

The Value Implications of the 2017 Hurricanes and Climate Disasters to the Real Estate Markets and Coastal Communities

Beyond Property Losses and Human Suffering and Towards Sustainable Coastal Communities

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Summary

This study reviews the direct and indirect cost to urban communities and society due to various weather and climate disasters in the U.S. During the year 2017, over sixteen separate disasters and events caused at least \$1 billion each in property damages from tornados, hurricanes, flooding, drought, wildfires, hailstorms, freezes, fires and other severe weather. The 2017 Hurricanes Harvey, Irma, Maria, Nate, Rita and Jose offer perspectives of the longer term implications beyond property damages to losses of sales tax and property revenues, urban finance, urban infrastructure, mortgage finance, the secondary mortgage market, miscellaneous but significant losses to various parties, and government sponsored loan programs.

Among the findings

- The [Federal Emergency Management Agency](#)'s 100 and 500 year flood maps are inaccurate. Among the problems, Baen says traditional flood forecasting led by FEMA maps are outdated and encourage new development and redevelopment in high risk areas. Additionally, these maps do not take into account changing weather patterns, rising sea levels and non-sustainable urban growth along the U.S. coast.
 - *Example:* [In Houston, there have been three "500 year" FEMA map defined floods since 2015.](#)
 - *Solutions:* Update existing maps using readily available GIS technology and satellite data of recent U.S. storms. Additionally, private companies could offer more accurate flood forecasting tools that would be valuable to property owners, businesses, insurance companies and governments alike.

- **FEMA's [National Flood Insurance Program](#) is underfunded.** Among the problem, premiums are too low to make the program fiscally viable for the sheer volume of disasters that occur.
 - *Example:* Baen notes that the program was so underfunded that when Hurricane Harvey hit Texas, only an estimated 30 percent of homes affected received insurance payments.
 - *Solution:* For policyholders, increase premiums to market value based on documented severe weather.
- **The U.S. flood plain is growing.** The U.S. will be increasingly exposed to disasters due to rising ocean temperatures and levels; urbanization, which reduces areas of exposed soil to absorb flood waters; poor design and maintenance of levees and dams; rising value of coastal real estate; and other factors.
 - *Solution:* Discourage growth in disaster-prone coastal communities. Federal, state and local governments could discourage growth by limiting funding for new highways in these areas, increasing federal insurance premiums, relocating federal prisons and other efforts.
 - *Solution:* Do not use federal tax dollars for rebuilding. Those facing repeated losses should pay higher insurance premiums or be excluded from federal aid.
 - *Exceptions:* Some infrastructure, like that for oil and gas drilling, are critical to the national economy and therefore should be rebuilt in most circumstances. Also, private industries and homeowners should be allowed to develop high-risk areas – just without direct or indirect federal assistance, such as grants, loans and rebuilding aid.
- **Disaster damage is financially devastating to directly-affected real estate.**
 - *Example:* An estimated 45,000 to 72,000 apartment units were deemed “uninhabitable” after Hurricane Harvey in Houston, and apartment rent prices spiked 1.7 percent in the following month.
 - *Example:* Throughout many markets in Texas, there was an average 50 percent drop in home value by those who took offers made by speculators or investment groups.
 - *Example:* House foreclosure rates increased by up to seven percent in the month following the storm.
- **Major disasters can be devastating in other ways.**
 - *Examples:* Baen notes that after Hurricane Harvey, up to one million cars needed to be replaced – creating shortages in the vehicle markets and raising prices. Also, cities, counties and school districts in the 22 Harvey-affected counties will have “extreme financial stress for years” due to the destroyed property tax base, and somewhat, sales tax declines. Additionally, Texas may experience more labor shortages and therefore, higher consumer prices, in areas such as construction,

which was already experiencing record construction activity. In addition, health hazards cause black mold and other toxic waste may develop.

- **Disaster damage can have some positive, indirect effects on housing and other markets.**
 - *Examples:* Among the winners who see positive real estate gains, Baen points to unflooded properties; suburban communities that are higher in elevation; and multistory properties where upper levels can often be used while first floor repairs are made. Additionally, hotel owners, car insurance companies, construction repair businesses and insurance adjusters often see increases in work, and therefore financial gains after a major disaster.

About Baen

John Baen, professor of real estate in the [College of Business](#), is a practicing commercial real estate broker, certified real estate appraiser and consultant. He has authored over seventy articles, five books and texts and has done interviews with the [Wall Street Journal](#), the [New York Times](#) and others. Baen has also delivered congressional testimony in Washington, D.C. and hosted presentations to visiting dignitaries for the U.S. State Department.