

# DTM v1.0 & DTM v1.5

Providing geospatial professionals worldwide with a choice of reliable 3D digital terrain models (DTMs) to meet a wide variety of application needs

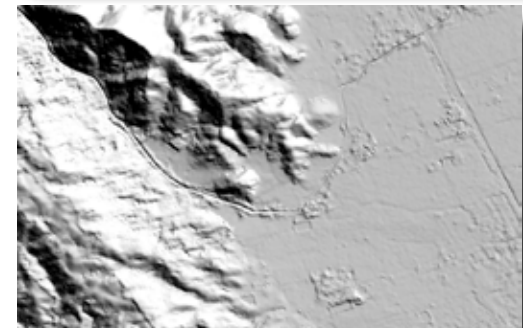
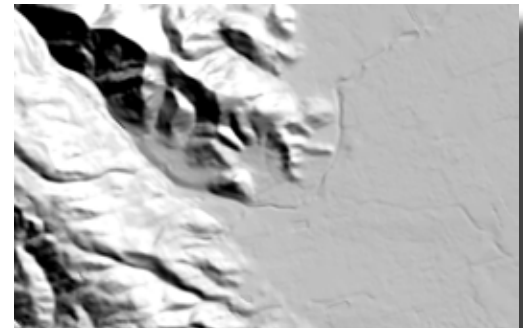
## Highly Accurate Elevation Data that Shows What's Underneath

Digital terrain models (DTMs) are topographic models of the bare earth that have had vegetation, buildings, and other cultural features digitally removed – enabling users to infer terrain characteristics that may be hidden in other types of elevation models. The DTMs derived from Intermap's countrywide mapping program, NEXTMap®, include 5-meter post spacings and feature a vertical accuracy RMSE of 1 meter.

## Two Types of DTMs to Meet Specific Needs

Since the inception of the NEXTMap program, Intermap has continuously solicited feedback from its customers to ensure that we continue to meet their needs. Our core DTM product is just one specific area in which our customers' input has allowed us to significantly enhance our automatic and manual editing processes, resulting in the availability of two versions of DTMs from within the NEXTMap dataset. Each version of the DTM meets specific needs, depending on the specific requirements of the intended applications.

Our DTM v1.0 elevation product may be the most appropriate and cost-effective solution for traditional elevation applications, while the DTM v1.5 elevation product, which undergoes our proprietary editing process called Fully Integrated Terrain Solution (FITS), satisfies a more extensive list of applications. FITS uses existing ancillary data from many sources as an input to the DTM editing process, reducing any bias, tips, and / or tilts in the ancillary contribution. The ancillary data are adjusted appropriately based on higher-accuracy radar elevations.



Intermap's DTM 1.5 product (top) compared with the DTM 1.0 product (bottom). Both images have the same vertical accuracy specifications.

## Applications for DTM v1.0 and DTM v1.5

Working closely with our customer base, Intermap has determined the applications for DTM v1.0 and DTM v1.5 include:

### DTM v1.0

- Topographic base mapping
- Image orthorectification
- Acoustic modeling (noise abatement analysis)
- Radio propagation modeling (tower placement analysis)
- Vehicle navigation systems
- Personal navigation devices (PNDs)
- Slope and aspect analysis
- Surface mining

### DTM v1.5 (includes all 1.0 features, and the following):

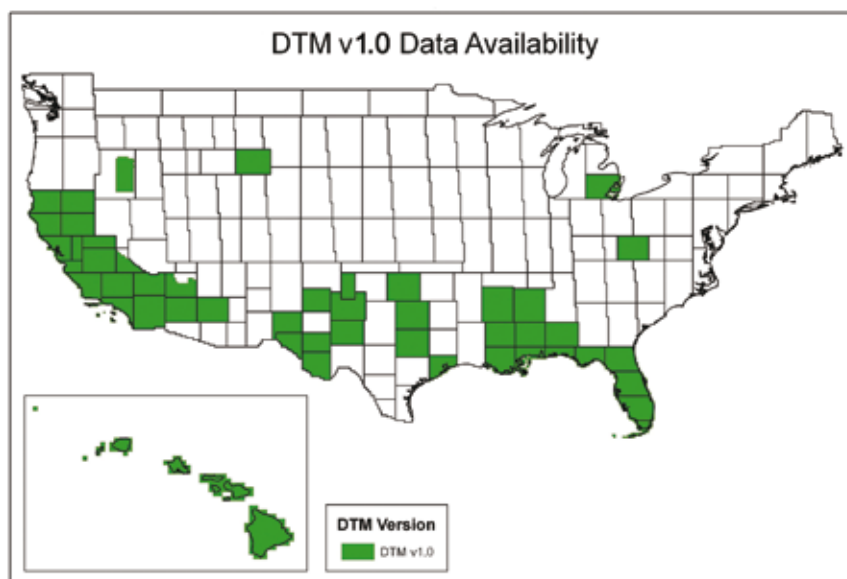
- Storm surge analysis
- Watershed and drainage
- Floodplain analysis (flood modeling applications)
- Contour generation
- Preliminary engineering planning (site location analysis)
- Surface mining
- Canopy height modeling\*
- Biomass studies\*
- Forestry applications\*
- Wildlife habitat applications\*
- Topographical applications\*
- Geological applications\*
- Transmission line corridor planning\*
- Environmental applications\*

\* in conjunction with the DSM and / or orthorectified radar imagery (ORI)

To facilitate easier decision-making in your DTM choice, the following table highlights the distinctions between our DTM v1.0 and DTM v1.5 datasets.

Feature	Description	DTM v1.0	DTM v1.5	Benefit
<b>Streams</b>	Single Line Drains	No interruption of monotonicity greater than 2 meters shall be present in single line drains	No interruption of monotonicity greater than 1 meter shall be present in single line drains	Further supports flood modeling applications
<b>Buildings</b>	All man-made dwellings	Built-up areas greater than 100 meters across are smoothed but will contain some remnant building elevations	Buildings are removed regardless of magnitude of built-up area using best technology and ability	Further supports flood modeling and contour applications
<b>Forests</b>	All trees and groupings of tree canopy heights	Tree stands greater than 100 meters across remain in DTM	No magnitude criteria - all trees / forests are removed from the DTM	Further supports flood modeling, contour, forestry applications
<b>Crops</b>	All field crops detectable in the radar data greater than 1 meter in height	Crops are smoothed to bring their elevation closer to surrounding ground elevations	Crops are removed when detected within radar sensed data	Further supports agricultural applications such as precision farming and flood modeling applications
<b>Major Roads and Railroads</b>	Highways, major roads, and railroads	Highways, major roads, and railroads were flattened so as to be more aesthetically pleasing	Highways, major roads, and railroads are left as sensed by radar	Flattening major roads did not provide an appreciable benefit from an analytical perspective.
<b>Bridges</b>	Bridges over water features, roads and railroads	Bridges remain in the DTM and were edited to the road elevation	Bridges are removed from the DTM	Bridge removal is necessary when doing flood modeling applications
<b>Voids</b>	Data gaps due to radar anomalies (See section 5.3 <i>IFSAR Artifacts</i> )	Interpolated using available seed points across void areas	Ancillary data augments our radar data as one infill component to radar void areas	Further supports applications such as contour generation, forestry, biomass analysis, environmental assessment, etc.

Because of its increased post-production processing and editing, the DTM v1.5 data has a higher price per square km than the DTM v1.0 data. When the DTM v1.5 data is available in areas covered by DTM v1.0 data, it will be made available as an optional upgrade for customers who previously purchased the DTM v1.0 data. If you are interested in the cost of upgrading from DTM v1.0 to DTM v1.5 or you are interested in an area where our DTM v1.0 is currently available but your application is more suited to DTM v1.5, contact an Intermap sales representative.



The areas of NEXTMap® USA in which DTM v1.0 data is available. NEXTMap® Britain also has the DTM v1.0 product; the remainder of the NEXTMap USA dataset, as well as NextMap® Europe, will have the DTM v1.5 product.

For additional information regarding the availability of NEXTMap data, please call toll-free at 1-877-837-7246 or visit us online at [www.intermap.com](http://www.intermap.com). Data can also be purchased via our online store at <https://istore.intermap.com>.