GIS Analysis Methodology Report

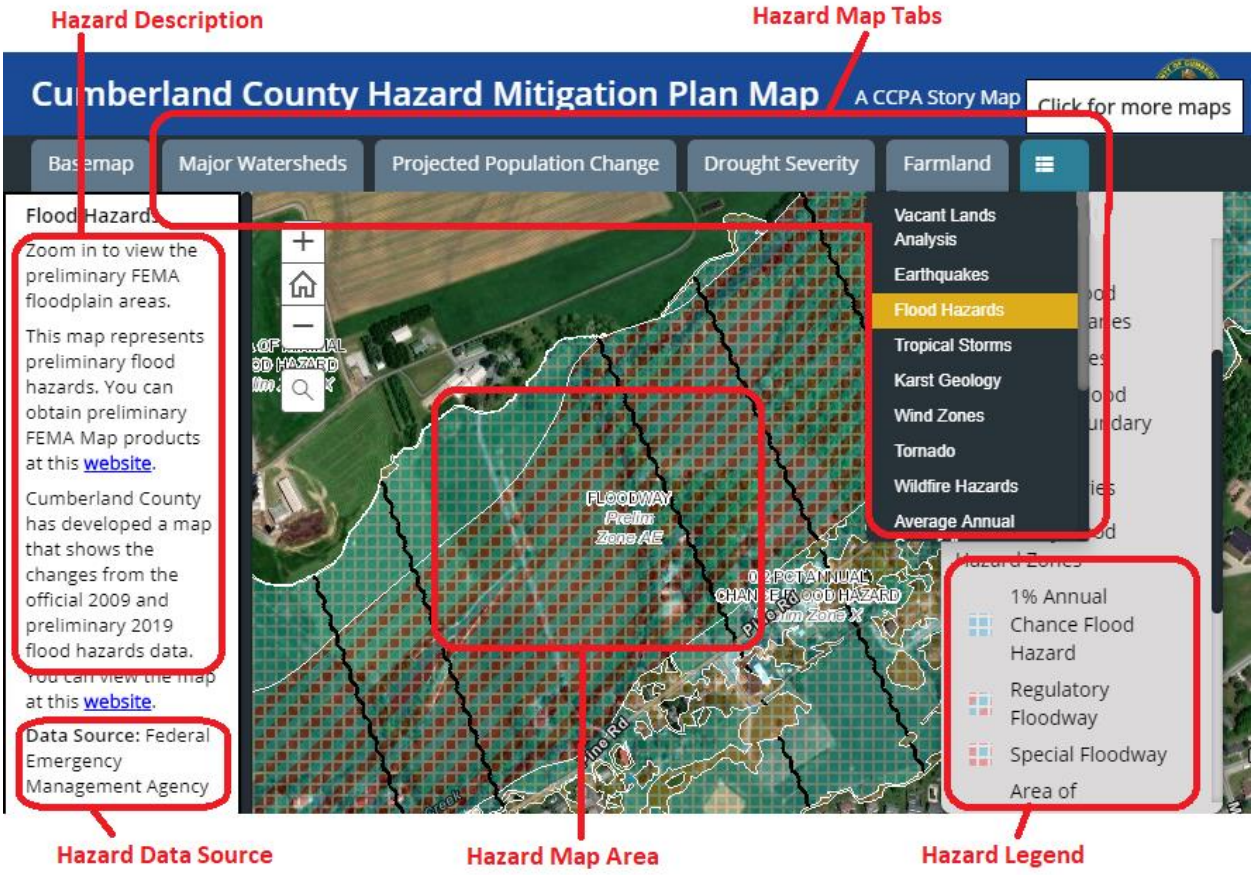
The Cumberland County 2020 Hazard Mitigation Plan used mapping analysis performed by the Cumberland County GIS Department. Cumberland County GIS has assembled hazard areas, published maps, performed a threat analysis, and produced tables of the affected groups by municipalities.

Hazard Areas

Hazard areas represent an area of land within Cumberland County which presents a risk. Hazard areas were assembled from the most recently available authoritative GIS data. A map and description of the data source for hazards is available on each map tab of the Hazard Mitigation Plan web map.

Published Maps

Cumberland County GIS has published a web map of hazard areas. http://gis.ccpa.net/hazardmitigationmaps/ Users can select a hazard type from a series of tabs along the top of the map application. Each section of the Hazard Mitigation Plan with a corresponding map has a direct link to a hazard map tab. The Hazard Mitigation Plan web map includes a series of 20 hazard map tabs, an interactive map of the hazard area, a hazard description with data source, and a legend.



Hazard Analysis

For each hazard that has distinct areas of impact within Cumberland County, the GIS department has performed a hazard analysis. The extent of these hazard areas were used to select affected populations with which they intersect. Cumberland County GIS has assembled multiple dataset and designed analysis tools for measuring the impact of each hazard by municipality. This section will describe how Cumberland County GIS produced the static datasets used to assess the impact of the variable hazard areas.

A principle measurement of the severity of the hazard through GIS analysis is the number of affected addressed units. Addressed units were chosen as a reliable hazard impact measurement because Cumberland County GIS maintains an up-to-date address points layer for 911 mapping. It is important to note that addressed units counts are skewed to residences rather than structures. There can be many apartment units in a single building while structures count more outbuildings on farm, commercial, and industrial properties. Cumberland County GIS has identified 109,986 addressed units for the hazard analysis.

Critical facilities represent sites important to emergency response or sites particularly vulnerable to an emergency. Cumberland County GIS maintains multiple layers that have been merged to create a comprehensive critical facilities layer which include; ambulance stations, police stations, fire stations, government offices, hospitals, nursing homes, and hazardous material sites. Cumberland County GIS has identified 583 critical facilities for the hazard analysis.

Mobile homes can be more vulnerable to certain hazards than other residential structures. Cumberland County GIS identified mobile homes by selecting parcels with P_Type = RT (single family residential mobile home parcels) and Mobile Home Park types from our neighbor community layer. These polygon layers where then used to select intersecting addressed units to identify 5493 mobile homes within Cumberland County.

Impact Reports

The GIS Department has generated impact report table for hazards that have a distinct areas of impact within Cumberland County. The majority of the GIS analysis reports count the same four affected population datasets; addressed units, critical facilities, non-residential addressed units, and residential addressed units. These affected population datasets are further parsed by municipality, with counts of total features, features intersecting hazard area, and percent of features within hazard area.