal zone, infrastructure etc.) in the Pacific islands to the adverse effects of climate change. This objective will be achieved by focusing on long-term planned adaptation response measures, strategies and policies. In addition, RMI has consistently sought to raise global awareness of climate change impacts in all relevant international fora.

Despite the improved national and international attention to climate impacts, RMI still faces many of the same challenges and barriers identified in the 1992 report, including international political response, severe financing challenges, need for enhanced technical capacity and the need for continued mainstreaming of climate vulnerability into other development strategies and activities. In addition, while increased attention and direct-access funding is urgently needed for adaptation strategies, RMI's inherent geography provides obvious physical limitations not easily addressed solely by infrastructure adaptation projects.

Finally, while still an area of emerging science, there is substantial concern regarding the impacts of climate change upon coastal and marine ecosystems; rising temperatures and increased ocean acidity may have substantial adverse impacts upon coral reefs, coastal ecosystems, and migratory fish stocks such as tuna (which represent a substantial economic resource).

In summary, the physical impacts of climate change upon the Republic of the Marshall Islands are comprehensive, and pose a variety of ecological threats with clear and obvious impacts upon RMI's development, but also its security (as elaborated below)

National Views on Climate and Security

Critical issues addressed in a detailed 1992 report (P. Holthus et al., *Vulnerability Assessment for Accelerated Sea Level Rise, Case Study: Majuro Atoll, Republic of the Marshall Islands*, published by the South Pacific Regional Environment Programme) analyzing ecological, economic and social impacts of climate change upon the Republic of the Marshall Islands are, 17 years later, still tragically valid. While this is a comprehensive report, it also describes several areas which would be defined as security implications, in light of recent scientific evidence regarding vulnerability (including that of the IPCC AR4). Such issues would be considered to constitute security implications as they would pose fundamental and physically coercive threats to an atmosphere of progress. In addition to “multiplier” issues such as the ability to preserve social order, or intensified competition for increasingly scarce resources, these impacts also serve as a threat to national survival. As noted in further detail, the potential “vanishing” of a sovereign nation, without a successor state, is not only a security implication but may rise to the level of a threat to international peace and security.

Under Section 9.4.1, entitled “Geopolitical issues”, the 1992 report notes that: “the partial loss of land in the RMI may lead to loss of base points for EEZ boundaries which could considerably reduce Marshall Islands territory with its important pelagic and sea bottom resources.⁶ Severe inundation or the total loss of land could result in the Marshall Islands ceasing to be physically habitable, which raises problems of migration, resettlement, cultural survival and sovereignty. These important issues have not been resolved in the international discussions on climate change.” The report notes that RMI should “achieve international agreement on land loss [due to sea level rise] and possible EEZ change through the framework of the Law of the Sea” and that RMI should “commence international discussions on considerations for nations potentially rendered uninhabitable by [sea level rise] and climate change.”⁷ It is now also clear that other climate impacts, including food and water security, would also threaten the habitability of RMI.

Section 9.4.2 of the 1992 report, entitled “land and population pressures” notes the potential limitations of adaptation, stating that “only some parts of the Marshall Islands may be able to be protected” from sea-level rise and that “other islets or whole atolls may become unsafe or unsuitable to permanent habitation” thus resulting in a scenario which would both “complicate the important land tenure situation in the Marshall Islands” as well as accelerating already rapid urbanization rates which already have created social and environmental challenges.⁸ Land has a unique value and treatment within RMI’s codified and customary law; traditional land tenure practices persist. Given the complex

⁶ Final draft, December 1992, P. Holthus et al., *Vulnerability Assessment for Accelerated Sea Level Rise, Case Study: Majuro Atoll, Republic of the Marshall Islands*, published by the South Pacific Regional Environment Programme.

⁷ *Id.*

⁸ *Id.*

social value system regarding land, population displacement would give rise to a range of complex issues, including security issues as they relate to potential disputes and conflict.

Section 9.3.2 of the 1992 report, entitled “planning and response for extreme events” notes that climate impacts could cause increasing intensity and frequency of extreme natural events, such as typhoons, drought, storm waves and tsunamis, which already “have a major impact on humans, natural systems and resources and economic development.” Such events pose barriers to sustainable economic development and economic production; however, the potential scale and intensity of these impacts, when held in combination with RMI’s other vulnerabilities, serves as a cumulative threat to national survival and basic safety. Many nations are already vulnerable to such natural events and may be increasingly-vulnerable to increased scale and intensity of such events as associated with climate change; it is in the cumulative understanding of all climate impacts in which RMI finds the security implications as related to extreme natural events.

Finally, the report notes in Section 9.2.2, entitled “financial capacity” that “the government does not have anywhere near the financial resources to implement large-scale response options, especially major shore protection measures” which would “consume an inordinate portion of the Marshall Islands budget, which is already heavily dependant upon financial assistance from outside the country.” The section notes that “vulnerability will continue to be high if a commitment is not made, and the assistance found, to identify, specify and implement appropriate response strategies.”⁹

The following section places the biophysical implications of climate change, particularly as realized and predicted within the Marshall Islands, within the context of security issues, including the “geopolitical issues” referenced in the 1992 report. The overwhelming conclusion is that climate impacts, in the views (and based upon the experience) of the Republic of the Marshall Islands, do indeed have a range of clear security implications. To complete this analysis, one must first consider climate change within the definition of security.

Defining Security

An understanding and analysis of the security implications of climate change must look towards the definition of ‘international peace and security’ within the context of the United Nations and the UN Charter. While such a general treatment is purposefully ambiguous (leaving States to undertake situational applications) it nonetheless is the foundation of discussions herein.

Nowhere in the UN Charter is “international security” used alone, but “peace” and “security” can be found separately to address interrelated, different and overlapping concepts. Much of the contextual interpretation depends on the narrowness of definition of “peace” as the absence of a threat or use of force against territorial integrity or political independence of a state (‘negative peace’), in which thus security will contain ‘positive peace’ generally understood as activity necessary for maintaining the conditions of peace.

⁹ *Id.*

Peace should be defined as more than the absence of war (Preamble, Art 1(1), 2, and 3), but a state of international relations leading to the reduction of issues likely to cause war, violation or conflict. While not intended as a complete treatment or definition, for the purposes of analysis within this report, security as a political concept can be commonly understood as a state at which there is a perception of no danger of coercion (especially physical coercion), thus permitting free progress as a nation, in which critical assets are no longer threatened. The word security, in the English language, is derived from the Greek “se-cura” literally translating to “without fear.” Security implies stability and a freedom from danger.

In the context of climate change effects upon the low-lying atoll nation of the Republic of the Marshall Islands, there is little distinction between the force of an invading human military force and rising seas caused by international anthropogenic activity; the outcome (the loss of territory) from either scenario is equivalent in its direct and physically coercive effect. In his address to the United Nations General Assembly in September, 2009, His Excellency President Litokwa Tomeing of the Republic of the Marshall Islands asked member states that “if wars have been waged to protect the rights of people to live in freedom, and to safeguard their security, why will they not be waged to protect our right to survive from the onslaught of climate change?”

Security and climate would be thus understood as the implications or barriers posed by climate impacts which would substantially interfere with the ability to maintain territorial integrity or political definition/independence; for the Republic of the Marshall Islands, such impacts are not only economically influential, but literally and physically coercive. While elaborated later in this report in detail in relation to the Republic of the Marshall Islands, such scenarios could include impacts upon statehood, as well as international or state-to-state violence or conflict, in addition to national conflict or instability (spurred by international drivers or actions) which rise to the level at which political definition is threatened. Furthermore, the “non traditional” or emerging definitions of security also expand towards human security and drivers or threat multipliers of conflict and security. Finally, the discussion and treatment of security implications of climate change is not prejudiced only towards international peace and security, but is also inclusive of a broader or general treatment of security impacts, including national security (realizing that the distinction between national and international security issues does have differing implications for treatment by the UN and States).

International security is defined both by objective and subjective elements. Every state is thus assured that breaches of peace would be limited in impact; national and international security are increasingly interrelated (GA Res. 41/90, Dec 4 1986), thus meaning that States should approach international security in a holistic manner. Unrestrained pursuit of national security interests may disturb the balance of power, and such contradictions should be resolved. This can be accomplished through measures under which collective security is advanced as well as through resolution of international disputes. Collective security effectively protects members of the system against threats or attacks of any other member of the same system; such force is generally prohibited unless expressly authorized by the international system or in self-defense. It can also be attained through

confidence-building measures (disarmament is a noteworthy example), or achieving a balance of power (hegemonic behavior may pose a threat to peace and security, see GA Res 34/103, Dec 14, 1979). In addition, Article 1(1) of the Charter identifies another path to resolution - settlement or adjustment of situations which might lead to a breach of peace, as being in accord with justice and international law (suggesting not only treaties, customary law, and general principles of law, but also natural law).

By any admission, a range of scientific estimates exists, with undeniable consensus that climate impacts are already occurring, and are increasing. Different metrics may be used, on either the basis of scientific analysis and/or political argument, to arrive at differing conclusions as to the precise nature of outcomes. This report does not take any particular estimate or baseline, but rather looks for the express purpose of political understanding, at a broad range of outcomes to arrive at the conclusion that climate change holds security implications. As such, this report relies upon the widely-accepted precautionary principle, in which international action should be determined in light of the degree of threat potential, rather than an unassailable and super-precise scientific determination of future events. The precise date and exactitude of such impacts varies upon many factors, including policy decisions of States, compliance or commitment of such States to completing those measures or decisions, as well as both contributing factors or existing vulnerability from non-climate sources, in addition to a wide range of complex atmospheric factors. In short, the general range of magnitude of climate impacts is evident and should be beyond political and scientific question; while there is no “crystal ball” to predict the precise future, the general range of climate impacts (and resultant effects, including security implications) clearly permit decision-makers to make active and appropriate responses with a view to addressing and minimizing such impacts.

Ultimately, such a determination is outcome-driven and a means of perspective. There is simply no “bright line” into which climate impacts (or scientific measurement indicators) become a wholly security issue, or wholly a development issue. Rather, such a definition is a political determination which is evidenced by the associated outcomes (or those outcomes assigned acceptable probability). Such outcomes would include both new dimensions of security (interlinked with human/social/economic and environmental factors) which threaten and undermine stability and thus serve as security/conflict drivers, as well as outcomes which are clearly associated with a traditional security definition (international sovereignty disputes, violence extending across borders or at heightened levels of note to the international community). The General Assembly has thus emphasized the link between strengthening international peace and security and issues such as disarmament, decolonization and development (General Assembly Res. 2734 (XXV), Dec 16, 1970 (Declaration on International Peace and Security)).

The security implications of climate change exist in varying shades of grey, and may be addressed in and by different fora, entailing inevitable overlaps with other issues, including sustainable development. These overlaps are not wholly unique to climate change, but emerge from many situations constituting a threat to security. The ability to distinguish between the shades of grey is both a matter of mutual political interpretation, as well as a careful and objective analysis of likely outcomes or climate impacts.

From the viewpoint of the Marshall Islands as a low-lying island nation, there is a clear and simple distinction to be made between security and sustainable development, in light of climate change impacts upon statehood. Specifically, when climate change poses a severe threat to physical existence, it is clear that there can be no national sustainable development without an associated nation. In this regard, the security implications are self-evident and primary.

The relationship between security, development and other climate impacts is less distinct in other impact areas. Not every climate impact is automatically categorized as a “security implication” distinct from a development issue; rather, a cumulative analysis of thematic impacts undertaken in light of the character of a specific time, place or situation will lead to an understanding of climate implications upon development and, depending on facts and circumstances, security. For example, climate impacts upon ecosystems introduce physical changes which produce certain degrees of challenges in achieving progress towards economic and social development goals (for example, resulting in the scarcity or lack of affordable access to food or water); such impacts may be at a scale and magnitude, and can induce other impacts, which accelerate or result in outright security situations (the extreme lack of access to such resources, in certain situations, particularly those with other existing vulnerabilities at a certain level of severity, will also either directly create or drive security situations, including violent internal or external conflict). It should also be noted that the issue of overlaps and distinctions between security and development issues is by no means particular to climate change, but also arises in a broad array of other thematic or situational circumstances within the international community, and has been addressed repeatedly by varying UN organs. The purpose of this report is limited to the security implications of climate change, and not necessarily as an opportunity to arrive at a fully dispositive resolution of the larger philosophical or political issues relating to such definitional boundaries and subsequent treatment.

Security Implications of Climate Impacts to Resources

The 1992 report described in the preamble of this section is notable for its early and specific attention to a wide range of climate impacts upon RMI, including those relating to its territorial integrity. Subsequent and recent analysis has continued the work of the 1992 report, particularly in relation to understanding climate impacts to resources (in addition to territorial integrity).

While climate impacts to the Marshall Islands are described holistically in an earlier section in this report, issues pertaining to increased scarcity of resources rise to the level of a security implication. Given the physical vulnerability of the Marshall Islands, climate impacts pose challenges to sustainable development in relation to resource threats, but also at a level at which they would be associated with security as these resources are threatened completely, thus undermining essential social foundations and serving as a multiplier for increased tension and conflict due to scarcity and resultant competition for resources. In particular, climate impacts threaten domestic water and

food security at a level by which subsistence would be seriously impaired (including through water salinization, coastal flooding/drought, coastal impacts to subsistence fishing, soil erosion or quality). The impairment is a barrier to development goals, but is also a potentially comprehensive threat – eg. all water or food security, for effective purposes, could be threatened. As noted below in the summary of the recent communication from the UN High Commissioner on Refugees, these impacts are at such a scale as to pose threats to habitability and thus potentially interfere with RMI's ability to safeguard its population. In the nexus of a security analysis, it is clear that climate change poses serious and physically coercive threats to key resources essential for normal social structure and progress. In plain words, climate impacts within RMI serve as an open invitation to levels of conflict, competition and unrest which are clear security multipliers and, potentially, direct threats in and of themselves.

The group report provided by Pacific Small Island Developing States, including RMI, regarding views on climate change and its possible security implications, firmly defines the security implications of climate impacts, specifically in relation to food security, water security, public health, physical infrastructure, the loss of lives and livelihoods, migration, loss of islands, legal definition, conflict and socio-cultural impacts; these impacts are described specifically in the context of security and, as with others in the Pacific region, they are very stark and real threats for the Marshall Islands, both as threat multipliers and, in some circumstances, posing direct threats. With remote geographies and a variety of pre-existing vulnerabilities, Pacific island nations are uniquely ripe for, on an early timeline, a situation in which intensified competition for increasingly scarce resources will turn to conflict.

While not seeking to repeat the more comprehensive examination of these impact areas within the regional report, it is important to note that for the Marshall Islands, there are particularly stark security dimensions to food and water security impacts. As a nation of thin atolls, RMI often relies on a thin freshwater lens. Shifts in salinization and weather patterns, associated with climate change, pose a comprehensive threat to the ability to supply water. As noted in detail in the regional report, fisheries and coastal areas are also important sources of food security; efforts currently underway to boost domestic agricultural production of traditional foodstuffs (and also improve public health by reducing reliance on imported food) will be thwarted. With very limited land resources, which are vulnerable to climate impacts such as water salinization, increased flooding and erosion, there are few alternatives to maintain food security. It cannot be denied that these barriers to food and water security pose sustainable development challenges at a strong magnitude; yet they also have security dimensions for RMI. While, as a low-lying nation, RMI is most often identified with the direct physical effects of rising sea levels, climate-related threats to food and water security are also of intense concern; the cumulative effect is that without any basic subsistence, RMI could be rendered uninhabitable before the seas rise at a level of complete inundation. The effective loss of a nation is a security concern for RMI, and should, by any account, be considered a threat to international peace and security.

Finally, in a discussion over the relationship between climate impacts, resources and security, it should be of particular interest to the international community the presence of the “dome” at Runit Island within RMI, which houses more than 110,000 cubic yards of radioactive material and nuclear waste, scraped from Enewetak atoll (from large-scale atmospheric nuclear testing). The “dome” covers a 30-foot deep, 350 foot wide crater created by the 1958 nuclear cactus test. Potential uncertainties could exist regarding the long-term structural integrity of the dome, in the context of the impacts of climate change. Certainly, the dome should have been (and likely was) designed with due regard for general security; however, at the time of construction (1977-1980) most designers and engineers did not consider climate impacts in the context of hazard vulnerability analysis. As with the rest of Runit (and the Marshall Islands), the dome rests only a few meters above sea level, along the edge of the water. While there is a thin rip-rap barrier of loose rocks, it should be noted that the “dome” could potentially be susceptible to many of the same climate impacts described in this report, such as wave action and overtopping. While updated technical investigation and analysis is needed to sufficiently inform this initial concern, the very presence of the “dome” in such a vulnerable location represents a possible security implication. Given the legacy of nuclear issues in the Marshall Islands, the mere possibility or threat of further nuclear release would create an atmosphere of fear that would itself have potential impacts on human security.

Legal Personality & Territorial Integrity

There are clear threats posed by climate impacts to the fundamental statehood, sovereignty and territorial integrity of the Republic of the Marshall Islands; that climate impacts threaten the existence of some small island developing states was recently noted by the General Assembly in Resolution A/Res/63/213 (2008). Not only are these grave impacts to be considered in the context of national systems and actions, including as security impacts, but they also have a series of other potential implications, including security implications, on a cumulative and trans-boundary basis within the Pacific/Oceania region as a whole. Climate impacts threaten to undermine long-held assumptions relating to political definitions including the definition of political and legal entities in the context of a possible physical loss of land associated with a state, without a successor state.

The UN High Commissioner on Refugees (UNHCR), in a May 2009 submission to the 6th Session of the Ad-Hoc Working Group on Long Term Cooperative Action under the UNFCCC, entitled “Climate Change and Statelessness: An Overview,” stated that, in regard to low-lying States, specifically including the Marshall Islands, which went beyond issues normally associated with relocation. The UNHCR stated “a threat to statehood may nonetheless arise much earlier” than complete inundation or submergence. Given that, according to the UNHCR, “low-lying island States are thus very likely to be entirely uninhabitable long before their full submersion” and that in the case of exile abroad, the government’s independence could be questioned. Even in a potential scenario wherein the legal “existence” of affected States were permitted to continue by the international community, “governments of affected States would face

many constraints in practice and their populations would be likely to find themselves largely in a situation that would be similar to, if not the same as, if statehood had ceased.”

The UNHCR’s analysis is informative, but not necessary a comprehensive evaluation of all aspects of international law in relation to legal definition, existence, sovereignty and territorial in light of climate impacts.

Article 2(4) of the UN Charter states that members must abstain from all activities which could impair the Purposes of the Charter, namely the objects of legal protection (assuring self-determination). The legally-binding character of self-determination is confirmed by decades of actual state practice, including through numerous resolutions of the General Assembly and Security Council, the International covenants on human rights, and the jurisprudence of the International Court of Justice. While the Charter does not provide detail as to the practical application of these core principles, reference to self-determination in Article 1 as a purpose indicates a legal status well beyond a mere political statement.

Arguably, the right to self-determination forms part of the corpus of customary international law; and persistent instances of self-determination in relation to political status are as old as the history of humanity, and are further confirmed through the evolution of political doctrine (notably, Constitutions recognizing self-determination as a national right). The International Law Commission defined self-determination in the context of State Responsibility (enshrined in Article 2 of the Rio Declaration, among others, states have the affirmative duty to avoid transboundary harm), stating that the prevention of self-determination was to be defined as an international crime (ILC Yearbook 1966, ii, pp. 2, 47; ILC A/CN.4/L.602/Rev.1, 26 July 2001, Art. 40).

Article 2(4) notes that members shall refrain from the threat or use of force against the territorial integrity or political independence of any State, or in any manner inconsistent with the purposes of the UN. These two actions or violations of sovereign rights are expansive and broad, rather than narrow; territorial intrusions, even if not intended to deprive a State of its whole territory, are thus included as a means of forcible trespass.

It is the view of RMI that climate change impacts poses threats to statehood and thus legal rights to self-determination and territorial integrity (at a comprehensive scale); sea level rise predictions are at a level which poses physical coercion and forcible trespass. While seeking both a broadened and deepened international engagement on feasible international solutions to address climate change, there is no intent by RMI to voluntarily cede its own nationhood.

This has only served to outline some of the discussion points on issues relating to climate impacts and legal or political self-definition – it is not conclusive. What is clear is that even the general acknowledgement of such analysis (if not its finer points) indicates that, given the stated vulnerabilities within RMI as well as elsewhere in the Pacific region (and the clear physical characteristics therein), there is a clear and unambiguous relationship between climate change and international peace and security in both its most traditional

aspects (relating to territorial integrity) as well as both direct and driver- causes of conflict. That entire nations could face legal and physical complexities, if not threats and questions, to their existence is, without argument, not only an issue of international peace and security, but a deep question which should be addressed directly by the Member States, relevant organs, and Secretary-General of the United Nations.

Potential Means of Treatment: Possible Elements for a “Way Forward” on Climate and Security

Having defined the boundaries of the security implications of climate change, it is appropriate to advance some possible elements for consideration in treatment of the topic of climate change and security. These are not, by any means, definitive. Rather, they are placed for the consideration and to inform subsequent informal discussion of a “way forward.” As such, the elements below are merely preliminary and a “work in progress” which should be informed by views of other member states and intergovernmental organizations, as well as additional discourse.

There have been frequent and increasing discussions across the international system and throughout the UN on issues pertaining to security and climate change; a range of views have been expressed, with widely-acknowledged complexity. However, such discussions are discordant and do not currently have a “home” within the UN system. There is much discussion, but little coordination.

The potential treatment by the UN system of climate and security issues and linkages should be carefully considered. The suggestions contained here are preliminary at best, and deserve to be informed and considered by other views, and would be in need of further refinement. The UNFCCC is recognized as a primary negotiation instrument and one which informs the delivery of climate-related commitments, and would thus play an important role in both short- and long- term actions. However, the issue of climate and security, including its implications upon sovereignty, also addresses both operational and philosophical issues which may also supercede the UNFCCC, especially those regarding statehood. States and the UN system, as well as major organs and international actors, need to consider with the greatest urgency immediate actions which avert or reduce security implications and threats.

One possible option open to the United Nations in pursuing such discourse would be the appointment of a special representative to facilitate focused discussion and further treatment of the security implications of climate change. In addition, discussions regarding climate change within relevant UN organs should continue.

In further considering the need for a “home” to allow ongoing discussion of these issues, strong consideration should be given to the possible utilization of a special rapporteur or other special representative, as might be appointed by the Secretary-General.

Rapporteurs or special representatives often brief respective bodies on situations and progress on issues within their respective mandates.

It should be noted that both the General Assembly and Security Council have an ability to address issues pertaining to climate and security, albeit pursuant to differing articles and mandates. Each organ has a unique structure and thus each offers a unique character to the structure of its discussions. The General Assembly offers universal membership and its working character is structured accordingly. However, only the Security Council, with its flexible and ad-hoc agenda crafted around ongoing and emerging events, is able to bring quick attention to such matters and thus feed into preventative and disaster response measures.

The appointment by relevant UN organs (noting the abilities described above) of special committees or “working groups” could be considered in an ongoing and robust fashion the ‘climate and security’ nexus. An important comparative example is the “Working Group” of the UN Security Council established in relation to Children and Armed Conflict pursuant to UNSCR 1612, which has a number of important characteristics and functions that might be useful in the climate/security context, including monitoring and reporting functions, country visits, and other activities. Particularly pertinent is the Group’s ability to “address requests, as appropriate, to other bodies within the United Nations system for action to support implementation of Security Council resolution 1612 (2005), in accordance with their respective mandates.”

Immediate actions and activities can – and must – be undertaken to avert and reduce the security implications of climate change. In more general terms, these pathways may be familiar, and are considered in a variety of operational and political fora, organs and agency systems. These actions or pathways are often already well-defined and awaiting greater will towards implementation; they are readily achievable and may not require deep thinking or creative political philosophy. Adaptation to climate impacts is a key priority – adaptation actions should also respond to or address security implications where they exist, in addition to development goals. To successfully reduce security issues related to climate (and indeed, for any adaptation action), direct access by the most vulnerable States to funding mechanisms is needed, and immediate results through concrete are important goals. However, adaptation is not endlessly possible – security threats must be avoided by ambitious mitigation action from all nations (recognizing the principle of common but differentiated responsibilities) at levels which deter security threats. Such a commitment has been, in general terms, widely recognized in the Primary Objective of the UNFCCC as avoiding dangerous levels of climate change. Other immediate actions are possible; it should be noted that many of the most vulnerable nations, including Small Island Developing States which have recognized the possible security implications of climate change, fall under the mandate of the Office of the High Level Representative for Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (the same Under-Secretary General also addresses issues pertaining to African nations), and the role (as well as output) of this office should be thusly examined. The Secretary General can also work towards continuing an

effective coordinated response to climate throughout the UN system; although some actions have been taken to date in this regard, it is evident that much more needs to be done in this regard, with appropriate urgency. There is an evident contrast between the extent of concrete actions with visible results, indicating gaps in both systematic structures and delivery, which are attributable to multiple actors. With a view to averting and reducing security implications (but equally, regarding development barriers) such gaps should be addressed with urgency and by all involved parties. The Secretary General can play an important role in this regard; in addition, the attention of ECOSOC and/or the General Assembly may be drawn to this issue within respective mandates.

In addition to what must be a primary and urgent focus on immediate actions, due consideration should be given to the establishment of a “long term mechanism” to address and responds to the security implications of climate change in the event that current efforts – largely under the UNFCCC – are insufficient to address emerging threats. Such a “mechanism” should focus on the delivery of a thoughtful and direct answer to the following questions, taken together: how does the UN (including States, organs, agencies, systems and other actors) respond when a nation becomes uninhabitable or physically “vanishes”; where do its people go; and how are its pre-existing sovereign rights addressed and protected going forward?

In responding to these questions, any UN mechanism would of course need to be informed by relevant treaty bodies and UN forums, and should respect and take advantage of their respective mandates. No one treaty has a comprehensive mandate to determine careful issues of sovereignty or survival, yet such bodies have special expertise in addressing various components of the larger question.

In addition to the obvious relevance of the UNFCCC and its constituent bodies (as already noted above), there are important issues that need to be addressed in the context of the international law of the sea, as codified in the 1982 UN Convention on the Law of the Sea, and noting related General Assembly discussions. Relevant issues include climate-induced changes to the definition of political boundaries and associated sovereign and other rights and obligations for islands, and the legal import of island states and their constituent land areas potentially rendered uninhabitable due to sea level rise. Although the most urgent focus must be given to immediate responses to avert security implications of climate change, steps must be taken to assemble and activate a long-term mechanism for addressing these issues so as to minimize the potential for future disputes, events and situations deriving out of threats to security as a result of climate change (particularly as they relate to territorial definition).

Appendix A
Basis of of Long-Term Treatment for Climate & Security Issues
under UN Charter Articles 33 & 34

It is important to consider pathways for addressing international peace and security within the UN organs; basic information is provided regarding the basis of long-term treatment under two key Articles of the UN Charter, for the express purpose of stimulating further discussion.

The function assigned to the GA would be to insist upon and take measures so that States do not threaten or cause a breach of peace (Arts 10, 11, 13); should such an act of aggression or breach of peace be committed or threatened, the SC may take effective collective measures accordingly. The UN can further proceed to an adjustment or settlement of a dispute or situation, under the GA (Art 14) or to the SC. Thus, no particular institution is assigned absolute primacy in taking effective measures.

The Security Council can recommend all procedural steps it considers appropriate to the parties to a dispute, and is not bound by any restrictions in this respect.¹⁰ The Council is founded on the principle of subsidiarity, with the ultimate underlying responsibility for resolution resting, wherever possible, with the parties themselves. Thus, there are no restrictions in action, other that such action be appropriate. The SC may issue recommendations which are not strictly binding, but which may remind parties of responsibilities and obligations which are incumbent upon them pursuant to the UN Charter.

Peace & Security Activities Under Article 34

Note the Secretary-General's 2001 report, entitled "Prevention of Armed Conflict," which noted that in the last century, collective security was pursued through reactive, rather than preventative, means, and was defined almost exclusively in military terms. It was clear that the UN needed to address the modern realities of the present century. At that time, the Secretary-General pledged to move the UN "from a culture of reaction to a culture of prevention" and, specifically referred to Article 34 as a relevant tool.

Some activities under Article 34 undertaken in the past have been described, as a means to consider some potential pathways that could inform further UN action on climate and security, particularly in relation to the "long term mechanism" described above.

Innovative Mechanisms

In the 2001 report, the Secretary-General further encouraged the Security Council "to consider innovative mechanisms, such as establishing a subsidiary organ, an ad-hoc

¹⁰ (SC Res. 377 (Oct 22 1975) on Western Sahara; Res. 395 (Aug 25 1976) on the Greek-Turkish conflict over the Aegean Sea).

informal working group or other informal technical arrangement to discuss prevention cases on a continuing basis, particularly in regard to periodic regional or subregional reports... as well as other early warning or prevention cases brought to its attention by member states." (Doc A/55/985-S/2001/575 p.9).¹¹

Such innovative mechanisms could be established by either the Council or the General Assembly to address the long-term security implications of climate change.

Investigation of Situation

The Security Council has the ability to undertake an investigation of any situation which might lead to international friction, in order to determine if the continuation of the situation is likely to jeopardize international peace and security, under Article 34. This article expressly assigns a competence to investigate, but does not mean that the Security Council has the exclusive authority to investigate (other organs can do this as well, including the Secretary General and General Assembly). The Security Council (or General Assembly) can also assign investigative functions to subsidiary organs or bodies. It is also worth noting the General Assembly Declaration on Fact-finding by the UN in the Field of the Maintenance of International Peace & Security (A/RES/46/59) (Dec 9, 1991), which emphasizes that the ability of the UN to maintain international peace and security depends largely upon its ability to acquire detailed knowledge about any dispute or situation, the continuance of which might threaten international peace and security. Fact-finding missions undertaken by respective competent organs – the General Assembly, Security Council and Secretary-General – are particularly useful in enhancing knowledge as a basis for responding to emerging threats to peace and security. The Declaration suggests that preference in conducting the fact-finding should be afforded to the Secretary-General by the Security Council and/or General Assembly.

Taking action under Article 34 is an independent basis of action for the Security Council; the Council is not restricted by the pre-condition that states involved in a situation have already themselves taken steps to resolve the situation. However, although this is an independent procedure, it is not wholly isolated from other Council possibilities of action. The procedures contemplated by this article allow for a determination of an endangerment of peace and security, subsequent to an investigation, which could be the precondition for action under other Articles.

An investigation is an activity which exceeds the individual collection of views or data by members via diplomatic channels, but instead responds to a specific Council decision intended to clarify specified matters. An investigation obtains the facts of events, and can include calling for reports, hearing witnesses and dispatching a commission of inquiry for on-the-spot assessments. Alternatively, an investigation can be created by examining statements made before the Council and receiving further statements and documents. Investigation implies an activity beyond mere observation; it is not restricted to the clarification of past events, but is also directed at current events and their possible future

¹¹ SC Res 1366 is an example in which the Council takes "follow up action" in determining if the continuance of a situation is likely to endanger the maintenance of international peace and security.

development. Under Article 98 of the Charter, the Council may entrust the Secretary-General with the investigation, or it may appoint a special representative of the Secretary General. (SC Res 384); in exceptional cases, the Security Council has requested a subsidiary organ of the General Assembly to conduct the investigation (SC Res 163).

Investigations could be useful activities in addressing the long-term implications of climate change.

Peace and Security Activities under Article 33

The Security Council has consistently embarked on a path of engagement since it determined in Res. 794 (Dec. 3 1992) that a situation of anarchy and lawlessness (“the magnitude of the human tragedy”) in a given society may amount to a threat to international peace and security. The notion of peaceful means appears to encompass all available procedures for peaceful settlement of dispute. The Security Council can recommend all procedural steps it considers appropriate to the parties, and is not bound by any restrictions.¹² It has suggested that parties enter into negotiations, often with a view of the urgency of the situation.¹³

Fact-finding abilities

The relevant UN organs have fact-finding abilities under Article 33. The organs may establish a commission of inquiry for the purposes of elucidating the facts underlying a dispute (here, an objective investigation is possible of the facts regarding the definition, delineation extent and present or impending state of climate change implications on international peace and security). The organs may then charge the commission with drafting a report after completing its work. This report would not be legally binding on parties, and would leave it to the parties to draw appropriate conclusions from the facts. This would be useful, as there appears to be remaining uncertainty by some member states regarding the exact nature of this impact. Knowledge of the underlying facts would provide parties with the materials for developing a just solution; such a solution could arise through the mutual actions of several key fora, based on further discussion and elaboration; in other words, such a fact-finding unertaking are reports are intended as an thorough and obective independent investigation, rather than just the views of member states. One notes that detailed rules for fact-finding on international peace and security were adopted by the General Assembly in Res. 46/59 (Annex) (Dec 9, 1991). The relevant organs need objective information to make an informed consideration.

Utilization of fact-finding abilities by relevant organs could be helpful in further treating the issue of security and climate change, in both immediate and long-term actions.

¹² SR Res. 377 (Oct. 22, 1975) on Western Sahara; Res. 395 (Aug. 25th, 1976) on Greek-Turkish conflict over the Aegean Sea.

¹³ SC Res. 322 (Nov. 22, 1972) para 3; SC Res. 338 (Oct. 22, 1973) para 3; SC. Res 353 (July 20, 1974) para 5; SC Res. 357 (Aug. 14, 1974) para 3; SC Res. 360 (Aug. 16, 1974) para 3; SC Res. 395 (Aug. 25, 1976) para 3; SC Res. 660 (Aug. 2, 1990) para 3.

Mediation

A mediator participates in the negotiations between parties and can advance his/her own proposals aimed at a mutually acceptable solution; the Secretary General has repeatedly been mandated by the Security Council to act as mediator.¹⁴ A contact group has also been established in recent situations.¹⁵ Also note the use of Good Offices (not appearing directly in Article 33); a 3rd party undertakes efforts to induce parties to a dispute to initiate or resume negotiations.¹⁶

Conciliation

The relevant UN organs also have the power of Conciliation under Article 33, which combines both elements of inquiry (fact-finding) and mediation. Creation of an organ of conciliation would provide for initial fact-finding, and then for submitting proposals for a solution to address the issue; such proposals are not binding. This mechanism can be either permanent or on an ad-hoc, situation-specific basis. One notes in this regard the UN Model Rules for the Conciliation of Disputes between States, in General Assembly Res. 50/50 (Annex) (Dec. 11, 1995). The Panel for Inquiry and Conciliation was created in the General Assembly by GA Res. 286 D (III) Apr. 28, 1949, but has not yet been seized.

Conciliation and mediation would be potentially useful activities in addressing certain long-term security implications of climate change, and a particularly useful means by which to respond to the issues of threatened sovereignty.

Negotiations

Negotiations are a more intense form of contact than mere information exchange or consultation; each party has a duty of response. The General Assembly established principles and guidelines for this activity in Res. 53/101 (Dec. 8, 1998); states are admonished in para 2-e “to maintain a constructive atmosphere during negotiations and to refrain from any conduct which might undermine the negotiations and their progress.” While a relevant UN organ may wish to refrain from treading into the mandate of detailed negotiations within a technical body of expertise, such as the UNFCCC, nonetheless it is important to consider that the lack of constructive and good-faith negotiations would have severely adverse effects, and should be considered in this regard by relevant UN organs.

¹⁴ SC Res. 186 (Mar. 4, 1964) in the Cyprus Conflict, SC Res. 242 (Nov. 22, 1967) in a Middle East situation, SC Res. 598 (Jul 20, 1987) in a situation between Iran and Iraq

¹⁵ SC Res. 1274 (Nov. 12, 1999) on Tajikistan: Contact Group of Guarantor States and Organizations; SC Res. 1333 (Dec. 19, 2000) on Afghanistan: Afghan Support Group.

¹⁶ GA Res. 3283 (XXIX) (Dec. 12, 1974); the Secretary General has been mandated by the Council to offer “good offices” Res. 365 (Dec. 13, 1974) in the Cyprus conflict, SC Res. 505 (May 26, 1982) para 2 in the Falkland/Mavisas Islands, in the Gulf War SC Res. 666 (13 Sept 1990) para 7, Res. 674 (Oct. 29, 1990) para 7.

Referral

The Security Council has the power of Referral to International Tribunals under Article 33; the General Assembly also has a similar mandate. However, one should note the confidence typically placed in political means of dispute settlement or resolution, which rely upon input and dialogue in arriving at a cooperative solution. In addition, if the object of a claim disappears, the application becomes inadmissible.¹⁷

There are a range of complex questions raised, but not yet resolved, by long-term security implications of climate change. Given the lack of a direct precedent, strong efforts should be made to address this issue at a political level relying upon open discussion and input. Nevertheless, referral to the ICJ should be evaluated as one potential alternative in addressing the long-term security implications of climate change.

Other Peaceful Means

The Security Council has the broad ability to engage Other Peaceful Means to resolve issues under Article 33; certainly, the General Assembly also can undertake consultation through developing or combining different modalities. This category was deliberately left open ended; parties are free to combine different types or to modify them in such a way as may seem most appropriate for the solution of a pending dispute.

While decades of practice often lead to the perception that there is a prescribed format to international discussions, the UN organs are essentially unchecked in their actual legal ability to create new avenues closely tailored or structured to resolve particular emerging issues; this ability for creative invention should be closely considered in discussing (and possibly defining) a means by which to treat the long-term security implications of climate change.

Appendix B: Examining Possible Security Implications of Climate Change Relating to Discussions Regarding UNCLOS within the General Assembly

While the UN Law of the Sea treaty and related General Assembly treatment may not represent the definitive forum for defining nationhood and legal personality, it nonetheless contains critical tools which are commonly recognized as expressing such definitions. Discussions of these issues as they pertain to boundary interpretation, and also ultimately within a forum competent to address these and other provisions of international law in a holistic manner, would have direct implications upon the definition of the Marshall Islands, but also in relation to a wide range of potential situations regarding boundary definition, dispute and potentially, conflict.

UNCLOS is addressed in an “annual” General Assembly resolution, in which key elements relating to the Law of the Sea are further elaborated. Specifically, analysis

¹⁷ Nuclear Tests (Australia v. France) ICT Reports (1974) et. seq.

under UNCLOS discussions, including those within the General Assembly, of the specific question relating to boundary definition and climate impacts will help to inform the treatment of the security implications of climate change most directly as it relates to issues of sovereignty. The issues of changing boundaries are most pertinent to low-lying island nations and their legal personality. However, such issues are admittedly global in nature, leading to a variety of views regarding border definition which hold the high potential for heightened tension relating to conflicting territorial definition. It is suggested that this could be avoided through actions of the General Assembly relating to its frequent treatment and evolving interpretation of the Law of the Sea. There are multiple fora in which this could be raised, including UNICPOLOS, the annual General Assembly resolution relating to Law of the Sea, and, potentially, the States Parties meeting. While existing academic study is limited, it is important to note the 2009 study by Charles Di Leva, chief environmental legal counsel of the World Bank, entitled “Maritime Rights of Coastal States and Climate Change: Should States Adapt to Submerged Boundaries?”

It should further be noted that UNCLOS-related analysis would only inform one aspect of this issue, and only within a limited and narrow framework. Accordingly, such analysis should not be considered to be fully dispositive of the question, given both practical implications, as well as other relevant principles of international law, beyond the mandate of UNCLOS discussions.

Given the traditional interpretation of explicit definitions of EEZs, there is a strong potential that, barring additional international action, certain nations may face complex questions in relation to an adverse boundary redefinition of their political boundaries and EEZs. The resolution of such questions holds the potential to be inequitable for many such-affected nations, given their comparative lack of contribution to GHG emissions. In addition, other changing claims may present a considerable burden to dispute-resolution processes. Initiating discussions of the legal, economic and political implications now allows for an objective and cooperative dialogue allows for a proactive and objective approach to this complex issue.

Multi-frontal engagement is appropriate and should include discussions among both States Parties, as well as the General Assembly. While the UNFCCC is an appropriate forum to discuss the impact and/or response to climate impacts, it lacks the legal mandate and technical competence necessary to undertake substantive decisions regarding the definition or determination of EEZs.

Such discussions may be informed by several provisions within UNCLOS, and related developments:

- Article 121.1 (defines an island as a naturally-formed area of land, surrounded by water, which is above water at high tide);
- Article 121.3 (stating that rocks which cannot sustain human habitation or economic life on their own shall have no EEZ or continental shelf; rocks are specifically distinguished from islands);

- Article 6 (noting that for islands on atolls or with fringing reefs, the baseline for measuring the territorial sea is the seaward low-water line of the reef as marked on charts officially recognized by the coastal state);
- Article 7 (noting that because of a delta or other natural conditions creating an unstable coastline, demarkation points may be selected at the furthest seaward extent of the low-water line; until such a submission is made, a straight baseline as currently exists "remains effective");
- Article 13.2 (stating that where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or island, it has no territorial sea of its own);
- Article 60 (stating that states may create artificial islands or physical structures, but that these do not have same status as islands in Article 121, and thus do not affect delimitation)
- Claims to jurisdiction over "historic waters" under Article 10.6;
- ICJ caselaw (Anglo-Norwegian Fisheries case – 1951 ICJ Rep. 116 at 133, holding that, in boundary delimitation, one could take into account "certain economic interests peculiar to a region, the reality and importance of which are clearly envisioned by a long useage"); additional caselaw should be examined;
- The use of joint development areas in disputed maritime/coastal regions;
- Recent legal scholarship regarding UNCLOS, baselines and climate change (noting "Maritime Rights of Coastal States and Climate Change: Should States Adapt to Submerged Boundaries," a 2008 study by Charles Di Leva, Chief Counsel, World Bank);
- Article 76 (states have the ability to submit to the UN which permanently describes the outer limits of the continental shelf);

UNCLOS does not expressly provide that, in all circumstances, boundaries would shift in response to climate change; but neither is there a mechanism to permanently "fix" an EEZ. A common and strict legal interpretation is that EEZ boundaries are modern or ambulatory rather than fixed to a specific date; an EEZ may be adjusted to evolving physical change, including coastal erosion or accretion. A similar interpretation would establish an EEZ as a legal personality which is related most immediately to physical geography; external political processes or decisions may be subsidiary to the existence of such geography. This view is supported by the legislative history for UNCLOS, including the 1958 Geneva Convention.

However, such interpretations may not properly account for the unique scale and rate of change which will be visited by climate impacts. There exists the strong possibility for "waste" in that nations would expend considerable financial resources in efforts to sustain physical space with the sole purpose of maintaining legal personality; such resources should instead be prioritized for adaptation strategies with a more immediate benefit to human communities and natural ecosystems.

The Republic of the Marshall Islands may be able to maintain its legal personality despite the formal lack of physical territory; the 1933 Montevideo Convention on the Rights and Duties of States lists "defined territory" as a condition precedent to legal statehood, but may also permit the view that a state which "disappears" may maintain elements of

statehood so as to protect its citizens (thus taking on a sui generis role of an international actor; note the example of the Sovereign Order of Malta, which maintains diplomatic relations but no longer has associated physical territory). However, in the context of climate change, by any view, such an outcome would nonetheless prevent substantial interference with the normal conduct of political structure, and would be unacceptable under international law.