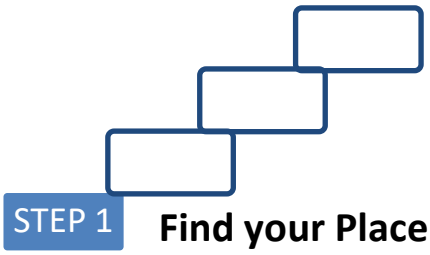
Online Resources: a general guide for YAC leaders



Find your Place

Step 1 is an exploration of a place and its surroundings using modern and historical maps and aerial imagery. It offers an opportunity for you learn how to manipulate the information to suit your own skill-level and pace, and then pass on what you have learned to YAC members.

This first step is the foundation for all the other steps in this project. It can build on any work children may have already done at school (using *Digimap for Schools* for instance), but in this case using other online map resources which will help them to identify and understand history, archaeology, and changes which take place over time. The core online resources we recommend you to use for this project are:

- **Resource 1**: **What do places looks like from the air?** - Google Earth; Bing Maps, and the National Library of Scotland (NLS)
- **Resource 2**: **Getting to know maps** - Charles Close Society (CCS), and the Ordnance Survey (OS)
- **Resource 3**: **Delving into the past with maps** - National Library of Scotland (NLS)

These websites provide us with access to view a range of modern and historic maps, as well as aerial imagery. You will find that some of the online maps etc. are available on more than one site, and the best way to find which one meets your particular need is simply to spend an hour or so 'playing' with each. It would be almost impossible to provide instructions for every permutation of each piece of online software we recommend using. However, for each we have provided a summary of technical information and an **Introductory Guide** to help get you started.

Treat this project as being a process of self-exploration and learning in small steps about how to understand a place. These online resources are used regularly by landscape archaeologists. Find which combination suits you and your group. We are aiming to raise your awareness of possibilities and leave you free to shape ideas for your branch and its members.

We want to ensure that all resources we use are as safe as possible and in addition do not infringe on any copyright issues. As the intention of the project is to encourage exploration of the world of maps and aerial photographs online there is no requirement to print out copies. Most of the sites we will use allow map images to be printed for personal use but please check with us if you have any specific needs.

Resource 1

What do places look like from the air?

Google Earth

A lot of people may already be familiar with Google Earth software. It is a fantastic resource and is often used extensively in education and the professional sectors. Google Earth is a mix of aerial and satellite photography and some map information. It allows us to take to the air as if we were in an aeroplane or a bird, and allows us to explore the landscape. It allows you to easily move around and see places that you may never have found otherwise. Many archaeologists use Google Earth to discover archaeological sites. For many areas, the aerial photography was taken at different dates and so can be used to see how a place has changed over time.

For this project use of **Google Earth Pro** is recommended as this provides a number of facilities not available on the web-based version (see below).

Technical stuff

The software can be used in one of three ways, via a web browser, an app on a mobile device, or as a standalone application running on a PC (Google Earth Pro).

Downloading and installing Google Earth Pro. This can be done by visiting: https://www.google.co.uk/intl/en_uk/earth/versions/ and clicking on the **'**Google Earth Pro on Desktop' button. Please follow the installation instructions as stated on the Google Earth site.

Google Earth Pro is free. As of January 2021, the supported platforms for Google Earth Pro are:

- PC - Windows 7 or newer
- Mac - OS X 10.8 or later
- Linux - Ubuntu 14 / Fedora 23 (or equivalent) or newer.

There are many good tutorials available on the internet on how to get started with Google Earth Pro, just try to make sure you choose a version that is up to date. We recommend you use all default options. All data is saved onto your own computer. The online connection is only used to download the content you have requested. Getting used to Google Earth's navigation controls can initially be quite tricky, but stick with it, the more you use it, the more natural and intuitive it becomes.

Having recommended that Google Earth Pro is downloaded and used as above, it is possible that it may be necessary for some to use the online web version instead. Indeed, some may want to use both. The online version is still a very useful aid to assist us in finding information on our chosen place, but it does not offer all of the features available in Google Earth Pro. The

web-based version also requires you to log into a Google account to store project information. This is perhaps a more 'playful' version but Google Earth Pro offers more control of your own project on your own computer without need to set up a Google account.

To access the online version of Google Earth, please use the following link: http://earth.google.co.uk/ and then click the 'Launch Earth' button. Some problems using Internet Explorer have been encountered using that link. An alternative link below may resolve that problem depending on your local computer configuration.
https://earth.google.com/web

Copyright: Google's statement on copyright can be read by following this link: https://about.google/brand-resource-center/products-and-services/geo-guidelines/ Essentially you can export/print out and annotate a map provided acknowledgement is given. This is simple to achieve, just ensure that the Google watermark and details (usually available at the bottom of image) is retained in any image you wish to use.

Bing Maps

This site provides a good mixture of aerial imagery and maps. It is similar to Google Earth although does not contain as many features. Its main advantage is that it provides an alternative source of aerial imagery to that of Google Earth. It is well worth comparing both once you start investigating your site as they may have been taken at different times and dates. We suggest that you use Google Earth pro as the main tool and use Bing as a supplementary source of information. One important aspect of Bing Maps is that it allows you to view OS 1:25000 scale maps.

Technical stuff

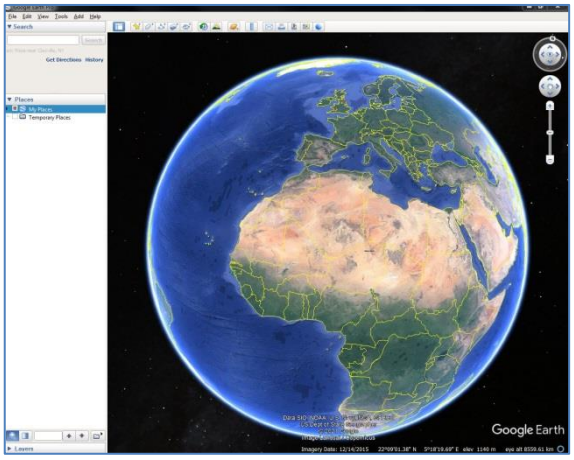
Bing Maps can be accessed using the following link
https://www.bing.com/maps/aerial

Terms for copyright and use of data can be viewed at
https://www.microsoft.com/en-us/servicesagreement/

National Library of Scotland (NLS)

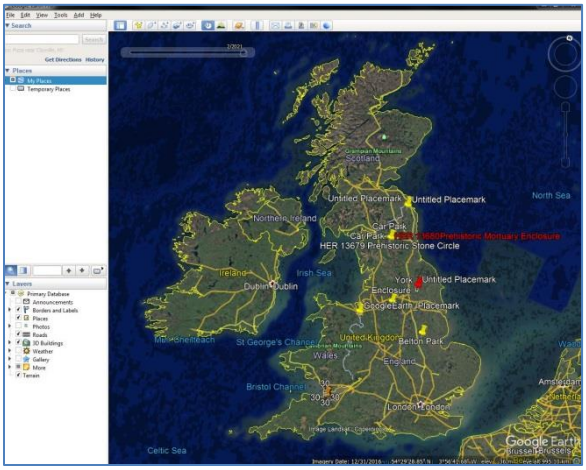
This comprehensive site is covered in more detail in **Resource 3** in relation to its map collection. However, it does contain various types of aerial imagery such as Bing, ESRI World Image, and Lidar. Once you have read the **Introductory Guides** take a look to see which aerial imagery source suits your needs best. Lidar, which is data gathered from aerial laser scanners, is very useful for revealing 'lumps and bumps' in the ground and is covered in more detail in ***Step 4.***

Google Earth Pro
Introductory Guide



Opening screen

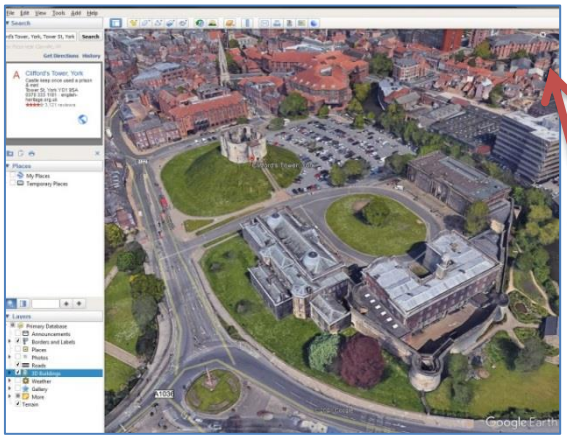
- After clicking the desktop icon on your computer the Google Earth Pro opening screen will look something like this.
- Navigation controls are on the top right. More control can be gained by using a mouse. Find out how each works and use which suits you best. Use the **Help** menu to find some useful keyboard shortcuts
- Along the top horizontal rows are a series of drop-down menus and a row of icons for specific tasks.
- On the left side of the screen, a column will have three headings in blue with an arrow next to each **Search; Places; Layers**
- Clicking the arrow for each will open up a drop-down sub-list.



Get to know the three main categories in the left column

- **Search.** Type in a placename (eg Clifford's Tower, York) and **Search** or hit enter button on the keyboard. The image will move and zoom to York. Street names and various other places of interest can easily be found this way.
- **Places.** Places you are interested in can be stored and displayed using **Placemarks** (see below).

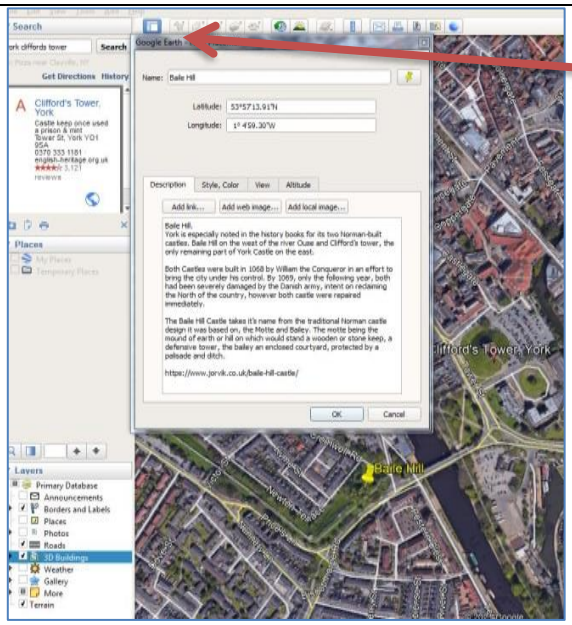
- **Layers.** Expand by clicking the arrow. Features which can be displayed over the aerial imagery are listed. Some can be expanded to show further categories of features. Tick and untick each to see the effect on the imagery. Zoom in and out to see the effect at different scales.

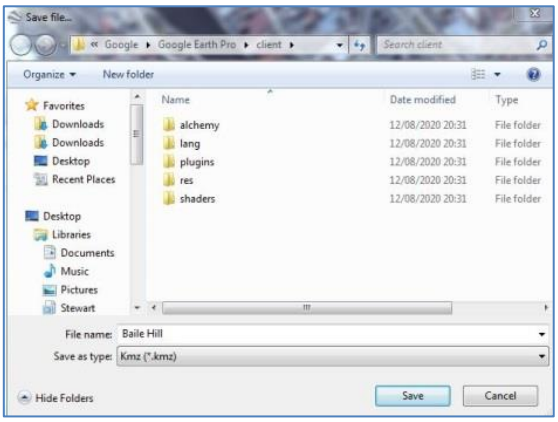


Seeing things from a different perspective

- For some areas of the British Isles, 'bird's-eye' 3D views have been created so that heights of buildings and the mountains, hills and valleys can be visualised. To see the effect, ensure **3D Buildings** and **Terrain** are ticked in **Layers** and practice moving around at different heights and perspectives using either the mouse or the navigation controls.

- In the navigation controls is a small orange human figure. Drag that figure down into the frame on a road to enter **Street View**. You can then look the place as if you were there on the ground. You can move around the roads and look around by using the navigation controls or the mouse.





Placemarks

-  These are especially useful for recording places and going back to them.

- To add a **Placemar**k click the pushpin icon or select from the **Add**>**Placemar**k drop-down menus. Move the placemark to where you want it.

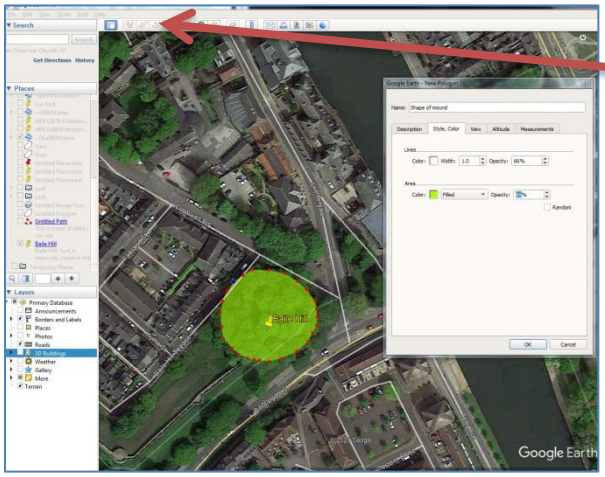
- Information about the **Placemark** can be recorded in a dialogue box. You can also record links and images as appropriate, as well as customise its appearance. Press OK when complete.

- If you click on that pushpin later a box containing the information will pop up at that place.

- If you want to save the **Placemark** and the information right-click with your mouse to save. A menu will appear. Choose **Save Place As.** Another dialogue box will appear – name the file and where you want to store it. Save as type KML. It will then be added to **Places> My Places menu** in the left column of the screen.

- KML is the file extension for an unzipped file, while KMZ is the zipped version of a KML file.

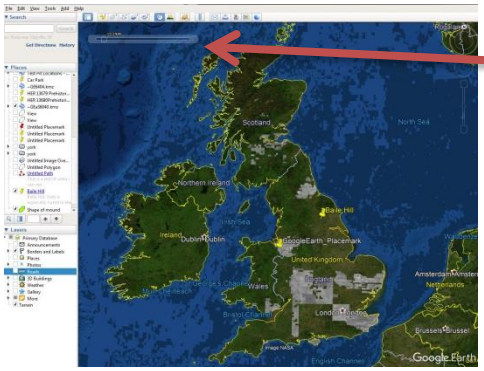
- The **Placemark** can be emailed to anyone else to load into Google Earth and many other programs. Select **File**>**Email**>**Email Placemark** from the drop-down menus.



Polygons

-  The Polygon icon allows you to draw on shapes and outlines of anything that you might want to record. In this case the shape of the mound of York's other castle across the river from Clifford's Tower. Move the cross hairs to each point and left-click. Each point can be moved if you want to change its position. You can configure name, information colours, lines and transparency etc. with the dialogue box. Press OK.

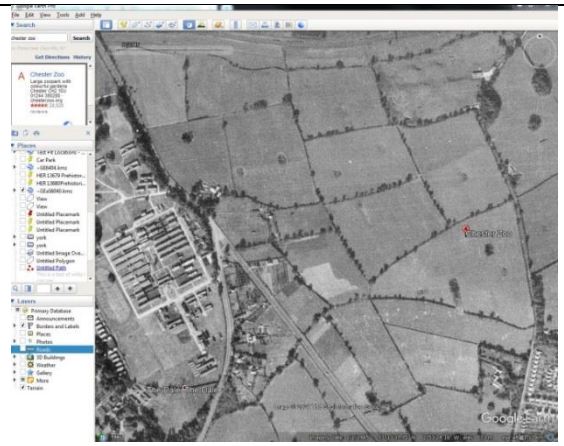
- If you want to record the polygon and the information right-click with your mouse to save. A menu will appear. Choose **Save Place As.** Another dialogue box will appear – name the file and where you want to store it. Save as type KML. It will then be added to **Places> My Places menu** in the left column of the screen.



Historical imagery

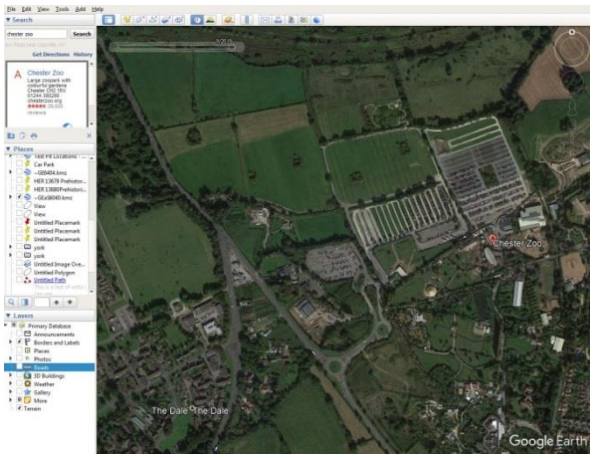
-  Aerial Imagery taken at various dates is available using this icon. Some, dating back as far as 1945, is available for the areas of the British Isles shown in grey.

- At the top left is a slider showing the dates the aerial imagery has been acquired. Move the slider to see what was there (or not there) at the various dates.



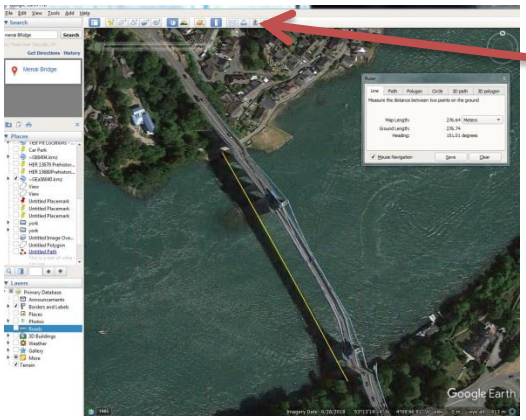
Search the past

- Search for Chester Zoo and put the slider back to 1945.
- Where is the zoo? Is there any evidence it was there at that date.
- Compare what you see in 1945 imagery with what you see on the 2019 imagery below.



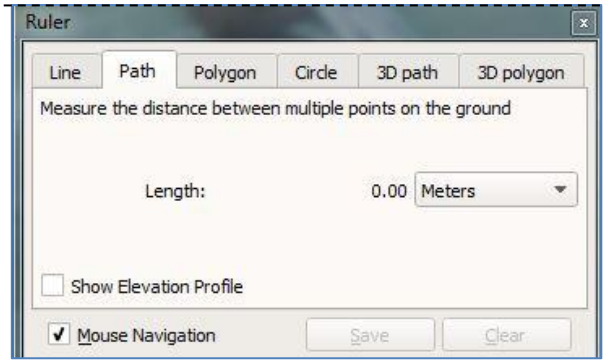
Where is the elephant in the room?

- Can you spot the elephant enclosure (clue – look at the shadows).

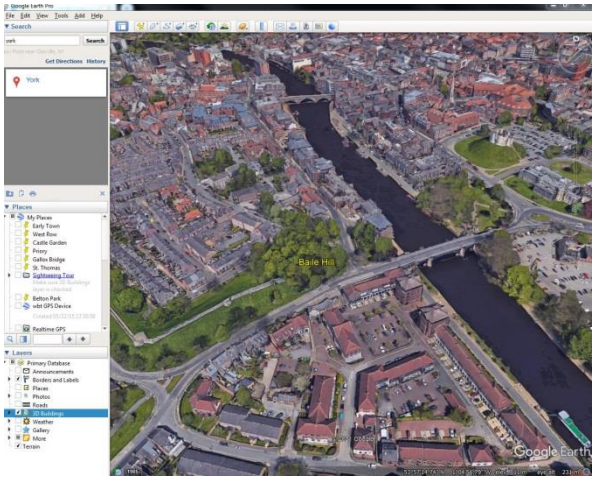


Measuring

-  The Ruler icon can be used to measure distances and areas. It can also be accessed from the **Tools** drop-down menu.
- How wide is the Menai Straights where the bridge crosses the channel? Use Line to measure between two points.



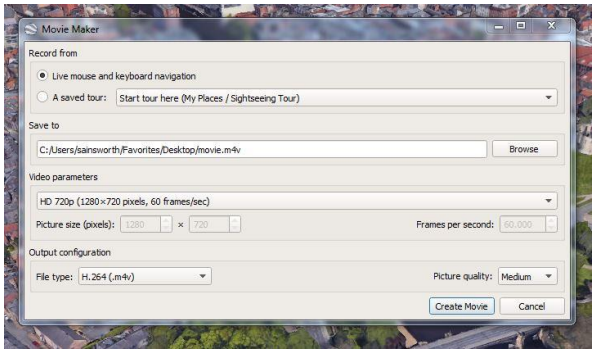
- Practice by measuring features labelled in the tabs in the dialogue box.

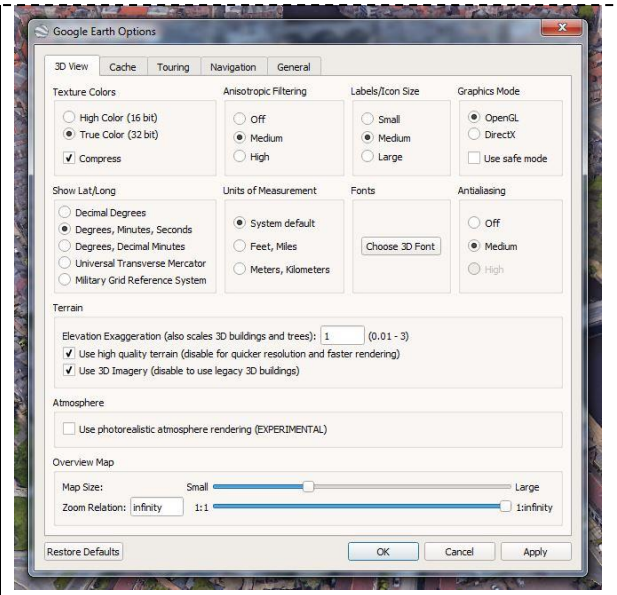


Making a movie

- You can record a movie of a journey or exploration. In the drop-down menu select **Tools**>**Movie Maker** (tick)
- To see an example of a mp4 movie click this link

  https://youtu.be/Yn_iJO5xZ0o
- Movie Maker dialogue box will appear. You can select to control the moves by mouse and keyboard from **Record from** or replay a saved movie.
- The movie can be saved in a file or folder of your choice on your computer.
- Play about with the other settings to suit your own needs.





Finally

- In the **Tools**>**Options** drop-down menu is a dialogue box. This allows you to choose various settings to suit you, your computer, and your needs. You will need to play about a bit to see effects. Leave at default if what you are doing seems OK.

It is not possible to cover all eventualities in a short guide such as this. However, if you unfamiliar with Google Earth Pro this will get you started. Take time to explore your place in different ways.

Resource 2

Getting to know maps

The Charles Close Society (CCS)

The Charles Close Society is a members' society which brings together those with an interest in the maps and history of the Ordnance Survey of Great Britain and its counterparts in Ireland. The Society was founded in 1980 and takes its name from Colonel Sir Charles Arden-Close, OS Director General from 1911 to 1922. It provides an online portal into a number of mapping resources and the Society has kindly given us permission to use their site for this project.

Also provided here are links to some really good free Ordnance Survey education guides designed for teachers to help children learn some of the basic map skills and help them to understand the nature of places.

Technical stuff

For The Charles Close Society there is no application to download. All that is required is a web browser (almost all will work) and an active internet connection. Links to other map resources are available through this portal.
https://www.charlesclosesociety.org

It is certainly worth taking some time to look around the website, we suggest you start at https://www.charlesclosesociety.org/society where the origins and aims of the society can be found.

A complete list of their online resources can be found via this link: https://www.charlesclosesociety.org/onlinemaps (correct as of January 2021). From here you will have access to the latest as well as most historic Ordnance Survey maps. In addition, there are links to other map resources for the UK.

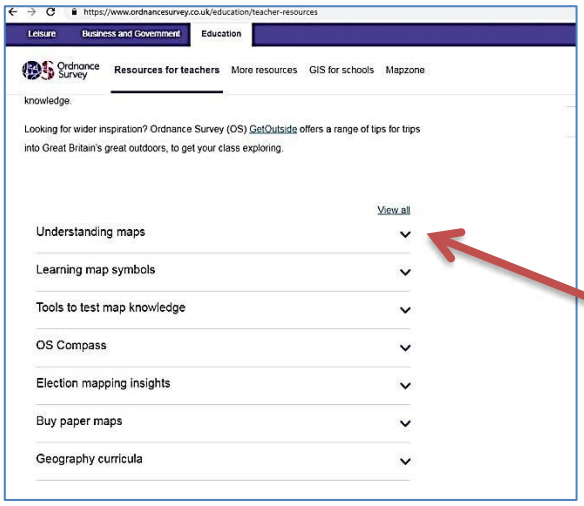
The Public Records Office Northern Ireland (PRONI) site can be viewed through the CCS website. It is subject to Crown Copyright. The statement can be read here at https://www.nidirect.gov.uk/articles/crown-copyright It states "You may use and re-use the information featured on this website (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence with only a few conditions" which can be read on the following link: http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/ (correct as of January 2021).

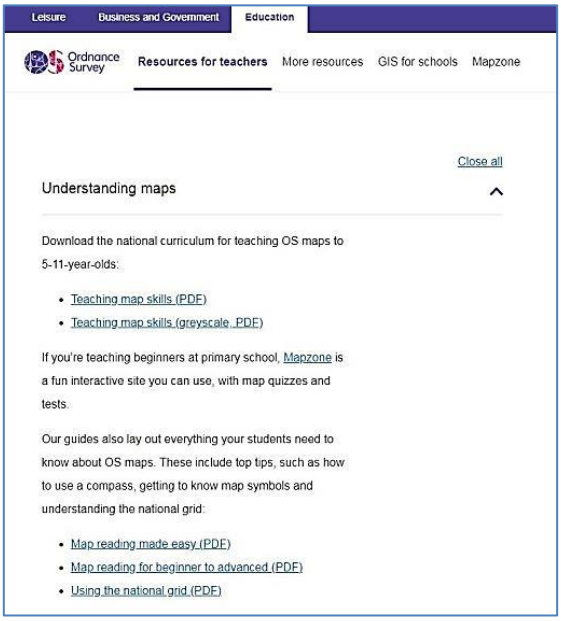
While the PRONI site works with most browsers, there are reports that error messages can be seen if Internet Explorer 11 is being used. The recommended browsers are: Microsoft Edge, Google Chrome, Mozilla Firefox or Safari.

The following page is probably worth reading first: https://www.nidirect.gov.uk/services/search-proni-historical-maps-viewer. It walks you through the basics of how to use the resource. The site uses widgets for navigation. What they mean, and how they can be used are all described via the link above.

In addition, there is a very useful video that is mentioned on the PRONI site that describes how to get the best out of the site. It can be viewed by following this link: https://www.youtube.com/watch?v=nLSqV0S_-ws

Ordnance Survey
Introductory Guide





Opening screen

- Follow this link to access the home page.

https://www.ordnancesurvey.co.uk/education/teacher-resources

- There are a number of resources available on that website which will help you work with younger people and help them to understand maps.
- **Understanding maps** is particularly useful to take a look at for this project. If you expand this menu you find a number of guides available for free download. Have a look at each.
- Of particular interest are

Mapzone which is a fun interactive collection of puzzles and quizzes for children.

Map Reading made easy

Map reading for beginner to advanced

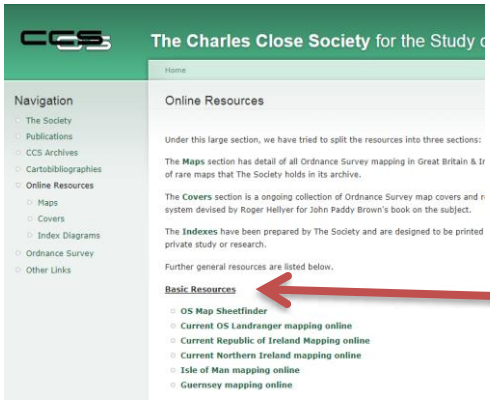
Using the national Grid

Opening screen

- Follow this link to access the home page.

https://www.charlesclosesociety.org

- Click **Online Resources** in the column on the left-hand side of the screen.

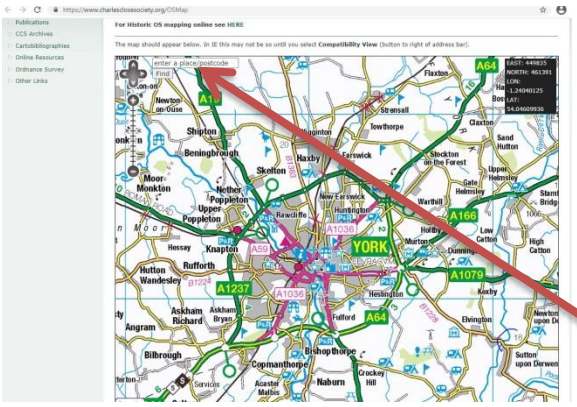


Getting to the maps

- There is a long list of available resources with links. If you scroll down you will see what the resources are and can explore them later.

- Have a look at the **Basic Resources** group. This gives access to mapping for the United Kingdom and the Republic of Ireland at various scales.

- For England, Scotland and Wales start by exploring Current OS Landranger mapping online to get used to changing scale.

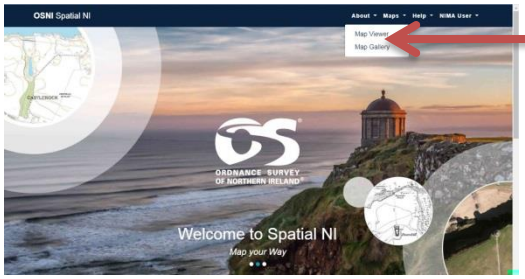


- Maps for Northern Ireland, Republic of Ireland, Isle of Man and Guernsey can be viewed using the appropriate links in **Basic Resources** group. (see below) Online mapping for Jersey is very limited.

- Start by searching for 'York' using the **Current OS Landranger mapping online**. It will default to the 1:50000 scale Landranger map but use the mouse or the screen controls at the top left to see OS maps at smaller and larger scales. Practice zooming through the various scales to show ~~levels of detail each scale of map~~ shows for that location.

- As well as finding your own place, take a journey across the UK and look at places that you have never been to or would like to go.

	• The dark box in the top right will display National Grid References in Eastings and Northings (Ordnance Survey maps) and Latitude and Longitude coordinates. • See what coverage of each scale and type of map provides for your area. Coverage and scales vary, especially for the Channel Islands. The Guernsey site is particularly good, showing records for archaeological sites and monuments and historic aerial photography. • Return to the Online Resources page to access mapping for the Republic of Ireland, Northern Ireland, Isle of Man and Guernsey.
	• **Current Republic of Ireland Mapping online** • Dialogue box at the top left allows access to different datsets. **Open Base Information and Mapping** • Various types of aerial imagery, modern and historical maps can then be viewed in layers. Transparency sliders allow you to 'see through' the layers.
	• **Current Northern Ireland Mapping online** • At the opening page select **Maps** > **Map Viewer**



- On the Map Viewer page you will find a series of icons along the top of the map. Experiment with them to view various scales of map and other features including aerial imagery

- Use the **Map Gallery** drop-down menu to access the **Historical** tab. This will give you access to Historical maps and Historical Environment Records. The Layers List icon with each will then show a list and dates of old maps available to view. Select as appropriate.

- **Isle of Man mapping online** provides access to the Isle of Man government website. This provides mapping showing street level detail.

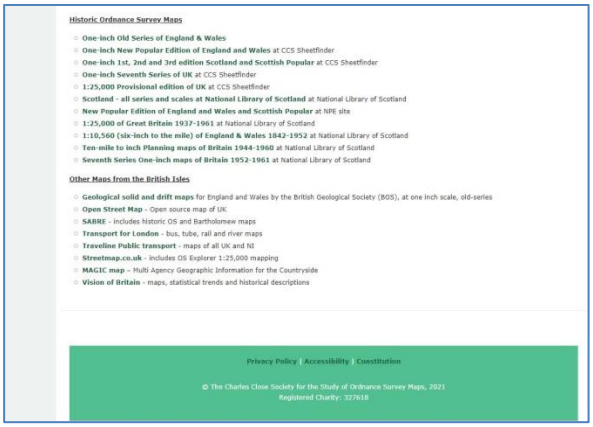
- Click the Information icon to access a list of categories.

- Ordnance Survey mapping up to 1:50000 scale is available through the **Current OS Landranger mapping online**

- Historical Ordnance Survey maps are also available through the National Library of Scotland website (see Resource 3).

- **Guernsey mapping online**

- There are a number of datasets available. Experiment and see what each contains and how useful it may be to you. Probably the most useful for this project are likely to be



- Environmental
- Geographical
- Antiquities
- Guernsey Historic Maps
- WWII 1945 Aerial Photography

- Return to the **Online Resources** page. Here you will find links to many other sources of maps, some of which will be referred to in *Steps* 2-4. In particular **MAGIC** map where Ordnance Survey 1:25000 and 1:10000 mapping can be viewed. OS 1:25000 mapping can also be viewed on the BIng Maps website.

Resource 3

Delving into the past with maps

National Library of Scotland (NLS)

The National Library of Scotland is an online resource that is not restricted to just those in Scotland. It is probably the most comprehensive collection of historical maps related to the UK to be found anywhere online. In particular, the historical mapping is an invaluable resource for investigating places as they were in the 19th century before intensive, urbanisation in the major towns and cities. The NLS site also includes such sources as military maps from the First World War. The NLS is one of Europe's major research libraries with around 24 million items.

Technical stuff

The website can be found using the following link
https://maps.nls.uk/
Content can be viewed by anyone with a computer and internet access.

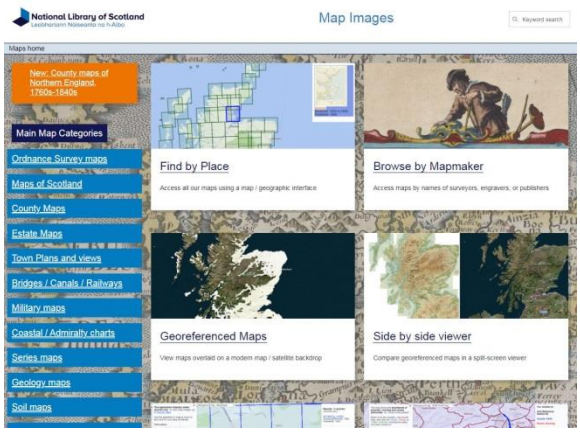
A short history and overview of what it is, and what is does can be found here: https://www.nls.uk/about-us/what-we-are/nls-history available.

While the site has many categories, the one that we will be using is focussed on maps, and more specifically, the 'Find a place' page that can be accessed here: https://maps.nls.uk/geo/find/ This will launch a browser application where you can select your place and then view whatever maps are available for it.

There is a short description on how to use the map resources here: https://maps.nls.uk/imagery.html

Copyright: The NLS position on copyright can be read here: https://www.nls.uk/copyright While copyright needs to be observed, there are some exceptions which can be viewed at https://www.gov.uk/guidance/exceptions-to-copyright This page has a section on Non-commercial research and Private Study which can be seen here: https://www.gov.uk/guidance/exceptions-to-copyright#non-commercial-research-and-private-study.

National Library of Scotland
Introductory Guide



Ordnance Survey maps

Maps published by Ordnance Survey and related bodies, including the War Office (ca. 1840s-1960s). The maps are ordered below by country, from largest scales (most detailed maps) to smaller scales (less detailed maps), followed by indexes and characteristics sheets (symbols and legends).

- **Browse all Ordnance Survey maps for a place**.

Scotland England, Wales and Great Britain Belgium / France
Hong Kong Indexes Characteristics Sheets

Accessing the map images

- Follow this link to access the map images page.

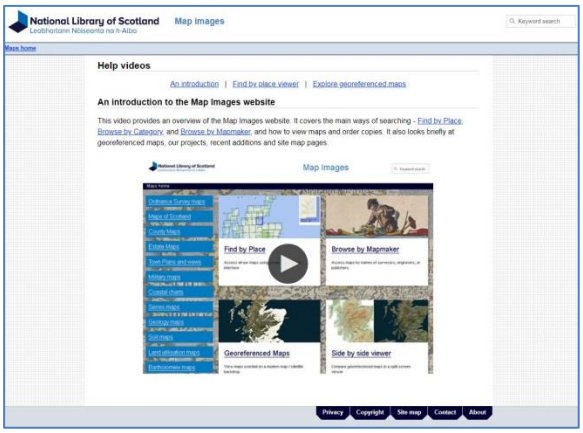
  https://maps.nls.uk/

- On the left hand side of the screen **Main Map Categories** contains a scrolling list of the map sources.

- Scroll down to see them all. There are 18 in all.

- Many of the categories are specifically related to Scotland.

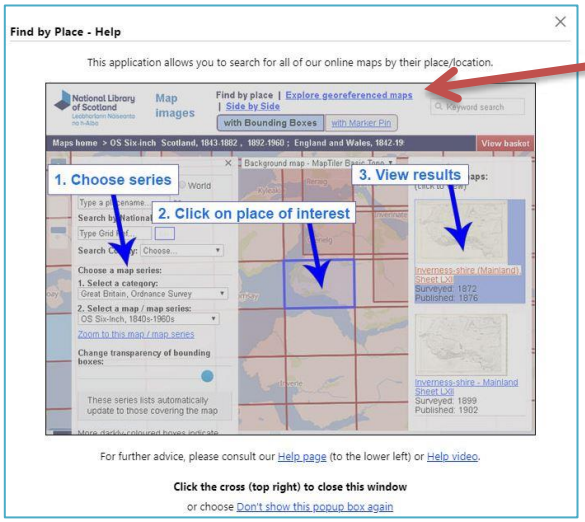
- Ordnance Survey historical maps are also available for England and Wales. Select **Ordnance Survey maps** and choose map series and collection as appropriate.



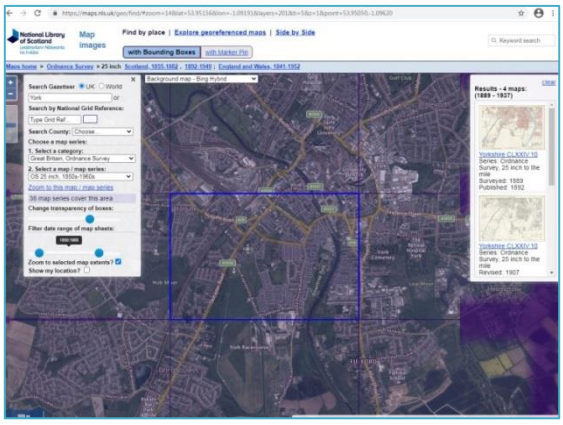
There are **Help** videos which are useful to watch. In particular.

- **An Introduction**
- **Find by place viewer**
- **Explore georeferenced maps**

- The best category to start with is **Ordnance Survey maps.**
- **One of the simplest ways to find a map is by using Browse all Ordnance Survey maps for a place**

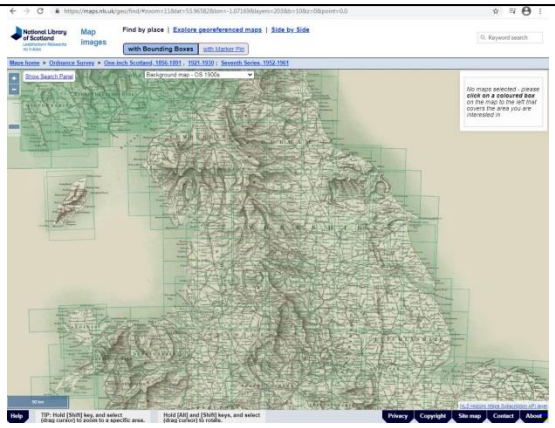


- Three other ways of finding maps are provided by the options at the top
- **Find by Place**
- **Explore georeferenced maps**
- **Side by Side**
- A **Help** screen usually appears at each change of menu and shows you how to select the various dates of maps which are available to view.

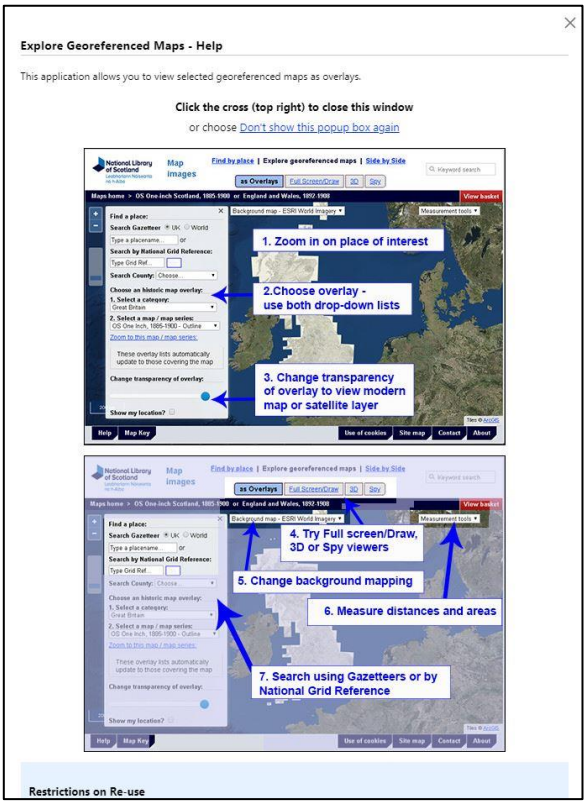


Find by Place

- Enter a place e.g. York. Places can be searched by name or with an OS grid reference.
- The area of the historic maps available from the various series will be highlighted. If for example 'OS 25 inch between 1850s-1960s' is selected as the map series, a grid of available sheet is shown. If one is selected the images of various dates are shown on the right of the screen.
- Click that image to see the historical map in more detail

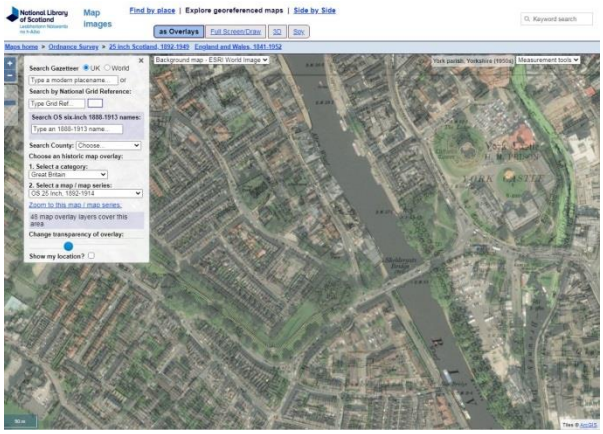


- Experiment with maps scales, categories and map series.
- Historical information about the date of a map (when it was surveyed for instance) will be displayed.
- Experiment with various scales, historic maps series, and background maps to get a better idea of what is available.

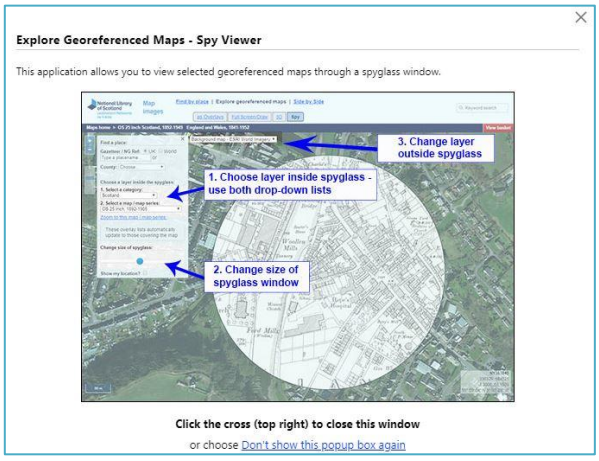


Explore georeferenced maps

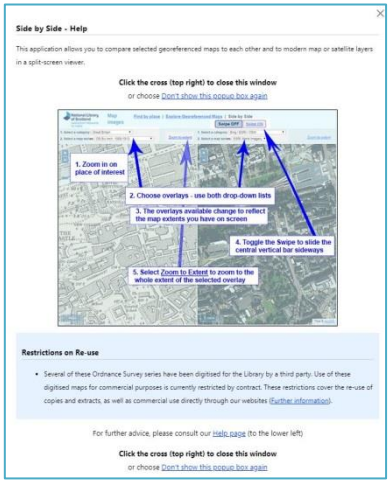
- The **Help** screen will get you started.



- If you move the **Change transparency of overlay** slider you will see the old map over aerial imagery.
- At the top right are **Measurement tools**. You can measure distance and area using these.
- Map images can also be viewed in 3D.

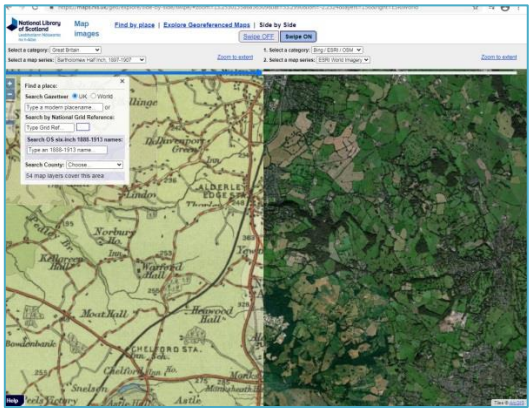


- The **Spy** facility allows you to view selected georeferenced maps through a spyglass viewer.



Side by Side

- A **Help** screen usually appears at each change of menu and shows you how to select the various dates of maps which are available to view.



- Move the slider in the centre to merge one image with another. This is very useful for easily identifying change over time.
- Categories and map series can be changed for each side for comparison.

The NLS is an incredibly powerful tool for finding out how places looked in the early days of Ordnance Survey mapping. The maps are a great way of picking out even small changes due to the large scale of many of the maps. This website site is a joy in itself for all students of mapping.