Subject: Re: difference between DEM and DSM
Posted by Ben Kamphaus on Fri, 30 Jul 2010 17:52:30 GMT
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Yeah, the DSM is the easy one if you're working with a LiDAR point cloud, for example. To create the DSM you'll just interpolate the elevation values at each point to a grid. The DEM/DTM extraction (also called bare earth extraction) requires some sort of morphological filtering process to be applied to either the DSM or the point cloud. If the filter operates on the DSM, it removes outlier / feature values and replaces them with interpolated values to preserve the morphology of the ground values. If the filter operates on the point cloud, it will sort the points into ground and non-ground then a separate interpolated grid will be calculated from only the ground points.

On Jul 30, 11:43 am, Mort Canty <m.ca...@fz-juelich.de> wrote:
> Am 30.07.2010 16:52, schrieb skymaxw...@gmail.com:
>
>> Good day !
>
>> I want create digital elevation model (DEM) and digital surface
>> model(DSM) by IDL.
>> I know how to do DEM, but how build DSM ?
>> What data required to build it and what theory ? Any links to read
>> about this subject will appreciate.
>
>> Thanks
>
> Wikipedia?
>
> A digital elevation model - also sometimes called a digital terrain
> model (DTM) - generally refers to a representation of the Earth's
> surface (or subset of this), excluding features such as vegetation,
> buildings, bridges, etc. The DEM often comprises much of the raw
> dataset, which may have been acquired through techniques such as
> photogrammetry, LiDAR, IfSAR, land surveying, etc. A digital surface
> model (DSM) on the other hand includes buildings, vegetation, and roads,
> as well as natural terrain features. The DEM provides a so-called
> bare-earth model, devoid of landscape features. While a DSM may be
> useful for landscape modeling, city modeling and visualization
> applications, a DEM is often required for flood or drainage modeling,
> land-use studies, geological applications, and much more.