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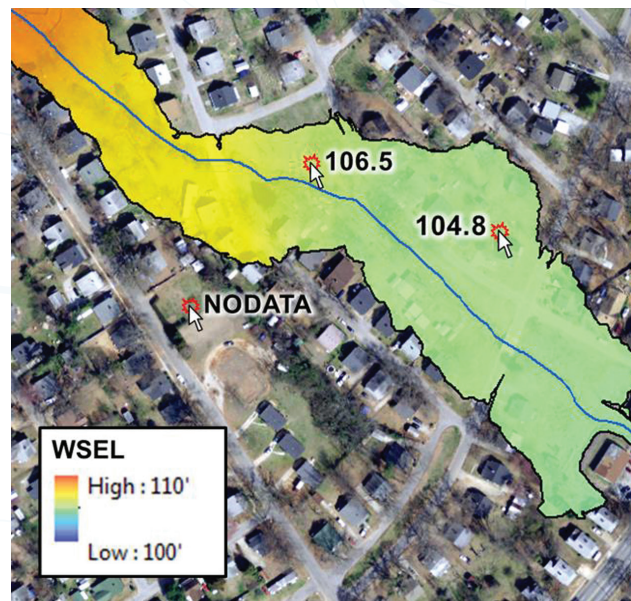
RECIPES FOR RESILIENCE: Water Surface Elevation Grids

The Water Surface Elevation (WSEL) Grids in FEMA's Flood Risk Database help community officials, planners, building officials, and property owners understand and communicate different flood heights across a floodplain.

The grids support regulatory products, like Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies, to give a more complete understanding of flood risk.

Use the grids to plan for the “1-percent-annual-chance,” or base flood, scenario (the probability that a given location will flood in a single year) for river, coastal, and levee flooding, plus other flooding scenarios (based on data availability):

- 10-percent-annual-chance flood (also referred to as 10-year flood)
- 4-percent-annual-chance flood (also referred to as 25-year flood)
- 2-percent-annual-chance flood (also referred to as 50-year flood)
- 1-percent-annual-chance flood (also referred to as 100-year flood)
- 0.2-percent-annual-chance flood (also referred to as 500-year flood)



Note: The dataset described in this Recipe for Resilience may not be available for all geographies. Please visit the FEMA Flood Map Service Center (msc.fema.gov) to check for data availability.

WSEL Grids benefit your community by:

- Showing flood height and relative risk throughout the floodplain. This helps change the conversation from “am I in or out of the Special Flood Hazard Area?” to a discussion of relative risk based on differing flood heights.
- Making local floodplain management ordinances and building codes clearer. They help building officials, property owners, and developers better understand where requirements apply for elevating structures above Base Flood Elevations.
- Displaying flood height data for flood zones, like Zone A, that do not have this data included on FIRMs.

Put WSEL Grids to Work for You

Use the grids with other GIS data, such as data for buildings and roads, to:

- Evaluate risk for buildings and roads
- Plan developments, especially in low-risk areas
- Show different flood levels across a region for disaster preparedness and pre-disaster recovery planning

Although these grids are part of FEMA's non-regulatory Flood Risk Products, they can be used for floodplain management. The 1-percent-annual-chance elevations are in line with the elevations in regulatory FIRMs at the time of FIRM creation.

Understanding Elevation Requirements:

The 0.2-percent-annual-chance grid can help communities build new critical facilities and infrastructure to the requirements of Executive Order 11988 and see if existing buildings meet this standard.

Understanding Risk and Cost-Benefit Requirements:

Dekalb County in Georgia used the 1-percent-annual-chance grid to forecast risk for floodprone roadways and structures and to see if possible retrofitting projects met cost-benefit requirements for grant funding.

Using WSEL Grids

WSEL Grids work in ArcGIS. Simply point and click to see the flood elevation (referenced to the North American Vertical Datum of 1988 or zero elevation point) for a specific location.

What WSEL Grids are available for my community?

To learn more, visit the FEMA Flood Map Service Center (msc.fema.gov). To check product availability in your area, select "Search All Products" and filter your selection by State, county, and/or community.

