Summary of activities 2019

1. Editor’s comment

If I was to try to define what a university is for – in the briefest of statements – then it would be the pursuit of knowledge.

This easily covers research (the pursuit of new knowledge) and education (instructing others in the pursuit of knowledge). Therein lies the altruism within the university system where, as academics, we are interested in curiosity driven understanding in its purest form: because it is simply unknown to us.

With the discovery of new knowledge comes an academic responsibility to share it (Smith, 2014). Why? Because, as I said in the 2014 Editorial, we should close the loop on understanding where it is subsequently applied to the real world and therefore gains social utility. In short, it benefits others.

Sharing – of which peer-reviewed journal publication is considered the gold standard – is therefore often seen as an end-goal in and of itself. Yes, it benefits others, but because universities now use publications as a measure of academic success, it benefits the individual. As a result of this driver, there has subsequently been a dramatic rise in the volume of research published (Plume & van Weijen, 2014). This has also focused attention upon the funding of journals through subscriptions. Whilst ‘the reader pays’ is the most common model in any kind of publishing, it breaks the academic requirements for freedom of access to knowledge. If the model is ‘flipped’ then it becomes ‘author pays’ and so the Open Access (OA) journal is born. In truth there have always been journals that were freely available, however, their increasing prevalence and broad policy support by government makes them the preferred choice.

OA journals were perhaps not inevitable, but their popularity has coincided with the adoption of top-down metrics by universities where all outputs are counted and bigger is better – more citations, more downloads, more likes, more shares. Just more. However, this has also been mirrored by bottom-up self-promotion through social media. The central thread is OA – that is, the freedom to access academic material. Yes, there is the journal article, but also videos, live streams, in-person presentations, figures, workshops and, increasingly, data.

Data touches upon different motivations in the academic, the university, the funder, and the reader. The collection, archiving, distribution, and downstream utilisation of data is one of the key benefits of research, sitting alongside new knowledge. Data sharing is common in some subjects, particularly where there are experimental results that need external verification and validation. What OA publishing has precipitated is a move toward the formal lodgement of data that are now seen as an integral part of the research outcomes and self-promotion.

Academic publishers have long supported the lodgement of supplementary materials, including data, whilst Journal of Maps has supported data publication since our first issue. Uniquely, we embedded datasets within the PDF so that the data genuinely followed the article; however, this wasn’t a sustainable solution as it both breaks PDF/A compliance (Library of Congress, 2019) and is not scalable to large datasets. Ad hoc online publication and, latterly, data repositories have a much longer history although the extent of their use varies by subject.

I’ve said that the key elements of OA should be to allow verification and validation. In summary: are my conclusions supported by the data collected and analysis undertaken and, if that is the case, can they be repeated independently? Verification, therefore, necessitates the key requirement of being reproducible. Not only should the data be available, but exactly the same analysis should be achievable to verify the results. The logical end-point is for the use of freely available software (ideally open source), a programmable environment, the original scripts and a versioning system, both for the environment and the scripts themselves.

Within this context, the open source statistical programming language R (https://www.r-project.org) presents itself, alongside a versioning environment such as Git (https://git-scm.com/). Like most software, R releases new versions regularly; however, by using the containerisation environment of Docker (https://www.docker.com/) you can run a script within exactly the same version of the R core and requisite plugins.

Therefore, a journal article can describe what was undertaken, present the results and then enable the reader to verify that the outcomes are genuine, as...
well as allow them to analyse the data. This promotes the genuine, altruistic, core of academia, where there is nothing opaque in the process, but rather a desire to share new knowledge.

The Centre for Open Science (COS) (https://osf.io/) details what it considers best practice and outlines three core components (https://osf.io/tvyxz/wiki/2%20Awarding%20Badges/). These are

(1) detail the hypothesis or research question being investigated (and this has been openly lodged);
(2) the manuscript is freely available (and the method reproducible); and
(3) the data are freely available (and the method reproducible).

Journals have a key role to play in promoting this process, as they are where academics read about the latest advances in their field. COS suggests journals assess a manuscript against these three criteria and award badges where they are met—these allow a reader to quickly assess the open science credentials of the work and click straight through to, for example, the original data.

Journal of Maps strongly promotes OA publishing and, as an advocate of the best research, the principles of the Centre for Open Science in managing research projects. To this end, we have joined the Centre for Open Science’s publishing programme and from 2020 articles will be awarded the COS badges where they meet the requisite criteria.

However, there are five potential problems that hinder the uptake of open data lodgement: (1) the author(s) doesn’t want to lodge their data; (2) the data are confidential and cannot be published; (3) the data are lost and so are no longer available; (4) the data format is non-readable; and (5) the data could be commercially exploited.

It is beyond the scope of this editorial to talk in detail about these barriers to data lodgement; however, the last point brings us back full circle to the altruistic goals of academic research and questions how the ‘third leg’ of revenue generation – commercial exploitation – fits in to the university model. However, I’m reminded that, at the birth of photography in 1839, the French government gifted the Daguerrotype (Wood, 1997) to the world patent-free (other than in the UK, where the patent had already been registered). This saw its rapid dissemination and exploitation, leading to an explosion of innovation and commerce that benefited the world.

2. Best map award

For 2019, the ‘Best Map’ was judged by the formal awards panel, which comprised me, Dr Dick Berg, Dr Bernhard Jenny, and Mr Mike Shand (and this section reflects our combined comments). Contributions were assessed based upon both their academic content and cartographic quality. It is neither the best academic paper nor the best-designed map that wins the Best Map Award, but a combination of qualities from both areas that is judged the winner. The following 10 maps were short-listed for the award:

Etienne Brouard and Patrick Lajeunesse:
Submarine geomorphology of the northeastern Baffin Island fiords and cross-shelf troughs

Riccardo Civico, Stefano Pucci, Rosa Nappi, Raffaele Azzaro, Fabio Villani, Daniela Pantosti, Francesca R. Cinti, Luca Pizzimenti, Stefano Branca, Carlo Alberto Brunori, Marco Caciagli, Massimo Cantarero, Luigi Cucci, Salvatore D’Amico, Emanuela De Beni, Paolo Marco De Martini, Maria Teresa Mariucci, Paola Montone, Rosella Nave, Tullio Ricci, Vincenzo Sapia, Alessandra Smedile, Gabriele Tarabusi, Roberto Vallone and Alessandra Venuti:
Surface ruptures following the 26 December 2018, Mw 4.9, Mt. Etna earthquake, Sicily (Italy)

Giedrė Beconytė, Julius Donatas Budrevičius, Irena Cipartytė and Andrius Balcītānas:
Plants and animals in the oikonyms of Lithuania

Fernando Bohoyo, Robert Larter, Jesús Galindo-Zaldívar, Phil Leat, Andrés Maldonado, Alex Tate, Mar Flexas, Eleanor Gowland, Jan Arndt, Boris Dorschel, Yeadong Kim, jong kuk Hong, Jerónimo López, Adolfo Maestro, Óscar Bermúdez, Frank Nitsche, Roy Livermore and Teal Riley (2019) Morphological and geological features of Drake Passage, Antarctica, from a new digital bathymetric model.

Radek Dušek and Renata Popelková: Water in most important towns of the Czech Republic

Roxana Leitold and Javier Revilla Diez: Exposure of manufacturing firms to future sea level rise in Ho Chi Minh City, Vietnam

Jiří Pánek: Mapping citizens’ emotions: participatory planning support system in Olomouc, Czech Republic

Tommaso Piacentini, Enrico Miccadei, Gianclmente Berardini, Luigi Aratari, Antonio De Ioris, Monia Calista, Cristiano Carabella, Roberto d’Arielli, Vania Mancinelli, Giorgio Paglia and Marcello Buccolini: Geological tourist mapping of the Mount Serrone fault Geosite (Gioia dei Marsi, Central Apennines, Italy)

Alastair W. Pearson, Philip J. Soar and Paul Carter: Forgotten fields: mid-nineteenth century land use and
characterisation in the South Downs National Park using the tithe surveys of England and Wales

María Marta Sampietro-Vattuone and José Luis Peña-Monné: Geomorphology of Tafi valley (Tucumán Province, Northwest Argentina)

Gianluca Vignaroli, Marco Mancini, Francesco Bucci, Mauro Cardinali, Gian Paolo Cavinato, Massimiliano Moscatelli, Maria Luisa Putignano, Pietro Sirianni, Michele Santangelo, F. Ardizzone, Giuseppe Cosentino, Cristina Di Salvo, F. Fiorucci, Iolanda Gaudiosi, Silvia Giallini, Paolo Messina, Edoardo Peronace, Federica Polpetta, Paola Reichenbach, Veronica Scionti, Maurizio Simionato and Francesco Stigliano: Geology of the central part of the Amatrice Basin (Central Apennines, Italy)

Jack Wright, David A. Rothery, Matthew R. Balme and Susan J. Conway: Geology of the Hokusai quadrangle (H05), Mercury

It is with great pleasure that I am able to announce the award of the 2019 ‘Best Map’ to Jiří Pánek (Palacky University Olomouc) for his map detailing perceptions of the urban environment by local citizens (https://doi.org/10.1080/17445647.2018.1546624). The map presented in this paper describes the deployment of an ‘Emotional Maps’ platform for the collection and visualisation of spatial data related to the participatory planning of public space (using volunteered geographic information or VGI). The map particularly impressed due to the VGI nature of the data, difficulty of mapping this type of information and the ‘clean and slick design.’ It is a worthy winner.

3. A year in numbers: 2019

With 2019 drawing to a close, and all articles now published, it is an appropriate time to look back at the year and review the journey we have taken. Yet we can’t take a single year in isolation as it’s a culmination of medium- and long-term changes within the journal, within academia and within publishing, in addition to the work we have all undertaken since this time last year. Perhaps the single largest ‘lag effect’ in the system was our move to an OA publishing model in 2016. With this in mind, 2019 has been tremendously successful, seeing us publish 105 articles across 1033 pages, significantly up on the 81 articles and 790 pages in 2018.

This success is reflected in our rising Impact Factor (2018), which increased to 1.836 with total incoming citations rising from 440 to 582 (that are counted towards the Impact Factor). Across all the articles we have published, there were a total of 1267 citations which is a remarkable testament to the quality and longevity of the author base and the work they produce.

What is perhaps more reflective of the penetration of maps published by Journal of Maps in to the wider academic world are the number of downloads. These currently stand at 203,554 through to October 2019, higher than the 192,864 recorded for the whole of 2018 and an increase of 28% over the same time period in the previous year. Compare this to the 30,972 downloads for our last full year as a subscription journal (2015) and the benefits of OA are obvious – you get tremendous reach which increases the potential for download, citation and further downstream utilisation.

In terms of metrics for individual articles, the top four cited (2016–2018) and top five downloaded (2019) are:

3.1. Most cited (2016–2018)

Bianucci, G.; Di Celma, C.; Landini, W.; Post, K.; Tinelli, C.; de Muizon, C.; Gariboldi, K.; Malinverno, E.; Cantalamessa, G.; Gioncada, A.; Collareta, A.; Gismondi, R.-S.; Varas-Malca, R.; Urbina, M.; Lambert, O.: Distribution of fossil marine vertebrates in Cerro Colorado, the type locality of the giant raptorial sperm whale Livyatan melvillei (Miocene, Pisco Formation, Peru)
Citations: 13

Jurkovsek, B.; Biolchi, S.; Furlani, S.; Kolar-Jurkovsek, T.; Zini, L.; Jez, J.; Tunis, G.; Bavec, M.; Cucchi, F.: Geology of the Classical Karst Region (SW Slovenia–NE Italy)
Citations: 11

Di Celma, C.; Malinverno, E.; Gariboldi, K.; Gioncada, A.; Rustichelli, A.; Pierantoni, P.P.; Landini, W.; Bosio, G.; Tinelli, C.; Bianucci, G.: Stratigraphic framework of the late Miocene to Pliocene Pisco Formation at Cerro Colorado (Ica Desert, Peru)
Citations: 10

Sarricolea, P.; Herrera-Ossandon, M.; Meseguer-Ruiz, O.: Climatic regionalisation of continental Chile
Citations: 10

3.2. Most downloads (2019)

Clerici, N., Calderón, C.A.V. and Posada, J.M.: Fusion of Sentinel-1A and Sentinel-2A data for land cover mapping: a case study in the lower Magdalena region, Colombia
Downloads: 9245
Sarricolea P.; Herrera-Ossandon, M.; Meseguer-Ruiz, O.: Climatic regionalisation of continental Chile
Downloads: 4774

Piana, F.; Fioraso, G.; Irace, A.; Mosca, P.; d’Atri, A.; Barale, L.; Falletti, P.; Monegato, G.; Morelli, M.; Tal-lone S.; Vigna G.B.: Geology of Piemonte region (NW Italy, Alps–Apennines interference zone)
Downloads: 4760

Sembroni, A.; Molin, P.; Dramis, F.; Abebe, B.: Geology of the Tekeze River basin (Northern Ethiopia)
Downloads: 4138

Romanillos, G., Moya-Gómez, B., Zaltz-Austwick, M. and Lamíquiz-Daudén, P.J.: The pulse of the cycling city: visualising Madrid bike share system GPS routes and cycling flow
Downloads: 3681

Table 1. Academic and cartographic editors.

| Dr. Gina Cavan | Manchester Metropolitan University |
|----------------|----------------------------------|
| Dr. Keith Clarke | University of California-Santa Barbara |
| Dr. Paul Dunlop | Ulster University |
| Prof. Jane Entwistle | Northumbria University |
| Dr. Damian Evans | École française d’Extrême-Orient (EFEO) |
| Dr. Fabio Famoso | University of Catania |
| Dr. Tobias Heckmann | Catholic University of Eichstätt-Ingolstadt |
| Dr. Bernhard Jenny | RMIT University |
| Dr. Jasper Knight | University of Witwatersrand |
| Prof. Nik Lomax | University of Leeds |
| Prof. Dave Martin | University of Southampton |
| Dr. Arthur Merschat | US Geological Survey |
| Prof. Jan Otto | University of Salzburg |
| Dr. Paolo Paron | IHE Delft Institute for Water Education |
| Dr. Tommaso Piacentini | D’Annunzio University of Chieti-Pescara |
| Dr. Monica Ponderelli | D’Annunzio University of Chieti-Pescara |
| Dr. Claudio Riccomini | University of São Paulo |
| Dr. Alan Smith | University of Plymouth |
| Prof. Wayne Stephenson | University of Otago |
| Dr. Fleur Visser | University of Worcester |
| Dr. Brent Ward | Simon Fraser University |
| Dr. Yichin Xie | Eastern Michigan University |
| Dr. John Abraham | Independent Cartographer |
| Dr. Heike Apps | Geoscience Australia |
| Dr. Giedre Beconyte | Vilnius University |
| Mr. Steve Bernard | Financial Times |
| Dr. Bieke Cattoor | Delft University of Technology (TU Delft) |
| Juliane Cron | ETH Zurich |
| Chandra Jayasuriya | University of Melbourne |
| Prof. Menno-Jan Kraak | ITC Enschede |
| Dr. Chris Orton | Durham University |
| Prof. Makram Murad-al-shaikh | University of Wisconsin-Madison |
| Dr. Ian Muehlenhaus | University of Wisconsin-La Crosse |
| Dr. Thomas Pinge | Virginia Polytechnic Institute and State University |
| Nick Scarle | Manchester University |
| Mike Shand | University of Glasgow |
| Mike Siegel | Rutgers University |
| Dr. Corné van Elzakker | University of Twente |
| Dr. Martin von Wyss | VW Maps |

4. With gratitude and thanks

Publishing an academic journal is a significant task in and of itself, however, the work that it represents, in terms of the undertakings that individual academics have made in producing their work, is remarkable. I am constantly amazed at the breadth, scope and quality of the papers we publish and you only need to look at our short list for the 2019 Best Map Award to see what this is like. Take a moment to ponder both your own work, and those of your colleagues, to get a sense of the wider academic world we inhabit, the community we foster and the way that we communicate and disseminate our findings.

To this end, the bipartite split of authors–reviewers are at the core of the journal and I and the Editorial Board are immensely grateful for their willingness to participate in such a rich and thriving community. Of course, we are authors and reviewers ourselves, and it is that sense of belonging that encourages us to not only produce our own work but review the work of others and help shape the direction of our subjects through our own work. I would like to formally acknowledge the referees who have given up their time this year – I would normally list them individually to express my gratitude; however a lack of requested permission and in light of European GDPR regulations, this is sadly not possible this year. I am also grateful to the team at Journal of Maps which includes the Associate Editors (Table 1) and those at Taylor and Francis (and in particular Alex Talbot and Andrew Kelly).

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