

## **STORMSMART COASTS IN ACTION: AN EVALUATION OF LOCAL LEVEL CLIMATE CHANGE ADAPATION AND FLOODPLAIN MANAGEMENT STRATEGIES**

*Daniella Hirschfeld, Massachusetts Office of Coastal Zone Management*

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### **Background**

Coastal communities throughout the US have dealt with the devastating effects of storms for centuries, however today's threats are greater due to three factors. First, the population along the coastline has grown, and is projected to increase.<sup>1</sup> Additionally, land use management decisions in the coastal zone have not always led to the greatest protection from threats. Finally, climate change is predicted to affect coastal areas by increasing storm intensity and by accelerating current sea level rise.<sup>2</sup> These factors compounded together mean that coastal communities are facing a very dangerous situation that threatens economies and human life.

While federal and state governments have critical roles to play, any solution to these challenges will require the active participation of coastal communities who will likely continue to be relied upon for most of the land use decisions. Unfortunately, these decisions are often legally contentious, leaving communities in the unenviable position of trying to make proactive, progressive decisions that are legally defensible. Furthermore, communities are also dealing with strained municipal budgets, competition from many different social services and resistance from both the citizenry and the development community.

The StormSmart Coasts program was designed to help local officials address the expected impacts of storms, floods, sea level rise, and climate change in ways that are effective, fair, and legally defensible. The program pulls together the best coastal management tools and presents them in ways that are user friendly and relevant to local officials. Many of these tools are part of the No Adverse Impact (NAI) approach, which gives them sound legal standing that has been upheld in courts at all levels, including the U.S. Supreme Court.

### **Implementation**

The Massachusetts' StormSmart program entered its implementation phase in September '08, and has been working closely with five pilot communities across the state. With the cooperation of state and local officials efforts have been made to integrate NAI principles into land use ordinances and other permitting regulations. These agencies are also

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<sup>1</sup> [Sara Goudarzi](http://www.livescience.com/environment/060718_map_settle.html), "Flocking to the Coast: World's Population Migrating into Danger." Live Science: Environment. 18 July, 2006. Live Science. 11 November, 2008. <[http://www.livescience.com/environment/060718\\_map\\_settle.html](http://www.livescience.com/environment/060718_map_settle.html)>

<sup>2</sup> Adger, Neil, Pramod Aggarwal, Shardul Agrawala et al. (2007), Climate Change 2007: Impacts, Adaptation and Vulnerability: Summary for Policy Makers, Working Group II Contribution to the Intergovernmental Panel on Climate Change; Fourth Assessment Report, IPCC Secretariat, WHO AND UNEP, Geneva; also Parry et al., 2007.

working to implement the most effective floodplain management practices – innovative development standards, comprehensive hazard mitigation planning, and shoreline protection policies – to address climate adaptation at the local level.

### **Evaluation**

There are many ways one could go about assessing the success of a program that is as diverse and as broad as StormSmart Coasts. Here we have attempted to conduct several analysis tailored to both the tool and the community. An economic cost benefit evaluation was conducted to gain a better understanding of the potential savings a community can gain by adopting specific floodplain management tools and adaptation strategies. Another analysis looks at the changing perceptions of the community members and the amount of buy in gained from an outreach effort. Finally we explored the increase in resiliency achieved through StormSmart initiatives.

Daniella Hirschfeld  
Massachusetts Office of Coastal Zone Management  
251 Causeway St. Suit 800  
Boston, MA 02118  
Daniella.Hirschfeld@state.ma.us  
(617) 626-1096