

WALL OF WIND

The NSF logo features the letters "NSF" in a white, serif font, centered within a blue globe. The globe is surrounded by a golden, gear-like border with pointed teeth.

The NHERI Wall of Wind (WOW) Experimental Facility (EF) at Florida International University (FIU) was funded by NSF to be a national facility that enables researchers to better understand wind effects on civil infrastructure systems and to prevent wind hazards from becoming community disasters. *NSF AWARD NUMBER 2037899*

The NHERI WOW EF is powered by a combined 12-fan system capable of repeatable testing in up to 157 mph wind speeds through its flow management system. **The unique advantage of the NHERI WOW EF is multi-scale (full-scale to 1:400) and high Reynolds number simulation of the effects of wind and wind-driven rain.** This is accomplished using the twelve fans and a water spray system. In addition, the 16,000 sqft. fenced-off secure area enables researchers to plan and perform destructive tests for up to Category 5 Hurricane wind speeds. The NHERI WOW EF uses a wide range of equipment, instrumentation, and experimental simulation protocols, as well as a distinguished group of faculty, staff, and a well-trained team comprised of technical and operations personnel that allow for the delivery of world-class research. **WOW NHERI EF provides access to its experimental resources, user services, and data management infrastructure for NSF-supported research and education awards.**

Resources

- 16,000 sqft. fenced-off secure area for wind testing
- WOW apparatus (with 14 ft. high x 20 ft. wide test section), rain generation system, flow conditioning spires and roughness for atmospheric boundary layer (ABL) simulation, two Variable Frequency Drives (VFDs) to control 12 WOW fans, 16 ft. diameter turntable, data acquisition (DAQ) system, video capture and surveillance system (all housed in a 8,000 sqft. WOW building)
- 3,000 sqft. pre-test specimen staging/construction/instrumentation (SCI) building with a fabrication shop and a small-scale boundary layer wind tunnel
- 1,344 sqft. air conditioned Operations and Control Center (OCC) for controlling, monitoring, viewing the tests, and providing telepresence
- Downburst Simulator
- PIV System



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The FIU logo consists of the letters "FIU" in a bold, white, sans-serif font, with a horizontal line underneath.

Extreme Events
Institute

fiu.designsafe-ci.org

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