



Down to Earth *extra*

Issue 77 May 2019

SPOTLIGHT

- 2020 Residential Field Trips are booking up fast!
- Still places on Autumn 2019 trips
- Join us on a day trip - soon!
- Final vacancies on Summer School!

*Ronez Quarry on Jersey's northern coast works a hard andesite which is used as a general aggregate and in concrete. Material is transported to Guernsey from here.
(Photo: Chris Darmon)*

From the Editorial team...

The world of geology isn't immune from trends. With mass communication quicker and more effective than it has ever been, it's amazing how rapidly some trends can take a hold. They seem to spread like wildfire, and sometimes for no apparent reason. Why is it, for example, that pets are appearing in more and more TV commercials, on seemingly, any subject?

But the trend I want to talk about is one that has taken muck longer to spread, but it is very welcome indeed. I saw one of my first, below Castle Hill, just outside Huddersfield, nearly 20 years ago and since then I've been reporting on new ones around the country at what seems like an increasing rate. What are they?

They are 'geology walls' or 'geo-walls' which I define as "walls built for the specific purpose of explaining or illustrating the local rock succession and/or structure". There are geo-walls on Shetland where they have to withstand storms on a regular basis; in Bedfordshire where they provide valuable access to rocks that are becoming increasingly rare in natural exposures and in a Coventry Nature Centre where rocks are presented to naturalists via this medium

Geo-walls are a great tool for teaching about rocks and the landscape, especially where they are used to reconstruct cross sections, as they are in the Shetland Geopark. Somehow, by using real rocks, faults, unconformities and intrusions become so much more realistic. What's more, there's evidence that geo-wall projects are the sort of thing that can attract external funding, such as that obtained by the Greensand County Landscape Partnership in Bedfordshire from the Heritage Lottery. Yes, this is one trend that I'm happy to embrace wholeheartedly!

Chris Darmon & Colin Schofield

The Down to Earth extra Editorial team

It's not too late to join us on an Autumn 2019 residential field trip!



news update

Third Energy pulls out of Yorkshire fracking and the 'shale gas tzar' resigns amid row about seismics...

Third Energy, the company behind fracking operations at Kirby Misperton in North Yorkshire has ceased operations. This came following the company's failure to obtain an operator's licence from the Government, despite getting the backing of the County Council.

Third Energy is a big player in the offshore oil and gas business, but this was its only onshore operation. A statement from Third Energy Holdings Ltd. confirmed it had sold to York Energy (UK) Holdings Ltd. Any plans that York Energy might have for the Kirby Misperton site are not known at the present time.

Meanwhile, this announcement coincided with the resignation of Natascha Engel MP, as the first shale gas commissioner, after just six months in the job. She said that fracking was being stopped by rules preventing mini-earthquakes. This is because current government rules mean fracking must be suspended every time a 0.5 magnitude tremor is detected. Engel says that this amounts to what is an effective ban on fracking operations.

There's widespread concern across the industry, and beyond, at this low seismic limit with BGS amongst those proposing a limit of 1.5 before fracking has to be stopped.

Meanwhile, despite the disruption caused by interruptions caused by mini-seismic events, Quadrilla is producing some shale gas from its operation at Preston New Road in Lancashire.

In Nottinghamshire, INEOS is still continuing to explore the possibility of fracking on land close to the border with South Yorkshire.

'Wall of Geology' celebrates Greensand County Landscape..



The completed 'wall of geology' at Clophill churchyard.

Bedfordshire's geology has probably never featured in the pages of *Down to Earth*, which is something that we're about to put right! The county is perhaps best known for its Jurassic brick clays that are the

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source of house bricks across the country, but there's far more to its geology than just bricks.

It's also very much about Greensand, the green coloured sandy Lower Cretaceous rock that's rich in the mineral Glauconite. It's famous as the only common sedimentary material that can be radiometrically dated.



Bev Fowlston, from Bedfordshire Geology Group, taking instruction from Martin Fildes of Riverdale Construction Ltd.

Members of the Bedfordshire Geology Group have been working on a Heritage Lottery funded project to celebrate "Greensand County" and as part of the restoration of a derelict churchyard at Clophill, have constructed a 3 m long wall that contains rocks and bricks representing the five main geological formations in the county. There's Jurassic oolitic limestone, the Oxford Clay, the Woburn Sands Formation, the Gault Clay and the Chalk. Observant readers will have spotted that there's no mention of the Greensand, that's because it's now called the Woburn Sands Formation, which fails to trip off the tongue like Greensand did, but never mind!

The wall was constructed in September and October of 2018 and the contract included the provision of lessons for Bedfordshire Geology Group members in the art of stone wall building. At the time of

writing the Group were still waiting to apply the paint representing the 'sky' above the wall. Once this has been done, a free standing interpretation board will be placed next to the paved area.

The Greensand County Landscape Partnership (GCLP) is a range of partners working with community groups and landowners to promote the Greensand Ridge in Bedfordshire as a living and working landscape cherished by present and future generations.

New dinosaur discovery helps to show how T. rex came to be king of the Cretaceous...

A dinosaur found in Utah is helping paleontologists to better understand how the mighty *Tyrannosaurus rex* may have evolved to become the 'king' of the dinosaurs. The new found comes in at about 80 kg and stands at about 1.5 m tall. It has been named *Moros intrepidus* and is one of the smallest dinosaurs of its kind, dating back to the Mid-Cretaceous, at around 96 million years. Its discovery pushes tyrannosaurs back 15 million years from the oldest previously discovered skeleton.

"What Moros does for us is help us understand the who, what, why, where, and when of how tyrannosaurs ascended to top predator roles on the North American continent," says paleontologist Lindsay Zanno

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Chepstow Racecourse, Monmouthshire

July 6 & 7 Rock, Gem 'n' Bead Show
Edinburgh Academy

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Moros intrepidus certainly has some of the appearance of *T. rex*, albeit on a tiny body. (Image: Jorge Gonzalez)

of the North Carolina Museum of Natural Sciences, whose team reported the fossil find in the journal *Communications Biology*.

It remains a mystery, though, how North America's tyrannosaurs got big, since there's a major gap in the continent's mid-Cretaceous fossil record. This discovery helps to fill the gap between 150 and 80 million years ago.

The rate at which new discoveries are being made is quite amazing!

Lochaber Geopark launches crowd funding bid...

The Lochaber Geopark in Scotland has become the latest of the UK's Geoparks to find itself in financial difficulties with the withdrawal of Scottish Government funding. They have chosen to launch a crowd funding bid, much like the approach of the Northwest Highlands Geopark did a couple of years ago.

They say: "We've been based in Fort William since 2004 and had government support to help us achieve our steadily expanded activities over the years. Unfortunately, this line of support has now ceased and therefore we are appealing to you to help support us via a Crowdfunding campaign to help us become self-sustaining."

To find out more, or to make a pledge, visit www.crowdfunder.co.uk/save-lochaber-geopark



Popular Scottish broadcaster, Paul Murton, has been pleased to front the crowd funding page.



Manaslu Trek and Tour, Nepal with Geology Focus Led by Dr Danny Clark-Lowes 19 October to 06 November 2019 (Note: this is now a 19-day trip)

Making a circuit around the world's eighth highest peak this trek, north-west of Kathmandu and taking us close to the Tibetan border, passes through fantastic mountain scenery and hidden Himalayan valleys, well away from the jeep tracks that are spoiling other trekking routes. The teahouses we will stay at have all been restored following earthquake damage in 2015. The tour, led by geologist Dr Danny Clark-Lowes, will give you a chance to see the spectacular Manaslu granite as well as a range of tectonic structures and high grade metamorphic facies. Come along and get an understanding of how these mountains were formed!

Dr Danny Clark-Lowes is a geologist, educated at Cambridge and London universities, and a mountaineer who has climbed in the Swiss Alps and in the Himalaya.

Cost for tour is £2,200 excluding flights to and from Kathmandu
Indus Experiences are recommended for a good service when purchasing flights.



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Spring & Summer Day Trips are here...

For 2019 we are continuing the two price levels we introduced in 2018, in an attempt to make more trips viable, whilst at the same time seeking to offer good value for money. Day trips are suitable for all levels of knowledge, unless shown otherwise.

The standard price will be £15.00 per person, with some trips at the lower rate of £10.00 per person. All trips offer a £3.00 discount for holders of Club Class, students under 19 and groups of 5 or more people booked together.

To book for any Day Trip go to: www.geosupplies.co.uk and enter the online shop

Alternatively ring us on: 0114 245 5746

Wednesday, May 22

Rocks & landscapes of Wetherby, Yorkshire

In a change of venue (we were going to Boston Spa and then were informed that the permissive river path had closed) we have moved instead to Wetherby, where we can also study Permian strata. Ironically, the picture we used last time (and this) is of the Cadeby Formation at Wetherby! Sorry for the change, but we are sure that you will understand - thanks to Alison Tynon for letting us know.

Meeting: Wilderness car park, Wetherby (GR: SE 404480) at 11.00, standard prices



Permian limestones beside the River Wharfe at Wetherby

Wednesday, May 29

Rocks & landscapes of Lud's Church, Staffordshire

No this isn't a church, it's a landscape feature and it's a place that we haven't been to for years. Come and see some fine Carboniferous gritstone rocks and scenery and an amazing landslide. If time permits, we'll also see something of the nearby Roaches.

Meeting: Public car park near Gradbach Mill at 11.00 standard prices

Thursday, June 13

Rocks & landscape of the Sedgwick Trail, Yorkshire Dales

This trail was created in 1985 in celebration of Adam Sedgwick, the geological pioneer and son of the vicar of Dent. The trail shows a series of outcrops of Carboniferous Limestone to the east of the Pennine Fault. To the west there's a dramatic change in the valley as we enter a landscape made in much older rocks. A great place to

study geology in the field.

Meeting: Longstone Common (A684) 9km east of Sedbergh at 10.30 standard prices

Friday, June 14

Dufton & Cross Fell

The Cross Fell inlier is an area of Lower Palaeozoic rocks that occur in between some of the major Pennine faults. Amongst the varied rocks are limestones and rhyolite. On this day we'll take a look at some of them and also walk up from Dufton towards High Cup Nick to see the remains of the some the local mineral mining.

Meeting: Dufton car park at 10.30, standard prices

Wednesday, June 19

Chafford Gorges Nature Reserve, Essex

This is one of Essex's finest geological sites that has been created in a series of three former chalk quarries. It's a great place to get u close and personal with the chalk and to really study it closely. It's also a great lace to enjoy the countryside and see wild flowers, birds and even small mammals. There's also Chafford Hundreds railway station within walking distance.

Meeting: Chafford Gorges car park at 11.30, standard charges

Sunday, June 30

Moffatdale & Dobs Linn, Southern Uplands

Charles Lapworth spent several years as a young teacher studying the rocks of a small stream section in lonely Moffatdale. He was to determine the rocks succession using graptolites and to change radically our view of the structure of the Southern Uplands, no longer a thick successions but a thinner one repeatedly folded. We'll also see some amazing structures and Scotland's highest waterfall.

Meeting: Grey Mare's Tale car park (NT) at 11.00, standard prices

Thursday, July 4

Ballantrae & Downan Point, Ayrshire

There's superb variety on this day trip with basaltic pillow lavas, serpentine, jasper and even some Permian sandstone. Add in some amazing folds and this will be a day to remember

Meeting: Ballantrae Harbour at 10.30, standard prices

Peak District July 20-27

During this week, we'll be in and around the Peak District with our Summer School. We will be holding at least two day trips during the week - watch out in June's *Down to Earth extra* for details of what's on offer and in the meantime, you can still sign up for all of the days as a non-resident attender at Summer School.

Wednesday, July 31

Mundays Hills Quarry, Leighton Buzzard, Bedfordshire

Exposures in the soft Woburn Sands are rare, but this quarry has excellent faces that show really good sedimentary structures. There are also some fossils to be seen. As this is a working quarry, boots and safety helmets are required

Meeting: To be confirmed at 11.30, standard prices



Don't worry, we don't bite!

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

Come and join us!



Our Residential Field Trip Programme for 2020



The majestic Black Cullins of the Isle of Skye
(Photo: Chris Darmon)

We're so excited by our 2020 Residential Field Trip Programme that we've decided to release details of all the trips at the same time. This will allow you to plan your year, well in advance. We look forward to seeing you somewhere in 2020!

We've got a mix of new and old locations with, what we hope, is something for everyone. We have our first visit to a fabulous geopark in Portugal, along with a repeat of our 2019 sell-out Norwegian trip. We've a long awaited Shetland Isles trip, as well as our first ever trips to the Yorkshire Dales and the Forest of Dean.

At this stage, some trips are awaiting final details, but all can be booked - see further information under individual trip headings in this brochure.

For further details, visit the website or
Tel: 0114 2455746
Email: downtoearth@geosupplies.co.uk

The complete 2020 field trip programme...

- Terras de Cavaleiros, Portugal - March 13-20*
- Norway revisited - March 27 - April 5*
- Raasay & Skye - April 25 - May 2*
- Eigg & Rum - May 3-12*
- Dingle Peninsula - May 31 - June 7*
- Shetland Isles - June 20-27*
- Western Lake District - July 4-11*
- Summer School - July 25 - August 1
- Pembrokeshire - September 1-8*
- Isle of Arran - September 14-21*
- Forest of Dean - September 27 - October 1
- The Yorkshire Dales - October 6-11
- The Malvern Hills - October 23-28*

Trips marked * have brochures that can be viewed on our website: www.geosupplies.co.uk
We look forward to hearing from you!



Down to Earth

'Earth science learning for all'

The learning zone

Come and join our third Summer School...

**Peak District Summer School
July 20-27 2019**

Reef limestone at the National Stone Centre
Inset - The rural setting of Cliff College



The Peak District - geology and landscape at its best!

It was surely no accident that the Peak District was designated as our first National Park more than 50 years ago. Within the counties of Derbyshire, Staffordshire, Cheshire and South Yorkshire lie some of our finest rocks and scenery. So we are delighted to have secured accommodation at Cliff College, Calver, Derbyshire for our Third Summer School.

From our base at Calver which is on a regular bus route from the nearest railhead at Chesterfield, we expect to visit a wide range of geosites including: The National Stone Centre, Creswell Crags, Nottinghamshire (a World heritage site for Quaternary bones), The National Coal Mining Museum, Poole's Cavern and Ecton Copper Mine - to name just a few! Within a radius of 50 miles we can see a wide range of igneous and sedimentary rocks as well as collect minerals and fossils. There really is something for just about everyone!

We will be accommodated in single en-suite student bedrooms (there are a few double and twins available) and all our catering needs will be met in the College. We will also provide evening activities and a limited daytime indoor programme. Whilst there is no alcohol allowed on College premises, there's an excellent real-ale pub at the bottom of the drive!

Chris Darmon, Colin Schofield & Eileen Fraser
Your Summer School team

View brochure at: www.geosupplies.co.uk
Get a booking form: downtoearth@geosupplies.co.uk



Come & join us on an Autumn 2019 Residential Field Trip



Beds of Lower Cretaceous Hastings Beds, Cliff End, Fairlight Cove. (Photo: Wild Hastings Wordpress.com)

We've still got some vacancies on our exciting Autumn 2019 residential field trips. So it's still not too late to make your booking. We welcome all, who are interested in rocks and the landscape to join us. Our trips are informal, friendly and informative. We look forward to hearing from YOU!

If you are looking for a single room, these are very limited and may not be available at all on some of the trips.

Brochures for all of the trips can be viewed on our website: www.geosupplies.co.uk

To enquire, or get a booking form, you can contact us as follows:

Tel: 0114 2455746

Email: downtoearth@geosupplies.co.uk

Summer/Autumn 2019 field trip programme...

- Summer School, Peak District - July 20-27
- South Cornwall - September 7-14
- Northumberland Coast - September 22-27
- Llyn Peninsula - October 12-17
- Hastings Coast, Sussex - October 22-27

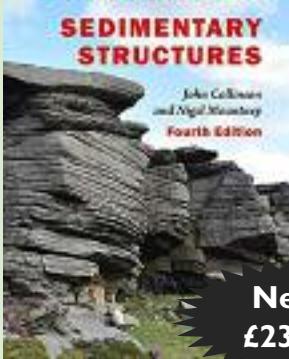
You can view brochures for all of these trips at our website: www.geosupplies.co.uk

We look forward to hearing from you!

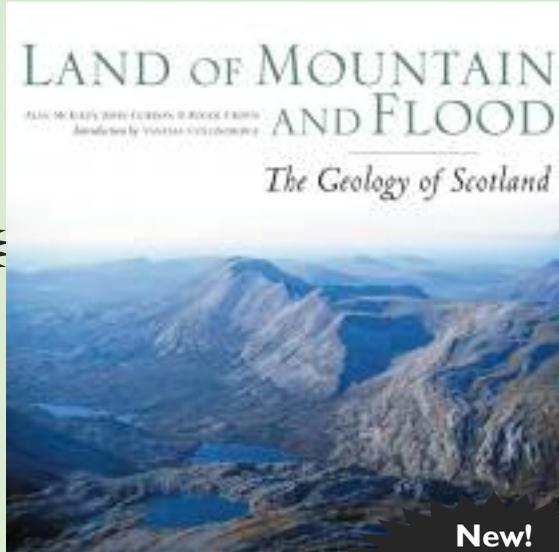


Featured books May - July

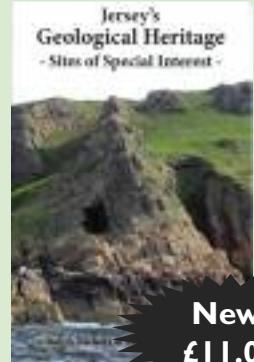
In each issue we are pleased to be able to introduce you to a range of featured books. Where they are being offered at reduced prices, these will be current to the end of the month shown above, provided that stocks are available. Please note, all prices include UK postage.



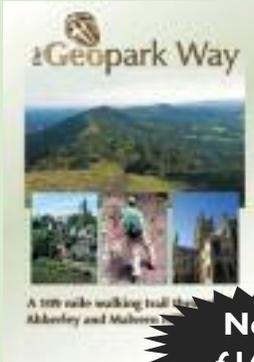
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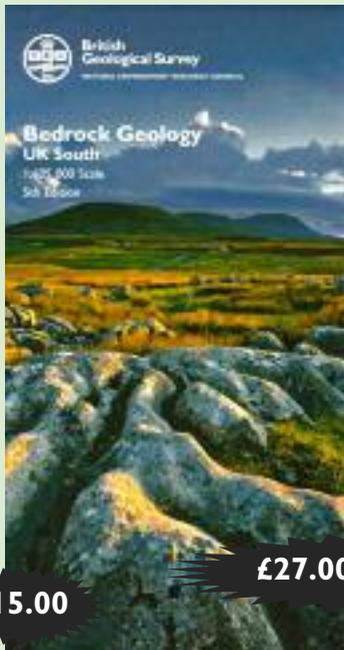
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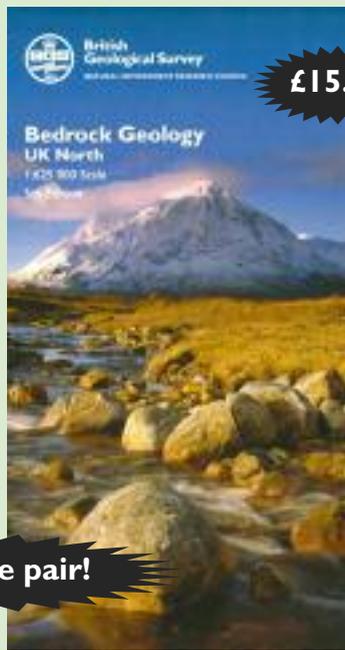
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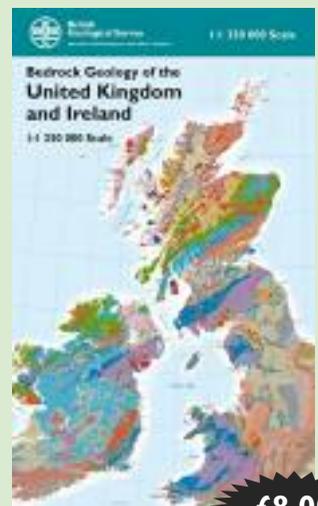
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