Geologists' Association - South Wales Group



Cymdeithas y Daearegwyr - Grŵp De Cymru

Newsletter April 2024

Sixty Fifth session

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Welcome to the Spring Newsletter. It is a little later than originally planned as, without a Programme Secretary to coordinate the planning, it has taken some time to sort out the summer field meeting programme. We really are in desperate need of someone to take on this role if we are to continue to provide a full programme of events throughout the year. Having a Programme Secretary also makes the planning process much easier and less prone to mistakes! So, to re-emphasise, if you might be interested in helping the Group out in this role **please** do get in touch. As you will see, from the table above, we are also short of a Publicity Officer and would appreciate someone volunteering for this role as well.

This edition contains a report of the AGM along with the bulk of the summer field meeting programme. Confirmation details of the later trips will appear in the next Newsletter. We also have news from SEWRIGS, an article on what you should do to preserve your geological collection, a history of the research ships run from Barry and a number of smaller news items.

The next Newsletter should be out in late June 2024 and I am happy to receive items at any time up to 31st May for inclusion in that edition. In the meantime, I hope that you find something of interest amongst the varied topics on offer in this edition.

Stephen Howe

Message from the retiring President

Well, those two years certainly went quickly! It's been an honour and a pleasure to have been President of the Group, and I certainly enjoyed my time at the helm. However, it's not been without its difficulties! Firstly, when I took over in March 2022, we were coming out of Covid, and I was determined to get us back to meeting in person. For my first year we compromised by holding two Zoom lectures and four face-to-face, but now we are back to meeting in person for all meetings. At the moment all of our lecture meetings are hybrid, with Zoom participation possible for members who for one reason or another don't want to travel. The new committee will continue to monitor this situation as hybrid

meetings are not without their own difficulties. Our second problem was the loss of our Swansea venue at the University, due to the high costs that they were threatening. Cindy and I had to source a new venue (which seems to have proved very successful), and a new lunch venue to replace our favourite 'Pub on the Pond'. After some trial and error, we seem to have settled on '*The Copper Pot*', where the food is pretty good, the service very quick, and they always have plenty of room to accommodate us.

Then as we went into my second year, we lost Janet as Secretary from the committee, a huge loss as Janet had looked after so many aspects of the Group for many years. Thankfully, Elen stepped into this role with immediate efficiency, and I would like to thank them both for all of their hard work in this capacity. But the biggest problem has been the continued absence of a Programme Secretary. I was determined that we should continue to offer a full programme during my Presidency, and we have managed to do that, but only with continued help from the committee, especially from Cindy, Lesley, Kevin, Chris, and from Stephen for the field programme. Perhaps we have done this too well, and it has not been apparent that there is a problem, but we really do need to fill this vacant committee position soon. Please do have a serious think about whether you would like to contribute to the success of our Group. It really isn't as onerous a task as you might imagine, especially with Nick now taking on a lot of the organization from his position as Meetings Co-ordinator. All it requires is someone to make the initial contact with potential speakers/leaders and to liaise with them prior to the event. If you feel that you don't have the contacts in Geology, this doesn't matter. All you need to do is an internet search on what other local geology groups have been doing, and to choose what appear to be interesting topics. If a speaker has prepared a talk or a fieldtrip for one group, he/she is usually more than happy to use that talk/fieldtrip again - so it's not really difficult to source our speakers and leaders.

I wish my successor, Chris Berry, all the very best for his term of office and would like to thank him and all the committee members for their support over the last two years."

John Nudds 23rd March 2024.

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Summer Programme 2024

Sunday 28th April

The Dowards, near Symonds Yat West: Leader: Jim Handley

Meet at 10.00am in the car park near the Doward Campsite, between Little and Great Doward (SO 547 157). **Do not rely on the post code for this site**. [Three words app – sublet.punctual.spearing]. Bring a packed lunch.

The trip will include a visit to Lord's Wood Quarry to examine the local beds of the Carboniferous Limestone). From here we will walk down to the River Wye and work our way along the riverside footpath to see a tufa covered cliff, old quarries and a restored lime kiln. We then make a gentle 200m ascent to the top of the Wye Gorge to pick up outcrops of the 6 Devonian and Carboniferous rocks that make up Little Doward. This culminates in a section of limestone pavement made up of a reef of colonial corals. En route back to our starting point we will pass King Arthur's cave [and others] showing what water erosion did at a height of 200 metres above the present river. It is not straightforward! Total walking distance about 6kms/4 miles.

A directional map, a link to a video about Lord's Wood Quarry and further information will be sent out closer to the trip.

Sunday May 12th

Llansteffan, Carmarthenshire: Leader: Geraint Owen

Meet at 1.30pm at the beach car park in Llansteffan, beneath the castle SA33 5LW (SN 352 104); what3words sings.apply.newer;

The later 1.30pm meeting time is due to the tides so members can decide whether to have lunch somewhere in Llansteffan or packed lunch in the car park, or even something before they start out. The meeting will finish between 4 and 5 pm. The total walking distance will be about 2 miles/3 kms, some of it over soft sand.

On this excursion we will examine the Old Red Sandstone sections in Scott's Bay, which provide classic examples of river channel and floodplain deposits. These include examples of lateral accretion (point bar) deposits from meandering streams, channel deposits from large, complex rivers, calcrete profiles, and some interesting trace fossils. There are also interesting structural features including reverse faults and cleavage.

Saturday June 22nd

The Clevedon coast, Somerset: Leader: Mark Howson

Meet at 10.30am at Ladye Bay, Clevedon (ST 408 728). Parking is along the roadside. Bring a packed lunch.

The trip will involve a walk along the coast to Walton Bay and return, a distance of about 5kms. We will be examining the Carboniferous and Triassic sequences exposed in the cliffs and foreshore, that include Triassic-age onlites.

Sunday July 14th

The Black Mountain: - quarries and karst. Leader: Alan Bowring

Meet at 10.00am at the 'top car park', on the Brynaman mountain road (SN 732187). Bring a packed lunch. The trip will entail a walk of about 8kms/5 miles.

You are invited to join Alan Bowring in an exploration of aspects of the geology of the upper Clydach catchment on Y Mynydd Du, in the Fforest Fawr Geopark. Like the more well-known Clydach gorge in the east, this Black Mountain version is another area with something for everyone – a sequence from the lower Devonian Brownstones via a spectacular upper ORS outcrop and through a condensed limestone succession to the late Carboniferous Twrch Sandstone. There is an impressive legacy of extractive industry – limestone and silica rock and sand – and a karstic interest too.

This is high exposed country (we start at the 480m contour) so there is always the potential for wet and windy conditions, and parts are perennially wet underfoot. If you don't know the place and your enthusiasm isn't dampened by that warning, come and explore a geodiverse corner of the national park that you'll want to return to.

Saturday 17th August

Penarth Family Day: Leaders: John Nudds and Cindy Howells. 10.00am - 3.00pm

Meet at our gazebo, which will be on the beach just south of the RNLI slipway. We will be setting up from about 9.30am. Anybody interested in helping out, if only for a short time, please contact Cindy (<u>Cindy.Howells@museumwales.ac.uk</u>).

<u>Saturday 14th/Sunday 15th September</u> (tbc)

Big Pit National Coal Museum, Blaenafon. Leader: Chris Lee

Meet at 10.30am in the museum car park at Big Pit National Coal Museum, Blaenafon. If using a Sat.Nav please use **NP4 9RL.** Car parking charges apply.

This excursion will involve a lecture in the morning followed by lunch and then an underground tour of the workings. More details to follow.

October: tbc

News from the SWGA 65th AGM

Our 65th AGM was held at the Trallwyn Community Hub, in Llansamlet, Swansea on 16th March and was a successful joint live and Zoom meeting. At the meeting the President, John Nudds, completed his two-year term of office and handed over the reins to Chris Berry (Cardiff University). With Chris taking over the President's role, Cindy Howells (Amgueddfa Cymru/Museum Wales) was voted into the post of Vice-President. John was thanked for all of his guidance and work during his term in office as we recovered from the various Covid lockdowns, and following the AGM gave his Presidential Address entitled, *Probably the Best Lagerstätten in the World: Exceptional Preservation of Fossils*.

The Treasurer, Hazel Trenbirth, and Meetings Coordinator, Nick Pollock, were both re-elected for a further two-year term of office, while Geraint Owen and Kevin Privett were re-elected for a further three-years as Ordinary Committee members. We also welcomed Rebecca Christian to the committee, who joins as an Ordinary Committee member for the next three years. As Chris Lee's term of office as Past-President came to an end he was co-opted to the Committee for a further three-year term as well. Unfortunately, yet again, no one came forward to volunteer to take over the role of Programme Secretary. This leaves the Group in a difficult position with regards to arranging our annual programme of events. We are willing to split this role into two parts, one dealing with the winter lecture programme and the other the summer field meetings, to ease the load and whoever volunteers will receive the full support and help of the committee. We would urge you all to consider helping us out with this important role.

Fancy an overseas field trip to Malta?

Since my earlier offer of leading an overseas field trip to either Jersey or Malta I had one person interested in Malta so wondered whether there is anyone else who would be interested in going? Malta's geological story is relatively recent. The rocks, fossils and landscapes of the Maltese Islands provide a fascinating insight into their past environments over the last 28 million years, including ancient coralline-algal reefs and the fauna that inhabited them. They can also inform us about the plate tectonic processes that deformed the islands in the past



and the modern processes that are sculpting them into the landscape that we see today. I propose that members arrange their own transport and accommodation and be able to get themselves to the start points each day, although I might be able to provide some coordination on sharing hire cars and information about good places to stay if needed. Please get in touch with me at webmaster@swga.org.uk and if enough people think this is something they would like to do, we can think about putting some more details plans together.

Rhian Kendall

Geology almost eradicated at the 'National' Museum Cardiff

Following a 10% grant cut from the Welsh Government, and a serious budget deficit accrued last year, Amgueddfa Cymru/ Museum Wales, has shed a large number of staff and undergone a major reorganisation. Some departments have been hit harder than others, including the Geology Department, which will no longer exist as a single entity after 31st March, after which the remnants will be merged with the Botany Department in a new Department of Plant and Earth Sciences. All of the mineralogy and petrology posts have been axed and the curators made redundant, whilst the palaeontological staff have been cut to just two posts. The reasoning behind this catastrophic decision is that the museum wishes to focus its scientific work on the current climate and biodiversity crisis and sees no role for geology in such research. Unfortunately, they seem to have ignored the fact that long term climate change and its causes is documented in the geological record, as well as how the earth's ecosystems adapt to such changes.

As one of the three founding institutions of the SWGA, it is especially sad to see geology virtually eliminated in such a way within a so-called national institution. This action will have a huge impact on the geological service that the museum can provide, and entails a huge loss of expertise and knowledge about the collections. One can only hope that at some point in the future those who have made these decisions see the error of their ways and reverse the cuts, but don't hold your breath.

The Group, along with many other societies and institutions, wrote to the museum's Chief Executive Officer to raise our concerns and to ask that this decision be reconsidered, along with many individuals. We also lobbied the Welsh Government who instigated the cut in grant funding. Unfortunately, despite this widespread opposition, these cuts have gone ahead anyway. It is a sad day for geology in Wales and also for an institution that can no longer really refer to itself as a national museum.

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Have you thought about the future of your personal geological collection?

Many of us collect fossils, minerals, rocks and indeed many other items. Some are displayed on shelves, stored in drawers, or boxes and some are put away in sheds and neglected. One day in the future, you might want to move house, or downsize for some reason, and you'll look at these items and wonder what to do with them! Sadly, it might be the case that it's your family that are looking at your beloved geology collection and wondering the same. I urge you all to take a little while right now to think about the future legacy of your geology collection and maybe take action.

The geological specimens we collect over our lifetime will range from beautiful display specimens on the mantelpiece, to tiny scraps of rock or pebbles as memories of fieldtrips. However, we should all bear in mind that no specimen is of any future 'use' if there is no documentation to go with it. We should all use some sort of labelling system to identify, at the very least, where our rocks and fossils were

found – and that is just the absolute minimum data that should be recorded. If the locality is known, then geologists can usually work out the age and identification of the specimen, but if this has been forgotten, then it is well-nigh impossible. Ideally, you should also make a note of when it was collected or bought, and potentially why – for its importance, special features etc. This information, written on small labels, should be put in a bag or box with each set of specimens. Additionally, you could devise a museum-style numbering system and link this back to your own database, spreadsheet or notebook.

You also might want to take a look at your collection and decide which parts are really worth spending time and resources on. Realistically, only a small portion of most collections is scientifically or visually worth preserving for posterity. Although, saying that, there are some amazing and extensive private collections that outshine even museum collections. Personally, many of my own specimens will end up on the rockery!

Specimen storage is another consideration. For those parts of your collection that you consider to be important, you really need some sort of clean, dry, dust-free storage system, whether that is drawers, cabinets, shelves or boxes. No-one is likely to look twice at any specimen that has been stored in a dusty shed and covered in spider droppings.



A well labelled collection (left) and one with few to no labels (right) © Cindy Howells

So, you have now picked out the best of your fossils or minerals, written nice labels to record where they are from (along with various other facts), and stored them safely away from dust, light, abrasion, environmental extremes or other hazards. What should you do next? Well, this is where things get more complicated. It is really up to you to identify your personal preference in order to ensure that your efforts have not been in vain, and your precious specimens will be preserved for the future.

You may wish to pass your collection on to family members or fellow collectors. However, do make sure that this person is aware of your intentions, of the material and its documentation, storage etc. so that they will in turn make plans to preserve it for the future. On the other hand, you may wish to sell your collection, or see part of it in a museum! Whatever your plans you must, at a minimum, write these intentions on paper or large labels and place them **very obviously** within the collection, or each part of it, just in case the worst happens. It may also be a good idea to make provision with your solicitor, and make backed-up electronic copies of all your documentation, photos and labels, as you don't want to risk your collection being thrown away or muddled up before these things can be checked!

If you consider that any of your collection should really belong in a museum, then it is unfortunately no longer just a case of contacting the institution and handing your collection over. Geology curators used to be able to agree to take donations, as they were the ones that had the knowledge of how these would fit into the existing collections. However, museums are having increasing issues related to funding,

space and staffing levels, so that the procedures for receiving donations are often now being decided by managers or trustees with little or no geological background. Most museums now use a complex procedure of written justification documents, circulated to committees, and a process of 'due diligence', which seeks to establish the legal ownership of all specimens. In the case of geological specimens this would involve having signed permission before collecting from any private land. Obviously, this is usually totally unreasonable. Even if you find a land-owner when you are out on a field-trip and have the forms with you, the land-owner is unlikely to sign anything that might make them liable or responsible, or might give away perceived 'mineral-rights' to their land. These legalities have only become required within the last few years so were not even a consideration when collecting in the past. Many historical collections have no such documents, and there is no chance of having them applied retrospectively. Currently, some museums **will certainly** refuse specimens without legal title, while others will try to take them in 'under the radar', but you should be prepared to answer questions "to the best of your knowledge".

Currently the *Geological Curators' Group*, in conjunction with the *Russell Society* and other such organisations, are trying to address the issue of historically collected specimens being refused by museums due to lack of legal title. They are seeking to propose more sensible guidelines, which will firstly be circulated at the very highest levels and then hopefully cascaded down to museum directors and then to geology curators and collections managers. The geological community is trying to establish better communication between private collectors and museum geologists, to regain trust on both sides, but it is a long-term, work-in-progress. Many of us have heard horror stories of beautiful and important collections being thrown out by family members of deceased geologists, and we don't want this to ever happen again!

So, talk to your family, to colleagues, to proteges, to your local museum, and make provision for the future of your precious collection ensuring that the important parts of your collection are secured for the future and are not discarded as worthless. Please think about, and maybe pass on, this advice to fellow collectors who may not be members of geological groups and could be unaware of such issues.

Cindy Howells (cindy.howells@museumwales.ac.uk)

SWGA Vice President & Palaeontology Curator, National Museum of Wales *Geological Curators' Group* committee member

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The Research Ships of Barry

Whilst there are proposals and even a multi-million pound project today to build a marina in Barry Dock once famed for the export of coal, munitions and the import of bananas, many will recall and others will not know that during the 70s, 80s and until the mid-90s the Natural Environment Research Council (NERC) operated a facility to support the Royal Research Ship fleet in their scientific research projects around the World's oceans.

In January 1969 a base for the NERC research vessel fleet was established in Barry, the location provided 305 m of quayside in a deep-water dock, in addition there was 1.8 ha for offices, laboratories and storage.



The Research Vessel Base also developed, operated and maintained a Marine Equipment Pool which provided the regular equipment used by the scientist who had been granted research time termed "Cruises" on one of the vessels. The equipment available was varied and available for all disciplines of oceanography for example geologists required corers, dredges and grabs, geophysicists required seismic systems, gravimeters and magnetometers, oceanographers required probes, current meters, salinometers to measure the properties of the water column. The ships were equipped with standard systems such as echo sounders, winches, surface water and meteorological sampling. Computer systems were either permanently fitted on the larger vessels or provided as portable containerised units to the smaller vessels or charter vessels.



So, to the ships that made up the fleet referred to by the locals of Barry as the spy ship's, not that there was any spying. The largest Royal Research Ship Discovery, then RRS Shackleton, RRS John Murray, RRS Challenger, Research Vessel Edward Forbes and RV Jane.

Over the years some replacements were made with the introduction of RRS Charles Darwin and RRS Frederick Russell.

The NERC via the British Antarctic Survey operated the RRS Bransfield and RRS John Biscoe. These two vessels are now long gone as is the RRS James Clark Ross. RRS Sir David Attenborough now operational as a logistics and science vessel for polar regions.

A containerised IBM 1130 computer system for data acquisition and processing being loaded into the forward hold of RRS Shackleton circa 1976.

The ships and equipment were available to scientists from all the marine institutes (e.g. Institute of Oceanographic Sciences, British Geological Survey) and Universities. Whilst concentrating on the North Atlantic the larger vessels would be deployed to the Indian and Pacific oceans or towards polar areas. The smaller vessels would be utilised around the coast of the UK as far west toward Iceland and south to Iberia. Charter vessels were engaged to supplement the fleet and meet the demand of scientific programmes. An example of a significant multiyear charter was the MV Farnella for a contract with USGS to geologically map the 200 mile Exclusive Economic Zone of the USA utilizing an instrument called GLORIA (Geological Long Range Inclined Asdic) developed by the Institute of Oceanographic Sciences.



Scientists from Aberystwyth, Cardiff and Swansea Universities have led cruises on these vessels and they would have been accompanied by their researchers and students to assist with sample collection and record keeping. With reference to the records of the British Oceanographic Data Centre some of the Principal Scientists to have used the NERC vessels for projects are Maxwell Dobson (Aberystwyth), Robert Whittington (Aberystwyth), Richard Price (Swansea),

Michael Collins (Swansea & Cardiff), Michael Brooks (Swansea & Cardiff), Paul Tyler (Swansea), Peter Styles (Swansea), Adrian Cramp (Swansea), Robert Kidd (Cardiff), Christopher MacLeod (Cardiff) and Ian Hall (Cardiff).

To conclude Research Vessel Services as the unit was called prior to relocation was closed in the autumn of 1995. The operation moved to the Southampton Oceanography Centre (now the National Oceanography Centre) built to serve the national marine science community.

Edward Cooper

News from the GA

As reported in the last issue the **Proceedings of the Geologist's Association** ceased to become a hard copy publication from January 2024 and is now only available electronically. GA members who used to receive the Proceedings and wish to retain access to the electronic form, and haven't already done so, need to notify the GA so that they can be given access.

A date for your diary: the GA's annual reunion, *The Festival of Geology*, will be held at University College, London, on Saturday 2nd November 2024 with field trips on Sunday 3rd. Full details will appear in a later Newsletter.

SEWRIGS

The last meeting of the group was held on March 3rd at the Bannau Brycheiniog National Park visitor centre, at Craig-y-nos, near Abercraf, on a rather Spring-like day. The main topics for discussion in the morning were an update on our current project sites at Quarella, Ruperra and Usk. Most of these sites need little further clearance, apart from an annual spring clean, work that it is anticipated will take place in the Spring and Summer, when the weather improves (hopefully!). Our attention is now turning towards identifying new projects and several possibilities were discussed, involving sites in the

Swansea, Bridgend, Cardiff and Newport areas as well as in the Bannau Brycheiniog National Park. This makes it a particularly interesting time for new members to come along and join us and maybe suggest some possible projects of their own. There are still many overgrown and neglected sites waiting to be attended to around the country.



After lunch, Alan Bowring very kindly led a 4 km. walk around the Country Park and beyond up the hamlet of Callwen on a beautifully sunny afternoon. The Afon Tawe formed a central feature of this circular walk with the snow-capped Fan Gyhirych providing an impressive background. The main theme of this walk was interpreting the more recent Quarternary glacial geology and landscape features that are not always obvious to the eye, leading to plenty of discussions - so no stroll in the park! Some of the main features include; abandoned river channels, glacial moraine terraces, multiple alluvial fans reworking glacial material, an old limestone

quarry and associated limekiln, a deep doline with a cave entrance at the bottom, a perennial spring resurgence and landslips displaying glacial till. Although there was little 'hard ' geology the features described are sufficiently interesting for the National Park to produce a public-orientated geotrail that will be published later in the year. This exercise illustrates another of the many roles that RIGS can get involved with, in this case a more educational one working with other organisations, as well as enjoying the experience at the same time.

If you are interested in geoconservation and would be interested in joining the group details can be found at https://sewrigs.wordpress.com/.

Odds and Ends

Llangynog Ediacaran Biota

John Cope writes that research into the Ediacaran biota from Llangynog, near Carmarthen, that was first found in the late 1970's, has finally been dated to 564.09 Ma \pm 0.7 Ma. Details of this can be found in the following publication:

Clarke, A.J., Kirkland, C., Meneon, L., Condon, D., Cope, J.C.W., Bevins, R.E. & Glorie, S. 2024. *U–Pb zircon-rutile dating of the Llangynog Inlier, Wales: constraints on an Ediacaran shallow marine fossil assemblage from East Avalonia.* Journal of the Geological Society, London, **181**, <u>https://doi.org/</u>10.1144/jgs2023-081

Interest in this paper has been high with the Geological Society reporting that the paper was read over 3,500 times in the first 30 days after publication.

New Damsel-dragonfly found from the Triassic-Jurassic boundary in Somerset

A new specimen of *Liassophlebia* has been found in the Upper Triassic age White Lias Formation (the equivalent to the lower Lilstock Formation at Lavernock Point), at Bowdens Quarry near Langport in Somerset. This is only the fourth specimen to be found in the Upper Triassic of Britain and is by far

the best preserved to date. The Liassophlebiidae are an extinct family of early Mesozoic damseldragonflies found across Western Europe, Central Aisa and Antarctica and is represented by five genera, including *Liassophlebia*. It is thought that *Liassophlebia* might be endemic to the UK during the Upper Triassic before expanding its range. Insects are not something you tend to think of finding in the Upper Triassic so the next time you are at Lavernock it might be worth having a closer look! An Open Access paper on this latest find can be found at:

https://www.tandfonline.com/doi/full/10.1080/08912963.2023.2261957

Geological Rock Map of Scotland



Chris Madigan sent me a link to a story that you may find of interest or even a challenge! There is a chance that a number of you may have already seen on Facebook, or the BBC website, a geological map of Scotland made up of rock specimens that were collected from sites across Scotland. The map was compiled by Harry Young, an 85 year-old amateur geologist, from Newton Mearns, in Renfrewshire. Harry began collecting and creating the map in 1992. He went on excursions to sites all over Scotland over the years, collecting samples from each place to create his 3-D rock map, and only finished it in 2020 after a trip to the Western Isles. His family had it framed for him for him to celebrate his 85th birthday. More can be found at https://www.bbc.co.uk/news/articles/cg3kmmvey42o. So, who's going to volunteer to do one for Wales then?

© Harry Young



Reminder

- Most of our lectures are recorded and uploaded to our website (<u>www.swga.org.uk</u>) for a few months.
- We also have a YouTube channel as well as maintaining a Facebook presence (<u>https://www.facebook.com/groups/179899022064977</u>) and Twitter account (@swgeologists). With Facebook and Twitter, anyone can join in and the more that do, the better it is!
- **Earth Heritage Magazine:** This is now only available as an electronic copy, which can be found at: http://www.earthheritage.org.uk/wp/wp-content/uploads/EH-53_final.pdf

Contacts for other local geological organisations

- Welsh Stone Forum (Fforwm Cerrig Cymru): Contact: www.museumwales.ac.uk/en/welshstoneforum
- · Open University Geological Society: Contact: Andy Mitchell (ougs.org/severnside)

- · South East Wales RIGS Group: http://sewrigs.wordpress.com/
- · West Wales Geology Society: www.westwalesgeolsoc.org.uk

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