

Let's Build the Ike Dike

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One hundred years ago in response to the 1900 Great Storm, we built a seawall to protect the East End of Galveston Island from storm surge. The seawall was severely tested by the 1915 Hurricane and again many times after. It stands today as a testimony to the community leaders who funded it and the engineers who designed and built it. The seawall continues to do its job of preventing catastrophic overflows.

In the early 1900s, the seawall was a reasonable response to protecting the most precious manmade infrastructure in the region which was then concentrated on Galveston Island. However, over the last century, we have developed many large human settlements and industrial centers throughout the entire Galveston Bay region. In addition to representing considerable wealth, this human footprint now restricts or prevents movements of natural ecosystems in response to storm surge. It is no longer enough to strive to protect Galveston Island alone, we need to protect the entire Galveston Bay region from coastal flooding.

Not surprisingly all community leaders are interested in protecting their citizens from the many real and hidden costs of flooding. Recent discussions have focused on building a dike around the east end of Galveston Island - essentially surrounding the area now behind the seawall. This approach argues that, while the seawall did its job in preventing catastrophic overflows like that at Bolivar, a surrounding dike is needed to prevent the backfilling of the Island by heightened bay waters.

On the mainland, because the existing Texas City Dike was almost topped, discussions have begun about strengthening it and increasing its height. While these individual efforts are certainly understandable, we can do much better if we consider protecting the entire Bay system not just our individual communities.

Building a series of circling dikes like the one proposed for Galveston or the existing Texas City Dike will certainly help to protect our communities. Unfortunately, it will also heighten the surge elsewhere which in turn will lead to more circling dikes to protect other Galveston Bay cities. Eventually

we'd be forcing higher surge farther and farther up the Bay. This approach does not protect the Bay system from disaster; instead it simply shifts the location of the disaster to other locales in the bay. So let's think more like the Dutch and protect all of Galveston Bay including its valuable ecosystems as well as property.

Fortunately, Galveston Bay has relatively restricted passages with the Gulf of Mexico and is protected on its seaward side by the Bolivar Peninsula and Galveston Island. We can take advantage of our region's geography to protect it by building and extending seawalls to arm the coast and by providing floodgates at the passes to complete an effective coastal barrier that would only be activated when hurricanes approach.

This could be done by extending the present Galveston Seawall in two sections - westward about 18 miles to a point past San Luis pass and then turning inward to prevent edge flooding and then building eastward about 35 miles across Bolivar Peninsula to near High Island and then turning landward. Complimenting the seawalls, the barrier would be completed by moveable flood gates at the Bolivar Roads entrance to the ship channel, the San Luis pass and the Intracoastal Waterway connections to the Bay.

The Bolivar Roads gates at the main entrance to Galveston Bay are the most ambitious and expensive portion of this total protection approach but, fortunately, the technology already exists. Looking at the Dutch example, the Rotterdam flood gates protect a channel over 1180 ft wide and can be closed in half an hour.

The technologies to build "the Galveston Gates" and indeed the entire protective barrier are not new and are available to us. Rough costing suggests that the entire flood barrier can be built for under \$3 billion. A lot of money until one considers the bodies still being found in the Bolivar debris fields, the present estimated cost of Ike at \$27 billion, the numerous hidden costs of displaced lives and the fact that not only does this region have a major storm about every 15 years but is also predicted to double in population by 2050.

So let's protect the entire Galveston Bay region from storm surge. This approach provides permanent protection to both the manmade and natural environments; prevents local actions from harming their neighbors; costs

less than a series of circling dikes; and takes advantage of the entire region's tax base and political power. Let's build the Ike Dike; its time has come.

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