

# Geological and Groundwater maps

## Geological maps

Recognising the economic and practical value of geological information, the government set up the Ordnance Geological Survey in 1835, to facilitate the completion of a geological survey of Great Britain and Ireland, including the collection of data on mines and boreholes. Today it is known as the [British Geological Survey](#).

Geological maps use coloured shading and symbols superimposed over a topographical Ordnance Survey base map, to indicate geological series, fault lines, wells and boreholes.



Maps show solid (or bedrock) geology and drift (or superficial deposits). Most Oxfordshire maps show solid and drift together, while in appropriate terrain, some show solid and drift on separate sheets. Drift edition maps were only published after 1871.

The first geological map of Oxfordshire was *Sheet 45 SW Woodstock* in the *Old Series* one inch (1:63,360) survey, published in 1859.

## Old Series and New Series maps online

*Old Series* and *New Series* geological maps for the whole of England and Wales can be viewed [online](#), on a sheet-by-sheet basis, where the BGS has made them freely available under Open Government Licence.

## 1:63,360 Old Series

*Old Series* one inch geological maps used the existing grid of Ordnance Survey *Old Series* sheets. Some were issued as 'whole' sheets, some as 'quarter' sheets.

The paper maps we hold in this series do not offer complete coverage of Oxfordshire; available sheets [ref: A:MC20] include:

- *Sheet 13 Bampton* (1860)
- *Sheet 45 SW Woodstock* (1859; re-engraved 1871)
- *Sheet 45 NW Banbury* (1859; revised 1871)
- *Sheet 45 SE Bicester* (1863)
- *Sheet 45 NE Buckingham* (1863)

*Old Series* geological maps were revised or re-engraved, but were eventually superseded by *New Series* ones.

Accompanying sheet memoirs give a fuller account of the geological data represented on the map:

- *The geology of the country around Woodstock, Oxfordshire* (1859) [ref: PA 551/(HUL)]

*Old Series* geological maps are also available [online](#).

## 1: 63,360 New Series

*New Series* geological maps, following the completely different sheet lines of the Ordnance Survey *New Series*, were published from 1893 onwards. The earliest *New Series* sheet with any coverage of Oxfordshire is *Sheet 267 Hungerford* (1898).

Our holdings [ref: A:MC20] include:

- *Sheet 267 Hungerford* (drift edition, 1898)
- *Sheet 201 Banbury* (solid and drift edition, 1963)
- *Sheet 202 Towcester* (solid and drift, 1969)
- *Sheet 218 Chipping Norton* (solid and drift, 1968)
- *Sheet 235 Cirencester* (drift, 1933)
- *Sheet 236 Witney* (solid with drift, 1969)
- *Sheet 252 Swindon* (solid and drift, 1974)
- *Sheet 253 Abingdon* (drift, 1971)
- *Sheet 253 Abingdon* (solid, 1971)
- *Sheet 254 Henley on Thames* (drift, 1960)
- *Sheet 253 Abingdon* (drift, 1971)
- *Sheet 268 Reading* (drift, 1904)

In addition to the regular *New Series* sheets, some special edition *District* maps were produced for areas of major geological interest, including:

- *Oxford* (1908) [covering parts of sheets 236, 237, 253 and 254]

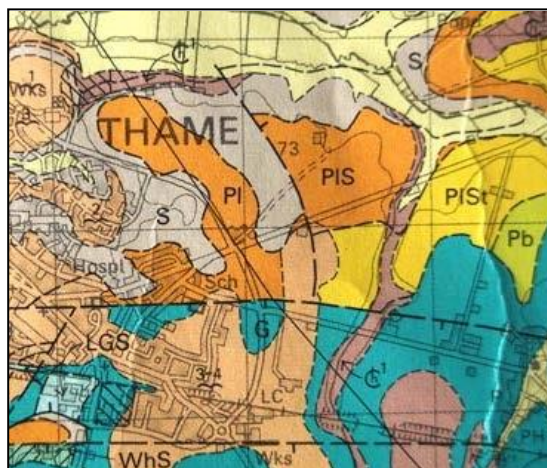
Accompanying sheet memoirs give a fuller account of the geological data represented on the map:

- *Geology of the country around Banbury and Edge Hill* (1965) [ref: OV 551/(EDM)]
- *The geology of the country around Henley-on-Thames and Wallingford* (1908) [ref: OV 551/(JUK)]
- *Geology of the country around Witney* (1946) [ref: OV 551/(DEP)]

*New Series* geological maps are also available [online](#).

## 1:50,000 Series

*1:50,000 Series* sheets, published from 1972 onwards, oddly retained the sheet lines of the *Old* and *New Series* mapping. Published sheets are a mixture of modern field mapping at 1:10,000 redrawn at the 1:50,000 scale and older 1:63,630 maps enlarged to fit a modern base map at 1:50,000 scale. All Oxfordshire sheets are solid and drift editions, but coverage is not complete.



Our holdings of paper maps [ref: A:MC20] include:

- *Sheet 201 Banbury* (1982)
- *Sheet 217 Moreton-in-Marsh* (1981)
- *Sheet 219 Buckingham* (2002)
- *Sheet 236 Witney* (1982)
- *Sheet 237 Thame* (1994)
- *Sheet 252 Swindon* (1974)
- *Sheet 254 Henley on Thames* (1980)

Accompanying sheet memoirs (descriptive books) give a fuller account of the geological data represented on the map:

- *Geology of the country around Chipping Norton* (1987) [ref: OZ 551/(NAT)]
- *Geology of the country around Thame* (1995) [ref: OZ 551/(BRI)]

## GeoIndex Geology of Britain viewer

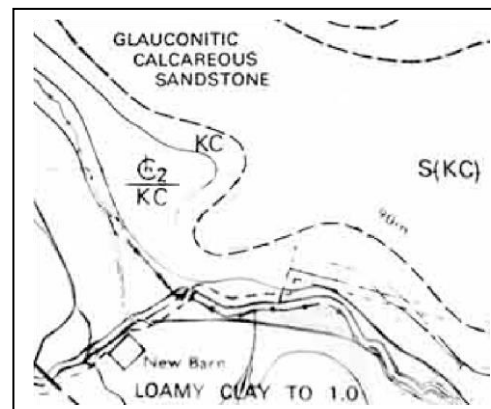
The latest bedrock and superficial colour map data can be freely viewed online at the 1:50,000 scale through British Geological Survey's :

- [Geo Index Onshore](#), or
- [Geology of Britain Viewer](#).

### 1:10,560 County Maps and 1:10,000 Series

For over 150 years primary geological mapping has been undertaken at a large scale, normally 1:10,000 or the earlier 1:10 560 scale, resulting in almost complete large-scale map coverage of the UK.

Large scale geological maps have always been very expensive to purchase, and Oxfordshire History Centre does not hold any 1:10,560 sheets, but we do hold one example of a later 1:10,000 scale sheet covering the **Headington** area, where the geological detail is particularly intensive.



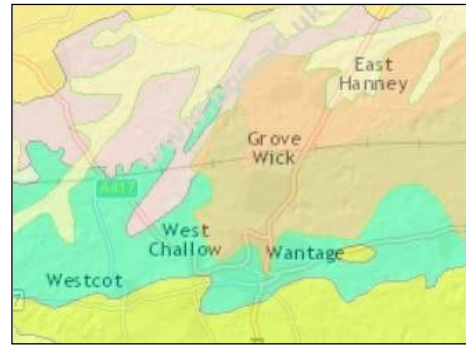
- *Sheet SP50 NE* (1978) [ref: A:MC20]

Digital geological map data at the 1:10,000 scale is only accessible to [licensed users](#) and is not available at Oxfordshire History Centre.

## 1:250,000 Series

Geological maps at this small scale are helpful for providing an overview of the solid geology at a regional level. Sheets in this series have been published only since 1977. The sheet covering Oxfordshire is: *Chilterns* (1991) [ref: A:MC20]

Small scale digital geological data can be viewed online through the BGS [Geology of Britain Viewer](#), at the 1:625,000 and 1:50,000 scales.



## Groundwater vulnerability maps

The British Geological Survey was commissioned by the Environment Agency to prepare groundwater vulnerability maps of England and Wales at a scale of 1:100,000. These maps identify by coloured shading the relative vulnerability of different aquifers to contamination or pollution. All maps in this series were published in 1990. Local sheets are as follows:

- *Sheet 30, North Cotswolds* [ref: A:MC20]
- *Sheet 38, Upper Thames and Berkshire Downs* [ref: A:MC20]

Groundwater vulnerability data is also available online, via [Defra's MAGIC website](#) - users need to open the *Landscape - Geology and Soils* tab, then select *Groundwater Vulnerability Map*.

## Hydrogeology maps

Hydrogeology maps at a scale of 1:100,000 depict aspects of groundwater availability, exploitation and quality.

General information about the *Hydrogeological maps* series is available [online](#), and hydrogeology map data for Britain can be viewed as a selected data layer on [Geo Index Onshore](#) - select the product *Hydrogeological maps* from the Add Data menu.

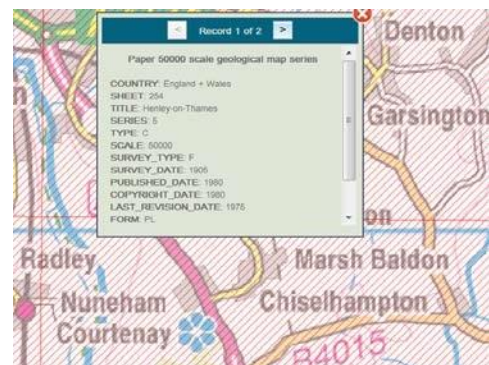
The only local sheet published covers Oxford and the south of the county:

- *Sheet 7, South West Chilterns and the Berkshire and Marlborough Downs* (1978) [ref: A:MC3.13.1 - 551] - also available [online](#).

## And how do I go about viewing Geological maps?

Use the British Geological Survey's [Geo Index Onshore](#) to check which geological map sheet number or memoir you need.

To see original paper geological maps, you can order them up for viewing in our Searchroom by citing the map sheet numbers catalogue references given in text above.



## Geology of Britain Viewer

Through British Geological Survey's [Geology of Britain Viewer](#) you can seamlessly browse and display:

- 1:50,000 local geological mapping
- 1:625,000 regional geological mapping
- Borehole sites - and link to scanned records



## Geo Index Onshore

Through British Geological Survey's [Geo Index Onshore](#) you can seamlessly browse and display:

- 1:50,000 local geological mapping
- 1:625,000 regional geological mapping
- Borehole sites - and link to scanned records
- Water well sites
- Aquifer sites
- Quarry and mineral extraction sites
- Waste sites
- Environmental designations (SSSIs, AONBs, etc.)



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