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June 2015

Earth Science Teachers' Association

www.esta-uk.net

Registered Charity No. 1005331

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ESTA News 2015

This issue of ESTA News features photographs illustrating a range of Australian landscapes and geological features in Australia. These images were kindly provided by Hazel Clark (ESTA member and Editor of *Teaching Earth Sciences*) who spent time in Australia during 2014. A copy of the map *Structural Framework of the North Sea and Atlantic Margin (2015 Edition)*, published by the Petroleum Exploration Society of Great Britain, has been mailed with your copy of *ESTA News*. Grateful thanks go to PESGB for providing this map for ESTA members.

**The King's Canyon.**

This icon of Australia's Red Centre is part of the Watarrka National Park in the Northern Territory. King's Canyon is at the western end of the George Gill Range and is approximately midway between Alice Springs and Uluru.

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

What's new in the field?**A Guide to the Geology of Islay**

Published 2014. Written by David Webster, Roger Anderton & Alastair Skelton (ISBN: 978-1901514162) Price: £14.99.

Footsteps through Time: The Rocks and Landscape of Anglesey Explained

By Stewart Campbell, Margaret Wood & Brian Windley.
Published 2014. Price: £25.00.

Aspects of the Sedimentology of South Wales

By Gareth T. George. Published 2014. (ISBN: 978-0955937118)
Price: £18.75.

The Torrs, New Mills

By Derek Brumhead. (ISBN: 978-0992871314) Price: £3.

Exploring the Limestones of South Devon.

Published in 2014 and written by John Wilmur, Chris Proctor & David Jean. (ISBN: 978 0955951428) Price: £8.

Crystal Mountains - Minerals of the Cairngorms

By Roy Starkey. Published 2014. (ISBN: 978-0993018213) Price: £25.

Building Stones of West Sussex

Written by Roger Birch & Roger Cordiner and published in 2014. (ISBN: 978-0955125911) Price: £34.99.

A Building Stones Guide to Central Manchester

By Morven Simpson & Fred Broadhurst and published in 2014. (ISBN :978-0992871314) Price: £9.95.

A Pictorial Guide to Metamorphic Rocks in the Field.

Published in 2014 and written by Kurt Hollocher. (ISBN: 978 1138026308) Price: £31.99.

Useful websites

Web resources

Here is a library of learning modules for Earth Science.

www.visionlearning.com/en/library/Earth-Science/6

Volcanic Explosivity Index (VEI).

<http://geology.com/stories/13/volcanic-explosivity-index/>

This site has links to latest the science research.

Try searching 'e' and 'g' in the list of topics.

<http://www.realclearscience.com/topic/?letter=e>

A website that includes news and comments about geology.

all-geo.org/metageologist/

William Smith bicentennial website. William Smith's interactive website.

www.strata-smith.com

Nasa releases pictures of Earth's beauty.

<http://www.bbc.co.uk/news/world-us-canada-32409217>

Novarupta - the most powerful volcanic eruption of the 20th Century.

<http://geology.com/novarupta/>

The 15 most amazing landscapes and rock formations.

<http://www.bbc.com/earth/story/20150205-the-15-most-amazing-landforms>

Try this web site. You can change the map on the left to different types of map.

maps.nls.uk/geo/explore/sidebyside.cfm#zoom=5&lat=56.8860&lon=-2.1977&layers=1&right=Rmapboxsatellite

200th anniversary of Tambora eruption - a reminder of volcanic perils.

<http://newscenter.berkeley.edu/2015/03/31/200th-anniversary-of-tambora-eruption-a-reminder-of-volcanic-perils/>

This GSL website lists resources on the 25th April Nepal earthquake.

www.geolsoc.org.uk/Policy-and-Media/Resources/Earthquakes



Uluru, Northern Territory



<< Left
Uluru - massive sandstone monolith in the heart of the Red Centre desert, Northern Territory

Right >>
Salt lake, Red Centre Way, Northern Territory



News items

The first complex life on Earth got eaten to extinction.

<http://www.newscientist.com/article/dn27415-the-first-complex-life-on-earth-got-eaten-to-extinction.html#.VUEXTSFVhBc>

Did dinosaur-killing asteroid trigger largest lava flows on Earth?

<http://phys.org/news/2015-04-dinosaur-killing-asteroid-trigger-largest-lava.html>

Himalayan 'drop after Nepal quake'.

<http://www.bbc.co.uk/news/science-environment-32625431>

New mass extinction event identified by geologists.

<http://www.bbc.co.uk/news/science-environment-32397220>

How hot material is stopped in the Earth's mantle.

<http://phys.org/news/2015-04-ascent-hot-material-earth-mantle.html>

Mystery of India's rapid move toward Eurasia 80 million years ago.

<http://phys.org/news/2015-05-mystery-india-rapid-eurasia-million.html>

Even setting evolution aside, basic geology disproves creationism.

<http://phys.org/news/2015-04-evolution-basic-geology-creationism.html>

Australia on path to join supercontinent 'Amasia'.

<http://phys.org/news/2015-05-mystery-india-rapid-eurasia-million.html>

Tidal tugs on Teflon faults drive slow-slipping earthquakes.

<http://phys.org/news/2015-04-tidal-teflon-faults-slow-slipping-earthquakes.html>

Scientists see deeper Yellowstone magma.

<http://phys.org/news/2015-04-scientists-deeper-yellowstone-magma.html>



Fallen blocks, King's Canyon



Diary Dates 2015

Until 13th September

Exhibition: Coral Reefs: Secret Cities of the sea
Natural History Museum, Cromwell Road, London
Contact: <http://www.nhm.ac.uk/>

27th June

BGS Keyworth Open day
Contact: bgs.ac.uk/news/

28th June

UKAFH Free fossil hunting event. Ecclesbourne River, Derbyshire
Contact: www.ukafh.com

28th June

UKAFH Free fossil hunting event. Barton-on-Sea, Hampshire
Contact: www.ukafh.com

4th - 5th July

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

12th July

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

15th July

Shropshire Geological Society: Ironbridge Gorge Geotrail
Contact: primrose@outlook.com

26th July

UKAFH Free fossil hunting event, Copt Point, Folkestone
Contact: www.ukafh.com

1st - 2nd August

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

8th - 9th August

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

15th August

Shropshire Geological Society Field meeting: Brown Clee and Nurdy Bank
Contact: andrew@scenesetters.co.uk

15th - 16th August

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

16th August

UKAFH Free fossil hunting event,
Saltwick Bay, Yorkshire fossil hunt
Contact: www.ukafh.com

27th August

UKAFH Free fossil hunting event, Ringstead Bay, Dorset
Contact: www.ukafh.com

5th September

Shropshire Geological Society Field meeting: Llangollen and Dee Valley
Contact: jessicapannett@hotmail.co.uk

12th & 13th September

Open Day at Snailbeach Mine, Shropshire
Contact: www.shropshiregeology.org.uk/SGS/SGSEvents.htm

13th September

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

16th September

GSL Lecture: The hidden colours inside volcanoes
Burlington House, Piccadilly, London
Contact: www.geolsoc.org.uk/gslondonlectures15

19th - 20th September

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

25th - 27th September

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

21st October

GSL Lecture: How mud can be used for understanding Earth surface processes and time
Burlington House, Piccadilly, London
Contact: www.geolsoc.org.uk/gslondonlectures15

25th October

UKAFH Free fossil hunting event, Newhay Quarry, Lancashire
Contact: www.ukafh.com

18th November

GSL Lecture: Landscape Dynamics, Erosion and Sedimentation
Burlington House, Piccadilly, London
Contact: www.geolsoc.org.uk/gslondonlectures15

31st - 1st November

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

14th - 15th November

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

29th November

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

RISE UK Project

Jessica Hamer is running a "girls in physics" project with year 10 students at Ruislip High School, London. The aim is to create a radioactivity map of UK soil using a CERN@School particle detector to determine the exact type of radiation in the soil. Ruislip students would like to hear from other schools around the UK interested in sending soil samples for analysis.

Contact Jessica for further details: jessica.hamer@iop.org

Hallet Cove Conservation Park, South Australia



Wilpena Pound, Flinders Range, South Australia





New items on the ESTA website



1. A new flyer about a teaching career after a geology degree
2. Details and booking forms for the 2015 ESTA Conference
3. Information about the PESGB-ESTA Tambora Competition
4. Virtual 'A' level experiments - 'Boreholes'
5. *ESTA - A Personal History*
6. Link to the updated JESEI website
7. More exercises in the series: 'Blasts from the Past'
8. Geogallery - a collection of geological photographs



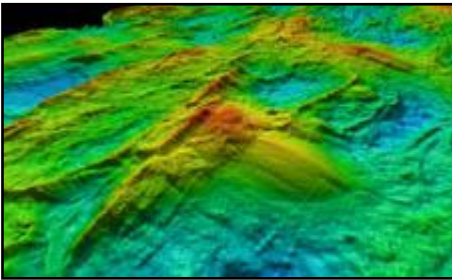
Red Centre Way sign



Rock pedestal, King's Canyon

Teacher at Sea

Ever wanted to sail the high seas, explore the ocean floor, or investigate how the Earth works?



We are seeking a Secondary School teacher with a strong interest in Earth Sciences to join a consortium of researchers from the Universities of Birmingham, Cardiff and Durham on a research expedition to the Mid-Atlantic Ridge. The objective of our research project is to investigate a new model of how oceanic crust is formed at a mid-ocean ridge spreading centre.

The expedition will provide the teacher with an opportunity to obtain real hands-on research experience on a state-of-the-art research vessel, interact with world-class research scientists, and gain insights into current research at the frontiers of Earth

Sciences. The teacher will be expected to assist in our associated science outreach activities during and after the expedition and use the experience to enrich their teaching.

Further information and details of how to apply are available from Professor R C Searle r.c.searle@durham.ac.uk or at <http://community.dur.ac.uk/teacher.atsea>

ESTA volunteers needed

Can you spare a couple of hours to look after the ESTA stand at ASE Annual Conference 2016 (6th - 9th January, University of Birmingham) or Geographical Association Conference 2016 (7th - 9th April, University of Derby)? 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



Cross bedded sandstone, King's Canyon

Australia's longest single river is the River Murray. It is 2,375 kilometres long.

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The next copy deadline is 15th November 2015.

Apart from Antarctica, Australia is the driest continent in the world.

Opal is Australia's national gemstone.

There are 1500 species of spiders in Australia.

Australia has more than 10 million sheep.

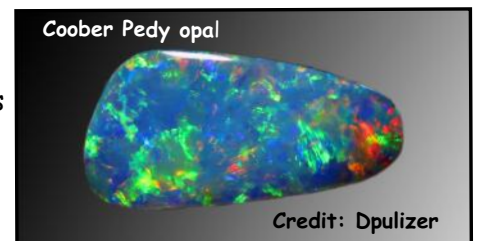
The Great Artesian Basin is the world's largest and deepest fresh water basin.

The outback covers 70 percent of the Australian continent.

Mount Kosciuszko is the highest peak on the Australian mainland.

Australia is the only continent without an active volcano.

The Australian government estimated that 34.3 million kangaroos lived in Australia in 2011.



Cooper Pedy opal

Credit: Dpulizer

