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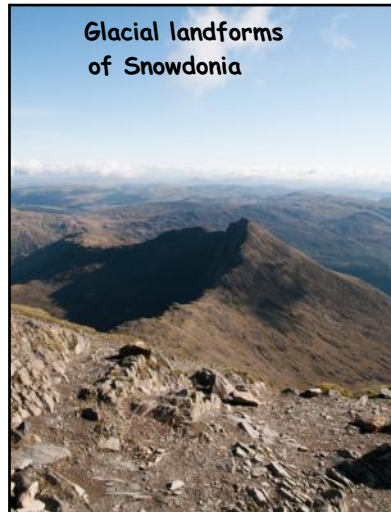
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Glacial landforms
of Snowdonia



Do send photographs for the next newsletter to the Editor: hiatus@liv.ac.uk

ESTA News 2014

This first issue of ESTA News for 2014 features photographs showing some of the landscapes and geological features in North Wales. Most images were provided by ESTA member Ray Humphreys. North Wales includes the Snowdonia National Park, the largest National Park in Wales. Nine mountain ranges lie within the boundaries of this National Park. It boasts the highest mountain in Wales and the largest natural lake in the country. North Wales also has four Areas of Outstanding Natural Beauty: Anglesey, Llŷn, Clwydian Range and the Dee Valley. In 2009, Anglesey became a European Geopark. It is known as *Geo Môn*.

The 2013 PESGB map: "The structural framework of the North Sea and Atlantic Margin" has been mailed with issue. Thanks go to PESGB for providing this excellent resource for ESTA members.

What's new in the field?

End of the day in the field

Riches of the Earth: Over and Under the South Pennine Moors

Written by Alison Tymon *et al.* and published in 2013.

(ISBN: 9780957434233) Price: £5.

The Rocks of Anglesey's Coast

Published in 2013 and written by J.E. Treagus and S.H. Treagus.

(ISBN: 9781845242091) Price: £7.50.

The Geology and Scenery of the South Downs National Park

Written by David Robinson and published by Sussex Archaeological Society in 2013. (ISBN: 9780904973242) Price: £8.99.

Rock Trails Snowdonia : A Hillwalker's Guide to the Geology & Scenery (2nd Edition)

By Paul Gannon, published 2013. (ISBN:9781906095420) Price: £14.95.

Shore to Summit: A Photographic Guide to the Geology of Britain and Ireland

Published in 2013 and written by Fran Halsall. (ISBN: 978-071123348) Price: £20.00.

Assynt - The geologists' Mecca (2nd edition)

By P.M. Dryburgh, S. M. Ross and C. L. Thompson. Published 2013. (ISBN: 9780904440133) Price: £5.

The Geology of Egypt: A Traveler's Handbook

Guide, written by Bonnie M Sampsell, was published in 2014. (ISBN: 9789774166327) Price: £24.95.

Useful websites

<http://naturalresourceswales.gov.uk/splash?orig=/>

A new website for Natural Resources Wales - a body that has taken over functions and services previously carried out by Countryside Council for Wales.

<http://www.fforestfawrgeopark.org.uk/geotrails/>

Fforest Fawr Geopark is the first European Geopark in Wales. This is a link to leaflets describing nine Geotrails in the Geopark.

<http://geomon.co.uk/>

A link to GeoMôn where there are useful resources including a new series of teaching field guides for the Anglesey Geopark.

<https://www.abdn.ac.uk/rhynie/>

Resource site about the Rhynie Chert and its exceptionally well-preserved fossils

<http://epod.usra.edu/>

'Earth Science Picture of the Day': collection of photos and links to information sites.

<http://www.ccg.gov.uk/landscape--wildlife/geological-gems/geoconservation/geosites.aspx>

While the Natural Resources Wales website continues to be developed, some on-line services continue to be provided on this web site.

<http://www.theguardian.com/environment/gallery/2014/may/13/satellite-eye-on-earth-april-2014-in-pictures>

Satellite eye on Earth: April 2014.

<http://www.theguardian.com/environment/ng-interactive/2014/apr/11/how-much-of-the-worlds-carbon-reserves-can-we-burn-interactive>

Interactive website - find out how much of the world's carbon reserves we can burn.

http://serc.carleton.edu/serc/site_guides/hazards.html

A hazards site guide with resources to help teaching about various natural hazards.

<http://www.amnh.org/explore/ology/paleontology/?fid=29407>

Museum website for children - with activities and quizzes.

<http://www.amnh.org/explore/ology/earth>

A website for children - it focuses on the Earth, plate tectonics and rocks.

<http://www.bbc.co.uk/news/business-27021610>

Site that answers the question: methane hydrate - dirty fuel or energy saviour?

<http://phys.org/news/2014-04-satellite-view-volcanoes-link-ground.html>

A satellite view of volcanoes finds the link between ground deformation and eruption.

<http://www.theguardian.com/science/lost-worlds/2014/may/01/how-do-we-know-what-we-know-about-dinosaur-behaviour>

A site which explains how we know what we know about dinosaur behaviour?.

<http://www.newscientist.com/article/dn25449-asteroid-strike-map-built-from-nuclear-watchdog-data.html#.U1qGzvldV8E>

This site explains how an asteroid strike map has been built from nuclear watchdog data.

<http://www.sci-news.com/geology/science-forested-landscape-greenland-ice-sheet-01861.html>

This site describes the discovery of a 2.7 million-year-old forested landscape under the Greenland ice sheet..

<http://phys.org/news/2014-04-scientists-explore-earth-deepest-ocean.html>

Scientists explore one of Earth's deepest ocean trenches.

<http://phys.org/news/2014-04-ancient-spider-images-reveal-eye-opening.html>

Ancient 'spider' images reveal eye-opening secrets (w/ video).

<http://phys.org/news/2014-04-rare-fossilized-embryos-million-years.html>

Rare fossilized embryos more than 500 million years old found.

<http://phys.org/news/2014-04-dinosaur-reconstructed-years-excavation.html>

Dinosaur chase reconstructed 70 years after excavation.

<http://phys.org/news/2014-03-continents-video.html>

Video of a computer model that shows continents sometimes push others out of the way.

[03-exxon-valdez-oil-years.html](http://phys.org/news/2014-03-continents-video.html)

Exxon Valdez spill: 25 years after the event.

<http://www.newscientist.com/article/dn25403-animation-shows-how-washington-landslide-hit-100-kmh.html#.U0qDZfIdV8E>

Animation showing how the Washington landslide hit 100 km/h.

<http://www.newscientist.com/article/dn25360-flimsy-rocks-allowed-earths-plates-to-start-moving.html#.U0qDsflIdV8E>

Information about how rocks allowed Earth's plates to start moving.

<http://www.newscientist.com/article/dn25348-chilean-earthquake-may-be-part-of-a-cascade.html#.U0qDKPlIdV8E>

Chilean earthquake may be part of a cascade.

<http://www.bgs.ac.uk/hosted.html>

Here BGS hosts the websites of 52 geoscience organisations.



Sill exposed on north face of Cadair Idris



Lycopods in growth position, Brymbo



Folds at South Stack



Mawddach estuary

Diary Dates 2014/15

Until 28th September 2014

Exhibition: Britain - One Million Years of the Human Story
Natural History Museum, Cromwell Road, London
Contact: www.nhm.ac.uk/

5th - 6th July

Newcastle Racecourse Rock Gem 'n' Bead Show
Contact: www.rockngem.co.uk

2nd - 3rd August

Kempton Park Rock Gem 'n' Bead Show
Contact: www.rockngem.co.uk

9th - 10th August

Welsh Rock 'n' Gem August Show, Builth Wells
Contact: www.rockngem.co.uk

16th - 17th August

Harrrogate Rock Gem 'n' Bead Show
Contact: www.rockngem.co.uk

5th - 9th September

International Geoscience Education Conference: "GeoSciEd VII"
Hyderabad, India
Contact: www.geoscienced.org/conferences.htm

6th - 11th September

British Science Festival, Birmingham
Contact: www.britishtscienceassociation.org/british-science-festival/birmingham-2014

10th September

The Geological Society London Lectures: "Industrial Projects"
The Geological Society, London, W1J 0BG
Contact: www.geolsoc.org.uk

20th - 21st September

Newark Rock Gem 'n' Bead Show
Contact: www.rockngem.co.uk

26th - 28th September

ESTA Annual Course and Conference, Open University
Contact: linmarshall@btinternet.com

13th - 19th October

Earth Science Week
Theme: "Our Geo-Heritage"
Contact: www.geolsoc.org.uk/earthscienceweek

13th - 19th October

Sidmouth Science Festival: "Science in our lives"
Contact: www.sidmouthsciencefestival.org/

15th October

The Geological Society London Lectures: "Geoheritage and the UK's most significant geological sites"
The Geological Society, London, W1J 0BG
Contact: www.geolsoc.org.uk

22nd October

Workshop: Engaging Students in Co-Creating Curricula that Embed Equality and Diversity
The Higher Education Academy, Perth
Contact: www.heacademy.ac.uk/events

25th - 26th October

Newton Abbot Rock Gem 'n' Bead Early Show
Contact: www.rockngem.co.uk

29th October

Workshop: The Nitrogen cycle and the Anthropocene
British Geological Survey, Keyworth
Contact: www.bgs.ac.uk/

1st November

2014 Festival of Geology, Geologists' Association
Contact: <http://geologistsassociation.org.uk/>

1st - 2nd November

Kempton Park Rock 'n' Gem Show
Contact: www.rockngem.co.uk

8th November

Cornwall Geoconservation Group field meeting: Boscastle Cliffs
Contact: northcornwall@nationaltrust.org.uk

8th - 9th November

Cheltenham Rock Gem 'n' Bead February Show
Contact: www.rockngem.co.uk

12th November

Shropshire Geological Society lecture: "Wine, whisky and beer"
Contact: www.shropshiregeology.org.uk/SGS/SGSEvents.htm

21st - 22nd November

Brighton Rock Gem 'n' bead show
Contact: www.rockngem.co.uk

19th November

The Geological Society London Lectures: "Contaminated Land: What is it good for?"
The Geological Society, W1J 0BG
Contact: www.geolsoc.org.uk

5th December

Geologists' Association Lecture: "The rise, fall and resurgence of UK domestic mineral supply"
The Geological Society, London, W1J 0BG
Contact: sarah@geologistsassociation.org.uk

10th December

The Geological Society London Lectures: "Terra Infirma: What Has Salt Tectonics Ever Done For Us?"
The Geological Society, London, W1J 0BG
Contact: www.geolsoc.org.uk

7th - 10th January 2015

ASE Annual Conference, University of Reading
Contact: www.ase.org.uk/conferences/annual-conference/

22nd - 23rd January

Course for 'A' Level Geology Teachers: "Joined Up Geology"
University of Liverpool
Contact: hiatus@liv.ac.uk

13th - 22nd March

National Science & Engineering Week
Contact: www.britishtscienceassociation.org/national-science-engineering-week

9th - 11th April

GA Annual Conference: "Making an Impact" University of Manchester
Contact: www.geography.org.uk/

25th - 27th September

ESTA Annual Course and Conference, Cardiff University
Contact: www.esta-uk.net/

Eglwyseg escarpment:
Carboniferous limestone



Moel Llys y Coed:
cryogenic mounds



Bryn Alyn, Mold:
limestone pavement



ESTA Annual Conference at The Open University, 26th-28th September 2014. The draft programme was sent out with TES 39.1 in April. Booking forms and general information about this event are on the ESTA website.

New items on the ESTA website



1. Virtual experiments "Boreholes" and "Speed of cooling" have been added to the "Resources" section.
 2. A second archive "ESTA Publications" is under the tab "ESTA". All files in this archive are in pdf format.
 3. Another "Blast from the past" re-written and published in *TES* 39.1 and entitled: "The search for Celtic Sea Oil".
 4. A link to a map of the UK showing schools teaching geology GCSE, AS or A2.
- n.b. The password to the members' sections of the website has changed. These sections give you access to GEOTREX and previous editions of *TES*. To find out the new password send an email request for the new password to: esta.secretary@gmail.com (Ensure you give your name in your email - and do check you've renewed your subscription)

Class sets of rocks available

ESTA has received a generous donation of igneous, metamorphic and sedimentary rock samples. (This was a large donation - it weighed in at 2,100kg!) There are free class sets of (more-or-less) identical rocks to be given away to ESTA members. The only problem is rocks have to be collected from Liverpool. If you would like to know which rocks are available and/ or wish to arrange a time to collect samples, please contact Maggie Williams via: hiatus@liv.ac.uk

ESTA Secondary Workshop

The 2014 workshop, held at Keele Science Learning Centre was a very successful event. (You can read all about it in the next edition of *TES*) The date of the next workshop is still to be decided.

If you are interested in attending, please contact Chris King: chris@cjhking/plus.com

Wallace Pitcher Prizes

Applications are invited for these prizes. Essentially the prizes are awarded for fieldwork in NW England/ North Wales or for fieldwork anywhere undertaken by individuals or groups from universities, schools or colleges based in NW England or North Wales. Details available from Joe Crossley. Liverpool Geological Society: lgshonsec@gmail.com



Tallylyn Lake: glacial ribbon lake

Northern Geological Supplies Ltd

Northern Geological Supplies (Limited) wish to give ESTA members 10% off all products purchased via: <http://geologysuperstore.com/> Under the heading 'Discount Codes' type in: geosoc001 and click the 'apply coupon' button.



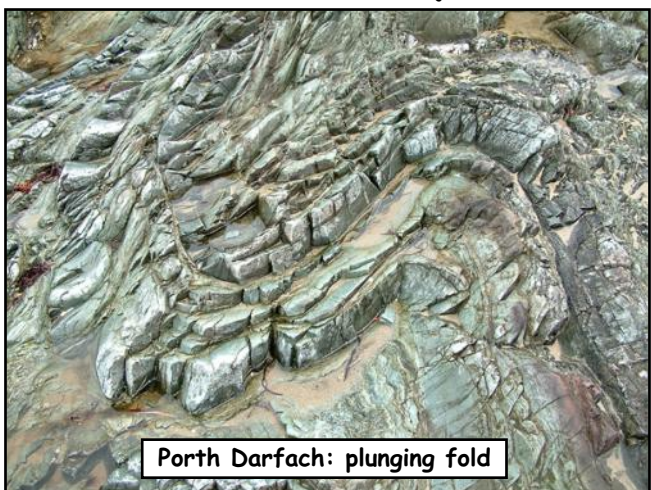
Llyn Mair, Siabod: glacial landforms

ESTA volunteers needed

Can you spare a couple of hours to look after the ESTA stand at ESTA Conference, 2014 (Open University), ASE Conference 2015 (University of Reading) or Geographical Association Conference 2015 (University of Manchester)? If you live near one of these venues and can help, email: webmaster@esta-uk.net with the subject heading **BOARDS**.

Quotes of the day

The Ordovician was named from the Ordovices - an ancient Celtic tribe in Wales.



Porth Darfach: plunging fold

The population of sheep in Wales is four times greater than the Welsh population of humans.

Mount Everest was named after Sir George Everest from Gwernvale, Breconshire.

The Cambrian was named after the Roman name for Wales - Cambria.

The Welsh Anthem is "Hen Wlad Fy Nhadau" which means "Land Of My Fathers".

The Welsh motto is "Cymru am byth" which means "Wales forever".

Llanfairpwllgwyngyllgogerychwyrndrobwyllylantysiliogogoch is a town in North Wales. It is the longest place name in Europe.

Copper has been mined at Parys Mountain, Anglesey since the Bronze Age.

The letters K, Q, V and Z do not appear in the Welsh alphabet at all.

Britain's first lager brewery was opened in Wrexham in 1881 by German immigrants.

Penrhyn Quarry was the world's largest slate quarry at the end of the 19th century.

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