

Accurate and high resolution height and elevation data is critical to nearly every aspect of life in Illinois. Nearly every engineered design, whether for roadways, bridges, levees, commercial or residential developments, etc., needs current and accurate elevation data for the immediate site and its surroundings. Unfortunately, Illinois suffers from multiple vertical datums, a lack of benchmarks, and digital elevation models (DEMs) with low vertical resolution and outdated elevation data. Vertical reference benchmarks in Illinois are scarce today because they have been destroyed over the years due to rapid development, ongoing construction, farming and other activities. All benchmark elevations are measured with respect to a reference surface, called a datum. Illinois has a variety of datums in common use, which results in elevations being produced that are inconsistent with elevations from nearby surveys that used a different datum. Illinois actually ranks in the bottom 10 states nationwide with regard to the quality of its elevation data. This affects all engineering projects, natural resources studies and modeling, floodplain mapping and even routine surveying. To accurately and efficiently predict the extent of flooding, monitor landscape changes due to artificial improvements, natural processes, or natural disasters, plan for roadway improvements, develop evacuation routes, and minimize environmental impacts, it is critical to have one current, consistent statewide vertical datum upon which field surveys and a statewide DEM can be based. It is paramount that this network be updated and improved and be sustainable for future generations since it is the foundation for numerous activities that are critical to the environmental, social, and economic well-being of our state.

Height Modernization is the establishment of accurate, reliable heights using global positioning satellites (GPS) technology in conjunction with traditional leveling, gravity, and modern remote sensing. The National Geodetic Survey (NGS), part of the National Oceanic and Atmospheric Administration, provides funding to states for this effort through grants to organizations or agencies in states which are identified in the Congressional budget. The Illinois Height Modernization Committee, chaired by Beverly Herzog of the Illinois State Geological Survey and Amy Eller of the Illinois Department of Transportation, proposes that Illinois become part of the NGS Height Modernization Program. The goal of the Illinois Height Modernization Program (IL-HMP) is to establish (1) a datum-consistent vertical and horizontal statewide network of survey benchmarks and (2) a statewide high-resolution DEM of the earth's surface based upon the updated network of survey benchmarks. Height modernization will provide the opportunity

to standardize the horizontal and vertical control used in the measurement and/or modeling of all the various watersheds, rivers, roadways, floodplains, farm fields, landscape changes, landslides, well locations, and so on throughout the state. The cost of the project is estimated at \$35 million over ten years. The committee is working with Congressman Tim Johnson's office and Senator Dick Durbin's office to bring the federal funding to Illinois. You can help bring the federal funding to Illinois by writing your congressmen and senators and telling them you are in support of the Illinois Height Modernization Program.

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