Down to Earth

Issue 134 February 2026 • ISSN 0969-3408

Bringing you all the latest geo-news from Britain and around the world!

Down to Earth
'Earth science learning for all'

The learning zone

Great geo-adventures in 2026 begin here...

The Stiperstones and its magnificent quartzite ridge in Shropshire.
(Image: Visit Shropshire Hills & Ludlow)

We have late single or double vacancies on the Dorset Coast trip (March 27-April 1) and Northwest Highlands (April 14-22) due to cancellations - contact us for details NOW!

Following a confirmation of the booking situation, we now have 2 vacancies on our September 2026 Iceland trip. There's a male and a female vacancy in two twin rooms. Several other 2026 trips are either full or nearly so. Remember that there are plenty of single rooms on our Summer School to Shropshire.

To view a brochure, go to our to website at: www.geosupplies.co.uk or Tel: 0114 245 5746

Remember that booking forms are only available direct from us:
Email: downtoearth@geosupplies.co.uk

Residential Field trip programme 2026...

- The Jurassic Coast of Dorset, March 27-April 1
- Northwest Highlands of Scotland, April 14-22
- Central Cornwall, May 1-8
- Teesdale & North Pennines, May 16-23 FULL
- Minehead & North Somerset, June 7-12
- Shetland, The Northern Isles, June 17-25 FULL
- Anglesey, July 5-10
- Summer School, Shropshire, August 8-15
- Iceland, North & East Fjords, September 13-22 See opposite
- Melrose, the Scottish Borders, October 18-24

Early booking is advised, especially if you are looking for a single room.

Search online at www.geosupplies.co.uk or ring us on 0114 245 5746
Geo Supplies Ltd 49 Station Road, Chapeltown, Sheffield S35 2XE

Down to Earth 134 February 2026 contents

Advert: Residential field trips 2026	2
Contents/Editorial	3
News up front: A revealing new map of Antarctica	4-7
Lead Article: Trace fossils - uncovering secret lives	8-10
Article: Millom Rock Park rejuvenated	11/12
Article: Anne Hathaway's limestone flooring	13/14
In House: Book supply problems	15
The Learning Zone: Lots of ways to get involved	16-19
Backyard Geology: News from the grassroots	20-22
Advertorial: Volcanic Experiences 2026	23
Advert: Summer School 2026	24
A good read: Book Reviews	25/26
Our brainteaser: Who, What and Where?	27
Diary of events	28/29
Pygidium: Our tailpieces of trivia & snippets	30/31
Advert: Latest book offers from Geosupplies	32

Published & designed by Geo Supplies Ltd.,
49 Station Road, Chapeltown, Sheffield S35 2XE

Printed by Hot Metal Press, Elsecar, Barnsley

Editor: Chris Darmon
Assistant Editor: Colin Schofield

Tel: 0114 245 5746 • FAX: 0114 240 3405
E-mail: downtoearth@geosupplies.co.uk

We welcome your contributions, which should be with us no later than April 15th 2026 for the May issue.

If you would like to advertise with us, please ask for a media pack.

cover story

We all love a new 'go to' locality and for us in 2025, that place was Portreath on the North coast of Cornwall, close to the town of Camborne.

It has some great cliffs with some highly distorted and faulted Devonian strata. I can't wait to return in May of this year!

(Image: Chris Darmon)

editorial

How are you getting along with your new AI friend?

So we are entering a world where artifical intelligence, or AI as we should call it, is becoming ever more common in our everyday world. For us, at the ***Down to Earth*** editorial desk, it has rapidly become a part of our everyday life.

There, at the very top of the search results, is an AI generated summary. For the vast majority of times it's absolutely sensible and correct. On a number of occasions you can see that it has been pretty well lifted from Wikipedia. To be perfectly honest, it doesn't by itself, seem to add very much to the body of knowledge that's available on Wikipedia that's been generated by the endeavour of human volunteers.

But there are occasions when it's possible to see how AI has mixed things up, sometimes with similar sounding or spelled terms. It's on occasions such as this that we have to remind ourselves that AI can make mistakes, much like us humans. At least there's honesty here, it is badged clearly as an "AI summary", so we should treat it as such.

At the moment AI is principally being used as a means of summarizing all available data, something that it can do quickly and accurately. But it can also be used to put forward a particular line of evidence, or push a particular theory over a rival one.

What about AI in the hands of a six-day creationist for example? We should of course, treat all sources with the some degree of scepticism, or should we say scientific curiosity? Scientists should, by their very nature and training, be better at questioning sources than other people, but don't be complacent about it.

Treat AI just as you would any other source. Treat it as a friend and ally, unless and until you think it's letting you down or leading you down a path that you think is heading you towards bad conclusions. Remember that not all science is good, not all science is correct. Down through the ages people have been quite capable of coming up with theories that prove to be wrong and AI is no different.

But where will AI take us in the future, that's the question that is engaging minds across the globe? In our terms when will AI become the researcher rather than the researcher's trusted assistant? Some would say, that in some areas, we've already reached that point whilst others would say that we haven't got there yet, but it's not that far off.

We already know that AI has come to terms with many of the complexities of the human body. Well, planet Earth is even more complex than that. But if it can analyse the numerous issues surrounding climate change then, I suppose it can tackle many other issues that we are currently engaged upon.

At the moment then, don't let AI intimidate you. You are human, with a mind and brain of your own. Accordingly don't give AI a status that it doesn't deserve. Don't allow it to take over, unless of course you want it to. For the moment at least, it's important that you try and stay in control at all time! With luck your new found AI friend and companion will be just that, sitting alongside you and helping you.

Chris Darmon, Editor

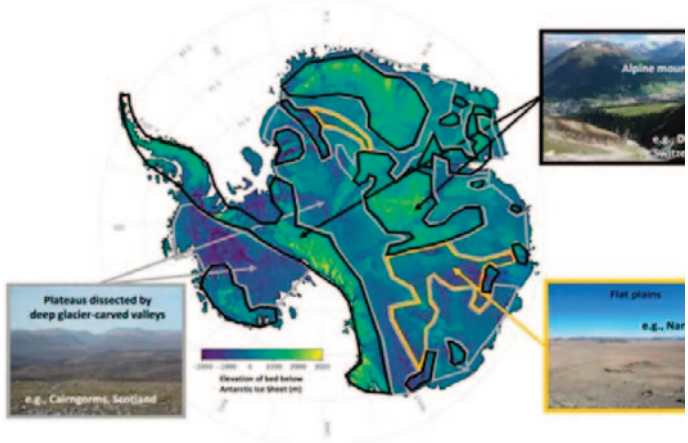
A digest of some of the latest Earth Science news from around the world.

New map of Antarctica reveals there's considerable relief beneath the thick ice covering...

Researchers have released the results of their extensive studies beneath the ice covering in Antarctica. Lead author, Helen Ockenden of the University of Grenoble-Alpes and a PhD researcher at the University of Edinburgh, and an international team have just published their findings in the journal ***Science***.

The familiar ice covering of Antarctica, but what's the relief below that ice cover?
(Image: Courtesy of Edinburgh University)

Previous attempts at mapping the ground beneath the ice cover have been done by dragging heavy radar equipment across the ice in snowmobiles or suspend the radars from the wings of airplanes. Despite this work having taken place over decades, there are still some considerable gaps in the mapping, often 100s of km across.



Some of the physical features discovered by the new mapping technique.
(Image: Courtesy of Edinburgh University)

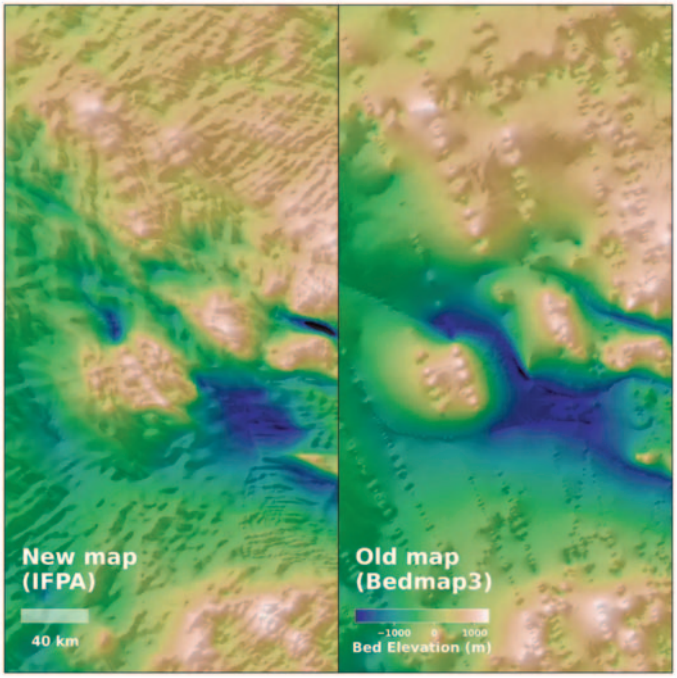
The new research takes a very different approach, it uses satellite images of the surface. It works to analyse subtle changes in the surface of the ice to understand the sub-surface features that cause these undulations. The method has revealed some amazing features. Their findings have uncovered specific geographical details across previously uncharted regions, including large mountain ranges, deep canyons and wide valleys, as well as tens of thousands of previously undiscovered hills and valleys.

This could be the first of many attempts at improving our mapping of Antarctica as scientists grapple with ice tectonics, in the light of rising temperatures and ice melting. In particular there is worry about major avalanching in the mighty Thwaites Glacier.

Ockenden's team do not believe that radar methods are at an end, but it will guide future radar surveys: "We're not so blind now," says Robert Bingham, a co-author and glaciologist at the University of Edinburgh. "We have a really good impression of where the bed's quite rough, where you would need to survey closely if you really want to see the details of the features."

This comes from the University of Edinburgh:

"Their findings have uncovered specific geographical details across previously uncharted regions, including large mountain ranges, deep canyons and wide valleys, as well as tens of thousands of previously undiscovered hills and valleys.



A new map of the hidden features beneath Antarctica's ice shows the icy continent in unprecedented detail.
(Image: Courtesy of Helen Ockenden)

Previous research has shown that rough areas of subglacial land - such as jagged hillsides and sharp mountain ridges - can slow the retreat of Antarctica's glacial sheet by providing frictional resistance against the ice flowing towards the sea.

"Because making scientific observations through ice is difficult, we know less about the landscape hidden beneath Antarctica than we do about the surface of Mars or Venus. So it's really exciting that this new method allows us to use satellite measurements of the ice surface to fill all of the gaps in our maps, revealing new details about mountain ranges, canyons and geological boundaries," said Helen Ockenden.

This latest map serves as an important guide to inform scientists where future surveys should be focused, and will help develop more accurate projections of where and how much sea levels could rise in the future."

This article has been compiled from various internet sources. You'll be able to find a lot more and also other recent mapping from our own British Antarctic Survey. With fears about what might happen to the mighty Thwaites Glacier as ice continues to melt, there will be more studies coming down the line.

Laetoli hominid footprints under climate change threat...

It's amazing how we discover stories here at Down to Earth. Whilst looking for an image to illustrate Paddy Gaffikin's trace fossil article in this issue, I came across this story from 2024 - sorry that it's a bit late...

This comes from the University of St Andrews website:

"A project led by the University of St Andrews to protect the site of a 3.6-million-year-old human footprint at risk from climate change is one of 22 new projects to be supported by the British Council's Cultural Protection Fund.

Some of the Laetoli footprints from Tanzania (Image: Atlas Obscura)

The Laetoli footprint site in Tanzania, the oldest unequivocal evidence of human ancestors walking on two feet, is currently at risk of being lost forever due to erosion caused by increasing storms and rainfall. The Cultural Protection Fund project led by Professor Richard Bates from the School of Earth and Environmental Sciences will address the threats facing the footprint sites through digital documentation, training, and community engagement.

It will also capture local stories, myths, dance and rituals which are linked to the footprint sites, ensuring that the heritage is permanently preserved and available to future generations. In Winde, a nineteenth Century slave warehouse complex faces similar erosion caused by rising sea levels. Both sites will be documented by the project led by the University of St Andrews."

Atlas Obscura says:

"Today, the actual footprints have been covered up in hopes of protecting them, but due to fear of erosion they are planned to be uncovered again. Whether the prints remain at their discovered location (with a possible museum built over them) or are to be cut-out and moved entirely is currently under debate.

For now visitors can visit the covered up site of discovery and the nearby Olduvai Gorge Museum, which features casts of the prints and related artifacts."

New hydrothermal field off Greece discovered...

A new study in the journal ***Scientific Reports*** from the University of Bremen's Centre for Marine Environmental Science (MARUM) outlines s the discovery of a massive new hydrothermal field off Greece.

This comes from the University of Bremen's website:

A new study published in ***Scientific Reports*** details the discovery of a remarkably extensive hydrothermal vent field on the shelf of Milos Island, Greece. The vents were identified during the METEOR expedition M192, where the research team used a combination of different methods, including underwater technologies such as an autonomous and a remotely operated vehicles, to survey the seafloor. These approaches revealed previously undocumented venting between 100 and 230 meters depth. This makes Milos home to one of the largest known shallow-to-intermediate hydrothermal systems in the Mediterranean and substantially expands current knowledge of vent distribution in the region.

Sampling fluids of 180 degree Celsius at the White Sealhound structure.
(Image: MARUM – Center for Marine Environmental Sciences, University of Bremen)

The study identifies three major vent areas — Aghia Kiriaki, Paleochori–Thiorychia, and Vani — all located along active fault zones that run across the Milos shelf. These faults belong to a large tectonic depression, the Milos Gulf–Fyriplaka graben, which has

lowered the seafloor to depths of up to 230 metres. The close alignment of vents with these geological structures shows that tectonic activity plays a key role in determining where hydrothermal venting occurs: "We never expected to find such a large field of gas flares off Milos," says Solveig I. Bühring, senior author of the study and scientist at the MARUM – Center for Marine Environmental Sciences, University of Bremen, who led the expedition M192 during which the vents were discovered. "When we first observed the vents through the ROV cameras, we were stunned by their diversity and beauty — from shimmering, boiling fluids to thick microbial mats covering the chimneys."

According to first author Paraskevi Nomikou of the National and Kapodistrian University of Athens, the spatial pattern of these vent clusters is closely controlled by the island's tectonic fabric: "Our data clearly show that the gas flares follow the patterns of the major fault systems around Milos," Nomikou explains. "Different fault zones influence different vent clusters, especially where several faults meet. These tectonic structures strongly control how and where hydrothermal fluids reach the seafloor."

During the METEOR cruise off the Greek island of Milos: The water sampler rosette and the AUV MARUM-SEAL on deck, with the volcanic island of Antimilos visible in the background. (Image: MARUM – Center for Marine Environmental Sciences, University of Bremen; S. I. Bühring)

According to first author Paraskevi Nomikou of the National and Kapodistrian University of Athens, the spatial pattern of these vent clusters is closely controlled by the island's tectonic fabric:

"Our data clearly show that the gas flares follow the patterns of the major fault systems around Milos," Nomikou explains. "Different fault zones influence different vent clusters, especially where several faults meet. These tectonic structures strongly control how and where hydrothermal fluids reach the seafloor."

The findings demonstrate how active faulting and ongoing geological processes have shaped the evolution of these vent fields. This discovery establishes Milos as one of the most significant natural laboratories in the Mediterranean for studying the interplay between tectonics, volcanism, and hydrothermal activity.

The results are also relevant for the MARUM-based Cluster of Excellence "The Ocean Floor – Earth's Uncharted Interface." A follow-up expedition to Milos, the Kolumbo submarine volcano off Santorini, and Nisyros is planned. The research is the result of close collaboration between Greek and German institutions, including the National and Kapodistrian University of Athens, MARUM – University of Bremen, Friedrich-Alexander-Universität Erlangen-Nürnberg, ICBM – Institute for Chemistry and Biology of the Marine Environment Oldenburg, Carl-von-Ossietzky-Universität Oldenburg, and Constructor University Bremen.

New evidence for early fire-making in Suffolk...

Just when did mankind light the first fire? We have long thought that this was something carried out exclusively by our own species *Homo sapiens* but now a new site in Suffolk pushes that event back a long way, possibly to the *Neandarthals*.

Now a team led by Nick Ashton, Curator: Palaeolithic Collections, at ***the British Museum*** and Rob Davis, Project Curator, ***Pathways to Ancient Britain***, and Simon Parfitt from ***UCL*** in London, have uncovered evidence from an archaeological dig site at Barnham, in Suffolk. This, indicates that the ability to make fire is much older than previously thought. The evidence of this early use of fire has now been published in the journal ***Nature***.

This comes from the UCL website:

"Described in ***Nature***, the artefacts date to about 400,000 years ago and include scorched earth, fire-cracked flint hand axes, and two fragments of iron pyrite, a mineral that can produce sparks when struck with flint.

The presence of pyrite is significant as it is a mineral not commonly found in the area, suggesting that early humans carried it to the site deliberately. In later prehistoric periods, pyrite was used to ignite fires by striking it with flint to create sparks. Its presence at Barnham suggests that this technology may have emerged much earlier than previously thought, possibly from neanderthals that lived in the region at that time or another species of early humans.

Previous discoveries at sites in Africa indicate that humans had used natural fire over a million years ago, but the artefacts at Barnham suggest the creation and control of fire, which carries huge implications for human development and evolution. Until now, the oldest known evidence of fire making was from 50,000 years ago and was found in northern France.

Some of the team excavating the fire-pit at Barnham (Image: Jordan Mansfield, Pathways to Ancient Britain)

Co-author, Simon Parfitt ***(UCL Institute of Archaeology)*** said: "This discovery gives us a rare window into a moment when early humans were not just using fire, but had begun to understand and control it. This discovery highlights the ingenuity and skill involved in mastering fire, a game-changing moment in human evolution."

Controlled fire use offered evolutionary advantages including warmth, protection from predators, the ability to cook food, and a social hub where early humans likely gathered. Distinguishing natural wildfires from deliberate burning has long frustrated archaeologists.

However, at the Barnham site, the team discovered sediments with geochemical signals that indicated fires were repeatedly lit in the same spot, as well as imported pieces of pyrite and clusters of flint that also showed evidence of being exposed to heat. Together, the artefacts point to their combined use in creating and controlling fire.

The sylvan glen setting of the Barnham excavation site (Image: Jordan Mansfield, PAB)

This access to fire on demand would have allowed early humans to cook meat more reliably, thereby improving its digestibility and energy intake. This, researchers say, may have supported the expansion of the human brain.

Lead author Professor Nick Ashton ***(UCL Institute of Archaeology & the British Museum)*** said: "This is the most remarkable discovery of my career, and I'm very proud of the teamwork that it has taken to reach this groundbreaking conclusion. It's incredible that some of the oldest groups of Neanderthals had the knowledge of the properties of flint, pyrite and tinder at such an early date."

Iron pyrites and flint were both required to make fire (Image: Jordan Mansfield, PAB)

Co-author Dr Rob Davis, of the British Museum, said: "The implications are enormous. The ability to create and control fire is one of the most important turning points in human history with practical and social benefits that changed human evolution. This extraordinary discovery pushes this turning point back by some 350,000 years."

The Barnham site was situated near a watering hole where these humans encamped. "We think humans brought pyrite to the site with the intention of making fire. And this has huge implications pushing back the earliest fire-making," said archaeologist Nick Ashton. The other essential ingredient for making fire, flint, would have been locally sourced from flint nodules.

Massive Italian landslide causes evacuation of 1000 residents in Sicily...

A massive landslide has hit the Italian town of Niscemi on the island of Sicily. It was triggered, not by an earthquake, or a volcanic eruption, but by relentless rain.

This is from the website Wanted in Rome:

"Triggered by the relentless rainfall of Cyclone Harry, the landslide has created a shifting chasm that is actively swallowing parts of the historic centre of the town in southern Sicily.

The landslide, which first began to show signs of instability on Sunday, January 25th, has expanded into a massive front stretching approximately four kilometres. Mayor Massimiliano Conti has described the situation as "dire," as the cliffside upon which the town is perched continues to crumble.

A couple of dramatic images taken by local residents of the landslide and posted on Facebook.

Aerial drone footage has captured dramatic images of the destruction, with multiple buildings torn apart as properties and cars hang perilously over the 25-metre precipice.

Under the direction of the civil protection department, a "red zone" has been established, leading to the immediate evacuation of over 300 families. While many residents found refuge with relatives, hundreds spent the night at a local sports arena, where the civil protection unit from Palermo delivered emergency supplies.

Two provincial roads leading to the town have been swallowed or blocked, and all schools in the area remain closed as technicians monitor the movement of the landslide, which is reportedly still advancing toward the heart of the town.

Regional president Renato Schifani has estimated that the broader damage caused by Cyclone Harry across Sicily has already reached €740 million, a figure likely to climb as the Niscemi crisis evolves. Italy's civil protection minister Nello Musumeci has pledged the full support of the Meloni government, dispatching a specialised team of geologists to assist local authorities in predicting the landslide's next moves."

Author: Patrick Gaffikin

Illustrations courtesy of author unless shown.

Trace fossils - uncovering the secret lives of fossils!

I suppose it was only a matter of time before our 'geological sleuth' Paddy Gaffikin took on those enigmatic trace fossils. We find lots of them, but what made them isn't always that clear.

There's plenty of evidence, but who, or what, was the culprit?

Paddy investigates...

"....many organisms have left fossil evidence of their presence and way of life in the form of tracks or trails"

– p. 227, 'Principles of Palaeontology' – D. M. Raup and S. M. Stanley (1971).

Trace fossils in general

Trace fossils in the form of calcium carbonate 'tubes' left by serpulid worms.

Trace fossils, also known as ichnofossils, are tangible evidence, of an aspect of ancient life, preserved for us to see. They are not the actual remains of animals and plants which lived in the distant past – these are known as body fossils. Trace fossils provide insights into the behaviour and movement of ancient living things.

Examples are imprints, burrows, footprints, coprolites (fossilised dung) etc. Unlike body fossils, they can capture a picture of interactions between organisms and how they lived in their environment millions of years ago. Body fossils can tell us a lot but sometimes trace fossils can tell us even more, for instance if the rock in which they occur is the 'right way up'.

If certain worm burrows, for example, are upside down then the rock in which they are present was inverted (by tectonic forces). Body fossils are not always easy to find but it can be even more difficult to discover trace fossils. They are not as numerous as body fossils because the conditions for the formation of trace fossils are rarer than the conditions necessary for the preservation of body fossils.

Imprints

Imprints of ancient organisms were originally formed in soft sediment

Sketch showing some trace fossils – a footprint and worm burrows. (Not to scale)

like mud, silt or sand. The impression eventually hardens and is infilled with sediment which also, after a long space of time, hardens and preserves the original shape. After very many years the infilled sediment erodes to expose the imprint. Plants, because they are composed of soft organic material, often are found as trace fossils.

The imprint of a reptile foot in Triassic Scrabo (Co. Down) sandstone. It is usually on display in the Ulster Museum, Belfast. (Image: Ulster Museum, Botanic Gardens, Belfast.)

The original plant is compressed into suitable sediment – the sediment would not be too soft or too hard. If the former, no lasting impression is made and if the sediment is too hard, no imprint is made. Sometimes plants are fossilised to reveal carbonised plant remains but these are NOT regarded as trace fossils. It is only plant imprints with no organic remains are considered trace fossils.

Burrows

Worms, because they do not have any hard parts, do not leave any body fossils but their burrows into (initially) soft sediment are preserved and these are trace fossils. Some marine crustaceans, like

A carbonised plant in Carboniferous Limestone. It is NOT regarded as a trace fossil

Wood cast fossils
(Image: Dr. N. Moles, Brighton.)

shrimp, also leave trace fossils in shallow sea conditions.

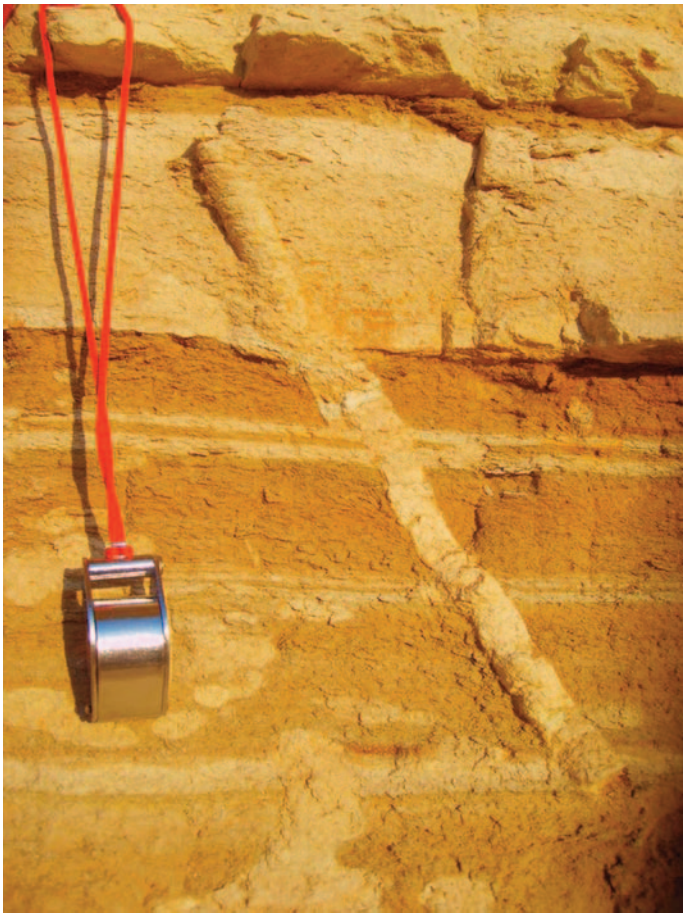
There are a couple of points to note when examining burrows in the field. They are often harder and paler coloured than the surrounding rock due to being better cemented and any organic material having been removed by the animal responsible.

Varied tracks and trails on a bedding plane.
(Image: Dr. N.Moles, Brighton.)

Most burrows will, by definition, cut through the sediment sometimes in a simple U-shape, but also, in some cases, in a much more elaborate fashion.

Burrows thought to have been made by crustaceans like shrimp. Image(: Dr. N. Moles, Brighton.)

Finally, don't forget that it's not just worms that can burrow. There are many other organisms, including some with shells, that can live in this way. Think about the modern razor shell for example.



A fine example of a simple cylindrical burrow often found in sandstone and can date back as far as the Cambrian Period.
(Image: Dr. N. Moles, Brighton.)

Footprints

Footprints, such as those of dinosaurs, can enable scientists to estimate the weight of the creature which produced them. These days such trace fossils are often the starting point for investigations that can involve 3-D investigations and computer modelling. At the end, we can often track down the animal that made them right down to species

level. We can also understand how it walked and even the speed that it was moving and its weight - not bad for a few footprints!

Dinosaur footprints.
(Image: Dr. N. Moles, Brighton.)

Coprolites

Picture of what is thought to be a fish coprolite
(Image: Dr. N. Moles, Brighton.)

Coprolites were discovered in the early 1800s on the Jurassic coast by the famous fossil collector Mary Anning. Her samples were studied by the renowned palaeontologist Rev. William Buckland who, in 1828, coined the name 'coprolite'. They can contain small bones, scales, plant material and even pollen and experts study the pollen, for example, to establish the type of plants living at the time the animal, which produced the specimen, was living.

From such findings they can come to an understanding of the type of climatic conditions prevailing at that time. Diet can also be ascertained and this can illustrate whether the creature was a herbivore, carnivore or omnivore and lived in the sea or on land. Thin sections, chemical analyses, electron microscopes etc. can be employed to study even extremely small constituents of coprolites. Specimens can range in size from a few millimetres to over 60 centimetres.

Some 'famous' trace fossils

The Laetoli footprints

In 1976, a team led by the archaeologist Mary Leakey found hominin footprints, of age around 3.6 million years old (Neogene), made by what is thought to be the distant human ancestor *Australopithecus afarensis* in solidified volcanic ash in Laetoli, Tanzania.

The Laetoli footprints of Tanzania
(Image: University of St Andrews)

The path is around 27 metres long and consists of about 70 separate prints. Their discovery established that these ancient humans walked upright and had a human-like gait. Those same footprints are now in danger of being lost to the threats posed by climate change (see elsewhere in this issue).

Dinosaur trackways in Oxfordshire

A long dinosaur trackway consisting of over 200 footprints, around 166 million years old (Jurassic), was discovered in a quarry in Oxfordshire and this enabled scientists to establish dinosaur behaviour like movement.

Termite nests

Fossilised termite nests from the Jurassic were uncovered in Utah and Colorado and these exhibit intricate tunnels, which provide clues as to the social behaviour of these ancient creatures.

Valentia Island footprints

Valentia Island, off the coast of Co. Kerry, Ireland, is world-famous for a series of footprints made by a very primitive tetrapod (a four-limbed animal) around 385 million years old (Late Devonian). It was discovered by a geology student in 1993 and it is famous because, to date, it is the earliest evidence of tetrapods walking on land.

The Valentia island trackway
(Image: University College Cork)

Finding trace fossils

If you are on the lookout for fossils, don't overlook trace fossils, even though not as abundant in situ as body fossils. But this makes them even more satisfying to find! Don't forget history has shown that it is often amateur geologists that make the most significant discoveries of geological samples.

article

Author: Sylvia Woodhead

Illustrations courtesy of author.

Geoconservation in action - Millom Rock Park rejuvenated!

Around fifteen years ago, I had the pleasure of visiting the newly created Millom Rock Park on the occasion it had won the ENI Geological Challenge. This national competition was awarded for a volunteer led project designed to promote geology and landscape in a local area.

Since then I've visited the site on a number of occasions with groups of people and have kept up with what's happening.

Here, Sylvia Woodhead of Cumbria GeoConservation, recounts the long and detailed processes (almost geological in length) behind the new geological interpretation panels at Millom Rock Park, that will ensure it's continued contribution to the regional geological scene...

Nine Cumbria GeoConservation (CGC) members, six Holcim (formerly Aggregate Industries) staff, two Millom Without Parish Councillors, a Deputy Lieutenant of Cumbria, pupils from nearby Thwaites school, and others braved cold weather to celebrate the official relaunch of the refurbished panels at Millom Rock Park, on 18th November 2025.

The rain had washed the panels clean of any dust and the rocks shone in the unexpected sunshine. A ribbon was placed across the entrance, and groups of people, including the school pupils, took turns in cutting the ribbon. Frequently visited on GeoSupplies field trips, this wonderful geological treasure is now back to its former glory, and is always worth a visit, whatever the weather.

Millom Rock Park in July 2025, with the revamped boards newly reinstated

The Rock Park is situated at Holcim's Ghyll Scaur Quarry (SD 171827). The quarry, operated by Holcim, produces high specification roadstone aggregate. It was designated a Local Geological Site (LGS) in 1996 for the scientific interest of its Borrowdale Volcanic Group (BVG) vulcanicity, cultural links to mining in Millom, aesthetic views over a working quarry, and its fantastic educational value, now with a 4-star rating. It is a geological site that can be visited by those with low mobility.

Millom Rock Park Relaunch Event 18 November 2025 with the invited guests and volunteers.

An overview of Holcim's Ghyll Scaur Quarry as seen from the Rock Park.

Large specimens of Cumbrian rocks were sourced and placed at the Rock Park, at a clearing overlooking the working quarry. Originally each rock had a separate label on a nearby post. Two boards at the quarry overview explained the rocks and the quarrying processes. A board looking south to Millom explained the former iron ore mining in this area. A large piece of haematite, splendid in a sealed transparent case, is still there. Other boards detailed the rock cycle. The geological texts for the original panels were written by Dr. Eric Johnson. In March 2010 Aggregate Industries opened the Rock Park, with a talk by Prof Peter Kokelaaar.

One of the new boards, putting the rock trail into a larger community setting and bearing Holcim's branding.

Over time, the boards deteriorated, and the rock blocks lost their original clarity, due to lichen growth. Visits in 2017 & 2021 noted some signs missing, and general deterioration of the information boards. Meanwhile Aggregate Industries was rebranded as Holcim.

After several visits by CGC and Holcim, and many emails, in 2023 it was agreed by Geoff Storey, Area Manager of Holcim, that all the boards needed to be replaced. Geologist Dr Elizabeth Pickett and designer Marcus Byron were commissioned to design new signs, in liaison with CGC. Visits were made by CGC and Holcim.

Several visits and improvements started. Gary Jacques, Holcim quarry manager, organised clearing the area of encroaching vegetation and refreshing the chipping surface. The rocks were power washed. Elizabeth contacted Eric Johnson to check that he was happy with the updates. Marcus and Elizabeth installed all the new boards in June 2025.

Welcome to 'Rock Street' a bold new board - and a brilliant concept!

A new board explains the layout of 'Rock Street'. A map shows the source of the blocks (where known) and there is a board describing each rock in detail. These new boards grab and maintain the interest. The geological information is clearly explained for all to understand: the boards are bright, modern, and hopefully will last another 15 years, and more. Holcim will maintain the Rock Park until at least 2045.

A visit to Millom Rock Park is strongly recommended, though until then, you can get a sneak preview of the boards here: https://www.holcim.co.uk/about-us/millom-rock-park.

The Peperite (Andesite) board takes a serious geological topic and tells it for the wider public

Footnote: CGC now has 12 other geological identification boards, at quarries and LGS. Given their value, in monetary and geological terms, CGC has now introduced an annual review visit, with a member assigned to check the board's condition and to give it a refreshing clean. Members will go armed with a gentle washing up liquid spray and cloths, and perhaps secateurs to tackle any encroaching vegetation.

Author: Sylvia Sherriff

Illustrations courtesy of author unless shown.

Anne Hathaway's cottage & its limestone flooring

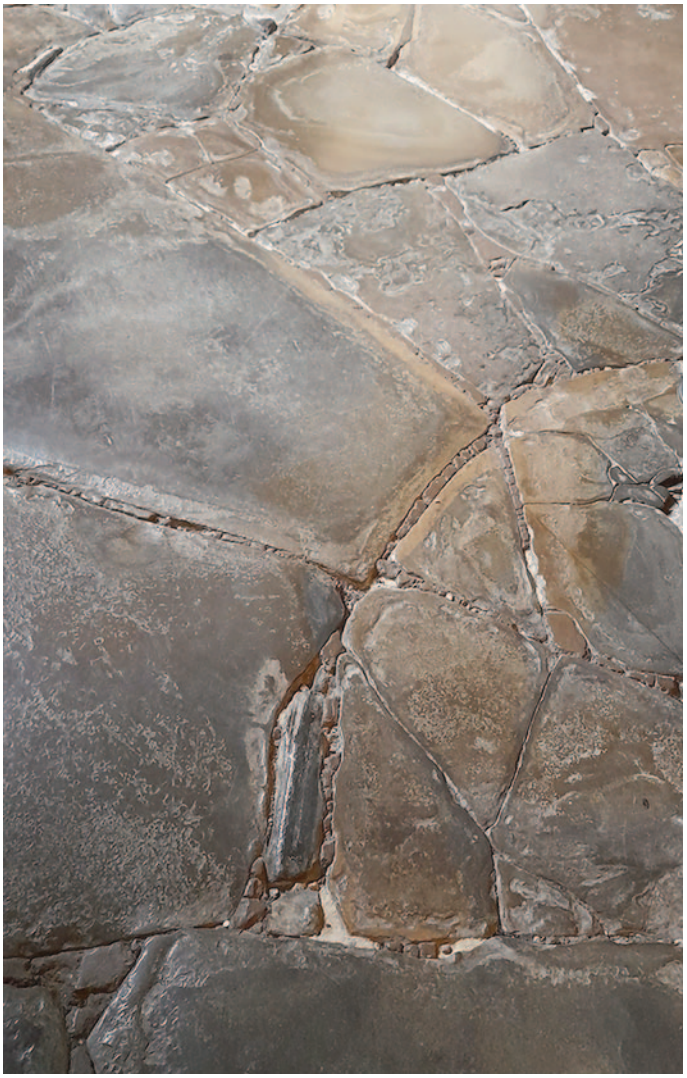
We are always pleased when Down to Earth readers put pen to paper (in the electronic sense) and provide us with original material that we can share with you our readers.

Enter then a new contributor, Sylvia Sherriff, who tells us about a lias limestone floor in Anne Hathaway's cottage...

In August, whilst visiting the house of Shakepeare's wife, Anne Hathaway, I had been silently admiring the flagstones of the kitchen floor, neatly jig-sawed together and rich with the shiny patina of age, when the guide said, "The floor is interesting. It is of Blue Lias limestone."

I remembered, when on a geological field trip with BGS, seeing the treacherous quagmire of grey mud at the foot of the crumbling Blue Lias cliffs near Lyme Regis! I was, therefore, very surprised to see the floor was still intact.

Interior shot of Anne Hathaway's cottage showing brick and stone walling and Blue Limestone flooring



Detail of the Blue Lias flooring of Anne Hathaway's cottage. It's amazing to think that this floor was laid in 1463.

The floor was laid when the cottage was built as a hall house in 1463. That would have been during The War of The Roses, when the Yorkist King Edward IV was on the throne. Seven years later the Earl of nearby, Warwick, just ten miles to the north of the cottage, would be heavily involved in putting the Lancastrian, Henry VI, back on the throne, but only for six months, until Edward IV was back again. These were turbulent times indeed!

So, the kitchen floor, at what is now called Anne Hathaway's Cottage, has been there for over 500 years. As a further testament to its durability and of Blue Lias Limestone generally, when used indoors, is that it is the only ground flooring in the property that has not suffered from water problems.

The limestone for the floor came from a quarry near the village of Wilmcote, close to where Shakespeare's mother, Mary Arden, lived. It was also used in the foundations and plinths of The Mary Arden Farmhouse to support the timber frame building. The medieval packhorse bridge at Bidford-on-Avon, although patched over the centuries using a mix of other stone and bricks, still contains a lot of the original Wilmcote Limestone from its medieval construction.

The bridge at Bidford on Avon incorporates a lot of Blue Lias in its construction.
(Image: Courtesy of Wikipedia)

It is thought that the bridge, which is still in use today for the B4085 to carry traffic into the village, was built in the early 1400s by local monks from Bodesley Abbey. Helen Smith of The Shakespeare Birthplace Trust says that Wilmcote Limestone can also be seen in the ruins of a what were once a fine Jacobean manor house and church at Billesley, a village that largely disappeared following 'The Black Death'.

The Palladian mansion of Ragley Hall, near Alcester, that was built for the 1st Earl of Conway in the 1680s, is also constructed from Wilmcote Limestone, although, it is dressed with local Arden Sandstone. Warwick Castle was mainly built using local sandstone from the river buff at the foot of the castle walls, although, it is possible that some Wilmcote Limestone was used for decorative purposes.

A group of Blue Lias quarrymen at Wilmcote Quarry photographed in 1905
(Image: Warwickshire County Record Office - taken from the Our Warwickshire website)

The Wilmcote Quarry was reopened in the early 1800s, using canal transport and a network of light gauge railways. The limestone continued to be used in construction and the softer shale layers for the production of lime and cement. Sadly, the limestone was found, in retrospect, to be unsuitable for gravestones; exposed to the elements on the vertical plane, they suffered severely from weathering. However, Wilmcote Limestone continued to be very popular and in the mid-1800s Sir Charles Barry specified that Wilmcote Limestone flagstones be used along with the decorative encaustic tiles for the flooring of the new Palace of Westminster.

The quarry was in operation until 1908 when it was decided that the over burden was too deep to allow quarrying to be continued economically. Unfortunately, I did not have time to visit the site of the old quarry but online information says that there is still quite a lot of industrial archaeology to be seen and that one of the old quarries is now a nature reserve. Also, the row of Wilmcote Limestone miners' cottages is still standing and occupied, though no longer by miners.

As a child I found an ammonite fossil on the beach at Sandsend, near Whitby. It would have come, of course, from the Blue Lias. Many years later, I enjoyed visiting the cliffs of Blue Lias on the Dorset Coast. However, until learning of The Wilmcote Quarry, I had not realised that, between the outcrop on the Northwest Coast and the one on the Dorset Coast, the band of, mainly unexposed, Blue Lias has been quarried for hundreds of years and that the limestone, as well as the softer shales, continues to play an important role in today's construction industry.

Somewhere, in one of the larger flagstones on the kitchen floor in Anne Hathaway's Cottage, an ammonite can be seen, or so the guide told me. Perhaps, if your eyesight is better than mine, you can see it in the photograph?

With many thanks for their helpful assistance, both to the volunteer guide in the kitchen at Anne Hathaway's Cottage on the 6th of August 2025 and to Helen Smith of The Customer Service Team for The Shakespeare Birthplace Trust.

Editor's footnote: I came across this additional note about the Wilmcote Limestone Quarry on the ***WarwickshireRailways.com*** website.

"There were two strata of limestone at Wilmcote, a hard layer which was used for building and paving stone (most famously the floor of the House of Lords) and a soft layer ideal for making into quicklime. William James had extensively invested in other ventures and when the Napoleonic Wars ended in 1819, a general financial collapse caused him liquidity issues and he went bankrupt in 1823. His quarry and canal interests were taken over by the Stratford carrier, Richard Greaves who owned a fleet of canal barges. In 1824, Richard Greaves started a lime quarry at Gipsy Hall Farm and built a three foot gauge tramway to the canal basin, where in 1830 he constructed several lime kilns. In 1840 he went into partnership with John Kirshaw and started manufacturing 'artificial' cement. By 1847 the annual output of the Wilmcote quarries exceeded 16,000 tons and employed 150 people."

ADDRESSES AND OPENING TIMES

Shakespeare's Birthplace Trust
www.shakespeare.org.uk Tel: 01789 204016
Email info@shakespeare.org.uk

Anne Hathaway's Cottage
22 Cottage Lane, Shottery, Stratford-upon-Avon, Warwickshire CV37 9HH
Open Daily – from 10am to 5pm with a café across the road.
Contact details as above.

in-house

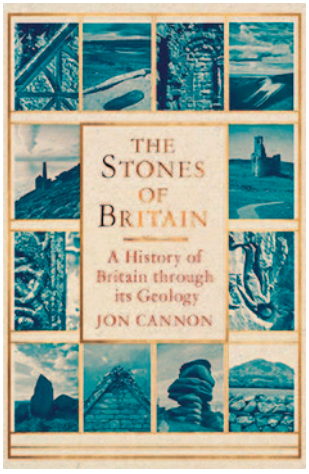
A look at some of the new and exciting happenings in the world of Down to Earth & Geo Supplies - by Chris Darmon

Book supplies can be a problem...

It seems that books are being featured in every issue of ***DtoE*** at the moment and it's not always for good reasons! First of all we told you about a lack of books to review and then, low and behold, they turned up again! Now the problem seems to be supply.

Over the last few years things have been tough for many people in the book world. First there was Covid when book sales soared and then there was a fall off with the rise of e-books.

The last two years have seen major changes in book publishing and major cost pressures on print and paper. This has impacted particularly on what might be termed minority interest books such as those covering geology.



There has been a big rise in books being self published by authors seeking to get themselves into print. They tend to use short run printers and also to avoid established distributors.

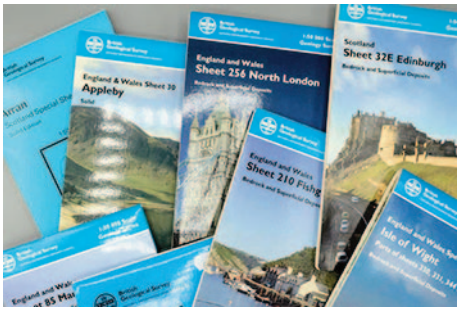
The end result is that we, as specialist book suppliers, cannot always secure stock of every title. This has been the case with the book ***"The Stones of Britain"*** by Jon Cannon. We regret that we are unable to supply this title and for any inconvenience caused.

Cream of the Crop 2025...

Due to a couple of rocks being currently elsewhere in the country awaiting delivery to us in Sheffield, we are holding back on the release of our ***2025 Cream of the Crop*** specimens.

We expect to be in a position of releasing them in May or June of this year. In the meantime, you can go to our website: www.geosupplies.co.uk for the full selection of rock specimens that are on offer.

BGS books and maps offer amazing value!



Aside from increases to cover postage (currently we charge just £2.00 per map) the cost of BGS maps has not been increased for more than 10 years and they offer phenomenal value.

The vast majority of 1:50 000 and 1:25 000 maps for England, Wales and Scotland cost just £12.00. A few reprints of older maps have a cover price of £15.00.

Remember that we keep a full range of in print BGS map products in stock for immediate delivery. Why not use us for all of your map requirements!

To check on availability of a specific item ring us on: 0114 245 5746 or email: sales@geosupplies.co.uk

give someone a subscription...

Down to Earth is published quarterly. Subscribe now for 2026 for just £17.00 in the UK. We'll send the 4 issues for 2026 along with back issues for 2024/5. For an additional £30.00 (UK only) we'll send you a parcel of back issues - around 50! Alternatively, take a 2026 e-subscription for £11.00. Additionally, all subscribers will get ***DtoE extra*** FREE each month.

If you would like to receive multiple copies for club, society or group, please enquire for bulk rates. We are only able to offer bulk copies in electronic form. Bulk e-subscriptions start from just £25.00 for distribution to up to 10 people.

Name…… Address…….....

……..Post Code..... Email.....

HOW TO SUBSCRIBE - Go online at: www.geosupplies.co.uk • Tel. 0114 245 5746 and quote any major card • or send a cheque (payable to Geo Supplies Ltd.) to: 49 Station Road, Chapeltown, Sheffield S35 2XE *I/2026*

If you haven't joined one of our residential field trips before, what can you expect?

- ***Our residential field trips are suitable for adults of all levels of interest and geological knowledge.***
- ***Our trips are friendly and informal and usually comprise 15-20 people. Overseas trips are usually larger.***
- ***We usually make use of comfortable small hotels and guest houses and all meals are included.***
- ***You have the services of Chris Darmon and Colin Schofield as field leaders. Both are highly experienced and knowledgeable field geologists.***
- ***For some trips we have a hired minibus but on other trips we will use shared cars, or even public transport.***
- ***Dates shown in this listing are the start and finish dates.***
- ***Where prices are quoted, they are per person in a shared twin/double room.***

If you still have any questions or queries, don't hesitate to email us at: downtoearth@geosupplies.co.uk or tel: 0114 245 5746

Before you book one of our field trips...

We are always pleased to welcome new people along on our trips. So if you are thinking about it, what do you need to know before you 'take the plunge'?

Who are the trips aimed at?
The short answer is that they are not aimed at any particular group of people. Our participants are mainly older retired people who want to keep their minds and bodies active, but younger people are welcome.

Some people have lots of geological field experience whilst others are complete beginners. As one person put it to us "I've forgotten all I once knew and need to come along to hear it again." Our UK trips are all small groups of 15 to 20 people maximum so we can make lots of what we say personal to you.

Will I be able to manage the walking?
We always try to keep walking to a minimum, but, almost by definition, some walking will be involved. If you can't manage a particular walk, just tell us and it will never be a problem for you not do it. We have one person who really enjoys sketching - she's done some amazing sketches while the rest of us visit a quarry!

How do we get about on trips?
It varies a lot from trip to trip. Sometimes we hire a minibus, on other occasions we use public transport and at other times we'll make use of shared cars. Look at the details for each trip to find out.

What about accommodation?
We always try to use hotels or guest houses that have ensuite rooms as standard. Most of our accommodation will provide breakfast and evening meals, but sometimes we eat in local restaurants. We include the cost of all food, including a packed lunch for each field day.

We prefer to use small family run hotels and guest houses but they are getting harder to find, so sometimes we use larger hotels such as Premier Inns and hotels in the Leisureplex group. Once again, see the individual trip brochures for details.

Are your bookings safe with us?
Yes indeed they are! We've been in the business of running trips a long time and ensure that all the money you pay us is safe in a client trust account until your trip is completed.

But, above all, our trips are educational informative and FUN! We don't take ourselves or our geology too seriously. After all you are on holiday - and you are paying for it! We look forward to welcoming you on a trip sometime soon.

The 2026 programme...

We are delighted with how well our programme of field trips for 2026 has been received. That said, we still have vacancies on most trips especially for couples or people willing to share a twin room. If you haven't been with us before, you are particularly welcome, but please don't leave it too long before making your booking. Over the past year we've lost count of the number of people who have left it too late and we have had to decline their booking.

The Jurassic Coast of Dorset, March 27-April 1 £995
Believe it or not, we have not visited the famous Jurassic Coast of Dorset since 2017, so it's high time that we put that right! As on the last occasion, we're basing our trip at the seaside town of Weymouth which is well connected in terms of public transport and also has suitable accommodation for us to use. We're going early in the season so that we can offer you a good value trip, but with the recent pattern of mild winters, we hope that by the end of March it will be reasonably warm.

The magnificent Durdle Door (Image: Visit Dorset)

As for the magnificent geology what can we say? We hope to take in some of the area's 'gems' including Durdle Door, Lulworth Cove and Swanage. It would also be good to call in on Mary Anning's favourite stomping ground of Lyme Regis. We also hope to take in the amazing fossil collection on show at Dorchester Museum.
Get in soon to secure your places on this early 2026 trip!

The Northwest Highlands of Scotland, April 14-22 £1695
Ask Colin and Chris what their favourite trip is and they will answer "the Northwest Highlands". It combines their favourite hotel with their favourite geology and landscape! Accordingly we are once again offering this 8-night gem even though we were last there in 2024.

Welcome to our real world!

Loch Assynt is but a stone's throw from the Inchnadamph Hotel (Image: Wikimedia Commons)

On this trip we pay homage to Britain's oldest rocks in the form of the 3 billion year old Lewisian Gneisses, along with the overlying Torridonian Sandstones and the Cambro-Ordovician sediments. These all came together as a result of the Caledonian Orogeny some 420 million years ago. In much more recent times, the Ice Ages of the last 2 million years have given us the mose beautiful and unspoilt landscape that we can enjoy today.
This trip is now full, ask us about cancellations.

Central Cornwall, May 1-8 **£1595**

Old mines and magnificent coasts. (Image: Into Cornwall)

We discovered Tricky's at the Tolgus Inn in Redruth in time to take two groups of Americans during 2025. Now we are offering the location to our regular clients! Redruth is centrally located on the main railway line from London Paddington and allows us to reach most of the main parts of Cornwall without long journeys.

During this week we'll be taking in the granites of Lands End, the ophiolites of the Lizard, the china clays of St Austell and the amazing folded rocks of North Cornwall around Tintagel and Boscastle. We'll also go down a tin mine and visit Wheal Martyn China Clay Museum. We'll have the use of a locally hired minibus or coach to get around on this trip, making it possible for everyone.
There are still twin and double rooms available on this trip.

Teesdale and the North Pennines, May 16-23 **£1395**
We've been looking to visit this area for some time and have never quite got around to it until now! Finding the wonderful family run Teesdale Hotel was the final piece in the jigsaw and hey presto - here we have a new location!

We'll be taking in the wonderful Upper Teesdale with its Lower Palaeozoic inlier along with High Force, Lowe Force and Cauldron Snout. There's great limestone scenery as well as the Great Whin Sill. Over in Weardale we'll take in the lead mines around St John's Chapel and Killhope as well as the Frosterley Marble and the fossil tree at Stanhope.
This trip is now full, ask us about cancellations.

Minehead & North Somerset, June 7-12 **£995**

Fabulous cliff scenery at Watchet in North Somerset (Image: Chris Darmon)

Everyone knows about Dorset's 'Jurassic Coast', but similar fossiliferous rocks also outcrop to the east of the seaside resort of Minehead, around Watchet & Blue Anchor on Somerset's North Coast. During this 5-night trip we'll be taking in these rocks, as well as fabulous coastal scenery to the west around Ilfracombe and the Valley of Rocks at Lynton which are carved in Devonian strata. We will also take in some great Carboniferous limestone strata around Weston super Mare and Portishead that also includes rare basalt.

Private minibus transport will be provided each day allowing everyone to enjoy the beautiful scenery of the Exmoor National Park. We stay at a 4-star guest house in Minehead and enjoy excellent food in local restaurants for our evening meals. All this with the added bonus of a ride on the Lynton cliff railway!

We can still accept additional people in double or twin rooms.

Shetland - the North Isles, June 17-25 **£1895**
Everyone should visit the Shetland Isles at least once in their lives, so says Chris, who's been there around a dozen times over the past 40 years. The best time to visit Shetland is around mid-Summer when it never really gets dark. We invite you to join us as we take in the North of Mainland and the Northern Isles of Unst, Fetlar and Yell, home to some of the most amazing geology in the entire UK. Visit the Moho in a small quarry in Unst and get yourself a sample of serpentine to rival any from Cornwall.

Anglesey, July 5-10 £995
We love going to Ynys Mon, or as the English know it, Anglesey. As a long established geopark it's geology is superb and also unique as the main location to see rocks of the Mona Complex.

Based at the former copper port of Amlwch in the north of the island we will explore some of the best sites on the island, many of which are close to our base.

The Dinorben Arms Hotel, our base on Anglesey

Come with us to see some very rare rocks and also experience some fine coastal scenery. On this trip you get to see sedimentary, igneous and metamorphic rocks of many types!
There are still twin and double rooms available on this trip.

What is our Summer School?
Our Summer School is modelled on those that used to be run by the Open University a number of years ago. All are based on a campus of one sort or another where we can sleep in largely single, en-suite study bedrooms and enjoy on site meals. They are also more than just field trips with dedicated transport each day. There's an evening programme of talks from local experts and also social events. In short - something for everybody, including those with limited mobility!

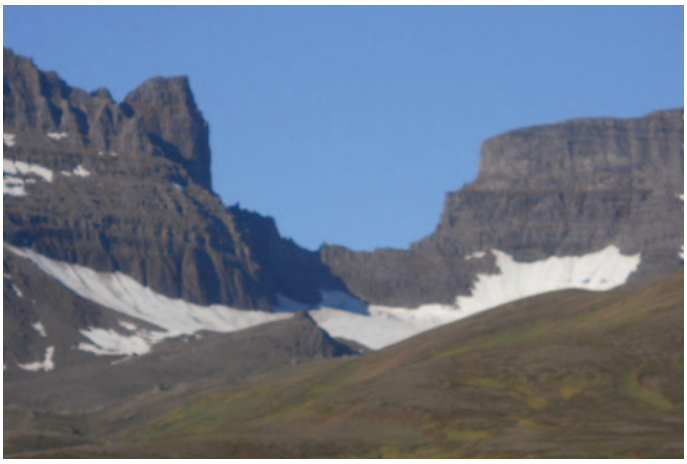
Summer School at Harper Adams University in Shropshire
August 8-15 £1495
For our ever popular Summer School week, we are returning to the campus of Harper Adams Agricultural University which sits in lovely grounds in Shropshire. We last visited in 2018 and have a packed itinerary planned including some new localities.

Highly fossiliferous Silurian limestones at the Wren's Nest National Nature Reserve in Dudley.
(Image: Visit Birmingham)

Shropshire is home to a wealth of geology spanning many time periods and covering many types of rocks and landscape. We'll be taking in the Precambrian rocks of the Church Stretton area, the Lower Palaeozoic sediments of Wenlock Edge and the Lickey Hills as well as later rocks in Cheshire and the Black Country.

Yes, there's something for everyone and that's before we add in the evening talks and activities as well as the excellent company.
Still plenty of single rooms available!

Iceland - the North & East Fjords, September 13-22 £2695



The Eastern Fjords are beautiful in any season!
(Image: Chris Darmon)

These days a lot of people go to Iceland, but they very rarely visit the north and east of country. In this trip with our usual guide and driver Ingi, we'll begin at Keflavik near the airport and then travel to Akueyri before working our way clockwise to Myvatn to the volcano Krafla before heading to the beautiful east Fjords.

We'll stop in the amazing geo-village of Borgarfjarðar Eystri to see Iceland's most colourful rhyolitic rocks. The last time we were here we did see the Northern Lights in all their glory! Iceland is an amazing place but these days much of it is over visited by tourists. This cannot be said for some of the places that we will be visiting on this trip. This is the real Iceland, where natural wonders and beauty are able to shine without the smell of hamburgers!

To complete our trip we travel back from Hofn to Keflavik completing our circuit of Iceland. There's an option of an additional night at the end to have a day looking at the most recent volcanic activity on the Reykjanes peninsula and viewing the recent - and still hot - lavas.
This trip is now full, ask us about cancellations.

Melrose in the Scottish Borders, October 18-24 £995
We end the year with a good value 6-night trip to a new area of the Scottish Borders. Melrose is in the heart of an excellent area of fine geology, with sediments from the Ordovician, Silurian and Devonian along with a fine array of igneous rocks, both extrusions and intrusions that mainly date from the Carboniferous.

During this trip we'll be taking in the famous localities of Dob's Linn near Moffat where Charles Lapworth established the Ordovician and Silurian boundary and also James Hutton's famous inconformity at Jedburgh. We'll also have a day in Edinburgh exploring some of the famous sites in Holyrood Park.

Our base for the trip is the comfortable Waverley Castle Hotel which sits in beautiful grounds on the outskirts of the small town.

The Waverley Castle Hotel on the outskirts of Melrose is our base for this 5-night trip.

We can still accommodate extra people on this trip in double or twin rooms.

To make a booking email us at:
downtoearth@geosupplies.co.uk or ring us on: 0114 245 5746
Booking forms are only available from us.
email: downtoearth@geosupplies.co.uk
or ring us on: 0114 245 5746

Learning with us is FUN...

We've been offering online and distance learning since before Covid and over that time hundreds of people have taken part in our learning programmes from the UK and around the world. All our learning programmes are created and delivered by our in-house team of Chris Darmon and Colin Schofield. Both are experienced teachers of distance learning over many years.No one is required to carry out any sort of assessment and there's no entry requirements or formalities. Just sign up and go!

There's still time to join an Autumn class, but hurry! See below for details of new courses commencing in early 2026.

What's on offer this Winter?

Simply Rocks! - a course aimed at people wanting to know about the basics of rocks, sedimentary, igneous and metamorphic. What are they and how are they formed?
This 6-week course is supported by a set of basic rocks, the cost of which is included in the course fee. You will be shown how to study rocks for yourself in a practical way. By the end you should be able to describe and identify many different rocks.

Course dates: Starts Tuesday February 3rd - March 10th
Cost: Six hour-long Zoom sessions with electronic background papers and a set of basic minerals £65.00 for one person or £85.00 for 2-people studying together. Printed background papers cost an additional £15.00. Zoom sessions on Tuesdays at 2.00 pm and 7.00 pm (you choose).

The Wednesday Club live Zoom sessions
We started this eclectic mix of subjects on Wednesday afternoons and evenings last year and they've proved to be highly successful. We hope that you like this new selection - they are all designed to bring you up to speed on some of the very latest ideas.

February 4	**Rocks deep beneath the pavements of London**
February 11	**A new look at the geology of the Peak District**
February 18	**The North Wales slate industry**
February 25	**The geology of the Scottish island of Raasay**
March 4	**The China Clay industry of Cornwall**
March 11	**Fabulous plants of the Rhynie cherts**

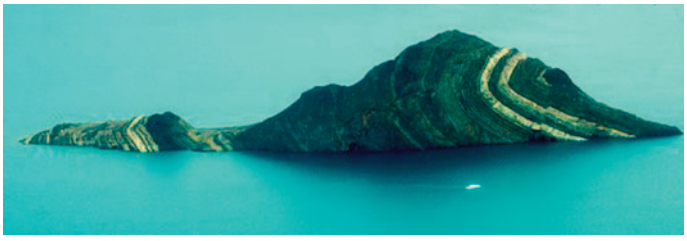
Cost: Individual talks £11.00 or £16.00 for 2 people.
Timings: Wednesdays at 2.00 or 7.00pm - your choice.

Time Travellers Coastal Britain
We first presented these topics back in 2021 so it's high time that we looked at them again. The UK's geology often presents itself at our rich coastline. We'll be taking in 8 great areas, including North Cornwall, Berwickshire & Northumberland, County Antrim, North Somerset, the Orkney Isles, Suffolk, Mull & Iona and Pembrokeshire.

Course dates: Starts Monday January 22nd - March 12th
Cost: Ten hour-long Zoom sessions with electronic background papers £65.00 for one person or £85.00 for 2-people studying together. Printed background papers cost an additional £20.00. Zoom sessions on Thursdays at 2.00 and 7.00 pm (you choose)

There's still time to enrol onto this course and get the missed sessions by way of a recording.

The Geology of Greenland - a one-off live Zoom special
Greenland, the world's largest island is home to some of the planet's oldest rocks dating back to almost 4 Ga. It also has a rock record that includes basalts similar to those found at the Giant's Causeway. Come and join us as we explore Greenland's fascinating geological journey.



When the ice melts, the rocks are 100% exposed - this is a spectacular fold on an island in King Oscar Fjord, thought to result from the Caledonian orogeny.
(Image: Courtesy of Wikipedia)

Monday, March 16th at 2pm or 7pm (you choose) £12.00 or £18.00 for 2 people studying on the same computer.

Life on Earth - the ups & downs of the Fossil Record in around 100 minutes!
Join us on this extended live Zoom session to take in all of the major extinction events that have taken place during Phanerozoic time. In around 100 minutes you'll get the feel of the fossil record and how it has been rocked by massive external events ranging from asteroid impacts to sudden changes in tectonics and environments.

Cost: £15.00 or £22.00 for 2 people on the same computer.
Wednesday, March 18th at 2pm or 7pm

To find out more or to enrol, email us at:
downtoearth@geosupplies.co.uk or ring us on: 0114 245 5746

You can enrol via our online shop at: www.geosupplies.co.uk
N.B. Once on our website,, enter the online shop first, then find the course or Zoom meeting.

backyard geology

This is the place where we feature the stories that you tell us about geological happenings in your local area. Email your story to: downtoearth@geosupplies.co.uk

Edinburgh's Radical Road set for partial reopening...

At long last it seems that the famous Radical Road footpath up from Edinburgh's Hoylrood Parliament building to Holyrood Park is set to be reopened, at least in part. It was closed back in 2018 following a landslip which saw around 50 tonnes of rock from Salisbury Crag brought down onto the pavement surface. The complete closure of the path meant that access to Hutton's section well away from the affected, section was also denied.

The Radical Road is visible below Salisbury Crag. It's now set for a partial reopening thanks to immense local pressure. (Image: Richard Barron/Scotways)

Whilst it was still possible to access the world famous section with permission, this was neither well advertised or easy to do. With 2026 being celebrated as the tercentenary of the birth of James Hutton, it is a relief that something is, at last being done about opening this back up.

The Radical Road, has been a high profile local cause ever since it was built in a plan suggested by author Sir Walter Scott in the aftermath of the Radical War of 1820. In the time since 2018 anumber of people from the local geological community have been voala in their pleas for it to be reopened. Now it seems that they have been listened to.

This comes from the website of Scotways:

"Historic Environment Scotland (HES) has recently submitted a planning application to partially re-open the Radical Road in Holyrood Park, Edinburgh. The Radical Road right of way has been closed for more than seven years due to rockfall concerns, which has also restricted access to the South Quarry, including Hutton's Section and Hutton's Rock. These areas are significant for geology, history, education and public enjoyment.

ScotWays has consistently pressed for the reinstatement of public access and is an active participant in the Radical Road stakeholder group. In October 2025, we attended a Radical Road site meeting during which the intent of HES's plans was outlined. While our concerns about the prolonged closure remain, we view this application as a welcome first step towards reopening.

As we also acknowledge the time pressure created by the 2026 James Hutton Tercentenary, we are keen not to hinder this long-overdue progress. To that end, we have not objected to the planning application but have submitted comments. The current proposal must be recognised by HES and the City of Edinburgh Council as only the beginning of finding a way forward to better protect public access along the Radical Road."

News of 'the Godstone tunnel'...

With freak weather becoming something of the norm in may parts of the UK - we hear of something like a 'sink hole' almost every week - you may wish to know what's happening in the Surrey village of Godstone.

The major commapse whach closed the High Street in the Surrey community of Godstone goes back to February 17th 2025. As this was clearly a major problem, the County Council had to undertake a major survey to assess the cuae and then design a solution, espcially since there were a number of (very expensive) recently consutrcuted houses above the affected area.

This comes from Surrey County Council's website:
"As a result of borehole testing, an underground tunnel has been located eight metres underneath Godstone High Street. Exact details of the tunnel are yet to be confirmed with further specialist testing underway, but evidence suggests it is part of an old sand mine. The surveys will look to establish its exact length and position, as well as its relevance to ongoing investigations and how it is best repaired. Current options include filling or grouting the area to make it more stable in the future."

Ongoing work at the site in January (Image: Surrey County Council)

The most recent post (January 2026) states:
"Work is continuing on Godstone High Street to fill and stabilise the underground mine network.

So far, over 600 tonnes of grout at depths of 8-10m below ground level have been put in place. These stabilisation works will continue over the coming weeks, after which we will be coordinating with SES Water to replace their infrastructure before the final reconstruction of the road and pavements get underway.

Due to the increased works required to tackle the tunnel network, our current expectation is that the road will be re-opened in the spring. We remain hugely sympathetic to the disruption being experienced by some residents and businesses in Godstone and are working hard to get the road safely open as soon as possible. We will continue to keep them updated throughout the programme of works via our regular letter drops and drop-in sessions, and thank them for their continued patience while we make the area safe."

The Bearsden shark sculpture project...

In 1982 local fossil enthusiast, collector and dealer, Stan Wood found a complete fossil shark in the local Carboniferous rocks. Now a grou[of local people, not content with being able to see the fossil on display at Glasgow's Hunterian Museum, want to raise the money to have a permanent 'shark sculpture' in Bearsden.

This comes from the website of the project:
"The Bearsden Shark was discovered by Stan Wood, a fossil hunter who became famous in the world of palaeontology. There are different stories about the finding close to where he lived. Locally it is said that young boys brought to him a piece of rock which he recognised as being fossil bearing. However, in his paper in ***The Geological Curator, 1983***, he says "I discovered exciting rare fossils in predominantly marine shales exposed in a stream, the Manse Burn". Stan had recently moved into the adjacent Baljaffray housing estate and some local people think he moved there being aware of the local geology which offered opportunities to a palaeontologist.

The Bearsden shark as found and prepared by Stan Wood in 1982. (Image: The Hunterian Museum, Glasgow)

The aim is to increase awareness of the wider Bearsden Community and visitors to the town of this unique shark fossil found here in Bearsden. We are aspiring to have a sculpture of what the Shark may have looked like on permanent display at a town centre location, the preferred position being at the Bearsden Hub.

As a first step we have procured a 3D scan image of the Bearsden Shark and have obtained quotations to make a life-sized model (rather less than 1 metre) suitable for making a sculpture. There will be additional costs for a mounting to display the sculpture and these are at present estimates to be confirmed.

There are opportunities for you to support the work referred to above, either by sponsoring cost of a particular item of work or to make a donation towards the costs of the sculpture project including 3D scan, model, mould, casting, mounting and display, which are currently estimated to amount to £12,000.

We have plans for other work to be incurred in maintenance, repair and replacement of the existing onsite information board; reprinting of the booklet; merchandise items such as shark key rings and shark paper weights."

If you would like to make a donation you can do so via bank transfer: Sort code: 80-22-60 / Account number: 28469060

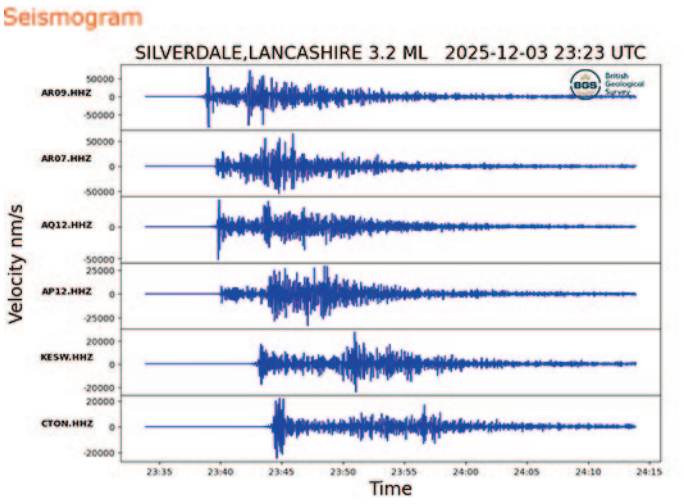
We will be pleased to discuss any questions you have concerning your involvement. Initial contact can be made via bearsdenshark@gmail.com or neilbuchanan1939@gmail.com

Magnitude 3.2 earthquake strikes Silverdale, Lancs...

This comes from Down to Earth reader, Sylvia Woodhead who actually experienced the event first hand:

"I heard a loud explosion. I thought at first it was a low flying jet, and then that it might have been thunder, but I saw no lightning. The sound seemed 'round' to me. It seemed to have come from the Lindale Fault up the top of the village. If it ever stops raining, I might go to investigate if there is any damage to see. (there was none).

The BGS earthquake site reported an earthquake, at 11.23pm on 3 December 2025, of 3.2 magnitude, with an epicentre about 100m from the shore at Silverdale, at a depth of 3km. The BGS have reported that thousands of people heard a 'loud explosion', but there have been no reports of damage. I reported my experience to the BGS earthquake page. They also recorded an aftershock of 0.8 magnitude at 00.54 the next morning, directly beneath the Arnside Tower.



The Silverdale earthquake of December 3rd. (Image: BGS/UKRI)

The WGS report for the Witherslack area suggests that the movement is likely to have been along the NNW-SSE Yewbarrow Fault, (to the west of Witherslack), which extends to Silverdale. (The Lindale fault extends to Far Arnside). The earthquake was apparently felt within a 25 km radius. The earthquake was reported on the national news. People in Silverdale ran outside, as houses shook and some dogs were disturbed. Many thought it was a passing train, although my hairdresser knew it was an earthquake."

Thanks Sylvia - Ed.

Update: There have been several aftershocks, in the same general area, the most being on December 18th.

New damage to the seawall at Dawlish...

As this issue was being complete, at the end of January, there have been some amazing images of damage that has occurred along the Dawlish section of the South Devon.

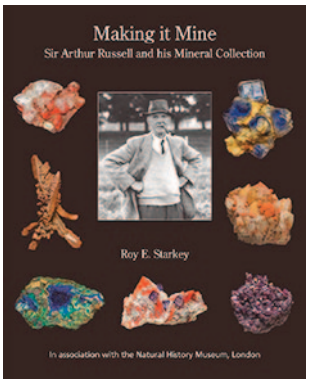
Sections of the railway boundary wall which sits on top of the seawall and promenade have been toppled onto the adjacent railway line. This was the very section that participants in the October 2025 ***Down to Earth*** trip walked along. However the newly complete seawall, built after the 2014 major washout appears to have held firm and there has not been major damage to the railway, which is the main line from Paddington to the West Country.

This hole next to the railway was discovered on January 28th. (Image: Great Western Railway)

At the time of writing the railway is closed due to the discovery of a major hole adjacent to the track in the section between Dawlish and Teignmouth, a little to the south. The walk along the Dawlish promenade is also closed.

The damage has been the result of two storms, Ingrid and Chandra which have greatly impacted the area. They have come in quick succession. On the afternoon of January 28th a major incident was declared in Somerset due to severe flooding in the Somerset levels.

If you like minerals, this book is definite must for you...



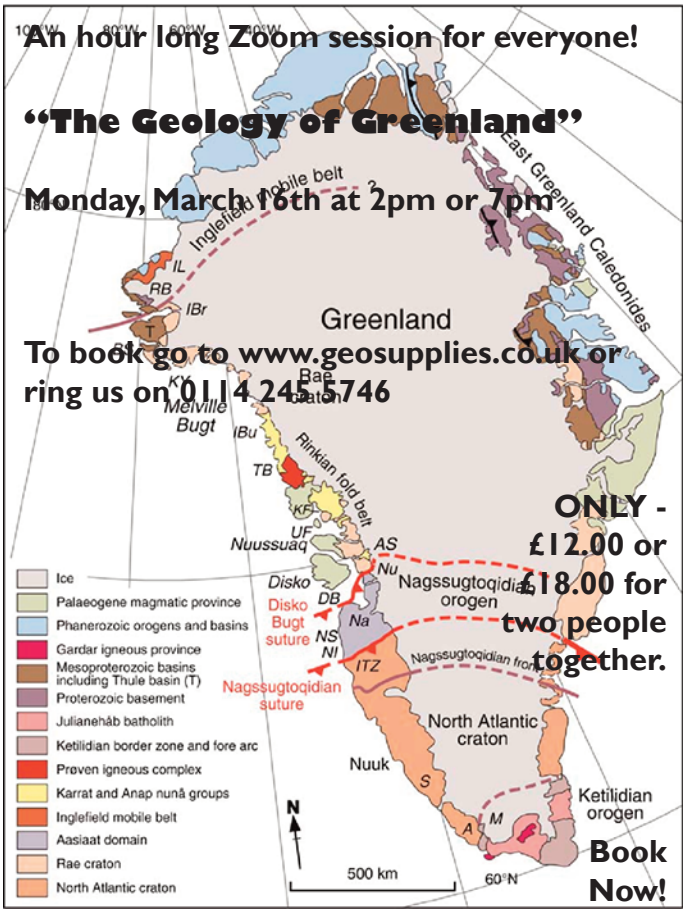
In the mineral world, the name of Sir Arthur Russell is almost at the level of royalty.

Sir Arthur Edward Ian Montague Russell, 6th Baronet (30 November 1878 – 24 February 1964[1]) was a eminent amateur British mineralogist.

The Russell Society which is Britain's foremost society for today's mineral collectors is named after him.

Roy Starkey is well known as an author of numerous mineral books and many of you will have heard him talk at a local geological society.

Thanks to his efforts, we are able to offer limited copies of his volume about Sir Arthur Russell's mineral collection "Making it Mine" at a specially reduced price - see the back cover of this issue for details.



Volcanic experiences 2026

Alan Clewlow has now been arranging "Volcanic Experiences" escorted group tours to volcanically active areas of the world for over 25 years. These tours are open to all adults but offer particular interest to members of local geology societies and those with some knowledge of geology, with the chance to see recently formed rocks and features and for some of the tours, the possibility of viewing an erupting volcano.

One of their most popular tours takes place in early September, covering much of the South of Iceland. After arrival and one night in Reykjavik, the group follows the main route along the south coast to the east, spending one night at Skaftafell, close to the huge Vatnajökull ice-cap, visiting the Jokulsarlon glacier lagoon and sites in the Skaftafell National Park. They then return westwards to be based at Hvollsvollur for four nights, covering many of the classic sites of the south, including the boundary between the Eurasian and North American tectonic plates at Þingvellir, hot springs and geysers at Geysir and the huge waterfall at Gullfoss.

The Svinafellsjokull glacier in the Skaftafell National Park fed from the huge Vatnajokull ice-cap in south-east Iceland.

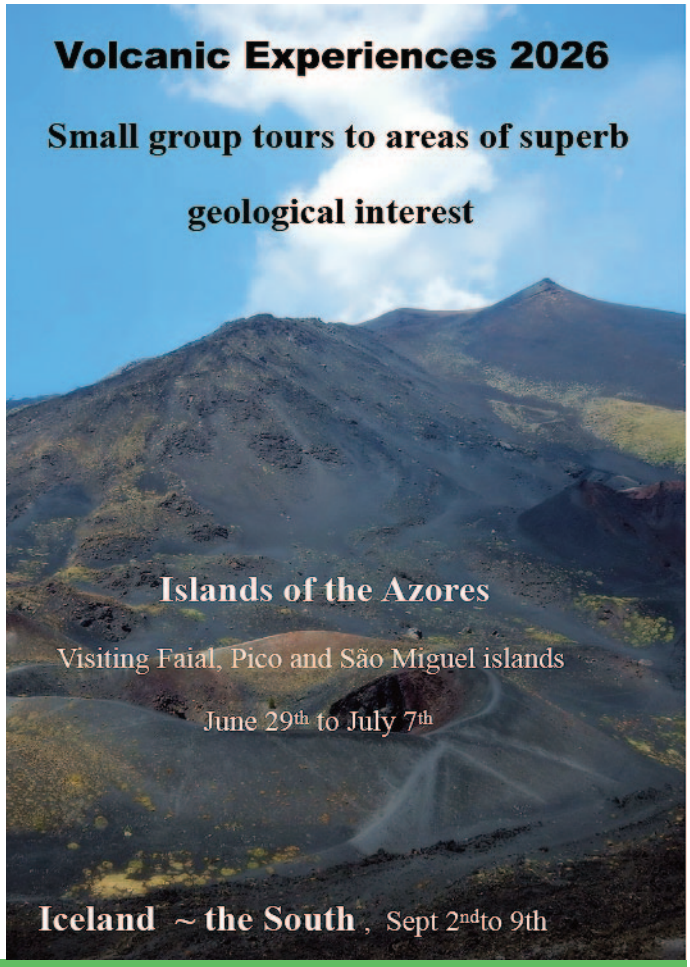
There is time spent at the Solheimjökull glacier and a ferry excursion to the island of Heimaey, site of a major eruption in 1973. One day is spent in the south-west on the Reykjanes peninsular, viewing the new features created by the ongoing eruptions near the Blue Lagoon and Grindavik, which have been taking place at regular intervals since 2021. There is a final night and morning back in Reykjavik, giving the chance to explore the city, before returning to the UK. The trip is timed to enable a possible viewing of the Northern Lights, which previous groups have often been able to witness when visiting at this time of year.

There is a new itinerary for the tour to the Volcanic islands of the Azores, which takes place in late June / early July. The base for the first three nights is Horta on the island of Faial, a favourite stopping-off point for yachts crossing the Atlantic. The island last saw major activity in 1958, when a major eruption took place, burying settlements and building new land out to the south-west. There is time spent on the rim of the main crater of the island and at the visitor centre devoted to the eruption. The group then uses the local ferry to move on to the nearby island of Pico, dominated by the volcano of the same name.

They spend two nights there, covering a variety of locations, including spectacular basaltic lava flows which have flowed down to build out the coastal platform. After an inter-island flight to Ponta Delgada, the group spends the final three days covering a range of sites on São Miguel, the largest of the the islands. It includes spectacular viewpoints, calderas with crater lakes, hot springs, bubbling mudpools and the chance to bathe beneath a hot waterfall!

Crater Lake at Lagoa do Fogo, one of the many volcanic centres on Sao Miguel Island in the Azores.

In addition to the two trips described above, Alan has also arranged tours to Sicily & the Aeolian islands in June and to the Bay of Naples area in October, but these are already fully booked. To find out more about all the 2026 tours,
including a full day-by-day account of each itinerary, accommodation and travel arrangements go to the Volcanic Experiences website at *www.volcanicexperiences.co.uk* **.**



Down to Earth

"Earth science learning for all"

Announcing our eighth Summer School...

Harper Adams University
Shropshire
August 8-15 2026

Shropshire geology at its very best!

- 6 full days of field work with a choice on some days
- Precambrian & Cambrian rocks of the Church Stretton area
- A visit to the Abberley & Malvern Hills geopark
- A visit to the Black Country geopark
- The Lapworth geological museum at Birmingham University
- Geology of the Clent & Lickey Hills
- Triassic geology of Grinshill
- Rocks of the Onny Valley
- In the steps of Roderick Murchison at Ludlow
- Coach/minibus transport to field locations with a choice on some days
- Full board accommodation in single ensuite rooms (can also be double rooms)
- Evening talks and activities from visiting speakers and our own team
- Social events and opportunities for down time

Everyone is invited to join us for our annual Summer School. The cost is £1495.00 per person whether you are in a single or shared room.

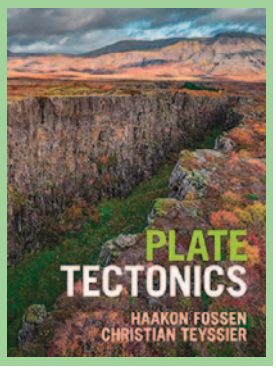
See the brochure & book online at www.geosupplies.co.uk
Email downtoearth@geosupplies.co.uk or ring us on 0114 245 5746
Geo Supplies Ltd 49 Station Road, Chapeltown, Sheffield S35 2XE

a good read

Reviewer: Chris Darmon

Book Choice

Title: Plate Tectonics
Authors: Haakon Fossen & Christian Teyssier
Publisher: Cambridge University Press
ISBN: 978 1 108 47623 2
Format: Hardback
Cost: £52.99
Level: Student textbook
My rating: *****



In these days of digital media it was something of a surprise to receive this hefty tome. But, in a curious kind of way it was also extremely welcome. It was also good to see a geological title from such a long established and highly respected publisher like Cambridge University Press.

Plate Tectonics is one of those subjects that almost cries out for a textbook that can bring together up to date knowledge from all the various strands. Frankly something that only a textbook can do. I admire Haakon. Fossen and Christian Teysseir for taking on such a mammoth task. Both are highly respected professors and researchers, Haakon at the University of Bergen and Christian at the University of Minnesota. They have also both written at this level before.

The subject matter lens itself to a simple and fairly logical approach and that's exactly what they do in *Plate Tectonics*. The opening chapter provides a brief outline of why the concept of plate tectonics is fundamental to a modern understanding of how the Earth works and why it's tectonically unique.

In later chapters they go on to develop the board principles that lie behind the theory, including deformation, stress and strain; heat, isostasy petrology and basins; the Earth's interior and how it works; plates and plumes; and continental rifting. In each case, they present the latest ideas, and don't ignore conflicting views where they exist.

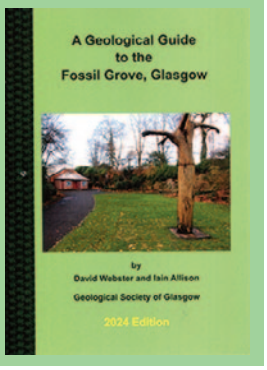
With the basic scientific background established, they go on to look at each and every tectonic setting: continental rifting, passive continental margins, seafloor spreading, ocean transform faults, continental strike-slip, oceanic subduction, accretionary orogeny, collisional orogeny.

The final part of the text takes in some case studies of orogenic belts, including The Alps and The Himalayas; takes a look at the development of early tectonics in the Earth's history and finally the evolution into modern tectonics.

Remember that this is a textbook aimed at third year undergraduates. It's not an easy read, but that said it is something that you can dip into particularly if you have a specific topic or question in mind. To help you there's an excellent glossary and a comprehensive index.

Essential to a text on a subject such as plate tectonics are numerous scientific diagrams, maps and appropriate photographs. These, coupled with a modern layout make for a pleasant reading experience. In conclusion, there's only one word to sum up this book and that's - stupendous!

Title: A Geological Guide to the Fossil Grove, Glasgow
Authors: David Webster & Iain Allison
Publisher: Geological Society of Glasgow
ISBN: 978 1 901514 54 4
Format: Softback
Cost: £5.00
Level: Adult & general interest
My rating: ****



We have a lot to thank the Victorians for when it comes to the preservation and display of particular examples of our geological heritage.

The nineteenth century saw the rapid expansion of the urban environment, with our towns and cities expanding at an exponential rate. The City of Glasgow was no exception with West end becoming a fashionable residential area, serving the housing needs of an expanding middle class.

In 1886, as part of this development, the Burgh of Partick leased 46 acres of the Scotstoun Estate for the purpose of developing a public park. Later in 1887 as part of the work to make a path through a former dolerite quarry on the site, they stumbled across the first of what became a total of 11 stumps of the Carboniferous tree fossil *Lepidodendron veltheimianum*. Amazingly these were preserved in their original attitude, just as they were over 300 million years ago.

Luckily for us these self same Victorians had the foresight to preserve the stumps by enclosing them in a brick building with a glass and slate roof. Over the intervening years conservation work has been carried out and the attempts made to keep the environment at a fairly constant temperature.

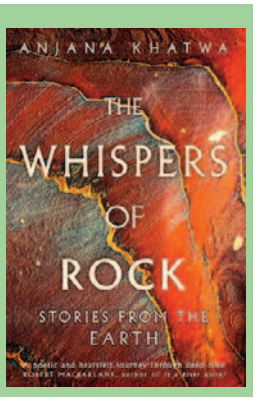
Today the wider Victoria Park comes under the umbrella of Glasgow City Council while a local voluntary group called the Fossil Gove Trust focuses on the care and maintenance of the now quite fragile fossils.

Whilst Victoria Park is open every day, access to the fossil grove itself is currently not available to visitors as essential and extensive repairs are being carried out to the building that houses the fossils.

This, the latest edition of the Fossil Grove geological guide provides an up to date account of the fossil, their discovery, and the details of the locality inside the building. It also describes a geological trail around Victoria Park as well as giving a brief overview of the wider geology of the Glasgow area.

There have been times in the fairly recent past when the whole future of the Fossil Grove, a vital part of Glasgow's ancient and more recent past, looked uncertain, even almost doomed, but now a brighter future seems assured. The Fossil Grove needs people to visit it and to admire what those Victorians were the first to appreciate. We have much to thank the volunteers from the Fossil Grove Trust for in keeping this historic monument alive for a new generation to enjoy.

Book Choice



Title: The Whispers of Rock
Author: Anjana Khatwa
Publisher: The Bridge Street Press
ISBN: 978 0 349 12886 3
Format: Hardback
Cost: £25.00
Level: Adult & general interest
My rating: *****

For the first time ever, I find that I've not got one, but indeed two things in common with the author of this book, Dr Anjana Khatwa. We are both holders of the R H Worth award from the Geological Society of London and the Halstead Medal from the Geologists' Association for communication of Earth science to the general public. Given that, you'd expect this book to be written in a style that was at one in the same time scientifically accurate and also highly engaging. You would not be disappointed.

Other reviewers have described it as being 'poetic' and I would not disagree. But I would go further, this book is riveting and also inspiring. It tells us how rocks have shaped her life and those of many others throughout humankind's history.

She's not afraid to engage with ancient lore to tell how and indeed why ancient people built Stonehenge. Not just of any rocks, but some very specific ones, and erected them with great precision and probably at great cost to themselves. In describing Stonehenge we get a feel for the way in which Anjana engages with rocks and indeed landscape.

It's the way I engaged with the Burren in County Clare, on a cold and misty morning many years ago. Like her, I too could imagine how ancient people could feel about and indeed for rocks. Today we seem to be seeing a number of books in a similar vein. After years in which geology books seemed bereft of warm and even intimate language, it is once again acceptable to be 'cuddly' about cold stones.

As you might guess from the title, this book is a series of stories from and about the Earth. Each chapter is in effect a separate story that can be read in any order and as stand alone pieces. By adopting this style Anjana covers a lot of geological ground and also provides a starting point for further study. As such this isn't just an end in itself. That's what I mean about it being inspirational.

I don't normally go for comparisons, but on this occasion I will. The late Richard Fortey wrote with a literary flair and passion for fossils. Who can forget his commitment to the humble trilobite. Richard got me and countless others into exploring more of the fossil world. I believe that Anjana can do the same for Earth science more generally. Whilst some would be slow to acknowledge the synergy that can and should exist between good writing and good geology. I say to you, embrace it with enthusiasm and live it through the pages of this excellent book. It should be on everyone's present list.

Title: Strata - Stories from deep time
Author: Laura Poppick
Publisher: Norton
ISBN: 978 1 324 02160 5
Format: Hardback
Cost: £20.00
Level: Adult & general interest
My rating: ****

More than 200 years ago William Smith introduced the world to the layers of sedimentary rock. So much so that he became known as 'Strata Smith'. He, along with some other pioneers gave us the laws that allow us to read the strata for ourselves. In do doing we unravel the stories that are hidden in plain sight in the rock layers.

Now in 2025, American science and environment journalist Laura Poppick gives us here 21st century take on that self same 'Strata'. The story of our planet's 4.54 billion year history is written in the strata. It's a story that can be told a million times over in thousands of different ways.

Laura chooses a somewhat unconventional approach using to tell a number of stories arranged intro four parts, under the simple titles of air, ice, mud and heat. Within each part there are a series of numbered chapters. She begins with a prologue that starts where she first interacted with strata at a small beach in Portland and ends with an epilogue with the title 'us'.

As somebody who always likes a toucbstone, I consulted the index to see if I could see Laura's take on deep time's holy grail - our own Siccar Point. Yes, it was there and it was covered in three pages as Chapter 11 in the Mud part of the book. I found her style to be sympathetic to the historical narrative and largely accurate. It showed how much a book .ike this depends on many hours of research and immersion in the substance of the subject. Laura passed this test on all counts for me.

A further investigation of the index (always a good place to look if you are sampling a book) revealed that this is very much an international book drawing breath from good geology in places as far apart of Siberia, Australia, the Andes and the Yucatan Peninsula. As much as this is about places that she described and visits, it is also about people. Some are the people that you would expect, people like Charles Darwin, but others are non-scientists who have engaged with rocks on all kinds of levels, some of them from ancient civilisations or people from a philosophical or religious background.

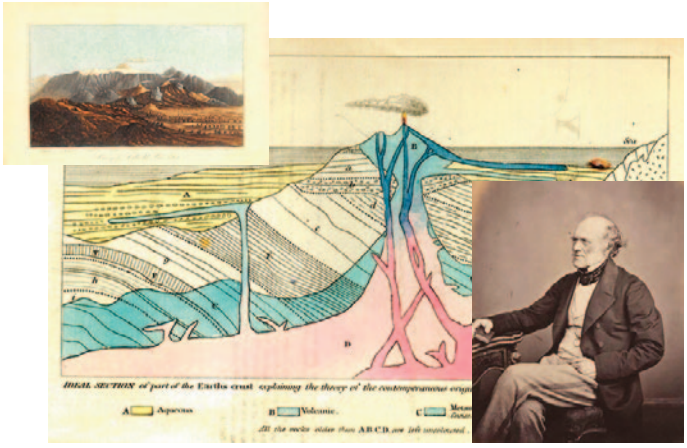
Through the pages of Strata,Laura allows these people to share their stories of Strata, for the benefit of everybody. Like strata itself this is a many layered book with stories that can be told and appreciated on many different levels.

I have to say that Laura's writing style may not be for everyone, but that is more a literary comment than one about the geological content which I found to be accurate and extremely well researched. For those of you who know of his writing, the book is said to be written in the style of John McPhee author of *Annals of the Former World*. For what it's worth, I know of several people who have read this book from cover to cover and rate it highly. Another good geological read!

brainteaser

In this new brainteaser, we ask the Questions...

Who, What & Where?



I hope that you were all able to recognise that the images were pointing you towards someone who was widely travelled and was also a pioneer from the nineteenth century.

Well done to those of you had a go whether at home or who formally submitted a response.

Who? *Charles Lyell (1797-1875)*

What? *Author of "Principles of Geology" which set out his views on how the Earth worked, leading to 'uniformitarianism'.*

Where? *Lyell was Scottish born and is associated especially with the city of Edinburgh, The image shown here is Mount Etna and forms the frontispiece of "Elements of Geology".*

We had several new contributors this time, which is good as we always love to hear from you our readers.

Angela Yates was the first out of traps who correctly identified Charles Lyell and highlighted his all encompassing theory of how the Earth worked. ***Romaine Byers*** similarly gave us the correct details.

Paul Thornley writes:

"The diagram in the brainteaser is the frontispiece of Lyell's ***'The Elements of Geology'*** (1838) showing an ideal section of an active volcano, presumably drawing on Mount Etna.
'The Elements' was a development of sections of ***'The Principles'*** focusing attention on the ancient history of rocks on Earth.

As well as looking at volcanic activity on the Canary Isles, Lyell spent much time studying Mount Etna, which had been described over a long stretch of time, so he could demonstrate that even for some seemingly violent phenomenon, present-day processes of eruption and uplift were sufficient to shape the Earth. Gradual lava flows built up the mountain without the need for a catastrophic massive upheaval."

Paul also added a link to more information on the ESTA website: ***https://livrepository.liverpool.ac.uk/3009032/1/BFTP9_CharlesLyell_MountEtna.pdf***

Richard Mann sent in his usual well thought out comments of which this is a part:

"Charles Lyell became one of the most prominent UK geologists following earlier founders such as Cuvier and Playfair with Hutton and later Darwin as contemporaries. Lyell scrutinised geology in many places internationally, tending towards islands and terrains with igneous connections.

He introduced ***'Uniformitarianism'*** using 'the present is the key to the past' as geological and natural processes take place now as they have done in the past, in an effort not to collide with the clerical feelings of that time. The clergy were fixated by the biblical diluvian flood, creation over a few days and natural changes being the result of catastrophic events. Lyell brought geology into the scientific domain through his careful intonation and diagrams."

This is our new brainteaser - it's not a competition with prizes! We'd like you to study these images and answer the Question: Who, What & Where?

Once again we're asking you to engage your little grey cells! Who was he, what's he known for and which places is he most associated with?

Please contact us before April 15th. by email: downtoearth@geosupplies.co.uk

diary of events

Please be aware that a number of clubs/societies are currently oerating with a mix of live events and Zoom meetings. Please check with the organisers what model they are working to on each occasion.

lectures/zoom meetings

February

2 "Snowballs in the desert - the glacial history of Oman" by Ross Garden
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com
3 "Rock Solid 5 - limestones" by Ros &Ian Mercer
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/ (Shenfield)
4 "Little things can make a big difference - calcareous nannofossils" by Liam Gallagher
Organiser: Brighton & Hove Geol. Soc. Details: https://www.bhgs.org/
5 "Microbially mediated carbonates in Mesoproterozoic Stoer Group - the earliest evidence of life in Britain? by Peter Gutteridge
Organiser: Bath Geol. Soc. Details: https://bathgeolsoc.org.uk/lectures/
7 "Brymbo fossil forest" by Tim Astrop
Organiser: South Wales GA Group Details: http://swga.org.uk/
10 "A glimpse into the wonders of Idar Oberstein" by Ian Mercer (Zoom)
Organiser: Amateur Geol. Soc. Details: https://amgeosoc.wordpress.com/
10 "Calcareous nannofossils - little things can make a big difference" by Liam Gallagher
Organiser: West of England GA Details: https://www.wega.org.uk/
11 "Darwin and Wallace" by John Fraser King
Organiser: Shropshire Geol. Soc. Details: https://shropshiregeology.org.uk/
11 "Acadian arcuate fold trends" by Alastair Baird
Organiser: Cumberland Geol. Soc.
Details: https://www.cumberland-geol-soc.org.uk/events/
11 "Whence the Rudston Monolith" by John Connor & Martin Clarke (Zoom)
Organiser: Hull Geol. Soc. Details: https://hullgeolsoc.co.uk/hgmeet.htm
11 "The critical metals of Scotland" by Chris MacKenzie
Organiser: Edinburgh Geol. Soc. Details: https://edinburghgeolsoc.org/
11 "A billion years of sea level change due to changes in plate tectonics and ice caps, by Dr Douwe van der Meer
Organiser: Harrow & Hillingdon Geol. Soc. Details: https://www.hhgs.org.uk/
12 "Looking for life on Mars with the Rosalind Franklin rover" by Professor A Coates
Organiser: Mole Valley Geological Society. Details: www.mvgs.org.uk
12 "Discovering mammals in the time of dinosaurs" by Elsa Panciroli
Organiser: Geol Soc. of Glasgow
Details: https://geologyglasgow.org.uk/events/
12 Presentations` from Leeds University final year students
Organiser: Leeds GA Details: https://leedsga.org.uk
12 "The end-Triassic mass extinction event and its aftermath" by Paul Wignall
Organiser: Hertfordshire Geol. Soc. Details: https://www.hertsgeolsoc.org.uk/
13 "Lost landscapes of Tibet and how they changed the world" by Robert Spicer
Organiser: Farnham Geol. Soc. Details: https://www.farnhamgeosoc.org.uk/
14 "Mineralogy in art" by Chris Duffin
Organiser: East Midlands Geol. Soc. Details: https://www.emgs.org.uk/
16 "Spicomellus: the punk rock dinosaur of the Jurassic" by Richard Butler
Organiser: Black Country Geol. Soc. Details: honsec@bcgs.info
17 "Geoscience in a digital age: the role of the internet in modern geoscience" by Saskia Elliott
Organiser: Dorset GA Group Details: https://dorsetgeologistsassociation.org/
18 AGM & Presidential Address by Hugh Tuffen
Organiser: Westmorland Geol. Soc. Details: https://westmorlandgeolsoc.org.uk
18 "How fossils are formed" by Tony Mitchell
Organiser: Kent Geologists' Group Details: www.kgg.org.uk/
19 "Meteorites" by James Hannan (Stanway)
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/
19 "The Stoer group of the Torridonian" by Peter Gutteridge
Organiser: Warwickshire Geocons. Group Details: https://www.wgcg.co.uk/
20 "How to build a 25,000 sqm natural history museum from scratch" by Phil Manning (Zoom)
Organiser: North Eastern Geol. Soc. Details: https://www.negs.org.uk/
21 "Brymbo fossil forest" by Tim Astrop
Organiser: South Wales GA Group Details: http://swga.org.uk/
25 "The role of Scotland's geology in the energy transition" by Katriona Edlmann
Organiser: Edinburgh Geol. Soc. Details: https://edinburghgeolsoc.org/

March

2 Presidential address by Stuart Black
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com
3 "The chalk sea" by James Witt
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/ (Shenfield)
5 "Dinosaurs in Wales" by Cindy Howells
Organiser: Bath Geol. Soc. Details: https://bathgeolsoc.org.uk/lectures/
10 Dr Jasper Cook will speak on over 3 years of work with worldwide aid agencies
Organiser: West of England GA Details: https://www.wega.org.uk/ (Zoom)
10 "Geology of the Chilterns & the impact of HS2" by Haydon Bailey (Zoom)
Organiser: Amateur Geol. Soc. Details: https://amgeosoc.wordpress.com/
10 "The Moine Thrust" by Sue Harris & Roger Wilmot
Organiser: East Herts. Geology Club Details: https://ehgc.org.uk/
11 "Mine water heat" by Rebecca Chambers (Zoom)
Organiser: Harrow & Hillingdon Geol. Soc. Details: https://www.hhgs.org.uk/
11 Caledonian versus Acadian tectonics" by David Schofield
Organiser: Cumberland Geol. Soc.
Details: https://www.cumberland-geol-soc.org.uk/events/
11 "Geological characteristics of the Great Glen Fault to support the development of new pumped storage hydropower projects" by Romesh Palamakumbura
Organiser: Edinburgh Geol. Soc. Details: https://edinburghgeolsoc.org/
12 "Discussion meeting: Current state of the oil industry, North Sea etc." by Dr M Brown
Organiser: Mole Valley Geological Society. Details: www.mvgs.org.uk
12 Astrobiology and the Torridonian" by Keyron Hickman Grant
Organiser: Geol Soc. of Glasgow
Details: https://geologyglasgow.org.uk/events/
14 Microbially-mediated carbonates in the Mesoproterozoic Stoer Group: earliest evidence of life in Britain?" by Peter Gutteridge
Organiser: East Midlands Geol. Soc. Details: https://www.emgs.org.uk/
14 AGM & Stonehenge with Richard Bevins
Organiser: South Wales GA Group Details: http://swga.org.uk/
16 "The geology of Greenland" by Chris Darmon (Zoom)
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk
16 "Conserving geoheritage in (and out) of Staffordshire" by Jonathan Larwood
Organiser: Black Country Geol. Soc. Details: honsec@bcgs.info
17 "Offshore Ireland: an integrated lithostratigraphic, biostratigraphic and sequence stratigraphic framework" by Nigel Ainsworth
Organiser: Dorset GA Group Details: https://dorsetgeologistsassociation.org/
18 "Life on Earth - the ups and downs of the fossil record" by Chris Darmon
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk (Zoom)
18 "Rocks & minerals under the microscope" by Brian Lines
Organiser: Kent Geologists' Group Details: www.kgg.org.uk/
18 AGM & members' evening
Organiser: Brighton & Hove Geol. Soc. Details: https://www.bhgs.org/
19 "Five hundred million years that changed the world: South Africa through the Earth's first oxygenation" by Stefan Schroeder
Organiser: Westmorland Geol. Soc. Details: https://westmorlandgeolsoc.org.uk
19 AGM and erratics talk by Ian Warrington
Organiser: Hull Geol. Soc. Details: https://hullgeolsoc.co.uk/hgmeet.htm
19 "A beginner's guide to graphic logs" by Martin Smith
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/ (Stanway)
20 "How do we avoid catastrophic sea level rise from Greenland and Antarctica" by Chris Stokes
Organiser: North Eastern Geol. Soc. Details: https://www.negs.org.uk/
20 "Challenging ground and seismicity for high-speed rail stations in Italy and California" by Nick O'Riordan
Organiser: West Sussex Geol. Soc. Details: https://wsgs.org.uk/
25 "James Hutton, the man, his family and the mythology" by Beverly Bergman
Organiser: Edinburgh Geol. Soc. Details: https://edinburghgeolsoc.org/

April
1 "Evaporites and the Sussex gypsum mines" by David Alderton
Organiser: Brighton & Hove Geol. Soc. Details: https://www.bhgs.org/
7 "Rock solid 6 - deserts" by Ros & Ian Mercer
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/ (Shenfield)
8 "Thames through time - Cornish flavour" by Ian Mercer (Zoom)
Organiser: Harrow & Hillingdon Geol. Soc. Details: https://www.hhgs.org.uk/
9 "The tectonics of the Oman/UAE Mountains: ophiolite obduction, continental subduction and mountain building" by Professor M Searle
Organiser: Mole Valley Geological Society. Details: www.mvgs.org.uk
9 "Industrial minerals in why they are important to us" by Mark Howson
Organiser: Bath Geol. Soc. Details: https://bathgeolsoc.org.uk/lectures/
9 "The geology of the Lower Chess Valley, nd where does all that water go?" by Haydon Bailey
Organiser: Hertfordshire Geol. Soc. Details: https://www.hertsgeolsoc.org.uk/
9 "Sedimentary systems in the Paleocene lava fields of the Inner Hebrides" by Brian Bell Organiser: Geol Soc. of Glasgow
Details: https://geologyglasgow.org.uk/events/
11 "Hunting dinosaurs from space" by David Martil
Organiser: East Midlands Geol. Soc. Details: https://www.emgs.org.uk/
13 "The harsh life and times of Maastrichtian arctic dinosaurs" by Bob Spicer
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com
14 PhD student talks
Organiser: West of England GA Details: https://www.wega.org.uk/
14 "Coastal geology" by Diana Perkins
Organiser: East Herts. Geology Club Details: https://ehgc.org.uk/
14 "Diamond geology" by Tony Waltham
Organiser: Amateur Geol. Soc. Details: https://amgeosoc.wordpress.com/
15 "Forensic geology - murder, microscopes & minerals part 3" by Geoff Turner Organiser: Kent Geologists' Group Details: www.kgg.org.uk/
16 "Laterites and landscape in Sierra Leone" by Des Bowden
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/ (Stanway)
16 "Humber's geomorphology, past, present & future" by Dan Normandale
Organiser: Hull Geol. Soc. Details: https://hullgeolsoc.co.uk/hgmeet.htm
17 "ChaSE-ing the chalk: the Chalk Sea Ecosystems project" by James Witt
Organiser: West Sussex Geol. Soc. Details: https://wsgs.org.uk/
16 "Silent witness ca 1.2 billion years: a forensic reconstruction of the Clachtoll megaclast, NW Scotland" by Bob Holdsworth
Organiser: Westmorland Geol. Soc. Details: https://westmorlandgeolsoc.org.uk
16 "The scale of human impact in the Anthropocene" by Colin Water
Organiser: Leeds GA Details: https://leedsga.org.uk
21 "Fire, brimstone and metamorphic" by Giles Droop
Organiser: Dorset GA Group Details: https://dorsetgeologistsassociation.org/
22 "Supergene minerlisation of the Lake District" by Brian Young
Organiser: Cumberland Geol. Soc.
Details: https://www.cumberland-geol-soc.org.uk/events/

day field trips & visits

Please ensure that you contact the organisers in advance of any field trip advertised. Please don't just turn up, it may be for members only.

February
8 Geoconservation at Kenilworth cutting
Organiser: Warwickshire Geocons. Group Details: https://www.wgcg.co.uk/
14 Geoconservation at Little Heath
Organiser: Hertfordshire Geol. Soc. Details: https://www.hertsgeolsoc.org.uk/
14 Field visit to Smestow Valley Wightwick Manor with Julie Schroder
Organiser: Black Country Geol. Soc. Details: honsec@bcgs.info
28 Field visit to Lulworth with Tony Cross
Organiser: Dorset GA Group Details: https://dorsetgeologistsassociation.org/

March
3 Visit to Purfleet Heritage Centre with Ian & Ros Mercer
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/
12 Field visit to the Albert Memorial in Kensington, with John Cosgrove
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com
14. Geoconservation day at Portway Hill, Rowley
Organiser: Black Country Geol. Soc. Details: honsec@bcgs.info
21 Visit to King Edward VI Grammar School Chelmsford with Lucy Fryer
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/
29 Field visit to the Chiltern escarpment with Mike Howgate
Organiser: Hertfordshire Geol. Soc. Details: https://www.hertsgeolsoc.org.uk/

April
5 Field visit to London Clay at Maylandsea with Jeff Seward
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/
11 Field visit to Bull Lodge Quarry with Peter Allen
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/
11 Field visit to the Ercall Quarries with David Smith
Organiser: Black Country Geol. Soc. Details: honsec@bcgs.info
19 Field visit to Dorking to see downs periglacial features with Mark Eller
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com

residential field trips

March
27-April 1 The Jurassic Coast of Dorset with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

April
14-22. The Northwest Highlands of Scotland with Chris Darmon & Colin. Schofield. Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

May
1-8 Central Cornwall with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk
7-10 The Yorkshire Coast
Organiser: Westmorland Geol. Soc. Details: https://westmorlandgeolsoc.org.uk
12-15 The Isle of Wight with John Cole
Organiser: Reading Geol. Soc. Details: rgs.secretary@btinternet.com
16-23 Teesdale & the North Pennines with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

Jun
7-11. Minehead & North Somerset with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk
17-25 Shetland the Northern Isles with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

July
5-10 The Anglesey Geopark with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk
6-10 The Northwest Highlands with Pete Harrison
Organiser: Westmorland Geol. Soc. Details: https://westmorlandgeolsoc.org.uk
8-10 A celebration of James Hutton - Edinburgh based field trip
Organiser: Geologists' Association.
Details: fieldmeetings@geologistsassociation.org.uk
17-19 Flamborough & East Yorkshire
Organiser: Geologists' Association.
Details: fieldmeetings@geologistsassociation.org.uk

August
8-15. Annual Summer School at Harper Adams University, Shropshire
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

September
13-22 The North & Eastern Fjords of Iceland with Chris Darmon
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk
15-23 Navarra & Arragon, north Spain
Organiser: Geologists' Association.
Details: fieldmeetings@geologistsassociation.org.uk

October
18-24 Melrose & the Southern Uplands with Chris Darmon & Colin Schofield
Organiser: Down to Earth Details: downtoearth@geosupplies.co.uk

fairs, shows & special events

February
21 Essex Gem & Mineral Show at Collier Row RM5 3QJ
Organiser: Essex Rock & Min. Soc. Details: http://www.erms.org/

pygidium

Our regular little 'tail-pieces' of information some serious, others light. If you've found something - share it with us all.

Primary school children get a bird's eye view of working Cumbrian quarry...

It's always good to see members of the upcoming generation getting up close and personal with a working quarry. That;s exactly what happened to some pupils from Thwaites School, on 18th November of last year.

Pupils from Thwaites School, Millom, take in the sights and sounds of Holcim's Ghyll Scaur Quarry.
(Image: Sylvia Woodhead)

They were present as guests at the reopening ceremony of the Millom Rock Park and they were viewing the Ghyll Scaur Quarry of Holcim. Viewing through the bars of the security fence it does look a little like a prison, but I'm assured that they are on the outside, looking in.

Do you remember the 'cold war'? Here's proof that even old nuclear bunkers can't resist erosion...

The stretch of East Yorkshire's coast, south of Flamborough Head and known as Holderness, experiences some of the highest rates of erosion anywhere in the UK. Composed of soft glacial till, (or boulder clay), they are being removed at the rate of about a metre each year.

The scene is set at Tunstall. The structures are still intact, but the cliff has failed behind them, and they are doomed!
(Image: Timothy's Travels/BBC)

This has been brought clearly into plain sight by the toppling of some lookouts that date from the cold war of the 1950s. These were situated at the fairly remote spot known as Tunstall.

The deed has been done! One of the structures can be seen at the foot of the cliff, on a suitably stormy day.
(Image: Timothy's Travels/BBC)

The toppling has been captured on video by the BBC and several local enthusiasts and is pretty dramatic, with the whole structure sliding down the cliff, still largely intact. The inevitable began with the cliff being eroded from behind before collapsing quickly and dramatically.

Sink holes in Scotland and Wales...

Coastal communitys anywhere in the UK it seems are prone to be the victims of storm damage. The media, it seems, is apt to call almost any hole, anywhere a 'sink hole' whatever the cause.

We know, of course, that the term sink hole is normally reserved for karstic areas and the dissolving of limestone by rain water. However, using the more common use of the term, we bring you recent 'sink holes' in Dunbar, Southeast Scotland and on the Welsh coastal footpath at a remote spot above the Llyn Peninsular.

Substantial damage has been caused to a wooden walkway on the Wales Coastal Path.
(Image: Gwynedd County Council)

Meanwhile, it's part of the popular promenade and coastal road that has been closed by sea storms in the town of Dunbar, Lamar Street remains closed for the forseeable future as engineers from East Lothian Council investigate.

Lamar Street in Dunbar after the collapse on January 21st.
(Image: East Lothian Council)

This is from the Council's website:
"Work to stabilise the area and prevent further deterioration commenced on Friday 23rd January.

Despite extremely challenging weather conditions, work to backfill the area affected has taken place over the weekend and further progress is expected to be made with this as the week continues, weather and tidal conditions permitting. We will provide further information on progress with repair work in the coming days. In the meantime, the road remains closed with fencing in place to keep the area where work is taking place secure. We are grateful to local residents for their patience and understanding."

Taking in Barcelona's unfinished church that's more than 100 years in the making...

The cranes bear witness to the unfinished state of Barcelona's Basílica de la Sagrada Família.
(Image: Chris Darmon)

In January, I took a short break to Barcelona and was able to see at first hand the unfinished Basílica de la Sagrada Família. Construction began on 19 March 1882, under architect Francisco de Paula del Villar. In 1883, Villar resigned, and Antonio Gaudí took over as chief architect, transforming the project with his architectural and engineering style. Over the years the church combined Gothic and curvilinear Art Nouveau forms and it evolved during each phase. By the time of Gaudi's death in 1926, less than a quarter of the project had been completed.

Local granite, often with superb xenoliths, are spotted frequently around the building.
(Image:Chris Darmon)

Today, it's around 80% complete, with work still going on at great height and one end is still to be constructed. With the burning of Gaudi's on site office during the Spanish Civil War, his plans were lost leading today's architectural team to fathom what Gaudi might have done. As for the rocks used in the construction, it's a mix of hard granites and some less than ideal sedimentary sandstones that are showing signs that some of the fine carving needs repair and even replacement, even before the rest of the building is complete.

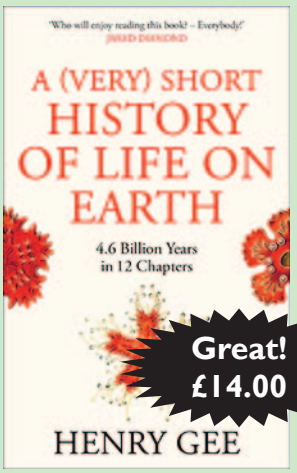
Groundwater heat sources are nothing new in the Outer Hebrides...

This comes from The Hebridean Hostellers newsletter, Autumn 2025:
"Boreholes plunging 75 metres into the solid Lewisian gneiss and bringing inexpensive heating to the Garenin blackhouse village settlement, in general, and to the hostel, in particular." (from 2005).

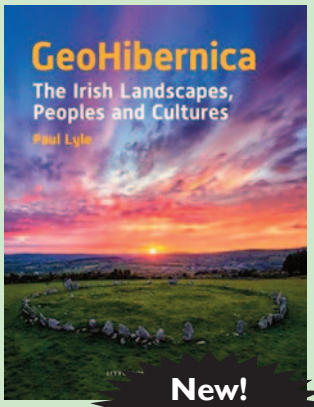
The Garenin blackhouse village.
(Image: Courtesy of Independent Hostels)

GEO Featured books February to May

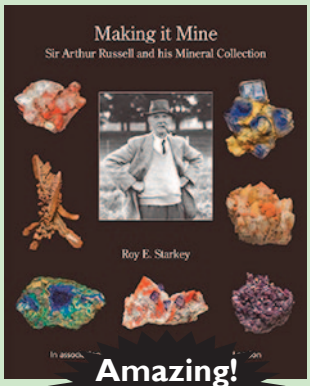
In each issue we are pleased to be able to introduce you to a range of featured books. Where they are being offered at reduced prices, these will be current to the end of May 2026 provided that stocks are available. This month we feature some great new books. Please note, all prices include UK postage.



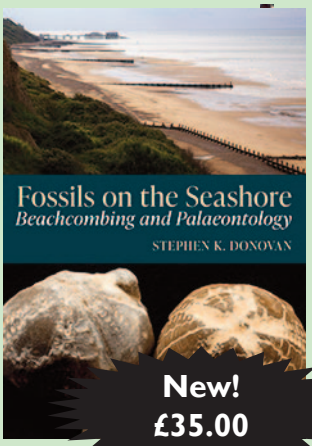
Great! £14.00



New! £50.00



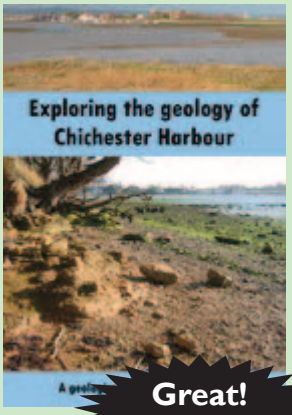
Amazing! £45.00



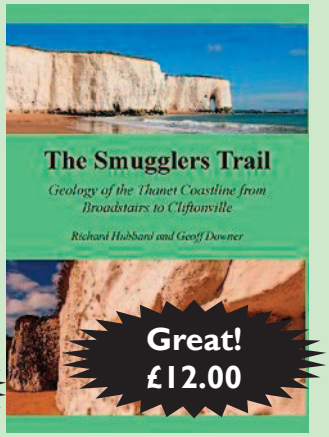
New! £35.00

New! £22.00

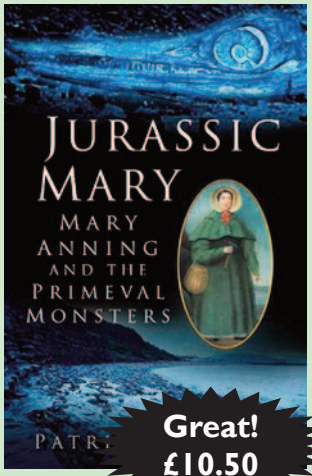
New! £15.00



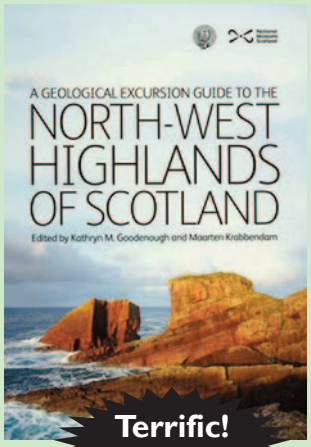
Great! £6.00



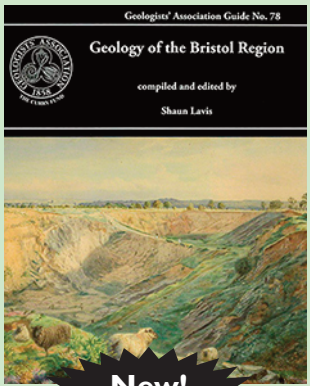
Great! £12.00



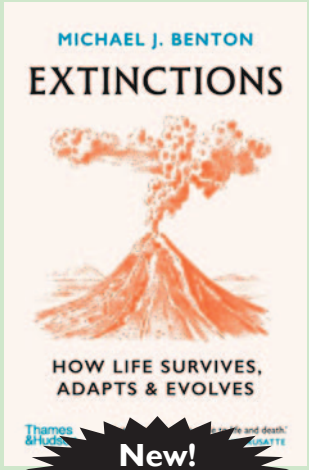
Great! £10.50



Terrific! £17.00



New! £29.00



New! £14.00

Order online at www.geosupplies.co.uk or ring us on 0114 245 5746
Geo Supplies Ltd 49 Station Road, Chapeltown, Sheffield S35 2XE