



## Game of Floods: Adapting to SLR

California State Association of Counties 2016 Challenge Awards Executive Summary

### Overview

The County of Marin developed the Game of Floods™ as a public outreach activity to educate and engage citizens in planning for sea level rise (SLR).

### Challenge

Marin County ranks second of the nine Bay Area Counties for projected risk of impacts from SLR flooding, with potential losses of \$8.5 billion worth of buildings and contents. Flooding during high tides already impacts infrastructure and disrupts people's lives on a recurring basis. Vulnerable communities in San Rafael and Marin City will be disproportionately impacted, as flooding damages neighborhoods and cuts off road access for low-income residents. Many view SLR as a far-off problem, yet early planning is critical as recovery costs are estimated to be four times more expensive than advanced preparedness. Jargon-free public outreach is essential to guide the decision making process and the Game was developed as a necessary early step in successful planning and implementation.

### Innovative Solution

In the Game, players are tasked with developing a vision for 'Marin Island 2050,' a hypothetical landscape that highlights the conditions to come with SLR and increased storm impacts – loss or deterioration of homes, community facilities, roads, utilities, historic sites, farmlands, beaches, wetlands, and other resources. Game pieces include traditional flood protection measures like levees and seawalls; green infrastructure like wetland restoration and beach nourishment; building retrofits like elevation and floodproofing; and managed retreat through policy changes. Released in May 2015 for SLR planning public outreach, the Game was inspired by a local mapping activity developed for the Southern Marin "Here.Now.Us" project by the Marin County Department of Public Works and CMG landscape architects.

The Game is useful as a conversation starter. Planners and engineers do not have all the answers and must engage the community early in planning for climate adaptation, to generate ideas and build momentum to accomplish real change.

## Originality

As SLR is a growing concern for coastal areas, the Game fills an innovative and timely niche as a unique outreach tool applicable to communities throughout California and the nation.

## Cost Effectiveness

Game boards and materials were printed for about \$20 per set. The game board, game pieces, instructions and other supporting materials were designed 100 percent in-house by Community Development Agency staff, at an estimated cost of \$5,000. As a key aspect of the public outreach for SLR planning, and a transferable product for other jurisdictions, the Game is a highly cost-effective solution.

## Results

The final game boards from the C-SMART West Marin [public workshops](#) were photographed and documented, and helped to stimulate ideas for the program's Adaptation Planning Report. The Game was subsequently played by over 300 students in local high schools as part of the [Youth Exploring Sea-level Rise Science \(YESS\)](#) project, leading to student presentations to elected officials about their suggested solutions, and final school projects on SLR. Marin County staff played the Game with community groups such as the Mainstreet Moms of Point Reyes Station and the East Shore Planning Group; as well as planners and scientists at the North Bay Watershed Association, the Bay Conservation and Development Commission, and the California Environmental Protection Agency. The Game has also been featured at local, state and national conferences including the California Climate Change Symposium, State of the Estuary, American Planning Association, California Transportation Planning, Keeping History Above Water, and California Preservation Foundation. Fernandina Beach, Florida has already used the Game in their SLR workshops and currently, San Mateo County and AECOM are adapting the Game for their needs. Participants have complimented the Game's effective and engaging approach to distill complex topics in a manner digestible by people of varying education levels and ages. Because the Game was designed to be general enough to represent any community, staff can provide the board and materials to any local jurisdiction, non-profit, or other group interested in hosting an event, or game night. The board and its features can easily be modified to fit other organizations' needs and contexts. Game materials and instructions can be downloaded from [www.MarinSLR.org](http://www.MarinSLR.org)

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