

## Request for Proposal:

# Simulation Catalogue – Forecasting Tipping Points

05 September 2025

v1

## SECTION 1: THE REQUIREMENT AND CONDITIONS

### INTRODUCTION

We are pleased to invite you to take part in this Request for Proposal (RFP).

Launched in January 2023, ARIA is a Research & Development (R&D) funding agency designed to take bold bets that complement and amplify the UK's world-class research ecosystem. We fund transformative science and technology capabilities that will benefit the UK and help humanity thrive.

This RFP seeks proposals from organisations or individuals to create a catalogue of earth system model simulation outputs in support of the modelling teams within ARIA's [Forecasting Tipping Points](#) programme. The desired outcome is to have a centralised catalogue that modelling teams can access to aid in the discovery of potential early warning signals from simulation data.

### THE REQUIREMENT (THE "SERVICES")

ARIA's Forecasting Tipping Points programme aims to enhance our climate change response by developing the scientific framework of an early warning system for climate tipping points. The programme includes 26 projects spanning 3 technical areas, from the development of new sensing systems, to fieldwork measurements, to modelling activities to predict the onset of future abrupt changes in the climate system. These teams are working collectively to establish whether an early warning system is possible and define how it could operate in an affordable, sustainable and justified manner to provide trustworthy and actionable outputs for key stakeholders.

To facilitate the identification of potential early warning signals and to guide observational needs, a comprehensive catalogue of Earth System Model (ESM) simulations is required. This catalogue should be a well-documented dataset, containing subsets of output variables from physically-based ESM experiments, presented in a consistent format. Key considerations for this catalogue include focusing on simulated tipping points and variables crucial for characterising their impacts. These variables will also be vital for training AI/ML models designed to detect or predict tipping, and for planning observational arrays or campaigns. Where feasible, the catalogue should also incorporate counterfactual simulations, which represent scenarios without tipping behaviour.

This catalogue will be built and deployed within the [Natural Environment Research Council's \(NERC\) JASMIN](#) infrastructure. The [Centre for Environmental Data Analysis \(CEDA\)](#) archive is hosted on [JASMIN](#), therefore, ensuring interoperability with existing cataloguing efforts will be vitally important. Collated data should follow community standards such as [Climate Model Output Rewriter \(CMOR\)](#) when possible.

We are open to receiving proposals from different organisation types i.e. non-profit, academic groups, startups and established companies as well as individuals. We expect that the successful partner will work closely with leaders of our project teams to understand their requirements and to ensure the resultant catalogue is fit for purpose.

Key deliverables are:

- + Engagement with all programme-funded teams that focus on modelling to build in-depth understanding of the technical requirements and specifications of the catalogue. It is envisaged that strong initial engagement with the relevant teams will be required followed by quarterly touchpoints and additional meetings when necessary.
- + Build a catalogue that is interoperable with the existing CEDA archives (discovery metadata). An initial catalogue is expected to be in place within 3 months of commencing.
- + Curate and manage the catalogue ensuring that it is sufficient for the modelling teams requirements. Enabling access to key subsets of simulation data that are not stored on JASMIN infrastructure and ensuring that it is in a standardised format. Specific datasets will be identified in partnership with the programmatic teams. The ongoing management of the catalogue will include updating it when new simulations are made available.

## IMPLEMENTATION AND DEPLOYMENT TIMELINE

The initial contract will run for 12 months.

The supplier must be able to start work immediately after the Target Award date.

ARIA shall have the option to extend the contract beyond the initial contract period for up to a further 24 months, in 12 month increments, if required and subject to mutual agreement.

## TERMS AND CONDITIONS

The contract will be placed on terms and conditions (T&Cs) provided by ARIA to the preferred bidder. The proposed terms will include the following principles:

- ARIA shall have the right to terminate the contract or part of the contract for convenience.
- ARIA shall have the right to terminate the contract or part of the contract where the supplier fails to provide the service contracted.
- Any Intellectual Property generated in the performance of the contract shall be made open access in line with a permissive licence such as CC BY 4.0.
- The supplier shall indemnify ARIA, its employees, officers and agents against the supplier's infringement of third party Intellectual Property Rights.

All information shared with the supplier shall be subject to confidentiality terms.

## **SECTION 2: PROPOSAL RESPONSE STRUCTURE**

Bidders are invited to set out how they propose to deliver the Services outlined within this RFP.

The format below is set out as a guide and represents a maximum length response. If bidders choose to respond in a different format this will be acceptable as long as sufficient information is provided to be comparable to this format of response.

### **Executive Summary**

Summarise how you will deliver the key services you are proposing and how these relate to ARIA's requirements set out in section 1 above.

### **Criteria A - Background, Profile and Experience (20% weighting)**

- A brief overview of relevant prior experience working with similar datasets and number of end-users. In particular, we are looking for:
  - Concrete evidence of working with similar large volumes of earth system simulation outputs.
  - Prior experience of successful project management which involved working with a large number of end-users.
  - Showcased ability working within high performance computing environments and delivering optimal code implementations.

### **Criteria B - Your Approach to Service Delivery (30% weighting)**

- A clear articulation of what you see as our requirements and how you would meet them, setting out the delivery model you would use for this service including your proposed plan for delivery and any tools or technologies to be used.
- Provide your management and oversight structures that you would apply to this service.

### **Case studies**

- Provide a minimum of two examples/reference case studies, where you have provided a similar service. Provide a summary of key successes, issues, mitigating actions and overall learnings for the ARIA contract (please attach these case studies as an annex to your proposal, which will not be included in the maximum page count). If possible and with consent, please provide a link to previous code repositories.

ARIA may choose to verify case studies with the referenced customers/collaborators as part of the proposal review process. We will ask for your consent and suitable contact details beforehand.

## **Criteria C - Demonstration of Resource (30% weighting)**

- Detail the operational and executional resources you will deploy to ensure successful project delivery. This should include specific examples that illustrate your ability to perform all tasks and responsibilities without requiring support from ARIA's internal resources
- Short bios on the proposed individuals supporting this requirement should be included as an annex.

## **Criteria D - Commercial Proposal (20% weighting)**

- Propose a clear pricing structure, including:
  - Rates per hour (ex VAT)
  - Any additional costs which are likely to be incurred through the life of the contract
- Pricing will be on time and materials with a cap on costs. To support evaluation (and negotiation) of your proposal you should include an estimate of costs for developing and delivering this work (service providers should assume that the modelling focused programme teams will require engagement). These costs will be used for the purposes of evaluation only.
- Bidders can assume that account access to the NERC JASMIN infrastructure will be made available with reasonable capacity provisioned. Any additional computing resources required must be accounted for within the submitted cost estimates.

## **ADDITIONAL REQUIREMENTS**

The Bidder shall confirm as part of its submission adherence to the following requirements. Evidence in the form of copies of relevant certification must be provided as part of the submission and can be uploaded directly into the spaces provided in application portal:

### **Mandatory**

- All ARIA data to be stored within the UK or EEA
- Confirmation of adherence with the [Government's Supplier Code of Conduct](#)
- [Cyber Essentials](#)

- Adherence to the [JASMIN terms and conditions](#)

## FORMAT OF PROPOSAL SUBMISSION

Format	PDF. Pages should be numbered, and the response should include the bidder's name inserted as a header
Page Guide	<b>3 pages</b> , plus annexes.
Responses to	<a href="#">ARIA's application portal</a> In case of any technical issues with the portal please contact <a href="mailto:clarifications@aria.org.uk">clarifications@aria.org.uk</a>

## SECTION 3: TIMELINES, REVIEW AND SELECTION PROCESS

### Procurement Timeline

The dates in the following timetable are provisional and may be subject to change at the reasonable discretion of ARIA.

Event	Date
Deadline for submission of clarification questions	26 September 2025
Deadline for proposal submission	3 October 2025 (13:00 BST)
Notification of selection for presentation	w/c 13 October 2025
Presentation by bidders to ARIA selection panel	w/c 20 October 2025
Preferred bidder chosen and informed	24 October 2025
Target Award date & target Contract Start date	31 October 2025

### Review Stages

This review is intended to consist of 4 stages:

- Stage 1 - Written proposal
- Stage 2 - Presentation by shortlisted respondents to ARIA selection panel.

- Stage 3 - Preferred bidder chosen and informed.
- Stage 4 - discussions and negotiations with preferred bidder, onboarding planning and contract agreement.

The ARIA selection panel will be chaired by the Dan Giles - Technical Specialist for the Forecasting Tipping Points programme. The panel will also include a reviewer from NERC.

## Clarification Questions

Bidders are urged to review the RFP documentation, identify and submit any clarification requests no later than 26 September 2025, via email to [clarifications@aria.org.uk](mailto:clarifications@aria.org.uk). Clarification requests received after this date will not be reviewed.

Any clarification request or responses containing information that is of relevance to all bidders will be provided to all bidders that confirm their intention to participate. Answers to clarification requests will also be posted to the [ARIA website](#), following the deadline for submission of clarification requests. If bidders do not wish a query or response to be disclosed to other bidders, they must communicate this and the reason why, with the clarification question.

## CONDITIONS OF RFP

### **Confidentiality, Publicity, Conduct and Conflicts of Interest:**

The contents of this RFP are confidential and must not be copied, reproduced, distributed or passed to any other person at any time except for the purpose of enabling the bidder to submit a proposal. ARIA may use the information included in a bidder's response for any reasonable purpose connected with this RFP. In particular, once a bidder has been excluded, ARIA reserves the right to use any ideas contained in that bidder's proposal in any ongoing discussions with other bidders but undertakes not to reveal the identity of the provider of these ideas. No publicity regarding the subject-matter of this RFP or the award of any Contract will be permitted unless and until ARIA has given express written consent to the relevant communication.

ARIA reserves the right to: a) waive or change the requirements of this RFP from time to time without prior (or any) notice being given by ARIA, in the event ARIA makes material changes to this RFP, ARIA may choose to extend the deadline for submission. b) reject any bidder that does not submit a compliant Proposal in accordance with the instructions in this RFP. c) disqualify any bidder that is guilty of serious misrepresentation in relation to its Proposal, d) withdraw this RFP at any time, or to re-invite Bidders on the same or any alternative basis; e) choose not to award any Contract as a result of the current procurement process; and f) make whatever changes it sees fit to the Timetable, structure or content of the procurement process, depending on approvals processes or for any other reason. ARIA will not be liable for any bidder's costs, expenditure, work or effort incurred by them in carrying out enquiries in relation to, proceeding with, or participating in, this RFP, sourcing process or procurement, including if the procurement process is terminated or amended by ARIA.

Any attempt by bidders or their advisors to influence the contract award process in any way may result in the Bidder being disqualified. Specifically, bidders shall not directly or indirectly, at any time: a) enter into any agreement or arrangement with any other person as to the form or content of any other Proposal, or offer to pay any sum of money or valuable consideration to any person to effect changes to the form or content of any other Proposal; b) enter into any agreement or arrangement with any other person that has the effect of prohibiting or excluding that person from submitting a Proposal; c) canvass ARIA or any employees or agents of ARIA in relation to this sourcing process; or d) attempt to obtain information from any of the employees or agents of ARIA or their advisors concerning another bidder or proposal. Bidders are responsible for ensuring that no conflicts of interest exist between the bidder and its advisors, and ARIA and its advisors. Any Bidder who fails to comply with this requirement may be disqualified from the procurement at the discretion of ARIA. Bidders recognise and accept that it will be at ARIA's sole discretion as to which, if any, proposal is accepted.