

THE FADING ISLANDS

THE CHESAPEAKE AS A MICROCOSM FOR CLIMATE CHANGE
AND SHIFT IN POPULATION

Smith Island

3.18.2012

JANEY ROBSON

Department of Global Studies and Geography

Supervised by Dr. Robert Brinkmann

Spring 2012

Table of Contents

Introduction	3
A Look at the Chesapeake Bay	3
Background on Environmental Thoughts and Theories	6
Smith Island and its Distinctions	9
Other Chesapeake Islands	16
Other Cases: Kiribati	21
Kivalina	23
Conclusion	24
Work Cited	30

Janey Robson

Dr. Brinkmann

Global Studies Honors Essay

March 9, 2012

The Fading Islands: The Chesapeake as a Microcosm for
Climate Change and Shift in Population

Introduction

It's no secret that our world will face some serious dilemmas in the near future. There have been numerous environmentalists, scientists, leaders, and intellectuals who have studied and warned of the effects of environmental degradation on communities. As our climate changes, rapid urbanization continues, and resources become depleted, the world will have to enact new methods for sustainability in order to survive. It will conceivably be our most important task as humans to find sustainable ways to balance our relationship with nature.

Looking at the world through a sustainable lens can be daunting, so it can be helpful to look at individual cases to help better understand what is happening throughout the world. There is perhaps no better place to start than the Chesapeake Bay, which is a large-scale resource that affects millions of people and as a result of pressures from globalization has been devastatingly polluted and altered.

A Look at the Chesapeake Bay

The Chesapeake Bay, just as many have described it, can be considered a national treasure. In fact, the saying, "Treasure the Chesapeake" can be found printed on many

Maryland state license plates. This treasure is the largest estuary in the country. An estuary, which is a semi-enclosed body of water that connects fresh water to the salty ocean, requires the flow of at least one river or stream into it. The Chesapeake Bay has more than 150 waterways flowing into it from six states, as well as Washington, D.C. (Blake 15). Maryland and Virginia are the bay's immediate neighbors. The Chesapeake Bay watershed expands across 64,000 square miles and is home to 17 million people.

The communities found here have, of course, not been free from the pressures of globalization. Urbanization, like in many parts of the world, has been the growing trend in this area. Due to the many accessible waterways, the area has been a hotspot for trade routes, lending further to the effects of globalization. The proximity to major cities such as Washington D.C., Norfolk, Virginia; and Annapolis and Baltimore, Maryland; as well as Philadelphia and New York City have also played an important role in this. Due to the pressures put on the area, there has been much harm inflicted on the Chesapeake Bay. Even Smith Island, a small island with a population of less than 250, has not been impervious to globalization. This can be seen in the environmental changes that have occurred in the area and also in the cultural changes experienced by Smith Island. Lines of communication have increased on the isolated island and residents have become more global, just as the rest of us have. Many take annual vacations to various spots around the world, which not that long ago would have seemed next to impossible.

All that occurs in the 64,000-square-mile area of the Chesapeake Bay watershed (see fig.1), as well as the actions of the 17 million people who live here, affect the 250 residents of Smith Island (Horton 11). The majority of Smith Islanders are watermen and women, who make their living off the bounty of the Chesapeake. This bounty comes

from the many shellfish found in the waters. Today, the most sought after is the blue crab, which experiences its own form of globalization as it is shipped throughout the United States and even as far as Japan.

In recent years, there have been numerous restoration efforts conducted within the bay in an attempt to repair the damages done to the massive watershed. Islands within the bay, such as Smith Island, are significantly impacted by environmental change in the bay. Another island within the Chesapeake Bay that can represent a microcosm for coastal communities is Holland Island. It, too, has experienced significant change during its history. Holland Island was once a thriving community but has been long abandoned due to rising sea levels. Now Smith Island is the last inhabited Chesapeake Island that is not connected to the mainland in Maryland (Meyer 3). But many wonder, for how much longer?

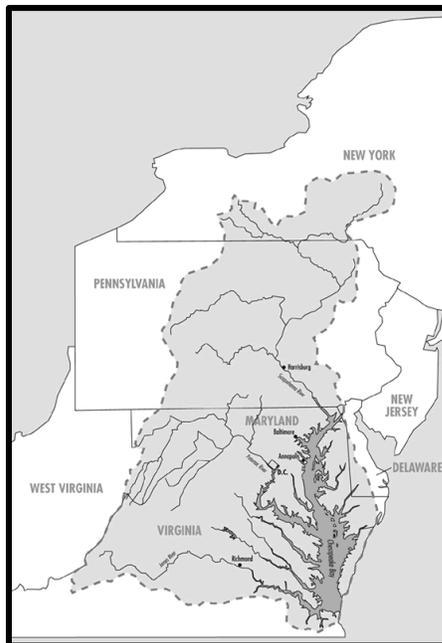


Fig. 1 *Map of Chesapeake Bay Watershed* Photo Credit: <http://www.cbf.org/>

The Chesapeake Bay Foundation, in true conservationist style, is an organization that is devoted to the protection and restoration of the Chesapeake Bay. The foundation is dedicated to reducing pollution, which can affect all aspects of bay life, as well as increasing the quality of water that is now found throughout the bay. The organization's goals have been furthered by various efforts such as legislation, awareness, restoration and studies conducted in an attempt to 'Save the Bay.'

Although the Chesapeake Bay Foundation has the bay's best interests at heart, there have been many clashes between the organization and the islanders in the bay. The organization is made up of scientists, environmentalists, educators, advocates, and volunteers. The islanders, particularly the inhabitants of Smith Island, believe that many of these people are out of touch with the real nature of the bay.

Background on Environmental Thoughts and Theories

The work of Aldo Leopold, although he focused more on wilderness conservation in the Midwest United States, can be relevant when discussing sustainability today. His influence on environmental ethics and preservation are important to the examination of regions such as the Chesapeake Bay. Ethics when applied to the environment can help to define what should be occurring and what should not be (Leopold 262). In terms of the Chesapeake Bay, questions that should be posed according to Leopold's ideas on environmental ethics include "Is it ethically okay to continue to harvest seafood so abundantly?" "Is it okay to pollute and litter the waters?" "What is needed from us to ensure that these resources and region will be available for generations to come?" These questions should be answered by all of the 17 million people living in the watershed of the Chesapeake Bay to ensure the protection of this irreplaceable resource for the future.

Another concept discussed by Leopold is that of land ethics. He believes a land ethic is when the environment's integrity and stability is preserved despite a human act. The interactions between humans and the environment should be harmonized, so that the environment remains in existence and intact for future generations. Problems occur, Leopold believes, when human interaction leaves the environment so altered that its existence and natural state has been threatened. Humans should not dominate the land; instead humans should learn to live as a simple member of it. It is not useful to pretend that humans will stop having a reliance on land and resources. However, to create a sustainable future, there is a need for the relationship between humans and our environment to change. Ethically speaking, rapid deforestation in the Amazon rainforest, China's reliance on coal, and the pollution emitted into the Chesapeake Bay are not the balanced relationships needed in our world. Humans must shift their position as the dominant and destructive leader of an environmental community to instead just another equal member of the environmental community. Through this, a balance could be struck for all members of the land, whether they are humans or crabs.

Another researcher whose work is significant in understanding changes in the Chesapeake islands and other threatened regions is Richard Florida. While Florida's concept of the creative class is most often applied to an urban setting I believe his ideas can also be applied to the small rural setting of Smith Island (Bille 466). Islands in the Chesapeake, such as Smith Island, are facing various demographic issues, such as aging, loss of population due to emigration, and gender inequities. According to the 1980 United States Census, the population of Smith Island, which is made up of three towns, was 675. Today, the population has fallen below 250 (Meyer 3). This dramatic decrease is due in

part to lack of employment opportunities. Many people, especially young people, are leaving Smith Island in search of better prospects for their future. Florida might suggest that for Smith Island to retain its population, it must create opportunities that reflect the interests of the creative class.

According to Florida, the creative class is made up of two groups of people: the super-creative core and the creative professionals. These groups make up American workers who work in such fields as education, engineering, research, the arts, design, and healthcare. It is with these sorts of people and sectors that a community's economy can grow. Florida argues that in order for the creative class to emerge and develop the city must offer things that these people would find attractive. Florida organizes these things into "the three T's." The three T's are Talent, in terms of people in a given population, Tolerance, as in a diverse and open-minded population, and Technology, which is in reference to the availability of infrastructure for upcoming entrepreneurs (251).

However, there are issues that arise when applying Florida's theory to Smith Island, as well as other islands in the Chesapeake Bay, such as Tangier Island. Both islands have strong and traditional cultures, so it is to be expected that islanders would be weary of change. A common complaint made by Smith Islanders is that outsiders do not fully recognize the fundamental differences between life on the mainland and life on a small and disconnected island. This means that successful structures and practices on the mainland might not work on Smith Island. Smith Islanders are watermen and this is not only an occupation for many, but also a way of life. It is how they sustain themselves, through money earned selling the seafood, but also by feeding their families. Often the nuclear family is organized so that the husband is the crabber and the wife is the crab

picker. These somewhat traditional roles found in this isolated community have served families well when the seafood industry is strong. But as resources become scarcer and opportunities on the island become less apparent, many young people are leaving in search of a better life.

Smith Island and its Distinctions

The only way to access the isolated community of Smith Island is by a 45-minute ferry that is located in Crisfield, Maryland (see fig.2). For many years, the ferry trip took almost two hours and the schedule was unreliable. However, as technology in boats improved, the ferry ride shortened and became more frequent. This allowed Smith Island's high school students who were boarding in Crisfield to live at home. With improvements, the high-speed boats were able to take students daily to school. Today, the ferries and boats are greatly affected by the steep prices in oil. On a personal weekend visit, there were no ferry rides running on the weekend during the winter months due to oil expenses. Instead, we were required to charter a boat to the island in order to access the towns.



Fig. 2 A map of Smith Island's three towns and their location in the Chesapeake Bay
Photo Credit: http://home.dmv.com/~les/SI_MAPS.HTM

This isolation of Smith Island has played a huge role in the history of the region and the current state of the island. As access to communication and travel has increased, the severity of isolation has decreased in some ways. But many traditions have survived. For example, due to the isolation of the island, the people have been able to semi-maintain a form of Elizabethan dialect inherited from their British ancestors who occupied the island in the 1600s. There has been much debate over exactly what the linguistics behind the Smith Island dialect are, but there is one common conclusion: the Smith Island way of speaking is certainly distinct. The secretary of the Yorkshire Dialect Society, Stanley Ellis, in the 1970s found that there were some remarkable observations found between Smith Island dialect and Elizabethan dialect. For example, there were numerous words used uniquely by Smith Islanders that matched the *English Dialect Dictionary* published in 1893 (Horton 237).

Smith Islanders often feel that people on the mainland do not really understand how life on their island works. One islander describes it as, “I respect science and education, but those people got to respect some things we know, too. There is an old blue heron I pass that is always standing by the edge of the marsh...I have been seeing him there for twenty years or more. I showed him to a man who comes here to put identification bands on the legs of fish hawks and herons, and he asked how could I know it was the same bird, because it wasn't marked with a band. Well, of course, he hadn't been looking at that old bird for twenty years, you see. Sometimes I think if we listened too much to the biologists about the problems of the bay, we'd just give up here and now. What I believe is, everything goes in cycles” (Horton 72). A good link between the

mainland and Smith Island came from Tom Horton, who interviewed the speaker above. Horton, the author of *An Island Out of Time*, is an environmental journalist who moved to Smith Island in the 1980s. His experiences with Smith Islanders and the Chesapeake Bay should be proof enough of the importance and distinction that is Smith Island.

There have been countless examples during the past several decades of legislation and codes being enforced on Smith Island to make them follow the same rules that apply to the mainland, but as many Smith Islanders will point out the two places just are not the same. An example of this issue occurred in the early 1990s when the crab pickers on Smith Island, who are women, were forced to create a co-op. For years, crab picking on the island was an unorganized way for families to make a little extra money during tough times. However, as shell-fishing activities, such as oystering, began to decrease, the families became so reliant on this extra income that it would have been impossible to get by without it. When the state became interested in their operation, there were many requirements that were introduced into the process on the island, such as pressure steamers, commercial refrigerators, and regulation concrete buildings with separate rooms for each task. The cost for the town of Tylerton alone ranged from \$30,000 to \$60,000. One resident loosely recalled a conversation with Maryland officials, “Other places had done it, they said; but other places aren’t Smith Island, said we” (Horton 105).

The islanders were faced with many bureaucratic regulations just as the mainland had faced. To a mainland resident, this probably seems fair. However when examining just how vast the different lifestyles need to be due to the environment and geographic setting, it should be clear that the same regulations did not make sense. One frustration occurred when residents were told they needed to obtain a permit to discard the five

gallons of water that comes from the steamers they were required to buy. The residents were prohibited from throwing the water into the bay, as well as into their sewer system. Another incident surrounding the founding of this co-op occurred when the regulatory officials examined the women's plans for their required concrete building. The officials were concerned about the shape and the lack of a parking lot in the design. However, the shape was designed purposefully because of the island's extreme marshiness and lack of solid ground. The absence of a parking lot was because Smith Islanders do not drive cars since the roads are not wide enough and there is no easy way to import vehicles.

One resident recalls the most frustrating of all the new regulations focused on the disposal of the crab waste once the meat had been picked. She said, "We have always just thrown it overboard -- right back where it came from, we figure. Even the Save the Bayers [Chesapeake Bay Foundation] in their environmental center do that." This practice, which was investigated by the Chesapeake Bay Foundation to see if there were any changes in oxygen levels or any other sort of abnormalities in the surrounding water where the crab shells were dumped, turned up nothing. Regardless, the Maryland Department of the Environment said that because this was against regulations on the mainland it had to be outlawed on Smith Island as well. Alternatives such as a landfill and composting were out of the question, however, because there was no high ground to place facilities. The next option that was suggested to them was to burn it; but the county objected because it said the lone incinerator on the island could not handle it. The solution suggested by the Maryland Department of the Environment was to buy a special machine grinder for the waste, then pay the ferry to carry the waste back to the mainland. Then, they had to pay a truck to take the waste to a landfill. The estimated cost for this

was \$10,000 to \$20,000 a year. This solution, compared to stepping outside and dropping the shells into the bay, hardly seems like the more environmentally friendly or sustainable option. As the resident who helped to organize the co-op points out, “It is just that everything is designed for the mainland, where every year there is more people moving in. Out here, we’re struggling to keep those we got left from moving out” (Horton 108).

Another pervasive effect of the island’s isolation is the limited population. The island for generations has traditionally been populated by families with such surnames as Evans, Laird, Bradshaw, Marshall, Tyler, and Somers. These families are often directly related to the original English population who settled on the island several centuries ago. This has served to create a close-knit and culturally distinct community, but it has also put great stress on their population’s ability to grow. In recent years the decrease in population has been dramatic to say the least.

In Tylerton, one of the three towns that make up Smith Island, the decrease in population seems to be particularly striking (see fig. 3). In 1980, there were 153 people living in Tylerton. In 1984, there were 124. By 1994, there were 90 (Horton 315). The most recent numbers show that in the year 2010, there was a population of about 75. During this time span of 1980 to 1994, ten people moved onto the island. Sixty-four moved off. Another stark statistic that represents the population concerns for Tylerton is the increase in the amount of homes owned by outsiders, or people who are part-time non-residents who own second homes. In 1980, three homes were owned by outsiders, but by 1994, that number grew to fifteen. In these regards, isolation has been the island’s best friend and worst enemy.

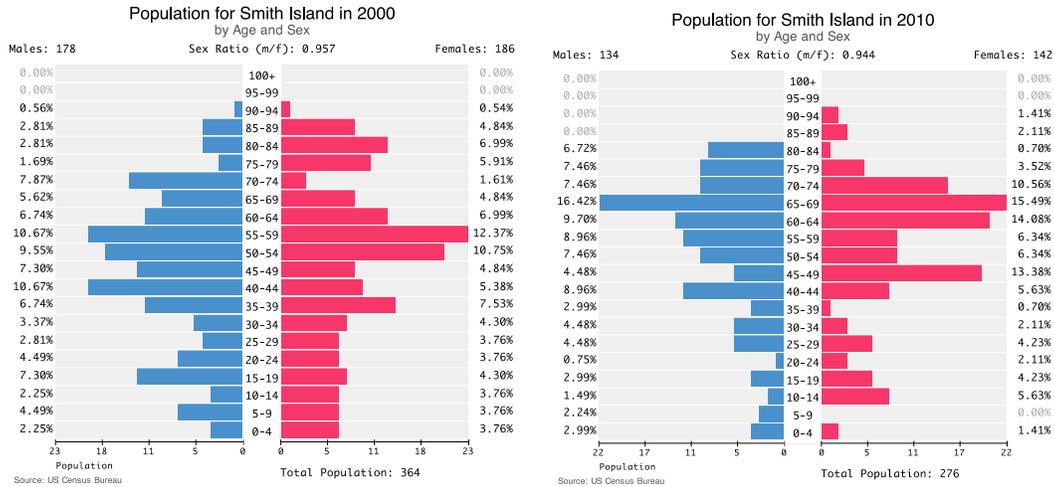


Fig. 3 Two population pyramids showing the decrease and aging of the population in Smith from 2000 to 2010 Credit: Janey Robson

Another issue concerning population is the disparity in gender. Young women have increasingly been leaving the island at a higher rate than young men. Men are more likely to stay on the island to pursue life as a waterman, just as their father, grandfather, and so on did, because this is the life that they know. Women, after graduating from high school in Crisfield, want to leave in search of better opportunities and an alternative career to crab picking. This also leaves the remaining population unbalanced in age, with the median age at 50. This is a huge concern for the islanders, as they understand they will not be able to sustain themselves without young people. As one Smith Island woman said in *An Island Out of Time*, “I think the environmentalists of today are doing good, trying to save the bay and all, because we depend on the water for our livelihood; but it’s the life of our people that concerns me. There used to be so many more here. Just in Tylerton I can remember as high as fifty girls and fifty boys and maybe two hundred people; and now they are talking about closing down the school for lack of children” (Horton 91).

This woman's concerns were accurate. The school in Tylerton, the last one-room schoolhouse in Maryland, closed in 1996 due to insufficient enrollment (Graham-Jones 70). It is now a converted summer home for an outsider. It still has the wooden deck that once surrounded the school. The deck was built to provide the children a place to play outside, even when the tide was lapping at the door covering the schoolhouse's yard. Today the students from Tylerton take a boat every morning to the Ewell School, where all the students from the three towns who are not yet in high school attend (see fig. 4). According to the National Center for Education Statistics, in the 2011 school year there were 12 students in attendance at the Ewell School.



Fig. 4 *The Ewell School in Ewell, Smith Island* Photo credit: Janey Robson

Other Chesapeake Islands

More than 500 islands in the Chesapeake Bay have disappeared in the last 300 years (see fig. 5). This can be blamed on a rise in sea level, erosion, and the naturally sinking land that is found in the Chesapeake area. Some of these now sunken islands were home to communities such as Holland Island and Barren Island. Many of these places have had fascinating histories that have disappeared with the land. Islands in the Chesapeake played a variety of roles. They were significant in the War of 1812 and were hideouts for pirates. One island, Poplar Island, was used at one point for breeding black cats to send to China. Their rich history and significance in the region are just some of the reasons why the few remaining islands deserve attention.

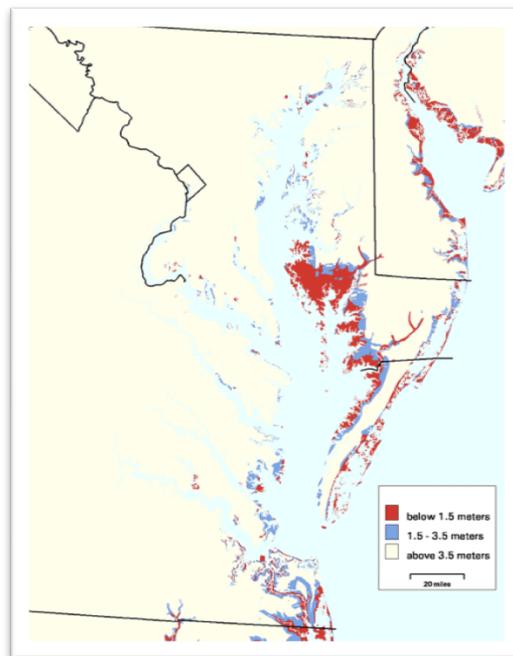


Fig. 5 *A map showing vulnerable land to sea level rise* Photo Credit: <http://www.epa.gov>

During the late 19th and early 20th century, Holland Island was a thriving community made up of about 70 homes, stores, a schoolhouse, community center, and

even a baseball team. The island was about five miles long and less than two miles wide. However, due to erosion, this already small island decreased drastically in size. The residents living on the island were forced to evacuate starting in 1914. By 1922, the last family was forced to leave. Many of the residents moved their Victorian style homes off the island by boat to other communities in the region such as the small town of Cambridge (Cronin 6). For decades after, the island continuously became smaller and smaller, leaving a single house that remained on the island to be completely surrounded by water during high tide. By 2010, due to strong winds and encroaching water, the last house collapsed (see fig. 6).



Fig. 6 *Last house standing on Holland Island – It collapsed in October 2010*
Photo credit: <http://www.flickr.com/photos/baldeaglebluff/4641189746/>

Around the time of the American Revolution, Holland Island, along with another small island just north of it called Long Island, belonged to John Price. Price's ancestors were still living on Long Island in 1880. However, by 1900 they were forced to leave Long Island due to its complete disappearance. They moved to Holland Island in search of higher-ground, since there was an existing community already there. In the 1850s, there were six families that lived on Holland Island. By the time the Prices had to abandon Long Island there was a population of 360 (Cronin 95). Similar to Smith Island, the men found employment through the water by dredging oysters, crabbing, and fishing. Also similar to Smith Island, the population was a Methodist community and in 1888 the Holland Islanders built what would one day be called the Holland Island Methodist Church, which could seat all 367 people who lived on the island. The islanders were tough and resilient people who were able to be self-sustaining through living off the land and the water.

However, Holland Islanders were not able to sustain their community against the infringing water. The powerful winds continuously threw water onto the island's shores that slowly but surely took the land back with every receding wave. As Cronin describes, "Year after year, northwest winds whipped up thirty miles of open water to hurl foot-high waves at the island's exposed western ridge. Foot by foot, yard by yard, the shore gave way, and by 1900 erosion threatened the homes and businesses strung out along the ridge" (Cronin 6). After all the residents had left, the island gave way to nature and was occupied by birds and other wildlife. The only proof of a community ever existing was through the one abandoned house, the faint remnants of a baseball field, and several stark white tombstones.

Many of the current residents of Smith Island recognize the similarities between Holland Island and their own island. One crab picker reflects: “A few years I went up the bay to an island which for hundreds of years was a community just like ours, until erosion drove the people off; and now the island is just a ‘washin’, and soon it’ll be gone...I look out my kitchen window down to Back Landing marsh every day, and that bay’s a lot closer than when I was a girl. The old man in Crisfield that we sell crabs to -- they say he was the last baby born on that vanished island. I’ve got a little grandson, and a lot of us wonder, will they say someday that he was the last baby born on Tylerton?” (Horton 107).

Besides Holland Island during its heyday, a Smith Island-like community can be found no more similarly than in Tangier Island, Virginia. Tangier is also the last inhabited non-connected island in Virginia. This makes Smith and Tangier the last two inhabited islands offshore in the Chesapeake Bay (Sheehan 109). Both islands share similar histories and culture, including a unique Elizabethan dialect. Both have water-based economies, and both are thoroughly Methodist (see fig. 7). Both also face the same environmental issues; however, there is one large difference between the two islands.



Fig. 7 Tangier waterman returning home

Photo credit: <http://www.flickr.com/photos/29388462@N06/5414634398/>

Tangier Islanders have adapted and made changes needed in order to keep Tangier a thriving community. Somehow the community is still bustling, which is in stark contrast to nearby Smith Island. Tangier's population remains much more stable at around 725 (Horton 306). There are some possible reasons as to why Tangier has prevailed better than Smith Island. These include more annual tourists, an airport, higher incomes (particularly during the winter), and Virginia possessing a larger portion of the Chesapeake Bay than Maryland does. Another reason could be that on Tangier Island children have never had to leave the island for high school. According to Horton, perhaps the most significant reason lies in the island's geography. Unlike Smith Island, whose high ground is dispersed throughout, Tangier Island's high ground is concentrated in a central location. Perhaps, it's because of this that Tangier has a local government, a centralized sewer system, water tower, and a single shared school. These sorts of

facilities and institutions have allowed the community to unite easily, particularly in terms of the issues the community is facing.

This phenomenon is evident in Tangier's larger tourist industry than Smith Island's. The island seems to have transformed itself into a more tourist-friendly community. Its streets, unlike Smith Island, are more visitor-friendly, with street signs pointing to local attractions. The roads also appear cleaner and better kept than the Smith Island roadways. Both exude small town charm, but Tangier appears to have somehow mastered the tourist appeal that Smith Island just hasn't. It would be interesting to note if the residents resent the changes that Tangier Island has undergone to sustain itself. Perhaps, opening this tight-knit and isolated community to the public's awing and gawking would not be a community's first choice; however, these islanders understand not adapting means losing their beloved island to urbanization, globalization, and climate change.

Other cases:

Kiribati

As the Chesapeake is forced to deal with issues that will undoubtedly affect the future of these islands, other places around the world are also struggling with such dilemmas, perhaps at an even more urgent level. As the names convey, globalization and global warming affect the world over. One island nation that is experiencing both phenomena is Kiribati, a republic that is made up of a chain of islands in the Pacific Ocean. The low-lying islands are under major threat of sea-level rise, so much so that Kiribati is attempting to buy land in Fiji so that its approximately 100,000 citizens can be relocated. Already some of the nation's atolls are disappearing beneath the water. This

relocation could be the first climate-induced migration in modern times due to the current issues surrounding climate change. The people of Kiribati are actually experiencing a similar process to what the people of Holland Island experienced in the beginning of the 20th century. Just as sea level is rising in the Chesapeake Bay it has also been the trend for the sea level in the Pacific Ocean to rise about 2 millimeters every year. However, many scientists believe that due to climate change sea-level rise will increase and speed up, which will put great pressure on not only island communities, but also all coastal communities, where a majority of the world's population lives.

The president of Kiribati, Anote Tong, has said that the nation is out of options and that as the waters have reached villages and homes the country is forced to find alternative land elsewhere in the world (Reardon 5). Tong's plan for the relocation seems thoughtful and deliberate. If the talks with Fiji go as planned, Tong intends to first begin by sending skilled workers, in an attempt to create a smooth and successful merger between the new residents and Fijians. Tong stresses that it is essential for the I-Kiribati, people from Kiribati, to secure themselves as immigrants who can provide skills and necessities to communities in Fiji, not refugees.

The leader and his Cabinet hope that it will never be completely necessary for the entire population to move, but they are planning for the worse. The Kiribati government is trying to secure around 6,000 acres of land in Fiji for about \$9.6 million, which could potentially hold the entire population (MacDonald 35). The younger generations of Kiribati have no other choice than to accept that their futures do not lie within the boundaries of Kiribati. As the shorelines recede, their fresh water sources become contaminated by seawater and weather patterns change. Younger generations are faced

with the harsh realizations that opportunities no longer exist for I-Kiribatis, just as young Smith Islanders are battling with the same struggles.

Kivalina

A significant island in terms of climate change is the village of Kivalina, located off the coast of Alaska. Similar to Smith Islanders, the people of Kivalina have an intimate connection with their environment and the cycles of nature (Shearer 61). The people of Kivalina first noticed a change in their environment in the 1950s. Their land began to erode due to the disappearance of sea ice, which for years had served as a protection for the town from the harsh waves that could destroy their land and infrastructure. As this ice began to melt, due to a change in climate, their island became increasingly vulnerable to the region's harsh conditions. It has been determined by the U.S. Global Change Research Program that the average temperature of Alaska is now four degrees warmer than it was fifty years ago (Kriz 17). Although these four degrees can seem insignificant at first glance, it can tremendously affect the climate of a region. An example of this is the new trend of rain in the winter, instead of snow. In the past, the island's winter temperature was known to drop 40 degrees below zero. However, now during this same time the residents are experiencing rainfall and witnessing the collapse of remaining shore ice (Kriz 4). Due to the warming of the region and the melting of the sea ice, the people of Kivalina are now facing the seemingly impossible task: to abandon Kivalina and relocate their village, just as Kiribati is also looking to do and just as the people of Holland Island did around one hundred years ago.

It is estimated that within the next fifteen years, residents of Kivalina will have to complete the relocation process to escape the heavy erosion and flooding caused by the

melting ice and hazardous storms. The Army Corps of Engineers estimated that the move would cost between \$150 million to \$250 million (Kriz 2) and Kivalina is not the only village in Alaska facing these same issues. There are another 184 villages in Alaska that are also facing dubious futures due to climate change and rising sea level. In general, all of Alaska is at the frontline of climate change. As the temperature rises, sea level rises because of the melting ice, causing serious pressures put on the extensive 33,000 miles of Alaskan coastline. More than half of all coastlines in the country are accounted for within the 33,000 miles that are located in Alaska.

In addition to the extensive coastline found in Alaska, there are many other resources found in the state. Some of these, such as oil, have added to the environmental degradation and rapidity of climate change. This mass oil production actually caused the people of Kivalina to file a lawsuit against ExxonMobile and 23 other companies involved in the energy industry. Kivalina residents claimed that ExxonMobile and the other companies were large contributors to the devastating climate change that they were witnessing on their island. They believed these changes could be traced back to these companies due to their large emissions of greenhouse gases. The lawsuit also included public nuisance claims, civil conspiracy, and concert of action. However, the court dismissed the case due to Kivalina's lack of standing and that the political standing behind it was non-justifiable (Averill 122). It was decided that the regulation of greenhouse emissions is a political, rather than a legal affair.

Conclusion

Yes, change is inevitable. However, that doesn't make it any less easier to accept, and when it comes to certain changes, should we really just lie back and accept it,

especially when humans are thought to be the cause of such devastating change? We are seeing signs of climate change all around us. While communities such as Smith Island, Kiribati, and Kivalina are forced to face these changes sooner than the rest of us, this does not mean communities around the world will not have to as well in coming decades. Unfortunately, these communities are just experiencing the repercussions of our combined global actions. These vulnerable areas seem to be the losers in globalization, but this is not how it should be. Communities such as Smith Island are filled with history and culture that should be protected as our climate continues to change. Due to the pressure and pollution put on the Chesapeake Bay's environment, Smith Islanders are no longer able to make a viable living like they used to. This is causing a tremendous drop in their population, as people are unable to sustain themselves. Residents are looking elsewhere for career opportunities to avoid a life of uncertainty. The community is becoming more and more unable to sustain itself environmentally or in terms of population.

As dismal as the future might seem, I do believe that there are certain measures that can be taken to help solve some of the issues that Smith Island is facing. New developments in Smith Island that appeal to the creative class could be a huge asset for the community in terms of retaining its 18- to 34-year-old population, as well as attracting new members into the community. Some of these developments could include new jobs, businesses, and entertainment that are all attractive to young people. On a recent trip to Tylerton, I was able to see the renovated home of Tom Horton, who lived on the island in the late 1980s while researching his book, *An Island Out of Time*. After he moved off the island, the Chesapeake Bay Foundation bought his home and turned it

into a home base for Smith Island research, as well as a learning center for school children. By buying the home, the foundation more than doubled its outdoor educational facility.

There have also been other positive results of the organization's presence. The first is that the Chesapeake Bay Foundation has been able to continue and expand its educational program for school-age children in the region (see fig. 8). This program focuses on different environmental issues affecting the Chesapeake Bay. It consists of taking various school groups to Smith Island, so that they may immerse themselves in the beauty of the Chesapeake Bay and fully understand the consequences of the changes that the bay is currently undergoing. While Horton was living in Tylerton, he worked for the Chesapeake Bay Foundation as an educator for this environmental program. He describes how effective he believed the experience was for the students, as he would describe the impact of what the 17 million people living in the 64,000-square-mile watershed would do for Smith Island and the Chesapeake Bay. He would tell the children that anything anyone "did to pollute, from felling forests and farming destructively to flushing toilets and bombarding their lawns with chemicals -- all of that was eventually carried by rainfall and forty-odd rivers downstream to the Chesapeake" (Horton 11). He would remind the students of the responsibility that people have to live conscientiously because it can help determine whether or not Smith Island will survive.



Fig. 8 *One of the facilities of the Chesapeake Bay Foundation, or “Save the Bayers,” as Smith Islanders refer to them* Photo credit: Janey Robson

The second and third effects of the Chesapeake Bay Foundation’s location on Tylerton are both things that I noticed during my trip to Tylerton. One is that two twenty-something women are living in the Chesapeake Bay Foundation house to provide full time support and occupancy. I believe their presence could be beneficial for the island and perhaps can lead to other organizations or young people setting up camp there. The other is that without the Chesapeake Bay Foundation, I do not believe that the ferries would be able to run at all. The current ferry activity is not enough to sustain the business. The Chesapeake Bay Foundation accounts for much of the business that several of the residents, which run the ferry operations receive, particularly during the winter months or off-season. The Chesapeake Bay Foundation has become an integrated part of the island by becoming engaged in not only the health of the environment, but also the

island's culture and economy. In the past, there were disputes between the islanders and the organization because islanders would often feel like the Chesapeake Bay Foundation was encroaching on their lifestyles. However the relationship now seems to be less strained. Much of their economy in Tylerton relies on the existence on the Chesapeake Bay Foundation.

Other changes that could save the failing population is to increase tourism. This might not be the most ideal solution for Smith Islanders, who have been known to appreciate their isolation, however, due to the time sensitivity of the issues facing their economy and population, Smith Islanders understand the need for change. Although Smith Island does receive a number of tourists during the summer, an increase in this number could mean a significant boost in its economy. This could also provide more jobs for Smith Island residents. For example, an additional 500 tourists a summer could mean a minimum of another \$10,000 a year for the ferry operators. A fellow Chesapeake island, Tangier Island, has demonstrated the benefits of such a phenomenon. Tangier, although facing similar environmental problems is not facing nearly as many demographic issues, due to its ability to adapt to the change and embrace such things as tourism (Horton 306).

So why bother? What does Smith Island matter? Well, the same reason why places such as New Orleans are still inhabited and being fought for rather than just abandoned and recognized as the environmental traps that they probably are. Smith Island, along with the rest of the Chesapeake Bay, is full of history, culture, and meaning that should not just be forgotten. These islands and the bay are also full of life. Yes, Smith Island's population is rapidly declining, but that does not mean that the island does

not still have more life in it. The bay is still teeming with wildlife. Unfortunately, Smith Island will probably be underwater by the year 2100 and perhaps it will be uninhabited long before that. But this does not mean we should not fight for its existence and it certainly does not mean that we should stop enjoying its beauty and uniqueness while it lasts.

Work Cited

- Averill, Marilyn. "Getting Into Court: Standing, Political Questions And Climate Tort Claims." *Review Of European Community & International Environmental Law* 19.1 (2010): 122-126. *Academic Search Premier*. Web. 22 Mar. 2012.
- Bille, Trine. "Cool, Funky and Creative? The Creative Class and Preferences for Leisure and Culture." *International Journal of Cultural Policy* 16.4 (2010): 466-96. *Academic Search Premier*. Web. 6 Mar. 2012.
- Cronin, William B. *The Disappearing Islands of the Chesapeake*. Baltimore: Johns Hopkins UP in Association with the Calvert Marine Museum, Chesapeake Bay Maritime Museum, Mariner's Museum, and the Maryland Historical Society, 2005. Print.
- Graham-Jones, Pierce. "Living On The Brink." *U.S. News & World Report* 2004: 70-73. *Academic Search Premier*. Web. 6 Mar. 2012.
- Horton, Tom. *An Island Out of Time: A Memoir of Smith Island in the Chesapeake*. New York: W.W. Norton, 2008. Print.
- Florida, Richard L. *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life*. New York, NY: Basic, 2002. Print.
- "Kivalina: A Climate Change Story." *Publishers Weekly* 258.27 (2011): 61. *Academic Search Premier*. Web. 15 Mar. 2012.
- Kriz, Margaret. "In A Warmer World, Alaskan Villages Melt Away." *National Journal* (2008): 17. *Academic Search Premier*. Web. 15 Mar. 2012.
- Leopold, Aldo. *A Sand County Almanac*. New York: Oxford UP, 1987. Print.
- MacDonald, Nancy. "That Sinking Feeling." *Maclean's* 125.11 (2012): 35. *Academic Search Premier*. Web. 20 Apr. 2012.
- Meyer, Eugene L. "In the Chesapeake, a Place Apart." *New York Times* 26 Sept. 2008: 3. *Academic Search Premier*. Web. 6 Mar. 2012.
- Reardon, Sara. "Sink Or Move." *New Scientist* 213.2856 (2012): 5. *Academic Search Premier*. Web. 26 Apr. 2012.
- "School Directory Information." *National Center for Education Statistics*. U.S. Department of Education, 2011. Web. 18 Mar. 2012.

Sheehan, Kevin. "Order and Disorder on Smith Island." *Raritan* 14.2 (1994): 109-35.
Academic Search Premier. Web. 6 Mar. 2012.