

SCALE 1:62,500 5 MILES 7 KILOMETERS

## LLINOI



**LiDAR Elevation Data** This surface topography map was created from enhanced elevation data acquired using airborne LiDAR (light detection and ranging) technology. This active remote sensing technique uses a pulsating laser sensor to scan the Earth's surface, and the intended application determines the sensitivity of the laser sensor used for data acquisition. For terrestrial applications such as topographic mapping, the principal wavelength selected for most airborne laser sensors is 1,064 nm, which is within the near-infrared band of the electromagnetic spectrum.

to the sensor is designated as a "first return," which may be a hard target, such as a building rooftop or the ground surface, or a soft target, such as vegetation. When a laser pulse encounters a soft target, e.g., a tree, a portion of the laser beam continues 1). The reflected light pulses are detected by instruments that record the accurate location of each return pulse in three dimensions—(x) and (y) horizontal coordinates and (z) elevation values. The processed returns, which number in the billions for

and are referred to as the "bare-earth" point cloud. To maxileaf-off portion of the year when deciduous tree canopies are barren, crops are absent, and most other vegetation types are









ment of the interstate cloverleaf feature in Figure 2. Processing all the returns in the LiDAR point cloud produces a digital and aboveground landscape features (Fig. 3). Wooded areas, buildings, roadways, and other infrastructure features are all apparent on the DSM. The returns representing these abovecreate a DTM. The airborne LiDAR data collected for Cham-

Bureau.

Recommended citation:

Surface Elevation (feet above mean sea level)

	850
11 A	800
and the	750
	700
V.	650
	625

Road Classification Interstate Route U.S. Route \_\_\_\_\_ State Route



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APPROXIMATE MEAN DECLINATION, 2014

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