

# Building Codes and Spillovers: Evidence from Hurricane Michael

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**Abstract:** In 2001 Florida adopted the first statewide wind specific building code in the US, mandating technologies like storm shutters and roof straps. Aggregate insurance loss data suggests that the code led to reduced damages in subsequent hurricanes. Whether benefits are wholly internalized by the individual homeowner, or spill over to adjacent properties through reduced airborne debris however remains an open question reserved for individual level observation. This paper applies high resolution areal imagery of Bay County, FL acquired two months after Hurricane Michael to detect individual residential tarp coverings—a proxy for damage made additionally reliable through the USACE “Blue Roof” program providing free tarps to damaged homes. Applying a matched regression discontinuity (RD) design, we find that homes built just after the wind code went into effect were less likely to show damage than those built just before, but that those surrounded by high percentages of adjacent homes built under the new code had significant reduction in the probability of damage. Results suggest that spatial externalities in damage can lead to inefficiently low levels of building adaptation without policy intervention.

**Keywords:** Building codes, public policy, hurricane losses, cost benefit analysis, spillovers, remote sensing

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