

WGCG NEWSLETTER No. 51

Spring 2026



The Henley-in-Arden Chirotherium footprint discovery from the Arden Sandstone

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WGCG ORGANISATION

WGCG Aims and Objectives

WGCG is a charity operating under the rules of its constitution adopted 19th October 2011. It has two specific aims;

- A. To advance the education of the public on the significance of geology: for the understanding and aesthetic appreciation of landscapes, for human settlements and economic activity, for recreation and leisure and for ecology.
- B. To conserve the geological heritage of Warwickshire through identification and active conservation of geological sites and through fostering an interest in and knowledge of the geology and landscapes of Warwickshire.

We achieve these aims by:

- Holding educational meetings from September to April for members and non-members
- Holding field excursions of short, medium and long duration throughout April to September for the benefit of members and non-members.
- Monitor and maintain a Local Geological Site (LGS) register and undertake annual geoconservation work at selected exposures within Warwickshire.
- Hold an annual educational workshop in February.
- Working with 3rd party organisations such as The Geology Trusts and participate in externally organised events e.g. "Ask a Geologist" quarterly event at Warwick Museum
- Installing and maintaining information panels at key geological exposures
- Producing information brochures of local geological walks and exposures
- Providing a point of contact for geological support in Warwickshire for other organisations such as schools, local planning, etc
- Through the funding of educational awards

Appeal to Members - Please Get Involved

WGCG needs volunteers. We have a specific need for three volunteers to become Trustees at the next AGM in January 2027. However, you don't need to wait until the AGM. Simply register your interest with any trustee or email warwickshiregcg@gmail.com and we will get in touch. The key roles of Secretary and Treasurer need to be filled in order to allow the current incumbents to step down, both having completed 2 full terms of office. Being a Trustee is a great way to discover all about the range of activities that take place within our organisation and a chance to influence decisions on the direction of the group. The trustees are the Management Committee. There are a broad range of skills within the management committee, thus having a degree in geology is not essential. Committee meetings are held on Zoom 6 times a year. Consequently, your location is not an issue. Please complete the form on the following page to apply to become a trustee.

Volunteering for WGCG makes demands upon your time. However, the rewards are plentiful and varied. Please do carefully consider this opportunity to assist the Group.

Soapbox / Holiday geo snaps / Geo-Article

Got something to say?

Send your contribution to the NEWSLETTER via email to: warwickshiregcg@gmail.com

WARWICKSHIRE GEOLOGICAL CONSERVATION GROUP

Election of Trustees 2027

Nominations must reach The Secretary by 30th December 2026.

I would like to nominate the following member to serve as a Trustee of the WGCG.

Name of nominee (print):

Address:

e-mail:

Tel:

I, _____ (name of Nominee) am willing to stand for election as a Trustee and, in accordance with **Charity Commission Rules, am not a disqualified person.** * see note 1

Signed

(by Nominee)

Personal statement (optional):

Proposed by:

Name (print):

Address:

e-mail:

Tel:

Signature:

Date:

Note 1: The Nominee and Proposer must be paid up members of the Group. No-one under 18 can be a trustee of a charitable trust. For further information see <http://www.charitycommission.gov.uk/Library/guidance/cc30text.pdf>

Those disqualified from acting as Trustees (according to sections 178-180 of the Charities Act 2011) include:

- A. anyone who has an unspent conviction involving deception or dishonesty
- B. anyone who is an undischarged bankrupt
- C. anyone who has been removed from trusteeship of a charity by the Court or Commission for misconduct or mismanagement, and
- D. anyone under a disqualification order under the Company Directors Disqualification Act 1986
- E. Anyone who has entered into a composition or arrangement with their creditors which includes an individual voluntary arrangement (IVA), and is currently on the Insolvency Register

Note 2: This form may be returned by e-mail to warwickshiregcg@gmail.com. Confirmation of receipt will be returned by e-mail .

FROM THE CHAIR (Stuart Burley)

As this edition of the newsletter goes into circulation we have almost finished our 2025-26 season of winter talks – Martin Whiteley will give the last talk mid-May but this will only be available on Zoom. It has been a remarkably successful season of talks – I hope you have enjoyed them. Remember most talks are available on our YouTube site which can be accessed from the WGCG website. We have already had a very successful late winter and spring clean of several important WGCG sites in preparation for our summer field season. The accompanying articles in the newsletter should whet your appetites to attend these field visits and get involved in the forthcoming geoconservation activities.



For me the highlight of these geoconservation activities was the discovery of a fossil footprint in the Arden Sandstone at the Henley-in-Arden outcrop on Blackford Hill by a Birmingham University student, Ryan Tokely, who joined the clearance activities. Ryan has been studying the palaeontology of the Arden Sandstone Formation for his research project and has made several other important fossil finds, including sharks teeth, shark fin spines and fish scales, all from the Arden Sandstone. Here is Ryan proudly displaying his footprint find and an AI produced reconstruction of the Arden Sandstone depositional environment during the Carnian rains, complete with sharks.



An AI generated image of the Arden Sandstone lake Arden with sharks in the lake shallows, an amphibian skeleton and footprints, algal mats and salt crusts. Heavy rains flooded the initial evaporitic lakes in the Carnian to form the sandy shorelines we now see at Rowington, Shrewley and Henley-in-Arden.

We have a full summer field season on offer including a visit to a Wolstonian gravel pit on a HS2 site and local summer evening geological walks as well as further afield day and weekend trips. Please do join us.

I again express my thanks to all members who help support the group in our many activities, from setting up the church hall in Kenilworth to attending our Ask a Geologist sessions to jet washing rock faces in preparation for the summer field season. Special mention goes to Jane Allum for organising all our geoconservation activities and to Lauren Sewell for admirably taking on responsibility for the newsletter. All this support makes our talks and field visits possible.

EDITORIAL (Ray Pratt)



This is the 6th and final WGCG newsletter that I will collate. 3 years ago, I stepped into this vacated role on a temporary basis until a new editor could be found. This was an additional task for me on top of my job as Secretary. One of the jobs as WGCG Secretary is to act as a “Band Aid”, temporarily filling important roles that have been vacated. During my 6 years as Secretary the extra roles I have taken on have been: Public Engagement currently organised by Kathrin Schütrumpf, Gareth Jenkins and Peter Hawksworth; Webmaster now undertaken by Anthony Allen; Geo-conservation coordinator, now managed by Jane Allum; Newsletter Editor to be taken over by Lauren Sewell; and Holloway Awards administrator, now taken over by Claire Groves.

Every task has been a learning and rewarding experience.

When I joined WGCG the number of new volunteers for committee roles was diminishing, a trend that has continued, not only for WGCG but in many other geoscience groups. In order to deal with this WGCG ManCom has worked to make our procedures and processes more efficient. Today all committee meetings are held using Zoom. All our documentation is now online enabling Trustees to access documents wherever they are and whenever they need to do so. All our banking is now online and we encourage members to make payments digitally. All these innovations have been done to reduce demands on volunteer’s time and make information more accessible to members. We use our mobile phones utilising geological tool apps, and recording our geo-conservation work as we go (a training session at the last workshop). All our communications with members are done via email and documents are sent out as email attachments. Whilst some of these changes may seem to have an impersonal appearance and detached from in person communications, they save significant time and effort for Trustees, enabling us to deal with things that matter most – meeting our aims and objectives. We do run a lot of events where we can mingle and get to know each other, so do come along and get involved.

Going forward, Lauren Sewell will take over as editor. Please give her your support by sending articles and pictures for inclusion in the Newsletter to warwickshiregcg@gmail.com. Lauren is one of a number of members who volunteer their time to support WGCG activities, without whom we would struggle to fulfil our obligations. Will Messenger is another member playing a vital role dealing with planning applications that impact our LoGS sites. Will has worked quietly in the background dealing with these periodic requests in a detailed and very professional way. Most recently Will responded to an application concerning Avonhill Quarry (LoGS 50), which he did to his very high standard despite not being in the best of health following medical treatment. I would like to thank Lauren and Will and all the other members, who you will find mentioned in newsletter reports, for stepping up to the plate on behalf of WGCG.

If you feel that you could assist in any way then we really want to know. Increasing the number of volunteers will help reduce the workload on current committee members. **WGCG needs your help and active support.** Please get involved and make a difference!

OFFICERS CORNER - a summary of recent Management Committee discussions

- In September 2025 preliminary budgets were allotted for finalisation in November. Detailed preparation for the AGM was concluded.
- In November the management Committee decided that **future AGMs will be held in January** to ensure that the financial statement presented to the members was final and not preliminary.
- Planning updates were made for the Christmas social event and the February 26 Workshop.
- Updates to the WGCG governing document, (Trustee Folder), were reviewed.
- Other topics such as Local Geological Site GIS records, current office arrangements, WGCG promotional material, potential new Public Engagement events including the GA annual Conference, the need for new trustees and a personnel shuffle of management committee positions were also discussed.
- In January it became clear that none of the Trustees had the time to take on the full Secretary Role, although some of the work was redistributed to enable Ray to continue as Secretary in addition to his new role as Education Committee Chair. **Clare Groves** will administer the Holloway Awards and **Lauren Sewell** will become the Newsletter editor. In order to conform with WGCG rules an EGM was scheduled to modify the Constitution.
- Following the EGM in March, the Management Committee approved changes to the Trustee Folder, applications for Holloway awards funding were considered, geo-conservation activities were planned, spending on promotional material was approved, student membership was defined, the future of the Annual Workshop was discussed, issues holding up the installation of the information panel at Guys Cliffe were addressed, and agreement was reached to hold the Christmas Social Event on Saturday 12/12/26, 14-18:00 hrs

NEWS

EDUCATION & STUDENT SECTION

Links

Joe Botting's YouTube channel covers a diverse range of subjects relating to the Ediacaran and Palaeozoic, with forays into modern zoology and astrobiology

<https://www.youtube.com/@lifethoughtime1811>

The Virtual Microscope (VM) for Earth Sciences is primarily an Open Educational Resource (OER). The VM project aims to make a step change in the teaching of Earth Sciences by broadening access to rock collections that are currently held in museums, universities, and other institutions around the world. The Virtual Microscope allows users to examine and explore minerals and microscopic features of rocks, helping them to develop classification and identification skills without the need for high-cost microscopes and thin section preparation facilities.

<https://www.virtualmicroscope.org/>

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"Geology from your Sofa": is still available from the GA website

<https://geologistsassociation.org.uk/sofageology/>

Geology Bites: Oliver Strimpel, a former astrophysicist and museum director (and OUGS member), asks leading researchers to divulge what they have discovered and how they did it.

<https://www.geologybites.com/>

OU Lecturer Rob Butler has, during lockdown, created a YouTube channel called “The Shear Zone” with well over 100 excellent, informative videos:

<https://www.youtube.com/channel/UCIUyj1yPCZQWYl9cJCO1mA>

Holloway Awards 2025-26

ESTA	£1500
Keele	£1600
Exeter	£1600
Birmingham	£2400
Derby postgrad	£500
Contingent	£1100
Total Awards	£8,700

Student Award Reports:

The Geology of South Glencoul, Assynt, Sutherland, Scotland.

Dani Gallagher, Camborne School of Mines, University of Exeter, February 2025

Abstract

This project comprised a detailed geological study of the area south of Loch Glencoul, in Assynt, North West Scotland, focusing on the Moine Thrust Zone (MTZ). A 12.5 km² 1:10,000 scale geological map was produced, with lithostratigraphic units ranging from the Archean Lewisian Gneiss Complex to the Cambrian Durness Group. The study analysed the structural geology of the area to understand its tectonic evolution, through field mapping, structural measurements and petrology.

The study identified the amphibolite facies Lewisian Gneiss Complex, which is intruded by the Scourie Dyke Swarm. The 94 m thick Diabaig Formation was mapped as a red coarse sandstone or breccia deposited in alluvial fan environments, unconformably overlying the Lewisian Gneiss. The 38 m thick Applecross Formation, a red medium to coarse-grained sandstone, representing a fluvial braided stream paleoenvironment. The Eriboll Formation, including the 114m thick Basal Quartzite Member and the 144m thick Pipe Rock Member, suggests deposition in a shallow marine tidal environment with evidence of marine transgression, which continues to the Ghrudaidh Formation.

The Glencoul and Sole Thrusts are present in the mapping area, with the Glencoul Thrust exhibiting mylonitic textures. Imbrication of the An T-Sron and Ghrudaidh formations was observed, with steeply dipping faults. The tectonic transport direction of the thrusts was determined to be NW, consistent with what is expected in the Moine Thrust Zone. These contribute to understanding of thrusting during the Caledonian Orogeny and the development of the duplex system in the MTZ.

Bedrock Geology of The Lake District – Rosthwaite Fell.

Oli Walters, Camborne School of Mines, University of Exeter, February 2025

Abstract

This dissertation investigates the bedrock geology of Rosthwaite Fell, a region within the Central Fells in the English Lake District. Through field mapping, lithostratigraphic identification and structural analysis multiple volcanic units were observed including all formations present within the Borrowdale Volcanic Group. Stratigraphic relationships indicate units were emplaced over multiple episodic eruptions with unconformities and cross-cutting intrusions suggesting caldera collapse and post-collapse magmatic activity. Structural data analysis reveals evidence of regional deformation associated with the Caledonian Orogeny. The absence of significant faulting within the Central Fells compared to surrounding regions implies a more stable tectonic setting, with stress dissipation following major deformation events associated with the Caledonian Orogeny. Stereographic projections confirm regional stresses are comparable with Caledonian compressional tectonics, supporting a compressional regime that occurred during the Ordovician. Palaeoenvironment reconstruction suggests a transition from active volcanism as part of a volcanic arc environment to caldera sedimentation following piecemeal caldera collapse. The deposition of volcanoclastic and lacustrine units such as the Seathwaite Fell Sandstone and the Cam Craggs Sandstone indicate a shift from pyroclastic deposition to sedimentary reworking within a subsiding volcanic basin. This dissertation contributes to the understanding of Ordovician subduction related volcanism and provides some insight into geotechnics, mineral exploration and hazard risk assessment. In future work, integrating rock geochemical data with geochronological data would further refine the temporal and geodynamic evolution of the region.

My Summer Vacation Project entailed conducting geological mapping on the south eastern side of the Isle of Rum in Scotland

Senath Gunasekera Camborne School of Mines, University of Exeter, February 2025

Geological report not received from this student

Salt Diapirism and Alpine Compression and Stratigraphy in Southern Aliaga, Spain

Idris Wills, Camborne School of Mines, University of Exeter, February 2026

22 days of field work were undertaken in an 11km² area south of the village of Aliaga in Spain. It was a truly incredible experience.

Abstract

The aim of my dissertation was to reconstruct paleo-depositional environments and the geological evolution of the Rhaetian to Early Miocene siliciclastic-carbonate stratigraphy – with a focus on analysing the impact of salt migration on the morphology of large-scale structural features. Covering the southern extent of Aliaga and considering the structural features holistically attempts to cover gaps in the literature; additionally, salt diapirism is largely under-studied in the Eastern Iberian Chain.

In the area, the basal gypsum-bearing Triassic evaporitic sequence (Upper Keuper Facies) is overlain by Jurassic distal carbonate mudstones with minor fossil assemblages – marking the opening and deepening of the Tethyan ocean. A large transgressive tract is observed from the late Jurassic into the Barremian with introduction of coarse, fluvial-derived siliciclastic stratigraphy into the early Aptian – which is strongly characterised by macrofossil-dominant carbonate ramp facies, which contain rudist bivalves, gastropods, echinoderms and corals. Wide scale thickness variation in beds is partially dictated by syn-rift deposition- especially in Barremian deltaic and tidal facies. Two major

unconformities are observed, one from the Upper Jurassic, and another from the Lower Aptian – the latter records missing Middle-Aptian to Lower Miocene sediments, with intraplate conglomeratic facies unconformably overlying from the Early Miocene.

The large-scale structural features preserve two major Alpine-related compressive events; the first NNE-propagating event (late Eocene) generates thrusts and folds along Variscan basement faults and is aided by salt detachment layers from the Triassic. The second SE-propagating episode (Early Miocene) superposes pre-existing structures. Salt is hypothesised to control deformation, influence bedding thickness variation, as well as acting as a detachment layer – which challenges pre-existing wholly alpine inversion-compression models.

Thank you again for providing funding which wouldn't have been feasible without your support.

The Sedimentological and Structural Controls on the Evolution of the Campos Anticline. Christian Street, Camborne School of Mines, University of Exeter, February 2026

Abstract

I am sincerely grateful to have been selected as a recipient of the Holloway Award. This generous bursary enabled me to fund a geological expedition to Aliaga, Spain, undertaken between the 3rd and 25th of June 2025. The data collected formed the basis of a 60-page dissertation report.

The aims of the study were twofold: (1) to investigate the sedimentology of the Aliaga region in order to reconstruct palaeoenvironmental evolution and relative sea-level fluctuations; and (2) to assess how polyphase deformation influenced the development of the Campos Anticline, including the extent to which structural evolution was recorded within syn sedimentary units.

The sedimentary succession of the Campos Anticline was determined to record approximately 109 million years of geological history, spanning from the Cretaceous (Hauterivian) to the Neogene (Miocene). The mapped geology was subdivided into six formations comprising carbonate limestones, dolostones and marls, alongside siliciclastic mudstones, sandstones and conglomerates. Major unconformities bound the Cretaceous succession, reflecting repeated marine transgressions and regressions that produced an alternating stratigraphy of continental/transitional siliciclastics and marine carbonates.

Structural analysis identified two principal phases of inversion. The first phase (D1) involved NE SW compression that generated the NW–SE trending Campos Anticline. This was followed by a second phase (D2) of NW–SE compression that produced superimposed NE–SW trending folds. Cenozoic deposition is represented by two thick conglomeratic units that were syn-sedimentary with positive structural inversion in the Aliaga region. Supporting evidence includes angular unconformities and onlapping relationships preserved within fold growth strata. The Campos Anticline is interpreted as a thrust-propagated fold resulting from reactivation of the formerly extensional Miravete Fault. A curved thrust geometry is proposed to explain the non-linear fold axis and the uneven distribution of overturned strata across the study area.

Aliaga is a remote location that is challenging to access via public transport, requiring multiple travel connections. The financial support provided through the Holloway Award was therefore instrumental in enabling both travel and extended fieldwork in Aliaga, Spain.

Mesozoic to Cenozoic Basin Evolution in Southwest Aliaga and the Structural Controls on the Miravete-Camarillas Fold System.

Sebastian Hague, Camborne School of Mines, University of Exeter, February 2026

Abstract

I would like to express my sincere thanks to the Warwickshire Geological Conservation Group for the bursary awarded towards our summer fieldwork in Spain in 2025.

Our fieldwork was based in the Galve sub-basin southwest of Aliaga in eastern Spain, a region preserving around 220 million years of geological history across an impressive 2km-thick stratigraphic succession. We documented sedimentary environments spanning Triassic evaporites, Jurassic shallow marine carbonates, and Lower Cretaceous syn tectonic siliciclastics, as well as a complex polyphase structural history involving two compressional episodes, major thrust systems, and evaporite-controlled detachment faulting. The scale and variety of geology on show was unlike anything I had encountered before and pushed my mapping, lithological interpretation, and structural analysis skills enormously.

The trip was also just a brilliant experience

The Geology of the Coniston Fells, English Lake District.

Harvey Green, Keele University February 2025

Abstract

Following a literature review, twenty-five days of field mapping were undertaken in the Coniston Fells, Lake District, England. Field data were supplemented by aerial imagery, thin section analysis, and geochemical techniques to interpret the bedrock geology and geological history of the area. Results indicate two principal depositional environments: explosive volcanoclastic deposition (Borrowdale Volcanic Group) and subsequent marine sedimentation at varying water depths (Windermere Supergroup). These findings align with existing literature. Post-depositional events include deformation during the Acadian orogeny, glaciation-driven landform development, and ongoing surface processes, with talus accumulation in the uplands and peat formation in lowland anoxic bog.

The mapped area revealed two distinct depositional settings. The BVG records explosive felsic to andesitic volcanism, producing a variety of pyroclastic deposits, ranging from dense PDC-emplaced tuff breccias to bedded ash fall layers. Variations in eruptive energy and tuff composition, combined with contemporaneous structural influences such as caldera collapse, resulted in a complex and heterogeneous volcanic stratigraphy. In contrast, the WSG displays a series of sea level fluctuations within a foreland basin: an initial transgression onto the BVG's unconformity, allowing for shallow tropical carbonate deposition, and later a rapid deepening into a turbiditic regime that gradually regressed. All lithologies were subsequently affected by Acadian compressional stress regimes. Glaciation imposed the final modifications, shaping modern topography—BVG forming competent, steep uplands with talus deposits, and less competent WSG forming flat lowlands, where anoxic bogs support peat accumulation.

The Geology of the Peak District: Hathersage and the surrounding area.

Summer Irek, Keele University February 2025

Abstract

This project produced a comprehensive understanding of the geology of the Hathersage Village and surrounding area, complete with a fair copy geological poster spanning an area of thirty kilometres squared. Extensive minor faulting was found, including a horst and graben feature in Upper Burbage as well as an oblique strike slip fault near Scrapperlow farm. A major unconformity was found and inferred to lie between younger and more proximal deltaic coarse sediments and older more distal sediment units. The sedimentology revealed a history of a prograding deltaic environment, which is responsible for the deposition of most of the rock units mapped. This study contributes to the understanding of deltaic evolution within the Peak district and greater Pennine Basin.

Altogether, the geology of the area records a dynamic history of marine regression, deltaic advance, tectonic disruption, and post-glacial surface modification. The Peak District offers an excellent example of basin margin sedimentation shaped by both environmental and tectonic processes.

The Geology of the Coniston Fells in the English Lake District.

Alex Irons, Keele University February 2025

Abstract

Mapping of the Coniston Fells was undertaken over the summer of 2024; data collected from field observations, aerial imagery, and geochemical analysis were used to construct the geological history of the area. The bedrock geology can be subdivided into two groups. The Borrowdale Volcanic Group comprises a succession of volcanoclastic rocks deposited sub aerially by three consecutive intervals of progressively more explosive volcanism, with associated faulting from piecemeal caldera collapse. The magmatism also caused sill intrusions and copper and quartz mineralisation towards the end of its activity. This is overlain by the sedimentary rocks of the Windermere Supergroup, which was deposited in an evolving foreland basin; after an initial transgression, high sedimentation rates caused progradation and increasing turbidite input up the succession. The stratigraphy then underwent deformation in the Acadian Orogeny, leading to a monoclinial structure controlled by the underlying Lake District Batholith, with associated cleavage development and reactivation of many faults. The area has been extensively mined and quarried; copper mineralisation and slaty-cleaved tuffs both formed economically viable resources that have been exploited both in the past and currently. The landscape of the Coniston Fells was carved at the end of the last glaciation, forming glacial valleys and corries in the area, with peat and talus deposits developing in the modern postglacial environment.

Palaeoclimates of Crete – Group research, Birmingham University, February 2026

Grace Park-Davis, Ashleigh Radford, Seb Horne and Sebastian Mitchell

We thank WGCG for your generous support that enabled us to conduct fieldwork in Crete as part of on-going research into the reconstruction of the paleoclimate of Crete. The trip allowed us to gain hands-on experience as developing geoscientists and to collect data in and above caves.

For our final-year projects, we focus on using cave data to calibrate paleoclimate reconstructions. On-going monitoring, paired with stalagmite samples collected from caves, allows us to calibrate paleoclimate. In practice, this is done by examining modern cave conditions and comparing them with

the chemical signatures forming in current stalagmites. By understanding how this works in the present climate, we can interpret older stalagmite records.

This trip helped us develop a wide range of skills. We gained experience in cave mapping, learning to translate observations even in low-light conditions accurately. Ecology surveys allowed us to hone our data-collection skills and develop a broader environmental awareness. Working in Cave environments required strong teamwork, problem-solving, and communication in slippery, confined spaces, which really helped us grow closer as a group. This experience has helped us grow in confidence and develop critical skills for our future career paths.



Some highlights for us as students include visiting the Heraklion Archaeological Museum and the Minoan palace at Phaistos alongside archaeologists, which gave us a deeper insight and appreciation into Crete's history and culture. Exploring these sights allowed us to connect our scientific work with a wider context. We also found that cave work is incredibly useful, as it allowed us to truly understand the cave morphology and how speleothems grow far better than just the data set alone. The hands-on experience was inspiring and helped us appreciate the impact of this research.

We are extremely grateful for your support, which has made this field work possible. The experience and knowledge gained directly inform our dissertations and future careers as geoscientists.

Diatreme Structures along the Antrim Coast Ben Palmer, University of Birmingham, February 2026



My research project undertakes more modern research on diatreme structures along the Antrim coast in Northern Ireland. As part of this, I completed a week of fieldwork across Antrim, predominantly using a drone to take hundreds of photos of the cliff sections which will later be compiled into a 3D model of the area, allowing more accurate study of the structures, as well as many aerial photos from directly above to create an accurate, up-to-date map view of the cliffs with their current degree of erosion, which I will be able to present my data on. Diatremes are funnel-shaped, volcanic pipes up to 3 km wide formed by explosive phreatomagmatic eruptions where magma interacts with groundwater.

PAST EVENTS

Christmas Social 2025

Our Christmas social was held at the Kenilworth Senior Citizens Club. There has been a downwards attendance of this annual event in recent years leading to the decision to use a smaller venue. This proved to be a good decision for the 25 attendees providing a warm cosy environment that was festively decorated for this informal event. There was an excess of food and drink available as most attendees brought some food for the table.



The event was planned to allow plenty of time for everyone to mingle and socialise. Mike Allen brought along several samples showing a range of sedimentary structures. Everyone had plenty of time to examine and discuss these samples, some of which were unusual. The entertainment was a quiz, compiled by Peter Hawksworth.



Annual Workshop February 2026

Attendance 15 delegates plus 3 presenters.



Mike Brooks presenting GeoExplore software.



Delegates discussing the turbidite core and practising using the AI tool.

Feedback on the workshop:

"Many thanks for inviting me to your excellent field skills workshop today. It was very rewarding to receive such useful and positive feedback from a diverse audience, and also for my presentation fitting with the theme of sedimentary logging in your video and Stuart's core logging. All good stuff!"
Mike B.

"Huge thanks from Judith and myself for yesterday - we found all the geology interesting and very VERY well explained but what what we both enjoyed most was the warm welcoming atmosphere from you all - it was great to chat and learn together." Paul N.

"I left the workshop being reinvigorated. Really good day so thanks to everyone for arranging, speaking and mixing in." Geoff R.

"A big thank you for yesterday – amazing, inspiring learning workshop." Suning S.B.

The WGCG annual workshop began many years ago to help members, who had not studied geology to degree level, to develop their geological knowledge. In recent years we have seen a fall off in members signing up for this workshop.

Only 8 of the delegates at this year's workshop were WGCG members.

The annual workshop takes a significant amount of time and effort to organise by the contributors. The low member registration for the past two workshops is disappointing and has been a topic of discussion by the Management and the Education committees.

We welcome all suggestions and proactive involvement of members for future workshops.

GA Conference Keele University 4/10/25

Report by Ray Pratt

Despite the atrocious weather the annual GA event was well attended and well received by delegates. The Friday evening geo walk around the campus went ahead attended by some very sturdy souls. Others chose to take in the William Smith permanent geological exhibition.

On Saturday guests were welcomed with refreshments and snacks before a welcome address given by Stuart Egan of Keele University, followed by the morning Keynote talk "the Geology of North Staffordshire and its geothermal potential" given by Ian Stimpson of Keele University



Stuart Egan



Ian Stimpson

Ian described the unique structural setting of North Staffordshire. North Staffordshire is situated at a geological crossroads, above the fusion of ancient terranes at the northern apex of a basement high that controls much of the structure of northern England. This talk discussed how the region's deep geological structure has evolved and helped to locally create a hotter than average temperature gradient, making the area a potential target for several different types of clean, sustainable, geothermal energy.

Richard Shaw of Ecton Mine Education Trust, formerly of BGS addressed us on the copper mining history of the Ecton area in the east of the county. This started on Ecton Hill during the Bronze Age, about 3500 years ago. There was some small-scale lead mining during the Middle Ages but it was not until copper had been rediscovered in the mid seventeenth century that mining started in earnest. Today the mines are used for educational purposes. Richard spoke passionately on the history of mining in the area and showed some amazing photographs of the folding and structures within the Carboniferous Limestone that were discovered underground within the mines.



Richard Shaw

The mineralisation, which occurred in 3 or 4 phases, is post-Variscan. While there are some contemporary accounts of the geology and mineralisation of these pipe vein deposits, no modern geological examination of the flooded workings has been possible until the EC funded UNEXMIN project deployed experimental submersibles in the flooded workings of Deep Ecton in 2019. This has enabled a better understanding of the geology of the deposit to be developed.

At the break delegates swarmed to the Posters and Displays area where food and refreshments was laid on while they mingled, caught up with old friends and perused the exhibits put on by North Staffs Group of the Geologists Association (hosts of the event), East Midland Geological Society, Hertfordshire Geological Society, Bidulph Grange of the National Trust, the GA and WGCG.



WGCG Desk manned by Kathrin & Claire

Following the break **Chris Brown** of BGS gave us an update on the Cheshire basin monitoring system. The UK Geoenergy Observatory, located in Cheshire and commissioned during 2024, facilitates open- and closed-loop ground water flow testing in the Chester Formation, which is part of the Sherwood Sandstone Group. The infrastructure consists of 21 vertical boreholes drilled to 100 m depth, equipped with distributed temperature sensors, electrical resistance tomography, thermistors, distributed acoustic sensing and data loggers. Geothermal and underground thermal energy storage are essential to decarbonisation in the UK and internationally. To reach net zero emissions targets, subsurface infrastructure and geological risk must be investigated and mitigated through innovative testing.



Chris Brown



Jamie Pringle

Next up was **Jamie Pringle** of Keele University talked about technology for identifying underground 20th century military complexes. Recent events in conflict zones have shown that the successful detection and characterisation of, buried military complexes is vitally important for geoforensic investigators globally, to reduce or solve criminal activities, address national security threats and avoid potential terrorist attacks. However, this can often prove difficult, particularly in urban areas. Generally, desktop studies assess pre-existing information that then inform appropriate survey design and technique(s) selection

Surveys produce plans of sub-surface targets, with numerical modelling and correction for ground structures provide confidence in interpretations. All investigations are of course unique and require individual investigative approaches to improve detection rates of such important buried targets.

The final session of the morning was delivered by **Jonathan Larwood** of Natural England talking on Conserving Geoheritage. Geoconservation has its origins in the post-war 1949 National Parks and Access to the Countryside Act. This established geology as a core value in nature conservation that remains today. This presentation covered these origins and the wider value placed on our 'geoheritage' from the earliest imaginings of past geological worlds and those 19th Century Geologists' Association Field Excursions into Staffordshire geoheritage, and the geological sites we value most, have become of Special Scientific Interest, National Nature



Jonathan Larwood

Reserves, Local Geological Sites, UNESCO World Heritage Sites and UNESCO Global Geoparks. Geoheritage enables us to understand our past, our present and our future. It is a defining part of nature and nature's recovery. Outlining the history of Geoconservation and emphasising the role it plays is important in today's LNRS where biodiversity is often dependent upon geodiversity

After lunch **Bernard Besly** of Keele University gave a riveting talk entitled "Coal, Clay and Iron: the resource geology of the Potteries Industrial base viewed in the context of Westphalian climate. The importance of geology in the industrial and urban development of North Staffordshire is usually reduced to a truism. Workable clays occurring with hot burning, long-flame coal gave the early potters a unique set of resources and the pottery towns developed along their outcrop.

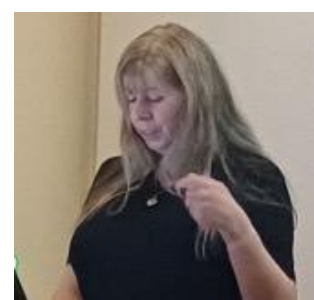


Bernard Besly

But why did this happen in North Staffordshire rather than the many other coalfield areas that have ample clay and coal? And how is this related to North Staffordshire's other resource-based industries - iron and steel and petrochemicals?

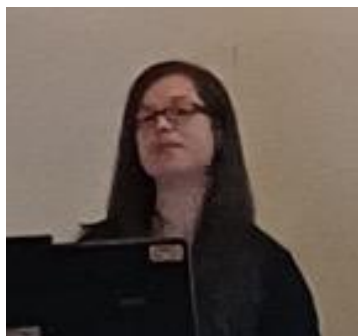
To answer these questions the wider geological history that led to the deposition of the unusual Coal Measures facies of thick palaeosols, algal rich coals and lacustrine ironstones and subsequent Mesozoic rifting need to be understood. Moreover, the ways in which Tertiary uplift and denudation of the Variscan fold structures gave rise to juxtapositions of raw materials that led to the localisation of mining, pottery making and iron making in distinct sub-areas within the coalfield.

Miranda Goodby a local historian followed giving delegates an insight to the development of the area over the last 300 years and showing pictures of the Potteries industry at its peak, unrecognisable today. For the last three hundred years the concentration of pottery making in North Staffordshire has led to the district being known as 'The Potteries'. But although there are huge local deposits of coal and of red clay suitable for the coarse wares of the 17th century, and for making bricks and tiles, by the early 18th century fashionable consumers wanted white Chinese porcelain (or an affordable imitation).



Miranda Goodby

With almost no white-firing clay in Staffordshire the potters had to find and bring white clay to Stoke-on-Trent or watch their industry disappear. Yet the district thrived and by the mid-19th century there were over 300 pottery factories operating simultaneously in Stoke-on-Trent, with their products, including bone china and transfer-printed earthenware, sold across the world.



Holly Elliot

Holly Elliot of BGS gave an interesting talk on critical minerals and how these are defined here in the UK. The UK Critical Minerals Intelligence Centre is led by the British Geological Survey and supported by the Department for Business and Trade, with the aim of aiding the UK economy by delivering data and analysis to develop sustainable supplies of critical minerals. Many of these raw materials are imperative to decarbonise our future, including the manufacture of wind turbines, solar panels, and electric vehicles. This presentation delved into what makes a mineral or raw material critical, the challenges and opportunities surrounding critical minerals, and provided a UK perspective on domestic deposits.

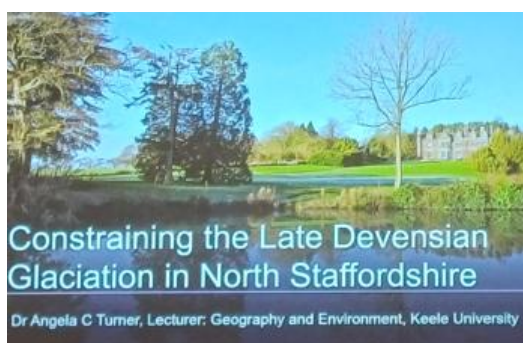
Bethany Cleaver a Chartered Mineral Surveyor of Wardell Armstrong which involves the management of mines and quarries throughout the United Kingdom, as well as providing technical advice to mineral operators and commercial developers. In line with this, Bethany routinely prepares Mineral Resource Assessments, which specifically relate to mineral safeguarding and a developments compliance with Mineral Planning Policy.

Mineral safe-guarding is an important consideration in planning applications and for future developments. There are important mineral resources which are deserving of protection, but how do we ensure that mineral safeguarding areas are fit for purpose, whilst ensuring the protection of these mineral resources.



Bethany Cleaver

The final talk of the day was a postgraduate research report on the glacial processes in North Staffordshire, delivered by **Angie Turner** of Keele University'



The glacial history in this region is complex and since the early 1900's a series of conflicting ice limits have been proposed in this eastern sector of the Irish Sea Glacier. Clarity has been hampered due to a lack of natural exposures and depositional landforms which are traditionally used to determine the limit of former ice masses. My research focusses on multiparametric methods, combining geomorphological mapping sedimentology and geochemistry of field and geotechnical samples to investigate the provenance of till deposits, ice flow direction and ice margins within the area of the south-west Pennines

This was a very successful conference and enjoyed by those attending of which 4 were from WGCG, plus the GA president elect, also a WGCG member.

YGS Conference, Hancock Museum, Newcastle upon Tyne 24/01/26

Report by Ray Pratt

Close to 80 delegates attended this afternoon conference travelling from Northern England and Southern Scotland for this 4-hour annual event. The theme of the meeting was, “**A Day at the Museum: Making the most of geological collections**”. The meeting commenced with a statement given by Brian Young, Chair of North-East Geological Society, “*The UK has some of the finest geoscience collections in the world, including several of the oldest. They are now more critical than ever in solving key societal challenges, yet many are themselves in a critical and perilous state. They range from small local museums to national museums, and specialist core, economic and systematic collections, such as those operated by the BGS*”.

The keynote address was given by Mike Howe of BGS. Mike extolled the benefits of geological collections as:

- Collections can contribute in numerous ways:
- Populate the "national 4D database" of rocks & fossils in space and time — supporting biodiversity, extinction research, ecosystem analysis and climate change tipping points
- Archive the specimens underpinning scientific publications — ensuring the "shoulders of giants" have firm foundations for others to stand on
- Enable the reuse of cores in mineral exploration, energy storage, radioactive waste disposal, water and hydrocarbon extraction thereby reducing the cost and risk of commercial projects
- Contribute to all stages of education, including ensuring the general public are fully aware of the essential role of geoscience in enabling our society
- Enthuse the next generation of geoscientists

Mike described the vast catalogue of reports and physical sample curated by BGS, much of which has been digitised and is available free online. Funding for extra storage space is a challenge. The pushback is to remove samples that no longer have any value to create space to accommodate new samples.

Subsequent presentations were given by **Sarah King** of The Yorkshire Museum, **Sylvia Humphrey** of North East Museums – Hancock Museum, **Alice Tymon** of the Berwick Museum collection and **Clare Brown** of Leeds Museum and Art Gallery. All took the chance to promote their collections, many of which date back to Victorian times and beyond, and all explained the challenges they faced in today’s cost cutting environment. Examples of the benefits of volunteers working with the collections were illustrated.

Prior to the meeting, I took the opportunity to browse the geological displays within the Hancock Museum. WGCG members who participated in September’s field trip to Northumberland will recollect the piece of *Rhizodus* jawbone found in the wavecut platform of Cocklawburn and the oblong holes nearby. These holes were created during the collection of other parts of this fish and are on display in the Hancock Museum along with a model of the fish.

Rhizodus jawbone found at Cocklawburn on the Northumberland Coast. This was a freshwater fish probably washed out into a marine environment during the same storm that created the giant ripples.



Earth Science Week Event: Ask a Geologist at the Herbert Art Gallery and Museum, Coventry, 11/10/25

Report by Kate Torrens

On Saturday 11th October, WGCG volunteers Lauren, Anthony, Gareth, Kate and Pete spent the day at the Herbert Art Gallery and Museum in Coventry, running an Ask a Geologist outreach event that welcomed a steady flow of visitors to our table under the tail of Dippy the Dinosaur. People came from near and far, many drawn by the chance to see Dippy, and we had the pleasure of meeting families, students, and enthusiasts of all ages.

During our stay, I encouraged younger visitors to explore the different textures and weights of rocks such as granite and tufa. One child was particularly amused by the gryphaea fossil, more commonly known as “Devil’s Toenail,” and suggested it should be called “Elephant’s Trunk” instead! Moments like this showed the fresh perspectives that children can bring (and hopefully we inspired some budding geologists!).

Throughout the visit, Gareth demonstrated digital magnification to reveal the fine details hidden in specimens such as tiny shells in shelly limestone and close up views of ammonites, which fascinated many. Pete stayed with us for the whole day, talking about the incredible age of the specimens and reassuring visitors that they could handle them without worry because, after all, these rocks and fossils had already survived for millions of years! Anthony helped identify the names and origins of unusual specimens, while Lauren popped in to lend her support during the day and on social media, while I went on a lunch run.

Plenty of visitors enjoyed prising a magnet off the magnetite and seeing how it affected a compass whilst listening to Gareth's tales of Viking Sea navigation. Quite a few guessed a specimen they were handling was Fool's Gold, which was another opportunity for education from our volunteers.



Another highlight came when a group of design students from Coventry University admired the natural shapes and patterns in the specimens, drawing links with the Fibonacci sequence visible in some of our shells, and other concepts from their studies. One student was especially complimentary of Gareth's dinosaur t-shirt, which kept him grinning throughout the day.



Many visitors picked up flyers with local geological information, saying they would look out for hidden wonders on their own wanders. Others signed up to hear more about future events and field trips. We were also pleased to meet members of CV Life, one of whom expressed enthusiasm about WGCG visiting local homes to bring natural history into the heart of the community.

The museum was very happy with the success of the day and invited us to return for future events. The whole team enjoyed the chance to share knowledge, spark curiosity, and connect with people from such a wide range of backgrounds under the majesty of Dippy.

A huge thank you goes to Gareth for his hard work in organising and running the event, and for giving me the opportunity to take part in such a rewarding and inspiring day.

Lauren, Anthony, Gareth, Kate and Peter

Ask a Geologist, Warwick Museum Saturday 6/12/2025

by Lauren Sewell

On a rainy Saturday 6th December, we set up tables downstairs at Warwick Market Hall Museum, for 'Ask a Geologist'.

We were fortunate enough to have a steady stream of interested people all day and it was really great to hear stories of rock collecting and affinity with geology, take a look at rocks and fossils people had brought to show us, as well as meeting an experienced geologist from overseas keen to join us.

With Christmas crafts also going on upstairs at the museum, there were lots of children staying a while in the museum who were so impressed with their first visit to us that they came back again to us on their way down. Children especially loved looking through the magnifying glass and at the handheld microscopes to get a fantastic view of the grains that make up the different rocks...or the fabrics that make up clothes and the pores on your skin.

Adults and children alike enjoyed looking at the array of rocks and fossils on display and learning all about what they were, where they came from and just how staggeringly old some of them were, learning that some of the rocks were already here and some of the fossils were already fossils when dinosaurs roamed the land.



We had a good mix in our volunteer members of geologists, palaeontologists and enthusiasts, demonstrating that anyone can help at these events if you are willing and able to talk to members of the public.



Members from left to right: Graham, Lauren, Chris, Peter, Kathrin.

Would you like to get involved with the next 'Ask a Geologist'? Please do get in touch, we always welcome volunteers!

"I took part, for the first time, in the "Ask a Geologist" event at Warwick Museum. Before the event, I was a little concerned that, as a "mature geology student", I would not be able to answer all the questions posed by members of the public. However, that worry quickly dissipated as I was surrounded by a group of very supportive WGCG members made up of professional and amateur geologists, who were happy to share their knowledge with me and the public. Warwick Museum had done a great job in publicising the event, and we were kept busy for the whole of the morning, chatting to children and families, talking about the fossils and rocks, and looking at their own personal collections. The event showed that Warwickshire has a large number of budding junior geologists, whose interest we need to harness, and I sure many of them will be back again at the next event. So, do sign up to help out at one of the upcoming "Ask a Geologist" events in Warwick or Coventry. It only takes a few hours out of day; you will be keep busy answering questions, and you may be able to influence someone's future career or passion" (Rosemary Hyde, WGCG volunteer).

Geo-conservation

Geo-conservation is a vital, primary activity for WGCG. Maintaining the condition of around 100 LoGS exposures and 6 SSSIs for the purpose of teaching and research is a fundamental part of our activities. As these are mostly located in rural areas, nature continually encroaches on and over the exposures at an alarming rapid rate. Cleaning and surface restoration sessions are a constant demand so we have an active, rolling sequence of geoconservation at as many sites as possible. Each visit reveals something new about the geology and sometimes the history of the site and always provides the opportunity for members of the conservation team to discuss what you know and challenge accepted ideas.

Kenilworth Cutting is a good example of the impact our efforts have. Over the years we have been visiting this exposure major changes in our understanding of the Kenilworth Sandstone have taken

place. Initial clearing took place in 2010 and 2011 as can be seen in the photographs below. In June 2011 the committee had the chance to involve a digger as the council were installing a tarmacked pathway along the greenway exposing much of what we see today.

Between 2018 and 2023 the exposure was neglected, before being given a good tidy up later in 2023. In early 2025 we bought a jet washer to assist with our geo-conservation work. This has proved to be a fantastic tool enabling us to reveal the fine sedimentological details in the exposure, often missed when covered in grime and algal growth. We can now ascertain that the outcrop reveals a high energy sand bar deposited in a high sinuosity river system. The sand bar has upper flow regime plane beds and cross-beds in its lower part, and evidence of lateral accretion, which fine into overbank and flood plain mudstones and sheet flood sandstones.

What was a popular activity 15 years ago often drawing 10 or more volunteers for a session now is often left to a hard core handful of volunteers. We really would like more members to get involved with this important work. It is usually very rewarding, even when the sun isn't shining. Not only do you have a good laugh with your colleagues whilst keeping yourself fit, but you also get the chance to do some local geology with experts. Moreover, volunteering to take part in a geoconservation event helps our summer field visit programme. Most of the local outcrops we visit in the summer have clearing and maintenance work undertaken in the spring before the field visit.

We recently had Colin Prosser, former head of Natural England geology geoconservation talk to the group and he visited some of the outcrops we have conserved in recent months. Colin was hugely impressed and stressed in his talk the importance of this geoconservation work by local societies such as WGCG to preserve our geoheritage.



27/03/2009



14/05/2010



02/10/2010



2/6/2011



25/07/2011



07/04/2018



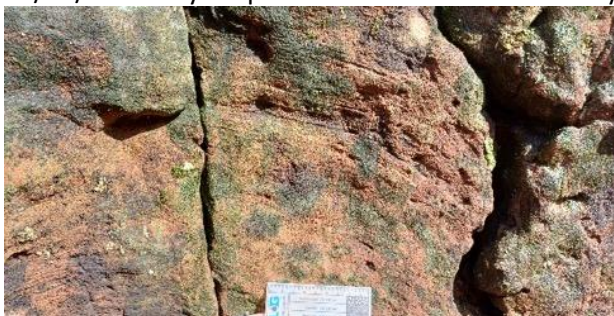
21/07/2023



15/10/2023



21/03/26. A clay drape overlies the main sand body and underlies a small channel incision



21/03/26 Soft sediment deformation – folded bedding becomes visible after jet washing.



Clasts, pebbles, ripple marks, calcretes, and possible burrows all visible in cleaned surfaces.

The geoconservation team has had a successful start to the year, clearing three of our sites – Kenilworth cutting LGS97, Woodloes Quarry and Henley-in-Arden Blackford Hill LGS103, before the ‘window’ for undertaking clearance work has to stop in April because of the bird nesting season.

In terms of volunteering you can come along for as long as you are able to. Activities are generally (Henley-in-Arden accepting!) no more than gardening and there is always a range of tasks that need undertaking from light cutting back to wheel barrowing soil, jet washing and taking photos. If this is something that you think might interest you please do come along for an hour or more. We are mix of geologists and non-geologists but the advantage is that you can get also an explanation of the geology from a professional. We will be revisiting Gibbets Hill Quarry and Kenilworth cutting later this year so keep an eye on your emails and the web page for events.

Jane Alum

8/2/26 & 21/3/26 Kenilworth Cutting. Report by Ray Pratt

In February only Jane & Peter gathered at the outcrop with good intentions but the weather was awful. After one hour clearing away saplings they agreed to postpone this clearance until another day.

In contrast the weather on the 21/3/26 was perfect for Jane, Peter, Stuart and Ray to give this important exposure a spring clean. Brambles and weeds were removed, moss and lichens rubbed down and finally jet washed, transforming the exposure. Watch the two-minute video.

<https://www.youtube.com/watch?v=7U-jqLChnQs>



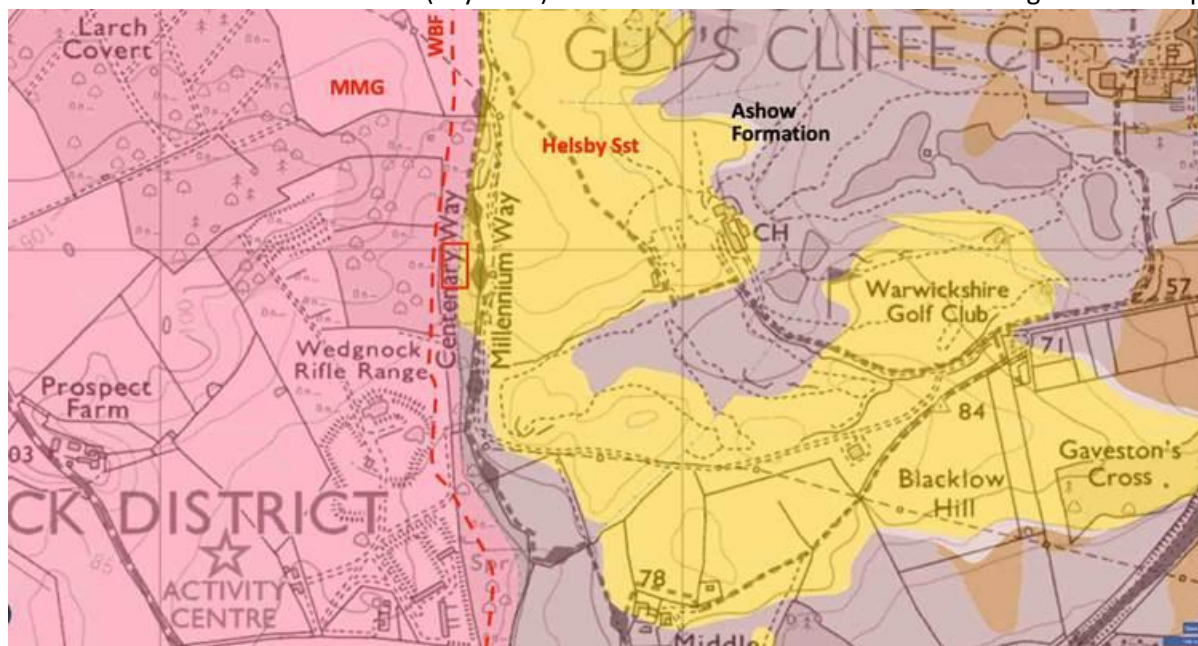
22/2/26 North Woodloes Quarry, Leek Wooton.

Report by Ray Pratt & Jane Allum

Stuart, Jane, Tom, Peter and Ray gathered on this fine sunny day, probably the first sight of sun since Christmas. Taking advantage of a break in the rain and one sunny Sunday afternoon in February we parked in the Warwickshire Golf course green keeper's compound, with wheel-barrowed kit and walked up to the old quarry located approximately 1km from the compound. Stuart Burley followed in his Land Rover to transport the heavy water barrels for jet washing the exposure. Prior to the visit we took advice on ecology at the site from Anna Dudley of the Joint Vice County Records for Warwickshire (VC38) and avoided habitat areas as advised. Access was as agreed with the owners of Warwickshire Golf course.



North Woodloes Quarry is located immediately west of the Millennium Way footpath and very close to the Boundary fault of the Coventry Horst. This fault downthrows Mercia Mudstone Group mudstones to the west (pink on the geological map below) into the Knowle Basin and exposes the Helsby Sandstone (formerly called the Warwick Sandstone) directly overlying the Late Carboniferous – Lower Permian strata to the east (in yellow). The site is shown below as a red rectangle on the map.



The Helsby Sandstone at North Woodloes Quarry is the lateral equivalent of the spectacular exposures at Guys Cliffe. Should you wish to understand more about the Helsby Sandstone Formation there are some excellent images and explanations in this [link](#) from our earlier fieldtrip to Guys Cliffe located just down the road from Woodloes Quarry. We are revisiting Guys Cliffe site for a fieldtrip in the summer.

https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.wgcg.co.uk/wp-content/uploads/2023/07/Guys-Cliffe-Warwick-WGCG-field-trip.pdf&ved=2ahUKEwjb79W74YTAXWBTUEAHcAulpoQFnoECBsQAQ&usq=AOvVaw3FB9FFO8xYtbU_TCGseE0F

The quarry facies were extensively covered by green algae. The purpose of this conservation was to improve access by vegetation removal and clean the algal covering by jet washing to reveal geological features.



Cleaning the quarry faces with the mobile jet wash and wire brushing

North Woodloes Quarry exposes sand-dominated river deposits typical of the Helsby Sandstone Formation. The main face is dominated by cross-bedded sandstones in which cross-bed sets are up to 1m in thickness giving a minimum water depth for the Triassic river. Near the top of the exposure a pronounced erosion surface is present marking the base of an erosive channelised sandstone.



The main N-S face of North Woodloes Quarry, looking eastwards, showing the erosion surface towards the top of the face.



Detail of cross-bedding revealed after the jet wash clean. On the right, the spectacular root structures (called rhizoliths) composed of carbonate concretions aligned vertically around fossil roots.

The sand unit beneath this erosion surface displays abundant vertical carbonate concretions with a rather knobby texture. These extend for up to 3m into the top of the sandstone. They are diagenetic concretions which have grown around fossil roots, indicating that the sand bar beneath the erosion surface was a stabilised sand dune that became vegetated with shrubs and small trees – most probably horsetail type trees that were common in the Middle Triassic. As the fossil roots are vertical and long this suggests that the water table was low on the sand bar.



Exposing drill holes in the rock face used to extract the rock.

Peter and Tom observed what we believe is Scarlet Elf Cap fungi

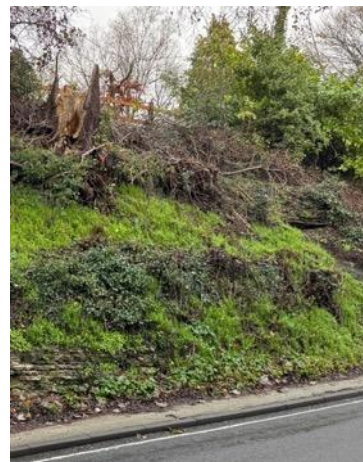
Peter spent some time cleaning a part of the quarry where tool marks and drill holes made by the former workmen are present. The older quarry faces were hand cut with chisels and hammers, but the newest faces were cut with vertical drill holes. The quarry floor will soon be covered by a carpet of blue bells so we will not be returning to the quarry until the summer. But this was a lovely, invigorating way to spend a Sunday afternoon in spring sunshine !

Many thanks to Stuart Burley, Ray Pratt, Peter Hawkswood and Tom Collins for their hard work, Anna Dudley for her support in visiting the site before the visit to advise us on ecology and Warwickshire Golf Course for the use of their compound. Christine Hodgson is organising a **summer social event** for 19th August to North Woodloes Quarry so that participants, weather permitting, will be able to come and examine this excellent exposure. Watch the video <https://youtu.be/M6TUv73JLps>

25/2/26 Blackford Hill, Henley-in-Arden.

Report and photos by Ray Pratt

It is 4½ years since WGCG initially cleared this exposure of the Arden Sandstone Formation. Since then WDC highways had cut back saplings above the outcrop but a large amount of talus had fallen down in front of the outcrop and was covering much of the path, not only covering the rock face but making walking next to the busy A-road on Blackford Hill dangerous. So Jane, Peter, Stuart and Ray along with 4 students from the University of Birmingham, Harry Bridger, Harry T Jones, Ryan Tokeley and Pierre Stöhur, returned to clean the rock face and remove the talus. By the time we had finished we had doubled the width of the available footpath for pedestrians. WDC highways kindly provided road traffic management during the geoconservation.



Watch the short video: <https://youtu.be/UrXAQhb74xc>



Volunteers clearing the vegetation and soil from the exposure and footpath prior to jet washing.



3D digital model viewed from below of the suspected footprint found in the Arden Sandstone Formation, generated using digital photogrammetry by one of the students helping with the clearance work.

This is an excellent exposure of the Charnian Arden Sandstone Formation. Cleaning of the exposure revealed ripple marks, cross-bedding, channels, faulting and trace fossils. During cleaning of the sandstone face a depression on the base of one of the sandstone units appeared to be footprint cast found on the underside of a bedding plane. This generated much excitement as the 4-pronged cast was thought to be a tetrapod footprint. The Arden Sandstone Formation is famous for a large '*Chirotherium*' (a fossil large amphibian) footprint found in a loose slab at nearby Preston Bagot but none have been found in situ before.

Stuart Burley, Jon Radley, Ivan Sansom (vertebrate palaeontologist from Birmingham University) and Ryan Tokeley, (the student who found the footprint), returned a couple of days later to examine the remarkable candidate footprint. Ryan had already run a 3D camera photogrammetry software on the possible footprint which had raised interest. Jon and Ivan are convinced it is a footprint and it does have a '*Chirotherium*' type appearance to it. If so, this is the first record of a '*Chirotherium*' found *in situ* in the Arden Sandstone, although Brodie did find an almost identical footprint in a loose slab from the Arden Sandstone Formation at Preston Bagot. '*Chirotherium*' reached up to 2m in length and wandered around the margins of Lake Arden in the late Triassic.



A reconstruction of *Chirotherium* <https://blogs.ucl.ac.uk/museums/>

Quite a find. It makes the Henley-in-Arden LGS even more significant. The specimen is now deposited with Jon Radley in Warwick Museum. We will have a specialist vertebrate palaeontologist examine the footprint to confirm our interpretation and write-up a short paper on the find.



Our thanks to the Warwickshire Highways authority for installing the temporary traffic light system in order that we could work on this exposure in safety, Anna Dudley of the Joint Vice County Recorders for Warwickshire (VC38) who advised on ecology and of course to our most excellent student volunteers. Once again, our investment in the jet washing equipment proved invaluable.

Field Outings

WGCG Northumberland Field Trip 12-15 September 2025

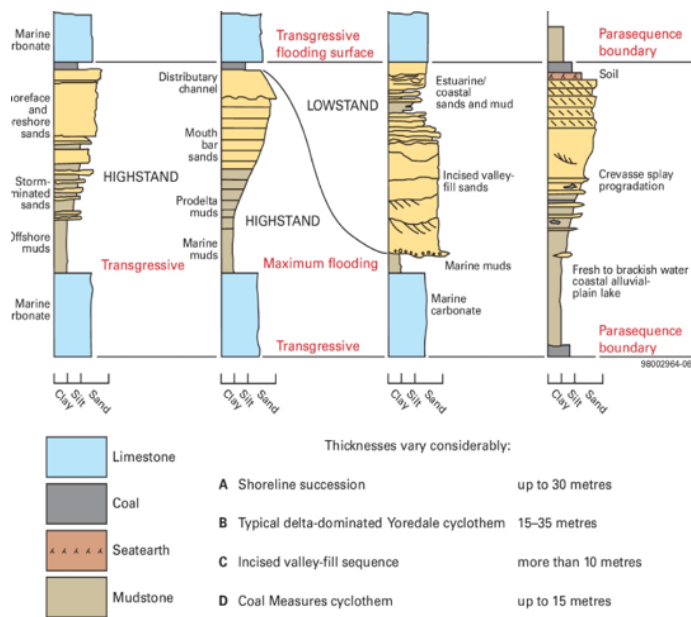
Leader Karl Eriksen.

Reports by, Tom Collins, Rosemary Hyde and Ray Pratt Attendance 14

Geological Background

In late Devonian and early Carboniferous times, the structure of northern England consisted of a number of basins and blocks. The largest of these basins, the Northumberland Basin, was separated from the smaller Tweed Basin to the north by the Cheviot axis. This remained a positive area until late Asbian times, when regional subsidence occurred and the two basins merged into one. The Northumberland Basin owed its origin to Carboniferous extensional re-activation of a northerly dipping crustal shear zone. A similar origin is favoured for the Tweed Basin, which is interpreted to have formed in response to reactivation of a thrust slice in the Southern Uplands.

Up to 2200m of Lower Carboniferous sediments were deposited in the Northumberland Basin and 1300m in the Tweed Basin. Lower Carboniferous Dinantian stratigraphy in both basins is the same and consists of the Cementstone Group, the Fell Sandstone Group, the Scremerston Coal Group and the Lower and Middle Limestone Groups.



Typical Yoredale Cyclothems British Geological Survey File:[P912353](#)

The sequence seen on this excursion records a series of marine transgressions and regressions across a lower delta plain environment, resulting in vertically stacked Yoredale cyclothems comprising shallow marine bioclastic limestones, overlain by mudstone, siltstone and sandstone capped by a seatearth and coal. The marine influence progressively increasing up-section.

This cyclothem sequence is characterized repeated rhythmic fluctuations in sea level, moving from deep-water marine to shallow-water marine and terrestrial environments. The cyclothems begin with marine limestones, these limestones provide named marker horizons within the sequence, which progress through mud environments to sand environments and into terrestrial sands and sometimes thin coals before the sequence is repeated.

Day 1 – Visit to Seahouses by Tom Collins

An eager group of sixteen assembled at Seahouses Golf Club, south of the town, for the first locality of the trip. Under the enthusiastic guidance of Karl and Brenda the group initially inspected the flooded remnants of a former limestone quarry within the Eelwell Limestone.

The thorough trip notes provided by Karl indicated that quarrying of the limestone for the lime industry dates from the 18th century, with the nearby harbour developing to support the quarrying and herring fishing industries. Lime kilns were recorded adjacent the harbour from 1768, with the terms of the lease agreement indicating the right to quarry local limestone and mine the local coal seams. Old maps of the area shown abundant now abandoned quarries and shafts in the area to the south of Seahouses.

The first coastal exposure examined comprised Limestone representing the marine transgression/maximum flooding phase at the base of the cycle. The leaders explained and highlighted the particularly rich and distinctive marine fauna, reflecting its deposition in a clear, sunlit, tropical shelf sea environment. The Eelwell limestone member is the most fossiliferous limestone in north Northumberland with over 50 species identified. Fossils are primarily of small shells of *Productus longispinus* and *Spirifer trigonalis* along with larger ribbed shells of productid brachiopods, solitary and colonial rugose corals, crinoid ossicles and stem fragments, trilobites and *Zoophycos* trace fossils. A enjoyable ‘bioblitz’ style search was undertaken by the group.



Seahouses Golf Club Quarry



Bioclastic assemblage



Zoophycos Trace Fossil

As the group moved northeast towards Snook Point, we moved through a sequence of progressively younger rocks overlying the Eelwell Limestone. Initially transitioning to shaly mudstones with trace fossil burrows observed within the exposed surfaces. Possible dewatering structures and iron nodules were also observed and discussed. The mudstones represent a transition to a finer clastic marine environment.



Trace Fossil Burrows



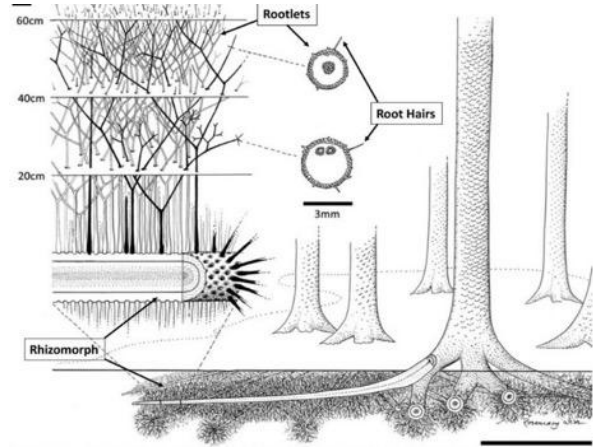
Chaotic Structures within the Mudstones

The next observed strata within the sequence comprised a coarser layer, signalling a marine regression (falling sea level) and the progradation of a river delta system over the former shelf area. The sandstone examined closely resembled Ganister comprising a hard, fine-grained, quartzose sandstone where the acidic water and plant roots from the overlying coals leached out easily weathered minerals (like feldspar), concentrating the resistant quartz. Silica, often derived from the dissolution within the soil profile, is then redeposited as a secondary cement between the quartz grains. This process creates a well cemented dense, highly resistant rock. Historically, the chemically inert, quartz-rich nature made these valuable as a refractory material (for lining furnaces). It was debated how true ganisters are derived from the seatearths and not the transgression sands.

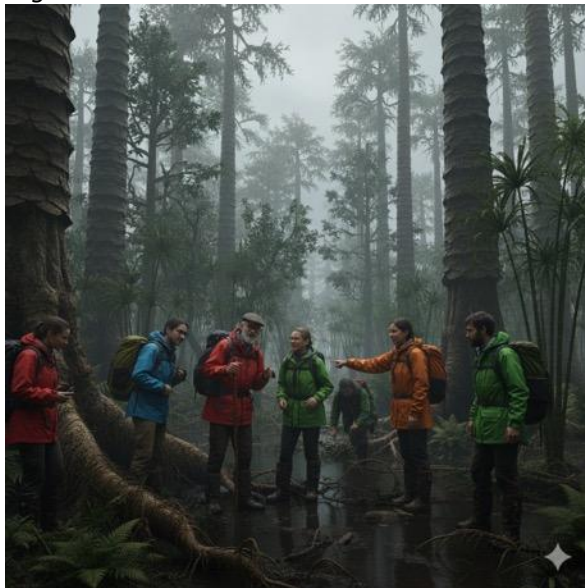
At the top of the sequence seatearth and Coal traces were observed representing a (non-marine/lowstand). The top of the cycle, formed in a coastal swamp environment as the sea level reached its lowest point (lowstand). The seatearth derived from the underlying soil horizon, and the coal represent preserved swamp vegetation. *Stigmaria* fossils and fine coal traces, known locally as 'Coal scares' were observed in the seatearths and sandstones. The stigmaria were preserved as casts and moulds within the seatearth. Several examples were highlighted by the leaders which were of varying lengths and states of preservation. The casts form following the death of the tree, the main rooting structure rotting and sediment filled the resulting void, preserving the form of the root. Thin, pencil-like streaks were observed within the rock in one location adjacent to a larger stigmaria cast and it was debated amongst the group as to whether these may represent the traces of rootlets. The stigmaria represent a massive rhizomorph base which spread out horizontally, typically at shallow depths, from the base of the trunk of large clubmoss lycopods of up to 50m height. This base branched and was covered in spirally distributed circular scars. These scars marked where thousands of thin, highly branched rootlets attached. Because the Yoredale cyclothem represent rapid, repeated fluctuations between marine and terrestrial conditions, the swamp environments that formed the coal rarely had enough time to persist and accumulate very thick layers of plant matter. The coals in the Yoredale cycles are therefore commonly encountered as very thin bands or minor seams. Where historically worked in the Northumberland Basin the commercially exploited seams typically ranged from only 9 to 64 inches, with many being less than a metre. Upon retracing our steps back through the sequence, the remains of two suspected former mine shafts were inspected by the group with discussion about how the workings were protected from flooding from the tide.



Stigmaria Cast



Stigmaria Morphology *



Examining the Coal Forming Environment



An exploratory Coal Mine Shaft

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- Trip Handout
- BGS
- Mining Remediation Authority GIS Viwer
- JNCC

Day 2 – Visit to Holy Island (Lindisfarne) by Rosemary Hyde

Lindisfarne is the largest of the islands off the Northumberland coast and connected to the mainland by a causeway covered twice a day by high tides. The tide times meant a more relaxed start to the day, as the official safe crossing time was set at 10.45am. However, we did manage to cross a little earlier – following behind the local ice cream van, who clearly knew the safe times to cross!!

The majority of Lindisfarne is covered by superficial deposits, but there are rocky outcrops on the south, north and eastern shores, and the impressive Lindisfarne Castle is built on the Whin Sill dyke, formed during the Early Permian. The Winn Sill cuts through earlier outcrops of Carboniferous limestone. We started the day by heading through the village and out along the south beach to the area below the castle.



View of Lindisfarne Castle, constructed on the Whin Sill outcrop

Along the shoreline of the South beach, running from Riding Stone to Cockle Stone, (NU133416-134416) we walked over outcrops of heavily jointed and baked sandstone, with several intrusions of the Winn Sill dyke visible, which follows an E-W trending fault. Further north along the shoreline, the jointed Sandbanks limestone was exposed, and below a small bench of rock, the discoloured chilled margin of the dyke could be seen. Near the top of the dolerite, gas vesicles were visible, where gases had become trapped in the cooling rock. In places darker inclusions were visible within the dolerite, indicating at least two stages of magmatic flow. It was Adam Sedgwick who first identified the magmatic rock of the area as a sill, and not a surface flow.



Whin Sill rock, with dark Sandbanks limestone "bench" to shoreside

On the North end of the shore, below the castle, we saw the remains of six limekilns, (NU138417) where limestone (brought from Nessend quarry, to the NE of the island) was processed into lime, before being shipped to Scotland. In this Northern segment of the shoreline, the dark limestone was rich in bivalve fossils, as well as gastropods and crinoids.



Below the castle, the baked margin of the shale and sandstone sediments was visible, adjacent to the dolerite.

After a short stop for lunch, we met by the entrance to the priory, then examined the building stones of St Mary the Virgin church, including some distinctive cross bedded Carboniferous sandstones. We then headed over to St Cuthbert's Island, off the SW of the island, accessible only at low tide. (NU123416). The island is composed entirely of quartz-dolerite outcrop, again part of the Winn Sill. The rocks were heavily jointed, giving a blocky pavement appearance, and on the surfaces we saw examples of "ropy flow", flowing in various directions, and considered to have been formed in large gas vesicles when the magma was still moving. Elsewhere on the rocks were numerous flattened and elongated amygdalae, 10-40mm in length, flattened parallel to the chilled surface and elongated with the direction of flow to the NNE. Observation of the rock on St Cuthbert's Island indicated that there were three separate layers of dolerite, with three layers of vesicles, suggesting the possibility of three separate intrusive events. Vertical sections of the rock showed spherical amygdalae throughout the rock.



"Ropy flow" on the surface of the St Cuthbert's Island rock

By the time we had completed our examination of the rocks on St Cuthbert's Island, the rain had truly set in for the day, with some members of the party being less prepared than others for the wet, cold conditions of the North East coast! Perhaps there was a little waning in the enthusiasm to examine rocks (and take notes) as self-preservation became an important focus!

Clad in all our waterproof layers we moved back onto Lindisfarne to examine the cliffs just north of the old Lifeboat house, near Tripping Chare. (NU123419) at the SW end of the island. Here glacial till rests on finely laminated sandy shale. At the base of the till, above the undisturbed shale beds were rocky sandstone fragments, which are "ground moraine", transported and deposited by ice in the last Ice Age. In places along the cliff, the top shale layers were disturbed where a small thrust had occurred, but most of the lower shale layers were completely undisturbed.



Ground moraine resting on finely laminated shales

Our next stop was at Heugh Hill, East of St Cuthbert's, and South of the Priory. (NU125416-NU127416). This is the longest section of the Whin Sill, and there are good exposures on the southern margin showing contact between the dyke and the Carboniferous country rock.



Saccharoidal (metamorphosed) limestone in contact with dolerite on dyke wall

The country rock was noticeably darker close to the dyke intrusion, indicating metamorphic processes (high temperatures) causing the baking and change of texture in the limestone.

Nearer the foreshore, to the east of Heugh Hill (NU127416), the Acre limestone is exposed and is quite fossiliferous. We spotted productid brachiopods, gastropods, crinoids, and orthoconic nautiloids.



Fossils in the Acre limestone near Heugh Hill (including orthoconic nautiloid??)

We finished the day at Steel End, at the Eastern end of Haugh Hill quartz-dolerite section (NU129416), where the rock dips gently eastwards, and is exposed at low tide. Here we observed, amidst the seaweed, numerous elongate amygdalae and “ropy flow” structures, similar to those seen in the morning on the dyke section below the castle.

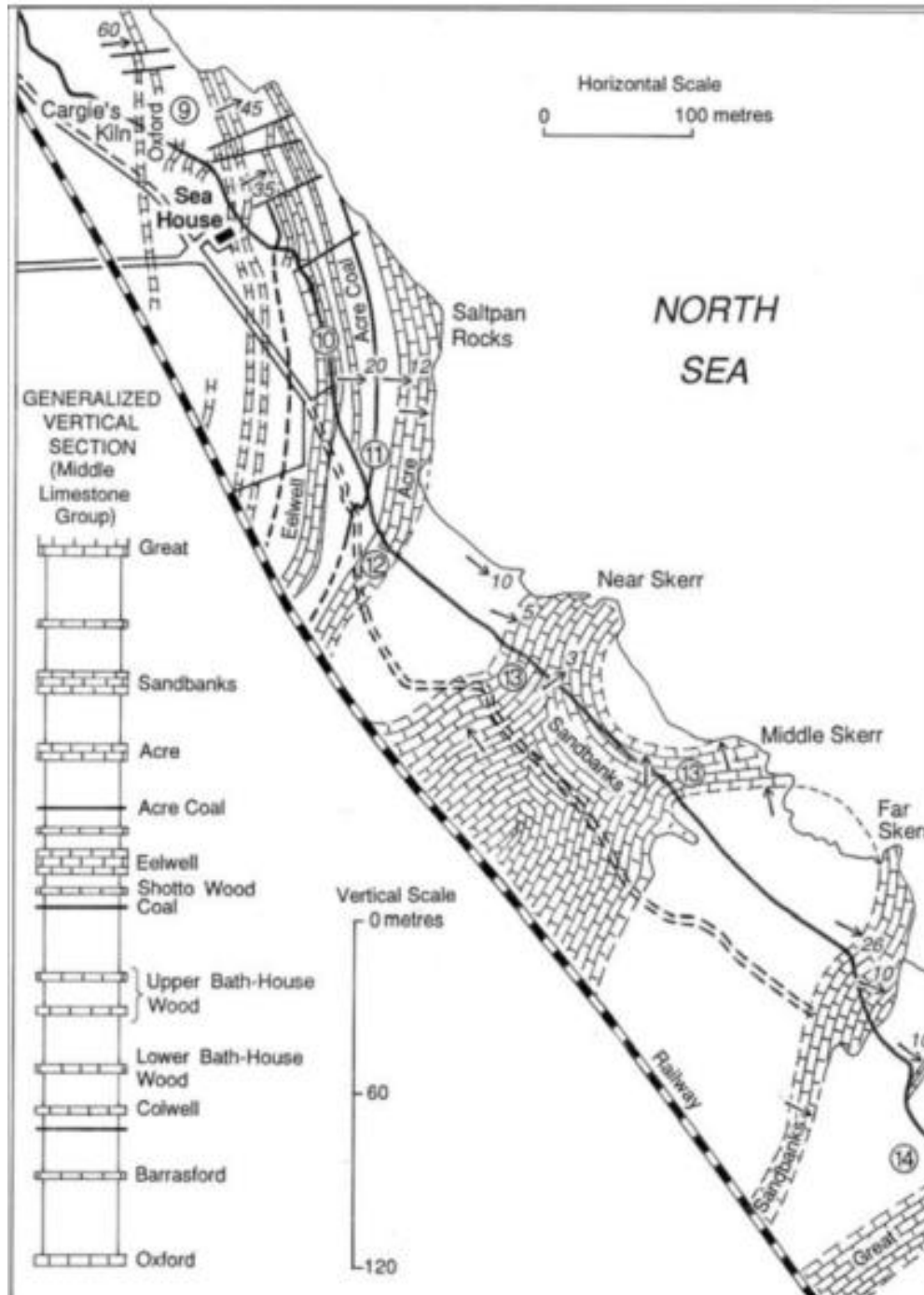
As we walked back to the cars after a very informative and enjoyable day, the rain stopped, enabling us to dry off a little before our drives back over the causeway to our accommodation for the night. We all made it back in plenty of time before the high tides cut off Lindisfarne again from the mainland.

Thank you, Karl for your extremely knowledgeable guidance.

Day 3 Cocklawburn Beach (NU 036 478) by Ray Pratt

On days 1 and 2 exposures to the south were generally low angle dipping beds of the same units, with dolerite Whinn sill intrusions either bed parallel or cutting through the beds as dykes. The whinn sill does not extend further north than Holy Island. On day 3 the northerly exposure could be seen to have been subject to greater tectonic stresses resulting in a compression zone known as the Berwick Monocline.

Saltpan Rocks marks the most northerly exposure of the Eelwell Limestone in Northumberland (10). It develops small folds and minor associated thrusts throughout its foreshore outcrop.



The Eelwell Limestone, 8m thick, contains a prominent fauna of large *Gigantoproductus* and corals, develops small folds and minor associated thrusts throughout its foreshore outcrop. The limestone is locally dolomitized, brown weathering and vuggy.



Bedding plane contains numerous rounded sand volcanoes, commonly colonised to form bioherms

Eelwell limestone



Eelwell limestone. Two "whale back" antiforms with a very tight synform in-between. Note the southern part of the Berwick monocline in the distance

Just south of Seahouse, it is involved in a sharp overfold facing west, which further south is thrust through its short limb. On the top surface of the gentle, whaleback folds to the east and south, polished sections through the rich fauna of spiriferid brachiopods at the very top of this limestone can be seen.



Overfold. The red arrow points to an "upside down" limb

Out on the foreshore here, the 30cm Acre coal (11) occurs beneath sandstones showing medium to large scale lenticular cross-bedded sets. Where the coal crops out in the cliff at the back of the foreshore, it is involved in a small thrust with a 1m vertical displacement. Just above are excellent examples of climbing ripples and a rootlet bed.



A small thrust has created a vertical displacement of the coal and overlying sand shale interbeds.



Note the yellow sulphur associated with the coal. Note the variable thickness light grey seat earth beneath the coal



Stigmara root with feeder roots

The 4.5m Acre Limestone, also developing minor folds on the foreshore, has a very thin, impersistent sulphurous coal beneath it. The limestone, crinoidal, with scattered fossils and small algal nodules, is brown weathering, dolomitized and vuggy in places.



Rootlet impressions on the bedding plane and in cross section in deltaic deposits



Acre Limestones with organic rich argillaceous laminations

Following lunch we walked southwards along the beach until we came to the exposures known as the Skerris. This outcrop is formed of 8.5m known as the Sandbanks Limestone, a series of thin limestones with shale partings. These beds showed gentle anticlinal and synclinal folding, in contrast to the severe folding seen at the northern side of the beach.

?

Polished surfaces at Middle Skerr show excellent sections of Zoophycos. There are also layers rich in brachiopods, prominent solitary corals and, orthocone nautiloids



A fragment of Rhizodus, the largest freshwater fish known at over 5m length. Nearby, sections have been removed from the limestone that contained further fragments of the fossil. These are on display at the Great North Museum - Hancock in Newcastle.



Giant fossilised ripple marks

How fragments of a freshwater fish end up in a marine limestone has been a topic of debate, as has the unusual ripples to be seen in the same bed close to low water. It has been proposed that a storm

event was the cause of both, bringing the dead freshwater fish into a marine environment and creating these large ripple beds.

Extensive bioturbation was evident in the argillaceous silty deltaic deposits



Worm faecal tracts



Trace fossils have created very decorative display patterns in these deposits



Bioturbation and soft sediment deformation have created fabulous patterns. A small sand injectite was also seen in a nearby bedding plane



Perhaps the most impressive fossil seen was this whole crinoid with its stem and calyx intact

Day 4 Brough Law, Breamish Valley, Cheviot Hills

By Ray Pratt



Ray, Andrew, Christine, Katherine, Julie, Helen, Tom, Peter, Peter, Frances, Brian, Karl, Mike

We gathered for the final day just past Ingram, expecting foul weather. Thankfully, the rains stayed away and blue skies dominated until we had finished the trip and were relaxing in the cafe at Ingram enjoying delicious home baked cakes and scones. Unfortunately, the streams were swollen from earlier rains in the month making some of the exposures that we had hoped to visit, inaccessible.

The geology of the area is dominated by Devonian volcanics. Early sub-aerial volcanism was explosive forming basal agglomerates with clasts up to 1.5m in size. The agglomerate is a silicified breccia containing primarily fine-grained purple mica-felsite (rhyolite) with some fragments of Silurian rock. Later volcanism was predominantly effusive with occasional ash showers. The earliest lava flows were rhyolites (mainly mica-felsites) and are generally brick-red to red purple in colour and rich in biotite. These were succeeded by pyroxene-andesites which make up the bulk of the Cheviot volcanics. They include glassy andesites, oligoclase trachytes and augite hypersthene andesites and range in colour including red, brown, purple, grey and almost black. Mainly medium to coarse grained, they are compact and well jointed. Phenocrysts are usually plagioclase feldspar but may include mica, augite and hypersthene. Some of the andesites are vesicular and amygdaloidal. Thin beds of ash are common. Volcanism was followed by intrusion of the Cheviot Granite which now constitutes most of the central area with a few preserved fragments of lava. The granite has a varied composition possibly indicating more than one injection of magma. Varieties include marginal (dark grey, fine to medium grained), granophyric (pink, medium to coarse grained) and Standrop (light grey, medium to coarse grained). The final stage of Devonian igneous activity was the intrusion of dykes. They have a general trend of either NNW or NNE

Unfortunately, exposures of bare rock are limited, many being covered either with bracken and gorse or scree. Fortunately, a lot of these lithologies can be found as boulders in the shallow river by the car park. As the Cheviots had their own ice cap during the glaciations, only Cheviot rocks are found in the streams. Ice sheets carrying rocks from other sources were deflected away from the Cheviots.



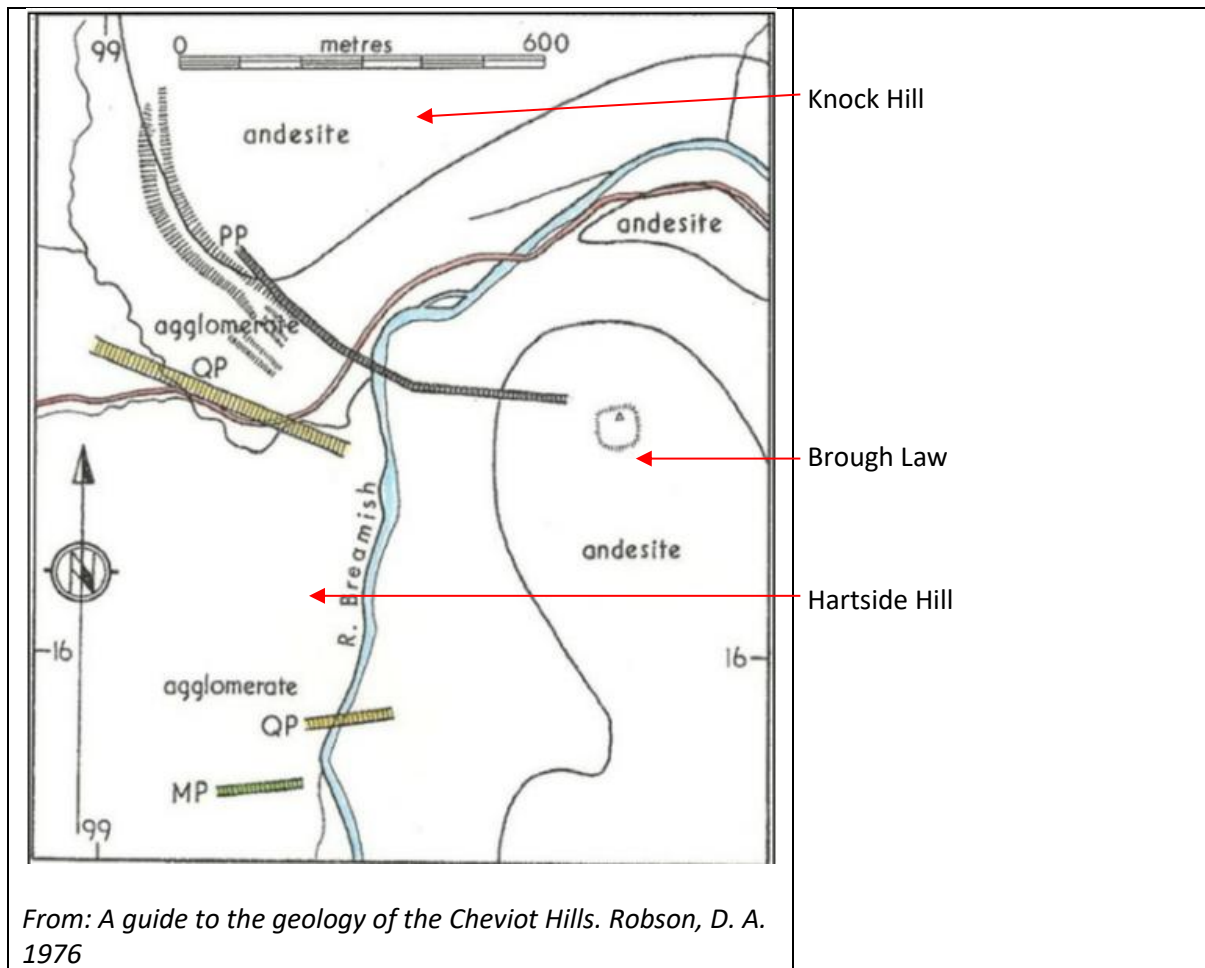
Agglomerate



Andesite lava. Red iron staining on joint. Thin veins of red jasper occasionally seen



Gas vesicles within the lava filled with amygdales



The hill known as Brough Law is composed of agglomerate/tuff at the base, capped by andesite. However, this interpretation is too simplistic as exposures of andesite, with flow banding in places, seem to be abundant and higher up reportedly, lapilli-tuff seems to dominate with fewer outcrops of andesite.



Within the tuff, patches of siliceous material can be found, often lining cavities. Sometimes this material appears banded and elsewhere in the Cheviots agates can be found in the tuffs



On the north-west side of the hill a scree-filled gully descends to a bench near the base. This is marked as a dyke (pyroxene porphyry) on the BGS maps. The dyke is mapped as trending W then NW across the Breamish heading along the western edge of Knock Hill.



Pyroxene Porphyry



Facing Brough Law to the west of the Breamish are the stepped (glacial?) slopes of Hartside Hill. The river has cut into the base of the slope exposing several metres of pinkish **coloured rock, an agglomerate**, (not like that on Brough Law). Closer examination reveals several fining upwards sequences of agglomerate with clasts up to 5 cms across. Each bed represents a separate eruption.



Quartz Porphyry



Recessed QP dyke in agglomerate host

A 2m wide slot just above the river marks the position of an E-W trending dyke (quartz porphyry). It is a dark grey rock unlike most of the other late Cheviot dykes which tend to be red.



Along the roadside to the south-west of Knock Hill another quartz porphyry dyke outcrops. This trends south-eastwards towards Brough Law. Unlike the quartz porphyry dyke on Hartside Hill, this one is red but now overgrown by gorse.



Final stop of our Northumberland field trip for coffee and home baked cakes and scones

You might be interested in this series of short audio podcasts by Ian Jackson, author of several 'northern' geology books

<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://podcasts.apple.com/gb/podcast/reading-rocks/id1868687744&ved=2ahUKewill6famY6TAXWSZ0EAHUvXJ3YQFnoECA0QAQ&usg=AOvVaw2tPcCkJEaAYNw3F1v-vCuZ>

Evening Lectures

Reflections from a newcomer: the 2025/26 WGCG lecture series - Kate Torrens

From local geology to wider environmental insights, the Warwickshire Geological Conservation Group's latest lecture series has covered a wide range of topics. Now that the series has come to a close, I wanted to reflect on what was shared and what stood out from the perspective of a newcomer. Through the charity, I have been involved in reconnaissance of several Local Geological Sites (LGS) over the past year, including Napton, Kenilworth, Southam and Bishops Itchington. It is great to be included in conserving Warwickshire's unique geological heritage. I have also helped with outreach at Ask A Geologist at the Herbert Art Gallery and Museum (under Dippy the Dinosaur!), and will be back there celebrating [GeoWeek 2026 on May 30th](#) - do come along and check out our specimens! Look out for me – the one with the pink hair, pictured here with Peterborough Cathedral's Titanosaurus which we visited on the recommendation of our April speaker Dr Colin Prosser.



My thoughts are gathered from behind my laptop at the back of the hall, where I have been supporting the delivery of the lectures. This has included reading out questions from our online audience to the speakers. It's been great to see WGCG offering lectures in a hybrid format, helping to reach a wider audience. From the sessions, it's clear that people are joining not just locally, but from across the UK and sometimes internationally.

Palaeontologist [Dr Ross Anderson](#) kicked off the 2025/26 series by showing us his innovative techniques for examining micro-fossils and their host rocks. Ross told us about his research at the University of Oxford exploring argillaceous rocks and their well-preserved fossils that can reveal how multicellular life first evolved on the planet over 500 million years ago. We lived vicariously through Ross as he showed us photos of an expedition to Canada, where over 100 specimens were collected and returned to the Museum of Natural History for microscopic fossils to be extracted. WGCG Trustee Gareth Jenkins said 'Ross gave a great introduction to Neoproterozoic evolution'. Indeed, Ross captivated as he presented big findings from such small specimens.

Following the October AGM, PhD student [Xiang Yan](#) introduced Helsby Sandstone Formation (formerly known as Warwick Sandstone) and the landscape it came from. The talk took us back around 240 million years to a time of vast rivers and desert dunes, and shared new research that maps these systems across the UK. He included local fieldwork from Warwickshire, helping show what these ancient rivers may have looked like. The field study in Warwickshire showed excellent exposures that do not get the same geological attention as their equivalents across the country. I look forward to the upcoming [WGCG field trip to see the Helsby Sandstone Formation at Guy's Cliff on 27th May 2026](#) - sign up, and if you see me, please say hello!

November brought a presentation from [Dr Chris Rochelle](#). The talk covered the future of deep geothermal fluids and their role in low-carbon energy. Chris explained how new technologies are enabling access to deeper and hotter resources, alongside examples of geothermal and lithium projects in south west England and 'superhot' systems in Iceland and Mexico. He also explored how these fluids can be used across a range of applications, from power generation to heat and mineral extraction. After recently visiting Iceland, where I was interested to see pavements and roads kept ice-free by geothermal energy, this talk brought my amateur observations into context. WGCG member Joe Mazgajczyk was also in attendance and wondered 'is the phenomenon of geothermal energy the way forward to solve the energy crisis? It would be great to get an update from Chris in the future'.

Starting off 2026, [Tim Pharaoh](#) 'revisited' the Charnwood Terrane by presenting a new model for how southern Britain's crust evolved during the Ediacaran period (around 635–541 million years ago). Using geophysical data, the session explored ancient volcanic arcs, basins, and tectonic activity, and challenged previous ideas by highlighting the role of extensional tectonics in shaping the region. A highlight was an image of Tim Pharaoh at the 'Bomb Rocks' at Charnwood Lodge, with the dramatic volcanic rocks offering a glimpse into the area's deep geological past. Gareth commented that Tim's talk makes us 'reconsider ancient tectonics and crustal extension'. Revisit the talk on YouTube: <https://bit.ly/4d8RI3F>

[Peter Gutteridge](#) was our speaker in February. Peter took us back over a billion years to explore the Stoer Group, where rocks once thought to be formed by simple chemical processes are now understood to be the work of early microbial life. The talk explained that these structures, called stromatolites, grew in shallow lake environments as microbes trapped and built up layers of sediment over time. Peter offered a fascinating look at what may be some of the earliest evidence of life in what is now Britain, and what these ancient environments might have been like. Prefacing this again, that your author is a novice (with a penchant for all things purple) - what caught my attention towards the end of Peter's lecture was 'Purple Earth hypothesis', which proposes that before green plants took over, early life forms used different coloured pigments to harness sunlight, potentially giving the Earth a very different, almost purple hue.

The penultimate lecture came from Malvern native, [Adrian Wyatt](#). In this, Adrian explored the mineralisation of the Malvern Hills, using the familiar 'Malvern Stone' as a starting point. He showed us that beneath its grey appearance, Malvern Stones comprise a mix of minerals and rock types, including granite, diorite, and metamorphic rocks, each contributing to the colours and textures seen when freshly exposed. Through historical research and examples from past quarrying, Adrian showed that although no valuable deposits were found, the hills contain far more geological diversity than might be expected. His contribution to the lecture series also highlighted the valuable role of dedicated hobbyists in geological research and understanding.

Wrapping up the year, [Dr Colin Prosser](#) gave his talk on geoconservation. This engaging overview of the history of geoconservation in the UK traced its development from early initiatives such as the 1873 'Committee on Boulders' (which received a chuckle from the room) through to the introduction of national legislation and the more complex systems in place today. Colin explained that geoconservation must balance priorities at local, national, and international levels, alongside the competing values of conserving and reintroducing wildlife habitats and thriving plant life - all things the WGCG consider during our conservation activities. As Joe noted, it was a 'very interesting talk... given the history of and the sites Colin has been involved with, and it was particularly encouraging to hear that some of these early sites are in Warwickshire and continue to be maintained by WGCG. From a novice

perspective, it was especially interesting to see how the field has evolved, and how it now involves navigating multiple layers and competing priorities to protect geological sites in the modern landscape of preservation and sustainability. Colin's talk is also available on our YouTube channel: <https://bit.ly/4eH7h4I>

On behalf of everyone at WGCG, I would like to express gratitude to all our speakers for sharing their time and expertise in this lecture series. Fellow members have enjoyed thought-provoking topics from the smallest evidence of life on Earth, new takes on old rocks, through to modern-day challenges in geoconservation locally and worldwide.

Thanks also go to everyone who has attended and engaged with our lectures, in-person or online, and we look forward to seeing you all again. We invite all members to suggest ideas for future speakers, as well as themes for upcoming workshops or seminars. If there is something that you would like to know more about, are knowledgeable on, or have a contact who would like to host, get in touch at warwickshiregcg@gmail.com

18/9/25 Preserving Earth's First Complex Life – Dr Ross Anderson

Kenilworth Attendance: 39 Zoom attendance: 25

Fossils have been used to track the history of life on Earth from trilobites, through to dinosaurs, woolly mammoths, and eventually humans. Yet, most fossils only preserve skeletons or shells, the hard parts of organisms. Soft tissues, like skin and internal organs, are rare in the fossil record. So how do we understand the early history of life before skeletons evolved? In this talk, we will see how antibacterial clay-rich rocks hold the key. Their exceptionally preserved fossils illuminate life on Earth before 500 million years ago when multicellular organisms were first evolving.

[Dr Ross Anderson](#) is a palaeontologist studying how multicellular life first evolved on our planet over 500 million years ago. His research uses innovative techniques to examine fossils and their host rocks. This research is key to improving our understanding of how ancient fossils are preserved and what they can reveal about the original biology and chemistry of early life.



Ross received a bachelor's degree (2012) in Earth and Planetary Sciences from Harvard University, before master's (2014) and doctoral (2017) degrees in Geology and Geophysics from Yale University. At Yale, his doctoral work was funded by a NASA Earth Science Fellowship. He was elected a Post-Doctoral Research Fellow in Life Sciences at All Souls College, Oxford in 2017. In 2022, he was awarded a Royal Society University Research Fellowship at Oxford's Department of Earth Sciences and began his position as Senior Researcher in Natural History at the University Museum in 2024. Ross was a recipient of the President's Prize of the Palaeontological Association in 2017.

[20/11/25 Deep geothermal fluids: From the hottest of the hot to dissolved resources – Dr Chris Rochelle Kenilworth attendance 26, Zoom attendance 27](#)

Deep geothermal fluids: From the hottest of the hot to dissolved resources. We stand at the cusp of a revolution in deep geothermal exploitation, as technological improvements enable economic exploitation of hot waters from great depths in areas of lower thermal gradient, such as in the UK. These advances also allow access to super-hot resources near magmatic bodies, which may have the potential to produce an order of magnitude increase in power produced per borehole. Maximising the value of produced fluids will help drive economic success, through a 'cascade of uses' along a decreasing temperature gradient (e.g. power, heat supply, extraction of dissolved minerals).



Dr Chris Rochelle

In this talk I introduce some aspects of the exploitation of deeper /higher temperature fluids and give a few brief summaries of projects as examples of some on-going activities. These will include current geothermal and lithium developments in SW England and also investigations of potential 'superhot' geothermal resources overseas (with examples from Iceland and Mexico).

Biography

Dr Chris Rochelle a Senior Geochemist at the British Geological Survey with over 35 years research experience into various aspects of the geochemistry of fluid-rock interactions. Much of this work relates to 'Energy' - either in terms of energy supply (e.g. geothermal systems, gas hydrates), energy storage (e.g. thermal energy storage, hydrogen storage), or the subsurface disposal/storage of waste materials from energy generation (e.g. CO₂ capture and storage, radioactive waste). Chris' technical skills include running lab experimental studies to quantify the direction, rate and magnitude of fluid-rock reactions over a wide range of temperatures and pressures and also field-based activities to both monitor the natural environment (e.g. sampling waters, gases, and particulates in the air). Chris works with researchers in the UK and abroad, has been particularly active within European projects, and for the past decade has led on BGS deep, high temperature geothermal projects.

[15/01/2026 The Charnwood Terrane revisited: A new model for Ediacaran crustal evolution in southern Britain - T.C. Pharaoh Kenilworth attendance 27, Zoom attendance 26](#)

A new model is presented for the Ediacaran (635-541 Ma) evolution of the crust of southern Britain. Charnian magmatic activity (at 570-560 Ma) occurred towards the end of this phase of crustal evolution when southern Britain lay south of the Equator, at the margin of the Gondwana supercontinent. The model is driven by a petrophysical model created by inversion of aeromagnetic potential-field data, which provides insights into the possible internal structure of the Charnian Domain. The latter is inferred to comprise a primitive mafic magmatic arc (Oxfordshire-Warwickshire), which fed volcanoclastic material into adjacent fore-arc (Charnwood-Nuneaton) and back-arc marginal (Worcester) basins. The domain was emplaced as a magmatic rift wedge into older (> 600 Ma) Gondwanan crust in the Welsh Borderland (now referred to as the Marches Terrane). Contemporaneous volcanic rift successions here and in Wales (Uriconian, Llangynog, Pebidian etc) developed in coeval ensialic rifts within less strongly extended Marches Terrane lithosphere. The new

model emphasises the role of extensional tectonics, rather than accretionary processes, as in previously published models. Comparable diversity of subduction-related magmatism is found in the Neogene–Recent Hikurangi destructive margin of New Zealand, which provides a plausible analogue for Charnian magmatism and sedimentation.

Biography

Tim grew up in the ‘Chalk country’ of the North Downs, which explains his subsequent obsession with hard rocks! After a first degree at Aberystwyth (and falling in love with structural geology) his PhD work at Dundee was on the Caledonides of Arctic Norway. Following a short spell at Newcastle University he joined the Deep Geology Unit of the Geological Survey in 1983 and has applied the skills of the ‘deep geologist’ ever since, for regional subsurface mapping, resource assessment and analysis of seismic hazard, in the UK, and in countries as diverse as Australia, Papua New Guinea and the UAE. He was lead author of the Tectonic Map published by BGS and the Geological Survey of Ireland. His present interest is in the assessment and development of deep basinal geothermal resources in the UK.



Tim Pharaoh with the ‘Bomb Rocks’ at Charnwood Lodge.

[19/02/2026 Microbially mediated carbonates in the Mesoproterozoic Stoer Group, NW Scotland; earliest evidence of life in the UK - Peter Gutteridge](#)
[Kenilworth attendance 26, Zoom attendance 21](#)

Carbonates within the Stoer Group, previously interpreted as abiogenic structures, are reinterpreted as microbial stromatolites. Stromatolites form by a combination of sediment trapping, binding and precipitation of carbonates associated with microbial activity. They take the form of mats and domical structures a few tens of cm in size that grew in water a few cm deep around the margins of lakes. Some larger stromatolitic structures, several tens of metres across, formed in the deeper parts of lake margins and over the front of coarse-grained deltas as they built out into lakes. These stromatolites are also associated with sedimentary structures that bound the sediment during deposition, but without carbonate precipitation. These may indicate the present of a range of calcifying and non-calcifying microbial communities during deposition of the Stoer Group.

Peter Gutteridge – Biography



I first discovered the carbonates within the Stoer Group when I mapped the Stoer Peninsula as an undergraduate at Leeds University. Afterwards, I did a Ph.D. at Manchester University on Dinantian carbonates in Derbyshire and since then spent my professional career looking at carbonate systems of all ages from all over the world. I am a visiting lecturer at Manchester University, researching Dinantian carbonates, breccia systems, evaporites and Precambrian carbonates.

19/03/2026 Minerals of the Malvern Hills – Adrian Wyatt
Kenilworth attendance 28, Zoom attendance 28

On walking or driving through Malvern town the visitor will find it hard not to notice the many drab, grey boundary walls and house frontages made of a jumble of angular blocks of rock, each block cemented in place with lime mortar. These rocks were sold by many local quarries and were described as 'Malvern Stone'; the peak of popularity being during Victorian and Edwardian times. Malvern Stone, when freshly broken, was sought after for the variety of colours and patterns that it displayed. The colours are due to different minerals and they occur either as separate, easily discernible to the eye, interlocking crystals in a specific type of rock or as crystallized veins filling fissures that were created when the rock was brittle fractured. The most common rock types are Precambrian age igneous granite and diorite with metamorphic and gneissose and schistose derivatives. The granite is composed of the minerals quartz, feldspar and usually a little mica or amphibole; but what of the other rocks and were any other minerals found during the quarrying heyday that are visible to the naked eye?

There have been at least three determined attempts to establish the prospects for metalliferous mining in the Malvern Hills. One involved the sinking of a shaft and driving an adit and the other two used chemical laboratory analysis of samples of rock or soil. They all concluded that there are no minerals of economic value here.

However, the talk will share the results of research using archives including library books, museum and private collections, geological society papers and field club reports that show that a surprisingly wide variety of minerals were discovered during the period of quarrying and tunnelling that ended in 1976; and it will show that the Malvern Hills are not just made of granite and diorite!



Adrian Wyatt: Born in Malvern I have always been in awe of the Malvern Hills. I was introduced to geology in 1970 and took an interest in the subject as a hobby. After gaining a degree in Metallurgy in Sheffield I spent most of my working life in the aircraft component manufacturing industry in Worcestershire. As a Chartered Engineer and member of the British Institute of Non-Destructive Testing I was responsible for the NDT (Non-Destructive Testing) departments. During this time I was commissioned to create a display of local rocks for the opening of the Malvern Museum at its present location in the Priory Gatehouse. I am a long-time member of several geological and mineral societies and support the U3a geology group, Herefordshire and Worcestershire Earth Heritage Trust, Malvern Hills Trust and Malvern Museum Association in their activities.

Since 2014 I have organised occasional geological walks and talks; the most recent being a field trip for WGCG to the Malvern Hills in August last year.

UPCOMING EVENTS as of 23/3/26

Date	Time	Location	Event
15/1/26	7:30 pm	St Francis, Kenilworth	Talk: Midland Microcraton - Dr Tim Pharaoh
			Public Recording: https://youtu.be/f6LioiXe3pI
8/2/26	13:00	Geo-conservation – Kenilworth Cutting – Cancelled due to bad weather	
11/2/26	7:30 pm	LLPS: Critical minerals in Zambia. Clive Mitchell.	
14-22/2		Half Term	
14/2/26	10:00 am	Kenilworth Senior Citizens Club	Workshop: Field skills and logging techniques - using a North Sea reservoir core Private Recordings available
19/2/26	7:30 pm	St Francis, Kenilworth	Talk: Stoer Gp. Torridonian - Peter Gutteridge
			Public Recording: https://vimeo.com/1145646259?fl=pl&fe=ti
22/2/26	13:00	Geo-Conservation. North Woodloes Quarry, Leek Wooton – Kenilworth Sst LoGS 81 https://youtu.be/M6TUv73JLps	
25/2/26	09:00	Geo-Conservation Blackford Hill, Henley-in-Arden – Arden Sandstone Meet: What3Words: ///fevered.inclines.tornado Work: himself.louder.unlimited https://youtu.be/UrXAQhb74xc	
25/2/26	7:30 pm	LLPS: Paul Szumlanski.	
7/3/26	10:30 am	Ask A Geologist. Warwick Museum	
11/3/26	7:30 PM	LLPS: The volcanoes of Sicily and the Aeolian Islands, and their development over time, including recent activities. Alan Clewlow.	
15/3/26	10:30	Geo-conservation – Gibbets Hill LoGS 22 – Cancelled too few volunteers	
19/3/26	7:00 pm	St Francis, Kenilworth	EGM followed by Talk: Malvern Geology - Adrian Wyatt
			https://youtu.be/HXzsa3StW_0 (Private video – contact warwickshiregcg.co.uk for access)
21/3/26	10:30	Geo-conservation, Kenilworth Cutting LoGS 97 https://www.youtube.com/watch?v=7U-jqLChnQs	
16/4/26	7:30 pm	St Francis, Kenilworth	Talk: Geo-Conservation - Colin Prosser
			https://youtu.be/X9PEL_dwSfQ
5/5/26	10:00 - 14:00 hrs	Day Field Meeting: Stonebridge Gravel pit Max 12. To register, please email JulieHarrald@googlemail.com	
14/5/26	7:30pm	Talk: The Geology of Shropshire – Martin Whiteley ZOOM Only https://us02web.zoom.us/meeting/register/Os2Uk9kjR6ycXftvk69QWA	
23-31/5/26		Half Term (GeoWeek)	
24/5/26	10:30	Solihull Urban Geology trail – Ray Pratt. Max 20	
25/5/26	2:00 pm	Tour of Warks Museum's geology collection – Jon Radley (TBC) Max 10 Warwickshire Museum Collections Centre, Hawkes Point, Hawkes Drive, Heathcote, CV34 6LX.	
27/5/26	6:00 pm	Evening field meeting: SSSI Guys Cliffe, Helsby Sst - Stuart Burley	
30/5/26	10:30 am	Ask A Geologist. Herbert Galleries and Museum	
6/6/26	10:30 am	Ask A Geologist. Warwick Museum	
12-14/6/26		Long weekend field Trip: based in Ludlow, the focus will be on the Post-Silurian Geology of SE Shropshire - Leader Martin Whiteley £40	
4/7/26	10:30	Geo-conservation – Kenilworth Castle Quarry	

5/7/26	10:30 am	Day Field Meeting: Burton Dassett - Ray Pratt (joint trip with BCGS)	
8/7/26	6:00 pm	Evening field meeting: Kenilworth Castle Quarry - SB / Jane Allum / Ray Pratt	
7-9/7/26	10:30 am	GA Event: (Tuesday-Thursday) - 'Edinburgh - James Hutton Tercentenary Field Meeting, Siccar Point & Arthur's Seat' (Robert Gatliff)	
15/7/26	6:00 pm	Evening field meeting: Gibbets Hill - SB / Jane Allum / Ray Pratt	
17/7-1/9/26 Summer Holidays			
18-19/7/26	10:30 am	GA Event: (Saturday & Sunday) 'Flamborough & Yorkshire Coast' (Paul Hildreth)	
22/7/26	10:30 am	Day Field Meeting - Reading Geol Soc. Lickey Hills - Ray Pratt Contact Ray if you wish to attend	
26/7/26	10:30 am	Day Field Meeting: Bridgenorth- Stuart Burley / Ray Pratt / Mike Allen?	
xx/8/26	6:00 pm	Summer Social & evening field meeting: Leek Wootton - Chris Hodgson LoGS 81, North Woodloes Quarry	
5/9/26	10:30 am	Ask A Geologist. Warwick Museum	
11-13/9/26 EMGS-WGCG Long weekend field Trip: Gloucestershire 2.5 days. Fri – Malverns, Sat – Severn River cliffs, Sun – Cleeve Hill. Leader- Nick Chidlaw			
17/09/26	7:15 pm	St Francis, Kenilworth	Talk: Late Carboniferous - Dr Bernard Besly
25-27/9/26 GA Conference, The Tempest, Anderson Hall, Yorkshire Museum, York			
27/9/26		70th anniversary of Wrens Nest 1st National geological NR BCGS	
12/10/26	2:00 pm	Tour of Warks Museum's geology collection – Jon Radley (TBC) max 10	
11/10/26	TBC	Day Field Meeting: Smestow Valley Meadow View Terrace, Wolverhampton WV6 8NX and Wightwick Manor, Wightwick Bank, Wolverhampton WV6 8EE with Andrew Harrison and Julie Schroder TBC	
15/10/26	7:15 pm	St Francis, Kenilworth	Talk: Geology & Industrial Archaeology of Harlech (TBC) – Allison Barraclough
17/10/26	10:30 am	Ask A Geologist. Herbert galleries and Museum, Coventry	
24-1/11/25 Half Term			
19/11/26	7:15 pm	St Francis, Kenilworth	Talk: Geology of Stonehenge - Peter Worsley
5/12/26	10:30 am	Ask A Geologist. Warwick Museum	
12/12/26	2:00 pm	Kenilworth Senior Citizens Club	Saturday afternoon Christmas party: Wine tasting
19/12-3/1/27 Christmas Holidays			
21/1/27	7:00 pm	St Francis, Kenilworth	AGM Talk: The Kenilworth Sandstone. Prof Stuart Burley
13-21/2/27 Half Term			
13/2/27	10:00 am	Kenilworth Senior Citizens Club	Workshop:
18/2/27	7:15 pm	St Francis, Kenilworth	Prof Richard Butler: Dinosaurs
18/3/27	7:15 pm	St Francis, Kenilworth	Talk Prof Mike Searle (TBC) Cornubian batholiths or ophiolites
29/3-9/4/27 Easter Holidays			
15/4/27	7:15 pm	St Francis, Kenilworth	Talk: A glaciation speaker
29/5-7/6/27 Half Term			
21/7-1/9/27 Summer Holidays			

Other Society Events

Geologists Association <https://geologistsassociation.org.uk/lectures/>

Monthly meetings take place at 18:00 hrs on the first Friday of each month. Our hybrid lectures will be held both in the Janet Watson Lecture Theatre of the Geological Society, Burlington House, Piccadilly, London, W1V 0JU & simultaneously over Zoom.

- Friday 8th May 2026 **President's Address - Little things can make a big difference (part 2)**. Dr Liam Gallagher
- Friday 5th June 2026. Title tbc. Prof Simon Conway-Morris
- Friday 3rd July 2026. Title tbc. Dr Emily Swaby
- Friday 9th October 2026. **Thirty years of discovery at the UK's largest dinosaur track site in north Oxfordshire**. Prof Kirsty Edgar
- Friday 4th December 2026. Title tbc. Dr Holly Elliott

Leicester Literary and Philosophical Society: <https://www.charnia.org.uk/> **Zoom**

Invites to their talks, with Zoom link, will be emailed directly to WGCG members one week before the event.

BCGS. <https://bcgs.info/pub/> (**In person meetings only**)

The Black Country Geological Society's indoor meetings are now held at The Lamp Tavern. The room is on the top floor and there is a lift. The address of The Lamp Tavern is 16 High Street, Dudley, DY1 1QT.

Shropshire Geological Society. <https://shropshiregeology.org.uk/>

Talks are held in hybrid form, in person at the Higher Education Centre, Shrewsbury College, London Road, Shrewsbury SY2 6PR, and by Zoom

- **8th April 2026.** AGM
- **13th May 2026.** Prof Johan Lissenberg (University of Cardiff). Geology of the Mantle

East Midlands Geological Society <https://www.emgs.org.uk/lectures.html> (**in person only**)

Our lectures are usually held on the second Saturday evening of each month from October to April. The Lectures are normally held in the School of Geography Sir Clive Granger Building on the Nottingham University Park campus.

NSGGA <https://nsgga.org/>

Lectures are held in WS0.06 in the William Smith Building at Keele University, typically on the second Thursday of the month between October and March.

The Geological Society <https://www.geolsoc.org.uk/events/>
Virtual and Burlington House, Piccadilly, London, W1J 0BG

- 21/04/26 18:00-19:00. Zoom. Zoom. Pangea on Acid: Extreme Environments, Climate, and Life during Permo-Triassic Time
- 05/04/26 18:00-19:00. Women in geosciences: past, present and future.
- 21/07/26 18:00-19:00. Mineral and Earth Pigments in Art and Architecture

OBITUARIES

Aileen Brown



Photo taken a couple of years ago of Aileen at home with her flowers and plants which she loved. Aileen passed peacefully away at home on 28th December 2025 two days before her 82nd birthday. She was born in Consett.

Aileen, along with her partner Tony Smith, was a long-term member of WGCG. Like many of our members, she was an 'interested amateur' and regularly came to evening meetings. They became enthusiastic about field work and were great supporters over many years of both local, and particularly, residential field trips. Aileen shied away from the public gaze so asked her questions (which were not infrequent, and often perceptive) as you walked along in a group. They extended their enthusiasm for field geology by joining Down to Earth trips organised by Chris Darmon. Particularly memorable was one to study Volcanic landscapes on Tenerife. These residential parties brought out Aileen's sociability, contributing to the well-being and friendliness of the group.

Aileen had a wide concern for things environmental and was a member of the Warwickshire Wildlife Trust. Her particular interest was in birds and she was a frequent visitor to the reserve at Brandon Marsh. Aileen was happy to contribute her non-geological knowledge and experience on field trips. Until illness intervened Aileen had a subscription for the Warwick Arts Centre classical music concert series. She was always ready to share her thoughts about both the content of the programmes and the quality of the performances.

Small, voluntary groups like WGCG could not survive without the quiet support and reliability of members like Aileen.

Our sympathy and best wishes go to Tony.

Brian Ellis

Ann Fenwick

Ann was born just before the war in Lowestoft and like many was forced to move away until her father was demobbed and took up a post in Leicester. She was a bright child and was soon in a Grammar School and on to Reading University. Her main studies were in Biology and Zoology. In addition, following a life-long interest in geology, did foundation courses in Geology, with particular interest in Palaeontology and Physical Geology. It was at Reading that she met Ian. After she graduated, she took up a teaching post at a school in Wokingham. Ian and Ann were married at this time.



Work beckoned from Northern Ireland and Ann taught in Limavady and subsequently went on to Canada following Ian. By this time, they were the parents of a little girl with two more girls to follow. Ian and family then went back to Reading where they settled.

They moved to Kenilworth just over twenty years ago and both joined WGCG. She was very modest and was happy to contribute her knowledge at field trips in a quiet and unassuming way. Ann was the driving force behind organising WGCG's Christmas socials and led the team producing tea/coffee and biscuits at our evening meetings for many years. Ann's interests included history, archaeology and particularly researching her family ancestry. Given her academic background she was also very concerned with Nature Conservation and care for the environment. She was skilled at drawing, taking after her parents and examples of her work survive. She pursued her interest in music and regularly attended concerts at Warwick Arts Centre.



Ann in Lathkill Dale on a 2008 Bakewell WGCG geology trip endeavouring to share her paleontological knowledge with Hilary Robson and Carlyn Miller

Photo Ian Fenwick.

Ann was very sociable and many of us have benefited from a cup of tea with cake and biscuits if we dropped in to visit or on more formal occasions had a splendid meal. Many WGCG members came to regard Ann as a very good friend. She was a loving, caring and supportive wife, mother and grandmother. Visits from her daughters and other relatives were a regular part of her diary, as were family reunions and holidays at their cottage in Pembrokeshire.

Ann will be missed. She quietly touched our lives and left her mark and memories.

Brenda Watts and Brian Ellis

WGCG OFFICERS

Management Committee and Trustees



Stuart Burley: Chair



Ray Pratt: Hon Secretary
(Co-opted)



Kathrin Schütrumpf:
Hon Treasurer



Jane Allum:
Geo-conservation



Claire Groves:
Holloway Awards



Peter Hawksworth:
Outreach & Public
Engagement



Gareth Jenkins:
External Group Rep

Education Sub Committee



Ray Pratt



Christine Hodgson



Helen Jones

Others in Administrative Roles



Julie Harrald



Jon Radley

**Your Picture
could be here**



Andrew Sanderson



Anthony Allen




Lauren Sewell

Other Group Roles

Public Engagement

X (Twitter)	Dr Jon Radley & Dr Lauren Sewell
Facebook	Kathrin Schütrumpf & Lauren Sewell
Instagram	Kathrin Schütrumpf & Lauren Sewell
LinkedIn	Gareth Jenkins
YouTube	Ray Pratt
Online conferencing (Zoom)	Ray Pratt, Gareth Jenkins & Kate Torrens
Web master	Anthony Allen
Newsletter editor	Ray Pratt / Lauren Sewell
Local Geological Sites officer	Dr Andrew Sanderson
Geo-conservation co-ordinator	Jane Allum
Planning applications co-ordinator	Will Messenger
Office - Cataloguing	Ian Fenwick
Electronic Data Management	Ray Pratt
Group Admin Assistant	Julie Harrald

MEMBERSHIP FORM FOR JOINING OR RENEWING

<h3>WARWICKSHIRE GEOLOGICAL CONSERVATION GROUP</h3>	
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We need some data so we can keep in touch. The information you provide will be carefully protected. Only officers of WGCG will have access and then only to communicate with members. Very importantly, no information will be made available to any outside organisations.

We rely heavily on email to communicate with members as it is fast, efficient and cost effective. We hope you will allow us to communicate with you in this way.

Please confirm:

That we may keep your details on our data base and used as described above YES/NO
 That we may communicate with you by e-mail YES/NO

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Email:	Year of birth
Geoscience Education: Please indicate your level of geological knowledge	
Profession: Please indicate your current or previous professional background and or experience	

HOW TO PAY: Subscriptions are from 1st January to 31st December and are **£15.00 per year**, but free for students in full time education. **Please tick box** which applies and return the completed form by email to; WGCG@JEGH.me.uk with heading **Annual Subscription**, advising of date of payment.

- BACS Transfer to **Warwickshire Geological Conservation Group** at branch sort code **40-27-06** to account **51411101** and when asked for a **reference** please enter **Name**
 - Annual **Standing Order** to sort code **40-27-06** to account **51411101**
 - Pay at your bank using the attached paying in slip
 - Post a cheque with your form** to: Julie Harrald (WGCG),
70 Blackbrook Road, Loughborough, Leicestershire, LE11 4PZ
 - Hand your form and payment in person** to Frances Morley at the next WGCG meeting
 - If you are a **full time student**, membership is free.
-

GIFT AID : As WGCG is a charity, registration number 1144717, we can reclaim the tax you have paid on the subscription direct from the Inland Revenue at no cost or inconvenience to you. It provides an extremely valuable source of income to the Group.

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It is quick and easy to join or renew your membership online

<https://www.wgcg.co.uk/join-us/>

GA Affiliated Groups and Local GA Groups (LG)

Amateur Geological Society <http://amgeosoc.wordpress.com>
Association of Welsh RIGS Groups Avon RIGS <http://avonrigsoutcrop.blogspot.co.uk>
Bath Geological Society www.bathgeolsoc.org.uk
Bedfordshire Geology Group www.bedfordshiregeologygroup.org.uk
Belfast Geologists' Society www.belfastgeologists.org.uk
Black Country Geological Society www.bcgs.info
Brighton & Hove Geological Society www.bhgs.org
Bristol Naturalists' Society www.bristolnats.org.uk/geology
British Micromount Society <https://bms.mineralcollective.com>
Bucks Geology Group www.bucksgeology.org.uk
Cambridgeshire Geological Society www.cambsgeology.org
Carn Brea Mining Society <https://www.cbms.org.uk/>
Cheltenham Mineral and Geological Society <http://cmgs.yolasite.com/society.php>
Cumberland Geological Society <http://www.cumberland-geol-soc.org.uk/>
South Wales Geologists' Association (LG) www.swga.org.uk
North Wales Group Geologists' Association (LG) www.ampyx.org.uk/cdgc/cdgc.html
Devon RIGS Group www.devonrigs.org.uk
Devonshire Association <https://devonassoc.org.uk/organisation/sections/geology-section/>
Dinosaur Society www.dinosaurusociety.com
Dorset Group (LG) <https://dorsetgeologistsassociation.org/>
Dorset Natural History & Archaeological Society enquiries@dorsetcountymuseum.org
Earth Science Teachers' Association <https://earth-science-teachers.uk/>
East Herts Geology Club www.ehgc.org.uk
East Midlands Geological Society www.emgs.org.uk
Edinburgh Geological Society www.edinburghgeolsoc.org
Essex Rock and Mineral Society (LG) www.erms.org
Farnham Geological Society (LG) www.farnhamgeosoc.org.uk
Friends of Sedgwick Museum Society <https://sedgwickmuseum.cam.ac.uk/support-us/friends-sedgwick-museum>
GeoEast <https://www.geo-east.org.uk/>
GeoLancashire (LG) www.geolancashire.org.uk
Geological Society of Glasgow www.geologyglasgow.org.uk
Geological Society of Norfolk www.norfolkgeology.co.uk
Harrow & Hillingdon Geological Society (LG) www.hhgs.org.uk
Hastings & District Geological Society
Hertfordshire Geological Society (LG) www.hertsgeolsoc.org.uk
History of Geology Group <https://historyofgeologygroup.co.uk>
Horsham Geological Field Club www.hgfc.org.uk
Huddersfield Geology Group www.huddersfieldgeology.org.uk
Hull Geological Society www.hullgeolsoc.co.uk
Kent Geologists' Group (LG) www.kgg.org.uk
Kingston Lapidary Gem & Fossil Society kingstonlapidarysocietyhull@gmail.com
Leeds Geological Association www.leedsga.org.uk
The Geology Group of the Leicester Literary and Philosophical Society www.charnia.org.uk
Liverpool Geological Society www.liverpoolgeologicalsociety.org.uk
Manchester Geological Association www.mangeolassoc.org.uk

London Geodiversity Partnership www.londongeopartnership.org.uk
Medway Fossil and Mineral Society www.mfms.org.uk
Milton Keynes Geological Society <https://www.facebook.com/mkgeosociety/>
Mineralogical Society www.minersoc.org
Mid Wales Geology Club www.midwalesgeology.org.uk
Midweek Geology Club Mole Valley Geological Society (LG) www.mvgs.org.uk
Newbury Geology Society <https://newburygeology.org.uk/>
Norfolk Mineral & Lapidary Society Norfolk Geodiversity Forum www.norfolkbiodiversity.org
North Eastern Geological Society www.negs.org.uk
North Staffordshire Group of the Geologists' Association (LG) <https://nsgga.org>
Open University Geological Society www.ougs.org
Oxford Clay Working Group Email: saurian@live.co.uk
Oxfordshire Geology Trust www.oxfordshiregeologytrust.org.uk
Peak Lapidary & Mineral Society <http://rockexchange.uk/>
Peterborough Geological Palaeontological Group <http://peterboroughgeology.org>
Plymouth Mineral & Mining Club www.denul.net/pmmc
Reading Geological Society (LG) and www.readinggeology.org.uk
Rotunda Geology Group www.rotundageologygroup.org
Royal Geological Society of Cornwall www.geologycornwall.com
The Russell Society www.russellsoc.org
Scottish Geological Trust www.scottishgeologytrust.org
Shropshire Geological Society www.shropshiregeology.org.uk
Sidcup Lapidary and Mineral Society www.sidcuplapminsoc.org.uk
Southampton Mineral and Fossil Society www.sotonminfoss.org.uk
Teme Valley Geological Society <https://geo-village.org/>
Tertiary Research Group www.trg.org
UK Fireball Alliance www.ukfall.org.uk
Ussher Society www.ussher.org.uk
Warwickshire Geological Conservation Group www.wgcg.co.uk
Welsh Stone Forum <https://museum.wales/curatorial/geology/welsh-stone-forum/>
Westmorland Geological Society www.westmorlandgeolsoc.co.uk
West of England Group of the GA (LG) <https://www.wega.org.uk>
West Sussex Geological Society (LG) www.wsgs.org.uk
Woolhope Club, Hereford www.woolhopeclub.org.uk
Yorkshire Geological Society www.yorksgeolsoc.org.uk

FOLLOW WGCG ONLINE



On X (Twitter): (maintained by Jon Radley & Lauren Sewell)

https://twitter.com/wgcg_uk



On Facebook: (maintained by Kathrin Schüttrumpf)

<https://facebook.com/WarwickshireGeologicalConservationGroup>



On Instagram: (maintained by Kathrin Schüttrumpf)

<https://www.instagram.com/warwickshiregcg>



On LinkedIn: (maintained by Gareth Jenkins)



On the web: (maintained by Anthony Allen)

<https://wgcg.co.uk>



On YouTube: (maintained by Ray Pratt)

<https://www.youtube.com/channel/UCf0fXO5P2BlSTFBsj9NWQrw>

Get in touch by email: warwickshiregcg@gmail.com

YouTube Statistics: February 1, 2026, to February 28, 2026

<https://www.youtube.com/channel/UCf0fXO5P2BlSTFBsj9NWQrw>

Your channel updates from last month

New subscribers

8

Total views

548

Minutes watched

4,355

Facebook Statistics: January 1, 2025, to March 26, 2026

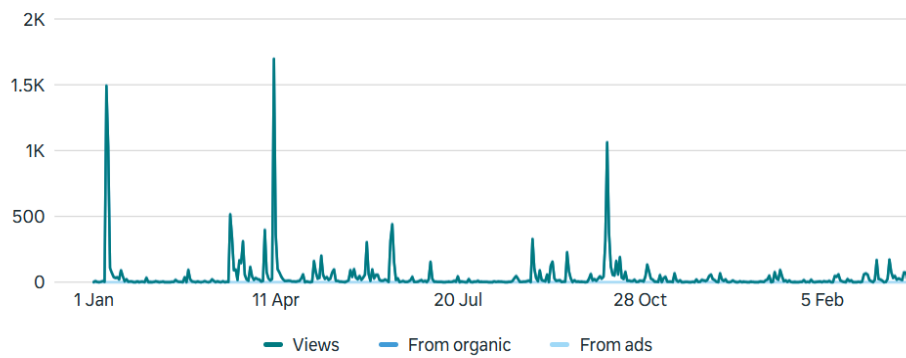
[Facebook](#)

Content overview

Breakdown: Organic/ads

All Posts Stories Reels Live

Views **18.9K** 3-second views **72** ↑ 1.1K% 1-minute views **5** ↑ 100% Content interactions **471** ↑ 34.6% Watch time **21m 55s** ↑ 1.8K%



Views breakdown
1 Jan 2025 - 26 Mar 2026

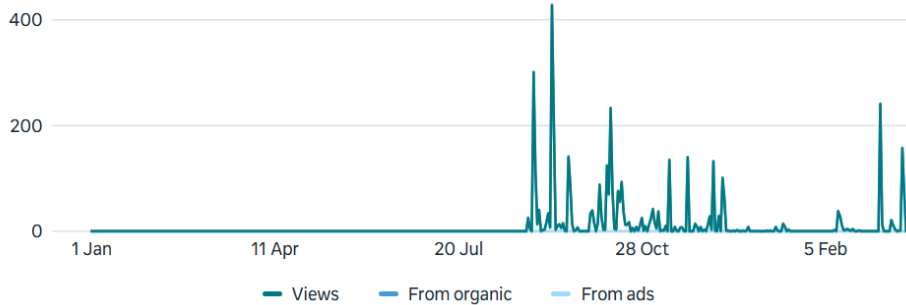
Total **18,922**
From organic **18,922**
From ads **0**

Viewers **--**

Instagram Statistics: January 1, 2025, to March 26, 2026

[Instagram](#)

Views **4.2K** Reach **1.3K** ↑ 305.6% Content interactions **104** ↑ 100%



Views breakdown
1 Jan 2025 - 26 Mar 2026

Total **4,207**
From organic **4,207**
From ads **0**