## Pushing the Frontiers – pilot call

| **Closing date** | 21 July 2020  
| **Call opens in JeS on 10 March 2020** |
| **Funding available** | £10m total budget.  
| **Up to 5 grants to be awarded. Individual proposals can request up to £2m (at 100% FEC).**  
| **Costs for Ship and Marine Equipment (SME) are not included in the £2m limit and NERC will consider exceptional cases for exceeding the £2m limit.**  
| **Update April 2020 – NERC will pay 100% of any agreed equipment costs** |
| **Funding mode/stream** | Discovery Science |
| **NERC Core or UKRI/Collective Fund budget** | NERC Core budget |
| **Project duration** | Grants awarded under this scheme can be for a duration of up to 4 years. |
| **Funding partners (if applicable)** | None |
| **Start date requirements (if applicable)** | Latest start date for projects is 1 July 2021 |
| **Call aims and objectives** | NERC invites proposals from the most outstanding individual researchers at the cutting edge of environmental science to pursue curiosity-driven, ambitious, high-reward research in the environmental science domain.  
| **Researchers are invited to submit proposals that will push the frontiers of knowledge and lead to ground-breaking, innovative scientific discovery. Grants will be awarded to an individual (Principal Investigator), who can use the funds flexibly to involve other investigators and researchers as the research requires.**  
| **Through this scheme, NERC wishes to fund outstanding individuals who can demonstrate a capability to deliver risky, ground-breaking science. This scheme welcomes applications from Early Career Researchers (ECRs). Applicants can apply as an ECR if at the closing date of the call, they are in post less than 5 years from the start of their first permanent position. Applicants can also apply from when they have an in-principle offer of a permanent position, which will enable individuals who are undertaking fellowships to be eligible as an ECR for this call from a point where they are offered a permanent position, if sooner. The 5 years excludes career breaks and the applicant can have received other grant funding.** |
| **Eligibility criteria** | NERC individual eligibility criteria applies as found in the Grants Handbook. |
For this pilot, organisations can submit up to two proposals to the closing date on **21 July 2020** (except where their organisation quota is one, when they can submit up to one). One of the two proposals must be from an ECR and the proposals count towards the organisations demand management quota.

<table>
<thead>
<tr>
<th>Call specific requirements</th>
<th>None</th>
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<tbody>
<tr>
<td>Studentship or Training Opportunities</td>
<td>None</td>
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| Contact | Pushingfrontiers@nerc.ukri.org  
Victoria Wickens 07525 906284  
Or  
Avril Allman 01793 411665 |
Pushing the Frontiers Scheme

Issued on: 28 February 2020

Full Proposals deadline: 4pm on 21 July 2020

Call opens in JeS on 10 March 2020

NERC invites proposals from outstanding individual researchers in the environmental science domain to submit proposals that will push the frontiers of knowledge and lead to ground-breaking, risky, innovative scientific discovery. Up to £10 million is available to fund up to 5 awards for a period of up to 4 years.

Introduction

In understanding the environment and human interactions with it, NERC-funded scientists are preparing the evidence-base and delivering the discoveries that will shape tomorrow. As the planet continues to change, question-driven research is fundamental in driving breakthroughs at the frontiers of current knowledge. These breakthroughs underpin and generate the solutions for the world’s most complex challenges.

NERC invests in the most excellent science and innovation to ensure we maintain the UK’s breadth of expertise and are prepared for unknown challenges of the future. As part of reforming our business we wish to make it easier to explore the frontiers of knowledge and run with risky science that leads to step-changes in knowledge.

As such, NERC will pilot a new initiative in the responsive mode in 2020: Pushing the Frontiers. This investment will support our very best individual researchers to push the frontiers of knowledge with ground-breaking, risky, innovative scientific discovery. The projects will be funded via a streamlined process, with focus on the proposed transformational research (5 pages), and the skills and track record of the individual (2 pages). We welcome adventurous proposals from the full breadth of environmental sciences that advance our understanding of the Earth system.

Scope

This scheme will support researchers’ curiosity and imagination to enable discoveries that unlock new knowledge with a degree of adventure previously unrealised. We are seeking to invest in our best environmental scientists to be truly adventurous, ambitious and we will enable them to pursue curiosity-driven, high-risk, high-reward projects.

The research project must address a significant environmental science question but NERC welcomes applications from Principal Investigators (PIs) that can demonstrate a capability to collaborate with experts from other disciplines to generate innovative research. Such disciplines may be, but are not limited to, physical, biological, social, and medical sciences, and engineering, law, business and economics.

The PI will be the only applicant and is expected to commit a minimum of 40% FTE (average of 2-days per week) over the duration of the award. However, the funding can be used to pay for other investigator and researcher time (within NERC eligibility rules). These individuals may not all be known at the grant proposal stage and the focus of the assessment process will be on the PI. As the project develops, the PI can involve other collaborators as required to enable them to deliver the research project.

Support for early career researchers (ECR)

This scheme welcomes applications from Early Career Researchers (ECRs). For this call, the definition of an ECR differs to that of New Investigator for the Standard Grant call. Applicants can apply as an ECR if at the closing date of the call, they are in post less than 5 years from...
the start of their first permanent position. Applicants can also apply from when they have an in-principle offer of a permanent position, which will enable individuals who are undertaking fellowships to be eligible as an ECR for this call from a point where they are offered a permanent position, if sooner. The 5-year period is excluding career breaks and the applicant can have received other grant funding.

Applicants should say they are applying as an ECR in the first line of the track record section to enable NERC to consider their application appropriately. The initial stage will involve two assessment panels: one for ECRs and one for established PIs. The host organisation will be expected to provide a letter detailing their commitment to support both ECRs and established PIs (including ensuring they have the time to lead the project and infrastructure to implement the research). This letter of support will only be requested for those applicants that are shortlisted at the first panel stage and will form part of the documentation for the interview panel discussion.

### Application Process

NERC is piloting a different approach to proposals for this call from the Standard Grant process that will run alongside (July closing date). Please see the Annex A for full information on attachments.

We are asking applicants to submit a maximum 7-page case for support:

- 5-page outline of their proposed research project - including all necessary tables, figures and references, highlighting the ground-breaking, transformative, high-risk, high-reward nature of the proposed research project.
- 2-page track record and capability to deliver - demonstrating the ability of the PI to conduct ground-breaking, innovative research and their scientific expertise and capability to successfully execute the project. Where relevant, applicants should say they are applying as an ECR in the first line of the track record section. The track record should be a narrative explaining the applicant’s suitability to undertake and deliver high quality, innovative science. The assessment process will consider the applicants ideas and contribution to their field of science, relative to career stage, and not be based on metrics (publications, income, etc). The applicant should also demonstrate their capability to advance the careers of others.

This should be captured and submitted in the ‘Case for Support’ form using the Research Councils’ Joint Electronic Submission system (JeS).

The proposal should include an estimated high-level costs summary, which will not be considered as part of the assessment process. Successful projects will provide some more detailed costings after a decision has been made.

The call opens in JeS on 10 March 2020.

Applicants should select Proposal Type - ‘Standard Proposal’ and then select the Scheme – ‘NC&C’ and the Call – ‘Pushing the Frontiers’. The call will close on JeS at 4pm on 21 July and it will not be possible to submit to the call after this time.

Applicants should leave enough time for their proposal to pass through their organisation’s JeS submission route before this date. Any proposal that is incomplete, or does not meet NERC’s eligibility criteria or follow NERC’s submission rules (see NERC Grants Handbook), will be office rejected and will not be considered.

The latest start dates for projects funded under this Announcement of Opportunity is 1 July 2021.
**Assessment Process**

The assessment process for this pilot involves four stages:

1. **External peer review.**
2. **Initial office sift of uncompetitive proposals.** For the remaining proposals, the reviews will go out for PI response.
3. **Shortlisting panels:** panel assessment will involve two panels, one to consider proposals from ECRs and the other to consider proposals from established PIs.
4. **Interview panel:** a single panel, with some cross-representation from the shortlisting panels, will consider the top ranked applicants from the two shortlisting panels. The panel will involve a discussion with each applicant.

Proposals will be sent out for external peer review by members of the NERC Peer Review College and selected other UK and international experts. Proposals will be scored against two criteria: i) Research Excellence; ii) Applicant track record and capability to deliver.

Each proposal will receive a score from the reviewer from 1-3, where 1 is non-competitive and 3 is outstanding for both elements of the assessment.

Proposals with consistently low scores will be sifted out by the NERC office and will not be taken forward for PI response or panel assessment.

For the remaining proposals, the applicants will be given the opportunity to provide a written response to peer review comments prior to panel consideration. The panels will be assessment (not moderating) panels and members can contribute their own judgements into the panel discussion based on all the information in front of them (proposal, reviews and PI response).

The top ranked applicants from both panels will go forward to further assessment by a single interview panel. Shortlisted applicants will be required to submit a supporting letter from their host organisation prior to the interview panel, to confirm how the organisation will provide them with appropriate support, and the infrastructure to support the research exists.

The outcome of the interview panel meeting will be a final score expressed as either:

- **3 - Outstanding is of excellent scientific quality and high capability to deliver;**
- **2 - Excellent is of high scientific quality and capability to deliver;**
- **1 - Interesting/non-competitive is insufficient quality and/or capability to deliver.**

The Interview Panel will make a funding frame recommendation to the Executive for final decision with due consideration to career pathway and diversity and inclusion.

Feedback will be provided to all applicants that proceed to the assessment panel.
Assessment Criteria:

Reviewers and panel members will base their assessment and scores (1-3) on the following criteria:

Research Excellence

- To what extent does the proposed research address an important environmental challenge, and involve objectives that are ambitious and beyond the state-of-the-art (e.g. novel concepts and approaches or development between or across disciplines)?
- To what extent does the proposal push the frontiers of knowledge and lead to ground-breaking, high-risk, high-reward, innovative scientific discovery?
- To what extent is the outlined scientific approach feasible, bearing in mind that the proposed research is high risk/high gain?

Applicant Track Record and Capability to Deliver

- To what extent has the PI made an outstanding contribution to the generation of ground-breaking, new ideas and hypotheses and demonstrated the key skills required to do this?
- To what extent does the PI provide evidence of visionary independent thinking?
- To what extent has the PI demonstrated outstanding expertise and capability to successfully execute a project as an individual, and through supporting the advancement of colleagues?

Timetable

- Announcement published: 28 February 2020
- Webinar 1 11 March 2020
- Webinar 2 6 April 2020
- Deadline for submission of full proposals: 21 July 2020
- Shortlisting panels meet: December 2020
- Interview panel meets February 2021
- Latest start date for projects: 1 July 2021

Contact

For all enquiries, please contact Pushingfrontiers@nerc.ukri.org

Victoria Wickens 07525 906284

Or

Avril Allman 01793 411665
ANNEX A – ANNOUNCEMENT OF OPPORTUNITY – FULL DETAIL

Eligibility

For this pilot, organisations can submit up to two proposals to the closing date on 21 July 2020 (except where the organisation quota is one, when they can submit up to one). If submitting two proposals, one of the two proposals must be for an early career researcher. NERC will only accept a maximum of one proposal per organisation for an established researcher. The proposal will count as a submission for the organisation under the Demand Management calculation (alongside the proposals submitted to the July 2020 Standard Grant round). Organisations can decide to which competition (if any) they want to submit their quota of proposals (for example, an organisation with a quota of two proposals could submit one to this call and one to the July Standard Grant round).

The PI will be the only applicant and in that respect the scheme is supporting an individual - the grant cannot be transferred to another PI (except under exceptional circumstances as agreed with NERC).

The proposal can include funding for co-investigator (Co-I) equivalents. NERC would not expect the funding for any individual Co-I equivalent to be more than 25% of the time commitment from the PI (which should be at least 40% FTE). Normal NERC individual eligibility applies. The grant can fund collaborators from other eligible organisations as detailed in Section C of the NERC research grant and fellowships handbook and the UKRI website.

Any subsequent changes to NERC co-investigator funding eligibility during the duration of the project would apply from the date that the policy is implemented. Therefore, individuals and organisations could be funded from the grant from that point onwards, as appropriate.

Detailed information on project partners is not required in the proposal. The involvement of any key project partners can be explained briefly in the case for support, where required. The normal rules would apply on subsequently funding project partner involvement through successful grants.

Programme requirements

Programme funding

£10m is available to fund five grants (with a maximum duration of four years) at a maximum cost per grant of £2m (at 100% FEC). Grants would be funded at 80% FEC (with the normal exceptions – any justified equipment would be funded at 100%). Costs for Ship and Marine Equipment (SME) are not included in the proposal and would be on top of the £2m limit.

NERC will consider exceptional cases for exceeding the £2m limit. The process for applying for exceeding the £2m limit is the same as for Standard grants (see Section B, paragraphs 14 to 17 of the Research Grants and Fellowships handbook). The funding limit will only be extended in exceptional cases. For this call, a case for exceeding the maximum limit must be submitted to researchgrants@nerc.ukri.org by 22 June 2020 at the latest and you should receive a decision within 10 working days.

Funding for training activities and/or PhD studentships is not an eligible cost on these grants. The latest start date for projects funded under this Announcement of Opportunity is 1 July 2021.
Application process
The proposal should consist of:

<table>
<thead>
<tr>
<th>Document/attachment type</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>Proposal Form</td>
<td>Je-S pro-forma</td>
</tr>
<tr>
<td>Case for Support</td>
<td>Comprising:</td>
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<tr>
<td></td>
<td>• Description of the Research Project (up to 5 sides A4 including all necessary tables, figures and references). To highlight the ground-breaking, high-risk, high reward nature of the research project.</td>
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<td></td>
<td>• Track Record (up to 2 sides A4) – in particular, demonstrating the ability and track record of the PI to conduct ground-breaking, innovative research and that they have the capability to successfully execute the project.</td>
</tr>
<tr>
<td>Technical Assessment/Facility form/Quote</td>
<td>Where relevant, applicants should submit relevant facility quotes with the proposal. The quotes will not be made available to reviewers or panels. If required, a blank document can be attached to pass the system validation, in which case, any successful applicants will need to provide the quotes to NERC before grants are awarded.</td>
</tr>
<tr>
<td>Proposal Cover Letter</td>
<td>This attachment does not go out to panel members, 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). This attachment should be used to declare any relevant interests.</td>
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Other attachments are not required and should not be attached

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<thead>
<tr>
<th>Document/attachment type</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Justification of Resources</td>
<td>Successful applicants will be asked to provide NERC with more detail before award, to enable NERC to manage costs for Services and Facilities use and requests for equipment.</td>
</tr>
<tr>
<td>CV</td>
<td>The PI should provide relevant information in the track record section of the case for support.</td>
</tr>
<tr>
<td>Outline Data Management Plan (ODMP)</td>
<td>Successful grant holders will be required to produce a full data management plan working with the relevant NERC data centre.</td>
</tr>
<tr>
<td>Project Partner Letter of Support</td>
<td>The involvement of any key Project Partners can be explained briefly in the case for support, where required.</td>
</tr>
<tr>
<td>Letter of Support</td>
<td>Not required and no letters of support should be attached.</td>
</tr>
<tr>
<td>Equipment Section attachments</td>
<td>Successful organisations should ensure they meet all procurement rules when purchasing equipment funded from NERC.</td>
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</table>
The Case for Support attachment 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. Applicants referring to websites should note that referees may choose not to use them.

Applicants should ensure that their proposal conforms to all eligibility and submission rules, otherwise their proposal may be rejected without peer review. More details on NERC’s submission rules can be found in the NERC research grant and fellowships handbook and in the submission rules on the NERC website.

Please note that on submission to council ALL non-PDF documents are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document. Additionally, where non-standard fonts are present, and even if the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc), the document should be converted to PDF prior to attaching it to the proposal.

No associated studentships can be requested under this call.

Data Management

The NERC Data Policy must be adhered to, but an outline data management plan is not required at the proposal stage. Successful grant holders will be required to produce a full data management plan working with the relevant NERC data centre. NERC will pay the data centre directly for archival and curation services, but applicants will need to fund the costs of preparation of data for archiving by their research team from the flexible grant budget.

Knowledge Exchange and Impact

No ‘Pathways to Impact’ summary or separate attachment is required. Environmental research can have wide benefits for society and applicants should consider how they will or might achieve impact outside the scientific community as part of the research project. The flexible grant budget can be used to fund appropriate impact activities

NERC Facilities

Prior to submitting a proposal, applicants wishing to use a NERC service or facility must contact the facility to seek agreement that they could provide the service required and get a quote for the work required. A full list of the Facilities can be found on the NERC website. The costs for the service or facility (excluding NMF and HPC costs) must be included within the Directly Incurred Other Costs section of the Je-S form and also within the facilities section of the Je-S form. Further information on NERC services and facilities can be found on the NERC website.

Applicants should submit the facility quote(s) with the proposal. The quotes will not be made available to reviewers or panels. If required, a blank document can be attached to pass the system validation, in which case, any successful applicants will need to provide the quotes to NERC before grants are awarded (so the relevant costs can be removed from the grant).

Applicants wishing to use NERC’s marine facilities must complete an online Shiptime and Marine Equipment (SME) or Autonomous Deployment (ADF) application form on the Marine Facilities Planning webpage. The SME/ADF number should be included on the Je-S grant proposal form under Services and Facilities. Completed SMEs/ADFs should be submitted by **22 June 2020** and approved by NERC Marine Planning by the time the proposal (Je-S form) is submitted. Failure to do so may result in the request not being considered for inclusion in
the NERC Marine Facilities Programme. Applicants intending to apply for NERC’s marine facilities should also contact marineplanning@nerc.ukri.org to discuss shiptime and equipment needs as soon as possible.

**British Antarctic Survey Antarctic Logistics Support**

Applicants requiring NERC British Antarctic Survey Antarctic Logistics Support must complete a Pre-award Operational Planning Support Questionnaire (OSPQ). This is an online form. Applicants must email the Polar Funding Office (PFO) at BAS (afibas@bas.ac.uk) stating their name, institution and proposal title. The PFO will set up a new, numbered Pre-award OSPQ and send the link to the applicant along with instructions for completion. The deadline for Pre-Award OSPQs to be submitted is **22 June 2020**. Any funding applications that request Antarctic logistic support without having received prior logistic approval will not be awarded.

**Programme management**

Grant holders awarded through this call will not be required to work with other grant holders in a co-ordinated way.

**Reporting requirements**

Successful applicants will be required to report research outcomes on ResearchFish in line with standard UKRI Terms and Conditions. This is required annually and continues for up to five years post grant end.

For the purposes of evaluating this pilot, NERC additionally requires biannual progress reports. These should include details of co-investigator equivalents being supported from the grant. NERC may also visit successful award holders and/or invite award holders to present to NERC boards.

**Project Finances**

Successful grants would be awarded with a flexible grant budget. The project finances will not form part of the assessment process. No other investigators or researchers should be named. The JeS proforma should include a high-level costs summary only to include:

- The percentage of the PI time on the grant (minimum 40%), generally under Directly Allocated (DA) staff.
- An estimate of Directly Incurred (DI) staff for co-investigator equivalents. Any individual should only be funded for up to 25% of the time commitment of the PI, but more than one individual may be funded from the grant. (Under the researcher heading, add one post of investigator and a total notional amount of time and notional salary).
- An estimate of Directly Incurred (DI) staff for researcher effort. (Add one or more unnamed researcher posts)
- Associated Indirect costs and Estates costs, based on the numbers above.
- An estimate of DI T&S and Other costs. The only individual items that should be listed are NERC Services and Facilities costs.
- Any equipment (over £10k) requests. **Update April 2020 - The normal expectation for a 50% contribution from the organisation does not apply and NERC will pay for 100% of any justified equipment.**
- DI costs should include an estimate of likely NERC Service and Facilities use (except NERC Marine Facilities - NMF). For successful grants, a proportion of the DI funds (based on the S&F estimate) will be retained by NERC.
- Any NMF costs will be calculated for successful proposals and funded outside the £2m budget cap.
Grants will be funded at 80% Full Economic Cost, with the exception of equipment (100%). Where applicable, funding for eligible international collaborators (currently IIASA) should be as detailed on the NERC website.

NERC will consider requests for subsequent virement of costs between DA and DI fund headings as required as the project progresses.

Applicants are advised to consult their institutional finance officers when completing the financial parts of the application. All costs should be in pounds sterling (£/GBP).