**ESTA COUNCIL 2016**

contact@esta-uk.net

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This issue of ESTA News features photographs taken on the Editor's recent visit to Iceland when there were opportunities to explore Iceland's Western Fjords - an area which may be considered as one of the country's best kept secrets.



The modern flag of Iceland
This became the national flag when Iceland gained independence from Denmark in 1918. The colours are thought to represent 3 of the elements that make up Iceland. Red symbolises its active volcanoes. White symbolises the ice and snow covering much of the country and blue represents the surrounding ocean.



← Álfafjörður (or Alfta fjordur) is a fjord in Westfjords and is near to Sauradalur and Dvergasteinsfjall.

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

What's new in the field?**The Geology of the Canary Islands**

By Juan Carlos Carracedo & Valentin R Troll and published in 2016.

(ISBN: 9780128096635) Price: £65.95.

On the edge - coastlines of Britain

Written by Robert Duck and published in 2015. (ISBN: 9780748697625)

Price: £25.

Aspects of sedimentology of South Wales

Published in 2014 and written by Gareth T George.

(ISBN: 9780955937118) Price: £18.75

Building stones and stone buildings of Staffordshire

By PA Floyd and published in 2015. (ISBN: 9780722345436) Price: £14.95

So you want to be a palaeontologist?

Published in 2016. written by D. Penney. (ISBN: 97809929979) Price: £9.75.

Volcano discoveries - a photographic journey around the world

Written by Tom Pfeiffer & Ingrid Smet and published 2015. (ISBN: 9781921517358) Price: £16.99.

The geology of South Wales: a field guide (2nd edition)

By Gareth T George and published in 2015. (ISBN: 9780955937125) Price: £18.75.

Brochure: From rocks to ridges (2015)

Free from: Mountaineering Ireland, Irish Sport HQ, National Sport Campus, Blanchardstown, Dublin 15.

Useful websites

Web resources

PESGB-ESTA Feldwork skills project.

<http://www.esta-uk.net/fieldworkskills/>

New USGS Paleoclimate Research Website.

https://www2.usgs.gov/climate_landuse/clu_rd/paleoclimate/

Arctic Ocean seafloor features map.

<http://geology.com/articles/arctic-ocean-features/>

For teachers - Earth's earliest life.

<http://sites.psu.edu/scinews/archives/1160>

New look at how water surface area has changed over the past 30 years.

<http://phys.org/news/2016-08-surface-area-years.html>

University guide 2017: league table for earth & marine sciences.

<https://www.theguardian.com/education/ng-interactive/2016/may/23/university-guide-2017-league-table-for-earth-marine-sciences>

Volcano insight: Fifty years of eruptions revealed.

<http://www.bbc.co.uk/news/science-environment-37569152>

Remembering Mount Pinatubo 25 years ago: mitigating a crisis.

<https://www.usgs.gov/news/remembering-mount-pinatubo-25-years-ago-mitigating-crisis>

Flood preparedness - there's a new USGS map (or App) for that too.

<https://www.usgs.gov/news/flood-preparedness-%E2%80%93-there%E2%80%99s-app>

Search is on for 'golden spike' signalling start of Anthropocene.

<http://phys.org/news/2016-08-golden-spike-anthropocene.html>

New map reveals how little of Antarctica's rock is ice-free.

<http://phys.org/news/2016-08-reveals-antarctica-ice-free.html>

News items

Relationship between earthquake faulting and mountain building.

<http://phys.org/news/2016-08-complex-relationship-major-earthquake-faulting.html#jCp>

Study reveals new physics of how fluids flow in porous media.

<http://news.mit.edu/2016/physics-how-fluids-flow-porous-media-carbon-fuel-cell-0822>

New look at how water surface area has changed over the past 30 years.

<http://phys.org/news/2016-08-surface-area-years.html>

Wavy Greenland rock features 'are oldest fossils'.

<http://www.bbc.co.uk/news/science-environment-37235447>

Geologists search for Anthropocene 'golden spike'.

<http://www.bbc.co.uk/news/science-environment-37200489>

One vent just isn't enough for some volcanoes.

<http://phys.org/news/2016-09-vent-isnt-volcanoes.html>

Volcanic eruption masked acceleration in sea level rise.

<http://phys.org/news/2016-08-volcanic-eruption-masked-sea.html>

Scientists recommend strategies to lessen dams' environmental impacts.

<http://phys.org/news/2016-09-scientists-strategies-lessen-environmental-impacts.html>

Novel ways to manage landslide hazards.

<http://blogs.agu.org/landslideblog/2016/11/01/gunfire-1/>

Scientists probe underground depths of Earth.

<http://phys.org/news/2016-11-scientists-probe-underground-depths-earth.html>

Asteroid impacts could create niches for life, - Chicxulub crater study.

<http://phys.org/news/2016-11-asteroid-impacts-niches-life-chicxulub.html>

Study explains mysterious source of greenhouse gas methane in the ocean

<http://phys.org/news/2016-11-mysterious-source-greenhouse-gas-methane.html>

What is the largest desert on Earth?

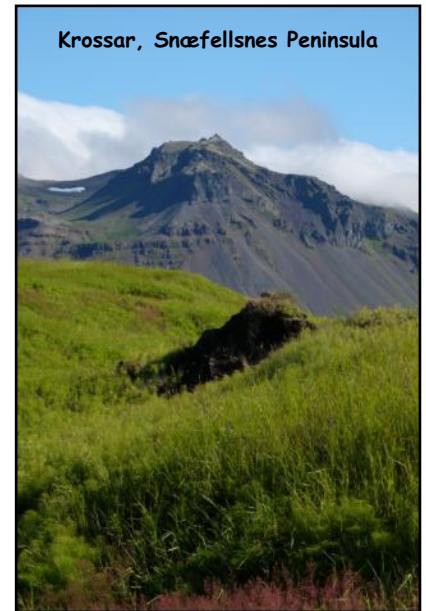
<http://phys.org/news/2016-09-largest-earth.html>



Álftafjörður, Westfjords



Flateyri - a village in Iceland's Westfjords



Krossar, Snæfellsnes Peninsula

Gigantic volcanic eruptions that led to mass extinctions.

<http://phys.org/news/2016-11-explore-gigantic-volcanic-eruptions-mass.html>

First signs of animal life on Earth may be from microbes.

<http://phys.org/news/2016-09-animal-life-earth-microbes.html>

Pump carbon dioxide into rocks, report urges.

<http://www.bbc.co.uk/news/science-environment-37306766>

Giant algal bloom sheds light on formation of White Cliffs of Dover.

<http://phys.org/news/2016-09-giant-algal-bloom-formation-white.html>

New technique for finding weakness in Earth's crust

<http://phys.org/news/2016-09-technique-weakness-earth-crust.html>

Exhaling Earth: Scientists closer to forecasting volcanic eruptions.

<http://phys.org/news/2016-10-exhaling-earth-scientists-closer-volcanic.html>

Magma movements foretell future eruptions.

<http://phys.org/news/2016-10-magma-movements-future-eruptions.html>

California earthquakes discovered much deeper than originally believed.

<http://phys.org/news/2016-10-california-earthquakes-deeper-believed.html>

When is an earthquake a nuclear test?

<http://www.bbc.co.uk/news/world-asia-37582518>

Ancient Andes glaciers have lost half their ice in just 40 years.

<https://www.newscientist.com/article/2108455-ancient-andes-glaciers-have-lost-half-their-ice-in-just-40-years/>

Why does our planet experience an ice age every 100,000 years?

<http://phys.org/news/2016-10-planet-ice-age-years.html>

Scientists measure the air breathed by Earth's first animals.

<http://phys.org/news/2016-07-scientists-air-earth-animals.html>

Measuring magnetic rocks in Siberia.

<https://news.liverpool.ac.uk/2016/08/12/postcard-measuring-magnetic-field-in-rocks-in-siberia/>

New map reveals how little of Antarctica's rock is ice-free.

<http://phys.org/news/2016-08-reveals-antarctica-ice-free.html>

Himalayan migration northward found to be result of tectonic lift.

<http://phys.org/news/2016-08-himalayan-migration-northward-result-tectonic.html>

Study measures methane release from Arctic permafrost.

<http://phys.org/news/2016-08-methane-arctic-permafrost.html>

Diary Dates 2016/17

12nd December 2016

Lecture: The Polar Oceans and Climate Change
Venue: The Geological Society, Burlington House, London
Contact: www.geologistsassociation.org.uk/lectures.html

7th December 2016

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

10th December 2016

Day of Talks - Proposed Theme: UK Geohazards
Venue location: Nottinghamshire
Contact: David Litchfield: d_j_litchfield@yahoo.co.uk

4th - 7th January 2017

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

9th January 2017

Lecture: Ground-shaking education
Venue: New Walk Museum Leicester
Contact: www2.le.ac.uk/hosted/litandphil/events

14th January 2017

Lecture: The secret life of your mobile phone
Venue, Geography Department, Nottingham University
Contact: <http://www.emgs.org.uk/lectures.htm>

14th - 15th January 2017

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

16th January 2017

Lecture: Ashfalls of the North Atlantic - a time marker
Venue: Abbot Hall Social Centre, Kendal.
Contact: www.westmorlandgeolsoc.co.uk

28th - 29th January 2017

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

1st February 2017

Lecture: The Cretaceous World: Living in a Greenhouse
Venue: West Blatchington Windmill, Holmes Avenue, Hove
Contact: www.bhgs.org/programme.html

16th February 2017

Lecture: Divining the Deccan: Tectonics, stratigraphy, timing and effects of a major Large Igneous Province (LIP)
Venue: Cohen Building, University of Hull
Contact: <http://www.hullgeolsoc.co.uk/hgmeet.htm>

18th - 19th February 2017

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

19th February 2017

OUGS Field Excursion, Vallis Vale, Somerset
Contact: wessexdaytrips@ougs.org

25th February 2017

Herdman Symposium: Geoscience Frontiers
Venue: Central Teaching Hub, University of Liverpool
Contact: hiatus@liv.ac.uk

25th & 26th February 2017

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

4th March 2017

Geoconservation day at Portway Hill, Rowley
Contact: fieldsecretary@bcgs.info

4th & 5th March 2017

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

10th - 19th March 2017

British Science Week
Contact: <http://www.britishtscienceassociation.org/Pages/Events/>

13th - 26th March 2017

Cambridge Science Festival 2017
Contact: www.sciencefestival.cam.ac.uk/

15th March 2017

Lecture: Rocks to reserves: Principles of petroleum geology:
Venue: Abbot Hall Social Centre, Kendal.
Contact: www.westmorlandgeolsoc.co.uk

18th March 2017

OUGS Field Excursion: Geology of the Wirral
Contact: pamandnodge@btinternet.com

18th - 19th March 2017

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

19th March 2017

OUGS Field Excursion, Brecon Beacons, South Wales
Contact: janethiscott@netscape.net

29th March 2017

Lecture: RIGS sites: selection & assessment criteria
Venue: Williamson Lecture Theatre, Manchester University
Contact: lectures@mangeeolassoc.org.uk

8th April 2017

Lecture: The Biggest Volcano on Earth
Contact: www.emgs.org.uk/lectures.htm

8th - 9th April 2017

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

9th April 2017

OUGS Field Excursion
Introduction to Geology: Goodrington and Shoalstone beaches, Devon
Contact: south.west@ougs.org

20th - 22nd April 2017

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



Arnarfjordur is one of the most beautiful fjords in the Westfjords. The bay of Dynjandisvogur in the fjord is known for the impressive waterfall Dynjandi.



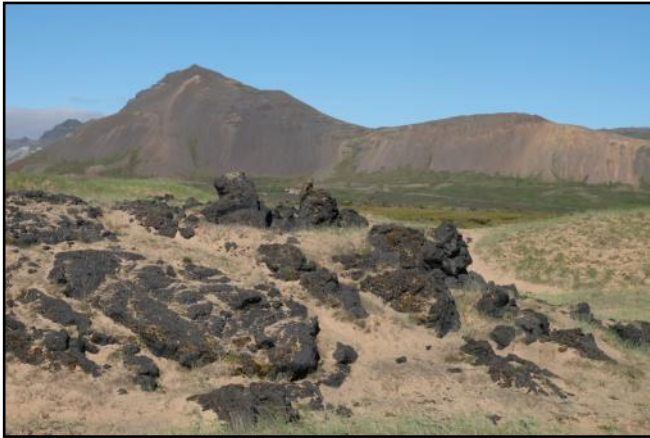
View from Krossar in the Snæfellsnes Peninsula showing the ice cap Snæfellsjökull, immortalised in Jules Verne's *Journey to the Centre of the Earth*.



News about the ESTA website



- 'Blasts from the past' has been updated so that there are now 8 activities available to download.
- A new open section of the website has been added where there are copies of more recent issues of Primary Earth Science Teaching.
- There is a new package on the front page of the website with help on fieldwork skills.
- The website includes information about the PESGB-ESTA competition for schools for 2017.



Krossar, Snæfellsnes Peninsula



Columnar jointing at Hljóðaklettur

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 at the University of Reading on 4th - 7th January
- The Geographical Association Conference at the University of Surrey, Guildford 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.



The **Freshwater Habitats Trust** is looking for 30 schools across the Thames Water Region for 2017 to take part in a citizen science survey: *Thames Water for Wildlife*. The survey is a great teaching resource and offers schools the opportunity to use quick and easy kits to learn more about their local freshwater habitats while contributing to vital research. All the results gathered will feed into the wider regional survey. For more information on the survey visit www.freshwaterhabitats.org.uk/projects/thameswaterforwildlife/

Overviews of the regional geology for England, Wales and Northern Ireland

- now available from BGS. These are summaries based on the areas used for the BGS Regional Guide publications. Go to the image map on the BGS website (see below), click on the region of your choice and download the overview of the regional geology: www.bgs.ac.uk/research/ukgeology/regionalgeology/home.html



Generation Green is an education programme run by British Gas. It provides free teaching resources and lesson plans for KS 1-4. *Generation Green: Smart Power* is a competition for pupils aged 7 to 11. Prizes include a £50,000 school energy makeover and a trip to the Science Museum. Closing date is 12th January 2017. For more information visit: www.generationgreen.co.uk/

Quotes of the Day

Icelandic Nobel Laureates

Iceland has the highest number of Nobel Prize winners per capita in the world.

Icelandic weather

Iceland is not as cold as the name suggests. The average temperature in Reykjavik in January is 0°C and in July 11°C.

60% of the Icelandic population lives in Reykjavik.

The world' oldest democracy?

The Althing, the Icelandic parliament, was established in 930, but it did not function for a number of years, so it is not the oldest continuous government in the world.

The shortest day

In Reykjavik the shortest day is only 4 hours and 18 minutes.

Biggest volcano

Iceland's biggest volcano is called Katla.

Renewables

Roughly 85 percent of Iceland's energy is from renewable resources

"Old friends are the last to break away."

"Langviniirnir njúfast síst."

The Saga of Grettir, chapter 82

Rate of literacy

The rate of literacy among Icelanders is the highest in the world.

Only 1% land in Iceland is considered arable.

Beer

Beer remained illegal in Iceland until 1989.

Laki

The eruption of the volcano Laki in 1783-84, caused a famine that decreased the population of Iceland by about 25%..

A majority of Icelanders believe in elves..

Apollo geology field trip

In 1965 the first group of Apollo astronauts travelled to Iceland for geology field training.

Most powerful waterfall

Iceland's Dettifoss waterfall on the Jökulsá á Fjöllum river is the most powerful waterfall in Europe.

Warning signs near cliffs at Husabaer



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The next copy deadline is 15th May 2017.

The Icelandic Meteorological Office

IMO provides information about earthquakes and volcanoes:
<http://en.vedur.is/earthquakes-and-volcanism/volcanic-eruptions/>