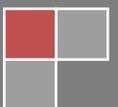


2012

Climate Change: an Alternate View of Risk Assessment

ABSTRACT

While much of the country has in recent years been debating the existence of climate change, Florida has moved beyond the debate, albeit inadvertently, by being on the receiving end of hurricanes of increasing magnitude. As a state prone to hurricanes, but reluctant to retreat from its valuable shoreline, Florida has simultaneously experienced an astronomical rise in shoreline real estate values paired with storms of increasing intensity - resulting in unprecedented financial losses. Any debate about climate change became almost irrelevant as the state of Florida found itself in the unenviable position of navigating the non-renewal of over a million property insurance policies in 2009. The creation of Florida's Southeast Regional Climate Compact offers lessons learned that could be applicable to other coastal regions...including coastal Maine.



It's been said that the 1990's saw more economic losses from natural disasters world-wide than the previous four decades combined;¹ while that may have been accurate prior to the new millennium, it's likely old news with Hurricanes Katrina, Dennis, Sandy all tallying spectacular losses. When these disasters are combined with other hurricanes and worldwide, natural disasters including the Japanese and Indonesian tsunamis, the first dozen years of the new millennium is likely to easily outstrip the pace of economic losses of the 1990's. While the reasons for the sharp escalation in economic losses are complex and include rapidly escalating real estate values and unprecedented and denser development along the world's most vulnerable waterfronts, those vulnerabilities are made more dramatic with the impact of Climate Change. The Intergovernmental Panel on Climate Change (IPCC) identifies the following impacts of climate change on North America coastal areas as: (Field et al. 2007):

An increase in the rate of sea level rise, leading to more floods, storm surge flooding, and shoreline erosion. Population growth and the rising value of infrastructure in coastal areas increase vulnerability to climate variability and future climate change.²

With storms of increasing intensity battering the country, Florida is among the nation's hardest hit states resulting from more dramatic hurricanes. While Florida is a tropical climate where hurricanes are common, there are lessons that can be duplicated in the way four Florida counties formed a regional compact to work on Climate Change issues collectively that can be translated to other states and regions.

¹ Esty et al, Green to Gold, 94.

² University of Florida IFAS, EDIS

It's all about the Numbers

From 2004 to 2005, Florida hurricane losses totaled \$37.8 billion dollars.³ From an insurance perspective mitigating the effects of Climate Change is about reducing the physical risks to buildings and infrastructure so that the built environment will be more resilient to anticipated impacts. During the height of the real estate boom of the early to mid-2000's Florida was building bigger, more expensive structures along its valuable coastline. As more expensive properties lined the vulnerable areas it created higher valued risks. State Farm in 2009 issued non-renewal letters to 1.2 million Florida policy holders and had previously filed a Withdrawal Plan for State Farm Florida Insurance Company with the state. Among the reasons listed were "... if State Farm Florida were to continue to operate under current conditions, even without a hurricane striking Florida, State Farm Florida is projected to be insolvent in 2011."⁴ Though there are other reasons that make Florida expensive to insure including a politically influenced system for setting rates not directly associated with costs, the news of 1.2 million customers faced with losing their property insurance undoubtedly left Floridians scrambling. Fortunately Floridians did have other options, including Florida's Citizen Property Insurance Corporation, "...a not-for-profit, tax-exempt government corporation whose public purpose is to provide insurance protection to Florida property owners throughout the state."⁵ 'Citizens' was envisioned as an insurance company of last resort. Instead, in quick order it became Florida's largest insurance company. The government corporation now underwrites the risk of the majority of properties in Florida including those highly vulnerable properties that can't find

³ <https://www.citizensfla.com/about/generalinfo.cfm>

⁴ Withdrawal Plan for State Farm Florida Insurance Company, 2009.

⁵

other insurance exactly because they present the highest risk to the insurers. Though there needs to be plenty of research and debate regarding what should continue to be insured and whether a government corporation stepping in could actually be encouraging more development in high risk areas; only time will tell whether 'Citizens' will have better odds of being solvent than the private insurance industry. The point is that the colloquial state formed a government corporation to assume the primary risks of catastrophic losses for properties insured with 'Citizens'... which could in the future prove to be a greater risk to the entire state unless they can provide property insurance more efficiently than private industry.

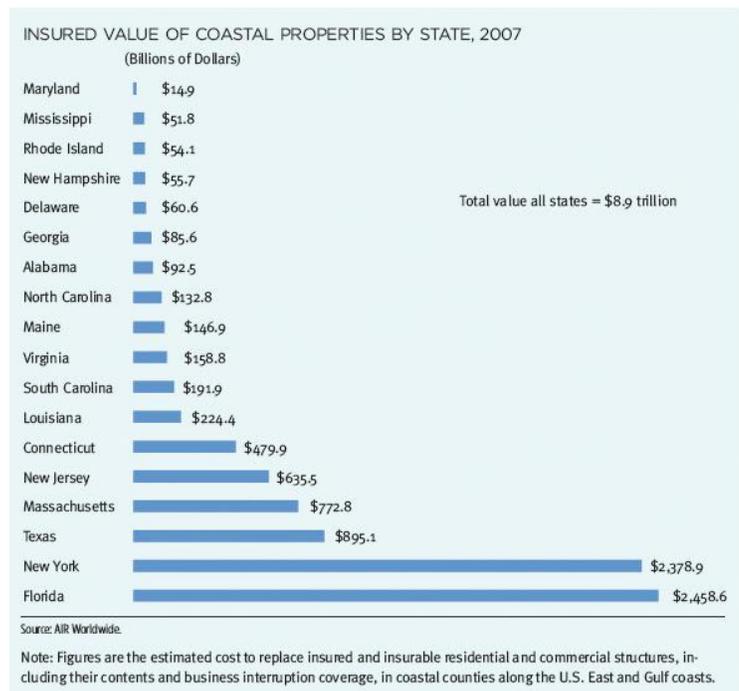
When a state needs to provide a public property insurance alternative for its citizens, it's safe to guess that the cost to risk ratio is unworkable to private insurers. The question of what to do about a growing problem from dramatic wind and storm damage had left Florida counties and municipalities advocating in the halls of Congress for support to mitigate the effects of Climate Change. "In the spring of 2009, several Southeast Florida counties and cities were making the rounds in the halls of Congress to advocate for climate policy. A great deal of work had been invested individually by each jurisdiction; however, each had slightly different baseline emissions figures at different points of time and different sea level rise planning scenarios. The need for regional coordination became quite evident."⁶ Counties had worked independently to develop methodologies for creating sea level inundation maps. Realizing the need for collaboration was a pivotal moment. The Florida counties of Palm Beach, Broward, Miami-Dade, Monroe, joined with municipalities and partners to form the Southeast Florida Regional Climate Change Compact (Compact). "The Compact began with a commitment among

⁶ Southeast Florida Regional Climate Change Compact Counties Regional Climate Action Plan , October 2012, 1.

elected officials representing each of the four counties to return to Southeast Florida and to coordinate in the hosting of a regional climate summit.”⁷ Realization of the need to develop unified methodologies and criteria for creating sea level inundation maps for the SE FL region soon emerged. Among the accomplishments of working together as a region was development of the Southeast Florida Action Plan, which took two years to complete. As a collaboration of four counties representing 5.6 million people spread throughout 200 square miles, the area is collectively denser than 30 states combined. Creating this scale of consensus building was unprecedented in Florida. The Compact process included 90 people who submitted public comments following the draft plan. The success of the Compact includes a bipartisan agreement on the need for solutions as well as unprecedented intergovernmental cooperation. (SE FL Action Plan)

The resulting Southeast Florida Action Plan got plenty of buy-in from communities that had suffered huge losses. For Florida, as for all coastal communities, it’s about priorities and vulnerabilities – at risk are hundreds of billions of dollars or more of insured properties. The resulting work of the Florida Compact included:

- “Joint legislative policy development;
- Development of a regional greenhouse gas (GHG) baseline;



⁷ stet

- Development of regionally consistent sea level rise projections for the coming decades;
- Development of Preliminary Inundation Mapping;
- Development of a Regional Climate Action Plan; and
- The Coordination of Annual Leadership Summits”.⁸

Florida is at the forefront of altering the way they view Climate Change because they have precious little choice. Circumstances have thrown them into a position that has awakened them to the fact that not acting puts them at a higher risk than choosing to ignore the trends. It's undoubted that New York, New Jersey and outlying areas recently devastated by Hurricane Sandy developed a whole new interest in mitigating the impact of storm surge and other threats of Climate Change. And yet what are other communities that have not been brought to their knees doing to prepare for the impact of climate change? A recent study by JoAnn Carmin of the Massachusetts Institute of Technology found just 13 percent of U.S. cities had completed risk assessments for climate change.⁹ In rethinking Climate Change planning, Southeast Florida has become a model of vision and collaboration. While Florida's circumstances are more extreme, due to their increased vulnerability to storms, the cost to Replace Coastal Properties in 2007 was estimated in Maine to be \$146.9 billion. (AIR Worldwide) No small change.

Florida's accomplishments include:

- Unprecedented intergovernmental cooperation
- Work produced during the most difficult economy since the Great Depression
- Competitors became collaborators
- Challenges became successes

⁸ A Region Responds to a Changing Climate, 10/2012, 2.

⁹ Malone, S., *After Hurricane Sandy, Sea Walls And Lower-Cost Solutions Are Key Steps For Storm Protection*, 11/20/12

- Local gov't pressed to achieve maximum efficiency

Southeast Florida Regional Climate Action Plan has developed some actionable advice

including the following:

- Being prepared for flooding will reduce losses
- The potential to achieve shared goals is high
- Working together will bring shared success and relief
- Local/regional is where the change is happening
- It's about being smart with what's available

Mapping SLR vulnerability could simulate Florida's models which included:

- The Compact Counties
- The regional water management district
- Local universities
- Federal agencies
- The National Oceanographic and Atmospheric Administration (NOAA) Coastal Services Center (CSC)

(Southeast Florida Regional Action Plan)



Tuckerton, N.J., Oct. 30, 2012, one day post Sandy (US Coast Guard via AFP/Getty Images)



Hurricane Sandy, Kennebunk, Maine (AP Photo/Robert F. Bukaty)

While State Farm chose to exit from insuring Florida's most vulnerable properties, their leadership in deciding to leave the market is important nationally. Insurance industries are poised to be Climate Change leaders because for them, it is not political; it's purely about the numbers. "Fortunately, however, the insurance industry is uniquely positioned to lead the way with regard to climate change mitigation and risk management. Insurers can promote a more sustainable future through better risk-based modeling and product pricing..." (Lloyd's 2006; Liedtke, Schanz, and Stahel 2009). For Maine, and other states, one would hope that leaders do not wait until insurance companies begin to exit the highest risk markets to find the need to act. While the scale, climate, terrain and population densities are vastly different between Florida and Maine, there are enough common challenges from the threat of Climate Change that enable Maine to benefit from the experiences of Florida's SE Regional Compact. Maine has 5,412 miles of shoreline including estuaries and islands.¹⁰ For a storm the size of Hurricane Sandy to have hit the East Coast from Maine to North Carolina on one single day on Oct. 29, 2012 would suggest a ratcheting up in the scale and severity of dramatic storms. Maine has been lucky to be only catching the periphery of large storms that have grazed the region. It would be irresponsible to assume that we'll always be so lucky.

¹⁰ Maine Department of Conservation

Resources

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