A Message from the President

Once again, it’s awards time and I can encourage all mapmakers to consider entry for their work – to not just be ‘I could’ or ‘I would’ or even ‘I should’, but actually ‘I have’...

As a starter, let me outline the categories that we’re looking for entries in:
- Stanfords Award
- for printed mapping
- Avenza Award
- for electronic mapping
- John C. Bartholomew Award
- for thematic mapping
- Ordnance Survey Award
- for excellence in the application of Ordnance Survey data
- The Garsdale Design Award
- for 3D cartography (real or imagined) using any technique and/or medium
- Ian Mumford Award
- recognises excellence in original cartographic research undertaken by university or college students

There is also the BCS Award which goes to the entry judged to be the best of the best. Here is a reminder of last year’s laser-cut winner, by David Kidd from Overview. Design. You can see this in more detail, together with other winners and entries on our awards page – www.cartography.org.uk/awards

This year the closing date for entries is 28 June 2019; full details are of course on our website.

Can I also just remind you that as this year sees the ICA’s Barbara Petchenik children’s competition, we don’t run the BCS Children’s Map Competition – supported by the UK Hydrographic Office – which will be held again in 2020.

I’m of an age to have been introduced to learning styles as part of my children’s school’s programme of support for their exams. Now if maps are one of the key elements of a visual learning style, I’ve wondered how, as cartographers, we would get our message across to those with auditory or kinaesthetic learning preferences.

I had been planning to write something about how this all might impact the way we view map design. But with a little more research than gained on the average management course or school parents’ evening, the issue may not be so clear cut. A recent paper looking at the scientific basis for such differentiation, concluded that: “There is reason to think that people view learning styles theories as broadly accurate, but, in fact, scientific support for these theories is lacking. We suggest that educators’ time and energy are better spent on other theories that might aid instruction.”

This does though highlight the need to both choose the right type of map for the information to be shown, and to be aware of the audience to whom we are communicating. I’m reminded in particular of the series of blog posts on design fundamentals posted by the Ordnance Survey a few years ago. In very brief summary, these focussed on the need to:
- Understand the user requirements – making sure that the user is able to easily understand the message that the cartographer was attempting to portray
- Consider the display format – paper or digital? Or both? How can it work across a range of screen sizes?
- Ensure there’s a clear visual hierarchy – help people focus on what’s important
- Keep it simple – bearing in mind Dieder Rams’ words that “Good design is as little design as possible.”
- Ensure the legibility of the map as the user should be able to easily understand the message that the cartographer was attempting to portray.
- Keep everything consistent

Check for accessibility – our output should be intuitive to use and not rely upon a good knowledge of cartography or any other technical understanding and should aim to be as inclusive as possible
- Make sure the composition works – ensuring that everything works as a whole. If it looks right, it probably is.

As with everything, we need to always remember that the responsibility for clear communication lies with the sender, not the receiver.

Finally, as I write we’re confirming the dates and location for our conference in September. I’m planning to let you have more details in my next e-newsletter.

Richard Carpenter, BCS President
Admin Report

Membership
Thank you to all our members who have renewed their membership for 2019.

We are very fortunate to have such a loyal group of supporters, many of whom have been members for many years. May we ask that our long-standing members check they are paying the correct subscription amount and that it is paid into our main account as detailed below.

Full members: £40 (Overseas £55), Affiliate: £20 (Overseas £35), Fellows: £60 (Overseas £75)

We are also very pleased to welcome our new members. Your support for the Society is greatly appreciated.

Full
Farhana Alam, Stephen Morrison, Sam McGregor, Craig Coates, Laura Coston, Akbir Muhammad, Matthew Ponzecci, Keith Parry, Trevor Whittuck, Sally Bakker, Peter Francon-Smith, Yvonne Latymer, Chris Marsh, Michael Johnson, Caroline Hobden, Charlie Eggleton, Sally Ekgabo, David Richards, Ronan Spencer, Russell Carr, Matthew Patterson, Archie Corliss, James Wimperny

Affiliate
Peter Hawksworth, Susan Spring, Rosendo Naranjo, Peter Davies, John Morrison, Linda Scott, Shaie MacDonald

Student
Holly Tennant, Samuel Cornelius-Light, Christos Evangelides, Jack Arnett, Annabel Hales, Rick Yeats, Peter Green

Educational
Langley prep at Taverham Hall, Manchester Academy, Churchdown School Academy, Pewsey Vale School

Corporate
Compsuit Ltd

Our BCS subscription year runs from 1 January to 31 December. New members will receive all issues of The Cartographic Journal and Maplines for the year of joining.

To join or renew your subscription, please use the following methods:
- Website application at www.cartography.org.uk
- Bank transfer to Account Number: 06753868, Sort code: 55-50-23
- Cheque made payable to The British Cartographic Society – please write your membership number on the back when renewing

BCS Administration are happy to help any members with issues or queries they may have related to the Society.

Email: admin@cartography.org.uk
Mailing address: 112 High Street, Balsham, Cambridge CB21 4EP

UKCC Report

The ICA Executive Committee met in Glasgow for two days at the end of February 2019. The Executive (President, Secretary General, 7 Vice-presidents and the Past-president) typically meet twice a year, around September and March, but timing depends when International Cartographic Conferences are being held, especially if it includes a General Assembly, as Tokyo 2019 does. Despite modern electronic communications and business in between meetings being conducted by email, there is still a lot to be said for getting together around a table and discussing issues, especially when trying to develop things like strategy documents, or debating the minuta of changes to Statutes and By-Laws.

The Executive were very impressed by the fine weather Glasgow provided. If they had come the same dates in 2018, they would have been confronted by snow on the ground, no sunshine and temperatures in the mid-teens. It seemed a shame to be shut in a meeting room all day, but at least walking to lunch was pleasant and we enjoyed the glorious views over the city and the hills to the south from the front of the main university building. They also enjoyed the Scottish hospitality, especially ‘Millionaire’ shortbread which disappeared very quickly, and very much appreciated a dinner hosted by the BCS in a traditional Scottish restaurant (most even sampled haggis!).

One topic of discussion was the need (or not) for a Cartography ‘Body of Knowledge’ (BoK). In effect, this is a comprehensive definition of the discipline, setting out the core areas of knowledge that one should at least be aware of as a cartographer and identifying how things are distinct to cartography. Many other disciplines have such documents, the best known in our general area being the US GIS community in the 1990’s and FIG’S Surveying BoK. While elements of cartography are included in the GIS BoK, it naturally has a different focus and some aspects we might consider critical in a cartographic context are treated somewhat superficially. The GIS BoK is currently being revised in what is a significant, relatively long-term project, which takes a rather different view of a BoK to the previous version and what the ICA hope to provide.

There has been some work done on a Cartography BoK in recent years by the ICA’s Commission on Education and Training, led by David Fairbairn from Newcastle University, but in order to really focus on the task, the Executive set up a specific Working Group last year with a relatively short-term goal. Progress by this group faltered due to criticism from various quarters. Some seem to think cartography is not distinct enough to require its own BoK and it is adequately covered by the GIS BoK; some involved in the revision of the GIS BoK consider a Cartography BoK either a duplication of the very comprehensive documentation they are planning, or see it competing with them. Others think that more comprehensive cartography textbooks adequately define modern cartography.

After some interesting open discussions, the Exec reaffirmed that there is a need to create a Cartography BoK, partly to distinguish us from GIS, but also to have something to point to when those from other scientific disciplines and organisations like the UN ask what defines ‘cartography’. Hopefully this will re- invigorate the Working Group and we will start to see draft documents about key areas of cartography being circulated in the near future for comment and feedback.

Other discussions focused on preparations for ICC2019 in Tokyo this July. While a few deadlines have been extended and the organisers are a little behind with various quarters. Some seem to think cartography is not distinct enough to require its own BoK and it is adequately covered by the GIS BoK; some involved in the revision of the GIS BoK consider a Cartography BoK either a duplication of the very comprehensive documentation they are planning, or see it competing with them. Others think that more comprehensive cartography textbooks adequately define modern cartography.

I hope to see some of you in Tokyo.

By David Forrest, Chair, UK Cartography Committee
Increasing demands on land use may lead to large amounts of complex data which are accessible and understandable – communicating patterns, succinctly and effectively, leveraging meaning behind data for the purpose of decision support, blending science and art.

The British Geological Survey (BGS) recently undertook a project to evaluate and explore the visual communication techniques for scientific data, hexagon grids proved to be one of the most popular results from this exercise.

The study focussed on delivering a set of easy to interpret, generalised outputs which would enable a broad audience to grasp scientific concepts. We explored seven of the current geohazard resources (see box out).

The resulting hexagon grids provide a visually striking yet simple mechanism, populated with a pared down version of existing complex geological data.

Why do Geohazards Matter?

Increasing demands on land use means that space is restricted not only by current infrastructure (e.g. buildings, pipes, cables, tunnels, foundations), but also by the natural geological hazards that co-exist.

There are also impacts on society, for example, geohazards such as landslides and mining related subsidence may result in loss of life, injury, significant financial loss or environmental damage.

Why use Hexagon Grids?

The geometry of a hexagon grid is simple, elegant and delivers an aesthetically pleasing output. Unlike the more familiar square grid scaling, grid orientation (horizontal [point up] or vertical [flat side up]) and cell referencing are not so clear cut. Hexagons provide a framework which delivers an understandable, comparable, visual interpretation.

How to Convert Existing Vector Data

A set of empty hexagon grids were generated using a 1km side length, a key criteria to make them scalable. Each geohazard dataset was translated from five hazard classes to three (low, medium or high) to simplify the output. Statistical data was generated for each cell using dominant coverage (landslides, running sand and compressible ground) or worst-case score (for shrink swell, soluble rocks, collapsible deposits). These calculated values were transferred to the hexagon grid.

Different techniques were used based on the spatial size and distribution of the hazards to ensure that the representation was suitable.

For datasets with a wider spatial distribution a second processing stage was undertaken to populate a 5km hex grid using the dominant coverage for each hazard.

Each hazard was categorised in the following manner:

- Low: localised, small-scale mining may have occurred in the area.
- Moderate: small scale, underground mining may have occurred in the area.
- Significant: underground mining is known or considered likely to have occurred in the area.

Significant: underground mining is known or considered likely to have occurred in the area.

Challenges using Hexagon Grids Defining size parameters of hexagons can be scaled using area or side length. Using area produces a logical scale factor, however, side length maintains the visual impact between scales.

Summarising spatial information can be used to over, under, estimation of the extent of the hazard. Small features may disappear completely, this issue was highlighted when processing the mining hazard data.

Conversion to a hexagon grid generalises the data altering the perception of the spatial distribution. Results of any analysis and subsequent interpretation should be viewed with care. Comparison with the underlying source data will reveal variations due to the generalisation process applied.

Do Hexagon Grids Promote the Creative Exploration of Data?

Geohazards are intrinsically linked to the underlying geology. A detailed understanding of the geological properties, associations between lithologies and their processes, is critical to identifying areas at potential risk. Varying levels of susceptibility occurs according to geological and morphological parameters.

The hex grids have been used as a method to clearly portray this information in an easy-to-use format. The outputs have been used to raise awareness of the potential hazards present across Great Britain.

Opportunity exists to combine the hexagon grids with other information (e.g. population to provide further valuable insight into potential risk). By exploiting this type of data, users can quickly create an overview of potential risk, according to asset or region, and identify areas on which to focus more detailed analyses.

Can Hex Grids be used to Visually Communicate Scientific Data?

Hexagons provide a good method to display data at a national or regional scale. In terms of GIS data for analysis, they lack the detail for useful analysis for resolutions greater than regional scale. However, generic, overview statistics or analysis can be carried out.

The regional impact overview that the hex grid provides can feed into national planning budgets, helping to identify where more detailed data analysis for hazard mitigation, preparation, etc., can be budgeted.

These Hex grids essentially draw a user’s attention to where geohazards should be considered, suggesting that a picture is indeed worth a thousand words. We did this work in ArcGIS 10.3 to generate the Hexagon dataset.

The data can be found on the BGS website. Direct links are found here from GeoSure Hex ([www.bgs.ac.uk/products/geosure/geoSureHex.htm](www.bgs.ac.uk/products/geosure/geoSureHex.htm)) and Mining Hex ([www.bgs.ac.uk/products/geohazards/miningHazard/miningHazardHex.htm](www.bgs.ac.uk/products/geohazards/miningHazard/miningHazardHex.htm)).

By Clive Cartwright, British Geological Survey

**What are Geohazards?**

Properties of Earth materials are important for all engineering projects and the classification of ground stability hazards.

**Landslides (slope stability):** Slope instability occurs when particular slope characteristics (such as geology, gradient, sources of water, drainage, or the actions of people) combine to make the slope unstable.

**Shrink Swell potential:** Swelling clays can change volume due to variation in moisture, this can cause ground movement, particularly in the upper two metres of the ground that may affect many foundations.

**Soluble rocks (dissolution):** Ground dissolution occurs when certain types of rocks, containing layers of soluble material, get wet and the soluble material dissolves. This can cause underground cavities to develop, leading to surface collapse.

**Compressible ground:** Some types of ground may contain layers of very soft materials like peat or some clays. These may compress if loaded by overlying structures or if the groundwater level changes.

**Collapsible deposits:** Some kinds of rocks and soils may collapse when a load (such as a building or road traffic) is placed on them, especially when they become saturated.

**Running sand:** Some rocks can contain loosely packed sandy layers that can be fluidised by water flowing through them. Such sands can ’run’, potentially removing support from overlying buildings and causing damage.

**Mining hazard:** Provides essential information for planners and developers building in areas of former shallow underground mine workings.
Working as a cartographer is not always a thankless task; wrangling data in a remote office distant from the original source and with an account manager filtering requests from the client. The project for St Mary Bourne could not be further from this type of work. The project was a fantastic opportunity to showcase datasets.

St Mary Bourne is a tiny village in Hampshire which has a chequered history of who ‘owned’ the village. I had a delightful trip to meet the Historian Laura Sykes and walked around the village taking photos and making notes. As a 4G drop-spot location, it was refreshing to go back to regular notebook and pen to capture the feel of the location and identify important local buildings.

We then discussed the primary and secondary (and even tertiary) datasets that Laura had collected over the past twenty years. There were books by previous historians, ancient maps stored in several parts, tabular data written by hand (!), tabular data typeset in books, scrapped from websites and of course, this type of project wouldn’t be as enjoyable without the opportunity to fully utilise Ordnance Survey Open Data.

This mix of information has to be recorded in a way that would form a practical legacy of the research. So, each map has been developed using fonts of that era (more or less), consideration of the historical timeline and cultural/religious significance has also been taken into consideration. The maps are as follows:

Map 1 – St Mary Bourne Parish boundary and surrounding areas, 2019.

Map 2 – St Mary Bourne village, 2019.


Map 4 – St Mary Bourne village, source: St Mary Bourne Tithe Map 1840, 1840-1871.
Meeting of Maps & Minds

We are losing 200 species every day. The amount of energy Earth is accumulating because of the greenhouse effect is equivalent to 4 Hiroshima sized nuclear bomb being detonated EVERY SECOND. That’s 24 in the time it’s taken you to read this sentence. Our sea level will rise by at least 20m, or maybe 100m by the year 2100. Large swathes of Africa and Asia will be intertemperate zones impossible for human habitation – leading to mass migration. We’re suffering massive biodiversity loss and our food will be scarcer and scarcer and countless millions will starve to death. It’s no longer climate change; it’s climate catastrophe – an emergency.

What are Shared Assets doing to alleviate this climate catastrophe? We gathered a group of individuals and companies to partner on an urban regeneration project – including architects, town planners, master planners, builders, energy generators, developers, and permaculture experts – with one thing on our mind; Net Zero Carbon. As the unfolding climate catastrophe bites, we cannot continue with business as usual.

Regeneration is the important word here. We are working to build in Net Zero as a key benchmark for success. If we can go further and build in Carbon Negative, even better – we need to regenerate our environment, sequestering carbon and increase biodiversity. Act as stewards for our world and our place in it. Our project is nothing, if not ambitious, but we must be bold if we are to play a part in the rapid decarbonisation required. So, where did we start? With a map. Mapping our environment for planning is essential if we are to have a slim chance of averting climate catastrophe.

Land Explorer
Shared Assets are developing a mapping application called Land Explorer (www.landexplorer.cc), which supports communities work towards regeneration. Land Explorer shows greenbelt and brownfield sites, agricultural land classification, soil types, flood data, sites of special scientific interest and special areas of conservation. Over 30 Local Authorities have now declared a climate emergency and on Friday 29 March 2019, shadow environment secretary Sue Hayman declared a Climate and Environmental Emergency asking if the Conservatives would join (Labour) in their call.

The economic and policy drivers of decarbonisation have shifted. We must adapt, build in...
resilience, restore and regenerate our environment and culture, while meeting the needs of our communities for food & water security, energy, jobs, housing and business. Facing this new paradigm, we must ask questions about what we’re mapping, why and how? What information do practitioners and communities need to act quickly? We can use planning to fight climate change, but it must be a fluid process. No longer static, changing to our needs and the rapidly shifting climate. We can use maps to plan, educate, communicate and measure our progress. Find and locate sites for sustainable energy, plan our housing needs with suitable green spaces and record carbon sequestration by plants and in our soil.

We must leverage investment in bold climate action over the next five years to transform our economy, including software and data. How we head towards Net Zero, de-carbonise our economy and regenerate our environment, is the key question for our generation. We have a very short time. We have an opportunity to act now to deliver an unprecedented mobilisation of resources to prevent climate breakdown, reverse inequality, and heal our communities. For us to flourish our systems thinking must expand to include things like Bioregions and we must not only map our watersheds, foodsheds and fibresheds, but make this data easily accessible to our communities to see their future in our world.

“A bio-region is a land and water territory whose limits are defined not by political boundaries, but by the geographical limits of human communities and ecological systems. Habitats, and ecosystems, [that] support important ecological processes...[in] this ecological and social framework, governmental, community, corporate, and other private interests share responsibility for coordinating land-use planning for both public and private land and for defining and implementing [participatory planning] options that will ensure that human needs are met in a sustainable way.” – Bioregional Learning Centre.

That’s why we’re designing Land Explorer with permaculture principals in mind, adding data on rainfall, water flow, sunlight, wind direction, soil qualities, biodiversity and natural capital.

Combining data from government agencies and local authorities, and crowd sourced data: finding spaces for urban farming and allotments, new homes, mapping substations capacity, renewable energy generation and the possibilities for microgrids.

The UN’s Intergovernmental Panel on Climate Change report last autumn warned that humanity has just 11 years remaining to take emergency action in order to prevent catastrophic climate breakdown.

We have a chance, however slim, of keeping the worst affects at bay and can play our part by acting now. How we, and our communities, use the land around us and manage our planet’s finite resources is integral to any solution. How we present data from organisations like the Centre for Sustainable Energy data, Environment Agency, Natural England, Ordinance Survey, and the Land Registry; and combine this with Local Authority data on economic assessments integral to developing neighbourhood and local plans – informing better decisions and measuring progress over time.

Shared Ownership

Cooperative ownership of such a platform is important (as a resource and digital commons); as data is now where utility value resides. It’s critical to be custodians of our data for future generations. Finding a way between the state and the market to combine government data, with crowd sourced and other information. So at Shared Assets, we’re evolving Land Explorer to provide tools for Permaculture Design Environments, helping to find land suitable for self-builders and Community Land Trusts for housing (delivering net zero carbon homes), sites suitable for sustainable energy and spaces for growing healthy food; delivering a cooperatively owned community asset, to help us plan.

We’ll help plan and measure progress towards delivery of sustainability goals at local level to make regeneration a living process – not a static plan. We can capture environmental data in real time, through the Internet of Things to measure and compare, capture information from sensors and drones, and most importantly make this data public; democratically & cooperatively controlled.

We can be empowered by our data – to change something, you need to know it, data helps us measure and improve. It helps us communicate. To move towards decarbonisation, degrowth and restorative culture, we must create a digital common ground; finding a way between the state and the market to combine government data, with crowd sourced and other information; to be stewards of our data for future generations. Maps are about where we’re going and how we’re going to get there, but also where we’ve come from and how far we’ve travelled; mapping not just the geography, but our progress in how humanity responds to our greatest challenge ever.

It’s a start. “It’ll take us all and it will take us the rest of our lives, but that’s the point.” – Cradle to Cradle Design.

“I don’t want you to be hopeful, I want you to panic. I want you to feel the fear every day and then I want you to act. Either we choose to go on as a civilisation or we don’t.” – Great Thunberg.

This isn’t hyperbole, the science is indisputable and it’s terrifying.

Act Now

“Global warming can no longer be described as a future event. It is now driving a change in the climate system. So, we are now on the clock if we want to break the fossil-fuelled economic paradigm that has served us so well for the past 150 years. We risk locking in emissions that cannot be easily unwound later... we are on track for 3C... a destructive level of warming. And we are nowhere near – yet – the emissions trajectories for the 1.5C and 2C goals in the Paris Agreement.” – Committee on Climate Change’s Chief Executive, Chris Stark.

“Both 1.5C and 2C would take humanity into uncharted and dangerous territory because they were both well above the Holocene-era range in which human civilisation developed.” James Hansen, former NASA scientist who helped raise the alarm about climate change.

By Julian Thompson, Shared Assets
Exploring the Majestic Mountains of Jibal Nawah

A region of deep beauty that entices desert mapmaker Abdullah Al-Sayari to return again and again. He describes one of his favourite places, the mountains of Jibal Nawah.

The breath-taking beauty of the region between Hail and Taima keep me going back time after time, and each time I return I discover another hidden wonder that makes each visit fresh and memorable.

My most recent trip to Jibal Nawahat was in March, a time I enjoy visiting the area because of the mild weather and gentle breezes. And the seasonal rains will have visited, refreshing the plant life and adding to the area’s splendour.

Setting Out
Setting out from Hail, our route took us westwards along the Hail-Medina road. After about 40km we turned right onto the Hail Al Jahra road for about 230km, continuing west until we turned off onto an unpaved road heading north towards Hufrat Lajt, where we had ended our previous journey (see Saudi Voyager 12).

After driving 35km along this unmade route, we came to an area of rocky hills interspersed with sandy plains where we chose to camp for the night.

We were close once again to Hufrat Lajt, so early in the morning we re-explored what is another of our favourite places. The whole area was clothed in green after the rains adding to the colour and beauty, so we took our time re-examining the inscriptions on the rocks and adding to our portfolio of photos.

Reaching the Mountain
That afternoon we continued on our way, driving north eastwards through the Al’azamayt mountains across an area of sand dunes, in the midst of them called Waisg Al’azamayt. With the high grounds of Zalma’ to our right and Qata’ al Bedouin on our left, we came in sight of the Jibal Nawahat mountains, where we camped and basked in the picturesque views.

Each of us wandered off from our campsite to photograph the scenery and enjoy a stunning sunset – as the sun dipped between Jibal Nawahat, the silhouettes of the peaks resembled a magical skyline of castles and rooftops.

In places, the evening sun on the mountains made them look like groups deep in conversation – no wonder then that in Arabic ‘nawahat’ means women weeping for their departed relatives.

Indeed, letting our thoughts run wild, the mountains became anything we imagined – whispering strangers, Egyptian obelisks, palaces, buildings, and so forth, making this a wonderfully evocative and romantic site.

The next morning we broke camp and headed north towards the old well of Ba’ir Hzaba, which dates from Thamud times – the pre-Islamic people who originated in southern Arabia, then moved north to settle on the slopes of Mount Athlab near Mada’in Saleh, before, according to legend, they were destroyed by a sound wave.

Ba’ir Hzaba is a natural rocky fissure approximately 130 metres deep which has been an important water source for millennia – especially as drilling in this rocky terrain is so difficult. The opening is protected by an iron lid to prevent livestock falling down and to keep it sand-free.

On our way to the well we came across a great swarm of locusts as they were laying their eggs in the sand – a rare opportunity for many of us to see this with our own eyes for the first time. We had all heard stories of watching such events from our parents or grandparents – and now we can tell our own first-hand stories to our children and grandchildren. But unlike our forefathers, we could film it on our smartphones!

After studying the locusts, we took a small deviation 25km in depth. Also a natural fissure, this time the opening has been widened to ease water extraction, and has been fenced in to safeguard passing animals.

We decided to spend the night near the well and spent the next morning poking about several nearby ancient ruins, which show how long this place has been an important watering hole.

Our Last Night
From there, we drove westwards towards the Helwan and Akbad mountains – famous landmarks on the ancient caravan route. Before passing them, we reached the beautiful Gharamil Musababbah, which is quite similar in shape to Jibal Nawahat. Here we decided to spend our last night so we could enjoy the tranquillity of the area.

The following morning, we headed south west towards Jabal Berd – a distance of about 20km. Along the way we passed several other mountains and hills eroded into stunningly beautiful shapes, and then, after another two hours along meandering and rugged roads, we finally reached Jabal Berd. Mentioned by Czech explorer Alois Musil in his 1915 Arabian Desert, this has always been an important waymark on the Hail to Al’ula caravan route.

There we paused to explore and enjoy the scenery, discovering that the fabled water sources that made this place so famous are now sadly exhausted. However, this mountain and the surrounding area is rich in Thamudic inscriptions, and I managed to discover examples new to me – of two dancers, one dancing upside down on his hands, another of a camel suckling her young, and a third of a warrior armed with a long spear with accompanying text.

The whole area between Hail and Taima has long been a favourite of mine and will long keep me returning. It is an area of striking natural beauty that is also rich in fascinating history.

It really is worth getting off the beaten track and immersing yourself in the sights, sounds and feelings of this historic area.

By Abdullah Al-Sayari
Through the ages, Ordnance Survey (OS) has refined and developed its beautiful cartography to create mapping that’s as easy to recognise as it is easy on the eye. Now, well into the 21st century, that tradition is continuing with the release of OS’s Open datasets to create a new geospatial mapping product called OS Open Zoomstack (www.ordnancesurvey.co.uk/business-and-government/products/os-open-zoomstack.html). The new dataset — described by one reviewer as a “game changer in UK mapping” — has joined-up the popular visuals from OS cartography and digital mapping for online, offline and mobile devices — providing better consistency at every level, whenever someone scrolls in or out of the map on screen.

OS Open Zoomstack is now available for anyone who wishes to use geospatial data to create mapping products for apps, websites or offline. It allows users to take the giant vector basemap of Great Britain, containing up-to-date authoritative OS data for buildings, roads, and greenspaces in the country, and produce their own maps quickly and easily.

When users start creating maps with OS Open Zoomstack for the first time, they can select from four stylesheets created by OS cartographers to get going immediately. These are light, night, outdoor and road, all of which are available on Github (https://github.com/OrdnanceSurvey/OS-Open-Zoomstack-Stylesheets). For example, one user may pick the light style to make it easier to identify overlaid datasets, while another may opt for outdoor or road styling because the mapping on screen appears stronger. All four styles ensure a consistent template and size of the high-resolution data contained within the tile makes OS Open Zoomstack more than just a map. There is no longer a need to crunch thousands of data files — it does the job as one single file. OS provides it in a MBTiles file, which works out at less than 3MB for full GB coverage, guaranteeing a slick experience on the web, mobile and offline.

The growing popularity of GeoPackage among OS users has also seen OS introduce OS Open Zoomstack in this format. GeoPackage is an OGC standard and allows more complete data analytics thanks to the volume of data it can hold.

Since its launch in January 2019, GIS software providers have been keen to get their hands-on OS Open Zoomstack. Esri is embedding OS Open Zoomstack vector tiles, while Cadcorp has already embedded it into SIS Desktop 9 and the data is also available via MapTiler.

OS Open Zoomstack is a core open data product for OS and will be refreshed and updated every six months. It is available to download at www.os.uk/zoomstack.
Evacuation of the Lincolnshire Coast in Case of Invasion, 1916

This Great War map was prepared by the County Chief Constable’s Office, St. Mary’s Gate, Derby in January 1916. It depicts the planned routes of movement of ‘refugees’ from eastern England for the sanctuary of Derbyshire in the event of a hostile landing on the Lincolnshire coast. Eight planned evacuation routes, each following the network of minor roads and byways (main roads and railways were to be strictly off-limits to civilians in the event of an invasion), are labelled to the right of the map (Route 1-8). These routes are shown against a backdrop of administrative units (Petty Sessional Divisions) around which local emergency committees responsible for the development and implementation of local evacuation plans were organised.

During the war, the British Constabulary worked with county and local emergency committees and military authorities to develop plans for the evacuation of coastal areas of England in the event of an enemy invasion (Moon, 1968; Pennell, 2008). What makes the present map especially interesting is the insight it provides into the preparations of a county that, by virtue of geographical convenience in the English Midlands, was selected as a centre of refuge for evacuees.

Sessional Divisions) around which local emergency committees responsible for the development and implementation of local evacuation plans were organised.

During the war, the British Constabulary worked with county and local emergency committees and military authorities to develop plans for the evacuation of coastal areas of England in the event of an enemy invasion (Moon, 1968; Pennell, 2008). What makes the present map especially interesting is the insight it provides into the preparations of a county that, by virtue of geographical convenience in the English Midlands, was selected as a centre of refuge for evacuees.

By the spring of 1915, the military situation had begun to stabilise. Following a re-organisation of home defence, the first of several national inter-service (Admiralty and Army) conferences on invasion was held in January 1916 – the month to which the map relates. The conference concluded that a German invasion force of up to 160,000 could appear anywhere between the Wash and Dover without warning (Moon, 1968). The identification of the Wash as the most northerly point for a large-scale invasion on the Lincolnshire coast had no doubt informed the planning of the mapped evacuation routes; back-projection of the vectors running through Nottinghamshire and Leicestershire identifies a convergence point on the Lincolnshire town of Boston and the area of South Holland, adjacent to the Wash.

But where were the evacuees to be lodged once they had reached Derbyshire? Reports in the local press point to the intended use of private residences in the first instance. In mid-February 1916, the Ripley and Heanor News reported that a canvass had been made of householders willing to accommodate evacuees in the Ripley district, situated on evacuation Route No. 3. “There is not the slightest necessity for any person to become nervous” the report stated reassuringly; “the canvass is merely a precaution against the possible but improbable” (Ripley and Heanor News, 1916, p. 2).

Further to the south, on evacuation Route No. 7, a similar canvass of the residents of Melbourne and the district was taken at about the same time (The Derbyshire Advertiser, 1916a). Alongside private residences in these and other districts, council and church schools were also secured for the purposes of billeting (The

References
- The Derbyshire Advertiser (1916a). ‘Melbourne.’ 12th February, 10.
- The Derbyshire Courier (1914). ‘Preparing for invasion. Derbyshire’s plan against a raid.’ 26th December, 1.
Review of Cartography: An Introduction
By Giles Darkes and Mary Spence MBE, the British Cartographic Society

The smart way in which the book uses illustrations will appeal to the cartographer’s mind set, because cartographers including data scientists, are clearly people who believe in sharing information using maps. Ensuring that all practitioners create the best maps.

For those who might pick up this book that are less spatially literate, I am confident that the book will hold people’s attention because it is not a heavy read. The lightweight nature, yet substantial in content makes it not only attractive to pick up of the shelf, but also leaves the reader feeling they have learnt something new.

For BCS members, it is partly a reminder of what we learnt whilst at university or reinforces what we are currently learning. A good text book for members and non-members alike.

By Philip Dellar, Technical Director, Verisk, Geoinformation

‘Contemporary Cartography’
Exhibition
3 June to 30 August, Opportunity to Sponsor, Take Part or Visit the London Festival of Architecture 2019
Mon-Fri: 09:00-18:00    Sat: 10:00-17:00

Contemporary Cartography is an exhibition that examines how we navigate, document and shape the built environment. It is a celebration and interrogation of mapping, framed through the work of selected contemporary practices.

The exhibition proposes a re-engagement with maps and acts of cartography as creative, generative processes – positive cultural tools with the potential to transgress boundaries and reimagine our environments.

Through the projects displayed, it hopes to encourage a reflection on different practices of spatial representation, what they tell us about the world we live in and how they help transgress ‘boundaries’ in a variety of senses – both physical and social.

The projects exhibited explore how cartography opens up new ways of seeing complexity in the world and engenders multiple design possibilities. They address the technologies and measuring tools of cartography, questioning their legacy and influence on our experiences of the landscape. The exhibition examines how maps can reconceptualise spatially situated boundaries by embodying multiple points in time – recording the past, representing the present and projecting the future.

The associated event programme will explore broader themes featuring international projects, designers and manufacturers. As the home of key industry organisations participating in LFA, the Building Centre will be a hub for the industry during the summer. The Building Centre is a central London gallery promoting innovation in the built environment. We create an internationally recognised programme of events and exhibitions to inspire, inform and educate. Our campaigns influence our core audience of construction industry professionals while also raising awareness and delivering information to the general public.

Want to get involved? We are looking for:
Exhibition supporter = £1,300 + VAT
Include your logo across our introduction panel
Logo featured on exhibition
Logos included on associated events e-shots
Website link on main exhibition website
Thanked on social media

Event supporter = £5,500 + VAT
All the above plus work with us on a breakfast or evening event to explore a key topic at the heart of your business. The Building Centre will work with you to map out themes in advance and invite inspirational speakers to attract up to 200 guests. The Building Centre will also write an online article about the event which will feature the work of your company.

Product Showcase
In addition, there is an opportunity to showcase products at the Building Centre. From July, we can showcase and promote relevant products in association with the exhibition. For more details, visit www.buildingcentre.co.uk/exhibitions /contemporary-cartography. Contact Jenny Watt to discuss options at jwatt@buildingcentre.co.uk - 0207 692 4000
Since September 2016, Alice Gadney has been teaching small children about maps through the concept of Mini Mapmakers. She has created a wide array of workshops and exciting resources – all map and world themed. The workshops support teachers and the UK curriculum – they also support home-educated children too. The initial trial involved a local school with 90 4-year-olds (three classes of 30 students). Over 2,800 children have met ‘Captain Alice’ and had fun at her workshops from Cumbria to London, at schools, clubs, outdoor centres, fairs and even country parks! Over 1,000 adults have also joined in and learned about maps along the way.

Alice Gadney, former Editor at Maplines and Restless Earth Co-ordinator, started the year being nominated in xyHt’s as ‘40 under 40 Geospatial influencers of 2019’ and now has achieved something special on International Women’s Day 2019. Mini Mapmakers has been awarded ‘Best New Business 2019’ by Bedfordshire Business Women!

“Captain Alice has a superpower: she has taken all the skill and art of making and reading maps and made it relevant to today’s toughest audience – children! In the age of technology, she has reintroduced to them a world away from a screen. An outstanding winner with passion and enthusiasm for map reading and making!” said the Adjudicator of the Bedfordshire Business Women 2019 Awards.

Volunteering to the Restless Earth programme at the BCS really ignited Alice’s passion and deep sense of duty to communicate the importance of maps to the younger generation. In the times of increasing screen time – getting back to basics is key – this was evident in the super Restless Earth workshops.

Although the work has been fulfilling, it is not without its challenges: taking on the youngest of school learners – Reception age to 4-years-old – is totally different from teaching teenagers. Learning how to adapt the classes in the way you speak, describe and explain different elements is very different to working with a 4-year-old.

“When running your own business, amends to get done instantly can be a challenge. The teachers gave super constructive feedback, but more importantly all the children really enjoyed it. I would like to thank those who have supported me along the way from Ordnance Survey and Dennis Maps, HPUK, Harper Collins Reference, Jane Tomlinson – Artist, xyHt, Gardsdale Design and many more small businesses that helped create an amazing opportunity to communicate something very important in small children’s lives! Set them on the right path with the right tools and they will go far!” says Alice Gadney.

Alice is looking to grow her community of Mini Mapmakers, so if you would like ‘Captain Alice’ to visit your local school or youth group, then get in touch with her at alice@minimapmakers.co.uk or for more details visit www.minimapmakers.co.uk.
The geospatial event designed for everyone involved in the gathering, storing, processing and delivery of geospatial information

GeoBusinessShow.com

Exhibition • Conference • Seminars • Workshops • Networking

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