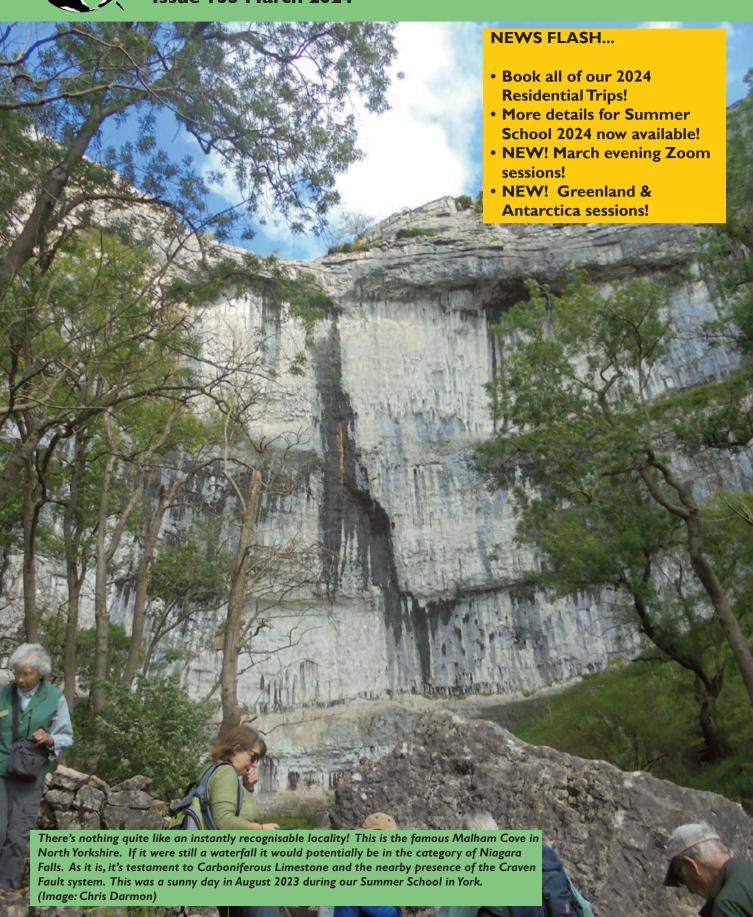


Down to Earth extra

Issue 135 March 2024



From the Editorial team...

We are currently in the midst of delivering an online Zoom based course entitled "The Geoparks of the UK" and it's proving to be very informative and educational for our learners, but also for us as presenters. I wonder how many of you could name the Geoparks of the UK? More fundamentally, are you familiar with what a Geopark is and what it does for its geology and landscape?

Most, though not all of our Geoparks come under the banner of UNESCO Global Geoparks which all conform to a broad range of principles around the management, conservation and educational aspects of their respective geology and landscapes. This is combined with aspects of geotourism and the promotion of local culture and heritage. As you'd expect with such broad definitions there are local variations even within the Geoparks of the UK.

Within the UK Geoparks receive either nothing or minimal financial support from national or local bodies. All would come under the heading of 'not for profit' and they have enshrined within their constitutions a broad local base that's 'bottom up' rather than 'top down' in decision making. Many of our Geoparks make use of volunteers, some almost exclusively. It's this lack of money that has led several Geoparks to pull out of the formal UNESCO model that requires periodic, and expensive, accreditation processes.

Our current course has enabled us, as presenters, along with our learners, to see elements of best practice across the sector. Whilst it would be inappropriate for us to 'name names' in an Editorial, it's easy to see the relative merits of each Geopark. They are all doing a fantastic job especially with little or no money. Just one take away, can each Geopark have a geological map please? Aside from that, carry on with your fantastic work, and if you haven't visited a UK Geopark make sure that you do in 2024!

Chris Darmon & Colin Schofield
The Down to Earth editorial team

See pages 6-10 for details of our exciting 2024 programme of residential field trips!



From Caithness to Berkshire, landslips are wreaking havoc on our railways...

The current spell of winter weather, especially periods of heavy and sustained rainfall is giving rise to enormous problems on our railway network.



It's almost a case of 'spot the railway' - this is the scene at the mouth of Baildon Tunnel on the Leeds-Ilkley line. (Image: Network Rail)

On an almost daily basis stretches of line are being taken out of use and some of the remedial work is taking weeks to put right. Whilst some of the locations, such as Brora on the line from Inverness to Wick and Thurso are remote coastal locations where storms can attack the track formation, others such as between Paddington and Reading are far removed from suh perilous locations.



The same spot as the previous picture, this time after days of heavy moving have taken place. (Image: Network Rail)

Network Rail is remarkably honest about the causes. In the case of one in the Home Counties it was put down to unstable tree roots in sandy soil, whilst in another case it was an unstable cutting slope close to the mouth of a tunnel.

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Scotland's Far North Line runs along a low seawall between Brora and Helmsdale, even getting to this remote spot with suitable equipment isn't easy. (Image: Network Rail)

Almost all of our railway infrastructure dates from the nineteenth century when the weather was more predictable. It was also, it has to be said, a time when cuttings and embankments were built with steeper slopes than would be allowed today.

Even a casual glance at the earthworks for the London to Birmingham, leg of HS2 show that cuttings in particular are far shallower than they were historically. Added to this, in the Southeast at least, is the use of London Clay for infill of embankments. London Clay expands when it is waterlogged and then shrinks when it dries out, making it particularly unstable.

Whilst it's easy to point the blame for what is happening at Network Rail for a lack of monitoring or maintenance, this would be unfair, as many of these landslips are events that cannot be predicted with any accuracy. With hundreds of miles of cuttings and embankments that could partially fail it's not practicable to monitor them all. Network Rail and its contractors, are the acknowledged experts and handle the structures as best they can, especially given their age.

For our part, as users of the railway, we will have to get used to short term pain for longer term gain.

BGS at Keyworth announces 2024 Open Day...

If you've never been to a BGS Open Day, now is your chance! BGS will be opening its doors of its headquarters, Keyworth near Nottingham, on Saturday June 8th.



This comes from the BGS website:

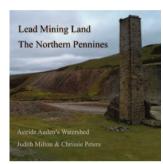
"Geology is all around us and integral to our modern lives in some unexpected and surprising ways. Come along to see some incredible

rocks and fossils, and find out how we study these to protect against the effects of climate change.

We'll have a range of hands-on activities, tours and demonstrations to keep both young and old scientists busy, including landslide modelling, gold panning, tsunamis and the enthralling toilet roll of time! There will also be games to enjoy and, of course, the opportunity to meet our amazing BGS scientists, who are helping us to protect our natural environment. The programme will be wide ranging, with something suitable for everyone."

Booking will open in April 2024. Watch this space for updates or follow us on X (@britgeosurvey) for event updates using #BGSOpenDay.

New book puts the spotlight on the North Pennine orefield...



Of all the UK's former lead mining areas, that in the North Pennines was probably the best organised. Arguably after the London Lead Company took over many of the ventures, it was also best for the local miners, ensuring decent pay and conditions.

Until the publication of this book by Judith Milton and Chrissie Peters there has not been anything covering

the subject for many years.

Now that the area is a successful Area of Outstanding Natural Beauty and also a UNESCO Global Geopark, there is an appetite and an audience to appreciate the story.

This book is available from Geo Supplies Ltd for £18.50 including UK postage.

Go to: www.geosupplies.co.uk or ring us on 0114 245 5746, to get your copy.

Professor Denys Brunsden 'father of the Jurassic Coast' has died...

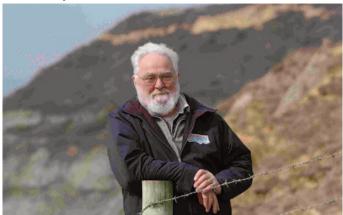
The name of Professor Denys Brunsden will for ever be linked to the Dorset Coast, so much so that he has been widely proclaimed as 'the father of the Jurassic Coast'. No one has done more over the past 30 years to promote the geology and landscape of this World Heritage site.

Denys was a noted geomorphologist who rose through the ranks to become a world renowned expert and Professor at King's College London where he studied and spent the whole of his academic career.

It was in 1994 that he first came up with the notion that the coastline of Dorset and Devon was so special that it could one day become a gem that all could enjoy as World Heritage Coastline. From the tributes that have been made by numerous local people it's obvious that he was truly inspirational.

He made many friends amongst the people of Dorset and there are many who have left tributes to him, including this from, Tony Flux, Chairman of the Dorset Coast Forum, the body co-founded by Denys:

"It is with great sadness that we must report the death of Denys Brunsden who was one of the co-founders of the Dorset Coast Forum in 1994 and became the very first Chairperson, a role he maintained for some 12 years.



Denys Brunsden was never happier than when he was out in the field on his beloved Dorset Coast.
(Image: Bridport News/John Gurd)

It was during this exciting period that Denys steered the young Forum towards an application for world heritage status for the Dorset and East Devon Coastlines. The apocryphal story says that he and others, were having a drink in a local pub when Denys suggested that the adjacent coastline was so important geologically and geomorphologically, that is deserved to be recognised and elevated on to the world stage.... and hence the seven-year journey towards receiving that accolade. Denys remained a Patron of the Jurassic Coast Trust until the very end of his life.

It is also worth conjecturing that the recognition now given to Mary Anning as the 'Mother of Paleontology' would not have happened without the world heritage status accolade (conceived by Denys) and that her contribution to world science would have remained in obscurity.

His knowledge and expertise in the field was second to none and his willingness to support others, especially students and those developing their skills and craft were well known and a further testament is that many of his former students now hold positions of importance in the field of geology and the associated sciences.

GEOLOGY - ISLE OF ARRAN

Understanding The Earth



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An unusual present idea...

'The Cream of the Crop 2023'

As part of their work for Geo Supplies, your editorial team, Chris Darmon and Colin Schofield go to some very interesting places around the British Isles. Whilst they are in these places they often pick up rock specimens, most of which go to students and institutions both here and even around the world.

However there are also some rare or unusual rocks that don't form part of our regular stock and it is these that we've gathered together into a limited edition collection that we are offering as our 'Cream of the Crop 2023'.

The set comprises I2 carefully chosen igneous rocks from around the British Isles. They include The Foxdale granite from the Isle of Man, the Lundy Granite, Diorite from Guernsey, the Ailsa Craig Riebekite and Cumbraeite from Great Cumbrae. Each set comes boxed with notes and costs £49.95 including postage.

Purchase online at: www.geosupplies.co.uk or ring us on: 0114 245 5746.

The structure and composition of the Dorset Coast Forum may have evolved over the past 30 years but the ethos of respecting and caring for the Dorset coast, that formed the basis to build upon that Denys gave us has certainly not changed."

Readers will find many more tributes to Denys, amongst the local media of the area.

Now we have flying reptiles on the Isle of Skye...

There has been quite a lot in the media, including on BBC TV about the finding of a fossil Pterosaur on the Isle of Skye, but few will be aware that the find was in fact made in 2006.

We are grateful to the blogger Graeme Churchard and his "Geology in the West Country" for what follows. Following the recovery of the skeletal remains, it took a total of 15 years for the team including Paul Barrett from the University of Bristol, to complete their studies.

Graeme Churchard takes up the story:

"The fossil took much preparation and was examined in Bristol University's CT scanner. The bones are thin and fragile and the rock matrix hard so getting to the stage of examining the bones took a long time. Read the academic paper (via the link below) to get a flavour of all the work involved.



Imagine these flying over the Isle of Skye today. (Image: Courtesy of Mark Witton)

The main interest of the fossil is that it is more than an isolated bone and that it comes from a geologic period where a lot was happening to pterosaurs but which is poorly represented in the geological column.



Be amazed at all the measurements the researchers have made. They have decided that it is a new species - *Ceoptera evansae*."

The original paper can be read here, in the Journal of Vertebrate Palaeontology:

https://www.tandfonline.com/doi/full/10.1080/02724634.2023.22987 41

The Editor comments: About ten years ago, I was amazed to see that the Isle of Skye was being referred to as "Scotland's dinosaur isle". At the time I thought that this was somewhat over the top, but perhaps the people concerned already knew about this Pterosaur find. Along with other recent finds of true dinosaurs, it's looking convincing now!



Down to Earth - in print...

If you've enjoyed reading this Down to Earth extra, you'll love our quarterly Down to Earth! It's a 32-page quality magazine in full colour that's packed with up to the minute geological news and articles. You can get your hands on this either in print or electronic formats. Why not request a FREE sample electronic copy of the current issue?

For 2024 why not treat yourself or a loved one to a gift subscription? Go to: www.geosupplies.co.uk and enter the online shop or ring us on 0114 245 5746.

Down to Earth is published quarterly. Subscribe now for 2024 for just £16.00 in the UK. We'll send you the next 4 issues, to the end of 2024 and 7 back issues from 2022/3. For an additional £25.00 (UK only) we'll send you a parcel of back issues around 50! Alternatively, take a 2023/4 e-subscription for £10.00. Additionally, all subscribers will get DtoE extra FREE each month.

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 **Extra March 2024**





Scottish geology at its very best!

- 6 full days of field work with a choice on most days
- Edinburgh's Arthur's Seat volcano
- A visit to the Hunterian Museum in Glasgow
- Geology of Loch Lomond by boat
- Coach/minibus transport to field locations
- Full board accommodation in single ensuite rooms (can also be double rooms)
- A couple of evening talks from visiting speakers
- Social events and opportunities for down time

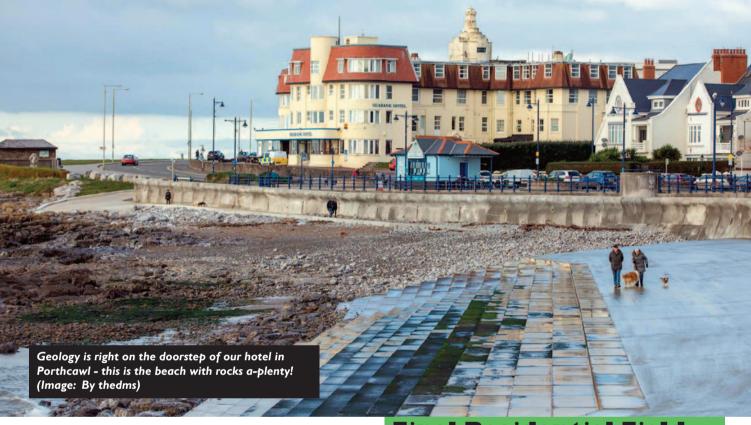
Everyone is invited to join us for our annual Summer School. The cost is £1295.00 per person sharing or £1450.00 single (no twin rooms). THIS TRIP CAN BE BOOKED ONLINE!

See the brochure, or 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



The learning zone

Great geo-adventures in 2024 begin here...



As you can see opposite, we are now looking to fill places on trips that are due to run mainly in the second half of the year. We urge you to contact us as soon as possible to secure your places.

We do have limited availability on the trips shown opposite. To view a brochure, go to our to website at: www.geosupplies.co.uk or Tel: 0114 245 5746

Aside from the Summer School that can be booked via our website, for all other trips, booking forms are only available direct from us:

Email: downtoearth@geosupplies.co.uk

CONTACT US NOW!

Final Residential Field trip programme 2024...

- Geology of South Wales, June 23-30
- The Welsh Borderland, July 7-12
- Summer School Stirling, August 10-17
- Llyn Peninsula, Wales, August 31-Sept 5
- Jersey, Channel Isles, September 21-28
- Highlands Fort William, October 4-14
- The Yorkshire Dales, October 21-26

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

We're currently working on our 2025 programme and hope to include trips to Iceland and Cyprus!

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

The learning zone

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.
- 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

Our 2024 programme...

With 2024 now upon us, we are still taking bookings so you will not be surprised to hear that a number of trips are filling up fast - with several almost full. Take our advice and make your bookings NOW! Remember that, for most trips, you can only get a booking form direct from us, they are not available on our website.

Email: downtoearth@geosupplies.co.uk or ring: 0114 245 5746

On a negative note, following the recent news of more fires on the Canarian island of Tenerife booking for our trip in February have dried up and we have taken the difficult decision to cancel our planned trip.

Northwest Highlands of Scotland (8-nights) - April 10-18 £1495

We spend the whole of the trip based at the iconic Inchnadamph Hotel in Assynt. This is where the pioneers Peach and Horne were based when they surveyed the rocks and structures of the area. There's no better place from which to explore this great area. We take in the ancient Lewisian Gneisses, the Torridonian Sandstones, the sediments of the Cambrian and Ordovician and the Moine Schists. There are so many classic localities on our extensive itinerary that takes in sites right across the Geopark.

View the brochure at our website - get the booking form from us! This trip is close to being full.



This is the magnificent Quinag in Winter

Norway, land of fjords (9-nights) - April 24-May 3 £1995

At long last we are set to return to southern Norway following our last visit in 2019. This trip begins with the fjords of the Bergen area and then moves to the tiny resort of Flam, set at the bottom of a fjord and reached by a world famous railway. We take a fabulous train trip to Oslo and then spend 5-nights as guest of the Geo Norvegica Geopark to the south of Oslo. There we see a huge range of different rocks from Proterozoic gneisses to fossiliferous Palaeozoic sediments to the home of Larvikite the famous decorative facia stone.

View the brochure at our website - get the booking form from us! Final vacancies now available.



We'll be seeing lots of fabulous coastal rocks and scenery in the South of Norway.

(Image: Visit Norway)

Edinburgh and the Borders (7-nights) - June 10-17 £1095

The historic capital city of Edinburgh and its environs represent one of the cradles of geology. Back in the 1780s, James Hutton and other members of Scottish Enlightenment, toured the area on Horseback and by boat making amazing geological discoveries.

From our comfortable hotel base in Dunbar we'll take in Hutton's Section, Hutton's Rock, Arthur's Seat volcano and the amazing Siccar Point - and they are just for starters! We'll also take in sites on the Firth of Forth and over in Fife as well as the Southern Uplands.

View the brochure at our website - get the booking form from us!



The famous Siccar Point, where James Hutton discovered deep geological time.

(Image: Colin MacFadyen)

The Gower area of South Wales (7-nights) - June 23-30 £1195

This is an exciting new area for us with excellent geology covering mainly the Devonian and Carboniferous with amazing structures and fossils. We'll be going down the Big Pit coalmine and hopefully seeing some reptilian footprints! This is a great area that we will be covering for the first time.

Brochure available online - booking form from us. We can accommodate more people in twin and double rooms.



The Seabank Hotel - our comfortable base in Porthcawl, from where we can access all our field localities.

The Welsh Borderland (5-nights) - July 7-12 £895

The English county of Shropshire and the adjacent parts of Wales provide us with some of the most varied geology in the entire UK. We will be sampling rocks from the Precambrian right through to the Triassic with just about everything in between! There will be igneous plutonic and volcanic rocks, sediments galore and maybe even the odd metamorphic rock! There are fossils and minerals too - indeed something for everybody.

If you've never been on a geological field trip before then this is definitely one for you, as well as for the seasoned attender! Based at a comfortable guesthouse in the historic town of Bridgnorth, we'll be travelling around the area, including a trip on the Severn Valley railway.

Brochure online - get the booking form from us. This trip is now nearly full.



Permian rocks at Bridgnorth (Image: Wikipedia)

Summer School, Stirling (7-nights) - August 10-17

This will be the first time that we have taken our famous Summer School north of the border to Scotland. What better place could we have chosen than Stirling with its highly rated university set in a historic town with an ancient castle sat on top of a massive sill?

£1295

With all the usual elements that go together to make a great Summer School experience we'll bring you great geology with trips and study sessions combined with an enjoyable social experience.

Accommodation is in en-suite single and shared rooms in modern student flats.

Brochure available online. You can now book for this trip via our website, www.geosupplies.co.uk or get a booking form from us!



Onion skin weathering of dolerite in Stirling (Image: Open University Geological Society)

The Llyn Peninsula (5-nights) - August 31-September 5 £995

The Llyn Peninsula of North Wales is a very special place, where Welsh is the first language of most of its inhabitants and we enjoy local hospitality at its very best at the Nanhoran Hotel in Nefyn. Some of the geology is similar to that seen on Anglesey, but with lots of added extras! We see elements of an ophiolite complex, some excellent Cambrian sediments along with rare intrusives such as diorites. A highlight of this trip is a steam train ride on the Welsh Highland railway that takes in some of the magnificent scenery of Snowdonia, viewed at a slow pace from the comfort of your train seat. See the scenery of North Wales from a wholly different perspective

See the brochure online - get the booking form from us. This trip is already filling up.



The Welsh Highland Railway (Image: TripAdvisor)

The Channel Island of Jersey (7-nights) - September 21-28 £1250

With Guernsey visited in October of this year, it seems only logical to follow it up with Jersey in 2024. Jersey is the more popular of the two large Channel Isles and although close to Guernsey on the map, its geology is quite different. There are lots of late Precambrian volcanic rocks from the Brioverian, as well as later intrusive rocks. These combine to give us lots of interesting coastal sections.

To complete the geology, there are some excellent Quaternary sediments that give us an insight into the more recent history of the island.

Take a look at the brochure online and get the booking form from us. This trip is filling up fast!

The Fort William area (10-nights) - October 4-14 £1595

This is one of the undoubted highlights of the entire year. We've gone to the max to bring you a comprehensive 10-night itinerary based in this iconic Highland locality, at the comfortable Croit Anna Hotel.

We'll be taking in the local geology of Glen Nevis, the volcanics of Glencoe the slates of Ballachulish and also more distant places such as Mallaig and Ardnamurchan. The trip will also include an excursion by boat on Loch Linnhe and a steam train trip to Mallaig aboard the famous Jacobite train which crosses Glenfinnan viaduct. Don't let the Autumn date of this trip put you off!

See the brochure online - get the booking form from us.



Fabulous geology of the Lochaber Geopark.

The Yorkshire Dales (5-nights) - October 21-26 £895

Amazingly, we've never managed to base one of our trips in the Yorkshire Dales National Park. We had planned this trip for 2020, but it never happened due to Covid. Our base for the week is the small village of Gargrave, just to the west of Skipton. From here we'll take in some of the highlights of the National Park, including the ancient rocks of Ingleton and Horton in Ribblesdale, the magnificent Carboniferous limestone with its show caves and the younger rocks of the Yoredales and the Coal Measures. It's the perfect way to end our field season.

The brochure for this trip is now available, booking forms from us!

If you would like some help or advice before making a booking, we'd be delighted to talk with you - either pick up the phone or email us. All prices quoted above are per person in a shared room.

To get a booking form, email us at: downtoearth@geosupplies.co.uk or ring us on: 0114 245 5746

Zoom courses for this Winter...

All of our Winter courses are up and running, but you can still join us as they all operate with different subjects each week, so you can join in with individual sessions. Just pay for the sessions you want, when you want! All of the Zoom sessions last for an hour, at a cost of £10.00 each (£15.00 for 2 people sharing a computer screen) including background materials and online Moodle support.

Geology and landscapes of the Geoparks of the UK

This course covers all the areas of the UK that are currently designated as UNESCO Geoparks, plus two other Geoparks that are outside that network. In short, some of the finest geology and landscapes of the British Isles. *Live Zoom sessions are at 14.00 and 19.00 on Mondays*.

March 4	North Pennines
March 11	Shetland Isles

March 18 Black Country (West Midlands)

March 25 Mourne Gullion Strangford (Northern Ireland)

World geological adventures!

This course examines the geology of a number of places around the world. Some will be places that you are familiar with, whilst others will probably not be so familiar. All have a fascinating story to tell! *Live Zoom sessions are at 14.00 on Tuesdays.*

March	5	New Zealand
March	12	Grand Canyon

March 19 Montserrat & the Caribbean

March 26 Antarctica (New!)

Evening talks at 7.00...

A series of evening talks with background notes. Live Zoom sessions accompanied by emailed background notes.

Live Zoom sessions are at 19.00 on Wedsnesdays. Cost: £10.00 each, or £15.00 for 2 people sharing a computer screen, and are suitable for anyone with an interest in geology.

Winter Series

March 6	"The geology of Charnwood Forest"
March 13	"The rise and fall of a Lake District mine"
March 20	"The geology of the Isle of Rum"
March 27	"Mapping England & Wales with William Smith"

April 3 "The Geology of Greenland" (New!)

North & South...

As you will see above, on March 26th we are having a presentation on the Geology of Antarctica and then on April 3, we are covering the Geology of Greenland.

Both of these talks are newly advertised, grab them while you can!

You can enrol via our online shop at: www.genospecies.co.uk or ring us on: 0114 245 5746

For further information, email: downtoearth@geosupplies.co.uk

What are you waiting for?



Featured books for March 2024

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 March 2024 provided that stocks are available. Please note, all prices include UK postage.





