

# APGB Aerial Photography User Guide

## Aerial Photography RGB Product Specification

- Full coverage of Great Britain
- Captured at 25cm and 12.5cm resolution.
- Captured to RICS Specifications (2010 5th Edition for all data captured since 2010, RICS 2001 for all other data)
- Data acquired between 1st April and 31st October.
- All aerial photography has been acquired with Vexcel UltraCams state of the art digital cameras.
- Areas are flown to Mean Low Water to cover intertidal areas, mudflats and large estuaries as requested.
- Data acquired with typically 80% overlap and 30% sidelap being maintained for stereo capture and true ortho production
- Sun angle during acquisition is greater than 20 degrees.
- Fully orthorectified mosaic output as 1km tiles. All ortho data since 2016 has been created as true ortho, which has removed building lean.
- Red, Green, Blue true colour enhanced to maximise information content
- Colour balanced to provide regional consistency
- The whole production process including orthorectification will be at 25cm resolution (or 12.5cm as applicable) and as 24-bit colour, 3 band tiff files with no compression.
- Compressed delivery formats will not exceed 25:1.
- Orthorectification will include the use of highly accurate airborne GPS/INS with ground control points. Adequate control will be used to ensure all imagery meets the image accuracy specifications and is suitable for 3D and photogrammetric use.
- Orthorectification will only use the central portion of each frame, reducing artefacts such as sun glint or cloud. Where artefacts occur, alternative frames from the stereo capture will be used. If this cannot resolve the problem, a re-flight will be required.
- Orthorectification is performed on the DSM for areas of true ortho.
- Overall positional accuracy will be better than +/-1.25m 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 Aerial Photography Product is a digital orthophoto mosaic of Great Britain. It is a true colour representation of the real world, showing all ground features visible at a viewing scale of 1:10000 for 25cm and 1:5000 for 12.5cm. The Aerial Photography Product provides a good representation of the ground due to:

- Aerial Photography captured to RICS Specifications
- Airborne INS and ground GPS to control the photography
- Use of only digital imagery
- Full true orthorectification process
- Colour balancing to maximise the information content

## Applications

- General cartographic purposes
- Strategic development planning
- 3D photogrammetric feature extraction
- 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
- 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 Aerial Photography 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 Aerial Photography 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 Formats

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

- JPEG
- ECW
- GeoTIFF

## Media Format

The Aerial Photography 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 Aerial Photography 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:

<b>APGB RGB 25cm AP Data Sizing Guide</b>						
	<i>Format</i>	TIFF	JPG	ECW (1:25)	JPG2000 (1:25)	
	<i>1x1km<sup>2</sup> Tile</i>	48	8	2	2	MB
<b>England</b>	<i>133599</i>	6413	1069	267	267	GB
<b>Scotland</b>	<i>85504</i>	4104	684	171	171	GB
<b>Wales</b>	<i>21834</i>	1048	175	44	44	GB
<b>GB</b>	<i>240212</i>	11.5	1.9	0.5	0.5	TB

  

<b>APGB RGB 12.5cm AP Data Sizing Guide</b>						
	<i>Format</i>	TIFF	JPG	ECW (1:25)	JPG2000 (1:25)	
	<i>1x1km<sup>2</sup> Tile</i>	192	30	6	6	MB
<b>England</b>	<i>133599</i>	25651	4008	802	802	GB
<b>Scotland</b>	<i>85504</i>	16417	2565	513	513	GB
<b>Wales</b>	<i>21834</i>	4192	655	131	131	GB
<b>GB</b>	<i>240212</i>	46.1	7.2	1.4	1.4	TB

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