

Historic maps, air photos & archives - resource list for countryside research

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Pre 1800 maps

Large scale maps that show field level detail earlier than 1800 are a rarity for Herefordshire. These are mainly estate maps and a comprehensive list of those known has been published: *Herefordshire Maps 1577 to 1800* by Brian Smith, Logaston Press 2004. A supplement to this publication with additional maps published by the Woolhope Naturalists Field Club 2012. Recently, a set of 18th century maps of farms on the Kentchurch Estate has turned up in a private collection, so who knows what other pre-1800 maps still survive somewhere?

Tithe maps of c1840

The Tithe Commutation act of 1836 'commuted' customary payments to parish vicars to a monetary tax based upon land and productivity. The result is large scale parish maps which number each land parcel whose ownership, tenant, area, land use and field name is recorded on a separate document known as the 'apportionment'. This 'second Domesday' gives the most detailed picture of the landscape and farming at that time. The original maps and their apportionments are at HARC with reference copies at the National Archives but they have been conveniently transcribed along with field names and numbers to a 6" to the mile scale by historian and calligrapher Mr. Geoffrey Gwatkins who can be contacted through his web site: www.geoffgwatkinmaps.co.uk.

First edition 25 and 6 inch to the mile Ordnance Survey maps

These were published nationally in the 1880s and represent the most detailed maps ever produced, for example, every mature tree is plotted. The coloured editions of the 25" inch series are especially fine. The National Library of Scotland (NLS) has high resolution scans including most for Herefordshire online <http://maps.nls.uk>

1909 Land Tax survey.

The Lloyd George liberal government attempted to introduce a property tax which required, as the tithe surveys 70 years previously, a valuation of buildings and land holding in the country. Ownership and tenancy is numbered and marked on colour-coded 6" and 25" OS maps with the individual valuations entered into a series of hand written books. The original maps and books of surveys are held at the National Archives, in the reference series IR 128 and IR 58 respectively. HARC also has copies of the maps but only brief summaries of the surveys.

The Royal Commission survey of Herefordshire buildings and monuments 1929-1932.

This was the first attempt at listing buildings for their historical interest and included those deemed to be earlier than about 1700 in construction including many farmhouses and sometimes barns. These surveys are arranged by parish and can be quite detailed, in particular every building was photographed which is often the earliest such photograph. These are held at the English Heritage Archive and Library (formerly National Monuments Record) at Swindon. <https://historicengland.org.uk/images-books/archive/library/>

The Dudley Stamp Land Utilisation Survey map 1936

These maps were created as part of a national study of agriculture in England and Wales and record grassland, arable, orchard, woodland and marginal land on 1" maps.

War Agricultural Executive Committee (WAEC) farm survey and maps 1942.

WAECs were charged with dramatically expanding arable production during WWII and had powers over private interests by virtue of the Defence of Realm Act. Every farm, even tiny

smallholdings, was subject to a survey to judge their potential. These surveys along with the individual 'June return' for each farm was released to the public domain under the 50 years rule in 1992. Associated with these farm surveys are maps annotated to show who was farming which field. Individual grassland fields for each farm subject to compulsory plough up orders are identified. This data set is comparable with the 1840 tithe survey in the level detail but additionally records data for each farm, including for example the number of working horses. The minutes of the deliberations of the WAEC, both county and district are also preserved and give a fascinating insight into the way farming was carried out in the county during WWII. These are all at the National Archives: maps are in the reference series MAF 73, the individual farm surveys are held in parish folders series MAF 32 and the minutes of the WAECs (both county and district) series MAF 80. Parish summaries of June returns are held for each year from 1880 to 1988 MAF 68 and give a detailed time series of statistics for farming in each parish.

The 1953 census of woods

A detailed record of stands of trees and underwood in every wood in the county down to 1 acre was started by the Forestry Commission including tree species, standing volume, structure (such as coppice or high forest) and ownership. Each woodland and compartment surveyed is numbered on annotated 6" maps which are cross referenced to a survey of each compartment. This data set can be useful when planning woodland management or planting since it precedes most of the private sector coniferization and grubbing up of the late 1950s to early 1980s and will often reflect the species composition of native woodland. This was to be the most comprehensive ever national survey of woods and trees but only nine counties were completed before the survey was abandoned and its result never published. The original surveys and maps are held at the National Archives reference series F22. Luckily for us Herefordshire was one of those nine counties. As part of my research into the county's woods I have a complete digital copy of this survey and its maps which I've put online: www.r5r.eu/awir.html

Aerial photography Sometimes nothing beats a high resolution aerial photograph.

Oblique air photos (for example those taken out of a light aircraft window)

The earliest aerial photographs of the Herefordshire countryside date from the 1920s and are mainly incidental to oblique air photos of towns. These are now available online from Historic England <http://www.britainfromabove.org.uk>.

There is a set of oblique air photos of particular sites of archaeological interest (& some historic buildings). These are usually earthworks (humps and bumps) or crop marks (near surface soil characteristics reflected in patterns of differential light reflectance from the crop). Most of these are held at the air photographic library part of English Heritage Archive and Library in Swindon: <https://historicengland.org.uk/images-books/archive/library/>

HARC also has a set of oblique APs which includes more recent air photos taken by aerial photographer Chris Musson and most recently by former staff member Neil Rimmington. These and the full list of archaeological and heritage sites for the county can be accessed via the Herefordshire Historic Environment Record (HER): <http://htt.herefordshire.gov.uk>

Vertical air photos

These high resolution photos, mainly for mapping and military purposes, are especially useful in analysing landscape change since WWII. The earliest known for Herefordshire are those taken by the Luftwaffe in December 1940 but they only cover Rotherwas, its vicinity and some parts of the Lugg and Wye valleys. The RAF photographed all the county in a series of flights from 1946 to 1959, those taken in winter being very useful in identifying

archaeological sites and farming systems such as water meadows and ridge and furrow arable which may no longer exist. Recent vertical colour photography is now well known and used via Google Earth and Bing Maps but there is some earlier colour aerial photography from around 2000 also available on the 'history slider' of Google Earth. HARC has 1400 contact prints of vertical APs covering most of the county from 1946 to 1959. I have scanned all of them and I'll hand them over to HARC when they have sorted out their digital storage and database but happy to receive inquiries myself. A more complete set of vertical APs of Herefordshire is held at the English Heritage Archive and Library, Swindon who offer a search facility and the originals can be viewed in the search room by appointment.

Light Detection and Ranging (LIDAR)

LIDAR is a laser scanning technology which creates a 3D simulation of the object in view. When used to illuminate land below an aircraft, LIDAR produces a 3D model of the countryside. From about 2005 the Environment Agency has commissioned LIDAR scans of catchments in England and Wales for flood defence modelling purposes. Recently, the EA has released processed versions of LIDAR data which have proved uniquely useful for archaeological investigations on farmland and in woods. Raw LIDAR data consists of 3D 'point clouds' from the reflected surfaces from which a Digital Elevation Model (DEM) which can be visualised in software. What is available for download are two types of DEM: (a) Digital Terrain Model (DTM) which is the bare ground with trees and buildings digitally removed from the point cloud data and (b) Digital Surface Model (DSM) which consists only of the tops of objects first intercepted by the laser pulses. LIDAR data is available as flat images of the DTM and DSM data and the actual numeric height data for DTM and DSM. By far the most useful for archaeological purposes are the DTM height data files. When imported into a Geographic Information System (GIS) these DTM files can show very subtle height variations revealing earthworks such as deserted settlements, lost field systems and water meadow ridges etc. Because the LIDAR laser pulses partially penetrate woodland canopies the resulting DTMs reveal archaeology within woods. The EA LIDAR store: <http://www.geostore.com/environment-agency/survey.html>

Other useful free online map sources:

Ordnance Survey free data

www.ordnancesurvey.co.uk/opendatadownload/products.html

Free Government data mapping sets now include much useful information including environmental designations such as ancient woodlands, Sites of Special Scientific Interest, registered parks, access areas, agri-environment schemes etc.

<https://data.gov.uk> - go to 'mapping'.

Historic Environment records (including parks and gardens) for England. Set the map view first and then tick the desired boxes under the what/when and resources tabs:

http://www.heritagegateway.org.uk/gateway/advanced_search.aspx

Archives

There is a vast body of original documents held in local and national archives going back to Domesday (and occasionally even further) relating to all aspects of rural life, economy and landscape. Increasingly comprehensive online searchable archive data bases have transformed historical research and the digital camera can capture quality copies of original archives. Both these developments make it much easier than in the past for anyone to research local farming and landscape history, families and buildings. The most

comprehensive online database is that maintained by the National Archives which includes all the local archives such as HARC: <http://discovery.nationalarchives.gov.uk/>

The Anglo American Legal Tradition (AALT) project is digitising most of the legal documents held by the NA, its web site <http://aalt.law.uh.edu/> currently holds over 9 million images of original documents from 1173 to 1903.

The recently (February 2018) completed Manorial Documents Register lists all known original manuscripts on their searchable database:

<http://discovery.nationalarchives.gov.uk/manor-search>

The HARC web site: www.herefordshire.gov.uk/archives.

While references to originals increasingly appear in online catalogues, only a fraction of the originals have been photographed and available online (but note AALT above).

A fruitful source of historical information from the 1780s about the Herefordshire countryside can be found in the Hereford Journal and Hereford Times all of whose editions up to 1900 have been digitised by the British Library and are word searchable – you will need to register and pay for this service: <http://www.britishnewspaperarchive.co.uk>

Transcribing and translating historic manuscripts

This is an important skill that is fairly easy to acquire with a bit of practice. The National Archives has web page of resources:

<http://www.nationalarchives.gov.uk/help-with-your-research/reading-old-documents/>

Some worked example from Herefordshire are on this web page:

www.bosci.net/latin.html which also includes a link to useful publications.

DIY digital mapping

Geographic Information Systems (GIS) used to be expensive, difficult to use and the domain of IT departments in large organisations. Now anyone with a little patience can download and start using the sophisticated and completely free package known as QGIS and create their own digital maps by importing a variety of data sources including aerial photography, scanned maps, geo-located photos from a smart phone etc.

QGIS competes with GIS systems costing £thousands and is being increasingly adopted by many organisations including Government departments: The QGIS web site www.qgis.org includes manuals and links to tutorials. Since I do QGIS training myself, I have put some Herefordshire specific resources online at www.r5r.eu/awir.html under 'FOSS4G' (= Free and Open Source Software for Geospatial) this includes the processing of LIDAR derived DTM files.

Programming

There are many free software resources for data processing, visualisation, mapping, web development etc that can be useful:

The R statistics package is becoming increasing popular in geographical applications, website creation for data dissemination, web data 'scraping':

<https://www.r-project.org> and the book 'Learning R for geo-spatial analysis'

<https://www.packtpub.com/big-data-and-business-intelligence/learning-r-geospatial-analysis>

The **Python** language is now widely adopted with some overlap with R. Operations within QGIS itself can be programmed directly in Python (which is installed automatically with QGIS). <https://www.python.org>

Web development resources can be accessed through the WWW consortium

<https://www.w3.org>