

<b>Institution:</b> University of Oxford
<b>Unit of Assessment:</b> 17B – Geography, Environmental Studies and Archaeology: Geography
<b>a. Context</b>

Research within the School of Geography and the Environment has impacts on society and environment at scales from local to global; on individuals, institutions, businesses, NGOs and governments; through changing awareness and understanding, policy and practice. The School encourages researchers to participate in public engagement via exhibitions, conferences, talks, news media and social media activities. School researchers play active roles in policy discussion on the environment, energy, transport, urban and rural policy, in advising national and international organisations, and in written and oral contributions to government consultations. Many of the School's research projects have a direct impact on practice via enterprise and innovation through partnerships with stakeholders such as business, industry and the public sector.

The beneficiaries of School research include individuals, social groups, households, businesses and communities within Oxford, the UK, Europe and internationally; governments, government departments, agencies and local authorities; businesses ranging from SMEs to multinationals; institutions, research organisations and data providers; and national and international NGOs.

The distinctive strengths and strategic priorities of the School's approach to the impact of its research lies in three main areas: i) research collaborations with non-academic organisations that lead to changes in their behaviour (stakeholder impact); ii) engaging and influencing the public with our research activities and findings (public impact); and iii) research that informs the (re)formulation of the policies and practices of governmental, non-governmental and commercial organisations (policy impact). As illustrated in the impact case studies, which are only a small subset of the School's impact, outcomes include changes to stakeholder practice in heritage conservation; methods of engaging stakeholders and the public in flood management in the UK; improved climate change adaptation by stakeholder organisations, businesses and government departments in the UK and internationally and better public awareness; developing government policy on energy feed-in tariffs, improved REDD+ (Reducing Emissions from Deforestation and Degradation) protocols in Africa, and reconfigured decision-making on transport policy in London and elsewhere.

<b>b. Approach to impact</b>
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The School has had a long-term commitment to developing the impacts of our research, from its inception in 1899. For example, the Radcliffe Meteorological Station has been run by the School since 1935, and its data have been regularly used by the media, insurers and local government. Identifying, facilitating and achieving appropriate research impacts are now driven by aim six of our research strategy as outlined in REF 5. This presents the vision that the School seeks to formulate an approach to identifying and recording research impact that serves our strategic priority of promoting 'world-class' research. Our aim is to enhance distinctive strengths across the School in policy work with governmental and non-governmental organisations, public engagement research practices and methods, and research communications and events promotion. This aim has been realised through four main activities: providing support to help gain funding to enhance and promote research impact, integrating the activities of our three externally-facing research centres with other researchers in the School; encouraging networking within the broader University, and using Visiting Professor and Visiting Research Associate (VRA) schemes to encourage closer links with those outside the University who can help develop the impact of our research.

Support activities to enhance and promote the impact potential of all research are carried out within the School by the Research and Development Officers (who search for, and alert staff to, funding opportunities for impact activities) and Communications Team (who provide support and information for public engagement activities including our social media profile). These activities encourage researchers to seek funding for impact within mainstream grant applications, as well as through specific additional impact-funding sources. As a result, the School has obtained EPSRC Pathways to Impact funding, as well as several awards from HEIF5 (totalling over £500,000 since

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2011). The funding has been used to develop the research impact activities of the School, such as a Climate Knowledge Exchange Research Fellow (Peter Walton, HEIF5) who facilitates climate networking activities in the Oxford Networks for the Environment initiative (ONE).

The second activity helping to promote research impact is the developing integration of the three externally-facing research centres with other researchers in the School. All three centres (Environmental Change Institute - ECI, Transport Studies Unit - TSU, and Smith School for Enterprise and the Environment - SSEE) have mission statements prioritising partnerships between research, policy, and information to tackle societal and environmental challenges. Furthermore, they are experienced in research impact activities covering the full spectrum of stakeholder impact, public engagement and policy-focused research. Since RAE 2008 the Head of School has initiated actions such as joint appointments, Memoranda of Understanding, and strengthened research centre participation in the five school research clusters (see REF 5, p. 4-5 for further information). All these actions have enhanced research impact across the School.

Theme-specific networking activities linking researchers in Geography with others in the University and partners elsewhere, such as the ONE initiative, provide the third major activity encouraging research impact in the School. These networks (and our research clusters) enable established researchers to guide, advise and share best practice with early career researchers, and provide opportunities to meet new non-academic partners. Finally, our Visiting Research Associate (VRAs) and Visiting Professor schemes also encourage partnerships with external practitioners. Of 115 current VRAs, 17 contribute specifically to research impact (13 stakeholder, 6 policy and 1 public).

**Ensuring stakeholder impact:** Stakeholder impact with research carried out in the School has been enhanced by a number of mechanisms. For example, HEIF5 funding has been used to establish a knowledge exchange project (Monitoring and Evaluation for Sustainable Communities) with low carbon community groups in the UK. Several VRAs augment the stakeholder impact of our research: including the Chief Environmentalist at the European Investment Bank (a venture capitalist), the Climate Advisor (resilience) to the President of the Maldives, and the Secretary-General of the Independent Transport Commission. One of our Visiting Professors works for the Met Office and has been instrumental in developing a research partnership with that body. Most of the funded research projects in the ECI, TSU and SSEE have been co-conceived with non-academic stakeholders such as the Infrastructure Transitions Research Consortium (ITRC - EPSRC), and ENHANCE (Enhancing risk management partnerships for catastrophic natural disasters – EU FP7). This approach to research has been enthusiastically taken up by other researchers in the School, with many projects involving stakeholders in the design process.

**Ensuring public impact:** Dedicated impact funding from a range of sources has been used to increase the public impact of research carried out across the School. For example, Roger Street (UK Climate Impacts Programme, part of the ECI) became the NERC-funded LWEC Climate Adaptation Fellow in 2012. EU funding for public engagement activities has been used to establish the BioFresh blog (<http://biofreshblog.com/>), which provides a platform for dissemination of information about life in our rivers and lakes, to understand better, manage and protect freshwaters for generations to come. Public impact activities such as the 'weatherathome' project have been encouraged by research clusters. This project uses Citizen Science to run regional climate models for western USA, southern Africa and Europe, and is underpinned by research carried out in the Climate Systems and Policy research cluster. The 'Oxford Desert Conferences' (2010; 2012) organised by the Landscape Dynamics cluster, provided publicly accessible talks as Apple iTunes podcasts, based on the latest research findings on human environment interactions in dryland areas. The podcasts feature research spanning across the environmental and social sciences. Other public impact-focused projects supported by research clusters include an AHRC-funded project on South Asian women's political participation (Transformations cluster), which established a schools' website and hosted a public conference at the Women's Library in London, in 2011. Finally, mobile/water for development (mw4d) involves researchers across the Technological Natures and Climate Systems and Policy clusters. Funded by DfID, ESRC, and NERC, this project links development policy, technological innovation and public health to improve water security and reduce poverty. Its projects, including smart hand pumps, provide both policy and public impacts.

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The three research centres also support a wide array of public impact activities, such as ClimateXchange in which the ECI partnered schools, businesses, the Women's Institute, religious and rural networks and a computer games company to host 150 events inspiring people to think critically about climate change. SSEE (in partnership with UBS financial services) hosts the 'Smith in the City' evening seminars in London, at which leading thinkers from around the globe address major challenges facing the world's economies. The Smith School's World Forum in Oxford, held annually in 2009-2012, brought together 250 global decision makers and thinkers to explore progress towards global sustainability – the most recent was Re|Source in 2012. The TSU's symposium on 'The future of airport capacity', in November 2011, followed the public lecture by Visiting Professor Sir Norman Foster on 'Heritage and Lessons'. Notable recent individual public impacts include Bradley Garrett's urban explorations/ place hacking media events.

**Ensuring policy impact:** HEIF5 funding has been used to develop 'Global Challenges in Transport' - a set of four short courses run by TSU, that provide the 'rising stars' and leaders of tomorrow with the necessary knowledge, skills and expertise, supported by the latest research, to address the complexity of issues associated with making transport sustainable. The course is fully certified and CPD accredited by the Chartered Institute of Logistics and Transport. Much ECI research is designed to have policy impact. The EU MACIS project, for example, generated research findings, on the value of policies which address climate change and biodiversity loss together, that have been used by the Taskforce responsible for writing the EU White Paper on Adapting to Climate Change. The research centres also enhance policy impact by hosting networks that link researchers, students and practitioners. The Oxford Centre for Tropical Forests (OCTF), for example, hosted by the ECI, is a network for researchers, NGOs, consultancies and businesses in the Oxford area. OCTF facilitates collaborative research and communication on issues related to forest governance, management and conservation, and serves as a platform for broader collaboration between local institutions and the global forest community. Similarly, the OxTran network, run by TSU, enables those interested in transport policy and practice in the Oxford area to engage in a two-way dialogue, publicise events and issues, and disseminate research findings to the wider transport community.

By encouraging researchers to take advantage of the University's 30-day consultancy policy, the School enables participation in policy decisions on an individual basis. For example, our researchers have made clear contributions to the IPCC 5<sup>th</sup> Assessment report (Allen, Banister, Thomas and Washington), UK Government Foresight activities (Hall and Thomas) and House of Lords and Commons enquiries (Lucas, now at Leeds, McDowell and Viles).

### c. Strategy and plans

As a department that conducts original, agenda-setting, research ranging from blue-skies to applied projects, we do not expect all research to have obvious and immediate impacts. As well as the strategies already discussed and listed below, we will continue to encourage researchers in the School to develop external activities that are appropriate to their research.

We are continually seeking ways to maximise the impacts that our research can have beyond academia. We see impact continuing to be an integral element of our research strategy and activity over the next five years, and will target funding to develop a portfolio of stakeholder, public and policy impacts. We will ensure that we make greater use of the support, guidance and training opportunities provided by recent expansions to the central University Knowledge Exchange (KE) and impact team (KEIT), and the Social Science Division's KE team. We will encourage bids to the University's KE Seed Fund, and the new ESRC, NERC, and ES/PRC Impact accelerator funds, recently awarded to the University. Over the next five years, our target is to double the amount of impact funding received over the current census period, spread evenly across stakeholder, public and policy impact areas. In our experience, impact materialises through the development of long-term relationships and shared research objectives with strategic partners. We seek to grow these relationships via mechanisms ranging from co-funded PhDs (e.g. with Arup and Halcrow) to cash and in-kind contributions to joint research and outreach projects (e.g. with Santander and EDF).

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As part of our evolving research strategy, we will also seek to develop the impact-related dimensions of our research clusters and Visiting Associate and Visiting Professor schemes. In addition to the £2k p.a. seed corn funding provided to each research cluster since 2010, we will allocate an annual sum of £10k p.a. to which clusters can bid to ‘kick start’ new impact initiatives. We will particularly welcome applications which propose innovative impact activities related to critical human geography research and long term landscape dynamics research (currently under-represented in our impact portfolio). Furthermore, we will set up a series of workshops (based on advice from University KE teams) to strengthen both the understanding of impact amongst our researchers and increase our range of impact activities. Undoubtedly there is a vast range of impact activity within the five research clusters that is not yet publicised. Our target is to encourage all research clusters to engage fully with research impact, demonstrated by a portfolio of impact activities outlined on each research cluster’s webpages and disseminated via social media. The Visiting Research Associate and Visiting Professor schemes will be reviewed in 2013-14, and funding sought to encourage more applicants from key stakeholder, public and policy communities with demonstrable links to on-going and developing research within the School. Our target is for 20% of our VRAs, and 4 new Visiting Professors from these communities within the next five years.

The three research centres will continue to act as hubs for impact activity, with increased focus on integrating these across the School, building on alumni networks and encouraging commercialisation. ECI aims to develop applied impact through a focus upon sustainable responses to environmental change and delivering insights and evidence of direct relevance to decision makers. This builds on recent projects, such as the partnership with CDKN (Climate and Development Knowledge Network), to foster new agendas for climate and development research and innovation, linking ECI students and researchers with developing country partners. ECI also embeds an orientation towards stakeholder impact in its culture, recruitment and career development procedures. SSEE aims to deepen its engagement with enterprise, through shared research projects, student placement, policy forums and related advisory relationships. SSEE is currently exploring whether to replace or develop its World Forum series, and plans to expand executive education opportunities with TSU. TSU identifies research on public policy and governance as one of its five core themes, and identifies many relevant policy partnerships. The centres will continue to explore further spin-out company developments, following the ECI’s nurturing of Pilio Ltd which promotes up to 40% savings on energy bills through building energy monitoring. The weather analysis data which underpins this company is the most visited research on the ECI website – to date 10,000 companies and organisations have signed up to iMeasure and 2,000 to sMeasure.

#### d. Relationship to case studies

ID	Title	Stakeholder	Public	Policy
01	Reconfiguring policy scenarios in transport			X
02	Engaging communities in flood risk science and management	X	X	X
03	‘Greening’ the conservation of ruined heritage sites...	X		
04	Enabling Climate Adaptation in the UK and Internationally	X	X	
05	Providing the evidence base for conserving tropical forests		X	X
06	Shaping energy efficiency policy...			X

Table 1: Impact case studies and the main types of impact they provide

The case studies demonstrate all three types of impact championed by the School: stakeholder, public and policy (Table 1). They also illustrate the success and strategic development of our approach to impact. Case studies 03 and 04 demonstrate the benefits of the School’s impact funding activities (03 received EPSRC impact and knowledge exchange funding, and 04 led to HEIF5 funding); the success of 01, 04, and 06 demonstrates the impact leadership provided by research centres, and has encouraged increased integration between them and the wider School research community; 01 and 05 link strongly to networking activities (both benefitting from, and contributing to, OCTF and OxTran), whilst 01, 02, 04 and 05 have all led to the appointment of impact-orientated VRAs contributing to the sustainable development of the School’s future research impact.