

## APGB DTM User Guide

### DTM Product Specification

- Full coverage of Great Britain
- Created at 5m resolution (post spacing)
- Derived from stereo aerial photography captured to RICS Specifications (2010 5<sup>th</sup> Edition for all data captured since 2010, RICS 2001 for all other data)
- Derived from stereo aerial photography acquired between 1st April and 31st October.
- All source aerial photography has been acquired with Vexcel UltraCams state of the art digital cameras.
- Overall horizontal accuracy of the DTM will be better than +/-1.5m RMSE.
- Overall vertical accuracy of the DTM will be better than +/-1.5m RMSE.
- Datasets supplied in manageable and edge-matched 1x1km tiles
- On-line and easy-to-use web ordering mechanism (which includes order history).
- Change Only Update (COU) is provided at sq km level.

### Product Description

The APGB DTM Product is a photogrammetrically derived digital terrain model of Great Britain. It is an accurate representation of the topography of the earth's surface or the 'bald earth'. The DTM has been through a complex editing process designed to remove ground artefacts including trees and vegetation, buildings and other manmade structures.

The DTM Product provides a good representation of the ground due to:

- Source aerial photography captured to RICS Specifications
- Accurate airborne INS and ground GPS to control the photography
- High-quality digital cameras and precise triangulation of the aerial photos
- Robust, high quality auto correlation algorithms used to extract 3D features

### Applications

- Flood Modelling
- Environmental impact studies
- Urban development planning
- Emergency response planning
- Infrastructure planning of roads, rail, waterways, utilities, telecommunications
- Asset management of roads, rail, waterways, utilities, telecommunications
- Land management applications for forestry and farming
- Air Quality and Noise Mapping
- 3D visualisation and 'fly-throughs'
- Visual impact studies
- Cut and Fill analysis
- Support Government Policy development for European Directives such as:
  - Water Framework Directive
  - Environmental Noise Directive
  - Habitats Directive
  - Waste Framework, Landfill and Mining Waste Directives
  - ICZM (Integrated Coastal Zone Mapping) Directives

## Coordinate System and Datums

The coordinate system used for the DTM Product is the British National Grid used by the Ordnance Survey of Great Britain which is based on the OSGB36 geodetic datum and uses the Transverse Mercator projection.

The vertical datum (mean sea level) that is used in the DTM Product is the Ordnance Survey Newlyn Datum.

More detail on the British National Grid coordinate system and notation can be found on the Ordnance Survey website at: [www.ordnancesurvey.co.uk](http://www.ordnancesurvey.co.uk).

## Data Format

The DTM Products can be supplied in a number of data formats which are listed below:

- ASCII XYZ
- ASCII Grid
- ArcGRID

## Media Format

The DTM Products can be supplied in the following media formats:

- Direct Download
- USB Storage Device
- DVD

Note that delivery of data on DVD may take longer

## System Requirements

The system requirements for using the DTM Product are dependent on the operating system software, GIS/CAD application software and hardware of the user. In terms of disc space usage, each 1x1km tile will have a slightly different file size depending on the nature of the topography (compressed formats only) in each tile and the actual data format the user requested. However, a guide to the file size of the tiles is as follows:

	Format	ASCII Grid	ASCII XYZ	MB/GB
	1x1km2 Tile	0.4	1.3	MB
England	133599	54	173	GB
Scotland	85504	34	111	GB
Wales	21834	9	28	GB
GB	240212	96	312	GB

It is strongly recommended that a backup of the data is undertaken before a user commences using any of the DTM Products.