

Endorsement for a 3D Elevation Program
By the National Digital Elevation Program (NDEP)
December 2012

The National Enhanced Elevation Assessment (NEEA) was sponsored by the National Digital Elevation Program (NDEP) and completed in December, 2011. NEEA identified up to \$13B in potential annual benefits from improved national elevation data. Along with a clearly documented national need for enhanced elevation data, NEEA provided a number of national program implementation scenarios. Based on NEEA results, a program implementation model, the 3D Elevation Program¹ (3DEP) initiative was developed by the U.S. Geological Survey (USGS).

3DEP Goals and Benefits

The current multi-agency elevation collection effort will evolve from today's more opportunistic project-by-project approach, to a directed national program. 3DEP goals are to complete quality level 2² light detection and ranging (lidar) data over the conterminous U.S., Hawaii and the territories on an eight year schedule. Interferometric synthetic aperture radar (ifsar) data will be collected over Alaska, where cloud cover and remoteness preclude consideration of lidar over much of the state. Any partner can fund higher quality data as needed. 3DEP places a priority on larger data acquisition projects and higher quality data. Larger projects are expected to improve program efficiency, and increased data quality will satisfy a larger number of requirements over a given collection area. The elevation data and derivative products and services will be accessible to all levels of government and the public.

A key goal of 3DEP is to provide 3D measurements to characterize the terrain, vegetation structure and built features. These data would support applications such as flood mapping, natural resources conservation, infrastructure management, agriculture and precision farming, aviation safety, renewable energy development, forestry and many other operational and science applications. The lidar and ifsar industries have matured and are capable of meeting these needs. However, 3DEP will track and take advantage of advances in these and other elevation technologies as they are deemed suitable and cost-effective. An initiative of the scope and importance of 3DEP might provide an opportunity for industry to advance its capabilities to produce even higher data quality and consistency at a pace that might not otherwise occur.

It is likely that new and unimagined information services will be created through a fully implemented 3DEP program, spawning job growth and transformations in the geospatial community. The Federal agencies poised to realize the highest mission benefits from enhanced elevation data include current and potential NDEP agencies such as: the Natural Resources Conservation Service, US Army Corps of Engineers, Defense Installation Spatial Data Infrastructure, USGS, National Oceanic and Atmospheric Administration, Federal Emergency Management Agency, Environmental Protection Agency, US Forest Service, Federal Aviation Administration, National Aeronautics and Space Agency, and the National Geospatial-Intelligence Agency.

3DEP Governance and Funding

As proposed, 3DEP will be a cooperatively funded elevation program led by the US Geological Survey, the Federal Geographic Data Committee's designated lead Federal agency for terrestrial elevation data. The program will function as a National Digital Elevation Program coordinated activity involving Federal,

¹ The full NEEA report, a NEEA Fact Sheet and a 3DEP Fact Sheet are available at <http://nationalmap.gov/3DEP/>

² Quality Level 2 has a nominal point spacing of 0.7 meters and vertical root mean square error of 9.25 centimeters

State, and other partners. A 3DEP governance model will assure a participatory process that meets the mission critical data needs of 3DEP partners and other user communities.

NDEP Endorsement of 3DEP Goals

The 3DEP implementation model has been reviewed by the NDEP committee. NDEP agencies provided input to the study and the recommendation is consistent with the NDEP's core mission to facilitate the availability of high-quality elevation data nationally. The NDEP member agencies endorse the 3D Elevation Program recommendations to achieve national coverage of high quality elevation data and to make that data easily accessible to anyone. NDEP will use 3DEP guidelines and principles in planning and coordinating its activities as allowed by respective agency requirements and resources.

Signatures of NDEP agency steering committee members

<u>Agency:</u>	<u>Committee Member:</u>
U.S. Geological Survey	Dr. George Lee /s/
National Geospatial–Intelligence Agency	George J. Thomas /s/
Natural Resources Conservation Service	Steven Nechero /s/
U.S. Army Corps of Engineers	Nancy Blyler /s/
National Oceanic and Atmospheric Administration	Dr. Kirk Waters /s/
Bureau of Land Management	Matt Bobo /s/
National States Geographic Information Council	Phil Worrall /s/
National Aeronautics and Space Administration	Dr. John LaBrecque /s/
U.S. Forest Service	Everett Hinkley /s/
Federal Emergency Management Agency	Paul Rooney /s/
U.S. Fish and Wildlife Service	Ron Salz /s/
Office of Surface Mining Reclamation and Enforcement	Dianne Osborne /s/
Environmental Protection Agency	Craig Seaver /s/
Association of American State Geologists	Dr. Harvey Thorleifson /s/
Farm Service Agency	Brian Vanderbilt /s/