

- Hazus Flood Model
 - computing damage of flood
- loss estimation process
 - maps, tables, graphs, & reports
 - economic impacts by intersecting hazard and inventory
 - inventory at risk
 - flood hazard
- agriculture
 - data on crop times and quantities
 - top 20 crops for each NRI regions
 - does not include livestock
 - Hazus-MH removes urban areas, wetlands, forests, etc.
- vehicles
 - loss is based on deaths
- DEM-digital elevation model
 - DEM files are simple regularly spaced grid of elevation points
 - grid spacing, coordinates, etc.
 - commonly builds using remote sensing techniques & land surveying
- National Elevation Dataset (NED)
 - dataset produced by USGS
 - * 1 Arc-second resolution for most of US
- DEM guidelines
 - Cell size- higher resolution input -> higher resolution output, but takes longer to process
- watersheds
 - area that catches water
- Riverine req
 - issue: need to ensure that there's enough train to perform hydraulic analysis

- Coastal req
 - issue: need to ensure that there's enough train to perform transect analysis
 - convex hull of costal region
- stream delineation
 - build a synthetic stream network
- Error handling of stream delineation
 - DEM terrain can predict incorrectly
 - to combat this, artificial elevation is placed to match the observed train
- hydrologic analysis
 - objective: determine discharge values in streams
- gages
 - determine water level and discharge of water
- regression
 - inputs:
 - topographic
 - * drainage area
 - * mean basin elevation + slope
 - * basin length
 - * channel length
 - other parameters
 - * temperature
 - * precipitation
 - * soil type
 - * forest cover
 - * snowfall
- Depth-Damage Functions
 - determine the amount of damage that could result given the type of structure, etc. that results with depth of flood
- loss estimation

- loss is weighted by the elevation of the building during the flood
- Hazus flood casualties
 - Hazus flood model does not generate casualty estimates
 - Hazus Tsunami model does generates casualty estimates
- Average Annualized Loss (AAL)
 - estimated direct economic losses averaged on an annual basis using future direct economic losses
 - used to determine the financial feasibility o mitigation projects
- storm surge
 - flooding as a result of a storm (mostly hurricanes)
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