

Final Report: BSG Working Group on 'Visualising geomorphology: Earth Surface Processes, Landforms and The Arts'

The remit of the Visualising Geomorphology Working Group (WG) is to promote the science of geomorphology through engagement with the arts (broadly defined), and therefore raise the profile of the BSG. The WG was funded for one year initially (Feb 2015-Jan 2016), with funding for a second year (Feb 2016-Jan 2017) then awarded given the demonstration of satisfactory progress. This report is an update on activities undertaken since the progress report submitted in Sept 2015.

An initial list of 12 people was invited to join the WG (8 geomorphologists/Quaternary scientists/geographers, 4 artists), all of whom accepted. Following email discussions about the WG scope and focus, 10 people attended the first meeting (Oxford, June 2015) as outlined in the Sept 2015 progress report. The composition of the Working Group changed slightly beyond this point, with two people who had expressed initial interest not participating further but one additional person becoming involved. Alongside the various activities detailed below, notes from a very productive second meeting (Oxford, June 2016) are appended at the foot of this document, and the Action Points listed have since been undertaken or are in progress.

Progress against the four specific potential outputs proposed at the time of application for the WG is as follows:

i) an annual report for hosting on the BSG web pages

– *the previous progress report (Sept 2015) has been hosted on the Visualising Geomorphology Working Group page on the BSG website (<http://www.geomorphology.org.uk/node/1147>) and this document also will be forwarded for hosting;*

ii) a short 'position paper' for ESPL (ESEX Commentary style)

– *a full draft of a possible paper was circulated to WG members before the first Oxford meeting. Following discussion during and following this meeting, a second draft was circulated to WG members for further comments before submission in May 2016. The paper was accepted after minor revision to figures and is now published (Tooth, S., Viles, H.A., Dickinson, A., Dixon, S.J., Falcini, A., Griffiths, H.M., Hawkins, H., Lloyd-Jones, J., Ruddock, J., Thorndycraft, V.R. and Whalley, B. (2016), *Visualizing geomorphology: improving communication of data and concepts through engagement with the arts, Earth Surface Processes and Landforms*, 41: 1793-1796 (DOI: 10.1002/esp.3990);*

iii) a bespoke exhibition on art-geomorphology collaborations at a future BSG Annual Meeting (potentially Plymouth 2016)

– *an exhibition entitled '7½ Ways In Which The Arts Can Help Communicate Geomorphology' was on display for the duration of the Plymouth 2016 Annual Meeting. The exhibition was based around 12 posters boards, a sound and video loop, and various tactile exhibits that highlighted and illustrated the fertile collaborations that currently exist, or that could be developed, between artists and geomorphologists;*

iv) contributions to larger collaborative meetings (e.g. 'Art, science and the Anthropocene' to be held at Aberystwyth University, Feb 2016), perhaps drawing on outputs from previous relevant Working Groups (e.g. Carbon and Geomorphology, Anthropocene)

– *WG members Ruddock and Tooth organised a meeting entitled 'Strata: Art and Science Collaborations in the Anthropocene' at Aberystwyth University in January 2016) with key contributions (e.g. oral presentations of ongoing projects, readings of poetry and creative writings) also provided by other WG members (Falcini, Griffiths, Whalley). A blog post reflecting on the success of the event and the key themes arising is provided at <https://stephentooth.wordpress.com/2016/01/23/art-and-science-collaborations-in-an-age-of-change/>*

Hence, all four specific outputs have been delivered by the Working Group while remaining within budget. A number of additional activities and outputs have been proposed by WG members (see the Oxford June 2016 meeting notes), with examples including:

i) a proposal by Whalley for a book/web resource on representations of specific landscapes in various art forms (painting, sculpture etc.). A draft book outline and potential chapter structure has been circulated among WG members for comments;

- ii) Griffiths has collated the creative writings that emerged from a landscape tour through the Elan valley in mid Wales prior to the Jan 2016 Strata meeting and written a reflective piece. This has been submitted to *GeoHumanities* as an example of art-geomorphology collaborations that engage with the themes of the Anthro(s)cene;
- iii) Tooth, Smith and Viles have enlisted the help of artist Flora Parrott and prepared a call for contributions to a *Journal of Maps* special issue that will examine art-geoscience interdisciplinary representations of space and place;
- iv) discussions are underway as to the desirability and feasibility of setting up a 'Geomorphology and Art' Wordpress blog as a legacy outcome of the Working Group. Doing so might help to provide a central repository for all the interesting art/science/geomorphology projects that come to people's attention but that can get lost in email trails;
- v) discussions have been held regarding longer term ideas for encouraging art-geomorphology collaborations (e.g. about embedding artists in BSG-sponsored field trips, sponsoring an artist-in-residence and so on). These ideas will be raised with the current BSG Chair (John Wainwright), but the Aberystwyth BSG Annual Meeting in Sept 2018 may be the chance to trial and evaluate some initiatives.

Pursuit of these activities will build upon the foundations established by the Working Group and will help geomorphology and the BSG to benefit from what is a very fertile area of art-science collaboration.

Stephen Tooth and Heather Viles, Dec 2016

Visualising geomorphology: BSG working group

Notes from our second meeting, Oxford, 6th June 2016

Present: Stephen Tooth, Heather Viles, Brian Whalley, Mike Smith, Anna Falcini, Varyl Thorndycraft, Simon Dixon

Apologies: Julian Ruddock, Jessica Lloyd Jones, Ant Dickson, Harriet Hawkins, Hywel Griffiths

We welcomed Mike Smith to the group and made some initial introductions.

We noted that the ESex commentary had been accepted without revisions and thanked Stephen for all his hard work on this paper.

We spent most of the meeting discussing the plans for the exhibition for the BSG annual conference in Plymouth (5th to 7th September 2016). Stephen introduced an updated plan for 10-12 poster boards with some additional exhibits. The posters should be A1 size, portrait orientation (i.e. 60 x 84 cm) and we propose to keep text to a minimum. For most boards we agreed to have 1-2 large images only. Mike suggested that Wikimedia and Image Geo would be good sources of free imagery. Simon suggested we use QR codes to allow visitors to access further information about each board, and Heather suggested we produce a small booklet to go with the exhibition which could contain more examples. We agreed that each of the main boards should have a title (2 words), strapline and suitable quotation to explain the major theme(s).

The main items we discussed and the main action points are listed below:

1. Exhibits

- a. Interactive exhibit of beach pebbles to include some natural and some Anthropogenic (brick, concrete, glass, plastic etc) to accompany board 6. Stephen has already collected some from Aberystwyth and can collect more, and Heather offered to find some from Portland.
Action point: Stephen and Heather to hunt for more pebbles and anthropogenic material.
- b. Julian and Stephen will put together a loop of sound art and video clips to show during the exhibition and accompany board 3.
Action point: Varyl to find fieldwork sound recordings from Iceland to include.
- c. Heather has some 3-D printed boulders (both pristine and after 3 years in the Namib desert) which she will try and find and might make a good exhibit to accompany board 5.
Action point: Heather to find the 3d printed boulders
- d. Brian suggested that Liz Wells at Plymouth might be a good contact re landscape photography (see <https://www.plymouth.ac.uk/staff/liz-wells>) and her books might make a further good display item.
Action point: Stephen to contact Liz Wells.

2. Poster boards

Board 1: Introduction. Stephen has drafted the outline of the text and we agreed on three examples from other science: art collaborations to illustrate the points – i.e. Hull geology and art symposium, Ackroyd and Harvey photosynthesis projects for biology, and Visualising carbon for climatology.

Board 2: Time and history. We agreed that there should be two images on this board – the Lidar image of Willamette river and the map by Harold Fisk of the Mississippi). Further examples could go in the booklet.

Board 3: Process interactions. We agreed that David Nash's experiment should form the main image(s) for this board, with Alex Boreham's flume photographs as second choice if we cannot get permission to use Nash's work.

Board 4: Material flux. We agreed to use Spiral Jetty as the main image(s) if we can either get permission to use photo that Stephen has already found, OR find freely available remote sensing imagery. Mike suggested Robin from Kingston might be interested in latex casting (of Stephen's potholes) – this might be Robin Tarbet – see robintarbet.blogspot.co.uk.

Board 5: Changing form. We propose to use casts of ant colony networks (from Rink et al, 2014) for the main image on this board. SEM images could be used in the booklet.

Board 6: Human influences. We agreed to use the 'painting streets with historical creeks' images from San Francisco for this board. Simon noted that this would chime well with many geomorphologists who might be involved in 'daylighting' projects (which reinstate surface rivers from conduited subsurface flows in urban areas). Anna suggested that David Rowan's photography of culverted Birmingham rivers might also be of interest here. The project is 'dark river' – see <http://www.davidrowan.org/work/the-dark-river/>

Board 7: Uncertain futures. We settled upon the news story about the Borth participatory art project on sand villages as the best one for this board. Anna also suggested Roger Hiorns copper sulphate crystal growths as an interesting alternative (see <https://www.theguardian.com/artanddesign/2013/jun/13/seizure-copper-sulphate-crystals-yorkshire>).

Board 8: Practical applications. The Napa Valley restoration project imagery seems the best choice for this board. Other suggestions also welcome.

Board 9: Partially blank boards (the ½...). We proposed leaving space for comment under the heading of 'how can we use the arts to communicate geomorphological concerns with scale, material, complexity?' We discussed setting up an online forum for longer, more considered responses.

Board 10: Conclusions/ further information: We proposed using one of Stephen's blue/pink LIDAR images under the title 'This is geomorphology, but is it art?' and then having a parallel image from an artist under the title 'This is art, but is it geomorphology?' to draw the visitors' attention to the different modes of engagement between art and geomorphology. Varyl suggested the work of Paul Kenny (see <http://www.paul-kenny.co.uk/gallery.html>) and we will ask Ant, Jessica and Anna to come up with other suggestions. Stephen has already started drafting text for this board.

Action point: Stephen to send round drafts based on these discussions for everyone else's input and suggestions.

3. Booklet

Heather offered to draft a short booklet to accompany the exhibition which would summarise the text in boards 1 and 10, as well as providing more examples of the themes and issues in boards 2-9.

We ended the meeting by discussing future plans and ideas for the group. The main points were:

1. The BSG funding ends in February 2017 but after this meeting and the Plymouth exhibition we will have spent all the funds. We offered to pay the conference fee for some or all of the artists in the group who might be able to attend to the Plymouth BSG (5 to 7th September 2016).

2. We are interested in encouraging the BSG to fund an artist in residence to continue some of the art: geomorphology interactions this group has started.
3. We are also interested in encouraging the BSG to fund a field workshop for artists/ geomorphologists.
4. Stephen would like to involve an artist in the 2018 BSG annual conference which will be held in Aberystwyth.
5. Anna suggested the website Axis art (www.axisweb.org) as a useful source of information about artists who might be keen to collaborate on geomorphology/ art projects.
6. Harriet had proposed a TIBG paper as a follow-up to the ESex paper – and we suggested that she drafted an abstract and circulated it to the group to get the ball rolling.
7. Harriet had suggested a photo essay for the new Geohumanities journal after the exhibition – Stephen will pursue this. An example of a similar type of paper is: Perdita Phillips (2016): Night for Day: Anticipating Environmental Futures Through Contemporary Art, GeoHumanities, DOI: 10.1080/2373566X.2016.1164535
8. Harriet also suggested we apply for an AHRC network grant to continue developing relations between cultural geographers/ artists and geomorphologists under the broad banner of the Anthropocene.
9. Mike suggested offering a session (perhaps a Pico session – see <http://egu2016.eu/pico.html> for further details) for the 2017 EGU (European Geosciences Union).
10. Mike suggested he might be interested in geomorphological contributions to a potential special issue of the Journal of Maps (art: geoscience:geospatial theme).
11. Should we set up a 'Geomorphology and art' wordpress blog as a legacy outcome of the working group?

Heather Viles

6th June 2016 (with revisions from Stephen Tooth, 4th July 2016)