



# Down to Earth

*extra*

Issue 73 January 2019

## SPOTLIGHT

- New vacancies for 2019 trips
- Summer School 2019 open for booking
- Additional Congleton Day School in February available

*Chalk cliffs at North Landing, Flamborough Head, East Yorkshire. The chalk hereabouts is faulted and has prominent bands of flint. Notice that the caves relate to an earlier Quaternary raised beach level. (Photo: Chris Darmon)*

## From the Editor...

May I begin this Editorial by wishing you, our readers, all the very best for the New Year of 2019! There's a lot about 2019 that brings with it uncertainty, like whether or not we will exit the EU in March for instance. Whilst I know that most of you will carry on regardless, let's also have a thought for those who are troubled by the prospect of the unknown.

Over Christmas, we were all reminded of the uncertainties posed by volcanic eruptions. There were the images of red hot lava flowing down the flanks of Sicily's Mount Etna. Whilst there was only limited damage, it was reminder, if any were needed, that the Bay of Naples remains one of the world's most dangerous places. Any large scale volcanic event here could bring with it a massive loss of life and property.

Across the world in Indonesia, Christmas 2018 brought its own tragedy in the form of a massive tsunami, probably triggered by an underwater landslide of recently erupted ash and lava from Anak Krakatoa. This volcano in the Pacific 'ring of fire' is one of Indonesia's most active. The volcano, which was over 300 m tall is now a little over 100 m and it lost around 150 million tonnes of material in the eruption that triggered the tsunami a little over a week ago. It's a reminder that sudden events of that magnitude almost always have catastrophic consequences.

All this puts into perspective the 'extreme weather' events that hit the British Isles. Whilst we can generally enjoy a peaceful festive season, spare a thought for those who have lost their home and all their possessions. For them geomorphology isn't something you read about in books or explore on the internet, it's real and it's something that you are faced with on an everyday basis. Bad weather you can escape from, a tsunami or a volcanic eruption you can't. I look forward to joining many of you in the field during 2019.

*Chris Darmon*

*Down to Earth extra Editor*

**If you haven't decided on a 2019 field trip - now is the time to make that booking!**



## news update

**Chris Darmon is now back at work...**

A big 'thank you' to you all for your good wishes following my heart bypass operation at the end of October. I'm now back at work pretty well full time and getting stronger by the day. I was discharged from hospital a couple of weeks ago and feel pretty good.

I begin a period of exercises in mid-January to bring me back to full fitness. My thanks to all my colleagues and in particular to Colin Schofield for keeping things on track whilst I've been away. I'll be starting face-to-face classes and day schools later in January and then my first residential is to El Hierro in late February. I can't wait to get my hands on some geology and also to enjoy some sunshine!

My experience of the NHS in Sheffield has been superb from the pre-operation preparation right through to the post-operative care. Even the timing was perfect. During the process I've lost a stone in weight though I don't recommend it as a diet!

**Anak Krakatoa loses her top and generates a deadly tsunami...**

Indonesia is a country with a large number of active volcanoes, and in recent years, Anak Krakatoa has been one of its most deadly. It had built a magnificent steep sided cone, some 338 m high and formed an offshore island. Its most recent eruption, which began in October 2018, was to prove deadly and to change its edifice radically.

Between October 17 and December 22, a series of eruptions saw the creation of the cone. This was destroyed in a single spectacular explosion during the evening of December 22. The volcano lost more than 60% of its height and an estimated 150-180 million tonnes of material collapsed into the surrounding sea.



*Anak Krakatoa, or what's left of it, continuing to erupt on December 29*

This sudden deposition of such a large volume of material, into a relatively small volume of sea water triggered a massive tsunami, which struck the local coastline less than an hour later. The Indonesian authorities were forced to admit that the much vaunted tsunami early warning system had been broken for some time and so local people had no warning whatsoever.

In the circumstances it's hard to see what could have been done to

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. 2019  
You are welcome to share DtoE extra with others in your group and reproduce items contained here, provided you acknowledge the source.

prevent the casualties which are currently running at 429. The final figure will probably rise above 500 and the damage was extensive.

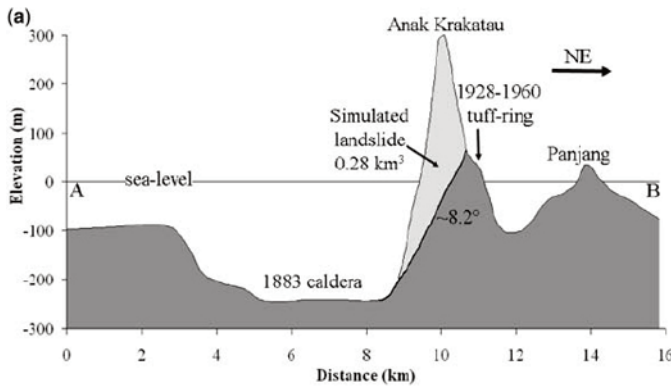
After the collapse, the volcano has continued to erupt ash and steam, albeit at a reduced rate. This is an update from December 28:

“After almost 6 days of an almost non-stop ash plume to 55,000ft following the devastating collapse, Darwin Volcanic Ash Advisory Centre reports that activity has finally subsided with only very minor emissions. No updates about local conditions at the moment.”

*(Material courtesy of Volcano Discovery)*

Sadly, scientists had predicted the tsunami risk some 6 years ago, here’s more from Volcano Discovery:

“In January 2012, volcanologist Dr Thomas Giachetti from the University of Oregon published the results of numerical modelling simulating a flank collapse and associated tsunami at Anak Krakatau island and warned about the devastating effects it would have on nearby coasts.



*A cross section through Anak Krakatoa, showing a simulated landslide. This comes from the 2012 paper, sadly it became reality in December 2018 with deadly consequences.*

In their paper entitled "Tsunami hazard related to a flank collapse of

*Anak Krakatau Volcano, Sunda Strait, Indonesia*", they "numerically simulate a sudden southwestwards destabilization of a large part of the Anak Krakatau Volcano, and the subsequent tsunami formation and propagation."

Much of the cause is related to the sub-sea topography and the existence of a steep sided trench close to the NE flank of the volcano. This is itself a product of Krakatoa’s disastrous 1883 eruption.

Given the weight of evidence, it’s sad that little notice was taken of the scientists’ work, but this is a highly populated area and what actions could the Indonesian authorities have taken?

### Meanwhile on the island of Sicily, Etna stirs...

Mount Etna on the Italian island of Sicily, is Europe’s most active volcano. During historic times, it has had numerous periods of activity. Most of the time, it’s pretty low level emissions of ash and gases, but from time to time it wakes up and causes problems for local residents.



*Mount Etna erupting on December 24*

The latest period of activity began around noon on December 24 and has gone on almost continually ever since. By 18.00 on December 24,



## Show Dates

January 19 & 20  
**The Hop Farm, Paddock Wood, Tonbridge, KwnT**

Rock, Gem 'n' Bead Show

January 26 & 27  
**Chepstow Racecourse, Monmouthshire**

Rock, Gem 'n' Bead Show

February 16 & 17  
**Pavilions of Harrogate, North Yorkshire**

Rock, Gem 'n' Bead Show

March 2 & 3  
**Kempton Park Racecourse, Sunbury on Thames, Middx.**

Rock, Gem 'n' Bead Show

**All shows are indoors with refreshments & ample free parking**

**All shows are open: 10am - 5pm Saturday  
10am - 4pm Sunday**

**Admission (one entrance fee covers the whole weekend):**

**Kempton Park: adults £5.50, seniors £3.00**

**All other shows: adults £4.50, seniors £2.00**

**All shows: children 8-16 £1.00, under 8's free**

**Rock and Gem Ltd., 27 Common Hill, Steeple Ashton, BA14 6EE Tel: 01380 871835 • <http://www.rockngem.co.uk>**

lava was streaming down the volcano's flanks and entering the sea. As fractures opened, numerous earthquakes were recorded and it is these that have caused local damage to buildings and a few injuries.

On Christmas Day, the eruption continued apace and was showing signs of evolving into a major new flank event. As I write these words, Etna is quiet, but experts are far from convinced that the current eruptive phase is coming to an end. The next few days are crucial to see what happens. In the meantime, the local regional airport remains closed and experts are watching the situation closely. They stand ready to evacuate large numbers of people if that is deemed necessary.

### Billionaire Russian oligarch in bid to purchase the collapsed Drakelands tungsten mine...

Back in October we carried the story of the collapse of the Drakelands tungsten mine project close to Plymouth. Operator Wolf Minerals was no longer able to furnish its massive debts with production falling below expectations and tungsten prices falling.

Now it seems that a wealthy Russian oligarch may be looking to buy the failed concern. At the end of a November reports circulating in the local media suggested that Vladimir Iorio, one of the world's richest men might be interested in pumping £25 million into reviving the mine through his company Pala Investments.



*Drakelands Mine in happier times.*

This is considered to be a very conservative figure by mining experts to restart production at the site which is currently mothballed. The Russian is reported to have deposited £14 million in an account for this project and has been in talks about his plans.

Talks may have stalled on the cost of restoring the land after mining has finished, a key local demand for local planners. There are also thought to be problems with a trio of banks, all creditors of the former Wolf Minerals.

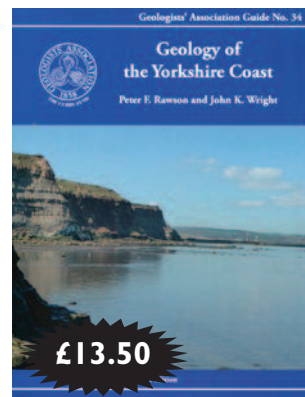
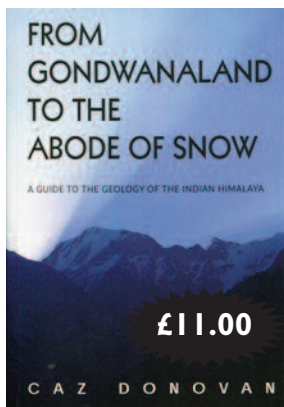
At least two other parties are interested in restarting production, but they put the cost at a much higher figure, around £40 million. We'll keep a close eye on what happens during 2019.

### Cornwall still makes mining equipment

Metal mining may not be happening much down in Cornwall, but the county still has a thriving business making mining machinery. Gravity Mining Ltd., a team of industry professionals based in Cornwall, have recently won an order to supply equipment to a Peruvian mining concern for separation and concentration of ore.

### New books galore...

Who says that the printed word is dead? We've received several new books and wanted to bring them to your attention right away!



*All prices shown include postage in the UK.*

*Available from Geosupplies:  
Tel: 0114 245 5746*

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

# WALLIS & WALLIS

Est 1928  
The Specialist Auctioneers  
[wallisandwallis.co.uk](http://wallisandwallis.co.uk)

**We are currently accepting items for our  
auction of Geology and Natural History at 3pm  
Tuesday 8 January 2019**



Microscopes.



A 19thC Sawfish Rostrum.



Fossil insects from the Santana Formation and selections of fossil fish, belemnites, trilobites, etc.



Many selections of mineral specimens.



A partial Ichthyosaurus skeleton.

Above are a selection of items already consigned, including a large private collection. Please contact us for enquiries or to discuss your collection.

Contact us at:  
West Street Auction Galleries,  
Lewes, East Sussex, BN7 2NJ  
[toys@wallisandwallis](mailto:toys@wallisandwallis)  
01273 480208

All our auctions are live online

Online Bidding  
powered by **iValuable**

the saleroom  
The Home of the World's Largest Online Auction

## Winter face-to-face classes

*Following his surgery, Chris is looking forward to being back with new energy for a Winter season of classes in the Sheffield and Chesterfield areas. To give him the maximum recovery time, the start dates have been put back to later in January than is the norm. However a late Easter means that we can still enjoy our normal 10-weeks of classes in.*

*Eac of our classes are open to all and include people with a wide range of interests, background and geological experience. They are also friendly, welcoming and informal.*

All the classes will be studying the same subject material, under the title *“World Geological Adventures”*. We'll be examining the geology of places as diverse as Iceland, New Zealand, The Grand Canyon and The Canary Islands. The classes will include video material as well as some hands on work with specimens. Everyone is encouraged to also enrol on the distance learning course that will be running concurrently. Access to the online course is available for a nominal fee to anyone who enrolls on the face-to-face class.

*Magnificent Iceland, one of the ‘stops’ on our worldwide geological tour.*

### Sheffield Classes

**Southwest Sheffield:** Totley Rise Methodist Church, commencing Monday January 21st 2.30-4.30

**North Sheffield:** The Commercial, Station Road, Chapeltown, commencing Thursday January 17th 10.-15 - 12.15

### Chesterfield Classes

**Newbold Village:** Eyre Chapel, commencing Thursday January 17th 2.00 - 4.00

*The class fee is £65.00 for 10-weeks, or £8.00 per session.*

*To enrol go to: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) and enter the online shop or ring us on: 0114 245 5746*

## Winter Day Schools

*A reminder of our programme of Winter Day Schools. Several are close to being fully booked! There's also an additional course since we last told you - in Congleton, see February 15th.*

*These courses normally run from 10.30 to 4.00 and always involve lots of hands on practical work. They are suitable for people with a range of geological knowledge, including beginners. A discount of £5.00 per person is available for holders of Club Class and groups of 6 or more people.*

**Saturday, January 26**

**St Pancras YHA, Euston Road, Central London**

*“All that glitters is not gold”* is a lively look at minerals through the medium of some nice specimens and photographs. Suitable for beginners as well as experienced people. **£45.00 including lunch.**

**Saturday, February 2**

**Commercial Union building in central Newcastle upon Tyne**

*“Fossils for everyone”* - a great mixture of practical hands on with specimens and some real fossils, some great images and also some

sound basic teaching. Fossils aren't just for the super keen palaeontologist, they are for everyone!

**£25.00 including light refreshments**

**Wednesday, February 6**

**Lapworth Museum, University of Birmingham**

*“All the time in the world”* - a look at the vast expanse of geological time. How do we know the age of rocks? How is time divided up? Who were the people behind geological time?

**£20.00 including light refreshments.**

**Friday, February 15**

**Chappell Centre, Congleton, Cheshire**

*“Every picture tells a geological story”* - our popular hands on session with geological pictures and specimens. They all tell a story and the fun is interpreting them and matching the specimens and pictures. Suitable for all. **£35.00 including lunch**



*Devizes  
Conservative  
Club*

**Wednesday, February 20**

**Conservative Club, Devizes, Wiltshire**

*“Geological Jigsaws”* - our brand new fun day comes to Wiltshire - join in the fun of our latest mind-bending exercise involving specimens, pictures and a map, all designed to stretch your knowledge! **£35.00 including lunch buffet.**

**Saturday, March 9**

**The Commercial, Chapeltown, Sheffield**

*“Every picture tells a geological story 2”* - a repeat of our popular day school, using 30 brand new images, accompanied by some super specimens. This is always good fun as you seek to match up the specimens to the images. Some are easy but others will stretch you! **£35.00 including a ‘Commie’ buffet lunch.**

**Wednesday, March 13**

**Lea Valley YHA, Cheshunt, Hertfordshire**

*“All the time in the world”* - takes a long look at geological time and how we divide it up, through the medium of selected geological locations, specimens and maps. We'll also learn about some of the pioneers of our subject. **£35.00 including lunch.**

**Saturday, March 23**

**The Bridges Centre, Monmouth**

*“Every picture tells a geological story”* - our popular hands on session with geological pictures and specimens. They all tell a story and the fun is interpreting them and matching the specimens and pictures. Suitable for all. **£35.00 including lunch.**

*To book for any Day School go to: [www.geosupplies.co.uk](http://www.geosupplies.co.uk) or ring us on: 0114 245 5746*

*Day Schools take a break now until the Autumn of 2019. We'll be revealing our programme of day trips the intervening period in our February and March issues of Down to Earth extra.*

## January 2019 distance learning courses

*We are about to begin our brand new course entitled “World Geological Adventures” - 10 great geological stories.*

*We'll also be offering the following courses: “How the Earth works” and “Time Traveller’s Britain: Part 1” as supported self study course on Moodle, our easy to access learning platform.*

*“World Geological Adventures” - 10 great geological stories is a 10-week course that will take a look at some of the world’s finest geology. It begins with a look at Iceland and how our interpretation has radically changed in the last few years. Also covered are: The Channel Isles, The Himalayas, fabulous fossils from China, Cyprus, The Grand Canyon, The Rockies and Montserrat.  
Cost: £75.00 by Moodle/Email or £100.00 by post.*

*“How the Earth works” is a 10-week course that examines the fundamental workings of our planet. What it is made of, what volcanoes and volcanic rocks tell us about the composition of the continents and ocean floors. Above all, it takes you through the various discoveries that eventually led to the formulation of plate tectonics theory and the impact that has had on our understanding.  
Cost: £75.00 by Moodle/Email, or £100.00 by post.*

*“Time Traveller’s Britain Part 1” is a 10-week course that takes a close look at some of the British Isles most treasured bits of geology, along with some of the giants of Earth science. Included in Part 1 of the course are: James Hutton, The Isle of Raasay, Mary Anning, the Highland Controversy, Roderick Murchison and County Antrim.  
Cost: £75.00 by Moodle/Email, or £100.00 by post.*

*Finally, for those of you looking for a beginners’ course in geology, we’re delighted to be able to inform you that our popular ‘Steps towards the rock face’ course is now available ‘on demand’, at any time of the year. It allows you to access the materials at any time for a period of 6 months on our Moodle site, or to receive them in printed form.*

*For further information or to enrol, go to: [www.geosupplies.co.uk](http://www.geosupplies.co.uk)  
Or for more information email: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)*

## **We’ve still got some great locations available for 2019 field trips...**

### **El Hierro & Tenerife, February 23-March 2**

We can accommodate a maximum of 5 more people on this Winter trip to the sunshine of the Canary Islands. El Hierro is the least developed of the islands, and its also the place where there has been the most recent volcanic eruption! With the island a UNESCO protected natural habitat, this is somewhere to come and sample!

### **Spend Easter in Jersey, Channel Isles April 20-27**

Come and spend Easter with us on the fabulous Island of Jersey! Come and enjoy a bit of French geology! There’s a basement of igneous and metamorphic rocks that date back 2 billion years, along with some more recent sedimentary formations.

The scenery, along with the beaches make for an excellent backdrop to our studies. Add in a good quality, family run hotel, and the hoped for warm weather that is so characteristic of the Channel Isles and we are set for a great week! If you want to join us - make that booking without delay!



*A lovely part of Jersey’s dramatic shoreline*

### **Eastern Lakes and Howgill Fells, June 11-16**

The title of this trips says it all - you are sandwiched between the Lake District in the west and the Yorkshire Dales in the East and right there in the middle lies our base at Shap Wells and the nearby Howgill Fells. The Shap Wells Hotel has been welcoming geologist for more than a hundred years, including some of the people who mapped the area. It provides us with the perfect base from which to explore the local area.

### **Summer School, Derbyshire Peak District, July 20-27**

For our third annual Summer School we’re heading for Britain’s first National Peak in the beautiful Peak District of Derbyshire. Our base, in the village of Calver, is Cliff College where we will be well looked after in en suite single (and a few twin) rooms. During a packed week we’ll be taking in a superb limestone cavern in Buxton, an ancient copper mine in the Manifold Valley and a world heritage bone case in Nottinghamshire - just to name a few! We’ll also have a programme of indoor talks and activities for the evenings, as well as a choice of field excursions on several days, Now all we need is for YOU to make a booking!

### **The Northumberland Coast, September 22-27**

Come and join us as we visit a new section of the Northumberland Coast, this time the section from Seahouses down to Sunderland. You’ll be able to see fine sections in the Great Whin Sill as well as sedimentary rocks from the Carboniferous and the Permian. This is an area where you can come to expect the unexpected as we take you to see some excellent rocks and some fine structures. Top of the list are the cannonball limestones of Seaham, where there will definitely be more questions than answers!

### **The beautiful Llyn Peninsula, October**

The remote Llyn Peninsula sits between Anglesey in the west and Snowdonia in the east, but is geology is different to both places. Come and enjoy great Welsh hospitality and excellent rocks and scenery. We can offer you serpentines, basalt pillow lavas, granodiorites as well as slates and some really exotic rocks, the like of which you may not have seen before! All of this on a fine stretch of coastline that’s completely unspoilt. This trip is already proving to be popular, so book up early so you’re not disappointed.

*Brochures for all these trips can now be viewed on our website: [www.geosupplies.co.uk](http://www.geosupplies.co.uk)*

*To obtain a booking form for any of the above trips, please contact us by email: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk) or telephone us on 0114 2455746*



## All of our 2019 residential trips are now on sale!

## Twin room shares and singles available!

The beauty and tranquility that is the Llyn Peninsula of North Wales.

We have availability for people willing to share a twin bedded room on some of our trips. This can be helpful for single people. We'll put you in touch with the other person ahead of the trip. We've also got a couple of trips where there are still some single room vacancies.

Single vacancies on El Hierro, Norway, Summer School, Llyn Peninsula, Southeast Cornwall.

Twin share available on: Eastern Lakes (male), Far North of Scotland (male), Southwest Scotland (male & female).

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

Tel: 0114 2455746

Email: [downtoearth@geosupplies.co.uk](mailto:downtoearth@geosupplies.co.uk)

## The complete 2019 field trip programme...

- El Hierro - February 23 - March 2
- Jersey, Channel Islands - April 20-27
- Oban & Colonsay - May 11-19 - sorry full
- The far north of Scotland - May 31- June 8
- Eastern Lakes & Howgill Fells - June 11-16
- Southwest Scotland - June 28 - July 6
- Summer School, Peak District - July 20-27
- Southeast Cornwall - September 7-14
- Northumberland Coast - September 22-27
- Llyn Peninsula - October 12-17
- Hastings Coast, Sussex - October 22-27

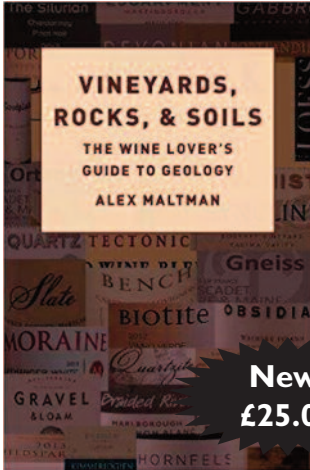
You can view brochures for all of these trips at our website: [www.geosupplies.co.uk](http://www.geosupplies.co.uk)

We look forward to hearing from you!

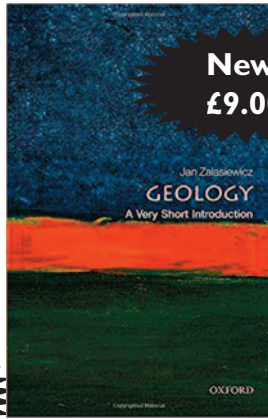


# Books make excellent New Year presents

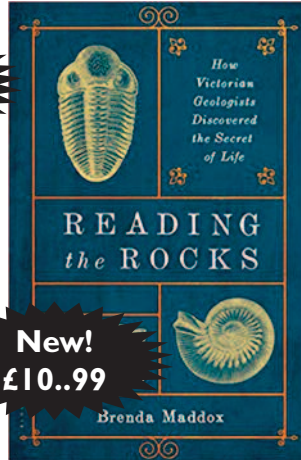
In each issue we are pleased to be able to introduce you to a range of featured books. Where they are being offered at reduced prices, these will be current to the end of January 2019, provided that stocks are available. Please note, all prices include UK postage.



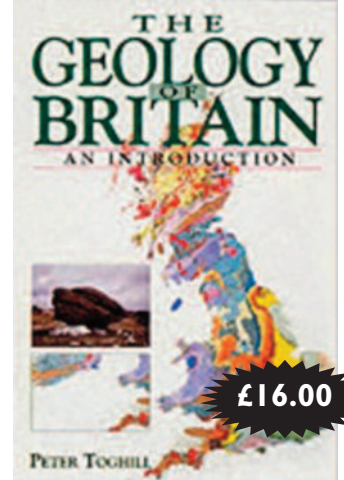
**New!**  
**£25.00**



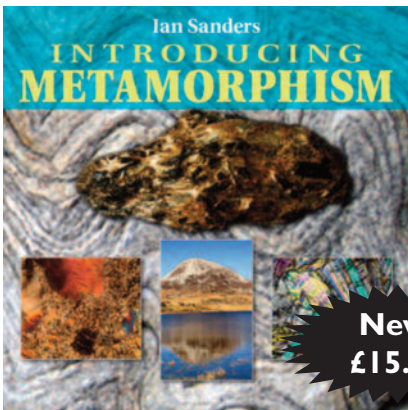
**New!**  
**£9.00**



**New!**  
**£10..99**



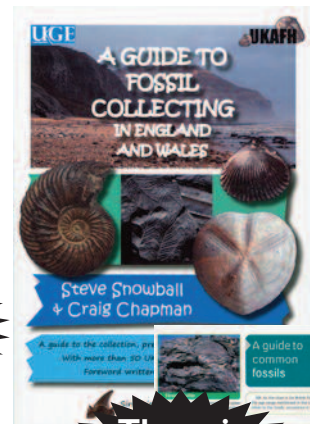
**£16.00**



**New!**  
**£15.00**



**Good read!**  
**£29.00**  
**hardback**

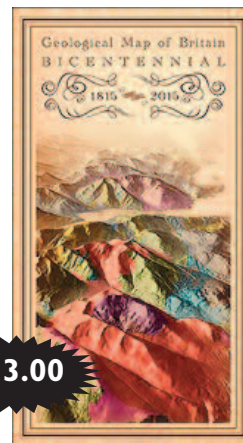


**The pair**  
**£22.00**

“The William Smith collection” - facsimile of the 1815 map, and the accompanying memoir, plus a modern map in the style of Smith...



**Nice buy!**  
**£25.00**  
**the pair**



**£13.00**



**Buy all three for**  
**£35.00**  
**and save!**

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