## HURRICANES SHOW NEED FOR STORM SURGE PROTECTION

By John Kosowatz

The coastal flooding along the southern Gulf Coast brought by Hurricane Ian again shows the increasing vulnerability of coastal cities and their infrastructure. Hurricane Katrina sent storm surges up to 28 feet along coastal Louisiana and Mississippi, and Superstorm Sandy later sent surges up the New Jersey, and New York City. Those natural disasters sparked calls and plans for coastal protection against storm surge.

Flood protection and surge barriers are expensive cornerstones of massive mechanical and civil

engineering works. A series of barriers and gates protecting a wide swath of harbor or inlets cost billions of dollars. After Hurricane Katrina, the Corps of Engineers built a \$14.5 billion system of flood gates, seawalls and levees to protect New Orleans.

European countries already have flood protection systems in place. The Thames Barrier in London can close off the river just east of London where the river is 5,220 meters wide. In the Netherlands, the Maeslantkering gate is a good example of the size needed for these structures: It consists of two wings, each 210 meters wide and 22 meters high.







The U.S. Army Corps of Engineers realeased early drafts of a plan to protect New York City that show buildout could cost up to \$52 billion. But if people are going to live by the water, hardened infrastructure will be needed to protect them. It would build 12 storm surge gates across the region and coastal barriers across more than 41 miles of shoreline, from New Jersey's Monmouth County to the Bronx at the end of Long Island Sound. The project dwarfs the work in New Orleans, but there are many steps planners must take before it could be built, including remediating a number of highly polluted Superfund toxic waste sites.

