

## Open Data Status of LiDAR Information

Light Detection and Ranging (LiDAR) is an airborne mapping technique, which uses a laser to measure the distance between the aircraft and the ground. Up to 100,000 measurements per second are made of the ground, allowing highly detailed surface and terrain models to be generated at different spatial resolutions.

**This note is to inform internal staff and customers of changes in the open status of LiDAR data which will come into effect on November 2<sup>nd</sup> 2015. From this date NRW will make available its LiDAR as open data via the Lle web portal**

**<http://lle.gov.wales/home>**

The Natural Resources Wales LiDAR data archive contains digital elevation data derived from surveys carried out over the last 10 years and covers approximately 70% of Wales. We are making available 25cm, 50cm, 1m and 2m datasets, supplied as terrain models (a representation of the ground level) and surface models (a representation of object heights such as vehicles, buildings and vegetation). In addition to the height information, we are also making available georeferenced, coloured, shaded relief images at the same resolution as the input LiDAR data grids.

The data are being made available as open format view services that can be used within applications or software as well as being downloadable for analysis purposes.

**The November release of data represents our current holdings, and we plan to update this early in 2016 with additional data gathered as part of the capture programme from the previous winter.**

If you have further questions please email [datadistribution@naturalresourceswales.gov.uk](mailto:datadistribution@naturalresourceswales.gov.uk)

The table below provides more detailed information about the individual data products:

AFA Number	Dataset Title	Description
057,058, 059,060	25cm Composite – DTM	This dataset is derived from a combination of all data that is 25cm resolution or better which has been merged and re-sampled to give the best possible coverage. The dataset is 25cm resolution and is supplied as a Digital Terrain Model produced by removing objects from the Digital Surface Model.
	25cm Composite – DSM	This dataset is derived from a combination of all data at 25cm or better resolution which has been merged and re-sampled to give the best possible coverage. The dataset is 25cm resolution and is supplied as a Digital Surface Model produced from the signal returned to the LIDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface).
	25cm Composite – JPEG (DTM and DSM)	Colour coded images for elevation, these colours are uniform across the country, and as such elevation contours can be derived from the data. Image analysis and visual interpretation of the data can be used to derive maps of land use (such as forestry, urban, farmland, etc), and also to identify buildings, roads and other infrastructure within the landscape.
061,062, 063,064	50cm Composite – DTM	This dataset is derived from a combination of all data that is 50cm resolution or better which has been merged and re-sampled to give the best possible coverage. The dataset is 50cm resolution and is supplied as a Digital Terrain Model produced by removing objects from the Digital Surface Model.
	50cm Composite – DSM	This dataset is derived from a combination of all data at 50cm or better resolution which has been merged and re-sampled to give the best possible coverage. The dataset is 50cm resolution and is supplied as a Digital Surface Model produced from the signal returned to the LIDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface).
	50cm Composite – JPEG (DTM and DSM)	Colour coded images for elevation, these colours are uniform across the country, and as such elevation contours can be derived from the data. Image analysis and visual interpretation of the data can be used to derive maps of land use (such as forestry, urban, farmland, etc), and also to identify buildings, roads and other infrastructure within the landscape.
065,066 067,068	1m Composite – DTM	This dataset is derived from a combination of all data that is 1m resolution or better which has been merged and re-sampled to give the best possible coverage. The dataset is 1m resolution and is supplied as a Digital Terrain Model produced by removing objects from the Digital Surface Model.

	1m Composite – DSM	This dataset is derived from a combination of all data at 1m or better resolution which has been merged and re-sampled to give the best possible coverage. The dataset is 1m resolution and is supplied as a Digital Surface Model produced from the signal returned to the LIDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface).
	1m Composite – JPEG (DTM and DSM)	Colour coded images for elevation, these colours are uniform across the country, and as such elevation contours can be derived from the data. Image analysis and visual interpretation of the data can be used to derive maps of land use (such as forestry, urban, farmland, etc), and also to identify buildings, roads and other infrastructure within the landscape.
052,053 069,070	2m Composite – DTM	This dataset is derived from a combination of all data that is 2m resolution or better which has been merged and re-sampled to give the best possible coverage. The dataset is 2m resolution and is supplied as a Digital Terrain Model produced by removing objects from the Digital Surface Model.
	2m Composite – DSM	This dataset is derived from a combination of all data at 2m or better resolution which has been merged and re-sampled to give the best possible coverage. The dataset is 2m resolution and is supplied as a Digital Surface Model produced from the signal returned to the LIDAR (which includes heights of objects, such as vehicles, buildings and vegetation, as well as the terrain surface).
	2m Composite – JPEG (DTM and DSM)	Colour coded images for elevation, these colours are uniform across the country, and as such elevation contours can be derived from the data. Image analysis and visual interpretation of the data can be used to derive maps of land use (such as forestry, urban, farmland, etc), and also to identify buildings, roads and other infrastructure within the landscape.
047,048 049,050	25cm, 50cm, 1m and 2m Digital Terrain and Surface Models	Individual LiDAR surveys in GRID format. The most up to date datasets are contained in the composite products listed above. Historic datasets are also made available as straight download links. These are not available as WMTS. These data may be of interest to those who are interested in historic information. The full tiled dataset consists of historic LIDAR data which has been gathered since 1998. For some areas we have carried out repeat surveys and data is available in a range of resolutions.