



# Down to Earth *extra*

Issue 1 | 6 August 2022

## NEWS FLASH...

- Final places available on Autumn 2022 trips!
- Iceland is filling up fast!
- More 2023 brochures released!
- Autumn courses revealed!

*It's beginning to look as if 2022 is becoming a bit of a legend when it comes to fine weather! This is the cliffs to the west of Newgale in Pembrokeshire during early July. Newgale marks the location of a major E-W fault line that puts Upper Carboniferous strata to the south against Cambrian strata to the north. These Cambrian rocks come from the Solva Group and comprise sandstones and conglomerates that were laid down in shallow water. They have been extensively folded and faulted as a result of Caledonian and Hercynian orogenic activity.*

*(Image: Chris Darmon)*

## From the Editorial team...

This Editorial is being written as we prepare for yet another field trip north of the border, this time we are heading to the ‘Kingdom of Dalradia’ otherwise known as the coastline of Moray and Nairn between Inverness and Peterhead. It’s one of those parts of Scotland that very few people seem to venture to. It’s a great pity because the rocks (known to Colin as ‘measles rocks’ - due to their spotted minerals) are amongst the finest in the country.

A glance at the calendar reveals that it’s July and any visit to Scotland in the months of July and August are often marred by the activities of the great Scottish biting midge. However with a period of warm, and crucially dry weather, there’s now a suggestion that the second hatching may have been delayed by as much as three weeks. Apparently, it’s the females who need blood to thrive whereas the males make do with pollen. Wish us luck as we head to the Scottish coasts and glens.

Finally, if you are planning a trip by train this year, are you someone who spends their time peering out of the window? If so you could in future find yourself making use of an app that will be available to download, possibly as early as next year. The man behind the app “*Window Seater*” is Pete Silvester. It will be able to alert you to places of historical and cultural interest as you speed along. In future it could be upgraded to include alerts featuring the geology and landscape. Whilst not replacing conventional guides, they do add another string to our bow and will appeal to younger people. If you are an app person, why not offer your services to help present geology in a new way?

Enjoy your Summer whatever you do and wherever you go!

*Chris Darmon & Colin Schofield*  
The Down to Earth editorial team

**See pages 6-9 for the full spectrum of our popular field trips and visits**

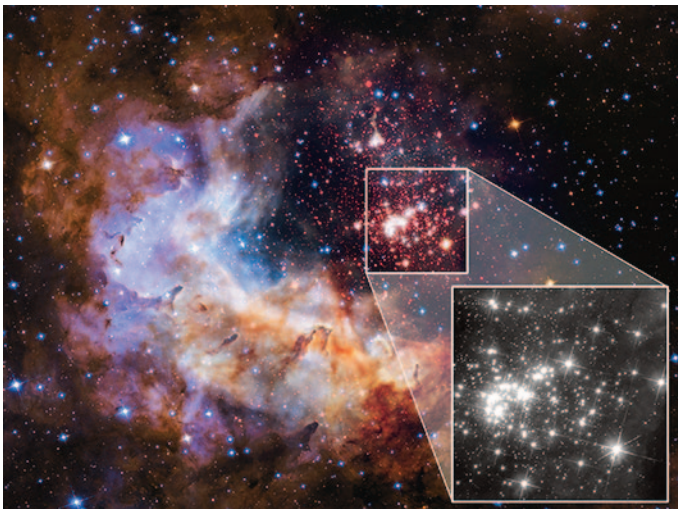


## news update

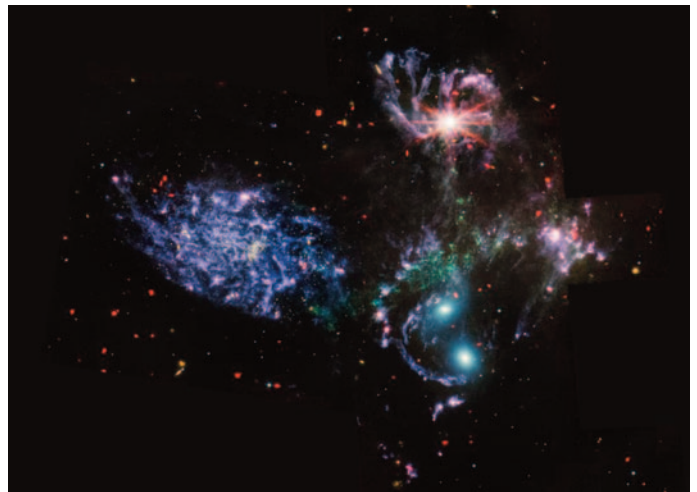
### Spectacular images from the past - the James Webb space telescope delivers...

It has cost NASA \$10 billion to put the James Webb space telescope up there, but boy has it delivered! No one can have been anything but amazed by the clarity of the images from deep space. No more fuzzy images, everything sharp and clear.

There are galaxies that we could only dream of and black holes galore. One image shows a veritable ‘car crash’ of different galaxies. In other images, galaxies appear to be performing a dance before us, so complex, it’s puts ‘strictly’s’ best choreography to shame!



One of the stunning images that have been received via NASA’s James Webb space telescope (Image: NASA)



This image shows a total of five galaxies, performing what has been described as a ‘cosmic dance’.

(Image: NASA/ESA) [Lucy.Saunders@russell-cooke.co.uk](mailto:Lucy.Saunders@russell-cooke.co.uk)

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*The Carina Nebula was previously seen by The Hubble telescope but this version from James Webb has been described as 'simply stunning' (Image: NASA/ESA)*

We are peering so far into deep space that the images we are seeing have taken billions of years to reach us. It's mind boggling to see images of an exploding sun before our very eyes.

All this is just the start of what promises to be a long running show of more and more images from space. It will be collecting data and sending images for the next 20 years at least. By the end of it we will perhaps have answers to some of the questions about the universe that have plagued us for so long.

On the obverse side, there will be new questions that we never even knew to ask. They will dominate our thinking for years to come. For planetary science in particular and science in general, these are monumental days that will excite so many of us.

*There's so much more to see on the internet - go feast your eyes!*

### **July 7th passes and still no announcement about the Cumbrian coal mine project...**

The decision about whether or not to allow a new coal mine project to go ahead at Workington was to be made by Michael Gove on July 7th. Now with the Secretary of State sacked and the Prime Minister about to be replaced, the decision has been delayed, probably until the Autumn.

Interestingly the issue has come up in questions to a couple of the candidates for the leadership of the Conservative Party, with at least one expressing support for the project.

### **Royal Cornish Museum is under threat of closure...**

*Our regular contributor, Tony Wardle informs us that the famous Royal Cornish Museum in Penzance is threatened with closure. The information comes from mindat.org with our thanks.*



*Part of the Museum collection (Image: Royal; Cornish Museum)*

“The Royal Cornwall Museum, including the outstanding Rashleigh Gallery of (primarily) Devon and Cornwall mineral specimens, is facing imminent closure due to Cornwall County Council cutting all funding to the museum.

Terrible news. If you're in the region I would suggest writing to your local MP and ask them to raise this issue urgently with the council.”

Mineral expert Ray Starkey adds: “This is a real threat to the ongoing future of the Museum and the Rashleigh Collection.

Please spread the word and get as many people as you can to join in the effort to save the Museum's future.”

*Additional information can be found in this message sent by the museum to its supporters:*

<https://www.bbc.co.uk/news/uk-england-cornwall-62042244>

### **Fracking for shale gas - the Government commissions BGS to carry out a review of the latest evidence...**

In a further sign that fracking has not gone away, the UK Government commissioned British Geological Survey (BGS) to undertake a review of the latest scientific evidence around shale gas extraction. That review has now been concluded.

Following independent external peer review, a report has been submitted today, 5 July 2022, to the Department for Business, Energy & Industrial Strategy (BEIS) for consideration. The outcome of the report and any further communication regarding the report or its publication, will be handled by BEIS: [newsdesk@beis.gov.uk](mailto:newsdesk@beis.gov.uk).

*Further information can be found at:*

<https://www.bgs.ac.uk/geology-projects/shale-gas/shale-gas-extraction/>

### **UK Carbon storage - report highlights the science challenges...**

*The following comes from the BGS website:*

“A new report from a carbon storage scoping study demonstrates the importance of community engagement to define the research agenda to achieve the UK national climate change targets.

Carbon capture and storage is “a necessity, not an option, in meeting net-zero”, according to the UK Committee on Climate Change. A NERC-funded carbon storage scoping study, commissioned in October 2020, identifies a strategic need for a national research infrastructure in carbon dioxide storage and developed the key research and innovation challenges it could address.”

*To find out more or to download the full report go to:*

<https://www.bgs.ac.uk/news/identifying-the-science-challenges-for-uk-carbon-storage/>

### **Wildfires are nothing new...**

With extreme temperature events becoming ever more common as our planet heats up, attention is falling on the occurrence of wildfires. For years geologists have known that there have been such events in the geological past, but how far back do such events go?

Palaeobotanist Ian Glasspool from Colby College in Maine USA has identified the products of a wildfire in Wales during the Silurian, some



*Palaeobotanist Ian Glasspool was researching how plants came out onto the land when he discovered the role of wildfires. (Image Colby College)*

450 million years ago. Glasspool was investigating early plant life and was amazed to discover that wildfires can result in some exceptional preservation of plant material.

“It seems rather counterintuitive,” Glasspool said. But because charring alters the original plant chemistry, it can reduce plants’ susceptibility to decay and crushing. These fossils preserved through such events will provide key information about Earth’s past, including species evolution and atmospheric oxygen levels. “That’s why a few localities with charred fossils have generated so much knowledge about early land plants.”

But there is a gap in the wildfire record from about 400-385 million years ago when life on land began to flourish. Glasspool is shedding light on that era with two recent findings.



*The dark, roughly cubic fragments on this rock are fossil charcoal chunks of an extinct enigmatic organism known as Prototaxites that grew more than 4 m in height and up to a metre in diameter. Scientists most commonly consider Prototaxites a basidiomycete fungus. This sample comes from the Welsh borderlands of the UK and is a little less than 420 million years old. Before it was fossilized, it burned at temperatures of at least 700°C. (Image: Colby College)*

“Essentially, what I’m interested in is trying to strengthen the information on atmospheric oxygen so that we can try and correlate that to the evolution of land animals,” said Glasspool, a research associate in Colby’s Geology Department. “If you’re interested in how

we all came to be here, one of the first steps is understanding the baseline conditions for what made terrestrialization possible.”

This technique led them to two further findings, the first from Wales the second from younger fossils in Maine, that together bring us closer to understanding how terrestrialization happened.

The first came from materials from the Rumney borehole in South Wales. There, they found an even earlier record of the first wildfire, extending the known range of fire on the planet by 10 million years, back to 430 million years ago. This is right at the interval from which the very first land plant macrofossils are known.

“Given how unfavourable to burning this moisture dependent, diminutive, less than one inch high vegetation was, it is remarkable that fire could propagate at all,” said Glasspool. These findings suggest that atmospheric oxygen levels at this time must have been elevated well above present-day levels.

*To find out more about this fascinating research and to add in the evidence from Maine go to:*

<https://news.colby.edu/story/fossils-from-wildfires-provide-clues-about-terrestrialization/>

*You can also find out more at:*

<https://www.bbc.co.uk/news/science-environment-61929966>

*We are grateful to Colby College for the material used in this article.*

## WALKING HOLIDAY



Four full days of guided walks around our island, enjoying Arran’s fascinating geology, wildlife and landscapes, plus one free day to explore. Fully catered accommodation. So why not make a little time for yourself?

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# in-house

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We guarantee that if you call into our shop you'll always get our best prices! Why is this? It's because we don't have to pack and then post your items, adding to the profits of Royal Mail.

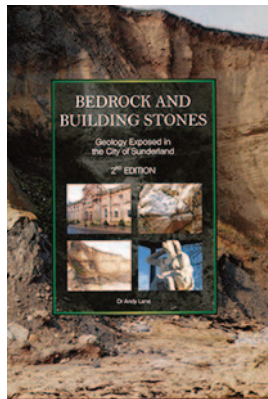
Off the shelf prices for BGS maps start at just £12.00 - that's a saving of £1.00 from our mail order prices. On many items your saving will be at least 10% - possibly even more. There are also some 'one off' bargains and end of range items.

See the panel below for our opening hours. We're on the northern outskirts of Sheffield, just 5 minutes from M1 Junction 35.

### As one book goes, others keep on coming...

We begin this review of books with the sad news that the excellent book *Purbeck Stone*, is now out of print. After a short print run publishers Dovecote Press report that the last copies have now been sold.

Meanwhile, up in the Northeast of England, retired lecturer *Andy Lane* has published a second edition of his *Bedrock & Building Stones* book. It's been greatly expanded from the previous edition and updated. The book comes complete with six walking cards for itineraries within the city boundary.

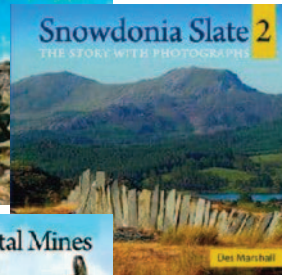


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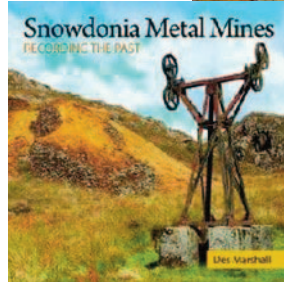
Interesting books on *Snowdonia* These come from the Welsh publisher Carreg Gwalch.



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You can subscribe now for the remainder of 2022 and 2023 for just £18.00 for printed copies or £10.00 for it as pdf files, direct to your email. To subscribe, go to: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or ring us on 0114 245 5746.

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Extra August 2022



# Great geo-adventures in 2022/3 begin here...



Ocean floor basalts on the west coast of Fuerteventura - more than 180 Ma.  
(Image: Chris Darmon)

We now have the final programme for field trips in 2023. Sadly, La Palma isn't a runner due to a lack of direct flights. We have reinstated Fuerteventura.

Brochures for most 2023 trips, are now on our website and we are accepting bookings. Iceland is already close to being full and several other trips are booking well. Our Autumn line up has been completed with the addition of Berwick which was postponed from 2022 due to a booking mix up.

To view a 2022 or 2023 brochure, go to our website at:  
[www.geosupplies.co.uk](http://www.geosupplies.co.uk) or Tel: 0114 245 5746

Booking forms are only available direct from us.  
Email: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)

## Autumn 2022 & 2023...

- Minehead, Somerset - September 14-21
- Yorkshire Coast - October 10-15

### 2023

- Fuerteventura, February 27-March 6
- Iceland, March 27-April 6
- Islay, Gigha & Mull of Kintyre, May 2-11
- Ayrshire Coast & Islands, May 12-19
- Isle of Wight, May 31-June 7
- Anglesey, June 11-16
- Ilfracombe North Devon, June 23-30
- Summer School Sunderland - August 12-19
- Berwick & the Borders - September 6-13
- Isle of Man, September 23-30
- Guernsey, Channel Isles, October 7-14
- North Norfolk Coast, October 18-23

Early booking is advised, especially if you require a single room

Browse online at [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or ring us on 0114 245 5746  
Geo Supplies Ltd 49 Station Road, Chapeltown, Sheffield S35 2XE



## 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 mainly comprise 15-20 people. Overseas trips are usually larger.
- We usually use 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.
- During the current period, even if we have a minibus you will be able to use your own car if you wish.
- Dates shown in this listing are the start and finish dates.

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

## Final vacancies on our 2022 Residential Trip programme...

If you hurry we can still fit you in on our Summer School and a few of our Autumn trips! For the latest vacancy situation email us at: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk) or ring: 0114 245 5746

### University of Worcester Summer School August 13-20

Our annual summer school is beginning to feel a bit like the Tokyo Olympics! We first tried to run it in 2020 and then the University could not accommodate us in 2021, so we have finally made it in 2022! We are sure that it will have been worth the wait as we bring you a varied programme of field visits across the Midlands and Welsh Borders, from our base in Worcester. Accommodation at the University is mainly in en-suite single rooms. Come and join our group of more than 30 people as we explore the geology of the area.

### Minehead, Somerset September 14-21

The coast of North Somerset is the 'other' Jurassic Coast with similar geology to that of Dorset, but without the crowds! We'll be taking in the Devonian rocks of Lynmouth and the landscape of the Exmoor National Park. Take in the slower pace of life aboard a West Somerset Railway steam train as it travels between Watchet and Blue Anchor. Weather permitting, we'll also take a day trip to the fabulous Island of Lundy in the Bristol Channel where you can examine a Tertiary granite and marvel at the fabulous birdlife.

*Chalk cliffs and raised beach caves at Flamborough Head*

### The Yorkshire Coast October 10-15

This trip is based at the small North Yorkshire village of Hunmanby, just to the south of Filey. From our comfortable guest house base, we'll get to see Jurassic and Cretaceous rocks from Scarborough down to Flamborough. We'll also take in the fine Quaternary cliffs of Holderness and the unique inland scenery that is the Yorkshire Wolds. A great way to round off the 2022 field season!

You can view brochures for all of our trips at our website:

[www.geosupplies.co.uk](http://www.geosupplies.co.uk)

Booking forms are only available from us at:

[downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk) or ring us on 0114 245 5746

## The 2023 Residential Trip programme...

*We've been delighted by the response to the release of some of our 20-3 trips, with Iceland already confirmed and nearly full and several other trips booking up well.*

*Since we last wrote this column, we've concluded that La Palma in February isn't a runner as there are very few direct flights from the UK to the island. Only TUI are offering direct flights.*

*Following a booking mix up we were forced to abandon our trip to Berwick upon Tweed this Autumn so have immediately re-booked it for September 2023 and therefore have postponed our proposed trip to the Loch Lomond area until 2024.*

*So apart from the Sunderland Summer School all other trips can now be booked and brochures are on our website.*

### Fuerteventura, Canary Islands (7-nights) - February 23-March 2

Having abandoned our attempt to get to La Palma due to a lack of flights we've switched back to our original plan Fuerteventura. This is one of the lesser known Canary Islands and non the worse for that. What it lacks in present day volcanic activity it makes up for in fine scenery and rocks that date back to the Jurassic! On Fuerteventura we get a glimpse of the seamount stage in the building of the Canarian platform as well as the later stages of Miocene and Pliocene volcanics and associated sediments. This is a 'must' for anyone who has never explored this part of the Canaries.



*Fabulous basalt columns on the rugged Fuerteventura coastline are just a part of the varied geology of this island.*

### Iceland, beyond the Golden Circle (10-nights) - March 27-April 6

For 20 years from 1997 we took groups almost every year to Iceland, but have not been since 2017. So why are we returning? Tourism has undergone something of a revolution and whilst the country is still expensive, it does offer decent value for money. Crucial for us, as geologists, there's been a recent volcanic eruption and finally we still have the services of our fabulous guide and driver Ingi! We'll be taking in the area around Reykjavik, including the Snaefellsnes Peninsula and Mount Fagradalsfjall, the site of the most recent eruption. We'll also travel along the south coast to Vik and then onto



*Iceland's South Coast grandeur in snow - but will we see any in 2023, the chances are pretty low?*

the Vatnajökull Glacier. The highlight of the trip is a 2-night stay on the Westman Islands, that were almost destroyed in a 1973 eruption. ***This trip is now almost full - if you want to join us ACT NOW!***

**Islay, Gigha & Mull of Kintyre (9-nights) - May 2-11**

This 3-centre trip takes in a group of islands and mainland Mull of Kintyre that are dominated by metamorphic rocks from the Dalradian. These varied rocks (along with others) are all set in some beautiful countryside. We'll also visit the island of Jura with its famous Paps made from quartzite. All this and even an unusual Carboniferous coalfield! A great trip for anyone looking for variety in landscape and geology. ***We are ready to take bookings for this trip NOW!***

**Ayrshire Coast & Islands (7-nights) - May 12-19**

We break new ground on this trip as we take in the varied geology of the island of Great Cumbrae and the Ayrshire coast around Largs. The second centre is Girvan from where we can take in the amazing geology of the Ballantrae Igneous Complex and, weather permitting, take a trip to the granite island of Ailsa Craig. ***We are ready to take bookings for this trip NOW!***



*Pillow lavas at Downan Point, a key part of the evidence for an Ordovician ophiolite complex in Southwest Scotland*

*Anyone booking for both the above Scottish trips gets the intervening night's accommodation free of charge.*

**The Isle of Wight (7-nights) - May 31 - June 7**

Often called 'the dinosaur isle' the Isle of Wight has some of the country's most recent geology. There are fine exposures of Cretaceous and Tertiary rocks, that give us some fine coastal scenery. Places like the Needles, Alum Bay, Shanklin and Ventnor will all be taken in. All this and some fine Alpine structures, including vertical beds! We'll be getting around using the island's intensive bus network, including open top double deckers!

***We are ready to take bookings for this trip NOW!***

**Anglesey, North Wales (5-nights) - June 11-16**

The island of Anglesey, or Ynys Mon in Welsh, is home to some of the finest geology in the UK. Rocks range in age from the late Precambrian to the Carboniferous and include examples of sedimentary igneous and metamorphic types. The island's geology is celebrated as a geopark and comes with lots of explanatory boards.

***We are ready to take bookings for this trip NOW!***

**Ilfracombe, North Devon (7-nights) - June 23-30**

We last visited this area about 4 years ago and found it to be quite amazing. We want to re-visit some of those places, but also take in so much more! The rocks come from the Devonian and Carboniferous, but they show some amazing structures. We'll visit places like Hartland Quay in the west along to the Valley of the Rocks at Lynton in the East. We'll also venture south onto Dartmoor to take a look at the granite and the varied minerals. Seaside resort that give us access to a stretch of coastline that takes in some rich and varied geology.

***We are ready to take bookings for this trip NOW!***



*Folded rocks and fabulous coastal scenery at Hartland Quay*

**Summer School, Sunderland (7-nights) - August 12-19**

Our annual Summer School for 2023, takes us to the coastline of Tyne and Wear and Durham with some excellent geology from the Carboniferous and Permian, with sedimentary and igneous rocks. Inland we will be taking in Weardale and Teesdale and visiting some great places along the way. All of this and the great friendship of a summer school, set in a hall of residence at Sunderland University.

***Brochure and booking form are due shortly***



**Don't worry, we don't bite!**

**All our educational classes and courses are friendly, informal and open to all.**

**Come and join us!**  
**If you have any questions -**



### **Berwick & the Borders September 6-13**

As we were unable to run this trip in September 2022, we've put it into the 2023 programme. This trip includes a visit to the 'holy grail of geological time' at Siccar Point and lots of other amazing places. From our base at the comfortable Castle Hotel, we'll be taking in both coastal and inland locations from Northumberland and Berwickshire. Marvel at folded Carboniferous sediments at Scremerston, the granite scenery of Cheviot and volcanics at St Abbs. In short, there's something for everyone on this week. We already have several bookings for these rearranged dates.

*We are ready to take bookings for this trip NOW!*

### **Isle of Man (7-nights) - September 23-30**

If you've never been to the Isle of Man to study geology before, you have been missing a treat! There's igneous, metamorphic and sedimentary rocks in great variety, along with mineral and even a few fossils! Crucial evidence for the closure of Iapetus Ocean can be found here, along with pillow lavas and limestone from the Carboniferous. For those more interested in recent deposits, there's also some of the UK's finest Quaternary in the north of the island. All this and our favourite hotel, the Welbeck!

*We are ready to take bookings for this trip NOW!*

### **Guernsey (7-nights) - October 7-14**

The Channel Islands have a rich and varied geology that bears little or no relation to the geology of England. In the case of Guernsey there are ancient metamorphic and igneous rocks, some of which go back more than 2 billion years. There's also evidence for an orogeny, known as the Cadomian, that occurred in the late Precambrian. We have secured the excellent Peninsula Hotel that we've stayed in twice before. It's on the NW coast in a quiet bay.

*We are ready to take bookings for this trip NOW!*

### **The North Norfolk Coast (7-nights) - October 18-23**

There's not a finer place to round off our 2023 season than a visit to the North Norfolk resort town of Cromer. It gives us access to a unique coastline that takes in the Cretaceous rocks of Hunstanton, as well as some superb early Quaternary sediments that include a visit to West Runton that has yielded the most complete mammoth skeleton yet found anywhere in the UK.



*Hotel de Paris, Cromer - our base for this trip*

This is also the best area in the UK to see evidence of the 450,000 year old Anglian glaciation with features that include ice wedges and an excellent esker. Finally, any visit would not be complete without taking a look at the rapidly disappearing coastline and how we are seeking to manage coastal erosion. All this and a great hotel right on the seafront!

*We are ready to take bookings for this trip NOW!*

*Now it's over to you! We're happy to discuss any trip with you and to guide you in your choice. Advice is just an email or a telephone call away!*

*To obtain a booking form for any of these trips, please, email us at: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk) or ring us on: 0114 245 5746.*

*View a brochure at: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or contact us.*

### **Day Trips...**

*With the uncertainties caused by rail strikes and a general reluctance of people to commit to day trips we have regrettably been forced to abandon plans for upcoming day trips.*

*Anyone who has made a booking is welcome to contact us to arrange for your money to be refunded*

*We are sorry for the inconvenience it has caused but from what we have heard other people are having difficulty running such trips at the present time.*

### **Advance notice - Autumn Zoom sessions...**

*We will be commencing our Autumn Zoom sessions in September and October with the courses continuing until February of 2023.*

*Autumn will also see the return of our popular Virtual Day Schools and a new series of evening sessions entitled "An evening in..." which can be booked as separate sessions or as a set.*

#### **Yorkshire Geology (11-weeks) commencing October 24**

This course examines the geology of Yorkshire from its earliest rocks in the Ordovician through to the most recent glacial deposits of the Quaternary. It's an interesting journey through time that takes us from one bit of stunning scenery to another. There's the Carboniferous limestones of the Dales, the Millstone Grits of the Pennines and the Jurassic Coast of Whitby and Scarborough.

*Cost: Eleven hour-long Zoom sessions with electronic background papers £50.00 for one person or £70.00 for 2-people studying together. Printed background papers cost an additional £20.00. Zoom sessions are on Mondays at 2.00pm or 7.00 pm (it's your choice).*

#### **Fossils for all (11-weeks) commencing October 27**

After an introduction to fossils and fossil preservation this course goes on to examine a wide range of fossil groups. We'll be covering trilobites, ammonites, graptolites, corals and many more, including dinosaurs. This course is aimed at a wide audience, so even if fossils aren't normally of great interest to you, why not give them a try?

*Cost: Eleven hour-long Zoom sessions with electronic background papers £50.00 for one person or £70.00 for 2-people studying together. Printed background papers cost an additional £20.00. Zoom sessions are on Thursdays at 2.00pm or 7.00 pm (it's your choice).*

#### **Virtual Day School - Wednesday September 28**

**"The Lewisian rocks of North West Scotland"** The Lewisian Gneisses are Britain's oldest rocks, dating back more than 3 billion years. This day school examines what we now know about these rocks and the forces that formed them.

*Cost: £20.00 per person or £25.00 with printed papers.*

*To book or find out more email us at:*

*[downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk) or ring us on: 0114 245 5746*

# **GEO** Featured books for August 2022

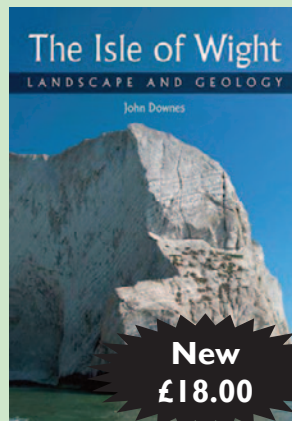
In each issue we are pleased to be able to introduce you to a range of featured books. Where they are being offered at reduced prices, these will be current to the end of August 2022 provided that stocks are available. Please note, all prices include UK postage.



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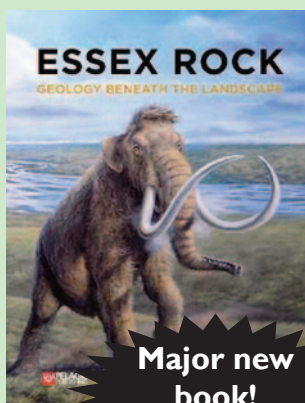
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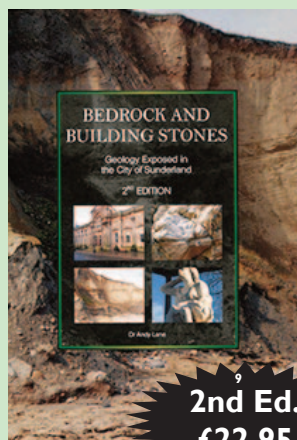
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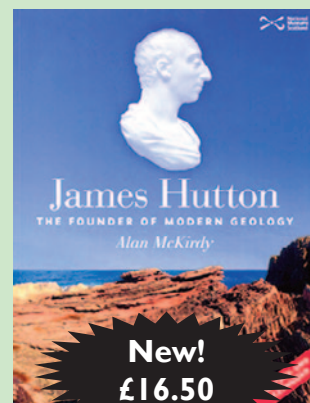
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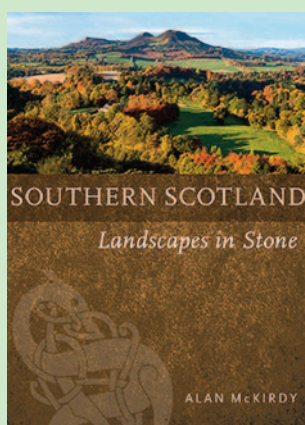
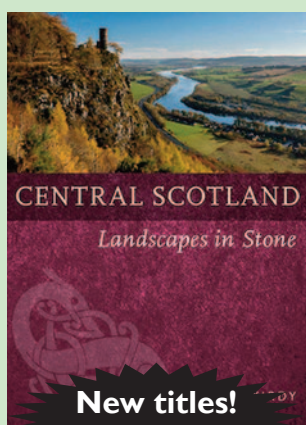
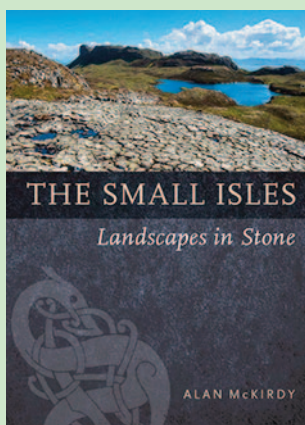
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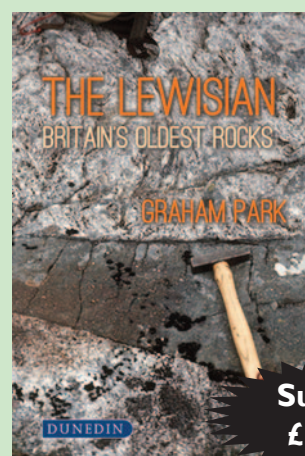
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