Announcement of Opportunity: Highlight Topics July 2016

Call launched: 7 July 2016
Closing date: 29 September 16:00

1. Summary

NERC invites proposals for the third round of highlight topics, a route for funding strategic research. Highlight topics focus strategic research on defined topic areas, and will be delivered through independent projects. The highlight topics in this call are:

A. Quantifying "Blue Carbon" ecosystem services and assessing human impacts on coastal carbon assimilation, transfer and storage
B. New insights into space weather impact on UK national grounded infrastructure
C. Genesis of magmatic-hosted ore deposits: A systems approach
D. Modelling and forecasting the Earth's radiation belts
E. Innovative application of big data techniques to natural hazard prediction and risk mitigation

NERC has allocated £9 million to this call and a maximum of £3 million (80% FEC) is available per highlight topic. There are more highlight topics than funding is available for, so that all highlight topics will not, necessarily, result in funded grants. This is to ensure that only the very best research is funded.

A notification of intent to submit a proposal must be sent to researchgrants@nerc.ac.uk by 8 September 2016 16:00. The closing date for proposals is 16:00 on 29 September 2016. Proposals must be submitted via the research councils' Joint electronic-Submissions (JeS) system.

2. Background to the call

NERC's vision is to place environmental science at the heart of responsible management of our planet. NERC's goals are to fund excellent, peer reviewed environmental science that helps us:

- understand and predict how our planet works
- manage our environment responsibly as we pursue new ways of living, doing business, escaping poverty and growing economies

NERC's strategic research funding supports research that addresses some major challenges of the 21st century: benefiting from natural resources, resilience to environmental hazards and managing environmental change.

NERC's funding streams for strategic research enable the environmental science community to play a role in setting priorities for research funding. Highlight topics are a funding stream that focuses strategic research on defined topic areas.

3. Highlight topic scope

The following highlight topics have been selected for this call and are considered to be of equal priority. There are more highlight topics announced than available funding will support, so all topics

will not, necessarily, result in funded grants. This is to ensure effective competition so that only the very best research is funded.

Proposals must address issues within a single highlight topic; proposals addressing more than one highlight topic will not be accepted. Where multiple proposals are invited within a highlight topic, they must be independent projects and it is not anticipated that coordination will be required between projects to achieve their aims.

NERC has allocated £9 million over four years to this call. A maximum of £3 million (80% FEC) is available per highlight topic, but it is not anticipated that all highlight topics specified in this announcement will be funded up to the value of £3 million. Please refer to the individual highlight topic scope for the maximum duration and budget limits per project.

Associated studentships are out of scope for these highlight topics.

The expected start date for projects funded under this Announcement of Opportunity is no later than 1 May 2017.

A. Quantifying "Blue Carbon" ecosystem services and assessing human impacts on coastal carbon assimilation, transfer and storage

Objective

This highlight topic will improve our understanding of the conditions that promote carbon assimilation, transfer and storage in UK coastal vegetated habitats and their associated marine sediment sinks and deliver a robust assessment of the importance of these habitats to the UK in natural carbon sequestration.

Strategic context

The UK Climate Change Act sets out a statutory responsibility to quantify natural carbon sinks as part of the overall carbon accounting process, yet current understanding of carbon transfer and storage in coastal habitats is a barrier to meaningful valuation. In order to maximize the potential for natural carbon sequestration, robust assessments of the role of the UK's coastal vegetated habitats is needed. Assessments commissioned by UK regional governmental bodies have revealed the severe lack of data and process measurement in the UK coastal marine environment. More up to date and comprehensive data is required. It is also important that marine carbon research is linked to our understanding of terrestrial systems because of potentially significant net losses of carbon through rivers to the seas. Improving our knowledge in this area will support the development of national plans to recognise and protect coastal carbon sinks.

Scope

This highlight topic will combine contemporary analytical techniques with targeted, broad-scale ecological sampling in UK coastal vegetated habitats, primarily kelp forests, salt marshes and seagrass meadows, to improve our understanding of the conditions that promote carbon assimilation, transfer and storage in UK coastal vegetated habitats.

Scientific advances

UK coastal vegetated habitats serve critical functions as both repositories for biodiversity and major sources and sinks of assimilated carbon. Consequently, they are likely to play a key role in climate

regulation. The mechanisms underpinning carbon storage, remineralisation and transfer to long-term coastal sediment stores, through UK coastal vegetated habitats are, however, almost entirely unknown. In order to quantify, value, and effectively manage what have been termed "Blue Carbon" ecosystem services provided by the UK's coastal vegetated habitats, this highlight topic will deliver the following scientific advances:

1. A robust assessment of rates of primary productivity within coastal vegetated habitats and the factors that influence primary production.
2. An examination of the carbon pathways within coastal vegetated habitats and linkages between habitats that influence assimilation, transfer and storage. Do some habitats, such as kelp forests, have the potential to act as significant carbon donors to other habitats with a greater potential for long term storage (seagrass meadows, offshore sediments)?
3. An evaluation of the influence of human activities (e.g. fishing, coastal development, depleted water quality) and natural variability in environmental conditions on the capacity of coastal vegetated habitats to sequester organic carbon and thus provide "Blue Carbon" ecosystem services.
4. Terrestrial to marine exchange of carbon may represent a significant loss from terrestrial ecosystems, which are, at least in part, offset by a net gain in coastal sediments, and so an evaluation of these "source to sink" processes and improved understanding of the drivers of change is required.
5. A quantification of the relative importance of terrestrial versus marine primary production to long-term coastal carbon sinks, through development of natural biomarkers and novel analytical techniques to determine accumulation and return flux rates in coastal and offshore sediments.
6. An investigation of management strategies to mitigate the impacts of climate change.

Delivery

This highlight topic should be addressed as a single project up to the value of £3m at 80% FEC (£3.75m 100% FEC) and up to four years in duration.

B. New insights into space weather impact on UK national grounded infrastructure

Objective

This work aims to enhance our geophysical understanding of how the UK near-surface and subsurface responds to severe space weather, information that will ultimately lead to tools for assessing space weather impacts on grounded infrastructure, together with industry and other partners.

Strategic context

Space weather links solid Earth, atmospheric, ionospheric and magnetospheric processes, providing cross-disciplinary research opportunities on a natural hazard now established on the National Risk Register. This highlight topic focuses on rapid, high amplitude geomagnetic field variations, caused by space weather, that drive damaging geomagnetically induced currents (GIC) through conducting infrastructure networks such as power grids, pipelines and railways.

Scope

This highlight topic will respond to evolving industry needs and deliver a step change in GIC modelling capability and accuracy, going beyond the current generation of models. This call focuses on impacts on grounded infrastructure networks; impacts on satellites are out of scope. The HT will

deliver research on ionospheric-magnetospheric current systems close to the Earth, and surface electric fields and solid Earth control on the ionosphere-magnetosphere environment.

Scientific advances

In order to stimulate a new level of scientific knowledge in this field, and create a new generation of world-leading research models with operational value, proposals should address a number of the following research questions, including both ionospheric and magnetospheric processes, and solid Earth controls:

1. Ionospheric and magnetospheric processes

- Under what conditions do sub-storms create intense magnetic variations on the ground, and what are the ionospheric and magnetospheric current systems that drive such variations? What spatial and temporal scales in these magnetic variations are most significant in terms of GIC?
- How do ionospheric electrical currents respond to space weather forcing? How do the morphology and dynamics of current systems change under higher levels of forcing? What are the extremes in ionospheric currents at mid and high latitudes?
- What are the limits to forecasting in the ionospheric-magnetospheric system and what are the implications, e.g. in terms of quantifiable uncertainties in forecasts of GIC in power grids?
- Are there meso- (i.e. UK continental shelf) scale geomagnetic processes that are not resolved by the current UK magnetometer network? Is any such structure related to, or predictable from, larger scale or mean fields? How does any meso-scale structure influence the generation of GIC?

2. Solid Earth processes and structures

- How does the surface electric (telluric) field behave at major shallow and 3D conductivity contrasts during magnetic storms, particularly at the coast where electricity generation is concentrated?
- What is the relative importance of deep (~hundreds of km) and shallow (~few to tens of km) conductivity, and of magnetic variations, on surface electric fields driven by space weather? Under what conditions are those magnetic variations converted into intense geoelectrical fields?
- How do decadal, or longer, changes in the Earth's magnetic field generated in the core influence the structure and dynamics of ionospheric-magnetospheric currents? What are the potential impacts in terms of GIC on grounded infrastructure?

Delivery

This highlight topic should be addressed as a single project up to the value of £3m at 80% FEC (£3.75 100% FEC) and up to four years in duration.

C. Genesis of magmatic-hosted ore deposits: A systems approach

Objective

To develop reliable proxies for distinguishing magmatic rocks associated with mineralization from those that are not, and robust indicators of proximal mineralization from magmatic rocks and/or younger sediments.

Strategic context

The rates of discovery of new metal deposits continue to decrease, the 'easy' deposits have been found, and the production of a number of metals is not forecast to meet demand at current rates of discovery. In 2012 global exploration expenditure was over $20 billion representing a footprint of over 3000 sites. Typically, this effort only results in an average of 20 new deposits per year. A mineral systems approach to magmatic processes that delivers more reliable proxies and indicators for mineralization has the potential to significantly improve regional and district-scale exploration successes, and to reduce the net economic and environmental cost of deposit discovery.

Scope

This highlight topic will focus on subduction-related magmatic and magmatic-hydrothermal systems that contain base and precious metals (Cu, Sn, Au, Ag, Mo, W, Sc, Se, PGE, and Te).

Scientific advances

Recently there have been significant parallel advances in the study of mineral systems and magmatic processes. The next step is the integration of these new approaches to mineral systems, igneous petrology and geochemistry to better constrain the large-scale processes that give rise to known deposits, with a view to identifying conditions that can act as a model for new targets.

The emphasis is on process understanding rather than pattern matching and proposals should address the following topics:

1. The role of redox in determining the onset of crystallization of minerals that extract significant amounts of metals. Selective extraction of metals into specific minerals and immiscible phases (e.g. sulfide melts) can generate enrichments and contribute to ore formation; conversely it can fractionate metals and deplete the resulting magmas. In situ analyses of minerals such as apatite can now be used to chart the evolution of metal contents and redox in selected magmas, allowing us to see how metal contents change as redox-sensitive minerals crystallize.
2. A better understanding of the thresholds responsible for the build-up of volatiles, the triggers of mineralizing events, and the development of pathways. To develop geochemical proxies (e.g. B, Li, S and noble gases) for the build-up of volatiles and the release of mineralizing fluids.
3. The role of source rocks in both the genesis of metal-endowed magmas, and in the origin of metal-bearing brines and gases/fluids.
4. Integrating the minor elements needed for 'high tech' applications, including those classed as 'critical' for large-scale geodynamic models of metallogeny, improving the ability not only to explore for ore deposits but to exploit these resources as by-products.

The expected outcomes are new proxies for distinguishing magmatic rocks associated with mineralization and better indicators of proximal mineralization from magmatic rocks and/or younger sediments.

Delivery

This highlight topic should be addressed as a single project up to the value of £3m at 80% FEC (£3.75m 100% FEC) and up to four years in duration.

D. Modelling and forecasting the Earth's radiation belts

Objective

This work aims to increase our understanding of the satellite environment by assessing the role of wave particle interactions in the acceleration and loss of radiation belt electrons.

Strategic context

We are increasingly reliant on satellites for a variety of applications including telecommunications, navigation, positioning, Earth-observation and defence. The majority of these satellites are exposed to energetic electrons in the Earth's radiation belts. These so-called "killer" electrons damage satellites and can vary by orders of magnitude on timescales as short as hours. The flux of energetic electrons in the Earth's outer radiation belt can vary by orders of magnitude on timescales as short as a few hours. This variability is controlled by wave particle interactions between electrons and a "zoo" of plasma waves. Some are relatively well understood but others need quantifying and/or refining in the light of new knowledge. For example, magnetosonic waves could be very important for electron acceleration in the outer radiation belt (3-7RE) and should be included in radiation belt models. Furthermore, observations show that the wave intensities of three types of radio wave responsible for electron loss in the inner belt and slot region (1.1-3 RE) can be an order of magnitude higher than those commonly adopted in models. The electron loss rates need to be re-examined and quantified.

Understanding and modelling this dynamic environment is essential to help protect our space assets. The results will improve our understanding of near-Earth space and lead to improved radiation belt modelling and forecasting. The results will lead to improved space situational awareness, enabling satellite operators to respond to space weather hazards and facilitate post-event analysis, enabling satellite engineers and insurers to better understand the root cause of satellite anomalies.

Scope

This highlight topic will use new understanding of the role of magnetosonic waves and modern observations of radio wave intensity to quantify and/or refine wave particle interactions that lead to variability in the flux of energetic electrons in the Earth's outer radiation belt.

Scientific advances

Proposals should utilise new wave data from the THEMIS and Van Allen probes satellite missions (alongside other relevant datasets) to address the following fundamental advances in radiation belt physics:

- Quantify the role of magnetosonic waves in electron acceleration to relativistic energies in the outer radiation belt.
- Quantify the role of three types of radio wave (plasmaspheric hiss, lightning generation whistlers and VLF transmitter) on electron loss rates in the inner radiation belt and slot region.

Answers to these questions will enable us to better model and predict the radiation belt environment. Better models of the radiation belts can be used to assess the radiation exposure of satellites where monitoring is sparse or non-existent. The improved model will be particularly important for satellites operating in the slot region (203 RE), such as the O3B satellite network, and the European Galileo satellites in medium Earth orbit. In addition, the improved model will be a powerful tool to help estimate the radiation dose experienced by any given satellite undergoing electric orbit raising to geostationary orbit.

Delivery

This highlight topic should be addressed as a single project up to the value of £3m at 80% FEC (£3.75m 100% FEC) and up to four years in duration.

E. Innovative applications of big data techniques to natural hazard prediction and risk mitigation

Objective

The aim of this work is to transform our understanding of and ability to respond to environmental hazards by delivering more accurate predictions and challenging our understanding of processes through the merger of both structured observation data, and unstructured or qualitative data, with state-of-the-art computational models.

Strategic context

Conventional observing systems tend to be purpose-built, resulting in structured datasets and knowledge of their uncertainty; new systems are now regularly coming online (e.g. the Sentinel missions within the ESA Copernicus programme). However, there are also increasing sources of unstructured data, such as from social media, crowdsourcing and independent sensor networks (e.g. smartphones, CCTV, and cars), which are both intermittent and often of unknown fidelity. Computer model predictions can be used as an aid to long term risk planning (e.g. design specification for flood defences) and in the production of timely event forecasts (e.g. guiding first responders). The incorporation of unstructured data presents a huge opportunity for the reduction of risk from environmental hazards, however current data assimilation, and state and parameter estimation methods are not equipped to deal with these data. The challenge is to develop new approaches that could allow a step change through new techniques using qualitative, quantitative, and social media data together that are not currently applied by the environmental science community.

Scope

The nature of this research is fundamentally interdisciplinary, requiring scientific expertise in specific natural hazard applications (e.g. meteorology, space weather, hydrology, and ecology), and “big data” scientists with expertise in structured and unstructured data. To allow a step change, the work should focus on the application of “big data” to a particular natural hazard problem through new techniques using multiple sources of data (for example qualitative, quantitative, and social media data) together that are not currently applied by the environmental science community.

Scientific advances

Quantitative use of unstructured data is needed alongside conventional observations. A particular problem posed by such opportunistic datasets is that the data quality is not homogeneous and may

be qualitative rather than quantitative. Hence, new methods for characterizing and treating errors are vital for comparison of observations with models.

The scientific innovations required include:

- The application of "big data" methods to carry out raw observation quality control and uncertainty estimation, including ways to deal with lack of homogeneity in data quality. Such techniques are necessary to provide a degree of confidence in the data.
- The application of "big data" methods to estimate uncertainty in observation-model comparisons, including spatial and temporal correlations and errors due to mismatch in the scales represented by the model and observations.
- The application of "big data" methods for state estimation, parameter identification and model structure selection (e.g. choice of parametrization) suitable for use with large, complex models. Such methods must cope with data intermittency, heterogeneity and be fast enough for practical use. They should use ideas from "big data analytics" developed in other contexts.
- To test the practicality of these advances, a cross cutting component of the work should develop application specific research and demonstration systems, including new methods to quantitatively compare environmental models with indirect "big data" observations, which may require the use of new techniques such as image processing or behavioural modelling to allow information to be inferred from indirect observations.

Both the models and datasets are large, requiring the use of fast computational algorithms for practical use. For example, observations may be assimilated to evaluate model performance; choose model structures or parameter values and estimate the state of the real system to keep predictions on track. This research would establish the evidence base for future policy, such as how to adapt monitoring networks to work alongside "big data" and provide the best value for money.

Delivery

This highlight topic will support up to two projects, each funded up to the value of £1.5m at 80% FEC (£1.875m at 100% FEC) and up to four years in duration. Each project should focus on the innovative application of "big data" to a particular natural hazard problem.

4. Governance and management

Governance

Each funded project will be governed and managed as a single project by the Principal Investigator. NERC does not require joint governance of multiple projects within a highlight topic.

Reporting requirements

As set out in Section G of the NERC Grants Handbook[1], successful projects are required to submit annual reports of Outputs and Performance Measures (OPMs) and a Final Expenditure Statement. For strategic research investments, including successful highlight topic grants, NERC additionally requires biannual progress reports.

[1] http://www.nerc.ac.uk/funding/application/howtoapply/forms/grantshandbook.pdf

Data management

All NERC proposals require an Outline Data Management Plan to identify data sets of long term value that should be made available to NERC data centres for archiving and reuse at the end of the grant. Full details on data management planning are available on the NERC website[2].

Knowledge exchange and impact

All NERC proposals should be accompanied by a Pathways to Impact document. There is a requirement to identify the target communities/stakeholders, consider how these various groups/individuals are likely to benefit from (or be affected by) the research, and create a plan to engage with them which is appropriate and goes beyond communication, timely and happens early in the design stage. Full details on NERC policy relating to Pathways to Impact are available on the NERC website[3].

5. Application process

How to apply

Applicants are encouraged to contact the NERC office at an early stage to discuss any questions on call procedures. The Research Grants Team (researchgrants@nerc.ac.uk) acts as the first point of contact for highlight topic grant proposals. Scientific and remit queries should be emailed to highlighttopics@nerc.ac.uk.

A notification of intent to submit must be emailed to researchgrants@nerc.ac.uk **by 8 September 2016 16:00**. Tell us the topic you plan to apply against, the institutions, investigators and project partners that are expected to be involved and include a title and abstract of your planned work. The abstract should be a maximum of **1** side A4, including references, in minimum font size 11 point (Arial or other sans serif typeface of equivalent size), with margins of at least 2cm. The abstract will not be assessed, but NERC will use the information to plan the proposal assessment. Full JeS proposals submitted without a prior notification of intent will be rejected.

The format of highlight topic proposals follows the guidance for discovery science large grant full proposals (with exceptions detailed in this document for the maximum budget and associated studentships) and is in Section F of the research grants and fellowships handbook. Submission of an outline proposal is not required for the highlight topic call (a notification of intent is required).

Full proposals must be submitted using the Joint electronic-Submissions system (JeS). Please select Document Type - 'Standard Proposal', Scheme - 'Directed' and the appropriate highlight topic call based on the call closing date e.g. Strategic highlight topics SEP16. Note there is one call for all the topics and not separate calls for each topic.

The highlight topic being addressed should be clearly indicated in the first line of the objectives.

Applicants must ensure that their proposal is received by NERC by 4pm (16.00) on the closing date. The JeS system will close at 16.00 and proposals will not submit to NERC after that time. They should leave enough time for their proposal to pass through their organisation's JeS submission route before 16.00 on the closing date. Any proposal that is incomplete or does not meet the eligibility criteria of NERC will be rejected and will not be considered.

[2] http://www.nerc.ac.uk/research/sites/data/dmp/
[3] http://www.nerc.ac.uk/funding/application/howtoapply/pathwaystoimpact/

For highlight topic proposals the following should be submitted to NERC via the JeS system:

Document/attachment type	**Requirements**
Proposal Form	JeS proforma.
Case for Support	Comprising a common Previous Track Record incorporating all Research Organisations involved (up to **3** sides A4), a common Description of the Proposed Research (up to **16** sides A4 including all necessary tables, references and figures) and a Description of the Proposed Management Structure and plans, participant responsibilities, and scheduling chart. (up to **2** sides A4).
Outline Data Management Plan (ODMP)	Up to **1** side A4.
Justification of Resources	Up to **4** sides A4 for all Research Organisations in the proposed grant, including justification for items of equipment between £10,000 and the OJEU threshold. It should also include full justification of all sea-time and facility costs (excluding HPC) included as estimates on proposals. Use of ARCHER should be included as an estimate in Million Allocation Units (MAUs).
C.V.	CVs are required for named research staff (including Researcher Co-Investigators), Visiting Researchers, all Principal and Co-Investigators named in the proposal (up to **2** sides A4 for each CV). There is a JeS validation requiring the same number of CVs as named investigators and researchers on the proposal.
Pathways to Impact	Up to **2** sides A4.
Project Partner Letter of Support	From any named Project Partners (up to **2** sides A4 each). There is a JeS validation requiring the same number of attachments as Project Partners.
Letter of Support	Letters of support should generally be from Project Partners and attached as above. No further letters of support should be attached, except in exceptional cases where permission has been received from researchgrants@nerc.ac.uk. Letters of support can only be attached to the lead proposal.
Facility Form	Use only for application forms for Ship-time/Marine Equipment (SMEs requiring costing must be submitted by **11 August 2016**), Antarctic Logistics Support (preliminary logistics requests must be submitted to BAS by **22 July 2016**), and for High Performance Computing (HPC) when use of ARCHER exceeds 160MAU (in any one year).
Technical	Mandatory for any NERC Facility selected on the JeS proforma

Assessment	except those listed in the previous row. The full list is at: http://www.nerc.ac.uk/research/sites/facilities/apply/facilities-requiring-technical-assessment.pdf. The attachment should include a quote from the relevant facility (request by **29 August 2016**).
Equipment Section attachments.	Under the Equipment Section there is a JeS validation requiring three quotations for each item of equipment requested over £25K and a Business Case (up to **2** sides A4) is required for equipment requests over the RCUK equipment threshold limit (see paragraph 151 of the research grants and fellowships handbook).
Other attachment	This attachment does not go out to reviewers and should not be used, except where a Head of Department is required to confirm the eligibility of one or more of the Investigators (this will be an internal document for NERC). If the document does not fit within any of the attachment types above, it probably should not be submitted. Contact researchgrants@nerc.ac.uk if unsure.
Proposal cover letter	This attachment does not go out to reviewers, so should not be used except to flag up a significant issue to the NERC Office (e.g. a request not to use a certain reviewer, a potential conflict of interest).

There is no limit to the number of component Research Organisations requesting direct funding on highlight topic grants, but the minimum sum that can be awarded to an individual Research Organisation in a joint proposal is £65,000 (100% FEC). There is no JeS system validation for the upper limit and any grant proposal (including all components) received that exceeds the maximum funding limit for the specific highlight topic will be rejected by NERC. The specified funding limit for each highlight topic area includes all NERC facilities costs (except HPC).

For joint highlight topic proposals (with more than one component), applicants should follow the guidance in the section F of the Grants Handbook, which explains which parts of the proposal form must be submitted by all components or individual components.

All attachments, with the exception of letters of support and services/facilities/equipment quotes, submitted through the Je-S system must be completed in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case.

The correct attachment type should be used in JeS as that determines whether attachments are visible to reviewers and/or moderating panel members. Letters of support must be on headed paper and signed/dated. Attachments must not exceed the page limits specified for the attachment type and scheme, regardless of the number of component Research Organisations. Attachments should be converted to PDF and checked prior to attaching to the proposal in JeS, as PDF conversion of documents with any non-standard fonts (scientific notation, diagrams etc.) can result in changes, such as missing data or increased document length.

No associated studentships can be requested under this highlight topic call.

The expected start date for projects funded under this Announcement of Opportunity is no later than 1 May 2017.

Eligibility

Normal individual eligibility applies and is in Section C of the NERC research grants and fellowships handbook. Research Organisation eligibility rules are in Section C of the handbook. Independent Research Organisations (IROs) must be eligible for NERC Managed (Strategic Research) Mode: (http://www.rcuk.ac.uk/funding/eligibilityforrcs/).

Investigators may be involved in no more than two proposals submitted to this call (not per highlight topic) and only one of these may be as the lead Principal Investigator.

6. Assessment process

Full proposals will undergo expert peer review (see the pre-award assessment process and minimum/optimal review levels of grants). Applicants will have the opportunity to respond to reviewer comments before consideration by the highlight topic grants moderating panel, that will allocate final scores and rank proposals based on research excellence and fit to scheme of the scientific objectives (the appropriateness of the research proposed for the highlight topic; this call does not assess non-scientific objectives). The moderating panel will also examine the strength of the management arrangements, resources and whether the pathways to impact proposed are appropriate.

The moderating panel will be comprised of Peer Review College members, augmented if necessary by relevant experts from outside the College. The aim will be to use at least half from the core membership of the Peer Review College (expertise and conflicts of interest allowing).

NERC will use the recommendations of the moderating panel along with the overall call requirements and the available budget in making the final funding decisions. The highest ranked proposals will be funded, irrespective of the highlight topic to which they apply. However, the funding limit specified for each highlight topic will be applied. If the budget is not fully allocated using this approach or more funds are available, NERC may choose to fund additional high quality proposals from the ranked list.

7. Timetable

- Announcement published: 7 July 2016
- Notification of intent due: 8 September 2016 16:00
- Deadline for submission of full proposals: 29 September 2016 16:00
- Moderating panel meets: February 2017
- Latest start date for projects: 1 May 2017

8. Contacts

For eligibility and peer review queries, please contact researchgrants@nerc.ac.uk. For scientific and remit queries, please contact highlighttopics@nerc.ac.uk.