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contact@esta-uk.net

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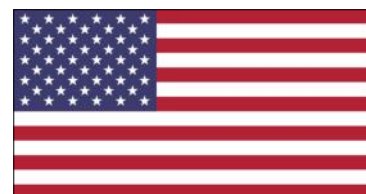
Tom Argles

H.E. Co-ordinator

ESTA News 2016

This issue of ESTA News is the first online version of the newsletter to be published.

The newsletter features photographs illustrating some of the amazing geological features in the USA and most of the images were kindly provided by ESTA member Pete Loader.



South Rim, Grand Canyon National Park

The Grand Canyon is 446km long, up to 9km wide and 1.6km deep. Grand Canyon National Park is one of the 59 protected areas in the United States that are operated by the National Park Service. The service celebrates its first 100 years in August, 2016.



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

What's new in the field?**Patterns in Stonework: the Early Churches in Northern England**

Written by John F Potter. Published 2015. (ISBN: 9781407313931) Price: £55.

Exploring the Limestone Landscape of the Cumbrian Ring

By Phil Murphy. (ISBN: 9780900265495) Published in 2015. Price: £5.

The Geology of South Wales: A Field Guide

Written by Gareth T. George. Published 2015. (ISBN: 9780955937125) Price: £18.75.

Building Stones and Stone Buildings of Staffordshire

By P. A. Floyd. Published 2015. (ISBN: 9780722345436) Price: £14.95.

British Regional Geology East Anglia (5th edition)

Edited by JR Lee, MM Woods & BSP Moorlock and published in 2015. (ISBN: 9780852728239) Price: £18.

Map - Exploring the World

Edited by Rosie Pickles & Tim Cooke. Published 2015. (ISBN: 9780714869445) Price: £39.95.

The Geology of Oxford Gravestones

By Nina Morgan & Philip Powell. Published 2015. (ISBN: 9781919158531) Price: £14.99.

The Geology of Eigg (2nd Edition)

By John D Hudson, Angus D Miller, Ann Allwright. Published 2016. (ISBN: 9780904440164) Price £7.50.

Northumberland Coast Rocks!

Written by Helen Page & Dr Ian Kille & published in 2016. Available from Tourist Information Centres. Price £7.50.

'London Pavement Geology'

This is now online. Find London's Urban Geology locations by clicking on: <http://londonpavementgeology.co.uk/geo-sites/>

Useful websites

Web resources

Watch one of the first volcanic eruptions ever filmed.

<http://www.wired.com/2016/02/watch-one-of-the-first-volcanic-eruptions-ever-filmed/>

Arctic Ocean map and bathymetric chart.

<http://geology.com/world/arctic-ocean-map.shtml>

The alphabet from space - in pictures.

<http://www.theguardian.com/science/gallery/2016/jan/04/alphabet-from-space-in-pictures>

First ever digital geologic map of Alaska published

<http://phys.org/news/2016-01-digital-geologic-alaska-published.html>

The largest landslides in the world.

<http://geology.com/records/largest-landslide.shtml>

Siccar Point video from BGS.

<http://blogs.agu.org/mountainbeltway/2016/02/26/friday-fold-siccar-point-video/>

The Anthropocene? Ideas and lesson plans.

<http://www.bbc.co.uk/news/world-latin-america-35336855>

Video: NASA animation shows rainfall of Mississippi River flooding.

<http://phys.org/news/2016-01-video-nasa-animation-rainfall-mississippi.html>

Interactive sea level rise map.

<http://geology.com/sea-level-rise/>

Nasa's Mars mission sends back stunning interactive 360 degree video from the Red Planet.

<http://www.itv.com/news/2016-02-01/nasas-mars-mission-sends-back-stunning-interactive-360-video-from-the-red-planet>

Deep sea reef expedition offers rare glimpse of marine ecosystems - video.

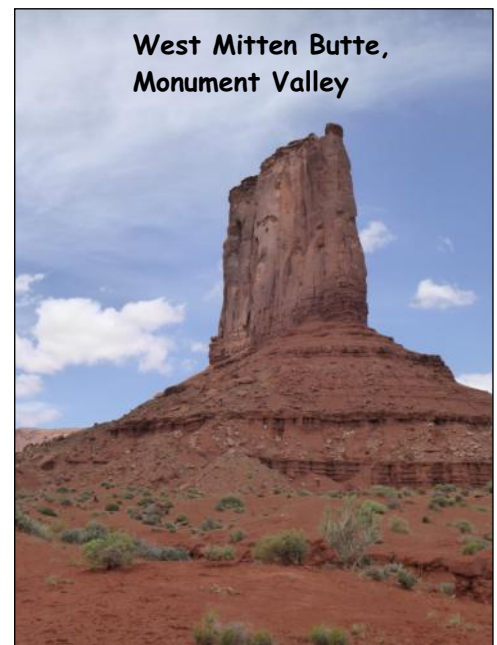
<http://www.theguardian.com/environment/video/2016/jan/20/deep-sea-reef-expedition-offers-rare-glimpse-of-marine-ecosystems-video>

10 measures that must be taken to prevent more flooding in the future.

<http://www.independent.co.uk/news/uk/10-measures-that-must-be-taken-to-prevent-more-flooding-in-the-future-a6788866.html>

Video shows all the world's earthquakes since 2000.

http://www.huffingtonpost.com/entry/earthquakes-since-2000-video_568f7863e4b0c8beacf68f14



West Mitten Butte,
Monument Valley

West and East Mitten Buttes, Monument Valley, Arizona



Monument Valley lies within the range of the Navajo Nation Reservation. It is called Tsé Bii' Ndzisgaii in Navajo and this name means 'valley of the rocks'. The elevation of the valley floor ranges from 1,500 to 1,800m above sea level.

News items

El Chichon eruption implicated in Maya upheaval.

<http://www.bbc.co.uk/news/science-environment-36086096>

What lies beneath West Antarctica?

<http://phys.org/news/2016-04-lies-beneath-west-antarctica.html>

A hole in Earth's surface.

<https://eos.org/research-spotlights/a-hole-in-earths-surface>

The first fossilised heart ever found in a prehistoric animal.

<http://phys.org/news/2016-04-fossilised-heart-prehistoric-animal.html>

Scientists track Greenland's ice melt with seismic waves.

<http://phys.org/news/2016-05-scientists-track-greenland-ice-seismic.html>

Mount St. Helens is recharging its magma stores.

<http://www.wired.com/2016/05/mount-st-helens-recharging-magma-stores-setting-off-earthquake-swarms/>

Early Earth's air weighed less than half of today's atmosphere.

<http://phys.org/news/2016-05-early-earth-air-today-atmosphere.html>

Scientists bore into dinosaur-era asteroid crater.

<http://phys.org/news/2016-05-scientists-dinosaur-era-asteroid-crater.html>

How many dinosaurs were there?

<http://phys.org/news/2016-03-dinosaurs.html>

The Vajont slide: a new event chronology.

<http://blogs.agu.org/landslideblog/2016/02/25/the-vajont-slide-1/>

4 new elements are added to the Periodic Table

<http://www.npr.org/sections/thetwo-way/2016/01/04/461904077/4-new-elements-are-added-to-the-periodic-table>

are added to the periodic table

New insight into interaction of volcanic ash with jet engines.

<https://news.liverpool.ac.uk/2016/04/04/60253/>

Volcanoes tied to shifts in Earth's climate over millions of years.

<http://phys.org/news/2016-04-volcanoes-tied-shifts-earth-climate.html>

Volcanologists discover how bubbles accumulate in magma.

<http://phys.org/news/2016-04-volcanologists-accumulate-magma.html>

Ancient tectonic activity was trigger for ice ages, study says.

<http://phys.org/news/2016-04-ancient-tectonic-trigger-ice-ages.html>

Dinosaurs 'already in decline' before asteroid apocalypse.

<http://phys.org/news/2016-04-dinosaurs-decline-asteroid-apocalypse.html>

New technique to find copper deposits.

<http://phys.org/news/2016-02-technique-copper-deposits.html>



Bryce Canyon National Park, Utah

Bryce was designated a National Park in 1928.

Diary Dates 2016

10th July

Oxford Mineral Fossil Show
Exeter Hall, Kidlington, north Oxford
Contact: www.oxfordshow.co.uk/home

24th July

UKAFH Free fossil hunting event, Danes Dyke, Yorkshire
Contact: www.ukafh.com

30th - 31st July

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

6th - 7th August

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

7th August

GA Field Excursion: The building stones of Canterbury
Contact: www.geologistsassociation.org.uk/ukfield.html

13th - 14th August

Harrogate Rock Gem 'n' Bead Show
Pavilions of Harrogate.
Contact: www.rockngem.co.uk

10th September

GA Field Excursion: The lost gardens of Ediacara
Contact: www.geologistsassociation.org.uk/ukfield.html

14th September

Lecture: Railway earthworks: slips, slides and flows
Contact: www.geolsoc.org.uk/YRG-Railway-Earthworks

17th - 18th September

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

23rd - 25th September

ESTA Annual Course and Conference
University of St Andrews
Contact: conference@esta-uk.net

1st - 3rd October

GA Field Excursion: Kelvinsgrove Museum, Glasgow
www.geologistsassociation.org.uk/ukfield.html

8th October

GA Field Excursion
Geology and coastal change around Selsey, Sussex
Contact: www.geologistsassociation.org.uk/ukfield.html

8th - 16th October

Earth Science Week
Contact: www.geolsoc.org.uk/earthscienceweek

12th October

Lecture: Water on Mars
The Geological Society, Burlington House, London
Contact: www.geolsoc.org.uk/WateronMars16

22nd - 23rd October

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

29th - 30th October

Cheltenham-Rock Gem 'n' Bead Show
Cheltenham Pittville Pump Rooms, Cheltenham
Contact: www.rockngem.co.uk

9th November

Lecture: Antimony: critical metal mineral deposits in SW England.
Contact: www.hhgs.org.uk/monthly_meetings/monthly_meetings.htm

9th November

Lecture: Climate change and Antarctica: the great ice sheet
in the past, present and future
The Geological Society, Burlington House, London
Contact: www.geolsoc.org.uk/gslondonlectures16

12th - 13th November

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

19th - 20th November

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

7th December

Lecture: Waking the Giant: how a changing climate triggers earthquakes,
tsunamis and volcanoes
The Geological Society, Burlington House, London
Contact: www.geolsoc.org.uk/gslondonlectures16

4th - 7th January

ASE Annual Conference 2017, University of Reading
Contact: www.ase.org.uk/conferences/annual-conference/

20th - 22nd April

GA Annual Conference 2017 - Inclusive geographies
University of Surrey, Guildford
Contact: www.geography.org.uk/cpdevents

ESTA Annual Course and Conference 2016

This will be held at the University of St Andrews on 23rd - 25th September. The conference theme is 'Geological Fieldwork'. There will be opportunities to visit classic sites and look at glacial landforms along the A9, study the volcanics, sediments and structures of the Fife coast or do a traverse across the Highland Boundary Fault. For details go to the ESTA website or contact: conference@esta-uk.net



Petrified conifer trunks in the Petrified Forest National Park, Arizona. This national park is known for its fossils, especially fallen trees that lived in the Late Triassic.



Petrified Forest National Park is on the border between Apache County and Navajo County in NE Arizona.



News about the ESTA website



- A video clip/ message from Professor Iain Stewart (ESTA President) has been added to the home page.
- 'Blasts from the past' has been updated so that there are now 7 activities available to download.
- The website includes information about the PESGB-ESTA competition for schools to celebrate Earth Science Week 2016.
- In the section: 'Virtual Experiments' another earthquake experiment has been added..
- The new version of the website is now running. All protected areas are accessible from the members' page. The password is available from the ESTA Secretary: esta.secretary@gmail.com
- The members' page now has a search facility.
- The web manager is now Peter Williams. Contact Peter via: webmaster@esta-uk.net



**Moenave
Formation, Arizona**
 << Left
 Dinosaur hindfoot
 and smaller forefoot



Right >>
 Dinosaur
 footprint
 (Dilophosaurus)



**Cross bedded Navajo Sandstone,
Zion National Park, Utah**

Rocks, minerals, fossils and maps

A collection of rocks, minerals, fossils and maps is looking for a new 'home'. If you are interested in acquiring some of these materials and can pick them up from Esher College, Weston Green Road, Thames Ditton, Surrey, KT7 0JB, please contact Helen Hore by email: HHore@esher.ac.uk

There are also a number of second-hand A Level textbooks in good condition for sale: about 40 'OCR Geology' by Armstrong *et al* (suggested price £15) and about 20 'Geoscience' by Edwards & King (suggested price £20).

ESTA volunteers needed

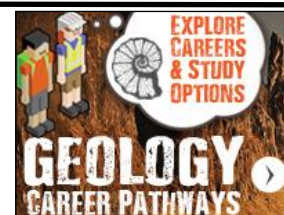
Can you spare a couple of hours to look after the ESTA stand at one of the following conferences in 2017?

- ASE Conference - University of Reading on 4th - 7th January
- The Geographical Association Conference - University of Surrey on 20th - 22nd April

If you live near one of these venues and can help, please email: webmaster@esta-uk.net with the subject **BOARDS**.

New Online Resource: Geology Career Pathways

Geology Career Pathways is the Geological Society's interactive guide to career and study options for school and university students, teachers, parents & working professionals. The site includes advice on studying Geology at school and university applications, what a geology degree involves and how to get the most out of it, plus postgraduate choices and CV tips. Careers resources include information on job sectors, updated career profiles & videos, professional development and equal opportunities. Explore at: www.geolsoc.org.uk/careers



Quotes of the Day

"Laws change; people die; the land remains."
Abraham Lincoln

"It is the course of wisdom to set aside an ample portion of our natural resources as national parks and reserves, thus ensuring that future generations may know the majesty of the Earth as we know it today."

John F. Kennedy

"And this, our life exempt from public haunt, finds tongues in trees,
books in running brooks, sermons in stones, and good in everything."
William Shakespeare

"There is nothing so American as our national parks."
President Franklin D. Roosevelt

Find out more about the geology of the places

featured in this newsletter by following these links:

https://en.wikipedia.org/wiki/Bryce_Canyon_National_Park

https://en.wikipedia.org/wiki/Zion_National_Park

https://en.wikipedia.org/wiki/Grand_Canyon_National_Park

https://en.wikipedia.org/wiki/Monument_Valley

https://en.wikipedia.org/wiki/Petrified_Forest_National_Park

"Once destroyed, nature's beauty cannot
be repurchased at any price."

Ansel Adams

"Earth and sky, woods and fields, lakes and rivers, the
mountain and the sea, are excellent schoolmasters, and
teach some of us more than we can ever learn from books."
Sir John Lubbock

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