



# Down to Earth *extra*

Issue 107 November 2021

## NEWS FLASH...

- Book a place on a Residential Field Trip in 2022!
- Three Winter Zoom courses to choose from!
- Three virtual Autumn Day Schools to choose from!



*This is the view of North Glen Sannox on the Isle of Arran as our party approaches the 'holy grail' that is the contact between the Arran granite and the Dalradian rocks. At this point the slaty Dalradian has been turned into a hornfels by the heat of the granite.*

*This locality was probably visited by James Hutton when he came to the island in 1786/7. He was able to demonstrate the intrusive nature of the granite, and therefore its age compared to the country rocks.*

*(Image: Chris Darmon)*



## From the Editorial team...

Having just watched the *Andrew Marr Show* on BBC1, it's hard not to be pessimistic about the future of our planet. The theme of Marr's Show (if you didn't watch it) was, of course, the COP26 conference in Glasgow. Marr's guests were Alok Sharma, President of COP26, Ed Milliband, Labour's spokesman on climate change and Greta Thunberg the 18-year old Swedish climate activist

If anyone was in any doubt of the world's apparent inability to actually do anything about climate change, as opposed to talking about it, they certainly weren't by the end of the interviews. It wasn't that Andrew Marr didn't try to get firm answers and commitments out of his guests, it was just that the two politicians, either wouldn't or couldn't give them. Both Milliband and Sharma were bound by what their respective leaders allowed them to say. This resulted in neither of them performing at anything like the level expected of them, given the gravity of the situation. Even Greta Thunberg seemed keener to promote her own part in COP26, given that she hasn't been invited to speak, but clearly wants to. Surely now is not the time for such a prima donna performance! That said, Greta does speak for millions of young people and she is prepared to grapple with at least some of the issues.

As someone who's studied the Earth for more than 50 years, I and many of you, have seen both the amazing strengths of our planet, but also its great fragility. At the same time as volcanoes go on erupting and earthquakes continue, we've seen in little more than a decade, large parts of our complex ecosystems collapsing before our very eyes. Whether it be bird populations round our coasts or in our gardens, variations in migrations patterns or the wholesale extinction of large parts of our coral reefs. Whilst world leaders seem to be concentrating on the economic and material impacts of climate change parts of the world are, quite literally, dying before our very eyes. Yes, it's hard not to be pessimistic about the future of planet Earth!

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

**See pages 6-9 for the full spectrum of our 'real' and virtual events!**



## news update

**La Palma's Cumbre Vieja volcano is still going strong after more than a month...**



*Cumbre Vieja sends an ash cloud high into the air.*  
(Image: Majorca newspaper)

The Canary island of La Palma is perhaps best known for its beaches and nightlife. But on September 19th we were reminded that this is a volcanic island with a volcano that last erupted 50 years ago in 1971. Now it has erupted again and a 2 km exclusion zone has been brought in and lava and ash spew from an open vent.

Scientists were alerted to the possibility of an eruption by a series of earthquakes over the two weeks prior to the eruption. At the same time, the ground around the eruption point has been swelling ominously, with local uplifts of around 20 cm being recorded.

The eruption finally began on Sunday, September 19th on the Cumbre Vieja volcano. Quite quickly it could be seen to be a fissure type eruption, with the development of a second rift following soon after.

Now, after more than 6 weeks of continuous eruption the intensity is currently at its highest level. A lava front more than a km across has entered the sea with another river of lava currently paused behind a residential area. There have been more than 6,000 earthquakes over the same period.

Recently the Canary Islands Volcanology Institute described it as "a giant lava fountain" after it gushed out of the Cumbre Vieja volcano early on Monday, October 25th. "We're in a new phase, which is much more intense," Pedro Hernandez, a researcher at the institute, told public broadcaster RTVE.

At least 7,500 of the island's population of 85,000 have now been forced to evacuate and more than 2,000 properties have been destroyed with even more in imminent danger.

Up on the Cumbre Vieja volcano, part of the early edifice has now collapsed, leaving lava to erupt along a 3 km long fissure. Local scientists describe this as a "new phase" in the eruption.

Down to Earth extra is designed & published by Geo Supplies Ltd.,  
49 Station Road, Chapeltown, Sheffield S35 2XE

Editor: Chris Darmon  
Assistant Editor: Colin Schofield

Tel: 0114 245 5746 • FAX: 0114 240 3405  
Subscribe for FREE: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)

Material is © Geo Supplies Ltd. 2021  
You are welcome to share DtoE extra with others in your group and reproduce items contained here, provided you acknowledge the source.



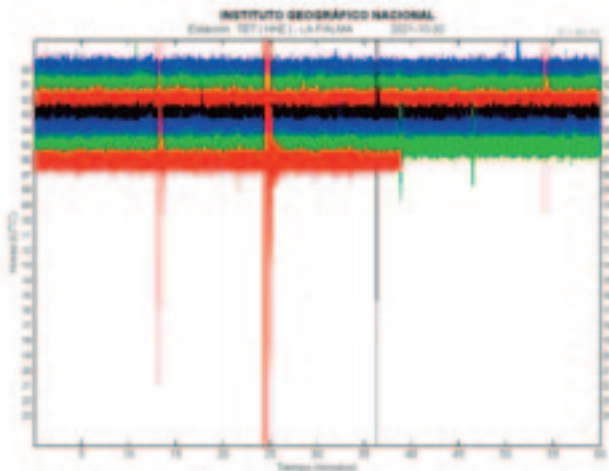
*The eruption is in full flow in this October 28th view.  
(Image: Courtesy of Daily Motion)*



*A spectacular night time shot of the volcano in late October.  
(Image: Volcano Discovery)*

Meanwhile, tourists are flocking to the island to see for themselves the eruption, but also to help the local people by putting money into the local economy, and also giving them practical help to evacuate.

"In a passive way, our way to help is to come here to visit the volcano, which is something unique, but we contribute with money by spending money at hotel, restaurants, car rental," Olga Reinoso, from the nearby island of Fuerteventura, told Reuters on October 30th.



*Seismic trace of the magnitude 5.1 quake under La Palma on the morning of October 30th.  
(Image: Courtesy of volcanodiscovery.com)*

As usual, the best information about the eruption continues to be that supplied by [volcanodiscovery.com](http://volcanodiscovery.com). On 30th. October they reported:

"Half an hour ago, the island was shaken by a strong magnitude 5.1 quake at 39 km depth beneath the center of Cumbre Vieja at 7.24 a.m. local time. This is the strongest-so-far tremor since the start of the seismic crisis and volcanic eruption in September.

While volcanic tremor is very high and bright glow from the eruption site indicates that activity also is elevated, this quake could mean that yet another pulse of magma from a deep source is under way; if so, activity might increase in the course of the day. "

At the same time, BBC News posted an excellent short video that shows a volcanic bomb hurtling down the slopes of the volcano.

*You can watch (and listen to) the eruption live at:  
<https://www.youtube.com/watch?v=GxqQyY9nZUQ>*

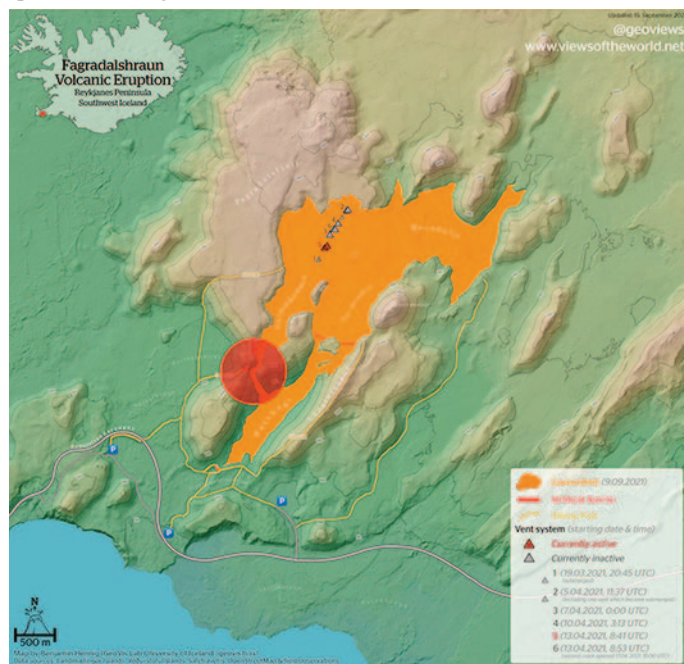
*If you wish to assist the residents affected and the state of emergency on La Palma please visit:  
<https://www.cabildodelapalma.es/en/ho...>*

**Meanwhile in Iceland, after more than 6 months, the eruption at Fagradalsfjall seems to be coming to an end...**

It has gone on for more than 6 months and has been the largest and longest Icelandic eruption for more than 50 years, but now the end appears to be in sight for the Fagradalsfjall volcano. As late as



mid-September scientists were still reporting the eruption as being in full flow. Lava breached the coast road and there were some spectacular images that were seen around the world.



*As can be seen from this map, most of the lava went northwards, although the coastal road was breached.*  
(Image: Courtesy of volcanodiscovery.com)

Volcanic eruptions it seems are good for tourism, as thousands flocked to see the spectacle. Many of these were Icelandics keen to see an eruption right on their doorsteps. Remember that Fagradalsfjall is situated on the Reykjanes Peninsula, within half an hour's drive from the capital Reykjavik.

A look at the live webcams on October 31st revealed little activity and seismic activity is now much reduced, though not eliminated, in the area. If it follows the pattern of previous Icelandic eruptions, we can expect it to remain 'semi-active' for some time to come and it may yet give us a second chapter of fireworks!

To view the live webcam, go to:

<https://www.youtube.com/watch?v=BA-9QzIcr3c>

**The Editor comments:** I'm pleased that this Icelandic eruption broadly followed the pattern of recent eruptions in the country. They

tend not to cause damage or loss of life and to last a similar time. In short, they are good for tourism!



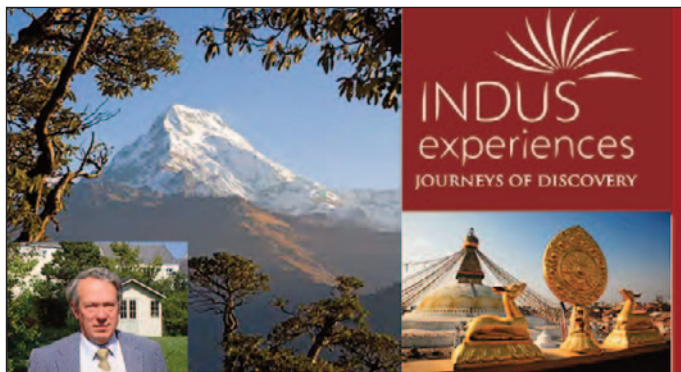
*How's this for a view of how lava can affect the landscape? This was Fagradalsfjall in September.*

(Image: Courtesy of volcanodiscovery.com)

## Cornwall's Lithium resource now there are two companies in the race...

Over the last year or so we've kept you in regular touch with what's going on in Cornwall with regard to the potential mining of lithium. Currently two different companies, Cornish Lithium and British Lithium are looking at different localities in Cornwall to either extract the lithium from solid ore, or from lithium enriched waters. In the event that mining goes ahead it's likely a combination of these methods will be used.

*We await further developments!*



Indus Experiences is pleased to announce special interest (geology) tours to a range of destinations. Dr Danny Clark-Lowes will be your tour leader on many of these. He is a geologist, educated at Cambridge and London universities, and a mountaineer, much travelled in the Himalaya. Tour destinations include Annapurna region in Nepal, Bhutan, Ladakh and Zaskar (northern India), Rajasthan, Kyrgyzstan, Oman, Jordan and Morocco.

**For detailed day to day itineraries visit:**  
[www.indus experiences.co.uk/special-interest](http://www.indus experiences.co.uk/special-interest)  
On 'Special Interest' tab scroll down to 'Geology'

For a booking form please email: [holidays@indus experiences.co.uk](mailto:holidays@indus experiences.co.uk)  
or call 020 8901 7320





## THE RUSSELL SOCIETY

**Interested in British minerals?**

**Why not join us?**

**[www.russellsoc.org](http://www.russellsoc.org)**

**Calcite with chalcopryrite**  
Cloud Hill Quarry  
Leicestershire

to find out about our:

- Field Trips
- Journal
- Newsletter
- Social Events

Please mention Down to Earth when contacting us



## With Christmas coming up, Geosupplies have got some goodies just for you!

We're pleased that a number of you came and took advantage of our special offer on BGS maps and visited us in person during the summer months.

Sorry to say that the map offer has now ended, but we've still got lots of bargains for you! Our shop prices on geological equipment and specimens all reflect the fact that we don't have to pay out on postage. We've also got a whole shelf full of clearance book titles at bargain prices, as well as some clearance maps. If there's something specific that you are looking for, we always suggest that you ring us first, just to make sure that we have it in stock.

**Our opening hours are 8.30-4.00 Monday to Friday and 9.30-1.00 on Saturday. We're just 5 minutes off the M1 Junction 35.**

## With UK supplies at a standstill, have we seen the last Brunton compasses?

It was in 1894, that D.W. Brunton, a Canadian-born geologist and mining engineer, commissioned a skilled watch repairer from Denver, Colorado to manufacture his invention—the Pocket Transit Compass. The precision instrument became world-famous and freed outdoors men of the bulky equipment of that time.



Today, those self same pocket transits are still made by the Brunton Company in their factory in Riverton, Wyoming. For several years now demand has always exceeded supply for this range of products with delivery taking weeks.

However now the Brunton Company has seemingly stopped (at least in the short term) sending any supplies to its European distributor in Germany - who then passes on stock to the UK. With supplies having diminished over several years, it's highly unlikely that you'll be able to find one in the UK - we have only a couple of models left.

Beware though of cheap Chinese made fake products. They are poorly constructed and not worth what you pay for them. It will be interesting to see what happens in the coming months.

## Changes to Down to Earth subscription rates...

Many of you have told us how much you appreciate the quality of *Down to Earth* now that it's printed on better quality paper. It 'feels' much more like a magazine!

Having switched to supplying all of our bulk copies in electronic form we've much reduced our print copies. Inevitably this has a cost impact. This will mean that the cost for renewals for 2022 will rise by a pound to £14.00. We hope that you still consider this good value. *If your subscription is due, an invitation to renew is included with this issue - please don't use the form below.*

### Down to Earth readers welcome!

**Just 5 minutes off M1 Jn 35 N. Sheffield**



**Our shop is open!**

**GEO SUPPLIES LTD.**

**49 Station Road, Chapeltown S35 2XE**

**Tel: 0114 245 5746 • [www.geosupplies.co.uk](http://www.geosupplies.co.uk)**

**Open 8.30-4.00 weekdays and 9.30-1.00 Saturday**

**Callers always make savings!**



# get Down to Earth regularly...

**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.**

**You can subscribe now for the remainder of 2021 and 2022 for just £16.00 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.**

**Down to Earth** is published quarterly. Take out an e-subscription now for 2021/2 for just £10.00 anywhere in the world, or £16.00 for printed copies in the UK. We'll send you the next 5 issues, to the end of 2022 and 4 back issues. Additionally, all subscribers will get DtoE extra FREE each month. If you'd like back issues of printed copies, you can get a parcel of these for just £25.00 extra.

**HOW TO SUBSCRIBE** - Go online at: [www.geosupplies.co.uk](http://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





**Down to Earth**

*'Earth science learning for all'*

# Book now for our 2022 programme of residential trips

This is a fine view of Strangles Beach, south of Bude on the North Coast of Cornwall. It's here that a major fault crosses from East to West.  
(Image: The Cornwall Guide)

We have worked hard to ensure that, as far as we can see, the advertised programme for 2022 will run as planned.

With air schedules slowly returning to something like pre-pandemic levels, we think that the Dingle trip will also be fine, with people flying to Cork airport.

We have had to pay particular attention to pricing for 2022 as several trips that we previously advertised for 2020/1 are still to run. Price rises have become inevitable given pressures in the sector. We have kept these increases to the absolute minimum.

Several trips are approaching being full at this time, so act now to secure your place.

To view a 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)

## The 2022 programme - the full list

- North Cornwall - April 2-9
- Raasay & Skye - April 21-28
- Northwest Highlands - April 29-May 6
- Dingle Peninsula - May 18-25
- Mull & Ardnamurchan - June 4-11
- Pembrokeshire - June 25-July 2
- Northeast Scotland - July 20-27
- Worcester Summer School - August 13-20
- Berwick & the Borders - September 1-8
- Minehead, Somerset - September 14-21
- Malvern Hills - September 28-October 2
- Yorkshire Coast - October 10-15

Full refund, if we, or you, have to cancel due to Covid-19. Everyone booking will be required to have completed a Covid-19 vaccination programme in good time and to be 'fit to travel'.

Enrol 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*



*Participants on the South Devon trip at Start Point in October 2021. Colin Schofield is the one wearing the sun glasses and the hat.*

## The 2022 Residential Trip programme...

Since June 2021 we've been running our residential field trips largely as before, but at the same time taking every precaution to prevent the spread of Coronavirus. We continue to insist that everyone who joins us must have undertaken a programme of at least two vaccinations unless they are medically exempt. In addition, we recommend the wearing of masks in confined spaces and in accordance with the rules of the various UK nations.

For 2022 we are hoping to return to making use of a hired minibus driven by our own Colin Schofield. However, if you wish to use your own car you are welcome to do so. For the time being, we are keeping things simple and, aside from a trip to Ireland, will not be running any overseas trips. These will hopefully resume in 2023.

Please remember that some of these trips have been advertised previously and are therefore already nearly full. If you are looking for a single room, these will be in short supply on most trips. The message is to book early to avoid disappointment!

### NEW! North Cornwall, April 2-9

This trip, which is based at the Cliff Hotel in Bude, takes in the varied geology and fabulous scenery of North Cornwall. Rocks of Devonian and Carboniferous age have been superbly folded and faulted in the Variscan Orogeny. We'll be taking in places such as the Delabole Slate Quarry, Tintagel and the amazing cliffs of Hartland Quay. Add in some of the granite around the north of Dartmoor and we have a great trip in store for you.

### Raasay & Skye April 21-28

The island of Raasay is situated just off Skye and is a geologists' paradise with rocks ranging from the Lewisian to the Tertiary with Torridonian, and fossiliferous Triassic and Jurassic rocks in between. All this on an island that's 4 miles across and 11 miles long. We also spend two full days on Skye in what will be a truly memorable trip. *(Very few remaining places available.)*

### Northwest Highlands of Scotland April 29-May 6

Based at the famous Inchnadamph Hotel in Assynt, this trip takes in some of the UK's finest geological sites in the Moine Thrust and other classic places. We journey to the 'multi-coloured rock stop', Smoo Cave and beautiful Achmelvich on the coast. See our oldest rocks and get to grips with the processes that were in place nearly 3 billion years ago. *(Few places remaining on this trip.)*

### Dingle Peninsula, Ireland May 18-25

The west coast of Ireland is amongst the most beautiful in the whole of the British Isles and we want to share it with you! See amazing folds in the rocks of the Lower Palaeozoic and also a great variety of different rocks, minerals and fossils. For this trip, flights to and from Cork are recommended. *(Very few places remaining.)*



*In your face geology at Mingary Pier, Ardnamurchan*

### **NEW! Mull & Ardnamurchan June 4-11**

This trip is based in the beautiful Mull village of Tobermory. We will spend much of the week studying the rocks of Mull, including taking in a trip to the island of Staffa (weather permitting). We'll also spend two full days on the Ardnamurchan Peninsula where we will be able to see Jurassic sediments with fossils, along with excellent igneous rocks from the Tertiary. Back on Mull we'll also take in the rocks of Iona and places like Calgary and Dervaig. This promises to be a great trip, full of varied geology and scenery. All this and a comfortable, modern hotel, who could ask for more!

### **Pembrokeshire June 25-July 2**

We've been trying to return to this, one of our favourite areas, for two years! This trip is based in the town of Haverfordwest enabling us to travel to all the best sites in Pembrokeshire, and allowing you to travel by train to the field area. We'll be taking geological sites at Marloes, St Davids, Broadhaven and Saundersfoot, to name but a few. This is Palaeozoic geology at its best, all folded and faulted in the Variscan Orogeny. *(Few places remaining on this trip.)*

### **NEW! Northeast Scotland July 20-27**

This trip examines the coastline of Moray and Nairn, along with some of the inland outcrops. It's known to geologists as the 'kingdom of Dalradia' because it's dominated by the metamorphic rocks of the Dalradian formation. That said, we'll also see sediments from the Old and New Red Sandstones and even a little Jurassic. Come and explore an area of Scotland that lies between Inverness and Peterhead, we promise that you will not be disappointed!

### **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 this year, so we've gone for 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 bases in Worcester. Accommodation at the University is mainly in en-suite single rooms. *(We have a number of bookings already in place, but can accommodate more.)*

### **NEW! Berwick & the Borders September 1-8**

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..



*Lundy Island, home to the eponymous Tertiary granite*

### **NEW! 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. 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.

### **NEW! Malvern Hills September 28-October 2**

Great Malvern is world famous for its spring water that flows from fissures in the Precambrian rock of the hills made famous by Elgar. Aside from these ancient igneous rocks there are also nearby exposures of Lower Palaeozoic limestones along with sediments from the Carboniferous and Permo-Trias. We'll also be including a trip along the Severn Valley railway to view Coal Measures and dunes.



*Chalk cliffs and raised beach caves at Flamborough Head*

### **NEW! The Yorkshire Coast October 10-15**

This trip is based at the small North Yorkshire village of Hunmanby, just at the south of Filey. From our comfortable guest house base, we'll get to see Jurassic and Cretaceous rocks from Scarborough down to Flamborough as well as taking 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



**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 - please ask us.**



## Welcome to our virtual world!

### Virtual Day Schools

*Our popular Day School format, transcribed into a virtual format, with some lively topics for you to enjoy! Individual day schools cost £20.00 each. Printed background papers cost an additional £5.00 per day school. Day schools begin at 10.30 and involve three Zoom sessions of about 45 minutes each with time for you to carry out your own guided study in between.*

You can book online at: [www.geosupplies.co.uk](http://www.geosupplies.co.uk)

#### November 17 Volcanoes

Volcanoes make for excellent TV! There's nothing quite like a fiery eruption to relieve people from endless coverage of Covid-19. During the course of this day school we'll be examining the full range of different volcanoes around the world and establishing where they form and why. You will discover that they are the 'safety valves' of planet Earth.

#### December 1 Iceland - land of ice & fire

Iceland may only be around 15 million years old, but it's a place where lots of geology happens on a daily basis. From earthquakes to volcanic eruptions and glaciers to cold deserts - Iceland has the lot! Discover some very new ideas about why all this happened.

#### December 15 UK & Chinese Lagerstatte

In this, our final day school, we'll be examining some of the UK's most amazing fossil sites found in what are known as lagerstatte. We have three such formations, A Silurian one in Herefordshire famed for its amazingly preserved crustaceans, the early Devonian flora of Rhynie in Aberdeenshire and the Eocene London Clay flora. To make this a Christmas cracker of a day school we'll also add in some Chinese lagerstatte! Are you ready to get blown away?

*A new programme of Virtual Day Schools will begin in January - watch out for details in December's Down to Earth extra!*

### Winter Zoom Courses

We've got some exciting plans for Winter as we begin a new season of Zoom sessions. Remember that you can join us in our weekly Zoom sessions at the allotted times, or you can choose to have printed background papers and access the audio at a time to suit yourself. Expect our usual informal approach and style that welcomes each and every one of you!

*You are invited to enrol on these courses from mid-November onwards. All courses will begin in the week commencing January 17th 2022.*

*To enrol onto the course, or to find out more, go to our website, and enter the online shop: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or ring us on 0114 245 5746*

*If you have any questions email: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)*

#### The Geology of the British Isles in 13-hours!

One of the first distance learning courses that we did was *The Geology of the British Isles*. Many people have embarked on this journey since then, but now, for the first time, we're bringing it to you live!

Chris is looking forward to sharing the British Isles' journey through

time in 13 hour long Zoom sessions. Each session will be brought alive through the use of YouTube videos and photographs, augmented by Chris's stories and Collins material on Moodle. We want this to be the best course ever, aided and abetted by your own participation.

*Cost: Thirteen hour-long Zoom sessions with electronic background papers £60.00 for one person or £85.00 for 2-people studying together. Printed background papers cost an additional £25.00. Zoom sessions on Mondays at 2.00 and 7.00 pm (you choose)*

#### How the Earth works - from flat Earth to plate tectonics!

To understand the planet on which we all live, we really need to understand the processes that operate upon it. Put simply, it can be thought of as a machine and as such it has a means of working! Over 10-weeks we'll unpack our planet and show you how, over the years, we have come to understand much about those complex processes. It culminated with what many call a revolution - plate tectonics. You'll meet some amazing scientists along the way and sometimes take a step backwards before a new discovery takes us forward again.

*Cost: Ten 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 on Tuesdays at 2.00 or Thursdays at 7.00 pm (you choose)*

#### Metamorphic Rocks - rocks from the pressure cooker (10-weeks)

This course has previously been offered as a basic distance learning course only. Now we are able to bring it to you with fortnightly Zoom tutorial sessions. The course is arranged in a way that covers all the basic elements of metamorphic rocks. It takes you through how metamorphic rocks form, the textures the rocks exhibit and the minerals that make them up. You'll learn about contact, regional and dynamic metamorphism and how we classify these enigmatic rocks.

*Cost: Five hour-long Zoom sessions with electronic course units and tasks £40.00 for one person or £60.00 for 2-people studying together. Printed background papers cost an additional £20.00. Zoom sessions on alternate Wednesdays at 7 pm*

#### Steps towards the rock face - the complete course for beginners (11-weeks)

More than 150 people have taken part in this course since we first launched it more than five years ago. We are now able to offer it as an 'off the peg' course for to start and finish whenever you want. It covers a wide spectrum of basic materials on rocks, minerals and fossils and much more besides. This course has been specifically designed with adult learners in mind. It does not require you to submit homework and you can do it electronically or by post to suit your requirements. There are no Zoom meetings with this course and tutorial help is available by email.

*Cost: £50.00 by Moodle/Email, or £75.00 by post with printed papers.*

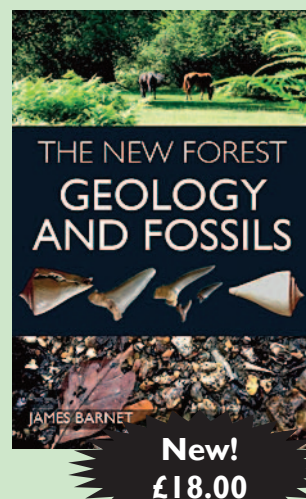
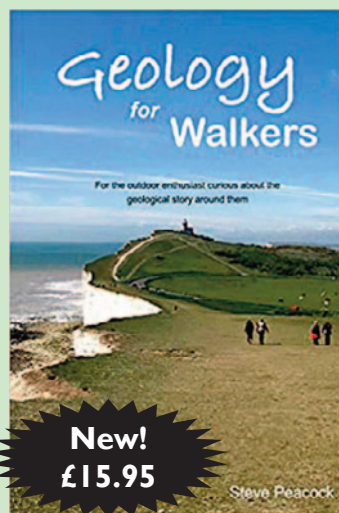
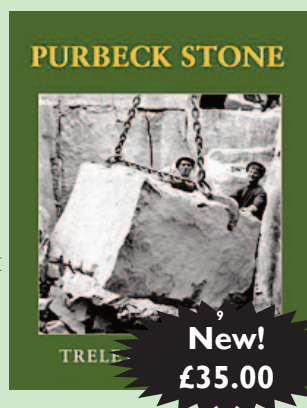
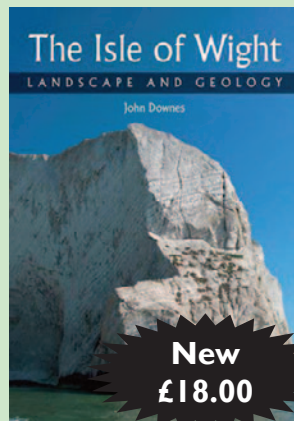
*To enrol on any course go to our website: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or email us at: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)*





# Featured books for November 2021

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 November 2021 provided that stocks are available. Please note, all prices include UK postage.



Order 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